



XCP 文件

XCP

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目錄

XCP 文件	1
XCP v1.9.4P1 發行說明	2
開始使用XCP	3
深入瞭解XCP	3
XCP NFS附加功能	4
NFSv4支援	4
POSIX連接器	4
XCP安全性	4
XCP橫向擴充	4
Hadoop分散式檔案系統連接器	5
不支援的功能	5
支援的組態	6
XCP使用的連接埠	6
安裝XCP	7
準備安裝 XCP	7
安裝及設定工作流程	7
下載XCP	9
XCP授權	9
準備您的系統	9
準備Linux for XCP NFS	9
設定目錄	9
設定儲存設備	9
root使用者	10
非root使用者	10
為XCP SMB準備Windows	10
設定儲存設備	10
設定Windows用戶端	11
準備檔案分析	12
安裝XCP NFS	12
為root使用者安裝XCP NFS	13
為非root使用者安裝XCP	14
安裝XCP SMB	16
XCP SMB Microsoft VC++可轉散發套件安裝	16
XCP SMB初始設定程序	16
安裝適用於NFS的檔案分析	17
安裝適用於SMB的檔案分析	18
全新安裝適用於SMB的檔案分析	19
升級適用於SMB的檔案分析	19
設定XCP	21

設定XCP NFS的Ini檔案	21
設定root使用者的Ini檔案	21
為非root使用者設定Ini檔案	21
效能調校	22
環境變數	22
設定POSIX連接器	23
支援的功能	23
路徑語法	23
設定POSIX連接器	23
擁有權（UID和GID）	24
增加開啟檔案描述元的最大數量	24
設定HDFS連接器	25
設定多節點橫向擴充	26
設定 S3 連接器	27
設定 S3 連接器	28
規劃資料移轉	30
規劃資料移轉	30
規劃NFS資料移轉	30
顯示	30
掃描	30
規劃SMB資料移轉	31
顯示	31
掃描	31
規劃 HDFS 資料移轉	31
掃描	31
使用檔案分析進行規劃	32
規劃資料移轉	32
存取檔案分析	32
新增檔案伺服器	35
執行掃描	36
篩選器	45
NFS和SMB記錄（選用）	45
建立Json組態檔	46
移轉資料	49
移轉NFS資料	49
複本	49
繼續	49
同步	49
驗證	50
iSync	50
移轉SMB資料	50

複本	50
同步	51
驗證	51
適用於 SMB 的 NTFS 替代資料串流移轉	52
適用於 SMB 的 NTFS 替代資料串流移轉	52
移轉 HDFS 資料	52
複本	52
繼續	53
驗證	53
在同一台 XCP 主機上執行多個 XCP 工作	54
最低系統需求	54
記錄	54
支援的命令	54
不支援的命令	54
其他NFS功能	55
chown和chmod	55
XCP 預估	56
索引刪除	56
疑難排解	57
疑難排解XCP NFS錯誤	57
XCP問題與解決方案	57
記錄傾印	59
疑難排解 XCP SMB 錯誤	59
疑難排解XCP檔案分析錯誤	61
XCP 參考資料	64
XCP 命令參考總覽	64
NFS 命令參照	64
說明	64
顯示	76
授權	79
啟動	80
掃描	80
複本	109
同步	125
繼續	135
驗證	156
chmod	198
Chown	201
記錄傾印	207
刪除	209
預估	222

索引刪除	231
iSync	235
smb 命令參照	269
說明	269
顯示	273
授權	275
啟動	275
掃描	276
複本	307
同步	319
驗證	342
設定	364
傾聽	365
XCP 使用案例	365
適用於 XCP NFS 和 SMB 的使用案例	365
XCP 記錄	366
設定 logconfig 選項	366
設定 eventlog 選項	366
啟用 Syslog 用戶端	368
XCP 事件記錄	371
XCP NFS 事件記錄	371
XCP SMB 事件記錄	383
法律聲明	391
版權	391
商標	391
專利	391
隱私權政策	391
開放原始碼	391

XCP 文件

XCP v1.9.4P1 發行說明

這"[XCP v1.9.4P1 發行說明](#)"描述新功能、升級說明、已修復的問題、已知限制和已知問題。

您需要登入 NetApp 支援網站才能存取發行說明。

開始使用XCP

深入瞭解XCP

NetApp XCP 是一種用戶端型軟體、可讓任何對 NetApp 和 NetApp 對 NetApp 的資料移轉和檔案分析、實現可擴充且高效能的資料移轉。XCP 的設計旨在利用所有可用的系統資源來管理高容量資料集和高效能資料移轉、藉此擴充並提升效能。XCP可協助您完整掌握檔案系統、並提供產生客戶報告的選項。有了相符和格式化功能、您可以自訂報告以符合任何報告需求。

使用XCP for NFS或SMB系統做為下列解決方案之一：

- 移轉解決方案
- 檔案分析解決方案

XCP是命令列軟體、可在單一套件中使用、支援NFS和SMB傳輸協定。XCP可做為NFS資料集的Linux二進位檔、並可做為SMB資料集的Windows執行檔。

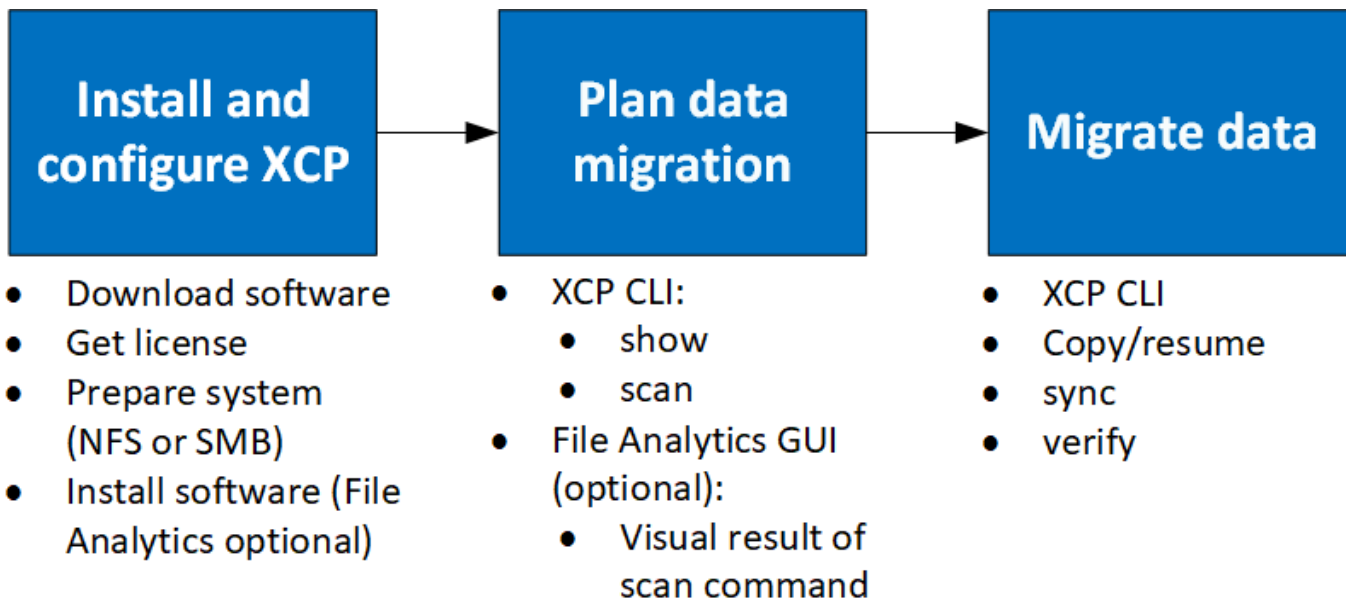
XCP檔案分析是以主機為基礎的軟體、可偵測檔案共用、在檔案系統上執行掃描、並提供檔案分析儀表板。XCP檔案分析適用於NetApp和協力廠商系統、並可在Linux或Windows主機上執行、為NFS和SMB匯出的檔案系統提供分析功能。檔案分析GUI的二進位檔包含在支援NFS和SMB傳輸協定的單一套件中。



XCP二進位元是程式碼簽署。如需詳細資訊、請參閱「NetApp_XCP_<版本>.tgz」中的README。

XCP CLI功能強大。如需詳細資訊、請下載上的_XCP Reference "[XCP網站](#)"。

- XCP工作流程*



XCP NFS附加功能

XCP NFS附加功能支援使用POSIX和HDFS連接器、增強安全性、並支援使用橫向擴充架構來加速資料移轉。

NFSv4支援

當您只在資料中心的來源、目的地和目錄磁碟區上啟用NFSv4時、您可以使用POSIX路徑來移轉資料、而非匯出路徑。若要使用POSIX路徑、您必須先在執行XCP的主機系統上掛載來源、目的地及目錄磁碟區、然後使用POSIX檔案路徑來提供XCP的來源及目的地。請參閱 "[設定POSIX連接器](#)"。



- NFSv4支援僅限於POSIX路徑、而「複製」作業則不支援「同步」作業。
- 相較於XCP NFSv3 TCP通訊端用戶端引擎、POSIX連接器可能會變慢。

POSIX連接器

XCP 支援使用 POSIX 連接器來提供資料移轉的來源、目的地和目錄路徑。POSIX 連接器（檔案：//）可讓 XCP 存取任何 Linux 掛載的檔案系統、例如 NFSv4、XFS 和 Veritas。對於非 root 使用者、系統管理員可以掛載檔案系統、讓任何非 root 使用者能夠使用含檔案：// 首碼的 POSIX 連接器來存取檔案系統。

當您沒有足夠的權限來掛載檔案、或資料中心的支援僅限於NFSv4時、您可以從使用POSIX連接器獲益。在這種情況下、任何root使用者都可以掛載來源和目的地、然後使用POSIX連接器存取路徑。使用POSIX連接器時、您只能執行「XCP複製」作業。

XCP安全性

XCP安全功能可讓您在Linux主機上以非root使用者身分執行移轉。在較早的XCP版本中、以Linux機器上的root使用者身分執行移轉、並取得來源、目的地及目錄磁碟區的所有權限、而且會由XCP作業完成掛載。

當您準備資料移轉時、通常會關閉安全性、並讓系統管理員盡可能快速地複製所有內容。在使用XCP數年的正式作業環境中、持續進行轉換時、以系統管理員（或root）身分執行並不安全。因此、移除以root使用者身分執行XCP的需求、您就能在安全環境中使用XCP。當一般非root使用者執行XCP作業時、非root使用者的存取權限和限制與使用者相同。

在此安全環境中、root使用者可以在主機機器上掛載來源、目的地及目錄磁碟區、並為非root使用者提供寫入資料所需的目的地及目錄磁碟區權限。這可讓非root使用者使用XCP POSIX連接器功能執行移轉。

XCP橫向擴充

直到現在為止、使用XCP的資料移轉僅限於具有較高RAM和CPU的單一主機。為了加快移轉速度、單一主機上的記憶體和核心都增加了、但複製PB資料仍可能需要相當長的時間。XCP橫向擴充架構可讓您使用多部主機來執行資料移轉。有了這項功能、您可以使用多部Linux主機來分散工作負載、並縮短移轉時間。

在單一系統效能不足的任何環境中、您都能從多節點橫向擴充中獲益。若要克服單一節點的效能限制、您可以使用單一「copy」（複製）（或「掃描-md5」）命令、在多個Linux系統或Hadoop叢集節點上執行工作人員。目前、XCP橫向擴充僅支援「複製」命令作業。

Hadoop分散式檔案系統連接器

XCP支援將資料從Hadoop分散式檔案系統（HDFS）檔案系統移轉至NetApp檔案系統、反之亦然。在啟用安全性的Hadoop環境中、Hadoop叢集上的非root使用者可以執行移轉至NetApp NFSv4匯出檔案系統。HDFS連接器（HDFS://）可讓XCP存取不同廠商所提供的任何HDFS檔案系統。非root使用者可使用XCP使用HDFS或POSIX連接器執行移轉。

您可以在XCP橫向擴充組態中納入HDFS叢集、因為它們使用多部高階Linux機器。如此可將額外XCP工作者節點的需求降至最低。對於資料移轉、您可以選擇重複使用HDFS叢集節點、或是使用不同的主機。



HDFS連接器符合資格、可支援MapR和Cloudera叢集、但只能執行基礎「複製」作業。

不支援的功能

XCP NFS不支援下列功能：

功能名稱	說明
IPv6	不支援IP版本6（IPv6）
NFSv4存取控制清單（ACL）（第三方）	不支援NetApp NFSv4 ACL的第三方
POSIX連接器	「shync」命令不支援POSIX連接器 - 當來源處於作用中狀態時、您不應使用「copy」命令
Linux	XCP 1.6.3支援的舊版Linux不再支援XCP。
主動來源支援	XCP 不支援將基礎或增量 Snapshot 複本作業與即時來源移轉結合。
NFS 到 S3 移轉	XCP 不支援 NFS 至 S3 移轉。

XCP SMB不支援下列功能：

功能名稱	說明
NetApp NTFS 存取控制清單 (ACL) 的協力廠商	XCP SMB 不支援將協力廠商 ACL 從非 NetApp 系統移轉至 NetApp 系統。
NFS符號連結（symlink）	XCP SMB不支援NFS symlink
用於掃描的ACL選項	不支援掃描ACL選項
IPv6	不支援IP版本6（IPv6）
XCP篩選器	XCP SMB exclude選項目前會根據目錄在篩選器中的模式排除目錄、並遍歷這些目錄的檔案系統。
即時來源移轉	XCP 不支援在移轉期間修改來源磁碟區上的資料。
同一主機上的多個 XCP 執行個體	在同一主機上執行多個 XCP 執行個體時、可能會產生無法預測的結果。

XCP NFS和SMB無法使用下列一般功能：

- 完成移轉的時間：XCP前期並未提供完成移轉的時間、也沒有時間完成任何用於移轉的命令。如果您正在進行最終轉換、請確認來源磁碟區上的資料流失率過低。
- 在未清理的目標上再次執行複本：當目的地目標上有部分資料時、XCP基礎複本將會失敗。若要成功完成XCP基礎複本和XCP驗證、目的地必須是乾淨的。
- 即時目的地：XCP不支援在移轉期間或遞增同步期間修改目的地磁碟區上的資料。
- *檔案分析*的非root使用者：XCP不支援非root使用者或Sudo使用者執行的安裝和組態。

Hadoop 分散式檔案系統（HDFS）連接器無法使用下列功能：

功能名稱	說明
支援 sync 命令	HDFS 接頭不支援 sync 命令。
符號連結（symlink）和硬連結支援	HDFS 檔案系統不支援 symlink、硬式連結或特殊檔案。
即時來源 HDFS 移轉	XCP 不支援在移轉期間、在來源處修改 HDFS 檔案系統上的資料

以下功能不適用於 Simple Storage Service（S3）連接器：

- *以 S3 儲存貯體作為來源* 移轉：XCP 不支援以 S3 儲存區作為來源的移轉。

支援的組態

所有XCP支援的組態、例如主機、ONTAP 支援的更新版本和瀏覽器、都會列在中 "[互通性對照表工具IMT（不含）](#)"。

XCP使用的連接埠

XCP使用下列連接埠。

服務	連接埠
CIFS	445 TCP / udp
HTTP (http)	80
HTTPS	443..
NFS	111個TCP/IP和2049個TCP / udp
PostgreSQL	5432
XCP（即檔案分析服務）	5030
HDFS	7222

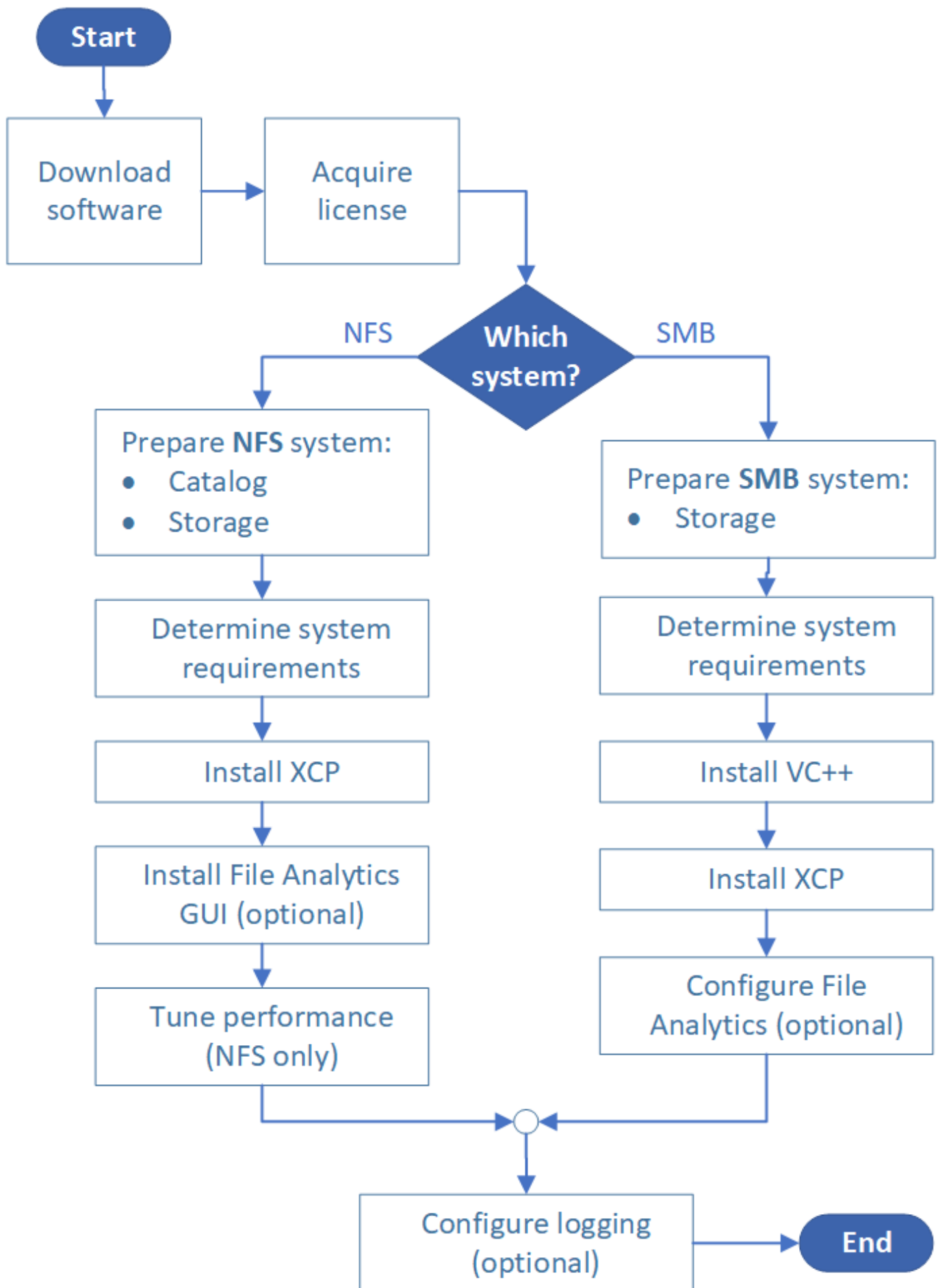
安裝XCP

準備安裝 XCP

為準備安裝、您可以下載 XCP 、取得授權、並準備好系統。

安裝及設定工作流程

本文件提供簡易的工作流程、可在NFS和SMB系統上安裝及設定XCP。



下載XCP

從NetApp支援網站下載XCP、並從XCP網站取得授權。

您可以從下載XCP "[NetApp支援網站](#)"。

XCP授權

NetApp 提供一年免費 XCP 授權。您可以從取得授權檔案 "[XCP網站](#)"。授權入口網站提供不同的授權選項。一年後、您可以使用同一個入口網站將授權續約一年。

XCP授權是以離線或線上授權形式提供。若要傳送移轉統計資料、請使用線上授權。線上授權需要網際網路連線。離線授權不需要網際網路連線。

若要執行 XCP 1.9.3 及更新版本、您必須從取得新的 XCP 授權 "[XCP網站](#)"。



XCP 1.9.3 及更新版本不支援與 XCP 1.9.2 及更新版本搭配使用的授權。同樣地、XCP 1.9.2 及更早版本也不支援與 XCP 1.9.3 及更高版本搭配使用的授權。

準備您的系統

如果您使用 "[Linux系統上的XCP NFS](#)"、您必須準備目錄和儲存設備。

如果您使用 "[Microsoft Windows系統上的XCP SMB](#)"、您必須準備儲存設備。

準備Linux for XCP NFS

XCP NFS使用Linux用戶端主機系統來產生平行I/O串流、並充分運用可用的網路與儲存效能。

您可以設定root和非root使用者的設定、然後根據您的設定、選取任一使用者。

設定目錄

XCP會將作業報告和中繼資料儲存在NFSv3可存取的目錄中、或儲存在具有所需權限的任何POSIX路徑上。

- 資源配置目錄是一次性的安裝前活動。
- 每1000萬個物件（目錄加上檔案和硬式連結）會建立約1 GB的空間索引；每個可恢復或同步的複本、以及每個可離線搜尋的掃描都需要索引。
- 為了支援效能、包含匯出目錄的集合體至少需要十個磁碟或SSD。



您必須分別儲存XCP目錄。它們不得位於來源或目的地NFS匯出目錄。XCP會維護中繼資料、這些是初始設定期間指定之目錄位置中的報告。在使用XCP執行任何作業之前、您必須指定及更新儲存報告的位置。

設定儲存設備

XCP NFS轉換與移轉具有下列來源與目標儲存需求：

- 來源與目標伺服器必須啟用NFSv3或NFS v4.0傳輸協定服務
 - 對於NFSv4 ACL移轉、您必須在目的地伺服器上啟用NFSv4傳輸協定服務和NFSv4 ACL
- 來源與目標磁碟區必須以「root」存取權匯出至XCP Linux用戶端主機
- 對於NFSv4 ACL移轉、NFSv4要求您針對需要ACL移轉的磁碟區使用編碼語言UTF-8。



- 為了避免系統管理員意外修改來源Volume、您應該將NFSv3和NFSv4匯出目錄的來源Volume設定為唯讀。
- 在BIOS中ONTAP、您可以使用診斷「-atime-update」 (-atime-update) 選項、在來源物件上保留atime (atime-update)。此功能僅在ONTAP 執行XCP時、才能在來源物件中保留atime、而且非常實用。
- 在XCP中、您可以使用「-preserve-atime」選項來保留來源物件的atime。此選項適用於存取來源物件的所有命令。

root使用者

Linux機器上的root使用者有權掛載來源、目的地及目錄磁碟區。

非root使用者

非 root 使用者必須在掛載的磁碟區上擁有下列權限：

- 對來源Volume的讀取權限存取
- 對掛載目的地Volume的讀取/寫入權限
- 目錄磁碟區的讀取/寫入權限

為XCP SMB準備Windows

XCP SMB使用Windows用戶端主機系統來產生平行I/O串流、並充分運用可用的網路和儲存效能。

設定儲存設備

XCP SMB轉換與移轉具有下列使用者登入需求：

- XCP 主機系統：XCP 主機使用者必須具有系統管理員權限（使用者必須是目標 SMB 伺服器上「BUILTIN\Administrators」群組的一部分）。
- 將移轉或XCP主機使用者新增至Active Directory的稽核和安全性記錄原則。若要在Windows 10上找到「管理稽核與安全性記錄」原則、請依照下列步驟執行：

步驟

- a. 開啟「群組原則編輯器」對話方塊。
- b. 移至*電腦組態> Windows設定>安全性設定>本機原則>使用者權限指派*。
- c. 選取*管理稽核與安全性記錄*。
- d. 若要新增XCP主機使用者、請選取*新增使用者或群組*。

如需詳細資訊、請參閱：["管理稽核與安全性記錄"](#)。

- 目標儲存系統：XCP主機使用者必須擁有讀取和寫入存取權。
- 來源儲存系統：
 - 如果使用者是來源儲存系統中「Backup Operators」群組的一部分、則此群組的成員可以在略過安全性規則的情況下讀取檔案、而不論保護這些檔案的任何權限為何。
 - 如果使用者不是來源系統中「Backup Operators」群組的一部分、則使用者必須擁有讀取存取權。



來源儲存系統必須具備寫入權限、才能支援XCP選項「-preserve-atime」。

設定Windows用戶端

- 將目的地儲存箱和來源儲存箱新增至主機檔案：
 - a. 瀏覽至下列位置：「(C:\Windows\System32\Drivers\etc\hosts)」
 - b. 以下列格式將下列主機項目插入檔案：

「<來源資料Vserver資料介面IP><來源CIFS伺服器名稱><目的地資料Vserver資料介面IP><目的地CIFS伺服器名稱>」
- 範例 *

```
# Copyright (c) 1993-2009 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#       XXX.XX.XX.XX      rhino.acme.com      # source server
#       XX.XX.XX          x.acme.com          # x client host


# localhost name resolution is handled within DNS itself.
#       127.0.0.1        localhost
#       ::1              localhost
xx.xxx.xxx.xxx          00906A52DFE247F
xx.xxx.xxx.xxx          42D1BBE1219CE63
```


準備檔案分析

使用檔案分析準備資料移轉。

檔案分析包含下列兩個部分：

- 在Linux上執行的檔案分析伺服器
- 在Windows上執行的XCP SMB服務

檔案分析安裝有下列需求：

- 支援的作業系統和系統需求與NFS和SMB安裝的要求相同。由於資料庫將位於Linux機箱上、因此您必須確保至少有10 GB的可用空間。
- 安裝檔案分析伺服器的Linux機器必須連線至網際網路或yum儲存庫。安裝指令碼會向yum儲存庫說明、以便下載所需的套件、例如PostgreSQL、HTTP和SSL。
- 檔案分析GUI只能裝載在Linux機器上、而在同一個機器上執行的適用於Linux的XCP服務也只能裝載在一起。
- 若要執行SMB服務、請完成下列步驟：
 - 請確認您的Windows Box能夠ping通執行檔案分析伺服器的Linux機器。
 - 如果您位於防火牆內、請確認連接埠5030和5432已開啟。連接埠5030用於撥打Windows的REST呼叫。連接埠5432連接埠用於PostgreSQL連線。



XCP檔案分析伺服器一律會在Linux機器上執行。SMB檔案分析沒有個別的安裝可供使用。如果您是Windows使用者、想要執行SMB共用的檔案分析、則必須安裝適用於Linux的檔案分析、並將Windows Box連線至Linux資料庫。如果您只使用XCP檔案分析、就不需要設定XCP目錄for NFS。

安裝XCP NFS

本節詳細說明Linux用戶端和Ini檔案組態上的系統需求、以及XCP初始設定程序。

系統要求

項目	需求
系統	64 位元 Intel 或 AMD 伺服器、至少 8 核心和 64 GB RAM
作業系統與軟體	請參閱 "IMT" 支援的作業系統
特殊需求	網路連線能力和存取來源和目的地的根層級NFSv3不會匯出其他作用中應用程式
儲存設備	XCP二進位檔案需要20 MB的磁碟空間、而儲存在/opp/NetApp/xFiles/XCP目錄中的記錄則需要至少50 MB的磁碟空間
支援的傳輸協定版本	NFSv3和NFSv4 (POSIX和ACL)
支援的瀏覽器 (僅限檔案分析)	請參閱 "IMT" XCP File Analytics 所有支援瀏覽器版本的對照表。



即時來源移轉的建議組態為8核心和64 GB RAM。

為root使用者安裝XCP NFS

您可以使用下列程序為root使用者安裝XCP。

步驟

1. 以root使用者身分登入Linux機器、然後下載並安裝授權：

```
[root@scspr1980872003 ~]# ls -l
total 36188
-rw-r--r--  1 root root 37043983 Oct  5 09:36 NETAPP_XCP_<version>.tgz
-rw-----  1 root root      1994 Sep  4 2019 license
```

2. 若要擷取工具、請解壓縮XCP：

```
[root@scspr1980872003 ~]# tar -xvf NETAPP_XCP_<version>.tgz
[root@scspr1980872003 ~]# ls
NETAPP_XCP_<version>.tgz license xcp
[root@scspr1980872003 ~]# cd xcp/linux/
[root@scspr1980872003 linux]# ls
xcp
```

3. 驗證系統上是否有舊版XCP提供的「/opt/NetApp/xFiles/XCP」路徑。

如果可用的是「/opt/NetApp/xFiles/XCP」、請使用「XCP activate」命令啟動授權、然後繼續進行資料移轉。

如果無法使用「/opt/NetApp/xFiles/XCP」、當您第一次執行「XCP activate」命令時、系統會在「/opt/NetApp/xFiles/XCP」中建立XCP主機組態目錄。

由於未安裝授權、「XCP activate」命令會失敗：

```
[root@scspr1980872003 linux]# ./xcp activate
(c) yyyy NetApp, Inc.
xcp: Host config file not found. Creating sample at
'/opt/NetApp/xFiles/xcp/xcp.ini'

xcp: ERROR: License file /opt/NetApp/xFiles/xcp/license not found.
Register for a license at https://xcp.netapp.com
```

4. 將授權複製到「/opt/NetApp/xFiles/XCP /」：

```
[root@scspr1980872003 linux]# cp ~/license /opt/NetApp/xFiles/xcp/
```

5. 確認授權檔案已複製到「/opt/NetApp/xFiles/XCP/」：

```
[root@scspr1980872003 ~]# ls -altr /opt/NetApp/xFiles/xcp/
total 44
drwxr-xr-x 3 root root    17 Oct  1 06:07 ..
-rw-r--r-- 1 root root   304 Oct  1 06:07 license
drwxr-xr-x 2 root root     6 Oct  1 10:16 xcpfalog
drwxr-xr-x 2 root root    21 Oct  1 10:16 xcplogs
-rw-r--r-- 1 root root   110 Oct  5 00:48 xcp.ini
drwxr-xr-x 4 root root    83 Oct  5 00:48 .
[root@scspr1978802001 ~]#
```

6. 啟動XCP：

```
[root@scspr1980872003 linux]# ./xcp activate
XCP <version>; (c) yyyy NetApp, Inc.;
XCP activated
```

為非root使用者安裝XCP

您可以使用下列程序為非root使用者安裝XCP。

步驟

1. 以非root使用者身分登入Linux機器、然後下載並安裝授權：

```
[user1@scspr2474004001 ~]$ ls -l
total 36640
-rwxr-xr-x 1 user1 user1    352 Sep 20 01:56 license
-rw-r--r-- 1 user1 user1 37512339 Sep 20 01:56
NETAPP_XCP_Nightly_dev.tgz
[user1@scspr2474004001 ~]$
```

2. 若要擷取工具、請解壓縮XCP：

```
[user1@scspr2474004001 ~]$ tar -xvf NETAPP_XCP_Nightly_dev.tar
[user1@scspr2474004001 ~]$ cd xcp/linux/
[user1@scspr2474004001 linux]$ ls
xcp
[user1@scspr2474004001 linux]$
```

3. 驗證系統上的舊版XCP是否提供了「/home/user1/NetApp/xFiles/XCP」路徑。

如果可用的是「/home/user1/NetApp/xFiles/XCP」路徑、請使用「XCP activate」命令啟動授權、然後繼續進行資料移轉。

如果無法使用「/home/user1/NetApp/xFiles/XCP」、當您第一次執行「XCP activate」命令時、系統會在「/home/user1/NetApp/xFiles/XCP」中建立XCP主機組態目錄。

由於未安裝授權、「XCP activate」命令會失敗：

```
[user1@scspr2474004001 linux]$ /home/user1/xcp/linux/xcp activate
(c) yyyy NetApp, Inc.
xcp: Host config file not found. Creating sample at
'/home/user1/NetApp/xFiles/xcp/xcp.ini'

xcp: ERROR: License file /home/user1/NetApp/xFiles/xcp/license not
found.
Register for a license at https://xcp.netapp.com
[user1@scspr2474004001 linux]$
```

4. 將授權複製到「/home/user1/NetApp/xFiles/XCP」：

```
[user1@scspr2474004001 linux]$ cp ~/license
/home/user1/NetApp/xFiles/xcp/
[user1@scspr2474004001 linux]$
```

5. 確認授權檔案已複製到「/home/user1/NetApp/xFiles/XCP /」：

```
[user1@scspr2474004001 xcp]$ ls -ltr
total 8
drwxrwxr-x 2 user1 user1 21 Sep 20 02:04 xcplogs
-rw-rw-r-- 1 user1 user1 71 Sep 20 02:04 xcp.ini
-rwxr-xr-x 1 user1 user1 352 Sep 20 02:10 license
[user1@scspr2474004001 xcp]$
```

6. 啟動XCP：

```
[user1@scspr2474004001 linux]$ ./xcp activate
(c) yyyy NetApp, Inc.

XCP activated

[user1@scspr2474004001 linux]$
```

安裝XCP SMB



沒有升級選項；請重新安裝XCP以取代任何現有版本。

系統要求

項目	需求
系統	64位元Intel或AMD伺服器、至少4核心和32 GB RAM
作業系統與軟體	Windows 2012 R2或更新版本。如需支援的Microsoft OS版本、請參閱 "互通性對照表工具" 。必須在XCP主機上安裝Visual C++ 2017可轉散發套件。
特殊需求	來源儲存系統、XCP主機和目標ONTAP 版的系統必須是同一個Active Directory網域的一部分
儲存設備	XCP二進位檔案需要20 MB的磁碟空間、而儲存在C:\NetApp\XCP目錄中的記錄則需要至少50 MB的磁碟空間
支援的傳輸協定版本	所有SMB傳輸協定版本
支援的瀏覽器（僅限檔案分析）	請參閱 "IMT" XCP File Analytics 所有支援瀏覽器版本的對照表。

XCP SMB Microsoft VC++可轉散發套件安裝

請依照下列步驟進行VC++可轉散發安裝。

步驟

1. 按一下 ["VC++ 2017可轉散發套件"](#) 可將可執行文件下載至您的預設下載文件夾。
2. 若要開始安裝、請按兩下安裝程式。接受條款與條件、然後選取*安裝*。
3. 安裝完成後、請重新啟動Windows用戶端。

XCP SMB初始設定程序

請依照下列步驟執行XCP SMB的初始設定。

步驟

1. 在Windows用戶端下載授權和XCP SMB二進位檔「NetApp_XCP_<版本>.tgz」。
2. 擷取「NetApp_XCP」<版本>.tgz 檔案。

3. 複製 xcp.exe 檔案至 Windows C：磁碟機、此二進位檔案可在內部取得
NETAPP_XCP_<version>\xcp\windows 擷取之後 tgz 檔案：
4. 驗證系統上是否有舊版XCP的「C:\NetApp\XCP」路徑可用。如果有「C:\NetApp\XCP」、請使用「xcp.exe activate」命令啟動XCP、然後繼續資料移轉。

如果無法使用「C:\NetApp\XCP」、系統會在您第一次執行「xcp.exe activate」命令時、建立XCP主機組態目錄、並將其檔案置於「C:\NetApp\XCP」。「xcp.exe activate」命令失敗、並建立錯誤訊息、要求取得新授權。

```
C:\>xcp.exe activate
(c) yyyy NetApp, Inc.

License file C:\NetApp\XCP\license not found.
Register for a license at https://xcp.netapp.com
```

5. 將授權複製到新建立的資料夾「C:\NetApp\XCP：」

```
C:\>copy license c:\NetApp\XCP
1 file(s) copied.
```

6. 啟動XCP：

```
C:\>xcp.exe activate
XCP SMB; (c) yyyy NetApp, Inc.;

XCP activated

C:\>
```

安裝適用於NFS的檔案分析

安裝或升級File Analytics for NFS。

關於這項工作

如需 NFS 的系統需求、請參閱 "[安裝XCP NFS](#)"。

。configure.sh 指令碼會在 Red Hat Enterprise Linux (RHEL) 主機機器上安裝 XCP File Analytics。在安裝過程中、指令碼會在主機 Linux 機器上安裝 Postgres 資料庫、Apache HTTPD 伺服器和其他必要的套件。如需特定支援 RHEL 版本的相關資訊、請參閱 "[IMT](#)"。您可以視需要變更或更新至較新的版本、並遵守安全性準則。以深入瞭解 configure.sh 指令碼、執行 ./configure.sh -h 在命令列上。

開始之前

- 如果有任何 XCP 作業正在執行、NetApp 建議您在開始設定之前先完成作業。

- 您的Linux機器必須連線至Yum儲存庫伺服器或網際網路。
- 如果在 Linux 機器上設定防火牆、您必須變更防火牆設定、以啟用 XCP 服務所使用的連接埠 5030 。

步驟

1. 安裝或升級File Analytics for NFS 。

安裝檔案分析

- a. 瀏覽至 xcp 資料夾並執行 `./configure.sh` 指令碼：

如果安裝成功、則會顯示下列訊息：

```
You can now access XCP file analytics using
(<username>:<password>)
https://<ip_address>/xcp
```



您可以使用此使用者名稱和密碼登入 File Analytics GUI 。

升級檔案分析

- a. 瀏覽至 xcp 資料夾與執行 `./configure.sh -f` 。
- b. 在提示字元下輸入 `y` 以清理及重新設定系統。

指令碼核准後、它會清除現有的組態並重新設定系統。

如果成功、會顯示下列訊息：

```
You can now access XCP file analytics using
(<username>:<password>)
https://<ip_address>/xcp
```

2. 在支援的瀏覽器中啟動檔案分析： * https://<ip 位址>：Linux/XCP* 。

請參閱 ["安裝XCP NFS"](#) 如需支援瀏覽器的相關資訊、

安裝適用於SMB的檔案分析

安裝或升級適用於SMB的File Analytics 。

關於這項工作

如需SMB的系統需求、請參閱 ["安裝XCP SMB"](#) 。

開始之前

- 您必須在Linux機器上設定適用於NFS的XCP檔案分析、才能使用XCP SMB服務。
- 在Windows機器上開始設定XCP檔案分析之前、請先確定XCP服務正在Linux機器上執行。

全新安裝適用於**SMB**的檔案分析

若要針對SMB執行全新的檔案分析安裝、請完成下列步驟。

步驟

1. 複製 `xcp.exe` 檔案至您的 Windows C: 磁碟機、此二進位檔案可在內部取得 `/xcp/windows` 解壓縮之後 `tgz` 檔案：
2. 從下載XCP授權檔案 "[XCP網站](#)"。
3. 建立資料夾「C:\NetApp\XCP」、然後將XCP授權複製到此位置。
4. 在命令提示字元「`xcp.exe actactactivate`（啟動）」下使用下列命令啟動XCP授權
5. 在Windows CLI命令提示字元中、執行「XCP configure」。
6. 出現提示時、請提供配置XCP檔案分析伺服器的Linux機器IP位址。
7. 複製 `server.key` 和 `server.crt` 檔案來源 `/opt/NetApp/xFiles/xcp/`（在已設定 XCP File Analytics 的 Linux 方塊中） `C:\NetApp\XCP`。

或者、如果您有 CA 憑證、請將憑證放入 `C:\NetApp\XCP` 使用相同的名稱和副檔名。

8. 前往 Windows 機器並執行 `xcp listen`、現在已設定適用於 SMB 的 XCP File Analytics。請保持視窗開啟、以持續執行服務。
9. 在支援的瀏覽器上啟動檔案分析：`https://<ip address of linux>/xcp`

請參閱 "[安裝XCP SMB](#)" 如需支援瀏覽器的相關資訊、

10. 選取 OK 對話方塊出現時。



隨即開啟新的索引標籤。如果快顯視窗遭到封鎖、請在瀏覽器上啟用快顯視窗。

11. 接受 URL 的隱私權政策。將顯示以下訊息：`SMB agent is ready to use. Please refresh the analytics page`
12. 返回主控 XCP File Analytics GUI 的原始索引標籤、然後重新整理頁面、即可在「代理程式」卡下顯示 SMB 代理程式。

升級適用於**SMB**的檔案分析

若要升級現有的SMB檔案分析、請完成下列步驟。

1. 執行 File Analytics 之前、請確認執行 File Analytics 的 Linux 伺服器也已升級、且該服務正在執行中。
2. 在Windows中、在命令列輸入「CTRL - C」來停止現有的XCP服務。
3. 更換 `xcp.exe` 使用最新二進位檔案。
4. 前往 Windows 機器並執行 `xcp listen` 為 SMB 設定 XCP 檔案分析。請保持視窗開啟、以持續執行服務。

5. 在支援的瀏覽器上啟動檔案分析：`https://<ip address of linux>/xcp`

請參閱 "[安裝XCP SMB](#)" 如需支援瀏覽器的相關資訊、

6. 顯示對話方塊時、請選取 * 確定 * 。



隨即開啟新的索引標籤。如果快顯視窗遭到封鎖、請在瀏覽器上啟用快顯視窗。

7. 接受 URL 的隱私權政策。將顯示以下訊息：`SMB agent is ready to use. Please refresh the analytics page`

8. 返回主控 XCP File Analytics GUI 的原始索引標籤、然後重新整理頁面、即可在「代理程式」卡下顯示 SMB 代理程式。

設定XCP

設定XCP NFS的Ini檔案

設定XCP的Ini檔案的步驟。



XCP SMB 不需要 XCP INI 檔案。

設定root使用者的Ini檔案

您可以使用下列程序來設定XCP NFS根使用者的Ini檔案。

步驟

1. 使用「VI (VI) 編輯器：



在修改xcp.ini` XCP組態檔案中的詳細資料之前、應該先匯出目錄位置。目錄位置 (NFSv3) 應可由XCP Linux主機裝載、但不一定要掛載。

```
[root@localhost ~]# vi /opt/NetApp/xFiles/xcp/xcp.ini
```

2. 確認已修改目錄的XCP Linux用戶端主機組態檔項目：

```
[root@localhost ~]# cat /opt/NetApp/xFiles/xcp/xcp.ini
# Sample xcp config
[xcp]
catalog = 10.61.82.210:/vol/xcpvol/
```

為非root使用者設定Ini檔案

身為非root使用者、您沒有掛載NFS檔案系統的權限。root使用者必須先掛載目錄磁碟區、然後以執行XCP的非root使用者身分、如果您擁有目錄磁碟區的讀取/寫入權限、就可以使用POSIX連接器來存取掛載的目錄磁碟區。掛載磁碟區之後、您可以新增目錄路徑：

```
(t/10.237.170.53_catalog_vol - This is the path where catalog volume is
mounted)as follows.
```

```
[user1@scspr2474004001 xcp]$ ls -ltr
total 8
drwxrwxr-x 2 user1 user1  21 Sep 20 02:04 xcplogs
-rw-rw-r-- 1 user1 user1  71 Sep 20 02:04 xcp.ini
-rwxr-xr-x 1 user1 user1 352 Sep 20 02:10 license
[user1@scspr2474004001 xcp]$ cat /home/user1/NetApp/xFiles/xcp/xcp.ini

Sample xcp config [xcp]
catalog = file:///t/10.237.170.53_catalog_vol
```

效能調校

對於XCP NFS、使用「show」和「shcan」命令規劃移轉之後、您就可以移轉資料。



當您以非root使用者身分執行資料移轉時、root使用者可以執行下列步驟。

為獲得最佳效能與可靠性、NetApp建議您在XCP Linux用戶端主機上的「/etc/sysctl.conf」中設定下列Linux核心TCP效能參數。執行「sysctl -p」或「重新開機」命令來提交變更：

```
net.core.rmem_default = 1342177
net.core.rmem_max = 16777216
net.core.rmem_max = 16777216
net.core.wmem_default = 1342177
net.core.wmem_max = 16777216
net.ipv4.tcp_rmem = 4096 1342177 16777216
net.ipv4.tcp_wmem = 4096 1342177 16777216
net.core.netdev_max_backlog = 300000
net.ipv4.tcp_fin_timeout = 10
```



對於非root使用者、設定必須由root使用者執行。

環境變數

XCP NFS系統的選用環境變數組態。



非root使用者也可以使用下列變數。

環境變數「XCP組態目錄」會覆寫預設位置「/opt/NetApp/xFiles/XCP」。如果設定、則該值應該是OS檔案系統路徑、可能是掛載的NFS目錄。設定「XCP組態目錄」變數時、會在自訂組態目錄路徑中建立名稱與主機名稱相同的新目錄、新記錄會儲存於此位置。

```
[root@localhost ~]# export XCP_CONFIG_DIR='/tmp/xcp_config_dir_path'
```

環境變數「XCP記錄_DIR」會覆寫將XCP記錄儲存在組態目錄中的預設位置。如果設定、則該值應該是OS檔案系統路徑、可能是掛載的NFS目錄。設定「XCP記錄目錄」變數時、會在自訂記錄目錄路徑中建立名稱與主機名稱相同的新目錄、並在此位置儲存新記錄。

```
[root@localhost ~]# export XCP_LOG_DIR='/tmp/xcp_log_dir_path'
```

環境變數「XCP目錄路徑」會覆寫xcp.in中的設定如果設定、則該值應為XCP路徑格式「伺服器：匯出[:subnet]」。

```
[root@localhost ~]# export XCP_CATALOG_PATH='10.61.82.210:/vol/xcpvol/'
```



對於非root使用者、您必須將匯出路徑中的「XCP目錄路徑」取代為POSIX路徑。

設定POSIX連接器

XCP NFS現在支援使用POSIX連接器來提供資料移轉的來源和目的地路徑。

支援的功能

POSIX連接器支援下列功能：

- 對於支援奈秒「atime」、「mtime」和「ctime」的POSIX檔案系統、「shcan」命令會取得完整值（秒和納秒）、而「copy」命令則會設定完整值
- POSIX連接器比使用NFSv3 TCP通訊端的XCP更安全。

路徑語法

POSIX連接器的路徑語法為「file//<掛載路徑on Linux >」。

設定POSIX連接器

若要設定POSIX連接器、您必須執行下列工作：

- 掛載來源和目的地Volume
- 確認目的地路徑具有寫入資料的必要權限

目的地和目錄會掛載於下列範例中：

```

root@scspr2395903001 ~]# findmnt -t nfs4
TARGET SOURCE FSTYPE OPTIONS
/t/10.237.170.39_src_vol 10.237.170.39:/source_vol nfs4
rw,relatime,vers=4.0,rsize=65536,wsiz=65536,namlen=255,hard,proto=tcp,timeo=600,retrans=2,sec=sys,clientaddr=10.237.170.39
/t/10.237.170.53_dest_vol 10.237.170.53:/dest_vol nfs4
rw,relatime,vers=4.0,rsize=65536,wsiz=65536,namlen=255,hard,proto=tcp,timeo=600,retrans=2,sec=sys,clientaddr=10.237.170.53
/t/10.237.170.53_catalog_vol 10.237.170.53:/xcp_catalog nfs4
rw,relatime,vers=4.0,rsize=65536,wsiz=65536,namlen=255,hard,proto=tcp,timeo=600,retrans=2,sec=sys,clientaddr=10.237.170.53
[root@scspr2395903001 ~]#

```

POSIX連接器使用POSIX語法「file:///」來存取來源和目的地Volume。在上述範例中、來源路徑為「file:///t/10.237.170.39_src_vol」、目的地路徑為「file:///t/10.237.170.53_dest_vol」。

您可以建立適用於XCP使用者的Linux群組、來管理非root使用者共用的XCP目錄範例組態。對於非root使用者、Linux群組使用者執行移轉時必須具備下列權限。

在以下輸出範例中、「demo」是非root使用者、而「/mnt/XCP目錄」是掛載目錄Volume的路徑：

```

sudo groupadd -g 7711 xcp_users
sudo usermod -G xcp_users -a demo
sudo chown -R :xcp_users /mnt/xcp-catalog
sudo chmod -R g+w /mnt/xcp-catalog

```

XCP目錄不會儲存資料、但會儲存掃描與複製檔案名稱、目錄名稱及其他中繼資料。因此、建議您為允許的使用者設定目錄檔案系統權限、讓他們能夠保護儲存的中繼資料。

擁有權 (UID和GID)

當您設定為一般使用者時、預設不會嘗試設定POSIX或NFS3目的地的「copy」命令（使用者ID (UID) 和群組ID (GID)）。設定擁有權通常由系統管理員執行。當使用者A從使用者B複製檔案時、使用者A預期擁有目的地。不過、root使用者複製檔案時、情況並非如此。當root使用者複製檔案時、「-chown」選項會變更行為、讓非root的「copy」命令與「-chown」一起嘗試設定UID和GID。

增加開啟檔案描述元的最大數量

為達到最佳效能與可靠性、您可以增加所有節點上XCP使用者的最大開啟檔案描述元數。

步驟

1. 使用下列命令開啟檔案：「VI /sital/limits.conf」
2. 將下列行新增至檔案：「<使用者名稱>- nocfile 999999」
 - 範例 *

```
root - nofile 999999
```

請參閱 ["Red Hat解決方案"](#) 以取得更多資訊。

設定HDFS連接器

對於XCP NFS、Hadoop分散式檔案系統（HDFS）連接器（HDFS://）可讓XCP存取不同廠商所提供的任何HDFS檔案系統。

支援的功能

HDFS連接器支援從HDFS到NFS的「複製」命令作業。

路徑語法

HDFS連接器的路徑語法為「HDFS://[user@host:port]/完整路徑」。



如果您未指定使用者、主機和連接埠、XCP會呼叫「hdfsConnect」、並將主機設定為「預設」、連接埠設定為「0」。

設定HDFS連接器

若要執行HDFS「copy」命令、您必須在Linux系統上設定HDFS用戶端、並根據Hadoop廠商、遵循網際網路上可用的設定組態。例如、您可以使用「<https://docs.datafabric.hpe.com/60/AdvancedInstallation/SettingUptheClient-redhat.html>」設定MapR叢集的用戶端。

完成HDFS用戶端設定之後、您必須在用戶端上完成設定。若要搭配XCP命令使用HDFS路徑、您必須具備下列環境變數：

- NHDFS_LIBHDFS_path
- NHDFS_libjvm_path

在下列範例中、設定可搭配CentOS上的MapR和Java-1.8.0-OpenJDK-devel使用：

```
export JAVA_HOME=$(dirname $(dirname $(readlink $(readlink $
(which javac))))))
export NHDFS_LIBJVM_PATH=`find $JAVA_HOME -name "libjvm.so"` export
NHDFS_LIBHDFS_PATH=/opt/mapr/lib/libMapRClient.so
```

```
[demo@mapr0 ~]$ hadoop fs -ls Found 3 items
drwxr-xr-x - demo mapr 0 2021-01-14 00:02 d1
drwxr-xr-x - demo mapr 0 2021-01-14 00:02 d2
drwxr-xr-x - demo mapr 0 2021-01-14 00:02 d3
```

設定多節點橫向擴充

對於XCP NFS、您可以使用單一「copy」（複製）（或「shcan -md5」）命令、在多個Linux系統或叢集節點上執行工作人員、藉此克服單一節點的效能限制。

支援的功能

在單一系統效能不足的任何環境中、例如在下列情況下、多節點橫向擴充都很有幫助：

- 當單一節點複製PB資料需要數月時間時
- 當高延遲連線至雲端物件存放區時、個別節點的速度會變慢
- 在執行大量I/O作業的大型HDFS叢集伺服器陣列中

路徑語法

多節點橫向擴充的路徑語法為：節點worker1、worker2、worker3。

設定多節點橫向擴充

請考慮設定四台Linux主機、其CPU和RAM組態類似。您可以使用全部四個主機進行移轉、因為XCP可以協調所有主機節點的複本作業。若要在橫向擴充環境中使用這些節點、您必須將四個節點中的一個識別為主節點、而其他節點識別為工作節點。例如、對於Linux四節點設定、請將節點命名為「master」、「worker1」、「worker2」和「worker3」、然後在主節點上設定組態：

1. 將XCP複製到主目錄。
2. 安裝並啟動XCP授權。
3. 修改「xcp.ini」檔案並新增目錄路徑。
4. 從主節點將無密碼的安全Shell（SSH）設定為工作節點：
 - a. 在主節點上產生金鑰：

```
「sh-keygen-b 2048-t ra -f /root/.ssh / id_ra -q -N "」
```

- b. 將金鑰複製到所有工作節點：

```
「sh-copy -id -i /root/.ssh / id_ras.pub root@worker1」
```

XCP主節點使用SSH在其他節點上執行工作人員。您必須設定工作節點、為在主節點上執行XCP的使用者啟用無密碼SSH存取。例如、若要讓主節點上的使用者示範使用節點「worker1」做為XCP工作者節點、您必須將XCP二進位檔從主節點複製到主目錄中的所有工作節點。

MaxStartups

當您同時啟動多個XCP工作者時、為了避免錯誤、您應該增加每個工作者節點上的「shd MaxStartups」參數、如下列範例所示：

```
echo "MaxStartups 100" | sudo tee -a /etc/ssh/sshd_config  
sudo systemctl restart sshd
```

nodes.ini"檔案

當XCP在叢集節點上執行工作者時、工作者處理序會從主節點上的主要XCP處理序繼承環境變數。若要自訂特定的節點環境、您必須在「nodes.ini」檔案中設定變數、該檔案僅位於主節點的組態目錄（工作節點沒有組態目錄或目錄）。例如、在不同位置的Ubuntu伺服器mars（如Wave（即CentOS）中、其「libjvm.so」位於主節點的不同位置、則需要一個組態目錄、才能讓Mars上的員工使用HDFS連接器。以下範例顯示此設定：

```
[schay@wave ~]$ cat /opt/NetApp/xFiles/xcp/nodes.ini [mars]
NHDFS_LIBJVM_PATH=/usr/lib/jvm/java-8-openjdk-amd64/jre/lib/
amd64/server/libjvm.so
```

如果您使用具有POSIX和HDFS檔案路徑的多工作階段、則必須在主節點和所有工作節點上掛載檔案系統、以及來源和目的地匯出的檔案系統。

當XCP在工作節點上執行時、工作節點沒有本機組態（無授權、記錄檔或目錄）。您的主目錄中的系統僅需要XCP二進位。例如、若要執行「copy」命令、主要節點和所有工作節點都需要存取來源和目的地。對於「XCP copy（XCP複製）-節點LINKX1、linu2 HDFS：//user/demo/test \file//mnt/ontap」、 「LINKuX1」和「linux2」主機、必須設定HDFS用戶端軟體、並將NFS匯出掛載於/mnt/ONTAP、如前所述、將XCP複本放在主目錄的二進位目錄中。

結合**POSIX**和**HDFS**連接器、多節點橫向擴充和安全功能

您可以搭配使用POSIX和HDFS連接器、多節點橫向擴充和安全功能。例如、下列「複製」和「驗證」命令將POSIX和HDFS連接器與安全性和橫向擴充功能結合在一起：

- 「copy（複製）」命令範例：

```
./xcp copy hdfs:///user/demo/d1 file:///mnt/nfs-server0/d3
./xcp copy -match "'USER1 in name'" file:///mnt/nfs-server0/d3
hdfs:///user/demo/d1
./xcp copy -node worker1,worker2,worker3 hdfs:///user/demo/d1
file:///mnt/nfs-server0/d3
```

- 「驗證」命令範例：

```
./xcp verify hdfs:///user/demo/d2 file:///mnt/nfs-server0/d3
```

設定 S3 連接器

從 XCP 1.0.2 開始、Simple Storage Service（S3）連接器可將資料從 Hadoop 分散式檔案系統（HDFS）檔案系統移轉至 S3 物件儲存設備、進而強化 XCP 資料移轉的範圍。

支援的移轉使用案例

S3 連接器支援下列移轉使用案例：

- 從 HDFS 移轉至 NetApp StorageGRID

- 從 HDFS 移轉至 Amazon S3
- 從 HDFS 移轉至 NetApp ONTAP S3



目前只有符合條件且支援 HDFS 的 MapR。

支援的功能

支援 scan、copy、verify、resume 和 delete S3 連接器可使用命令。

不支援的功能

支援 sync S3 連接器無法使用命令。

路徑語法

S3 連接器的路徑語法為 `s3://<bucket in S3>`。

- 您可以使用為 XCP 命令提供特定的 S3 設定檔 `-s3.profile` 選項。
- 您可以使用 `s3.endpoint` 修改端點值以與 S3 通訊的選項



StorageGRID 和 ONTAP S3 必須使用端點。

設定 S3 連接器

步驟

1. 若要在 S3 連接器上執行 XCP 命令、請依照各平台的線上文件、在 S3 中建立儲存區：
 - ["ONTAP S3 物件儲存管理"](#)
 - ["StorageGRID：使用租戶帳戶總覽"](#)



在繼續之前、您必須擁有 access key、secret key、憑證授權單位（CA）憑證套裝組合、以及 endpoint url 資訊：XCP 在開始作業之前、會使用這些參數來識別及連接 S3 儲存貯體。

2. 安裝 Amazon Web Services（AWS）CLI 套件並執行 AWS CLI 命令、為 S3 帳戶設定金鑰和安全通訊端層（SSL）憑證：
 - 請參閱 ["安裝或更新 AWS CLI 的最新版本"](#) 以安裝 AWS 套件。
 - 請參閱 ["AWS CLI 命令參考"](#) 以取得更多資訊。
3. 使用 `aws configure` 設定認證檔案的命令。根據預設、檔案的位置是 `/root/.aws/credentials`。認證檔案應指定存取金鑰和秘密存取金鑰。
4. 使用 `aws configure set` 用於指定 CA 憑證套件的命令、該套件是的檔案 `.pem` 驗證 SSL 憑證時使用的延伸。根據預設、檔案的位置是 `/root/.aws/config`。

範例：

```

[root@client1 ~]# aws configure
AWS Access Key ID [None]: <access_key>
AWS Secret Access Key [None]: <secret_key>
Default region name [None]:
Default output format [None]:
[root@client1 ~]# cat /root/.aws/credentials
[default]
aws_access_key_id = <access_key>
aws_secret_access_key = <secret_key>
[root@client1 ~]#
[root@client1 ~]# aws configure set default.ca_bundle
/u/xxxx/s3/ca/aws_cacert.pem
[root@client1 ~]# cat /root/.aws/config
[default]
ca_bundle = /u/xxxx/s3/ca/aws_cacert.pem

```

5. 完成所需的設定組態後、請確認 AWS CLI 命令可以從 Linux 用戶端存取 S3 儲存區、然後再執行 XCP 命令：

```
aws s3 ls --endpoint-url <endpoint_url> s3://bucket-name/
```

```
aws s3 ls --profile <profile> --endpoint-url <endpoint_url> s3://bucket-name
```

範例：

```

[root@client1 linux]# aws s3 ls --profile <profile> --endpoint
<endpoint_url> s3://<bucket-name>
                                PRE 1G/
                                PRE aws_files/
                                PRE copied_folders/
                                PRE d1/
                                PRE d2/
                                PRE giant_size_dirs/
                                PRE medium_size_dirs/
                                PRE small_size_dirs/

[root@client1 l

```

規劃資料移轉

規劃資料移轉

您可以使用CLI或檔案分析GUI來規劃移轉作業。

使用下列命令來規劃移轉：

- 顯示
- 掃描

使用檔案分析來視覺化顯示匯出和共用的統計資料。

規劃NFS資料移轉

規劃NFS資料移轉。

顯示

◦ `show` 命令會查詢一或多個儲存伺服器的 RPC 服務和 NFS 匯出。此命令會列出可用的服務和匯出、以及每個匯出的已使用和可用容量、以及每個匯出的根屬性。

範例：

- 「XCP show <NFS file server ip/FQDN>
- 「XCP顯示nfs_server01.netapp.com」

請執行「XCP說明展示」以取得更多詳細資料。

掃描

◦ `scan` 命令會遞迴掃描整個來源 NFSv3 匯出路徑、並在掃描結束時列印檔案結構的統計資料。NetApp建議在掃描作業期間、將來源NFS匯出掛載置為唯讀模式。



如果檔案或目錄名稱包含非 UTF-8 字元、這些字元會轉換成 UTF-8 格式、並在執行時顯示 `xcp-scan` 命令。視來源編碼轉譯為 UTF-8 而定、字元可能無法如預期般顯示。

範例：

- `xcp scan NFS [server:/export path | file:// ]`
- 《XCP掃描nfs_server01.netapp.com:/export1》
- 「XCP掃描\檔案：//mnt/nf-sources」

請執行《XCP說明掃描》以取得更多詳細資料。

您也可以選擇使用檔案分析來以圖形方式檢視結果。

規劃SMB資料移轉

規劃您的SMB資料移轉。

顯示

「show」命令會顯示伺服器上所有可用的SMB共用、以及可用的權限和空間。範例：

- 「XCP show \<SMB檔案伺服器IP / FQDN」
- 「XCP顯示smb_server01.netapp.com」

請執行「XCP說明展示」以取得更多詳細資料。

掃描

「掃描」命令會以遞歸方式掃描整個SMB共用區、並在掃描結束時列出所有檔案。



在掃描作業期間、您可以使用「-preserve-atime」旗標搭配「掃描」命令、以保留來源的存取時間。

範例：

- 「XCP掃描」\SMB server\share1'
- 《XCP掃描smb_server01.netapp.com:/share1'》

請執行《XCP說明掃描》以取得更多詳細資料。

您也可以選擇使用檔案分析來以圖形方式檢視結果。

規劃 HDFS 資料移轉

規劃 HDFS 資料移轉。

掃描

◦ scan 命令會遞迴掃描整個來源路徑、並在掃描結束時列印檔案結構的統計資料。

- xcp scan HDFS [hdfs://<hdfs mounted path>]
- 「XCP掃描HDFS：///DEMO /使用者1」
- xcp scan s3://my-bucket
- xcp scan -s3.profile <s3 profile name> -s3.endpoint <endpoint-url> s3://my-bucket

請執行《XCP說明掃描》以取得更多詳細資料。

使用檔案分析進行規劃

規劃資料移轉

使用檔案分析來規劃資料移轉。



XCP是CLI、而檔案分析則是GUI。

總覽

XCP檔案分析使用XCP掃描API從NFS或SMB主機收集資料。然後、此資料會顯示在XCP檔案分析GUI上。XCP檔案分析涉及三大要素：

- XCP服務
- 檔案分析資料庫
- 檔案分析GUI可管理及檢視資料

XCP檔案分析元件的部署方法取決於所需的解決方案：

- 部署適用於NFS檔案系統的XCP檔案分析解決方案：
 - 您可以在相同的Linux主機上部署檔案分析GUI、資料庫和XCP服務。
- 部署適用於SMB檔案系統的XCP檔案分析解決方案：您必須在Linux主機上部署檔案分析GUI和資料庫、並在Windows主機上部署XCP服務。

存取檔案分析

檔案分析提供掃描結果的圖形檢視。

登入 **File Analytics GUI**

XCP File Analytics GUI 提供一個儀表板、其中包含可視覺化的檔案分析圖表。在Linux機器上設定XCP時、會啟用XCP檔案分析GUI。



若要查看支援的瀏覽器以存取檔案分析、請參閱 "[NetApp IMT](#)"。

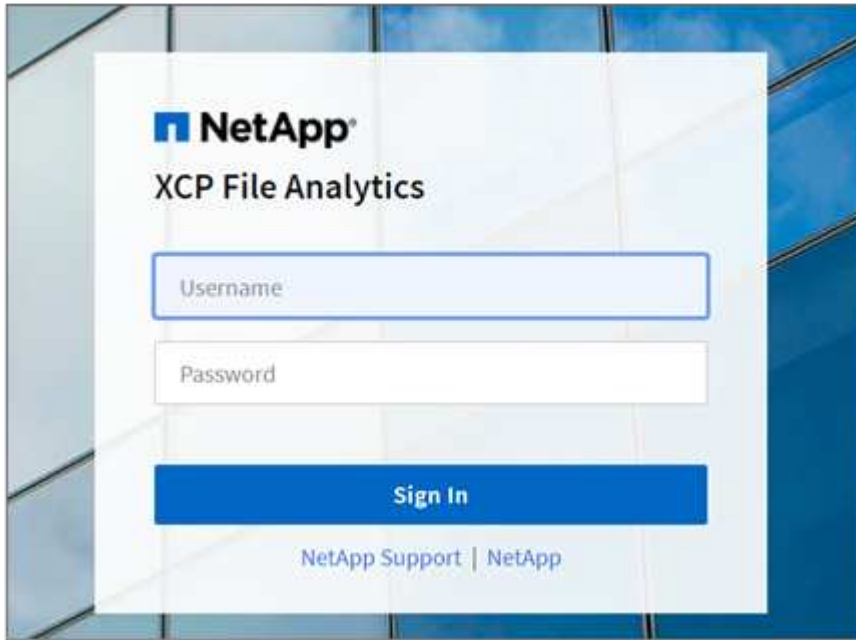
步驟

1. 請使用連結「<https://<IP>>」、以取得Linux機器的位址/XCP、以存取檔案分析GUI。出現提示時、請接受安全性憑證：
 - a. 在隱私權聲明下方選擇 * 進階 *。
 - b. 選擇 * 繼續 <IP address of linux machine>* 連結。
2. 登入檔案分析GUI。

登入檔案分析GUI的方法有兩種：

使用使用者認證登入

- a. 使用安裝 File Analytics 時取得的使用者認證登入 GUI 。



- b. 您也可以將密碼變更為自己的密碼。

如果要將安裝期間取得的密碼變更為您自己的密碼、請選取使用者圖示、然後選取 * 變更密碼 * 。

您的新密碼長度必須至少八個字元、且至少包含一個數字、一個大寫字母、一個小寫字母、以及一個特殊字元（!@#\$%^&*-_）。



變更密碼後、您會自動登出 GUI 、而且必須使用您建立的新密碼重新登入。

設定並啟用 SSO 功能

您可以使用此登入功能在特定機器上設定 XCP File Analytics 、並在企業範圍內共用 Web UI URL 、讓使用者可以使用單一登入（SSO）認證登入 UI 。



SSO登入為選用項目、可永久設定及啟用。若要設定安全聲明標記語言（SAML）型SSO登入、請參閱 [設定SSO認證](#)。

3. 登入後、您可以看到 NFS 代理程式；此時會出現綠色勾號、顯示 Linux 系統和 XCP 版本的最低系統組態。
4. 如果您已設定SMB代理程式、則可以在同一個代理程式卡中看到新增的SMB代理程式。

設定SSO認證

SSO登入功能是在使用SAML的XCP檔案分析中實作、並受Active Directory Federation Services（ADFS）身分識別供應商支援。SAML會將驗證工作卸載至貴企業的第三方身分識別供應商（IDP）、以便運用多種MFA（多因素驗證）方法。

步驟

1. 向企業身分識別供應商註冊XCP檔案分析應用程式。

檔案分析現在以服務供應商的身分執行、因此必須向企業身分識別供應商註冊。一般而言、企業中有一個團隊負責此SSO整合程序。第一步是找出並聯絡相關團隊、並與他們分享檔案分析應用程式中繼資料詳細資料。

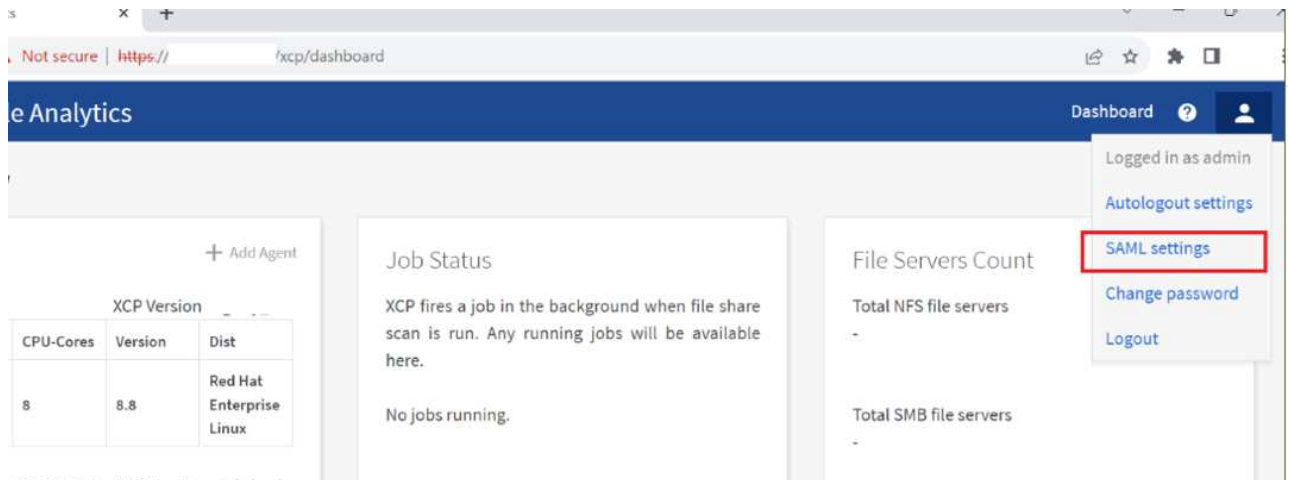
以下是您必須分享的必填詳細資料、以便向身分識別供應商註冊：

- 服務供應商實體ID：`https://<IP address of linux machine>/xcp`
- 服務供應商聲明消費者服務（ACS）URL：`https://<IP address of linux machine>:5030/api/xcp/SAML/sp`

您也可以登入檔案分析UI來驗證這些詳細資料：

- 使用中所所述的步驟登入 GUI [登入 File Analytics GUI](#)。
- 選取頁面右上角的*使用者*圖示、然後選取* SAML設定*。

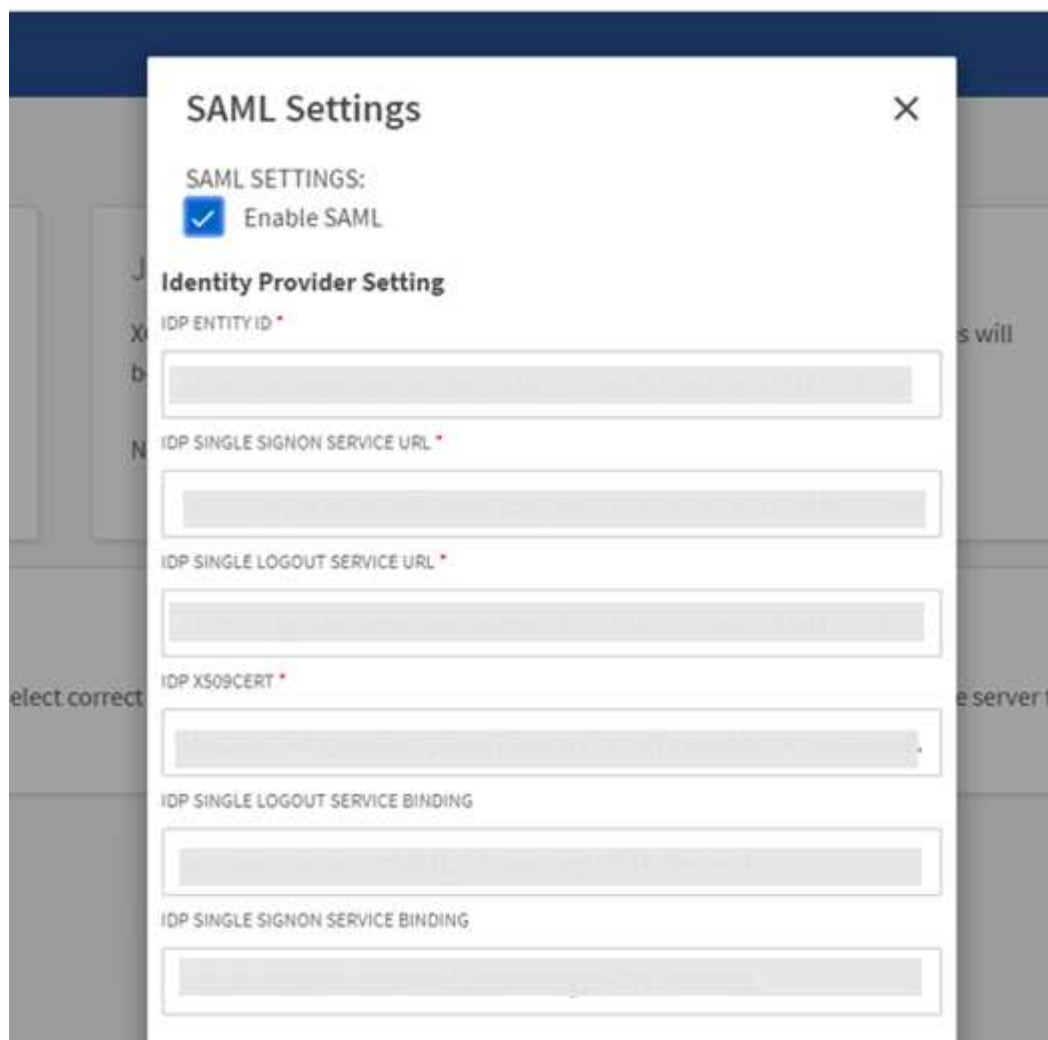
在出現的下拉式功能表中、勾選*服務供應商設定*。



註冊之後、您會收到企業的IDP端點詳細資料。您必須將此IDP端點中繼資料提供給檔案分析UI。

2. 提供IDP詳細資料：

- 轉至*儀表板*。選取頁面右上角的*使用者*圖示、然後選取* SAML設定*。
- 輸入您在註冊後取得的IDP詳細資料。
 - 範例 *



- a. 選取「*啟用SAML」核取方塊、以永久啟用SAML型SSO。
- b. 選擇*保存*。
- c. 登出File Analytics、然後重新登入。

您會重新導向至企業SSO頁面。

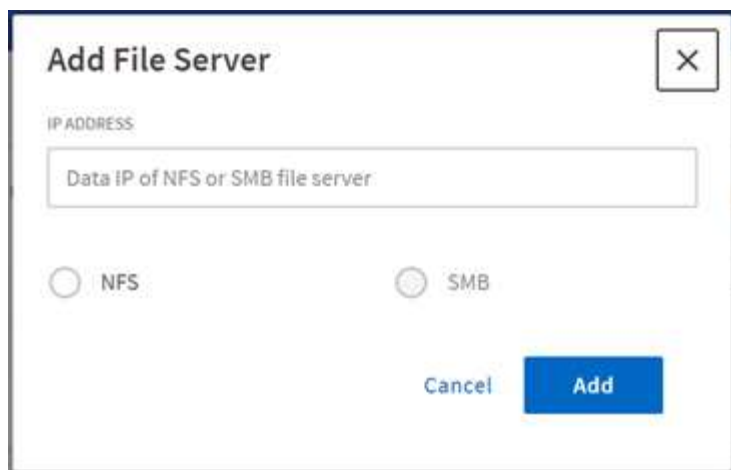
新增檔案伺服器

您可以在XCP檔案分析GUI中設定NFS和SMB匯出的檔案系統。

如此一來、XCP檔案分析就能掃描及分析檔案系統上的資料。請使用下列步驟新增NFS或SMB檔案伺服器。

步驟

1. 若要新增檔案伺服器、請選取*新增檔案伺服器*。

A screenshot of a software dialog box titled "Add File Server". It features a close button (X) in the top right corner. Below the title, there is a label "IP ADDRESS" followed by a text input field containing the placeholder text "Data IP of NFS or SMB file server". Underneath the input field, there are two radio button options: "NFS" and "SMB". At the bottom of the dialog, there are two buttons: "Cancel" and "Add".

新增檔案伺服器IP位址、選取NFS或SMB選項、然後按一下「新增」。



如果GUI中沒有SMB代理程式、您將無法新增SMB伺服器。

新增檔案伺服器之後、XCP會顯示：

- 可用檔案共用總數
- 檔案與分析資料共用（初始數為「0」、這是在您執行成功掃描時更新的）
- 總空間使用率：所有匯出所使用的空間總和
- 檔案共用和空間使用率的資料是來自NFS/SMB伺服器的即時資料。收集和處理資料需要數秒鐘的時間。



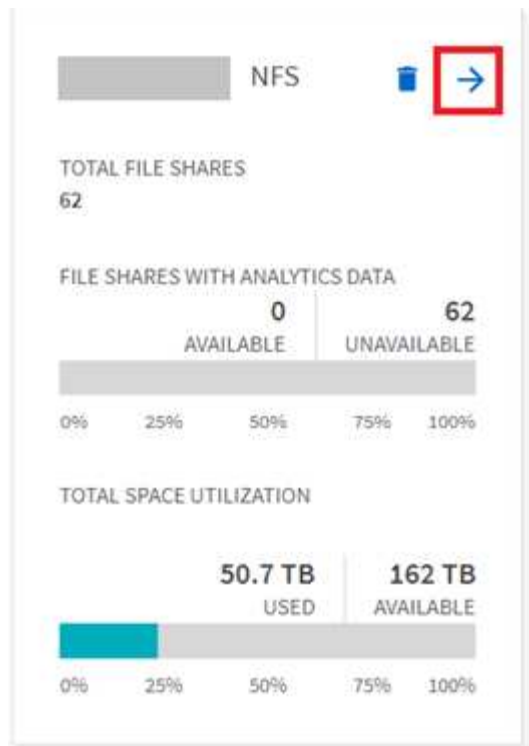
檔案分析中使用的空間與空間、是從NFS上可用的每個匯出檔案系統計算而來。例如、如果磁碟區由qtree組成、且匯出是透過qtree建立、則整體空間是磁碟區大小和qtree大小的累計空間。

執行掃描

將NFS/SMB檔案系統新增至XCP檔案分析GUI時、您可以開始檔案系統掃描、以分析及呈現資料。

步驟

1. 選取新增檔案伺服器卡上的箭頭、即可檢視檔案伺服器上的檔案共用。

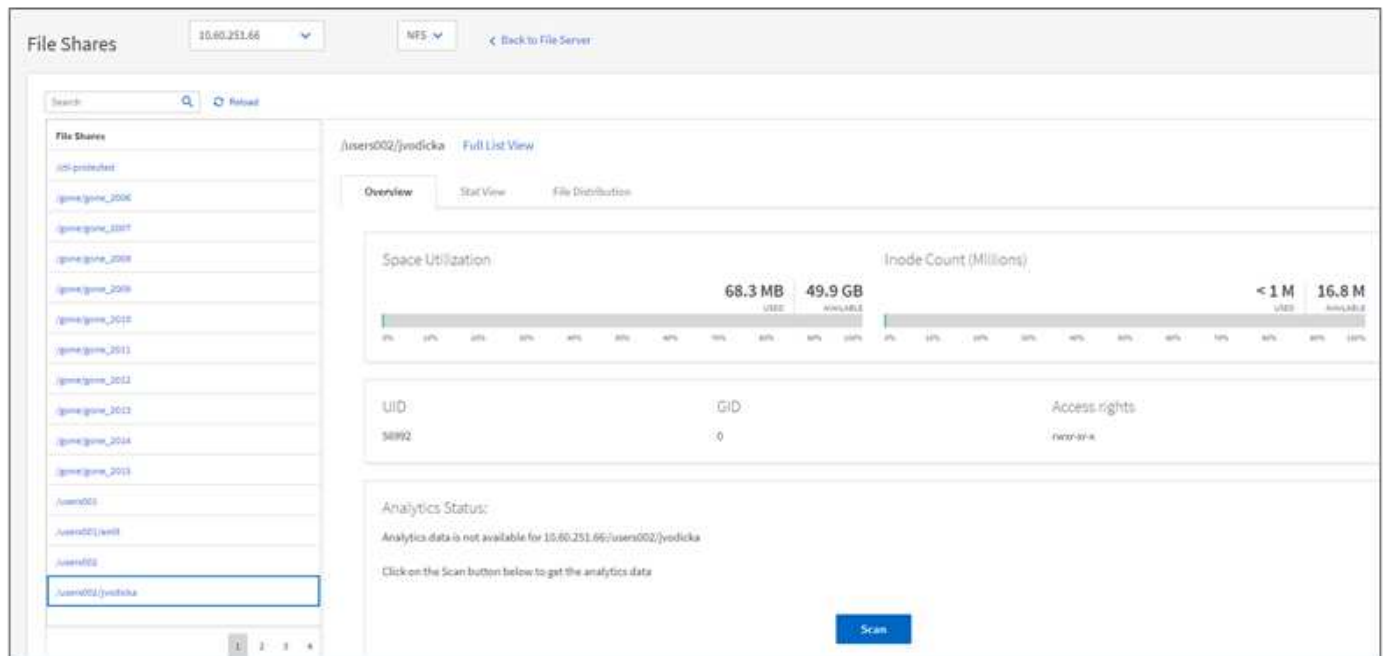


2. 從檔案共用清單中、選取要掃描的檔案共用名稱。

3. 選取*掃描*以開始掃描。

XCP會顯示掃描的進度列。

4. 掃描完成後、會啟用* stat檢視*和*檔案發佈*索引標籤、讓您檢視圖形。

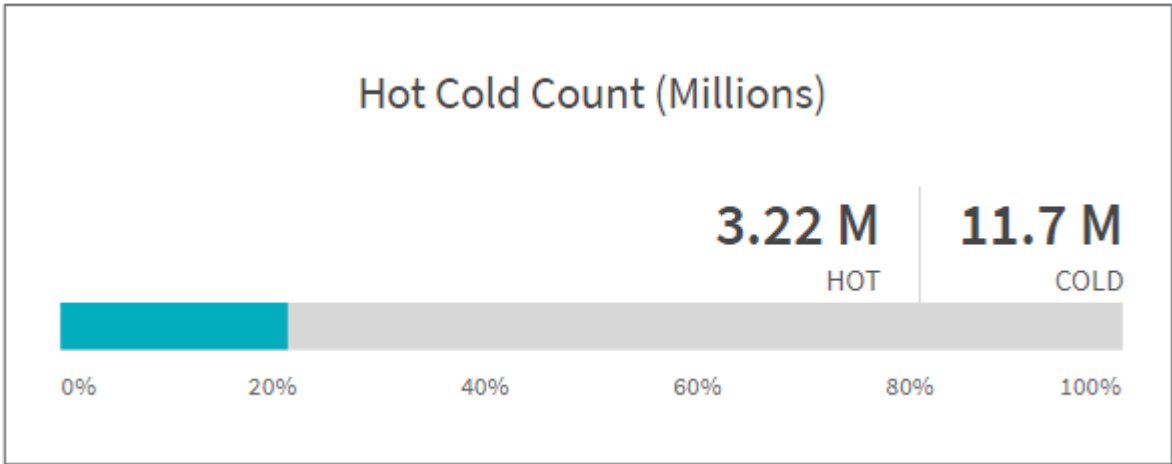


深入瞭解圖表

檔案分析GUI儀表板會顯示多個圖表、以供視覺化檔案分析之用。

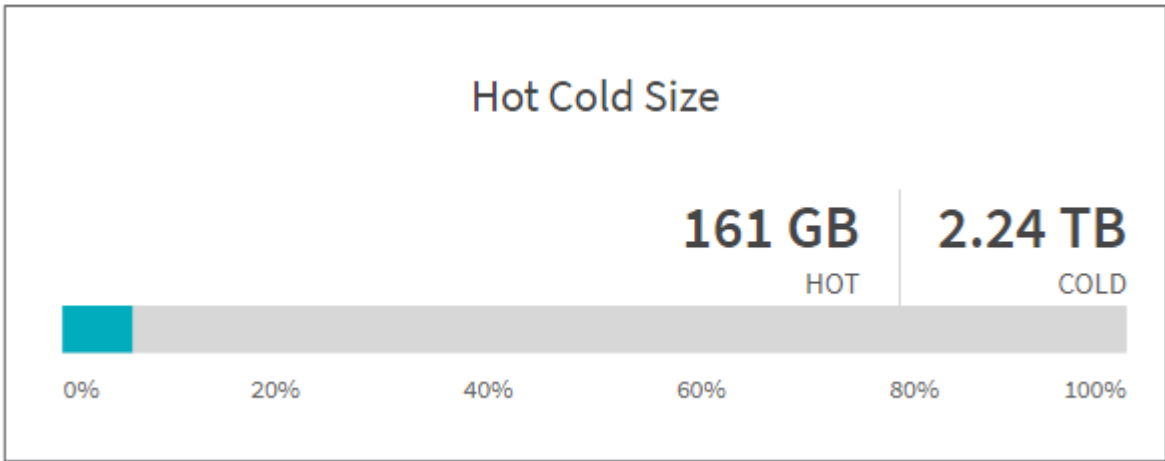
熱冷計數圖表

XCP檔案分析將90天內無法存取的檔案分類為冷資料。過去90天內存取的檔案是熱門資料。定義熱和冷資料的準則僅根據存取時間而定。



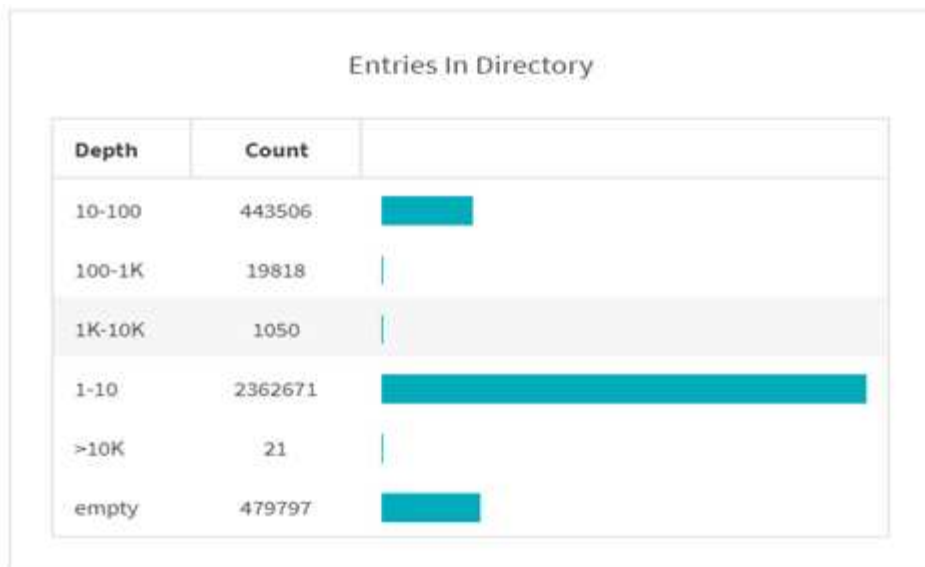
「Hot Cold Count」（熱冷計數）圖表會顯示XCP NFS中的熱或冷inode數量（以百萬計）。在XCP SMB中、此圖表表示熱或冷檔案的數量。彩色列代表熱門資料、並顯示90天內存取的檔案百分比。

熱冷尺寸圖表



「冷熱大小」圖表會顯示熱和冷檔案的百分比、以及每個類別中檔案的總大小。彩色列代表熱資料、而無色部分則代表冷資料。定義熱和冷資料的準則僅根據存取時間而定。

目錄圖表中的項目



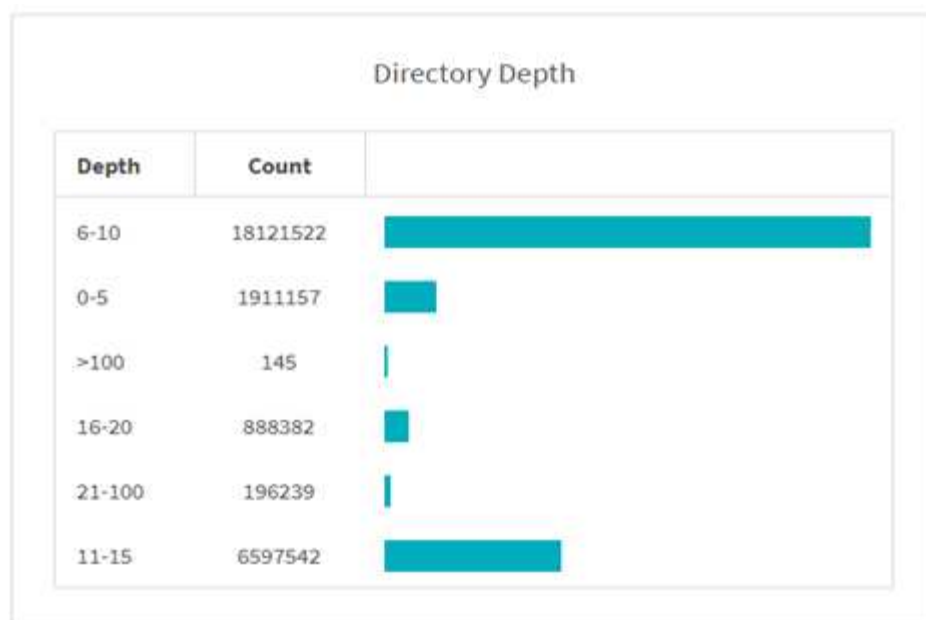
目錄圖表中的項目會顯示目錄中的項目數。「深度」欄包含不同的目錄大小、「計數」欄則會指出每個目錄深度的項目數。

檔案分佈（依大小）圖表



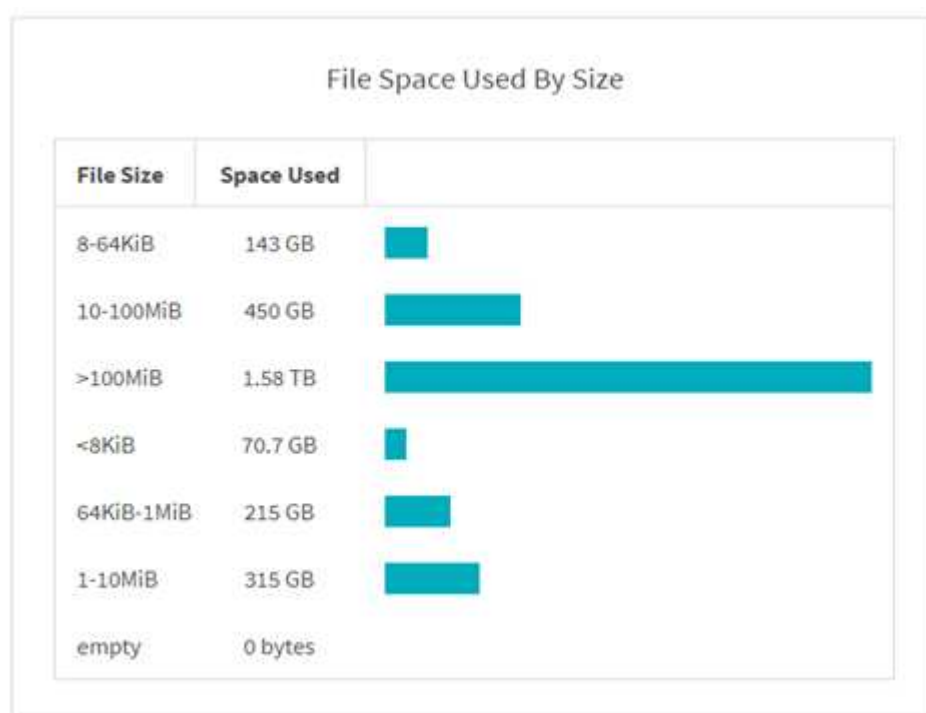
「依大小分佈檔案」圖表會顯示指定檔案大小下的檔案數目。「檔案大小」欄包含檔案大小類別、「計數」欄則表示檔案數量的分佈。

目錄深度圖表



「目錄深度」圖表代表不同目錄深度範圍中目錄數目的分佈。「深度」欄包含各種目錄深度、「計數」欄包含檔案共用區中每個目錄深度的計數。

大小圖表使用的檔案空間



「依大小使用的檔案空間」圖表會顯示不同檔案大小範圍內的檔案數目。「檔案大小」欄包含不同的檔案大小範圍、「已使用空間」欄則會指出每個檔案大小範圍所使用的空間。

使用者佔用空間圖表

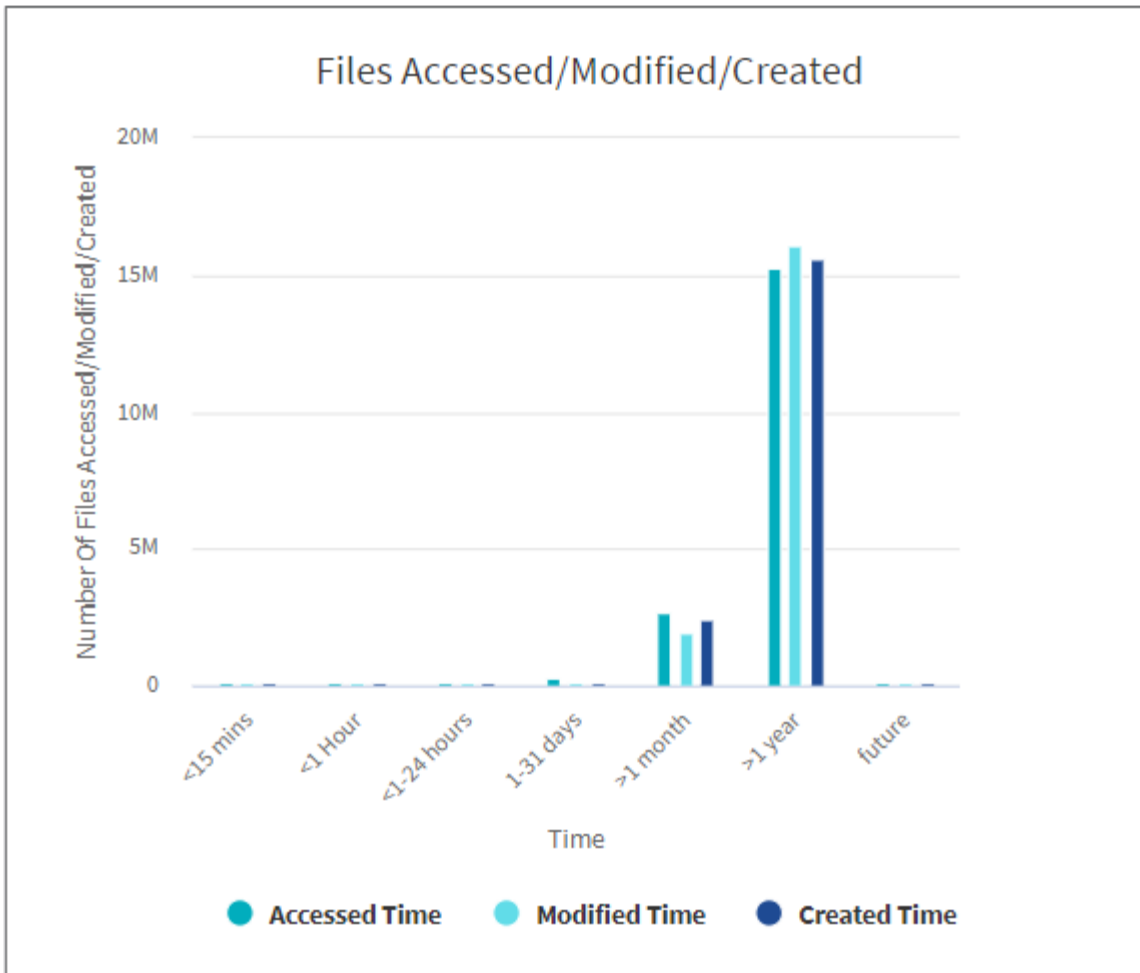
Space Occupied By Users

Username	Space Used	
4568	47.8 GB	
14952	67.1 GB	
19592	48.2 GB	
48973	54.5 GB	
50900	47.3 GB	

12

「使用者佔用空間」圖表會顯示使用者使用的空間。使用者名稱欄包含使用者名稱（無法擷取使用者名稱時為UID）、而「已使用空間」欄則指出每個使用者名稱所使用的空間。

存取/修改/建立的檔案圖表

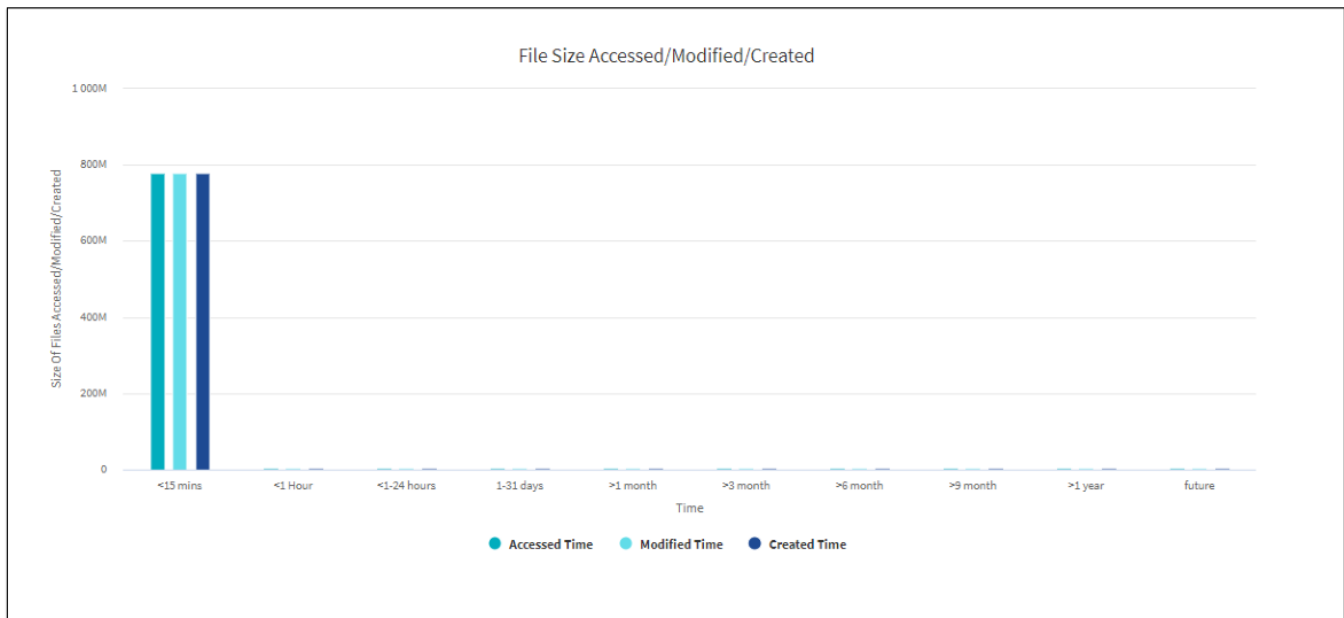


「存取 / 修改 / 建立的檔案」圖表會顯示隨時間變更的檔案數。X 軸代表進行變更的時間週期、Y 軸代表變更的檔案數。



若要在SMB掃描中取得存取時間（atime）圖表、請勾選「在執行掃描之前保留時間」方塊。

存取 / 修改 / 建立的檔案大小圖表



存取 / 修改 / 建立的檔案大小圖表會顯示隨著時間變更的檔案大小。X 軸代表進行變更的時間週期、Y 軸代表檔案變更的大小。

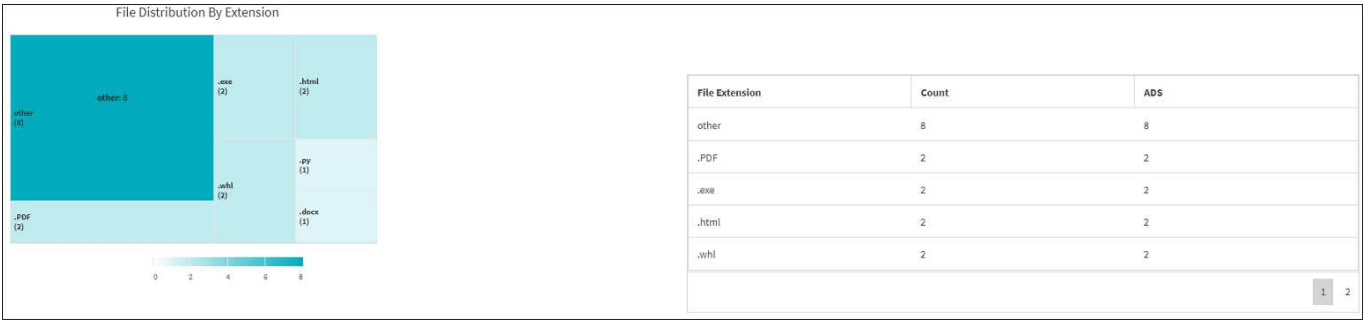
 若要在SMB掃描中取得存取時間（atime）圖表、請勾選「在執行掃描之前保留時間」方塊。

依副檔名圖表的檔案發佈



「副檔名的檔案發佈」圖表代表檔案共用區中不同副檔名的計數。代表副檔名的分區大小取決於每個副檔名的檔案數。

此外、對於 SMB 共用、您可以在執行掃描之前勾選替代資料串流方塊、以取得每個副檔名的替代資料串流檔案數量。

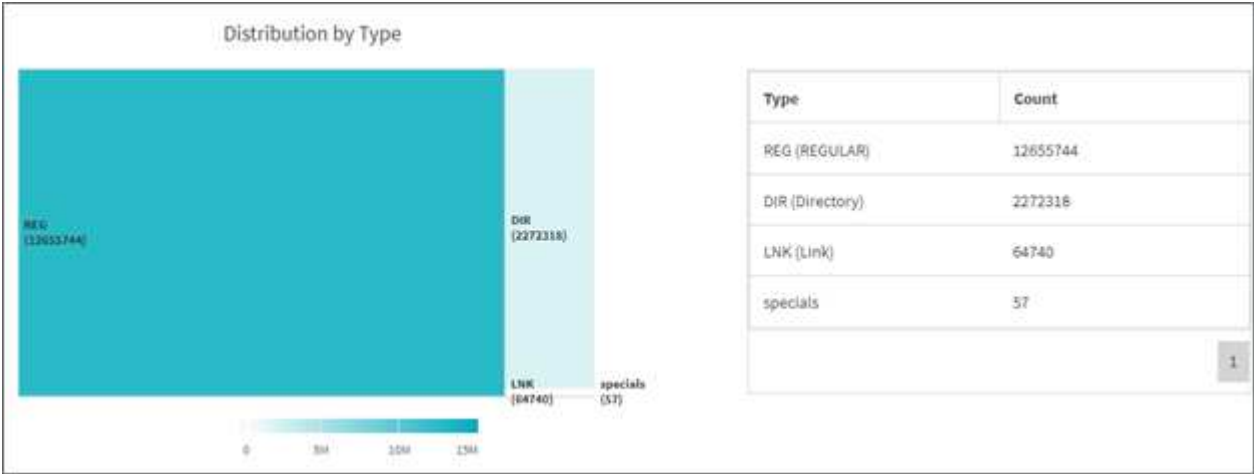


依副檔名圖表的檔案大小分佈



檔案大小依副檔名散佈圖表代表檔案共用中不同副檔名的累計大小。代表副檔名的部門大小取決於具有每個副檔名的檔案大小。

檔案發佈（依類型圖）

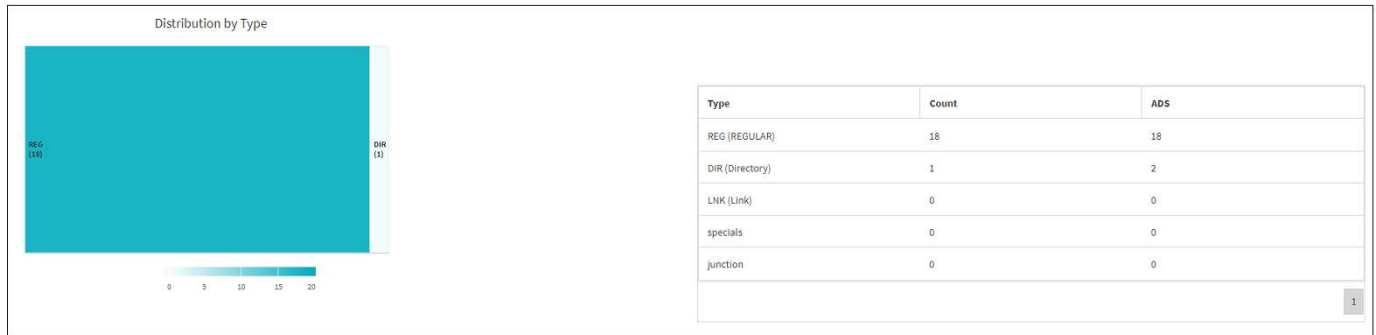


「依類型分佈」圖表代表下列檔案類型的計數：

- 註冊：一般檔案
- lnk：含有連結的檔案
- 特殊優惠：含有裝置檔案和字元檔案的檔案。
- 目錄：包含目錄的檔案

- 交會：僅適用於SMB

此外、對於 SMB 共用、您可以在執行掃描之前勾選替代資料串流方塊、以取得不同類型的替代資料串流檔案數量。



篩選器

XCP提供可在XCP作業中使用的篩選選項。

XCP使用篩選器來搭配NFS和SMB的「-MATCH」和「-exclude」選項。

對於NFS、請執行「XCP說明資訊」、並參閱篩選器一節、瞭解如何使用「-MATCH」和「-exclude」篩選器。

對於SMB、請執行「XCP說明-比對」和「XCP說明-exclude」、以取得「匹配」和「排除」篩選器的詳細資料。

如果您想在XCP命令中使用篩選器、請執行「XCP說明<命令>」、查看是否支援這些篩選器選項。

NFS和SMB記錄（選用）

XCP NFS和SMB的記錄。

XCP支援使用「xcpLogConfig.json」Json組態檔來設定多項選用功能。若要僅啟用特定功能、請手動建立「xcpLogConfig.json」組態檔案。您可以使用「xcpLogConfig.json」組態檔來啟用：

- 事件記錄訊息
- XCP的syslog用戶端
- 自訂XCP記錄

預設組態中會停用事件記錄訊息和syslog用戶端。NFS和SMB的組態都很常見。

設定Json檔案位置	NFS	中小企業
組態檔預設位置	/opt/NetApp/xFiles/XCP	C:\NetApp\XCP\ConfigFile
自訂位置需要「XCP組態目錄」環境變數	使用您針對「XCP組態目錄」變數所設定的位置	不適用

Json組態檔案選項區分大小寫。XCP NFS和XCP SMB的選項相同。

2. 使用下列Json範本建立新檔案。

```
{
  "logConfig": {
    "level": "INFO",
    "maxBytes": 52428800,
    "name": "xcp.log"
  },
  "eventlog": {
    "isEnabled": false,
    "level": "INFO"
  },
  "syslog": {
    "isEnabled": false,
    "level": "INFO",
    "serverIp": "10.234.219.87",
    "port": 514
  },
  "sanitize": false
}
```

3. 如果您想要啟用任何功能、請將「isEnabled」值變更為「true」。
4. 將檔案命名為「xcpLogConfig.json」、並將其儲存至預設位置：/opp/NetApp/xFiles/XCP

如果設定了「XCP組態目錄」環境變數、請將「xcpLogConfig.json」檔案儲存在與「XCP組態目錄」變數相同的位置。

預設組態

```
{
  "logConfig": {
    "level": "INFO",
    "maxBytes": 52428800,
    "name": "xcp.log"
  },
  "sanitize": false
}
```

json組態檔範例

```
{
  "logConfig": {
    "level": "INFO",
    "maxBytes": 52428800,
    "name": "xcp.log"
  },
  "eventlog": {
    "isEnabled": false,
    "level": "INFO"
  },
  "syslog": {
    "isEnabled": false,
    "level": "INFO",
    "serverIp": "10.234.219.87",
    "port": 514
  },
  "sanitize": false
}
```

移轉資料

移轉NFS資料

使用規劃移轉之後 `show` 和 `scan` 命令、您可以移轉 NFS 資料。

複本

「`copy`」命令會掃描整個來源目錄結構、並將其複製到目的地NFSv3匯出。「`copy`」命令需要將來源和目的地路徑做為變數。掃描與複製的檔案、處理量/速度和經過時間詳細資料會顯示在複製作業結束時。

範例：

```
xcp copy <source_nfs_export_path> <destination_nfs_export_path>
```

- POSIX路徑範例：*

```
xcp copy -newid <id> file:///mnt/source file:///mnt/dest
```

執行 `xcp help copy` 以取得更多詳細資料。

繼續

「`resume`」命令會指定目錄索引名稱或編號、重新啟動先前中斷的複製作業。上一個複製作業的目錄索引名稱或編號會儲存在「目錄路徑」：/型錄/索引目錄中。

範例：

```
xcp resume -id <catalog_name>
```

執行 `xcp help resume` 以取得更多詳細資料。

同步

「`sync`」命令會使用目錄索引標籤名稱或先前複製作業的編號、掃描來源NFS目錄上所執行的變更和修改。來源遞增變更會複製並套用至目標目錄。舊的目錄索引編號會在同步operation#之後以新的[.Underlines]#取代。

範例：

```
xcp sync -id <catalog_name>
```

執行 `xcp help sync` 以取得更多詳細資料。

驗證

在複製作業之後、「驗證」命令會在來源目錄和目標目錄之間使用逐位元組的完整資料比較、而不使用目錄索引編號。此命令會檢查修改時間及其他檔案或目錄屬性、包括權限。命令也會讀取兩側的檔案、並比較資料。

範例：

```
xcp verify <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

- POSIX路徑範例：*

```
xcp verify file:///mnt/source file:///mnt/dest
```

執行 `xcp help verify` 以取得更多詳細資料。

iSync

- `isync` 命令會比較來源和目的地、並在不使用目錄索引的情況下同步目標上的差異。
- 範例 *

```
xcp isync <source_ip_address>:/src <destination_ip_address>:/dest
```

您可以使用 `isync` 使用 `estimate` 預估所需時間的選項 `isync` 同步遞增變更的命令。◦ `-id` 參數指定先前複本作業的目錄名稱。



如果您變更的資料集大小超過使用的資料集大小的 25%、則會變更 `isync estimate` 命令可能不會顯示預期的結果。

- 範例 *

```
xcp isync estimate -id <name>
```

執行 `xcp help isync` 以取得更多詳細資料。

移轉SMB資料

使用規劃移轉之後 `show` 和 `scan` 命令、您可以移轉 SMB 資料。

複本

「copy」命令會掃描整個來源目錄結構、並將其複製到目的地SMB共用區。「copy」命令需要將來源和目的地

路徑做為變數。掃描和複製的檔案、處理量/速度和經過時間等詳細資料、每五秒會列印一次到主控台。



在複製作業期間、您可以使用「-preserve-atime」旗標搭配「copy」命令、以保留來源的存取時間。

範例：

```
C:\xcp>xcp copy \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share
```

執行 `xcp help copy` 以取得更多詳細資料。

同步

「sync」命令會平行掃描來源和目標共用區的變更和修改、並將適當的動作（移除、修改、重新命名等）套用至目標、以確保目標與來源相同。

sync命令會比較資料內容、時間戳記、檔案屬性、擁有權和安全性資訊。



在同步作業期間、您可以使用「-preserve-atime」旗標搭配「synch」命令、以保留來源的存取時間。

範例：

```
C:\xcp>xcp sync \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share
```

執行 `xcp help sync` 以取得更多詳細資料。

驗證

「驗證」命令會同時讀取來源和目標共用區、並加以比較、提供不同內容的相關資訊。無論用於執行複本或同步的工具為何、您都可以在任何來源和目的地上使用命令。



在驗證作業期間、您可以使用「-preserve-atime」旗標搭配「VERIFY」命令、以保留來源的存取時間。

範例：

```
C:\xcp>xcp verify \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share
```

執行 `xcp help verify` 以取得更多詳細資料。

適用於 **SMB** 的 **NTFS** 替代資料串流移轉

適用於 **SMB** 的 **NTFS** 替代資料串流移轉

從 XCP 1.9.3 開始、XCP SMB 支援使用移轉 NTFS 替代資料串流 `-ads` XCP SMB 命令選項。

支援的使用案例

您可以使用 XCP SMB `copy` 和 `sync` 用於移轉包含替代資料流和 XCP SMB 的資料的命令 `scan` 用於掃描 SMB 共享區以尋找替代資料串流的命令。

支援的 **XCP SMB** 命令

下列 XCP SMB 命令支援 `-ads` 選項：

- `scan`
- `copy`
- `verify`
- `sync`

命令範例

下列命令範例說明如何使用 `-ads` 選項：

- `xcp scan -ads \\<SMB share>`
- `xcp copy -ads \\<source SMB share> \\<destination SB share>`
- `xcp sync -ads \\<source SMB share> \\<destination SB share>`
- `xcp verify -ads \\<source SMB share> \\<destination SB share>`

移轉 **HDFS** 資料

使用規劃移轉之後 `scan` 命令、您可以移轉 HDFS 資料。

複本

◦ `copy` 命令會掃描整個來源 Hadoop 分散式檔案系統（HDFS）資料、並將其複製到 NFS 或簡易儲存服務（S3）貯體。◦ `copy` 命令需要將來源和目的地路徑做為變數。掃描和複製的檔案、處理量、速度和經過時間詳細資料會顯示在複製作業結束時。

- NFS 路徑範例：*

```
xcp copy -newid <id> hdfs:///demo/user dst_server:/dst_export
```

- POSIX路徑範例：*

```
xcp copy -newid <id> hdfs:///demo/user file:///mnt/dest
```

- S3 路徑範例：*

```
xcp copy -newid <id> hdfs:///demo/user s3://my-bucket  
xcp copy -newid <id> -s3.profile <s3 profile name> -s3.endpoint <endpoint-  
url> hdfs:///demo/user s3://my-bucket
```

執行 `xcp help copy` 以取得更多詳細資料。

繼續

◦ `resume` 命令會指定目錄索引名稱或編號，以重新啟動先前中斷的複本作業。目錄索引名稱或上一個複本作業的編號會儲存在 `<catalog path>:/catalog/indexes` 目錄。

範例：

```
xcp resume [options] -id <id used for copy>  
xcp resume [options] -s3.profile <s3 profile name> -s3.endpoint <endpoint-  
url> -id <id used for copy>
```



根據預設、`XCP resume` 命令會使用中所使用複本索引的 S3 端點和 S3 設定檔 `copy` 命令。不過、如果是新的 `-s3.endpoint` 和 `-s3.profile` 值隨附於 `resume` 命令中使用選項的新值和複本中使用的值 `command` 會被覆寫。

執行 `xcp help resume` 以取得更多詳細資料。

驗證

◦ `verify` 命令會在複製作業之後、在來源目錄和目標目錄之間使用每位元組的完整資料比較、而無需使用目錄索引編號。命令會讀取雙方的檔案、並比較資料。

範例：

```
xcp verify hdfs:///demo/user dst_server:/dst_export
```

- POSIX路徑範例：*

```
xcp verify hdfs:///user/demo1/data file:///user/demo1/dest
```

- S3 路徑範例：*

```
xcp verify hdfs:///user/demo1/data s3://my-bucket
xcp verify -s3.profile <s3 profile name> -s3.endpoint <endpoint-url>
hdfs:///demo/user s3://my-bucket
```

執行 `xcp help verify` 以取得更多詳細資料。

在同一台 **XCP** 主機上執行多個 **XCP** 工作

從 XCP 1.0.2 開始、您可以在單一 XCP 主機上執行多個 XCP 工作或命令、前提是主機必須有足夠的資源來處理每項工作。當您執行支援多個工作的命令時、XCP 會使用最小的主機記憶體來完成工作、這會建立在相同主機組態上執行其他工作的容量。

最低系統需求

對於每項 XCP 工作、您應該允許最多 64GB 的主機記憶體和八個核心、以便進行大中型移轉。



SMB 資料移轉不支援在同一部主機上執行多個 XCP 工作。

記錄

根據預設、每個 XCP 工作都會記錄在工作 ID 唯一的個別記錄檔中。當在同一個別主機上執行多個工作時、此記錄機制運作良好。NetApp 不建議變更 `xcpLogConfig.Json` 使用單一檔案 `xcp.log` 用於記錄在同一主機上平行執行的多個 XCP 工作的檔案。

支援的命令

下列 XCP 命令可支援在同一主機上執行多個 XCP 工作：

- scan
- copy
- resume
- verify
- isync
- chmod
- chown
- delete

不支援的命令

不支援在同一主機上執行多個 XCP 工作 `sync` 命令。

其他NFS功能

XCP包含一些額外的NFS功能。

chown和chmod

您可以使用XCP「chown」和「chmod」命令、以遞歸方式變更指定NFS共用區或POSIX路徑的所有檔案和目錄。如此可提升數百萬個檔案的效能。



在變更檔案的擁有權之前、您必須先設定新的擁有者。否則、命令將會失敗。XCP「chown」和「chmod」命令的運作方式類似於Linux「chown」和「chmod」命令。

chmod

"chmod"命令會掃描並變更所選目錄結構中所有檔案的檔案權限。"chmod"命令需要一個模式或參照、以及NFS共用區或POSIX路徑做為變數。XCP「chmod」會以遞迴方式變更指定路徑的權限。您可以使用「chmod」命令來顯示掃描的檔案總數、以及輸出中已變更的權限。

範例：

```
xcp chmod -mode 777 NFS [server:/export path | file://<NFS mounted path>]
xcp chmod -mode 707 nfs_server01.netapp.com:/export1
xcp chmod -reference nfs_server01.netapp.com:/export/dir1/file.txt
nfs_server02.netapp.com: export1
xcp chmod -match "fnm('file.txt')" -mode 111 file:///mnt/nfs_mount_point/
xcp chmod -exclude "fnm('file.txt')" -mode 111 file:///demo/user1/
```

如需詳細資訊、請執行「XCP說明chmod」命令。

chown

您可以使用XCP「chown」命令、以遞歸方式變更指定NFS共用區或POSIX路徑的所有檔案和目錄。如此可提升數百萬個檔案的效能。

「chown」命令會掃描並變更所選目錄結構中所有檔案的擁有權。「chown」命令需要NFS共用區或POSIX路徑做為變數。XCP「chown」會以遞迴方式變更指定路徑的擁有權。

- 範例 *

```
xcp chown -user user1 NFS [server:/export path | file:///<NFS mounted path>
xcp chown -user user1 nfs_server01.netapp.com:/export1
xcp chown -user user1 -group group1 nfs_server01.netapp.com:/export1/dir1/
xcp chown -reference nfs_server01.netapp.com:/export/dir1/file.txt
nfs_server02.netapp.com:/export1
xcp chown -match "fnm('file.txt')" -user user1
file:///mnt/nfs_mount_point/
xcp chown -exclude "fnm('file.txt')" -user user1 -group group1
xcp chown -user-from user1 -user user2 file:///mnt/nfs_mount_point/
xcp chown -group-from group1 -group group2
nfs_server01.netapp.com:/export1/
```

如需詳細資訊、請執行「XCP說明chown」命令。

XCP 預估

XCP 預估功能可預估完成基準的時間 copy 從來源到目的地的作業。它會計算完成基準的預估時間 copy 使用所有目前可用的系統資源（例如 CPU、RAM、網路或其他參數）來執行作業。當您使用時 -target 選項：XCP 會執行範例複本作業、以找出預估時間。

- 範例 *

```
server : NFS server IP
export : NFS exported path for the above IP

xcp static estimation
xcp estimate -id <scan id>

xcp live estimation with default time
xcp estimate -id <scan id> -target server:/export

xcp live estimation with -t option
xcp estimate -id <scan id> -t <time for which estimation should run>
-target server:/export
```

索引刪除

您可以使用 indexdelete 刪除目錄索引的命令。

- 範例 *

```
xcp indexdelete
```

執行 xcp help indexdelete 以取得更多詳細資料。

疑難排解

疑難排解XCP NFS錯誤

檢閱解決方案以疑難排解您的問題。

XCP問題與解決方案

XCP問題	解決方案
xcp: ERROR: 比較批次: 索引檔案不相容。請僅使用目前XCP版本所產生的索引檔案。或者、您也可以從xcp.netapp.com下載較舊的XCP二進位檔。	您正嘗試對使用XCP 1.9之前版本的XCP所產生的索引執行作業。這不受支援。建議您完成任何進行中的移轉、然後切換至此版本的XCP。或者、您也可以重新執行「掃描」、「複製」或「驗證」命令、以使用XCP 1.9產生新索引。
「XCP: 錯誤」: 必須以root執行	以root使用者身分執行XCP命令
「XCP: 錯誤」: 找不到授權檔案「/opt / netapp / xFiles/XCP / 授權」。	從下載授權 " XCP網站 "、複製到「/opt /NetApp/xFiles/XCP」、然後執行「XCP activate」命令加以啟動。
「XCP: 錯誤」: 此授權已過期	請向續約或取得新的XCP授權 " XCP網站 "。
「XCP: 錯誤」: 授權無法讀取	授權檔案可能毀損。從取得新的XCP授權 " XCP網站 "。
「XCP: 錯誤」: XCP未啟動、請先執行「activate」	執行「XCP activate」命令
此複本未經授權	取得適當的XCP授權檔案。將XCP授權複製到XCP伺服器上的「/opt/NetApp/xFiles/XCP」目錄。執行「XCP activate」命令以啟動授權。
「XCP: 錯誤」: 無法啟動授權: 伺服器無法連線	您嘗試啟動線上授權、但主機系統並未連線至網際網路。請確定您的系統已連線至網際網路。
「XCP: 錯誤」: 無法啟動授權: 伺服器xcp.netapp.com無法連線、 「XCP: 提示」: 在此主機上設定DNS、或返回授權頁面要求私人授權預期錯誤: 無法啟動授權: 伺服器xcp.netapp.com無法連線	請確定您的主機可以連線至xcp.netapp.com、或是要求離線授權
「XCP: 錯誤」: 無法存取目錄: 無法掛載「nfs_server: /EXPLED[:subnet]」	在XCP Linux用戶端主機上開啟編輯器、然後以適當的目錄位置更新組態檔。XCP組態檔位於「/opt/NetApp/xFiles/XCP / xcp.ini」。組態檔的範例項目: 「[root@scspr1949387001 ~]# cat /opt/NetApp/xFiles/XCP / xcp.ini「XCP」「型錄=10.235.128.153: /catalog」
「nfs3錯誤2」: 無此類檔案或目錄	作業未在目標NFS匯出中找到來源檔案。執行「XCP sync」命令、將遞增更新從來源複製到目的地
「XCP: 錯誤」: 索引空白或無效	在建立索引檔案之前、先前的複製作業中斷。使用新索引重新執行相同的命令、並在命令執行時確認統計資料中顯示關鍵字「已建立索引」。

XCP問題	解決方案
「XCP：錯誤」：比較批次：子程序失敗（結束代碼：9）：recv <type 'exates.EOFError'>	請依照下列知識庫文章中的指示操作： "在同步NFS資料時無法分配記憶體"
「XCP：錯誤」：若要讓XCP處理ACL、請使用OS nfs4用戶端掛載「<path>」	使用NFSv4在XCP主機上掛載來源和目標、例如「mount -o vers=4.0 10.10.10.10:/SOUR_vol /mnt/SOURS」
XCP「驗證」命令在移轉期間失敗。狀態顯示為「失敗」。（即時）	XCP「驗證」命令是在來源上線時執行。在最終轉換之後執行XCP「驗證」命令。
XCP「驗證」命令在轉換之後失敗。（即時）	XCP轉換同步作業可能尚未複製所有資料。在最後轉換之後、重新執行XCP「同步」命令、接著執行「驗證」命令。如果問題持續發生、請聯絡技術支援部門。
XCP「synch」命令失敗（這適用於移轉期間的所有同步失敗）。（即時）	XCP無法讀取資料、可能是因為XCP問題。命令作業完成後、請檢查XCP狀態訊息。重新執行「shync」命令。如果同步作業再次失敗、請聯絡技術支援部門。
由於記憶體不足、XCP「copy」、「resume」和「sh同步」命令會失敗。XCP當機、XCP狀態顯示為「失敗」。（即時）	主機上的可用記憶體不足、或是發生了巨大的遞增變更。請依照下列知識庫文章中的指示操作： "在同步NFS資料時無法分配記憶體"
「新界三錯誤13：權限遭拒」	身為非root使用者、您沒有存取檔案系統的正确權限。檢查您是否可以存取檔案系統並執行讀寫作業。
「XCP：批次1：錯誤：[errno 13]權限遭拒：」	身為非root使用者、您沒有存取檔案系統的正确權限。檢查您是否可以存取檔案系統並執行讀寫作業。
「MXCP：錯誤：OSMounter 'file:///t/10.234.115.215_SR_vol/DIR'：[errno 2]無此類檔案或目錄	Linux檔案系統不會掛載路徑「/t/10.234.115.215_SR_vol/ DIR」。檢查路徑是否存在。
「錯誤：執行同步處理 {-id:'XCP索引_162426389.3734858'}：尚未針對HDFS/Posix / s3fs來源與目標提供同步功能-因應措施是複本搭配最近模式的比對篩選條件」	XCP不支援POSIX和HDFS連接器的「同步」命令。
使用不同的修改時間時、「XCP VERIFY」命令會失敗	您可以識別檔案、然後手動將檔案複製到目的地。
「無法恢復非dir物件複製/同步、請再試一次複製。「詳情請參閱XCP使用者指南。	由於您無法恢復單一檔案、因此建議您再次針對該檔案執行「XCP copy」命令。檔案中的任何變更都會產生檔案的完整複本。因此、效能不會受到影響。
「無法同步非dir物件、請再試一次複本。「詳情請參閱XCP使用者指南。	由於您無法同步單一檔案、因此建議您再次針對該檔案執行「XCP copy」命令。檔案中的任何變更都會產生檔案的完整複本。因此、效能不會受到影響。
「XCP：錯誤：批次4：無法連線至節點：」	驗證是否可以存取「- nodes」參數中指定的節點。請嘗試從主節點使用Secure Shell（SSH）進行連線
「[Error 13]權限遭拒」	檢查您是否有權在目的地磁碟區上寫入。
「XCP：錯誤：批次2：子程序失敗（結束代碼-6）：recv <type 'exates.EOFError'>」	增加系統記憶體、然後重新執行測試。
xcp:ERROR: invalid path 'IP:/users009/user1/2022-07-01_04:36:52_1489367	如果 NFS 伺服器共用路徑名稱中有一或多個冒號、請使用雙冒號（:）而非單一冒號（:）來分隔 NFS 伺服器 IP 和 NFS 伺服器共用路徑。

XCP問題	解決方案
SnapLock Volume 之後不會保留 WORM 檔案 xcp copy 營運。	XCP 會將 WORM 檔案成功複製到磁碟區、但 SnapLock 磁碟區不會保留這些檔案。 1. 執行 xcp copy 從來源磁碟區到目的地磁碟區的作業： <pre>xcp copy src_server:/src_export dst_server:/dst_export</pre> 2. 使用 xcp chmod 命令將目的地磁碟區上的檔案權限變更為 * 唯讀 *： <pre>xcp chmod -mode a-w dst_server:/dst_export</pre> 完成上述步驟後、SnapLock Volume 就會開始保留複製的檔案。  SnapLock 磁碟區的保留時間取決於磁碟區的預設保留原則。開始移轉之前、請先檢查 Volume 保留設定："設定保留時間"

記錄傾印

如果您遇到XCP命令或工作問題、可使用「logdump」命令將與問題相關的記錄檔傾印到可傳送給NetApp進行偵錯的「.Zip」檔案中。「logdump」命令會根據移轉ID或工作ID來篩選記錄、並將這些記錄傾印到目前目錄中的「.zip」檔案中。此「.Zip」檔案的名稱與命令所使用的移轉或工作ID相同。

• 範例 *

```
xcp logdump -j <job id>
xcp logdump -m <migration id>
```



移轉之後、如果您使用「XCP組態目錄」或「XCP記錄目錄」環境變數來覆寫預設的組態位置或記錄位置、則在使用舊版移轉或工作ID時、「logdump」命令會失敗。若要避免這種情況、請使用相同的記錄路徑、直到移轉完成為止。

疑難排解 XCP SMB 錯誤

檢閱解決方案以疑難排解您的問題。

問題	解決方案
當來源或目的地使用連接路徑時、XCP 命令不會顯示預期的結果。	執行 XCP 命令時、請使用 SMB 共用路徑、而非交會路徑。

問題	解決方案
如果來源、目的地或兩者都是沒有目錄的交會、且移轉時使用線上授權、則可能會發生追蹤錯誤。如果發生這種情況、則 XCP 命令狀態為 PASSED 但在主控台輸出結束時會傳回下列錯誤： <pre>Error in atexit._run_exitfuncs: Traceback (most recent call last): File "xcp\stats.py", line 214, in call_home File "xcp\histograms.py", line 387, in calculate_averages ZeroDivisionError: division by zero</pre>	請使用離線授權、而非線上授權。
「XCP：錯誤」：此授權已過期	請向續約或取得新的XCP授權 "XCP網站" 。
此複本未經授權	取得適當的XCP授權檔案。將XCP授權複製到XCP主機上的「c:\NetApp\XCP」資料夾。執行「XCP activate」命令以啟動授權
「XCP：錯誤」：XCP未啟動、請先執行「activate」	從下載XCP授權 "XCP網站" 。將檔案複製到XCP主機上的XCP Linux用戶端主機上、路徑為「c:\NetApp\XCP」。執行「XCP activate」命令以啟動授權。
「XCP：錯誤」：找不到授權檔案C:\NetApp\XCP\授權	在上註冊XCP授權 "XCP網站" 。將授權檔案下載並複製到XCP Windows用戶端主機上的「C:\NetApp\XCP」。
XCP掃描錯誤：找不到網路名稱	以正確的共用名稱重新執行命令
XCP複製錯誤：錯誤無法取得xcp.log檔案中記錄的後援安全性主體錯誤訊息：「pywinTypes。錯誤：（1722、「LookupAccountName」、「The RPC server is unavailable」）	在hosts檔案（「C:\Windows\System32\drivers\etc\hosts」）中新增目的地方塊。NetApp儲存目的地Box項目必須採用下列格式：「<data vserver data interface ip> 1 or more white spaces h"<CIFS server name>」
「XCP COPING：錯誤」無法取得後援安全性主體（在hosts檔案中新增目的地方塊項目）錯誤訊息登入xcp.log檔案：「帳戶名稱與安全性ID之間沒有對應」	後援使用者/群組不存在於目標系統（目的地方塊）或作用中目錄。以正確的后援使用者/群組選項重新執行命令
「XCP copy：錯誤」無法取得後援安全性主體（在hosts檔案中新增目的地方塊項目）錯誤訊息登入xcp.log檔案：「pywinTypes。錯誤：（87、「LookupAccountName」、「The參數不正確。」）	後援使用者/群組選項的參數不正確。以正確的語法重新執行命令、以使用容錯移轉使用者/群組選項

問題	解決方案
xcp copy 透過 ACL 移轉 xcp.log 檔案中記錄的錯誤訊息： pywintypes.error: (1314, 'GetNamedSecurityInfo', 'A required privilege is not held by the client.')	與安全性描述元相關的問題、因為移轉使用者帳戶只有 XCP 所需的權限、才能擷取擁有者、群組和 DACL 。 無法擷取 SACL 。 將您的移轉使用者帳戶新增至 Active Directory 中的「管理稽核與安全性記錄」原則。 參考資料： "管理稽核與安全性記錄"

疑難排解XCP檔案分析錯誤

檢閱解決方案以疑難排解您的問題。

問題	解決方案
PostgreSQL服務失敗	再次執行configure並選取安裝選項。如果先前的安裝成功、您可以選取修復選項。如果仍出現錯誤、請嘗試下列手動步驟： 1. 重新啟動PostgreSQL服務： 「Udo systemctl重新啟動postgresql.service」 2. 檢查服務狀態： 「Udo systemctl狀態postgresql.service
grep Active」	httpd服務失敗
再次執行configure並選取安裝選項。如果先前的安裝成功、您可以選取修復選項。如果仍出現錯誤、請嘗試下列手動步驟： 1. 重新啟動HTTPD服務： 「Udo systemctl restart httpd 2. 檢查HTTPD服務狀態： 「Udo systemctl狀態httpd	grep Active」
安裝成功後、無法開啟登入頁面	確認您的系統可以ping安裝XCP檔案分析且正在執行HTTPD的Linux機器。如果服務未執行、請執行「configure」並選擇修復選項。確認您使用的是支援的瀏覽器版本。請參閱"IMT"。

問題	解決方案
使用者登入失敗	• 確認您使用的是支援的瀏覽器版本。請參閱 "IMT"。 • 確認使用者為「admin」、且密碼正確無誤。 • 發出「XCP服務狀態」來驗證XCP服務是否正在執行。 • 確認Linux上的連接埠5030已開啟。開啟應用程式：<code>* https://<Linux ip>:5030/api/XCP *</code>、然後確認訊息：「Missing Authorization Header」（使用授權標頭）。 • 檢查「xcp.ini」檔案是否出現在「/opt/NetApp/xFiles/XCP」位置。若要重設「xcp.ini」檔案、請執行組態指令碼、然後選取「修復」選項。接著、選取功能表選項以*重新建置xcp.ini檔案*。 • 在CLI上手動執行「XCP --listen」命令、然後嘗試登入。如果您在伺服器上沒有收到要求、請重新檢查安裝及用於與伺服器通訊的連接埠。驗證安裝是否正確後、請執行「service XCP start」命令重新啟動服務。
XCP GUI未顯示更新的頁面	請清除快取、然後再試一次
XCP服務未啟動	若要執行「XCP」服務、請使用「show systemcl start XCP」命令。或者、執行組態指令碼並選取*修復*選項、以啟動停止的服務。
無法掃描檔案共用區	檔案共用區/磁碟區可能無法讀取。執行「XCP show」命令、手動檢查檔案共用區是否可存取/讀取。此外、請檢查是否刪除了「xcp.ini」檔案。如果刪除、請使用configure.sh指令碼修復選項來重建「xcp.ini」檔案。
無法載入檔案伺服器	請嘗試重新整理頁面。如果問題仍然存在、請在提示字元中手動執行「XCP show」命令、然後檢查您是否可以掃描檔案伺服器。如果成功、請向NetApp客戶支援部門提出問題單。如果失敗、請執行手動檢查、檢查檔案伺服器是否處於作用中狀態。檢查「xcp.ini」檔案和授權檔案是否位於正確位置。若要重設「xcp.ini」檔案、請執行組態指令碼、然後選取「修復」選項。接著、選取功能表選項以*重新建置xcp.ini檔案*。*檢查「xcpfixs」記錄、查看授權是否需要續約。
系統重新開機後、不會顯示XCP檔案分析頁面	XCP服務可能已停機。執行組態指令碼、然後選取「修復」選項。這會重新啟動所有停止的服務。
在指定檔案伺服器上匯出檔案系統的總空間、可能會比配置的實體儲存設備顯示更多空間。	當磁碟區內有qtree層級匯出時、就會發生這種情況。例如、如果匯出為「vol1」的磁碟區大小為10 GB、而且磁碟區內有qtree、則「XCP show」命令會將「vol1」大小顯示為「10 GB」、「qtre1」大小顯示為「10 GB」。XCP檔案分析會加總兩個匯出的空間、並提供總空間、在此案例中為「20 GB」。它不知道"qtree1"是邏輯空間。

問題	解決方案
無法連線至站台、或成功安裝後使用者登入失敗。	1. 檢查 XCP 服務是否正在執行： <code>service xcp status</code> 2. 啟動 XCP 接聽作業、並確認沒有錯誤： <code>xcp -listen</code> 3. 如果您看到下列錯誤、請使用 yum 安裝 CodeReady 套件、例如 <code>yum install codeready-builder-for-rhel-8-x86_64-rpms</code>： Error: <pre> ----- Traceback (most recent call last): File "xcp.py", line 1146, in <module> File "xcp.py", line 1074, in main File "<frozen importlib._bootstrap>", line 991, in _find_and_load File "<frozen importlib._bootstrap>", line 975, in _find_and_load_unlocked File "<frozen importlib._bootstrap>", line 671, in _load_unlocked File "PyInstaller/loader/pyimod03_importers.py" , line 495, in exec_module File "rest/routes.py", line 61, in <module> File "<frozen importlib._bootstrap>", line 991, in _find_and_load File "<frozen importlib._bootstrap>", line 975, in _find_and_load_unlocked File "<frozen importlib._bootstrap>", line 671, in _load_unlocked File "PyInstaller/loader/pyimod03_importers.py" , line 495, in exec_module File "onelogin/saml2/auth.py", line 14, in <module> xmlsec.Error: (1, 'cannot load crypto library for xmlsec.') [23891] Failed to execute script 'xcp' due to unhandled exception! </pre>

XCP 參考資料

XCP 命令參考總覽

XCP 命令參照提供 XCP NFS 和 SMB 可用命令的範例。每個命令都有額外的參數、您可以視需要單獨使用或組合使用。XCP 支援根據嚴重性層級進行記錄檔循環和記錄篩選。

NFS 命令參照

說明

NFS `help` 命令會顯示命令清單、命令參數、以及每個參數的簡短說明。◦ `help` 對於剛接觸 XCP 工具的初學者而言、`Command` 非常實用。

語法

```
xcp help
```

顯示範例

```
[root@client1 linux]# ./xcp help
USAGE:
xcp [[help] [command]| -version]
optional arguments:
help Show XCP help message and exit
-version Show XCP version number and exit
To see help text, you can run:
xcp help Display this content
xcp help info Step by step usage of all commands
xcp help <command> Individual command help
command:
activate Activate an XCP license on the current host
license Show XCP license information
show Request information from host about NFS exports
scan Read all the files from export path
copy Recursively copy everything from source to target
resume Resume copy operation from the point it was halted
sync Synchronize increment changes on source to target after copy
isync Sync changes on target without index
verify Verify that the target is the same as the source
delete Delete data on the NFS exported volume
chown Change the ownership on the NFS exported volume
chmod Change the permissions on the NFS exported volume
logdump Collect all logs related to the XCP job and dump those into
        a zipped folder named <ID>.zip under the current dir
estimate Estimate the time taken for the copy command to complete
indexdelete Remove indexes from catalog
```

說明資訊

使用 `info` 參數 `help` 顯示文件、範例及調整建議的命令。

語法

```
xcp help info
```

```
[root@client1 linux]# ./xcp help info
```

COMMAND

info

USAGE

help info

DESCRIPTION

Step by step usage of the XCP command. Follow these steps after you copy the binary and license

1. Download the XCP license and XCP binary to the Linux machine. Run XCP activate: xcp activate

2. On a fresh system, the above command will fail when looking for a license in

/opt/NetApp/xFiles/xcp.

Copy the XCP license to /opt/NetApp/xFiles/xcp and run the activate command again: xcp activate

3. Check the validity of the license: xcp license

4. Configure the ini file located at /opt/NetApp/xFiles/xcp/xcp.ini with catalog details: add catalog = catalog_nfs_server:/catalog_path

5. List all the exports and details from the NFS server: xcp show server

6. Pick up one of the exports and run a scan of the export: xcp scan server:/export1

7. Initiate baseline copy:

xcp copy -newid id1 server:/export1 server2:/e

8. If the copy is halted for some reason, you can use the "xcp resume" command to resume the copy operation:

xcp resume -id id1

9. Start with incremental sync after the baseline is completed:

```
xcp sync -id id1
```

10. After copy or after every sync, you can verify to check data integrity:

```
xcp verify server:/export1 server2:/export2
```

SUPPORTED COMMANDS

help: Display information about commands and options

-exclude: Display examples of filters

-fmt: Display examples of filters

-match: Display examples of filters

help info: Display documentation, examples, and tuning recommendations

show: Request information from hosts about NFS and other RPC services

-v: Show more detailed information about servers

-loglevel <name>: Option to set log level; available levels are INFO, DEBUG (default: INFO)

scan: Read all the directories in a file tree or a saved index

-l, -q: File listing output formats

-stats, -csv, -html: Tree statistics report formats

-nonames: Do not look up user and group names for file listings or reports

-newid <name>: Catalog name for a new index

-id <name>: Catalog name of a previous copy or scan index

-match <filter>: Only process files and directories that match the filter

-fmt <string expression>: Formatted output

-du: Summarize space usage of each directory, including subdirectories

-md5: Checksum the files (also save the checksum files when indexing) (default: False)

-duk: Summarize space usage of directory, include subdirectories, with output in kilobytes

-acl4: Process NFSv4 access control lists (ACLs)

-acl4.threads <n>: Per-process thread pool size (default: 100)

-depth <n>: Limit the search depth

-dircount <n[k]>: Request size for reading directories (default: 64k)

-edupe: Include deduplication estimate in reports (see documentation for details)

-bs <n[k]>: Read/write block size for scans that read data with -md5 or -edupe (default: 64k)

-parallel <n>: Maximum concurrent batch processes (default: 7)

-noId: Disable the creation of a default index (default: False)

-exclude <filter>: Exclude the files and directories that match the

filter

- preserve-ctime: preserve ctime of the file/dir (default: False)
- nodes <name>: comma-separated list of worker nodes
- s3.insecure: use http instead of https
- s3.noverify: do not verify ssl certificates
- s3.endpoint <S3 endpoint Url>: path such as https://10.10.10.101:1010
- s3.profile <profile-name>: config/cred profile to be used
- loglevel <name>: Option to set log level; available levels are INFO, DEBUG (default: INFO)

copy: Recursively copy everything from source to target

- newid <name>: Catalog name for a new index
- md5: Checksum the files (also save the checksum files when indexing) (default: False)
- edupe: Include deduplication estimate in reports (see documentation for details)
- nonames: Do not look up user and group names for file listings or reports
- acl4: Process NFSv4 access control lists (ACLs)
- acl4.threads <n>: Per-process thread pool size (default: 100)
- acl4.alwaysset: call "setacl" for all ACL-capable files and directories
- bs <n[k]>: read/write blocksize (default: 64k)
- dircount <n[k]>: Request size for reading directories (default: 64k)
- parallel <n>: Maximum concurrent batch processes (default: 7)
- noId: Disable the creation of a default index (default: False)
- match <filter>: Only process files and directories that match the filter

-exclude <filter>: Exclude the files and directories that match the filter

- copybatch <filename [args]>: custom batch processing module
- chown: set destination uid and gid when copying as non-root user (default: False)

- preserve-ctime: preserve ctime of the file/dir (default: False)
- nodes <name>: comma-separated list of worker nodes
- s3.insecure: use http instead of https
- s3.noverify: do not verify ssl certificates
- s3.endpoint <S3 endpoint Url>: path such as https://10.10.10.101:1010
- loglevel <name>: Option to set log level; available levels are INFO, DEBUG (default: INFO)

verify: Verify that the target is the same as the source

[no options]: Full verification of target structure, names, attributes, and data

- stats, -csv: Scan source and target trees in parallel and compare tree statistics

- nodata: Do not check data

- noattrs: Do not check attributes (default: False)

-noown: Do not check ownership (uid and gid) (default: False)
-nomods: Do not check file modification times
-mtimewindow <s>: Acceptable modification time difference for verification
-newid <name>: Catalog name for a new index
-v, -l: Output formats to list any differences found
-acl4: Process NFSv4 access control lists (ACLs)
-acl4.threads <n>: Per-process thread pool size (default: 100)
-nonames: Do not look up user and group names for file listings or reports
-match <filter>: Only process files and directories that match the filter
-bs <n[k]>: read/write blocksize (default: 64k)
-parallel <n>: Maximum concurrent batch processes (default: 7)
-dircount <n[k]>: Request size for reading directories (default: 64k)
-noId: Disable the creation of a default index (default: False)
-exclude <filter>: Exclude the files and directories that match the filter
-preserve-ctime: preserve ctime of the file/dir (default: False)
-s3.insecure: use http instead of https
-s3.noverify: do not verify ssl certificates
-s3.endpoint <S3 endpoint Url>: path such as https://10.10.10.101:1010
-s3.profile <profile-name>: config/cred profile to be used
-loglevel <name>: Option to set log level; available levels are INFO, DEBUG (default: INFO)

sync: Find all source changes and apply them to the target

-id <name>: Catalog name of a previous copy index
-snap <name or path>: Access a Snapshot copy of the source tree
-nonames: Do not look up user and group names for file listings or reports
-bs <n[k]>: read/write blocksize (default: 64k)
-dircount <n[k]>: Request size for reading directories (default: 64k)
-parallel <n>: Maximum concurrent batch processes (default: 7)
-acl4.threads <n>: Per-process thread pool size (default: 100)
-exclude <filter>: Exclude the files and directories that match the filter
-preserve-ctime: preserve ctime of the file/dir (default: False)
-loglevel <name>: Option to set log level; available levels are INFO, DEBUG (default: INFO)

sync dry-run: Find source changes but don't apply them to the target

-id <name>: Catalog name of a previous copy index
-snap <name or path>: Access a Snapshot copy of the source tree
-stats: Deep scan the modified directories and report on everything new
-nonames: Do not look up user and group names for file listings or

```

reports
-v, -l, -q: File listing output formats
-dircount <n[k]>: Request size for reading directories (default: 64k)
-parallel <n>: Maximum concurrent batch processes (default: 7)
-target: Check that the target files match the index
-loglevel <name>: Option to set log level; available levels are INFO,
DEBUG (default: INFO)

isync: Sync changes on target without index
  -nodata: Do not check data
  -noattrs: Do not check attributes
  -nomods: Do not check file modification times
  -mtimewindow <s>: Acceptable modification time difference for
verification
  -acl4: Process NFSv4 access control lists (ACLs)
  -acl4.threads <n>: Per-process thread pool size (default: 100)
  -acl4.alwaysset: call "setacl" for all ACL-capable files and
directories
  -match <filter>: Only process files and directories that match the
filter
  -bs <n[k]>: read/write blocksize (default: 64k)
  -parallel <n>: Maximum concurrent batch processes (default: 7)
  -dircount <n[k]>: Request size for reading directories (default: 64k)
  -exclude <filter>: Exclude the files and directories that match the
filter
  -newid <name>: Catalog name for a new index
  -loglevel <name>: Option to set log level; available levels are INFO,
DEBUG (default: INFO)
  -preserve-ctime: preserve ctime of the file/dir (default: False)
  -s3.insecure: use http instead of https
  -s3.noverify: do not verify ssl certificates
  -s3.endpoint <S3 endpoint Url>: path such as
https://10.10.10.101:1010
  -s3.profile <profile-name>: config/cred profile to be used

isync estimate: Find the estimated time to complete the next isync
command
  -nodata: Do not check data
  -noattrs: Do not check attributes
  -nomods: Do not check file modification times
  -mtimewindow <s>: Acceptable modification time difference for
verification
  -acl4: Process NFSv4 access control lists (ACLs)
  -acl4.threads <n>: Per-process thread pool size (default: 100)
  -acl4.alwaysset: call "setacl" for all ACL-capable files and

```

directories

- match <filter>: Only process files and directories that match the filter
- bs <n[k]>: read/write blocksize (default: 64k)
- parallel <n>: Maximum concurrent batch processes (default: 7)
- dircount <n[k]>: Request size for reading directories (default: 64k)
- exclude <filter>: Exclude the files and directories that match the filter
- loglevel <name>: Option to set log level; available levels are INFO, DEBUG (default: INFO)
- preserve-ctime: preserve ctime of the file/dir (default: False)
- s3.insecure: use http instead of https
- s3.noverify: do not verify ssl certificates
- s3.endpoint <S3 endpoint Url>: path such as https://10.10.10.101:1010
- s3.profile <profile-name>: config/cred profile to be used
- id <name>: Catalog name of a previous copy index

resume: Restart an interrupted copy

- id <name>: Catalog name of a previous copy index
- bs <n[k]>: read/write
- s3.insecure: use http instead of https
- s3.noverify: do not verify ssl certificates
- s3.endpoint <S3 endpoint Url>: path such as https://10.10.10.101:1010
- s3.profile <profile-name>: config/cred profile to be used
- loglevel <name>: Option to set log level; available levels are INFO, DEBUG (default: INFO)

delete: Delete everything recursively

- match <filter>: Only process files and directories that match the filter
- force: Delete without confirmation
- removetopdir: remove directory including children
- exclude <filter>: Exclude the files and directories that match the filter
- parallel <n>: Maximum concurrent batch processes (default: 7)
- preserve-ctime: preserve ctime of the file/dir (default: False)
- s3.insecure: use http instead of https
- s3.noverify: do not verify ssl certificates
- s3.endpoint <S3 endpoint Url>: path such as https://10.10.10.101:1010
- s3.profile <profile-name>: config/cred profile to be used
- loglevel <name>: Option to set log level; available levels are INFO, DEBUG (default: INFO)

activate: Activate a license on the current host
-loglevel <name>: Option to set log level; available levels are INFO, DEBUG (default: INFO)

license: Show xcp license info

license update: Retrieve the latest license from the XCP server

chown: changing ownership of a file object
exclude <filter>: Exclude the files and directories that match the filter
-match <filter>: Only process files and directories that match the filter
-group <group>: linux gid to be set at source
-user <user>: linux uid to be set at source
-user-from <userFrom>: user to be changed
-group-from <groupFrom>: group to be changed
-reference <reference>: referenced file or directory point
-v: reports output for every object processed
-preserve-ctime: preserve ctime of the file/dir (default: False)
-loglevel <name>: Option to set log level; available levels are INFO, DEBUG (default: INFO)

chmod: changing permissions of a file object
-exclude <filter>: Exclude the files and directories that match the filter
-match <filter>: Only process files and directories that match the filter
-reference <reference>: referenced file or directory point
-v: reports output for every object processed
-mode <mode>: mode to be set
-preserve-ctime: preserve ctime of the file/dir (default: False)
-loglevel <name>: Option to set log level; available levels are INFO, DEBUG (default: INFO)

logdump: Collect all logs related to the XCP job and dump those into a zipped folder named <ID>.zip under current dir
-m <migration ID>: Filter logs by migration ID
-j <job ID>: Filter logs by job ID

estimate: Use a saved scan index to estimate copy time

`-id <name>`: Catalog name of a previous copy or scan index
`-gbit <n>`: Gigabits of bandwidth to estimate best-case time (default: 1)
`-target <path>`: Target to use for live test copy
`-t <n[s|m|h]>`: Duration of live test copy (default: 5m)
`-bs <n[k]>`: read/write blocksize (default: 64k)
`-dircount <n[k]>`: Request size for reading directories (default: 64k)
`-parallel <n>`: Maximum concurrent batch processes (default: 7)
`preserve-ctime`:
 preserve ctime of the file/dir (default: False)
`-loglevel <name>`: Option to set log level; available levels are INFO, DEBUG (default: INFO)

`indexdelete`: delete catalog indexes
 `-match <filter>`: Only process files and directories that match the filter
 `-loglevel <name>`: Option to set log level; available levels are INFO, DEBUG (default: INFO)

OUTPUT

In the `-l` output, the size, space used, and modification time are all shown in human-readable format. Time is relative to the current time, so it is time zone independent. For example, "14dlh" means that the file was modified 14 days and one hour ago. Note: "current time" is the time XCP started. The timestamp is saved in the index metadata (catalog:/xFiles/indexes/*.json) and is used for reports against the index.

The `-stats` option prints a human-readable report to the console. Other report format options are `-html` or `-csv`. The comma-separated values (CSV) format has exact values. CSV and HTML reports are automatically saved in the catalog, if there is one.

The histograms for modified, accessed, and changed only count regular files.

FILTERS

A filter expression should evaluate to True or False in Python. Filters are used in XCP for the `-match` and `-exclude` options. See below for some examples of the filters. Use `"xcp help <command>"` to check which options are supported for commands.

Variables and file attributes currently available to use in a filter: modified, accessed, changed: Floats representing age in hours depth, size, used, uid, gid, type, nlinks, mode, fileid: Integers name, base,

ext: Strings (if name is "demo.sql" then base is == "demo" and ext is == ".sql") owner, group: Strings size units: k, m, g, t, p = K, M, G, T, P = 1024, 1048576, 2**30, 2**40, 2**50 file types: f, d, b, c, l, s, q = F, D, B, C, L, S, Q = 1, 2, 3, 4, 5, 6, 7

Functions available to use in a filter:

rxm(pattern): Regular expression match for each file name fnm(pattern): Unix-style wildcard match for each file name load(path): List of lines from a local (external) file rand(N): Match one out of every N files at random path(pattern): Wildcard match for the full path paths(<full_file_path>): Match or exclude all NFS export paths listed in the file Note: unlike most shell wildcards, pattern "/a/*" will match path /a/b/c

The rxm() function only runs Python re.compile (pattern) once. Similarly, load() only reads its file once.

Filter examples:

Match files modified less than half an hour ago "type == f and modified < .5"

Find anything with "core" in the name ("in" is a Python operator):
"'core' in name"

Same match using regular expressions: "rxm('.*core.*')"

Same match using wildcards: "fnm('*core*')"

Match files that are not regular files, directories, or links: "type not in (f,d,l)"

Find jpg files over 500 megabytes (M is a variable): "fnm('*.jpg') and size > 500*M"

Find files with "/demo/smith" in the path (x is the file; str(x) is its full path): "'/demo/smith' in str(x)"

Exclude copying anything with "f" in its name: "fnm('*f*')"

Exclude multiple export paths specified in "/root/excludePaths.txt".
"paths('/root/excludePaths.txt')"

The file "excludePaths.txt" may contain multiple export paths where each path is listed on a new line.

The export paths may contain wildcards.

For example, `10.10.1.10:/source_vol/*.txt` in file `excludePaths.txt` will exclude all files having `".txt"` extension

If there are incremental changes in previously included directories and you want to exclude anything that has `"dir40"` as a substring in its name, you can specify the new exclude filter with the `sync`. This overrides the exclude filter used previously with the `copy` command and applies the new exclude filter.

Note that if there are incremental changes on the source after the copy operation and there are files with `"f"` in their name, then these are copied on to the target when the `sync` operation is performed. If you want to avoid copying such files or directories, you can use the following command: `xcp sync -exclude "'f' in name" -id <id>`

PERFORMANCE

On Linux, please set the following in `/etc/sysctl.conf` and run `"sysctl -p"`:

```
net.core.rmem_default = 1342177
net.core.rmem_max = 16777216
net.core.wmem_default = 1342177
net.core.wmem_max = 16777216
net.ipv4.tcp_rmem = 4096 1342177 16777216
net.ipv4.tcp_wmem = 4096 1342177 16777216
net.core.netdev_max_backlog = 300000
net.ipv4.tcp_fin_timeout = 10
```

Make sure that your system has multiple CPUs and at least a few gigabytes (GBs) of free memory.

Searching, checksumming or copying hundreds of thousands or millions of files should be many times faster with XCP than with standard tools such `cp`, `find`, `du`, `rsync`, or OS drag-and-drop.

For the case of a single file, reading or copying with XCP is usually faster with a faster host CPU. When processing many files, reading or copying is faster with more cores or CPUs.

The main performance throttle option is `-parallel` for the maximum number of concurrent processes as the number of concurrent directories being read and files being processed. For small numbers of files and/or when there is a network quality of service (QoS) limiter, you might also be able to increase performance by opening multiple channels. The usage section above shows how to use multiple host target addresses. The same syntax also opens more channels to a single target.

For example: "host1,host1:/vol/src" makes each XCP process open two channels to host1. In some WAN environments, this can improve performance. Within a datacenter, if there are only 1 GbE network interface cards (NICs) on the host with XCP it usually helps to use the multipath syntax to leverage more than one NIC.

To verify that you are running I/O over multiple paths, use OS tools to monitor network I/O. For example, on Linux, try "sar -n DEV 2 200".

ENVIRONMENT VARIABLES

XCP_CONFIG_DIR: Override the default location /opt/NetApp/xFiles/xcp. If set, the value should be an OS filesystem path, possibly a mounted NFS directory. When XCP_CONFIG_DIR is set, a new directory with name same as hostname is created inside the custom configuration directory path wherein new logs will be stored.

XCP_LOG_DIR: Override the default, which stores the XCP log in the configuration directory. If set, the value should be an OS filesystem path, possibly a mounted NFS directory.

When XCP_LOG_DIR is set, a new directory with name same as hostname is created inside the custom log directory path wherein new logs will be stored.

XCP_CATALOG_PATH: Override the setting in xcp.ini. If set, the value should be in the XCP path format, server:export[:subdirectory].

SECURITY

All the files and directories in the catalog are world readable except for the index files, which have a ".index" suffix and are located in subdirectories under the top-level catalog "indexes" directory.

Because each index file is essentially an archive of metadata of an entire file tree, the catalog should be stored on a NetApp volume with export permissions matching the actual sources and targets. Note that file data is not stored in the index, only metadata.

SUPPORT

<https://www.netapp.com/us/contact-us/support.aspx>

顯示

NFS show 命令會查詢一或多個儲存伺服器的 RPC 服務和 NFS 匯出。此命令也會列出可用的服務和匯出、並顯示每個匯出的已使用和可用容量、以及每個匯出的根目錄屬性。

語法

```
xcp show <ip_address_or_host_name>
```



- show 命令需要 NFSv3 匯出系統的主機名稱或 IP 位址。

```
[root@localhost linux]# ./xcp show <IP address or hostname of NFS
server>

getting pmap dump from <IP address or hostname of NFS server> port
111... getting export list from <IP address or hostname of NFS
server>...
sending 3 mounts and 12 nfs requests to <IP address or hostname of NFS
server>...

== RPC Services ==
'<IP address or hostname of NFS server>': UDP rpc services: MNT v1/2/3,
NFS v3, NLM v4, PMAP v2/3/4, STATUS v1
'<IP address or hostname of NFS server>': TCP rpc services: MNT v1/2/3,
NFS v3/4, NLM v4, PMAP v2/3/4, STATUS v1

== NFS Exports == Mounts Errors Server
3    0 <IP address or hostname of NFS server>

Space      Files    Space      Files
Free        Free     Used       Used Export

93.9 MiB    19,886   1.10 MiB    104 <IP address or hostname of NFS
server>:/
9.44 GiB    2.49M    65.7 MiB    276 <IP address or hostname of NFS
server>:/catalog_vol
84.9 GiB    22.4M    593 MiB    115 <IP address or hostname of NFS
server>:/source_vol

== Attributes of NFS Exports ==
drwxr-xr-x --- root root 4KiB 4KiB 6d2h <IP address or hostname of
NFSserver>:/
drwxr-xr-x --- root root 4KiB 4KiB 6d2h <IP address or hostname of NFS
server>:/catalog_vol
drwxr-xr-x --- root root 4KiB 4KiB 1h30m <IP address or hostname of NFS
server>:/source_vol

Xcp command : xcp show <IP address or hostname of NFS server>
0 error
Speed   : 3.62 KiB in (17.9 KiB/s), 6.28 KiB out (31.1 KiB/s) Total
Time   : 0s.
STATUS  : PASSED
```

顯示 -v

使用 -v 參數 show 命令以傳回使用 IP 位址或主機名稱的 NFS 伺服器詳細資料。

語法

```
xcp show -v
```

授權

NFS license 命令會顯示 XCP 授權資訊。

執行此命令之前，請確認已下載授權檔案並將其複製到 /opt/NetApp/xFiles/xcp/ XCP Linux 用戶端主機上的目錄。

語法

```
xcp license
```

顯示範例

```
[root@localhost /]# ./xcp license

Licensed to "XXX, NetApp Inc, XXX@netapp.com" until Sun Mar 31 00:00:00
2029 License type: SANDBOX
License status: ACTIVE
Customer name: N/A
Project number: N/A
Offline Host: Yes
Send statistics: No
Host activation date: N/A
License management URL: https://xcp.netapp.com
```

授權更新

使用 update 參數 license 從 XCP 伺服器擷取最新授權的命令。

語法

```
xcp license update
```

顯示範例

```
[root@localhost /]# ./xcp license update

XCP <version>; (c) yyyy NetApp, Inc.; Licensed to XXX [NetApp Inc]
until Sun Mar 31 00:00:00 yyyy
```

啟動

NFS activate 命令會啟動 XCP 授權。



執行此命令之前，請確認已下載授權檔案並將其複製到 `opt/NetApp/xFiles/xcp/` XCP Linux 用戶端主機上的目錄。

語法

```
xcp activate
```

顯示範例

```
[root@localhost linux]# ./xcp activate

XCP activated
```

掃描

XCP NFS scan 命令會遞迴掃描整個來源 NFSv3 匯出的路徑、並傳回檔案結構統計資料。

NetApp 建議您在掃描作業期間、將來源 NFS 匯出裝載設為唯讀模式。

語法

```
xcp scan <source_nfs_export_path>
```

顯示範例

```
[root@localhost linux]# ./xcp scan <IP address of NFS server>:/

source_vol
source_vol
source_vol/r1.txt
source_vol/USER.1
source_vol/USER.2
source_vol/USER.1/FILE_1
source_vol/USER.1/FILE_2
source_vol/USER.1/FILE_3
source_vol/USER.1/FILE_4
source_vol/USER.1/FILE_5
source_vol/USER.1/file1.txt
source_vol/USER.1/file2.txt
source_vol/USER.1/logfile.txt
source_vol/USER.1/log1.txt
source_vol/USER.2/FILE_1
source_vol/USER.2/FILE_5
source_vol/USER.2/FILE_2
source_vol/USER.2/FILE_3
source_vol/USER.2/FILE_4
Xcp command : xcp scan <IP address of NFS server>:/source vol
```

下表列出 scan 參數及其說明。

參數	說明
掃描 -l	以長列表輸出格式列出檔案。
掃描 -q	顯示掃描的檔案數量。
掃描 - 統計資料	以樹狀結構統計報告格式列出檔案。
掃描 -csv	以樹狀結構統計 CSV 報告格式列出檔案。
掃描 -HTML	以樹狀結構統計 HTML 報告格式列出檔案。
掃描 -nonames	從檔案清單和報告中排除使用者和群組名稱。
<<nfs_scan_newid,掃描 -nevid ; 名稱 >	指定新索引的目錄名稱。
<<nfs_scan_id,掃描 -id ; catalog_name>	指定先前複本或掃描索引的目錄名稱。
<<nfs_scan_match,掃描 - 符合 ; 篩選器 >	僅處理符合篩選條件的檔案和目錄。
<<nfs_scan_fmt,掃描 -fmt ; string_expression>	僅處理符合格式的檔案和目錄。
掃描 -du	摘要說明每個目錄（包括子目錄）的空間使用量。

參數	說明
<<nfs_scan_md5,掃描 -md5 ； string_expression>	在檔案上產生 checksum 、並在建立索引時儲存 checksum （預設： false ）。
<<nfs_scan_depth,掃描深度 ； n>	限制搜尋深度。
<<nfs_scan_dircount,掃描 -dircount ； n[k]>	指定讀取目錄時的要求大小。
掃描重複資料刪除	在報告中包含重複資料刪除預估值。
<<nfs_scan_bs,掃描 -BS ； n[k]>	指定用於讀取資料的掃描的讀取 / 寫入區塊大小 -md5 或 -edupe （預設值： 64K ）。
<<nfs_scan_parallel,掃描平行 ； n>	指定並行批次處理程序的最大數目（預設值： 7 ）。
掃描 -nold	停用預設索引的建立（預設值： false ）。
掃描 -subdir-names	擷取目錄中頂層子目錄的名稱。
掃描 -preserve-atime	將來源上的所有檔案還原至上次存取的日期。
掃描 -s3.insecure	提供選項、可在 S3 Bucket 通訊中使用 HTTP 而非 HTTPS 。
<<nfs_scan_endpoint,掃描 -S3.Endpoint ； S3_Endpoint URL>	以 S3 Bucket 通訊的指定 URL 覆寫預設的 Amazon Web Services （ AWS ）端點 URL 。
<<nfs_scan_s3_profile,掃描 -s3.profile ； profile 名稱 >	從 AWS 認證檔案指定用於 S3 儲存區通訊的設定檔。
掃描 -s3.noverify	覆寫 S3 Bucket 通訊的 SSL 認證預設驗證。

掃描 -l

使用 -l 參數 scan 以長清單輸出格式列出檔案的命令。

語法

```
xcp scan -l <ip_address_or_hostname>:/source_vol
```

顯示範例

```
root@localhost linux]# ./xcp scan -l <IP address or hostname of
NFSserver>:/source_vol

drwxr-xr-x --- root root 4KiB 4KiB 6s source_vol
drwxr-xr-x --- root root 4KiB 4KiB 42s source_vol/USER.1
drwxr-xr-x --- root root 4KiB 4KiB 42s source_vol/USER.2
rw-r--r-- --- root root 1KiB 4KiB 42s source_vol/USER.1/FILE_1
rw-r--r-- --- root root 1KiB 4KiB 42s source_vol/USER.1/FILE_2
rw-r--r-- --- root root 1KiB 4KiB 42s source_vol/USER.1/FILE_3
rw-r--r-- --- root root 1KiB 4KiB 42ssource_vol/USER.1/FILE_4
rw-r--r-- --- root root 1KiB 4KiB 42s source_vol/USER.1/FILE_5
rw-r--r-- --- root root 1KiB 4KiB 42s source_vol/USER.2/FILE_1
rw-r--r-- --- root root 1KiB 4KiB 42s source_vol/USER.2/FILE_5
rw-r--r-- --- root root 1KiB 4KiB 42s source_vol/USER.2/FILE_2
rw-r--r-- --- root root 1KiB 4KiB 42s source_vol/USER.2/FILE_3
rw-r--r-- --- root root 1KiB 4KiB 42s source_vol/USER.2/FILE_4
Xcp command : xcp scan -l <IP address or hostname of NFS
server>:/source_vol
13 scanned, 0 matched, 0 error
Speed : 3.73 KiB in (4.89 KiB/s), 756 out (989/s)
Total Time : 0s.
STATUS : PASSED
```

掃描 -q

使用 -q 參數 scan 顯示掃描檔案數的命令。

語法

```
xcp scan -q <ip_address_or_hostname>:/source_vol
```


顯示範例

```
[root@localhost linux]# ./xcp scan -q <IP address or hostname of NFSserver>:/source_vol
```

```
Xcp command : xcp scan -q <IP address or hostname of NFS server>:/source_vol  
13 scanned, 0 matched, 0 error  
Speed : 3.73 KiB in (3.96 KiB/s), 756 out(801/s)  
Total Time : 0s.  
STATUS : PASSED
```

掃描 **-stats**、掃描 **-csv** 和掃描 **-HTML**

使用 **-stats**、**-csv** 和 **-html** 的參數 **scan** 以樹狀結構統計報告格式列出檔案的命令。



- 此選項會 **-stats** 將人類可讀的報告列印至主控台。其他報告格式選項包括 **-html** 或 **-csv**。以逗號分隔的值（CSV）格式具有精確的值。如果目錄存在，CSV 和 HTML 報告會自動儲存在目錄中。
- XCP 報告（.csv，.html）會儲存在檔案中指定的目錄位置 **xcp.ini**。檔案會儲存在資料夾中 **<catalog path>/catalog/indexes/1/reports**。您可以在中檢視範例報告 ["NetApp XCP 1.9.3 參考資料"](#)。

語法

```
xcp scan -stats <ip_address>:/source_vol
```

顯示範例

```
root@client1 linux]# ./xcp scan -stats <ip_address>:/fgl

Job ID: Job_2023-11-23_23.23.33.930501_scan
== Maximum Values ==
Size Used Depth File Path Namelen Dirsize
50.4 MiB 50.6 MiB 1 24 20 33
== Average Values ==
Size Depth Namelen Dirsize
15.3 MiB 0 6 33
== Top Space Users ==
root
107 MiB
== Top File Owners ==
root
34
== Top File Extensions ==
.sh .out .py .shl other
8 2 2 1 20
16.0 KiB 3.09 MiB 448 1.48 KiB 502 MiB
== Number of files ==
empty <8KiB 8-64KiB 64KiB-1MiB 1-10MiB 10-100MiB >100MiB
20 1 2 10
== Space used ==
empty <8KiB 8-64KiB 64KiB-1MiB 1-10MiB 10-100MiB >100MiB
76 KiB 12 KiB 5.16 MiB 102 MiB
== Directory entries ==
empty 1-10 10-100 100-1K 1K-10K >10K

== Depth ==
0-5 6-10 11-15 16-20 21-100 >100
34
== Accessed ==
>1 year9-12 months 6-9 months 3-6 months 1-3 months 1-31 days 1-24 hrs
<1 hour <15 mins
future
33
505 MiB
== Modified ==
>1 year9-12 months 6-9 months 3-6 months 1-3 months 1-31 days 1-24 hrs
<1 hour <15 mins
future
16
17
400 MiB 105
```

```

MiB
== Changed ==
>1 year 9-12 months 6-9 months 3-6 months 1-3 months 1-31 days 1-24 hrs
<1 hour <15 mins
future
16
17
400 MiB 105
MiB
== Path ==
0-1024 >1024
33
Total count: 34
Directories: 1
Regular files: 33
Symbolic links: None
Special files: None
Hard links: None
Multilink files: None
Space Saved by Hard links (KB): 0
Sparse data: N/A
Dedupe estimate: N/A
Total space for regular files: size: 505 MiB, used: 107 MiB
Total space for symlinks: size: 0, used: 0
Total space for directories: size: 8 KiB, used: 8 KiB
Total space used: 107 MiB
Xcp command : xcp scan -stats <ip_address>:/fgl
Stats : 34 scanned
Speed : 6.35 KiB in (7.23 KiB/s), 444 out (506/s)
Total Time : 0s.
Job ID : Job_2023-11-23_23.23.33.930501_scan
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/
Job_2023-11-23_23.23.33.930501_scan.log

STATUS : PASSED
[root@client 1 linux]#

```

語法

```
xcp scan -csv <ip_address_or_hostname>:/source_vol
```

```

root@localhost linux]# ./xcp scan -csv <IP address or hostname of NFS
server>:/source_vol

scan <IP address or hostname of NFS server>:/source_vol
options,"{'-csv': True}"
summary,"13 scanned, 3.73 KiB in (11.3 KiB/s), 756 out (2.23 KiB/s),
0s."
Maximum Values,Size,Used,Depth,Namelen,Dirsize
Maximum Values,1024,4096,2,10,5
Average Values,Namelen,Size,Depth,Dirsize
Average Values,6,1024,1,4
Top Space Users,root
Top Space Users,53248
Top File Owners,root
Top File Owners,13
Top File Extensions,other
Top File Extensions,10
Number of files,empty,<8KiB,8-64KiB,64KiB-1MiB,1-10MiB,10-
100MiB,>100MiB
Number of files,0,10,0,0,0,0,0
Space used,empty,<8KiB,8-64KiB,64KiB-1MiB,1-10MiB,10-100MiB,>100MiB
Space used,0,40960,0,0,0,0,0
Directory entries,empty,1-10,10-100,100-1K,1K-10K,>10K
Directory entries,0,3,0,0,0,0
Depth,0-5,6-10,11-15,16-20,21-100,>100
Depth,13,0,0,0,0,0
Accessed,>1 year,>1 month,1-31 days,1-24 hrs,<1 hour,<15 mins,future
Accessed,0,0,0,0,0,10,0
Modified,>1 year,>1 month,1-31 days,1-24 hrs,<1 hour,<15 mins,future
Modified,0,0,0,0,0,10,0
Changed,>1 year,>1 month,1-31 days,1-24 hrs,<1 hour,<15 mins,future
Changed,0,0,0,0,0,10,0

Total count,13
Directories,3
Regular files,10
Symbolic links,0
Special files,0
Hard links,0,
multilink files,0,
Space Saved by Hard links (KB),0
Sparse data,N/A
Dedupe estimate,N/A
Total space for regular files,size,10240,used,40960

```

```
Total space for symlinks,size,0,used,0
Total space for directories,size,12288,used,12288
Total space used,53248
Xcp command : xcp scan -csv <IP address or hostname of NFS
server>:/source_vol
13 scanned, 0 matched, 0 error
Speed : 3.73 KiB in (11.2 KiB/s), 756 out (2.22 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

語法

```
xcp scan -html <ip_address_or_hostname>:/source_vol
```

顯示範例

```
root@localhost linux]# ./xcp scan -html <IP address or hostname of NFS
server>:/source_vol

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML
4.01//EN""http://www.w3.org/TR/html4/strict.dtd">
<html><head>
[redacted HTML contents]
</body></html>
Xcp command : xcp scan -html <IP address or hostname of
NFSserver>:/source_vol
13 scanned, 0 matched, 0 error
Speed : 3.73 KiB in (4.31 KiB/s), 756 out(873/s)
Total Time : 0s.
STATUS : PASSED
[root@localhost source_vol]#
```

掃描 -nonames

使用 -nonames 參數 scan 從檔案清單或報告中排除使用者和群組名稱的命令。



搭配使用時 scan 命令 -nonames 參數僅適用於使用傳回的檔案清單 -l 選項。

語法

```
xcp scan -nonames <ip_address_or_hostname>:/source_vol
```

顯示範例

```
[root@localhost linux]# ./xcp scan -nonames <IP address or hostname of
NFS server>:/source_vol

source_vol
source_vol/USER.1
source_vol/USER.2
source_vol/USER.1/FILE_1
source_vol/USER.1/FILE_2
source_vol/USER.1/FILE_3
source_vol/USER.1/FILE_4
source_vol/USER.1/FILE_5
source_vol/USER.2/FILE_1
source_vol/USER.2/FILE_5
source_vol/USER.2/FILE_2
source_vol/USER.2/FILE_3
source_vol/USER.2/FILE_4
Xcp command : xcp scan -nonames <IP address or hostname of
NFSserver>:/source_vol
13 scanned, 0 matched, 0 error
Speed : 3.73 KiB in (4.66 KiB/s), 756 out(944/s)
Total Time : 0s.
STATUS : PASSED
```

掃描 **-newid <name>**

使用 **-newid <name>** 參數 scan 命令，用於在執行掃描時指定新索引的目錄名稱。

語法

```
xcp scan -newid <name> <ip_address_or_hostname>:/source_vol
```

顯示範例

```
[root@localhost linux]# ./xcp scan -newid ID001 <IP address or hostname of NFS server>:/source_vol

Xcp command : xcp scan -newid ID001 <IP address or hostname of NFS server>:/source_vol
13 scanned, 0 matched, 0 error
Speed : 13.8 KiB in (17.7 KiB/s), 53.1 KiB out (68.0 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

掃描 -id <catalog_name>

使用 -id 參數 scan 命令指定先前複本或掃描索引的目錄名稱。

語法

```
xcp scan -id <catalog_name>
```

顯示範例

```
[root@localhost linux]# ./xcp scan -id 3

xcp: Index: {source: 10.10.1.10:/vol/ex_s01/etc/keymgr, target: None}
keymgr/root/cacert.pem
keymgr/cert/secureadmin.pem
keymgr/key/secureadmin.pem
keymgr/csr/secureadmin.pem
keymgr/root
keymgr/csr
keymgr/key
keymgr/cert
keymgr
9 reviewed, 11.4 KiB in (11.7 KiB/s), 1.33 KiB out (1.37 KiB/s), 0s.
```

掃描 - 比對 <filter>

使用 -match <filter> 參數 scan 命令，指定只處理與篩選器相符的檔案和目錄。

語法

```
xcp scan -match <filter> <ip_address_or_hostname>:/source_vol
```

顯示範例

```
root@localhost linux]# ./xcp scan -match bin <IP address or hostname of
NFS server>:/source_vol

source_vol
source_vol/USER.1/FILE_1
source_vol/USER.1/FILE_2
source_vol/USER.1/FILE_3
source_vol/USER.1/FILE_4
source_vol/USER.1/FILE_5
source_vol/USER.1/file1.txt
source_vol/USER.1/file2.txt
source_vol/USER.1/logfile.txt
source_vol/USER.1/log1.txt
source_vol/r1.txt
source_vol/USER.1
source_vol/USER.2
source_vol/USER.2/FILE_1
source_vol/USER.2/FILE_5
source_vol/USER.2/FILE_2
source_vol/USER.2/FILE_3
source_vol/USER.2/FILE_4
Filtered: 0 did not match
Xcp command : xcp scan -match bin <IP address or hostname of
NFSserver>:/source_vol
18 scanned, 18 matched, 0 error
Speed : 4.59 KiB in (6.94 KiB/s), 756 out (1.12KiB/s)
Total Time : 0s.
STATUS : PASSED
```

掃描 -fmt <string_expression>

使用 -fmt 參數 scan 命令指定只傳回符合指定格式的檔案和目錄。

語法

```
xcp scan -fmt <string_expression> <ip_address_or_hostname>:/source_vol
```



```
[root@localhost linux]# ./xcp scan -fmt "'{} , {} , {} , {} ,
{}'".format(name, x, ctime, atime, mtime)"
<IP address or hostname of NFS server>:/source_vol

source_vol, <IP address or hostname of NFS server>:/source_vol,
1583294484.46, 1583294492.63,
1583294484.46
ILE_1, <IP address or hostname of NFS
server>:/source_vol/USER.1/FILE_1, 1583293637.88,
1583293637.83, 1583293637.83
FILE_2, <IP address or hostname of NFS
server>:/source_vol/USER.1/FILE_2, 1583293637.88,
1583293637.83, 1583293637.84
FILE_3, <IP address or hostname of NFS
server>:/source_vol/USER.1/FILE_3, 1583293637.88,
1583293637.84, 1583293637.84
FILE_4, <IP address or hostname of NFS
server>:/source_vol/USER.1/FILE_4, 1583293637.88,
1583293637.84, 1583293637.84
FILE_5, <IP address or hostname of NFS
server>:/source_vol/USER.1/FILE_5, 1583293637.88,
1583293637.84, 1583293637.84
file1.txt, <IP address or hostname of NFS
server>:/source_vol/USER.1/file1.txt, 1583294284.78,
1583294284.78, 1583294284.78
file2.txt, <IP address or hostname of NFS
server>:/source_vol/USER.1/file2.txt, 1583294284.78,
1583294284.78, 1583294284.78
logfile.txt, <IP address or hostname of NFS
server>:/source_vol/USER.1/logfile.txt,
1583294295.79, 1583294295.79, 1583294295.79
log1.txt, <IP address or hostname of NFS
server>:/source_vol/USER.1/log1.txt, 1583294295.8,
1583294295.8, 1583294295.8
r1.txt, <IP address or hostname of NFS server>:/source_vol/r1.txt,
1583294484.46, 1583294484.45,
1583294484.45
USER.1, <IP address or hostname of NFS server>:/source_vol/USER.1,
1583294295.8, 1583294492.63,
1583294295.8
USER.2, <IP address or hostname of NFS server>:/source_vol/USER.2,
1583293637.95, 1583294492.63,
1583293637.95
```

```
FILE_1, <IP address or hostname of NFS
server>:/source_vol/USER.2/FILE_1, 1583293637.95,
1583293637.94, 1583293637.94
FILE_5, <IP address or hostname of NFS
server>:/source_vol/USER.2/FILE_5, 1583293637.96,
1583293637.94, 1583293637.94
FILE_2, <IP address or hostname of NFS
server>:/source_vol/USER.2/FILE_2, 1583293637.96,
1583293637.95, 1583293637.95
FILE_3, <IP address or hostname of NFS
server>:/source_vol/USER.2/FILE_3, 1583293637.96,
1583293637.95, 1583293637.95
FILE_4, <IP address or hostname of NFS
server>:/source_vol/USER.2/FILE_4, 1583293637.96,
1583293637.95, 1583293637.96
Xcp command : xcp scan -fmt '{}', {}, {}, {}, {}'.format(name, x, ctime,
atime, mtime) <IP address
or hostname of NFS server>:/source_vol
18 scanned, 0 matched, 0 error
Speed : 4.59 KiB in (4.14 KiB/s), 756 out (683/s)
Total Time : 1s.
STATUS : PASSED
```

掃描 -du

使用 -du 參數 scan 用於總結每個目錄（包括子目錄）的空間使用情況的命令。

語法

```
xcp scan -du <ip_address_or_hostname>:/source_vol
```

顯示範例

```
[root@localhost linux]# ./xcp scan -du <IP address or hostname of
NFSserver>:/source_vol

24KiB source_vol/USER.1
24KiB source_vol/USER.2
52KiB source_vol
Xcp command : xcp scan -du <IP address or hostname of
NFSserver>:/source_vol
18 scanned, 0 matched, 0 error
Speed : 4.59 KiB in (12.9 KiB/s), 756 out (2.07KiB/s)
Total Time : 0s.
STATUS : PASSED
```

掃描 **-MD5** <string_expression>

使用 `-md5` 參數 `scan` 命令來產生檔案清單的校驗和、並在建立索引時儲存校驗和。預設值設為 `false`。



校驗和不用於檔案驗證；它們僅用於掃描作業期間的檔案清單。

語法

```
xcp scan -md5 <ip_address_or_hostname>:/source_vol
```

顯示範例

```
root@localhost linux]# ./xcp scan -md5 <IP address or hostname of
NFSserver>:/source_vol

source_vol
d47b127bc2de2d687ddc82dac354c415 source_vol/USER.1/FILE_1
d47b127bc2de2d687ddc82dac354c415 source_vol/USER.1/FILE_2
d47b127bc2de2d687ddc82dac354c415 source_vol/USER.1/FILE_3
d47b127bc2de2d687ddc82dac354c415 source_vol/USER.1/FILE_4
d47b127bc2de2d687ddc82dac354c415 source_vol/USER.1/FILE_5
d41d8cd98f00b204e9800998ecf8427e source_vol/USER.1/file1.txt
d41d8cd98f00b204e9800998ecf8427e source_vol/USER.1/file2.txt
d41d8cd98f00b204e9800998ecf8427e source_vol/USER.1/logfile.txt
d41d8cd98f00b204e9800998ecf8427e source_vol/USER.1/log1.txt
e894f2344aaa92289fb57bc8f597ffa9 source_vol/r1.txt
source_vol/USER.1
source_vol/USER.2
d47b127bc2de2d687ddc82dac354c415 source_vol/USER.2/FILE_1
d47b127bc2de2d687ddc82dac354c415 source_vol/USER.2/FILE_5
d47b127bc2de2d687ddc82dac354c415 source_vol/USER.2/FILE_2
d47b127bc2de2d687ddc82dac354c415 source_vol/USER.2/FILE_3
d47b127bc2de2d687ddc82dac354c415 source_vol/USER.2/FILE_4
Xcp command : xcp scan -md5 <IP address or hostname of NFS
server>:/source_vol
18 scanned, 0 matched, 0 error
Speed : 16.0 KiB in (34.5 KiB/s), 2.29 KiB out (4.92 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

掃描深度 <n>

使用 `-depth <n>` 參數 `scan` 用於限制掃描搜尋深度的命令。。 `-depth <n>` 參數指定 XCP 可以掃描檔案的子目錄深度。例如、如果指定數字 2、則 XCP 只會掃描前兩個子目錄層級。

語法

```
xcp scan -depth <n> <ip_address_or_hostname>:/source_vol
```

顯示範例

```
[root@localhost linux]# ./xcp scan -depth 2 <IP address or hostname of
NFS server>:/source_vol

source_vol
source_vol/r1.txt
source_vol/USER.1
source_vol/USER.2
source_vol/USER.1/FILE_1
source_vol/USER.1/FILE_2
source_vol/USER.1/FILE_3
source_vol/USER.1/FILE_4
source_vol/USER.1/FILE_5
source_vol/USER.1/file1.txt
source_vol/USER.1/file2.txt
source_vol/USER.1/logfile.txt
source_vol/USER.1/log1.txt
source_vol/USER.2/FILE_1
source_vol/USER.2/FILE_5
source_vol/USER.2/FILE_2
source_vol/USER.2/FILE_3
source_vol/USER.2/FILE_4
Xcp command : xcp scan -depth 2 <IP address or hostname of
NFSserver>:/source_vol
18 scanned, 0 matched, 0 error
Speed : 4.59 KiB in (6.94 KiB/s), 756 out (1.12KiB/s)
Total Time : 0s.
STATUS : PASSED
```

掃描 **-dircount <n[k]>**

使用 `-dircount <n[k]>` 參數 `scan` 用於指定在掃描中讀取目錄時的要求大小的命令。預設值為 64k。

語法

```
xcp scan -dircount <n[k]> <ip_address_or_hostname>:/source_vol
```

顯示範例

```
[root@localhost linux]# ./xcp scan -dircount 64k <IP address or  
hostname of NFS server>:/source_vol
```

```
source_vol  
source_vol/USER.1/FILE_1  
source_vol/USER.1/FILE_2  
source_vol/USER.1/FILE_3  
source_vol/USER.1/FILE_4  
source_vol/USER.1/FILE_5  
source_vol/USER.1/file1.txt  
source_vol/USER.1/file2.txt  
source_vol/USER.1/logfile.txt  
source_vol/USER.1/log1.txt  
source_vol/r1.txt  
source_vol/USER.1  
source_vol/USER.2  
source_vol/USER.2/FILE_1  
source_vol/USER.2/FILE_5
```

掃描重複資料刪除

使用 `-edupe` 參數 `scan` 將重複資料刪除預估納入報告中的命令。



Simple Storage Service (S3) 不支援稀疏檔案。因此、請將 S3 儲存區指定為的目標目的地 `scan -edupe` 傳回稀疏資料的值「無」。

語法

```
xcp scan -edupe <ip_address_or_hostname>:/source_vol
```

```

root@localhost linux]# ./xcp scan -edupe <IP address or hostname of
NFSserver>:/source_vol

== Maximum Values ==
Size Used Depth Namelen Dirsize
1 KiB 4 KiB 2 11 9
== Average Values ==
Namelen Size Depth Dirsize
6 682 1 5
== Top Space Users ==
root
52 KiB
== Top File Owners ==
root
18
== Top File Extensions ==
.txt other
5 10
== Number of files ==
empty <8KiB 8-64KiB 64KiB-1MiB 1-10MiB 10-100MiB >100MiB
4 11
== Space used ==
empty <8KiB 8-64KiB 64KiB-1MiB 1-10MiB 10-100MiB >100MiB
40 KiB
== Directory entries ==
empty 1-10 10-100 100-1K 1K-10K >10K
3
== Depth ==
0-5 6-10 11-15 16-20 21-100 >100
18
== Accessed ==
>1 year >1 month 1-31 days 1-24 hrs <1 hour
4
<15 mins
11
future
== Modified ==
>1 year >1 month 1-31 days 1-24 hrs <1 hour <15 mins future
15
== Changed ==
>1 year >1 month 1-31 days 1-24 hrs <1 hour <15 mins future
15

Total count: 18

```

```
Directories: 3
Regular files: 15
Symbolic links: None
Special files: None
Hard links: None,
multilink files: None,
Space Saved by Hard links (KB): 0
Sparse data: None
Dedupe estimate: N/A
Total space for regular files: size: 10.0 KiB, used: 40 KiB
Total space for symlinks: size: 0, used: 0
Total space for directories: size: 12 KiB, used: 12 KiB
Total space used: 52 KiB
Xcp command : xcp scan -edupe <IP address or hostname of
NFSserver>:/source_vol
18 scanned, 0 matched, 0 error
Speed : 16.0 KiB in (52.7 KiB/s), 2.29 KiB out (7.52 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

掃描 **-BS <n[k]>**

使用 **-bs <n[k]>** 參數 **scan** 指定讀寫區塊大小的命令。這適用於使用讀取資料的掃描 **-md5** 或 **-edupe** 參數。預設區塊大小為 64k。

語法

```
xcp scan -bs <n[k]> <ip_address_or_hostname>:/source_vol
```


顯示範例

```
[root@localhost linux]# ./xcp scan -bs 32 <IP address or hostname of
NFS server>:/source_vol

source_vol
source_vol/r1.txt
source_vol/USER.1
source_vol/USER.2
source_vol/USER.1/FILE_1
source_vol/USER.1/FILE_2
source_vol/USER.1/FILE_3
source_vol/USER.1/FILE_4
source_vol/USER.1/FILE_5
source_vol/USER.1/file1.txt
source_vol/USER.1/file2.txt
source_vol/USER.1/logfile.txt
source_vol/USER.1/log1.txt
source_vol/USER.2/FILE_1
source_vol/USER.2/FILE_5
source_vol/USER.2/FILE_2
source_vol/USER.2/FILE_3
source_vol/USER.2/FILE_4
Xcp command : xcp scan -bs 32 <IP address or hostname of
NFSserver>:/source_vol
18 scanned, 0 matched, 0 error
Speed : 4.59 KiB in (19.0 KiB/s), 756 out (3.06KiB/s)
Total Time : 0s.
STATUS : PASSED
```

掃描平行 <n>

使用 -parallel 參數 scan 命令以指定並行批次處理程序的最大數目。預設值為 7。

語法

```
xcp scan -parallel <n> <ip_address_or_hostname>:/source_vol
```

顯示範例

```
[root@localhost linux]# ./xcp scan -parallel 5 <IP address or hostname  
of NFS server>:/source_vol  
  
source_vol  
source_vol/USER.1/FILE_1  
source_vol/USER.1/FILE_2  
source_vol/USER.1/FILE_3  
source_vol/USER.1/FILE_4  
source_vol/USER.1/FILE_5  
source_vol/USER.1/file1.txt  
source_vol/USER.1/file2.txt  
source_vol/USER.1/logfile.txt  
source_vol/USER.1/log1.txt  
source_vol/r1.txt  
source_vol/USER.1  
source_vol/USER.2  
source_vol/USER.2/FILE_1  
source_vol/USER.2/FILE_5  
source_vol/USER.2/FILE_2  
source_vol/USER.2/FILE_3  
source_vol/USER.2/FILE_4  
Xcp command : xcp scan -parallel 5 <IP address or hostname of NFS  
server>:/source_vol  
18 scanned, 0 matched, 0 error  
Speed : 4.59 KiB in (7.36 KiB/s), 756 out (1.19 KiB/s)  
Total Time : 0s.  
STATUS : PASSED
```

掃描 -noid

使用 -noId 參數 scan 命令以停用預設索引的建立。預設值為假。

語法

```
xcp scan -noId <ip_address_or_hostname>:/source_vol
```

顯示範例

```
[root@localhost linux]# ./xcp scan -noId <IP address or hostname of NFS
server>:/source_vol

source_vol
source_vol/USER.1/FILE_1
source_vol/USER.1/FILE_2
source_vol/USER.1/FILE_3
source_vol/USER.1/FILE_4
source_vol/USER.1/FILE_5
source_vol/USER.1/file1.txt
source_vol/USER.1/file2.txt
source_vol/USER.1/logfile.txt
source_vol/USER.1/log1.txt
source_vol/r1.txt
source_vol/USER.1
source_vol/USER.2
source_vol/USER.2/FILE_1
source_vol/USER.2/FILE_5
source_vol/USER.2/FILE_2
source_vol/USER.2/FILE_3
source_vol/USER.2/FILE_4
Xcp command : xcp scan -noId <IP address or hostname of
NFSserver>:/source_vol
18 scanned, 0 matched, 0 error
Speed : 4.59 KiB in (5.84 KiB/s), 756 out(963/s)
Total Time : 0s.
STATUS : PASSED
```

掃描 -subdir-names

使用 -subdir-names 參數 scan 用於擷取目錄中頂層子目錄名稱的命令。

語法

```
xcp scan -subdir-names <ip_address_or_hostname>:/source_vol
```

顯示範例

```
[root@localhost linux]# ./xcp scan -subdir-names <IP address or
hostname of NFS server>:/source_vol

source_vol
Xcp command : xcp scan -subdir-names <IP address or hostname of NFS
server>:/source_vol
7 scanned, 0 matched, 0 error
Speed : 1.30 KiB in (1.21 KiB/s), 444 out(414/s)
Total Time : 1s.
STATUS : PASSED
```

掃描 **-preserve-ctime**

使用 `-preserve-ctime` 參數 `scan` 命令將所有檔案還原至來源上上次存取的日期。

掃描 NFS 共用時、如果儲存系統設定為修改讀取時的存取時間、則會修改檔案的存取時間。XCP 不會直接變更存取時間。XCP 會逐一讀取檔案、這會觸發存取時間的更新。。 `-preserve-ctime` 選項會將存取時間重設為 XCP 讀取作業之前設定的原始值。

語法

```
xcp scan -preserve-ctime <ip_address_or_hostname>:/source_vol
```

```
[root@client 1 linux]# ./xcp scan -preserve-ctime
101.10.10.10:/source_vol
```

```
xcp: Job ID: Job_2022-06-30_14.14.15.334173_scan
source_vol/USER2/DIR1_4/FILE_DIR1_4_1024_1
source_vol/USER2/DIR1_4/FILE_DIR1_4_13926_4
source_vol/USER2/DIR1_4/FILE_DIR1_4_65536_2
source_vol/USER2/DIR1_4/FILE_DIR1_4_7475_3
source_vol/USER2/DIR1_4/FILE_DIR1_4_20377_5
source_vol/USER2/DIR1_4/FILE_DIR1_4_26828_6
source_vol/USER2/DIR1_4/FILE_DIR1_4_33279_7
source_vol/USER2/DIR1_4/FILE_DIR1_4_39730_8
source_vol/USER1
source_vol/USER2
source_vol/USER1/FILE_USER1_1024_1
source_vol/USER1/FILE_USER1_65536_2
source_vol/USER1/FILE_USER1_7475_3
source_vol/USER1/FILE_USER1_13926_4
source_vol/USER1/FILE_USER1_20377_5
source_vol/USER1/FILE_USER1_26828_6
source_vol/USER1/FILE_USER1_33279_7
source_vol/USER1/FILE_USER1_39730_8
source_vol/USER1/DIR1_2
source_vol/USER1/DIR1_3
source_vol/USER2/FILE_USER2_1024_1
source_vol/USER2/FILE_USER2_65536_2
source_vol/USER2/FILE_USER2_7475_3
source_vol/USER2/FILE_USER2_13926_4
source_vol/USER2/FILE_USER2_20377_5
source_vol/USER2/FILE_USER2_26828_6
source_vol/USER2/FILE_USER2_33279_7
source_vol/USER2/FILE_USER2_39730_8
source_vol/USER2/DIR1_3
source_vol/USER2/DIR1_4
source_vol/USER1/DIR1_2/FILE_DIR1_2_1024_1
source_vol/USER1/DIR1_2/FILE_DIR1_2_7475_3
source_vol/USER1/DIR1_2/FILE_DIR1_2_33279_7
source_vol/USER1/DIR1_2/FILE_DIR1_2_26828_6
source_vol/USER1/DIR1_2/FILE_DIR1_2_65536_2
source_vol/USER1/DIR1_2/FILE_DIR1_2_39730_8
source_vol/USER1/DIR1_2/FILE_DIR1_2_13926_4
source_vol/USER1/DIR1_2/FILE_DIR1_2_20377_5
source_vol/USER1/DIR1_3/FILE_DIR1_3_1024_1
```

```
source_vol/USER1/DIR1_3/FILE_DIR1_3_7475_3
source_vol/USER1/DIR1_3/FILE_DIR1_3_65536_2
source_vol/USER1/DIR1_3/FILE_DIR1_3_13926_4
source_vol/USER1/DIR1_3/FILE_DIR1_3_20377_5
source_vol/USER1/DIR1_3/FILE_DIR1_3_26828_6
source_vol/USER1/DIR1_3/FILE_DIR1_3_33279_7
source_vol/USER1/DIR1_3/FILE_DIR1_3_39730_8
source_vol/USER2/DIR1_3/FILE_DIR1_3_1024_1
source_vol/USER2/DIR1_3/FILE_DIR1_3_65536_2
source_vol/USER2/DIR1_3/FILE_DIR1_3_7475_3
source_vol/USER2/DIR1_3/FILE_DIR1_3_13926_4
source_vol/USER2/DIR1_3/FILE_DIR1_3_20377_5
source_vol/USER2/DIR1_3/FILE_DIR1_3_26828_6
source_vol/USER2/DIR1_3/FILE_DIR1_3_33279_7
source_vol/USER2/DIR1_3/FILE_DIR1_3_39730_8
source_vol
Xcp command : xcp scan -preserve-atime 101.10.10.10:/source_vol
Stats : 55 scanned
Speed : 14.1 KiB in (21.2 KiB/s), 2.33 KiB out (3.51 KiB/s)
Total Time : 0s.
Job ID : Job_2022-06-30_14.14.15.334173_scan
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2022-06-
30_14.14.15.334173_scan.log
STATUS : PASSED
```

掃描 **-s3.insecure**

使用 `-s3.insecure` 參數 `scan` 命令使用 HTTP 取代 HTTPS 進行 S3 儲存區通訊。

語法

```
xcp scan -s3.insecure s3://<bucket_name>
```

顯示範例

```
[root@client1 linux]# ./xcp scan -s3.insecure s3://bucket1

Job ID: Job_2023-06-08_08.16.31.345201_scan
file5g_1
USER1/FILE_USER1_1024_1
USER1/FILE_USER1_1024_2
USER1/FILE_USER1_1024_3
USER1/FILE_USER1_1024_4
USER1/FILE_USER1_1024_5
Xcp command : xcp scan -s3.insecure s3:// -bucket1
Stats : 8 scanned, 6 s3.objects
Speed : 0 in (0/s), 0 out (0/s)
Total Time : 2s.
Job ID : Job_2023-06-08_08.16.31.345201_scan
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-
08_08.16.31.345201_scan.log
STATUS : PASSED
```

掃描 -S3.Endpoint <s3_endpoint_url>

使用 -s3.endpoint <s3_endpoint_url> 參數 scan 命令以指定的 URL 取代預設 AWS 端點 URL、以進行 S3 貯體通訊。

語法

```
xcp scan -s3.endpoint https://<endpoint_url>: s3://<bucket_name>
```

顯示範例

```
[root@client1 linux]# ./xcp scan -s3.endpoint https://<endpoint_url>:  
s3://xcp-testing
```

```
Job ID: Job_2023-06-13_11.23.06.029137_scan  
aws_files/USER1/FILE_USER1_1024_1  
aws_files/USER1/FILE_USER1_1024_2  
aws_files/USER1/FILE_USER1_1024_3  
aws_files/USER1/FILE_USER1_1024_4  
aws_files/USER1/FILE_USER1_1024_5  
Xcp command : xcp scan -s3.endpoint https://<endpoint_url>: s3://xcp-  
testing  
Stats : 8 scanned, 5 s3.objects  
Speed : 0 in (0/s), 0 out (0/s)  
Total Time : 0s.  
Job ID : Job_2023-06-13_11.23.06.029137_scan  
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-  
13_11.23.06.029137_scan.log  
STATUS : PASSED
```

掃描 **-s3.profile <name>**

使用 `s3.profile` 參數 `scan` 命令、從 AWS 認證檔案中指定用於 S3 儲存區通訊的設定檔。

語法

```
xcp scan -s3.profile <name> -s3.endpoint https://<endpoint_url>:  
s3://<bucket_name>
```


顯示範例

```
[root@client1 linux]# ./xcp scan -s3.profile sg -s3.endpoint
https://<endpoint_url>:
s3://bucket1

Job ID: Job_2023-06-08_08.47.11.963479_scan
1 scanned, 0 in (0/s), 0 out (0/s), 5s
USER1/FILE_USER1_1024_1
USER1/FILE_USER1_1024_2
USER1/FILE_USER1_1024_3
USER1/FILE_USER1_1024_4
USER1/FILE_USER1_1024_5
Xcp command : xcp scan -s3.profile sg -s3.endpoint
https://<endpoint_url>: s3://bucket1
Stats : 7 scanned, 5 s3.objects
Speed : 0 in (0/s), 0 out (0/s)
Total Time : 6s.
Job ID : Job_2023-06-08_08.47.11.963479_scan
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-
08_08.47.11.963479_scan.log
STATUS : PASSED
[root@client1 linux]#
```

掃描 **-s3.noverify**

使用 **-s3.noverify** 參數 **scan** 用於覆寫 S3 儲存區通訊之 SSL 憑證預設驗證的命令。

語法

```
xcp scan -s3.noverify s3://<bucket_name>
```

顯示範例

```
root@client1 linux]# ./xcp scan -s3.noverify s3:// bucket1
```

```
Job ID: Job_2023-06-13_11.00.59.742237_scan
aws_files/USER1/FILE_USER1_1024_1
aws_files/USER1/FILE_USER1_1024_2
aws_files/USER1/FILE_USER1_1024_3
aws_files/USER1/FILE_USER1_1024_4
aws_files/USER1/FILE_USER1_1024_5
Xcp command : xcp scan -s3.noverify s3://bucket1
Stats : 8 scanned, 5 s3.objects
Speed : 0 in (0/s), 0 out (0/s)
Total Time : 2s.
Job ID : Job_2023-06-13_11.00.59.742237_scan
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-
13_11.00.59.742237_scan.log
STATUS : PASSED
```

複本

XCP NFS copy 命令會掃描整個來源目錄結構、並將其複製到目的地 NFSv3 匯出。

◦ copy 命令需要將來源和目的地路徑做為變數。掃描和複製的檔案、處理量、速度和經過時間詳細資料會顯示在複製作業結束時。



- 執行階段記錄檔位於 /opt/NetApp/xFiles/xcp/xcp.log 此路徑是可設定的。執行每個命令之後、目錄中會出現其他記錄。
- 如果來源為 7-Mode 系統、您可以使用 Snapshot 複本作為來源。例如：
<ip_address>:/vol/ex_s01/.snapshot/<snapshot_name>

語法

```
xcp copy <source_nfs_export_path> <destination_nfs_export_path>
```

顯示範例

```
root@localhost linux]# ./xcp copy <IP address of NFS
server>:/source_vol < IP address of
destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_copy_2020-03-
03_23.46.33.153705
Xcp command : xcp copy <IP address of NFS server>:/source_vol <IP
address of destination NFS
server>:/dest_vol
18 scanned, 0 matched, 17 copied, 0 error
Speed : 38.9 KiB in (51.2 KiB/s), 81.2 KiB out (107KiB/s)
Total Time : 0s.
STATUS : PASSED
```

下表列出 `copy` 參數及其說明。

參數	說明
複製 - 非名稱	從檔案清單和報告中排除使用者和群組名稱。
<<copy_match,複製 - 符合 ; 篩選器 >	僅處理符合篩選條件的檔案和目錄。
<<copy_md5,複製 -md5 ; string_expression>	在檔案上產生 checksum 、並在建立索引時儲存 checksum （預設：false）。
<<copy_dircount,複製 -dircount ; n[k]>	指定讀取目錄時的要求大小。
複製重複資料刪除	在報告中包含重複資料刪除預估值。
<<copy_bs,複製 -BS ; n[k]>	指定讀寫區塊大小（預設值：64K）。
<<copy_parallel,複製平行 ; n>	指定並行批次處理程序的最大數目（預設值：7）。
複製 - 保留 - atime	將來源上的所有檔案還原至上次存取的日期。
複製 -s3.insecure	提供選項、可在 S3 Bucket 通訊中使用 HTTP 而非 HTTPS。
<<copy_s3_endpoint,複製 -S3.Endpoint ; S3_Endpoint_URL>	以 S3 Bucket 通訊的指定 URL 覆寫預設的 Amazon Web Services （AWS）端點 URL。
<<copy_s3_profile,複製 -s3.profile ; profile_name>	從 AWS 認證檔案指定用於 S3 儲存區通訊的設定檔。
複製 -s3.noverify	覆寫 S3 Bucket 通訊的 SSL 認證預設驗證。

複製 - 非名稱

使用 `-nonames` 參數 `copy` 從檔案清單或報告中排除使用者和群組名稱的命令。

語法

```
xcp copy -nonames <source_ip_address_or_hostname>:/source_vol  
<destination_ip_address_or_hostname>:/dest_vol
```

顯示範例

```
[root@localhost linux]# ./xcp copy -nonames <IP address or hostname of  
NFS server>:/source_vol <IP  
address of destination NFS server>:/dest_vol  
  
xcp: WARNING: No index name has been specified, creating one with name:  
autoname_copy_2020-03-  
03_23.48.48.147261  
Xcp command : xcp copy -nonames <IP address or hostname of NFS  
server>:/source_vol <IP address of  
destination NFS server>:/dest_vol  
18 scanned, 0 matched, 17 copied, 0 error  
Speed : 38.9 KiB in (53.5 KiB/s), 81.3 KiB out (112 KiB/s)  
Total Time : 0s.  
STATUS : PASSED
```

複製 - 比對 <filter>

使用 `-match <filter>` 參數 `copy` 命令，指定只處理與篩選器相符的檔案和目錄。

語法

```
xcp copy -match <filter> <source_ip_address_or_hostname>:/source_vol  
<destination_ip_address_or_hostname>:/dest_vol
```

顯示範例

```
[root@localhost linux]# ./xcp copy -match bin <IP address or hostname
of NFS server>:/source_vol <IP
address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_copy_2020-03-
04_00.00.07.125990
Xcp command : xcp copy -match bin <IP address or hostname of NFS
server>:/source_vol <IP address
of destination NFS server>:/dest_vol
18 scanned, 18 matched, 17 copied, 0 error
Speed : 39.1 KiB in (52.6 KiB/s), 81.7 KiB out (110 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

複製 -MD5 <string_expression>

使用 -md5 參數 copy 命令來產生檔案清單的校驗和、並在建立索引時儲存校驗和。預設值設為 false。

語法

```
xcp copy -md5 <source_ip_address_or_hostname>:/source_vol
<destination_ip_address_or_hostname>:/dest_vol
```

顯示範例

```
[root@localhost linux]# ./xcp copy -md5 <IP address or hostname of NFS
server>:/source_vol <IP
address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_copy_2020-03-
03_23.47.41.137615
Xcp command : xcp copy -md5 <IP address or hostname of NFS
server>:/source_vol <IP address of
destination NFS server>:/dest_vol
18 scanned, 0 matched, 17 copied, 0 error
Speed : 38.9 KiB in (52.1 KiB/s), 81.3 KiB out (109 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

Copy -dircount <n[k]>

使用 `-dircount <n[k]>` 參數 `copy` 用於指定讀取目錄時的要求大小的命令。預設值為 64k。

語法

```
xcp copy -dircount <n[k]> <source_ip_address_or_hostname>:/source_vol  
<destination_ip_address_or_hostname>:/dest_vol
```

顯示範例

```
[root@localhost linux]# ./xcp copy -dircount 32k <IP address or  
hostname of NFS server>:/source_vol  
<IP address of destination NFS server>:/dest_vol  
  
xcp: WARNING: No index name has been specified, creating one with name:  
autoname_copy_2020-03-  
03_23.58.01.094460  
Xcp command : xcp copy -dircount 32k <IP address or hostname of NFS  
server>:/source_vol <IP  
address of destination NFS server >:/dest_vol  
18 scanned, 0 matched, 17 copied, 0 error  
Speed : 39.1 KiB in (56.7 KiB/s), 81.6 KiB out (119 KiB/s)  
Total Time : 0s.  
STATUS : PASSED
```

複製重複資料刪除

使用 `-edupe` 參數 `copy` 將重複資料刪除預估納入報告中的命令。



Simple Storage Service (S3) 不支援稀疏檔案。因此、請將 S3 儲存區指定為的目標目的地 `copy -edupe` 傳回稀疏資料的值「無」。

語法

```
xcp copy -edupe <source_ip_address_or_hostname>:/source_vol  
<destination_ip_address_or_hostname>:/dest_vol
```

```
[root@localhost linux]# ./xcp copy -edupe <IP address or hostname of
NFS server>:/source_vol <IP
address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_copy_2020-03-
03_23.48.10.436325
== Maximum Values ==
Size Used Depth Namelen Dirsize
1 KiB 4 KiB 2 11 9
== Average Values ==
Namelen Size Depth Dirsize
6 682 1 5
== Top Space Users ==
root
52 KiB
== Top File Owners ==
root
18
== Top File Extensions ==
.txt other
5 10
== Number of files ==
empty <8KiB 8-64KiB 64KiB-1MiB 1-10MiB 10-100MiB >100MiB
4 11
== Space used ==
empty <8KiB 8-64KiB 64KiB-1MiB 1-10MiB 10-100MiB >100MiB
40 KiB
== Directory entries ==
empty 1-10
3
10-100 100-1K 1K-10K >10K
== Depth ==
0-5 6-10 11-15 16-20 21-100 >100
18
== Accessed ==
>1 year >1 month 1-31 days 1-24 hrs <1 hour <15 mins future
4 11
== Modified ==
>1 year >1 month 1-31 days 1-24 hrs <1 hour <15 mins future
10 5
== Changed ==
>1 year >1 month 1-31 days 1-24 hrs <1 hour <15 mins future
```

```
10 5
Total count: 18
Directories: 3
Regular files: 15
Symbolic links: None
Special files: None
Hard links: None,
multilink files: None,
Space Saved by Hard links (KB): 0
Sparse data: None
Dedupe estimate: N/A
Total space for regular files: size: 10.0 KiB, used: 40 KiB
Total space for symlinks: size: 0, used: 0
Total space for directories: size: 12 KiB, used: 12 KiB
Total space used: 52 KiB
Xcp command : xcp copy -edupe <IP address or hostname of NFS
server>:/source_vol <destination NFS
export path>:/dest_vol
18 scanned, 0 matched, 17 copied, 0 error
Speed : 38.9 KiB in (36.7 KiB/s), 81.3 KiB out (76.7 KiB/s)
Total Time : 1s.
STATUS : PASSED
```

Copy -BS <n[k]>

使用 -bs <n[k]> 參數 copy 指定讀寫區塊大小的命令。預設區塊大小為 64k。

語法

```
xcp copy -bs <n[k]> <ip_address_or_hostname>:/source_vol
<destination_ip_address_or_hostname>:/dest_vol
```


顯示範例

```
[root@localhost linux]# ./xcp copy -bs 32k <IP address or hostname of
NFS server>:/source_vol <IP
address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_copy_2020-03-
03_23.57.04.742145
Xcp command : xcp copy -bs 32k <IP address or hostname of NFS
server>:/source_vol <IP address of
destination NFS server>:/dest_vol
18 scanned, 0 matched, 17 copied, 0 error
Speed : 39.1 KiB in (115 KiB/s), 81.6 KiB out (241 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

複製平行 <n>

使用 `-parallel <n>` 參數 `copy` 命令以指定並行批次處理程序的最大數目。預設值為 7。

語法

```
xcp copy -parallel <n> <ip_address_or_hostname>:/source_vol
destination_ip_address_or_hostname:/<dest_vol>
```

顯示範例

```
[root@localhost linux]# ./xcp copy -parallel 4 <IP address or hostname
of NFS server>:/source_vol
<IP address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_copy_2020-03-
03_23.59.41.477783
Xcp command : xcp copy -parallel 4 <IP address or hostname of NFS
server>:/source_vol <IP address
of destination NFS server>:/dest_vol
18 scanned, 0 matched, 17 copied, 0 error
Speed : 39.1 KiB in (35.6 KiB/s), 81.6 KiB out (74.4 KiB/s)
Total Time : 1s.
STATUS : PASSED
```

複製 - 保留 - **atime**

使用 `-preserve-atime` 參數 `copy` 命令將所有檔案還原至來源上上次存取的日期。

- `-preserve-atime` 選項會將存取時間重設為 XCP 讀取作業之前設定的原始值。

語法

```
xcp copy -preserve-atime <source_ip_address_or_hostname>:/source_vol  
<destination_ip_address_or_hostname>:/dest_vol
```

顯示範例

```
[root@client1 linux]# ./xcp copy -preserve-atime  
101.10.10.10:/source_vol 10.102.102.10:/dest_vol  
  
xcp: WARNING: No index name has been specified, creating one with name:  
XCP_copy_2022-06-  
30_14.22.53.742272  
xcp: Job ID: Job_XCP_copy_2022-06-30_14.22.53.742272_2022-06-  
30_14.22.53.742272_copy  
Xcp command : xcp copy -preserve-atime 101.10.10.10:/source_vol  
10.102.102.10:/dest_vol  
Stats : 55 scanned, 54 copied, 55 indexed  
Speed : 1.26 MiB in (852 KiB/s), 1.32 MiB out (896 KiB/s)  
Total Time : 1s.  
Migration ID: XCP_copy_2022-06-30_14.22.53.742272  
Job ID : Job_XCP_copy_2022-06-30_14.22.53.742272_2022-06-  
30_14.22.53.742272_copy  
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2022-06-  
30_14.22.53.742272_2022-06-  
30_14.22.53.742272_copy.log  
STATUS : PASSED  
[root@client1 linux]#
```

複製 **-s3.insecure**

使用 `-s3.insecure` 參數 `copy` 命令使用 HTTP 取代 HTTPS 進行 S3 儲存區通訊。

語法

```
xcp copy -s3.insecure s3://<bucket_name>
```

```
[root@client1 linux]# ./xcp copy -s3.insecure hdfs:///user/test
s3:///bucket1

xcp: WARNING: No index name has been specified, creating one with name:
XCP_copy_2023-06-
08_09.01.47.581599
Job ID: Job_XCP_copy_2023-06-08_09.01.47.581599_copy
Xcp command : xcp copy -s3.insecure hdfs:///user/test s3:///bucket1
Stats : 8 scanned, 5 copied, 8 indexed, 5 KiB s3.data.uploaded, 5
s3.copied.single.key.file, 5 s3.copied.file
Speed : 6.78 KiB in (1.86 KiB/s), 83.3 KiB out (22.9 KiB/s)
Total Time : 3s.
Migration ID: XCP_copy_2023-06-08_09.01.47.581599
Job ID : Job_XCP_copy_2023-06-08_09.01.47.581599_copy
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2023-06-
08_09.01.47.581599_copy.log
STATUS : PASSED

[root@client1 linux]# ./xcp copy -s3.insecure hdfs:///user/demo
s3:///bucket1

xcp: WARNING: No index name has been specified, creating one with name:
XCP_copy_2023-06-
08_09.15.58.807485
Job ID: Job_XCP_copy_2023-06-08_09.15.58.807485_copy
Xcp command : xcp copy -s3.insecure hdfs:///user/demo s3:///bucket1
Stats : 8 scanned, 5 copied, 8 indexed, 5 KiB s3.data.uploaded, 5
s3.copied.single.key.file, 5 s3.copied.file
Speed : 10.4 KiB in (3.60 KiB/s), 85.3 KiB out (29.6 KiB/s)
Total Time : 2s.
Migration ID: XCP_copy_2023-06-08_09.15.58.807485
Job ID : Job_XCP_copy_2023-06-08_09.15.58.807485_copy
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2023-06-
08_09.15.58.807485_copy.log
STATUS : PASSED
```

copy -s3.Endpoint <s3_endpoint_url>

使用 -s3.endpoint <s3_endpoint_url> 參數 copy 命令以指定的 URL 取代預設 AWS 端點 URL、以進行 S3 貯體通訊。

語法

```
xcp copy -s3.endpoint https://<endpoint_url>: s3://<bucket_name>
```

```

root@client1 linux]# ./xcp copy -s3.endpoint https://<endpoint_url>:
hdfs:///user/test
s3://xcp-testing

xcp: WARNING: No index name has been specified, creating one with name:
XCP_copy_2023-06-
13_11.20.32.571348
Job ID: Job_XCP_copy_2023-06-13_11.20.32.571348_copy
Xcp command : xcp copy -s3.endpoint https://<endpoint_url>
hdfs:///user/test s3://xcp-testing
Stats : 8 scanned, 5 copied, 8 indexed, 5 KiB s3.data.uploaded, 5
s3.copied.single.key.file, 5 s3.copied.file
Speed : 6.78 KiB in (1.77 KiB/s), 83.6 KiB out (21.8 KiB/s)
Total Time : 3s.
Migration ID: XCP_copy_2023-06-13_11.20.32.571348
Job ID : Job_XCP_copy_2023-06-13_11.20.32.571348_copy
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2023-06-
13_11.20.32.571348_copy.log
STATUS : PASSED
[root@client1 linux]# ./xcp copy -s3.endpoint https://<endpoint_url>:
hdfs:///user/demo
s3://xcp-testing

xcp: WARNING: No index name has been specified, creating one with name:
XCP_copy_2023-06-
13_11.40.26.913130
Job ID: Job_XCP_copy_2023-06-13_11.40.26.913130_copy
15,009 scanned, 1,462 copied, 9 indexed, 1.46 MiB s3.data.uploaded,
1,491
s3.copied.single.key.file, 1,491 s3.copied.file, 4.58 MiB in (933
KiB/s), 1.72 MiB out (350
KiB/s), 5s
15,009 scanned, 4,283 copied, 9 indexed, 4.20 MiB s3.data.uploaded,
4,302
s3.copied.single.key.file, 4,302 s3.copied.file, 7.70 MiB in (629
KiB/s), 4.85 MiB out (632
KiB/s), 10s
15,009 scanned, 7,323 copied, 9 indexed, 7.17 MiB s3.data.uploaded,
7,343
s3.copied.single.key.file, 7,343 s3.copied.file, 11.0 MiB in (672
KiB/s), 8.24 MiB out (681
KiB/s), 15s
15,009 scanned, 10,427 copied, 9 indexed, 10.2 MiB s3.data.uploaded,
10,439

```

```
s3.copied.single.key.file, 10,439 s3.copied.file, 14.5 MiB in (690
KiB/s), 11.7 MiB out (695
KiB/s), 20s
15,009 scanned, 13,445 copied, 9 indexed, 13.1 MiB s3.data.uploaded,
13,454
s3.copied.single.key.file, 13,454 s3.copied.file, 17.8 MiB in (676
KiB/s), 15.0 MiB out (682
KiB/s), 25s
Xcp command : xcp copy -s3.endpoint https://<endpoint_url>:
hdfs:///user/demo s3://xcp-testing
Stats : 15,009 scanned, 15,005 copied, 15,009 indexed, 14.7 MiB
s3.data.uploaded, 15,005
s3.copied.single.key.file, 15,005 s3.copied.file
Speed : 19.2 MiB in (712 KiB/s), 17.1 MiB out (635 KiB/s)
Total Time : 27s.
Migration ID: XCP_copy_2023-06-13_11.40.26.913130
Job ID : Job_XCP_copy_2023-06-13_11.40.26.913130_copy
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2023-06-
13_11.40.26.913130_copy.log
STATUS : PASSED
```

複製 **-s3.profile <name>**

使用 `s3.profile` 參數 `copy` 命令、從 AWS 認證檔案中指定用於 S3 儲存區通訊的設定檔。

語法

```
xcp copy -s3.profile <name> -s3.endpoint https://<endpoint_url>:
s3://<bucket_name>
```

```

root@client1 linux]# ./xcp copy -s3.endpoint https://<endpoint_url>:
hdfs:///user/test
s3://xcp-testing

xcp: WARNING: No index name has been specified, creating one with name:
XCP_copy_2023-06-
13_11.20.32.571348
Job ID: Job_XCP_copy_2023-06-13_11.20.32.571348_copy
Xcp command : xcp copy -s3.endpoint https://<endpoint_url>
hdfs:///user/test s3://xcp-testing
Stats : 8 scanned, 5 copied, 8 indexed, 5 KiB s3.data.uploaded, 5
s3.copied.single.key.file, 5 s3.copied.file
Speed : 6.78 KiB in (1.77 KiB/s), 83.6 KiB out (21.8 KiB/s)
Total Time : 3s.
Migration ID: XCP_copy_2023-06-13_11.20.32.571348
Job ID : Job_XCP_copy_2023-06-13_11.20.32.571348_copy
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2023-06-
13_11.20.32.571348_copy.log
STATUS : PASSED
[root@client1 linux]# ./xcp copy -s3.endpoint https://<endpoint_url>:
hdfs:///user/demo
s3://xcp-testing

xcp: WARNING: No index name has been specified, creating one with name:
XCP_copy_2023-06-
13_11.40.26.913130
Job ID: Job_XCP_copy_2023-06-13_11.40.26.913130_copy
15,009 scanned, 1,462 copied, 9 indexed, 1.46 MiB s3.data.uploaded,
1,491
s3.copied.single.key.file, 1,491 s3.copied.file, 4.58 MiB in (933
KiB/s), 1.72 MiB out (350
KiB/s), 5s
15,009 scanned, 4,283 copied, 9 indexed, 4.20 MiB s3.data.uploaded,
4,302
s3.copied.single.key.file, 4,302 s3.copied.file, 7.70 MiB in (629
KiB/s), 4.85 MiB out (632
KiB/s), 10s
15,009 scanned, 7,323 copied, 9 indexed, 7.17 MiB s3.data.uploaded,
7,343
s3.copied.single.key.file, 7,343 s3.copied.file, 11.0 MiB in (672
KiB/s), 8.24 MiB out (681
KiB/s), 15s
15,009 scanned, 10,427 copied, 9 indexed, 10.2 MiB s3.data.uploaded,
10,439

```

```
s3.copied.single.key.file, 10,439 s3.copied.file, 14.5 MiB in (690
KiB/s), 11.7 MiB out (695
KiB/s), 20s
15,009 scanned, 13,445 copied, 9 indexed, 13.1 MiB s3.data.uploaded,
13,454
s3.copied.single.key.file, 13,454 s3.copied.file, 17.8 MiB in (676
KiB/s), 15.0 MiB out (682
KiB/s), 25s
Xcp command : xcp copy -s3.endpoint https://<endpoint_url>:
hdfs:///user/demo s3://xcp-testing
Stats : 15,009 scanned, 15,005 copied, 15,009 indexed, 14.7 MiB
s3.data.uploaded, 15,005
s3.copied.single.key.file, 15,005 s3.copied.file
Speed : 19.2 MiB in (712 KiB/s), 17.1 MiB out (635 KiB/s)
Total Time : 27s.
Migration ID: XCP_copy_2023-06-13_11.40.26.913130
Job ID : Job_XCP_copy_2023-06-13_11.40.26.913130_copy
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2023-06-
13_11.40.26.913130_copy.log
STATUS : PASSED
```

複製 **-s3.noverify**

使用 `-s3.noverify` 參數 `copy` 用於覆寫 S3 儲存區通訊之 SSL 憑證預設驗證的命令。

語法

```
xcp copy -s3.noverify s3://<bucket_name>
```



```
[root@client1 linux]# ./xcp copy -s3.noverify hdfs://user/test s3://
bucket1

xcp: WARNING: No index name has been specified, creating one with name:
XCP_copy_2023-06-
13_10.57.41.994969
Job ID: Job_XCP_copy_2023-06-13_10.57.41.994969_copy
Xcp command : xcp copy -s3.noverify hdfs://user/test s3://bucket1
Stats : 8 scanned, 5 copied, 8 indexed, 5 KiB s3.data.uploaded, 5
s3.copied.single.key.file, 5 s3.copied.file
Speed : 6.78 KiB in (2.36 KiB/s), 83.3 KiB out (29.0 KiB/s)
Total Time : 2s.
Migration ID: XCP_copy_2023-06-13_10.57.41.994969
Job ID : Job_XCP_copy_2023-06-13_10.57.41.994969_copy
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2023-06-
13_10.57.41.994969_copy.log
STATUS : PASSED
./xcp copy -s3.profile sg -s3.noverify -s3.endpoint
https://<endpoint_url>: hdfs:///user/demo s3://bucket1

xcp: WARNING: No index name has been specified, creating one with name:
XCP_copy_2023-06-
13_11.26.56.143287
Job ID: Job_XCP_copy_2023-06-13_11.26.56.143287_copy
1 scanned, 9.95 KiB in (1.99 KiB/s), 12.9 KiB out (2.58 KiB/s), 5s
15,009 scanned, 1,555 copied, 9 indexed, 1.54 MiB s3.data.uploaded,
1,572
s3.copied.single.key.file, 1,572 s3.copied.file, 4.68 MiB in (951
KiB/s), 1.81 MiB out (365
KiB/s), 10s
15,009 scanned, 4,546 copied, 9 indexed, 4.46 MiB s3.data.uploaded,
4,572
s3.copied.single.key.file, 4,572 s3.copied.file, 7.95 MiB in (660
KiB/s), 5.15 MiB out (674
KiB/s), 15s
15,009 scanned, 7,702 copied, 9 indexed, 7.53 MiB s3.data.uploaded,
7,710
s3.copied.single.key.file, 7,710 s3.copied.file, 11.5 MiB in (710
KiB/s), 8.65 MiB out (707
KiB/s), 20s
15,009 scanned, 10,653 copied, 9 indexed, 10.4 MiB s3.data.uploaded,
10,669
s3.copied.single.key.file, 10,669 s3.copied.file, 14.7 MiB in (661
KiB/s), 11.9 MiB out (670
```

```
KiB/s), 25s
15,009 scanned, 13,422 copied, 9 indexed, 13.1 MiB s3.data.uploaded,
13,428
s3.copied.single.key.file, 13,428 s3.copied.file, 17.8 MiB in (627
KiB/s), 15.0 MiB out (627
KiB/s), 30s
Xcp command : xcp copy -s3.profile sg -s3.noverify -s3.endpoint
https://<endpoint_url>: hdfs:///user/demo s3://bucket1
Stats : 15,009 scanned, 15,005 copied, 15,009 indexed, 14.7 MiB
s3.data.uploaded, 15,005
s3.copied.single.key.file, 15,005 s3.copied.file
Speed : 19.2 MiB in (609 KiB/s), 17.1 MiB out (543 KiB/s)
Total Time : 32s.
Migration ID: XCP_copy_2023-06-13_11.26.56.143287
Job ID : Job_XCP_copy_2023-06-13_11.26.56.143287_copy
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2023-06-
13_11.26.56.143287_copy.log
STATUS : PASSED
```

同步

檢視 XCP 的說明、參數和範例 `sync` 命令、包括何時執行 `sync` 命令可搭配使用 `dry run` 選項。

同步

XCP NFS `sync` 命令會使用目錄索引標籤名稱或先前複製作業的編號來掃描來源 NFS 目錄的變更和修改。對來源的遞增變更會複製並套用至目標目錄。同步作業之後、舊型目錄索引編號會以新的索引編號取代。



在同步作業期間、修改過的檔案和目錄會再次複製到目的地 NFSv3 匯出。

語法

```
xcp sync -id <catalog_name>
```



◦ `-id <catalog_name>` 參數是必要的 `sync` 命令。

顯示範例

```
[root@localhost linux]# ./xcp sync -id autoname_copy_2020-03-04_01.10.22.338436

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
Xcp command : xcp sync -id autoname_copy_2020-03-04_01.10.22.338436
0 scanned, 0 copied, 0 modification, 0 new item, 0 delete item, 0 error
Speed : 26.4 KiB in (27.6 KiB/s), 22.7 KiB out (23.7 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

下表列出 sync 參數及其說明。

參數	說明
<<sync_id,同步 -id ; catalog_name>	指定先前複本索引的目錄名稱。這是的必要參數 sync 命令。
同步 -nonames	從檔案清單和報告中排除使用者和群組名稱。
<<sync_bs,同步 -BS ; n[k]>	指定讀寫區塊大小（預設值： 64K ）。
<<sync_dircount,同步 -dircount ; n[k]>	指定讀取目錄時的要求大小。
<<sync_parallel,同步 -parallel ; n>	指定並行批次處理程序的最大數目（預設值： 7 ）。
同步 -preserve-atime	將來源上的所有檔案還原至上次存取的日期。

同步 -nonames

使用 -nonames 參數 sync 從檔案清單或報告中排除使用者和群組名稱的命令。

語法

```
xcp sync -id <catalog_name> -nonames
```

顯示範例

```
[root@localhost linux]# ./xcp sync -id ID001 -nonames

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
Xcp command : xcp sync -id ID001 -nonames
0 scanned, 0 copied, 0 modification, 0 new item, 0 delete item, 0 error
Speed : 26.4 KiB in (22.2 KiB/s), 22.3 KiB out (18.8 KiB/s)
Total Time : 1s.
STATUS : PASSED
```

同步 **-BS <n[k]>**

使用 **-bs <n[k]>** 參數 **sync** 指定讀寫區塊大小的命令。預設區塊大小為 64k。

語法

```
xcp sync -id <catalog_name> -bs <n[k]>
```

顯示範例

```
[root@localhost linux]# ./xcp sync -id ID001 -bs 32k

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
Xcp command : xcp sync -id ID001 -bs 32k
0 scanned, 0 copied, 0 modification, 0 new item, 0 delete item, 0 error
Speed : 25.3 KiB in (20.4 KiB/s), 21.0 KiB out (16.9 KiB/s)
Total Time : 1s.
STATUS : PASSED
```

同步 **-dircount <n[k]>**

使用 **-dircount <n[k]>** 參數 **sync** 用於指定讀取目錄時的要求大小的命令。預設值為 64k。

語法

```
xcp sync -id <catalog_name> -dircount <n[k]>
```

顯示範例

```
[root@localhost linux]# ./xcp sync -id ID001 -dircount 32k

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
Xcp command : xcp sync -id ID001 -dircount 32k
0 scanned, 0 copied, 0 modification, 0 new item, 0 delete item, 0 error
Speed : 25.3 KiB in (27.8 KiB/s), 21.0 KiB out (23.0 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

同步 - 平行

使用 `-parallel` 參數 `sync` 命令以指定並行批次處理程序的最大數目。預設值為 7。

語法

```
xcp sync -id <catalog_name> -parallel <n>
```

顯示範例

```
[root@localhost linux]# ./xcp sync -id ID001 -parallel 4

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
Xcp command : xcp sync -id ID001 -parallel 4
0 scanned, 0 copied, 0 modification, 0 new item, 0 delete item, 0 error
Speed : 25.3 KiB in (20.6 KiB/s), 21.0 KiB out (17.1 KiB/s)
Total Time : 1s.
STATUS : PASSED
```

-preserve-ctime

使用 `-preserve-ctime` 參數 `sync` 命令將所有檔案還原至來源上上次存取的日期。

- `-preserve-ctime` 選項會將存取時間重設為 XCP 讀取作業之前設定的原始值。

語法

```
xcp sync -preserve-ctime -id <catalog_name>
```

```

[root@client-1 linux]# ./xcp sync -preserve-ctime -id XCP_copy_2022-06-30_14.22.53.742272

xcp: Job ID: Job_XCP_copy_2022-06-30_14.22.53.742272_2022-06-30_14.27.28.660165_sync
xcp: Index: {source: 101.10.10.10:/source_vol, target: 10.201.201.20:/dest_vol}
xcp: diff 'XCP_copy_2022-06-30_14.22.53.742272': 55 reviewed, 55 checked at source, 1 modification, 54 reindexed, 23.3 KiB in (15.7 KiB/s), 25.1 KiB out (16.9 KiB/s), 1s.
xcp: sync 'XCP_copy_2022-06-30_14.22.53.742272': Starting search pass for 1 modified directory...
xcp: find changes: 55 reviewed, 55 checked at source, 1 modification, 55 re-reviewed, 54 reindexed, 28.0 KiB in (18.4 KiB/s), 25.3 KiB out (16.6 KiB/s), 1s.
xcp: sync phase 2: Rereading the 1 modified directory...
xcp: sync phase 2: 55 reviewed, 55 checked at source, 1 modification, 55 re-reviewed, 1 new dir, 54 reindexed, 29.2 KiB in (19.0 KiB/s), 25.6 KiB out (16.7 KiB/s), 1s.
xcp: sync 'XCP_copy_2022-06-30_14.22.53.742272': Deep scanning the 1 modified directory...
xcp: sync 'XCP_copy_2022-06-30_14.22.53.742272': 58 scanned, 55 copied, 56 indexed, 55 reviewed, 55 checked at source, 1 modification, 55 re-reviewed, 1 new dir, 54 reindexed, 1.28 MiB in (739 KiB/s), 1.27 MiB out (732 KiB/s), 1s.
Xcp command : xcp sync -preserve-ctime -id XCP_copy_2022-06-30_14.22.53.742272
Stats : 58 scanned, 55 copied, 56 indexed, 55 reviewed, 55 checked at source, 1 modification, 55 re-reviewed, 1 new dir, 54 reindexed
Speed : 1.29 MiB in (718 KiB/s), 1.35 MiB out (755 KiB/s)
Total Time : 1s.
Migration ID: XCP_copy_2022-06-30_14.22.53.742272
Job ID : Job_XCP_copy_2022-06-30_14.22.53.742272_2022-06-30_14.27.28.660165_sync
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2022-06-30_14.22.53.742272_2022-06-30_14.27.28.660165_sync.log
STATUS : PASSED

```

同步試跑

◦ `sync` 命令 `dry-run` 選項會使用複本作業的先前目錄索引編號、尋找對來源 NFS 目錄所做的變更或修改。此命令也會偵測自上一次複製作業之後、新增、移動、刪除或重新命名的檔案和目錄。命令會報告來源變更、但不會將其套用至目標。

語法

```
xcp sync dry-run -id <catalog_name>
```



◦ `-id <catalog_name>` 參數是必要的 `sync dry-run` 命令選項。

顯示範例

```
[root@localhost linux]# ./xcp sync dry-run -id ID001

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
Xcp command : xcp sync dry-run -id ID001
0 matched, 0 error
Speed : 15.2 KiB in (46.5 KiB/s), 5.48 KiB out (16.7 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

下表列出 `sync dry-run` 參數及其說明。

參數	說明
<<sync_dry_run_id,同步演習 -id ; catalog_name>	指定先前複本索引的目錄名稱。這是的必要參數 <code>sync</code> 命令。
同步乾跑 - 統計資料	對修改過的目錄執行深度掃描、並報告所有內容全新。
同步乾跑 -l	列印變更檔案和目錄的詳細資料。
同步演習 -nonames	從檔案清單和報告中排除使用者和群組名稱。
<<sync_dry_run_dircount,同步乾燥執行 -dircount ; n[k]>	指定讀取目錄時的要求大小。
<<sync_dry_run_parallel,同步乾運行並行 () ;	指定並行批次處理程序的最大數目（預設值：7）。

同步演習 `-id <catalog_name>`

使用 `-id <catalog_name>` 參數 `sync dry-run` 指定先前複本索引的目錄名稱。



◦ `-id <catalog_name>` 參數是必要的 `sync dry-run` 命令選項。

語法

```
xcp sync dry-run -id <catalog_name>
```

顯示範例

```
[root@localhost linux]# ./xcp sync dry-run -id ID001

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
Xcp command : xcp sync dry-run -id ID001
0 matched, 0 error
Speed : 15.2 KiB in (21.7 KiB/s), 5.48 KiB out (7.81 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

同步乾跑 - 統計資料

使用 `-stats` 參數 `sync dry-run` 對修改過的目錄執行深度掃描、並報告所有新內容。

語法

```
xcp sync dry-run -id <catalog_name> -stats
```

顯示範例

```
[root@localhost linux]# ./xcp sync dry-run -id ID001 -stats

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
4,895 reviewed, 43,163 checked at source, 12.8 MiB in (2.54 MiB/s),
5.49 MiB out (1.09 MiB/s),
5s
4,895 reviewed, 101,396 checked at source, 19.2 MiB in (1.29 MiB/s),
12.8 MiB out (1.47 MiB/s),
10s
Xcp command : xcp sync dry-run -id ID001 -stats
0 matched, 0 error
Speed : 22.9 MiB in (1.74 MiB/s), 17.0 MiB out (1.29 MiB/s)
Total Time : 13s.
STATUS : PASSED
```

同步乾跑 -l

使用 -l 參數 sync dry-run 可打印有關更改的文件和目錄的詳細信息。

語法

```
xcp sync dry-run -id <catalog_name> -l
```

顯示範例

```
[root@localhost linux]# ./xcp sync dry-run -id ID001 -l

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
Xcp command : xcp sync dry-run -id ID001 -l
0 matched, 0 error
Speed : 15.2 KiB in (13.6 KiB/s), 5.48 KiB out (4.88 KiB/s)
Total Time : 1s.
STATUS : PASSED
```

同步演習 -nonames

使用 -nonames 參數 sync dry-run 從檔案清單或報告中排除使用者和群組名稱。

語法

```
xcp sync dry-run -id <catalog_name> -nonames
```

顯示範例

```
[root@localhost linux]# ./xcp sync dry-run -id ID001 -nonames

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
Xcp command : xcp sync dry-run -id ID001 -nonames
0 matched, 0 error
Speed : 15.2 KiB in (15.8 KiB/s), 5.48 KiB out (5.70 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

SYNC DRY -dircount <n[k]>

使用 -dircount <n[k]> 參數 sync dry-run 指定讀取目錄時的要求大小。預設值為 64k。

語法

```
xcp sync dry-run -id <catalog_name> -dircount <n[k]>
```

顯示範例

```
[root@localhost linux]# ./xcp sync dry-run -id ID001 -dircount 32k

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
Xcp command : xcp sync dry-run -id ID001 -dircount 32k
0 matched, 0 error
Speed : 15.2 KiB in (32.5 KiB/s), 5.48 KiB out (11.7 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

同步乾跑 - 平行

使用 `-parallel` 參數 `sync dry-run` 指定並行批次處理程序的最大數目。預設值為 7。

語法

```
xcp sync dry-run -id <catalog_name> -parallel <n>
```

顯示範例

```
[root@localhost linux]# ./xcp sync dry-run -id ID001 -parallel 4

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
Xcp command : xcp sync dry-run -id ID001 -parallel 4
0 matched, 0 error
Speed : 15.2 KiB in (25.4 KiB/s), 5.48 KiB out (9.13 KiB/s)
Total Time : 0s.
STATUS : PASSED
```

繼續

XCP NFS `resume` 命令會指定目錄索引名稱或編號，以重新啟動中斷的複本作業。目錄索引名稱或上一個複本作業的編號位於中 `<catalog path>:/catalog/indexes` 目錄。

語法

```
xcp resume -id <catalog_name>
```



- `-id <catalog_name>` 參數是必要的 `resume` 命令。

```
[root@localhost linux]# ./xcp resume -id ID001

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
xcp: resume 'ID001': Reviewing the incomplete index...
xcp: diff 'ID001': Found 652 completed directories and 31 in progress
4,658 reviewed, 362 KiB in (258 KiB/s), 7.66 KiB out (5.46 KiB/s), 1s.
xcp: resume 'ID001': Starting second pass for the in-progress
directories...
xcp: resume 'ID001': Resuming the in-progress directories...
xcp: resume 'ID001': Resumed command: copy {-newid: u'ID001'}
xcp: resume 'ID001': Current options: {-id: 'ID001'}
xcp: resume 'ID001': Merged options: {-id: 'ID001', -newid: u'ID001'}
xcp: resume 'ID001': Values marked with a * include operations before
resume
28,866
MiB/s),
scanned*,
5s 9,565 copied*, 4,658 indexed*, 108 MiB in (21.6 MiB/s), 100.0 MiB
out (20.0
44,761
MiB/s),
44,761
scanned*,
11s
scanned*,
16,440
20,795
copied*,
copied*,
4,658 indexed*, 206 MiB in (19.3 MiB/s), 191 MiB out (17.9
4,658 indexed*, 362 MiB in (31.3 MiB/s), 345 MiB out (30.8
MiB/s),
44,761
16s
scanned*, 25,985 copied*, 4,658 indexed*, 488 MiB in (25.2 MiB/s), 465
MiB out (24.0
MiB/s),
44,761
21s
scanned*, 31,044 copied*, 4,658 indexed*, 578 MiB in (17.9 MiB/s), 558
MiB out (18.6
```

```

MiB/s),
54,838
26s
scanned*, 36,980 copied*, 14,276 indexed*, 679 MiB in (20.2 MiB/s), 657
MiB out (19.8
MiB/s),
67,123
31s
scanned*, 42,485 copied*, 29,160 indexed*, 742 MiB in (12.5 MiB/s), 720
MiB out (12.4
MiB/s),
79,681
36s
scanned*, 49,863 copied*, 39,227 indexed*, 801 MiB in (11.8 MiB/s), 779
MiB out (11.7
MiB/s),
79,681
41s
scanned*, 56,273 copied*, 39,227 indexed*, 854 MiB in (10.6 MiB/s), 832
MiB out (10.6
MiB/s),
79,681
46s
scanned*, 62,593 copied*, 39,227 indexed*, 906 MiB in (10.2 MiB/s), 881
MiB out (9.70
MiB/s),
84,577
51s
scanned*, 68,000 copied*, 44,047 indexed*, 976 MiB in (14.0 MiB/s), 951
MiB out (14.1
MiB/s),
86,737
56s
scanned*, 72,738 copied*, 49,071 indexed*, 1.04 GiB in (17.8 MiB/s),
1.01 GiB out (17.5
MiB/s),
89,690
1m1s
scanned*, 77,440 copied*, 54,110 indexed*, 1.14 GiB in (20.5 MiB/s),
1.11 GiB out (20.1
MiB/s), 1m6s
110,311 scanned*, 84,497 copied*, 74,158 indexed*, 1.24 GiB in (20.3
MiB/s), 1.21 GiB out (20.4
MiB/s), 1m11s
114,726 scanned*, 91,285 copied*, 74,158 indexed*, 1.33 GiB in (17.9
MiB/s), 1.30 GiB out (17.6

```

```

MiB/s), 1m16s
114,726 scanned*, 97,016 copied*, 74,158 indexed*, 1.46 GiB in (26.6
MiB/s), 1.43 GiB out (26.6
MiB/s), 1m21s
118,743 scanned*, 100,577 copied*, 79,331 indexed*, 1.65 GiB in (40.1
MiB/s), 1.62 GiB out (39.3
MiB/s), 1m26s
122,180 scanned*, 106,572 copied*, 84,217 indexed*, 1.77 GiB in (24.7
MiB/s), 1.74 GiB out (25.0
MiB/s), 1m31s
124,724 scanned*, 111,727 copied*, 84,217 indexed*, 1.89 GiB in (22.8
MiB/s), 1.86 GiB out (22.5
MiB/s), 1m36s
128,268 scanned*, 114,686 copied*, 99,203 indexed*, 1.99 GiB in (21.1
MiB/s), 1.96 GiB out (21.2
MiB/s), 1m41s
134,630 scanned*, 118,217 copied*, 104,317 indexed*, 2.06 GiB in (13.8
MiB/s), 2.03 GiB out
(13.7 MiB/s), 1m46s
134,630 scanned*, 121,742 copied*, 109,417 indexed*, 2.10 GiB in (9.02
MiB/s), 2.07 GiB out
(9.30 MiB/s), 1m51s
134,630 scanned*, 126,057 copied*, 109,417 indexed*, 2.20 GiB in (21.0
MiB/s), 2.17 GiB out
(21.0 MiB/s), 1m56s
134,630 scanned*, 130,034 copied*, 114,312 indexed*, 2.36 GiB in (32.1
MiB/s), 2.33 GiB out
(31.8 MiB/s), 2m1s
Xcp command : xcp resume -id ID001
134,630 scanned*, 134,630 copied*, 0 modification, 0 new item, 0 delete
item, 0 error
Speed : 2.40 GiB in (19.7 MiB/s), 2.37 GiB out (19.5 MiB/s)
Total Time : 2m4s.
STATUS : PASSED

```

下表列出 `resume` 參數及其說明。

參數	說明
<<resume_id,繼續 -id ; catalog_name>	指定先前複本索引的目錄名稱。這是 RESUME 命令所需的參數。
<<resume_bs,繼續 -bs ; n[k]>	指定讀寫區塊大小（預設值：64K）。
<<resume_dircount,繼續 -dircount ; n[k]>	指定讀取目錄時的要求大小。
<<resume_parallel,繼續 -parallel ; n>	指定並行批次處理程序的最大數目（預設值：7）。

參數	說明
恢復 - 保留 - 保留	將來源上的所有檔案還原至上次存取的日期。
繼續 -s3.insecure	提供選項、可在 S3 Bucket 通訊中使用 HTTP 而非 HTTPS。
<<resume_s3_endpoint,繼續 -S3.Endpoint ; S3_Endpoint URL>	以 S3 Bucket 通訊的指定 URL 覆寫預設的 Amazon Web Services (AWS) 端點 URL。
<<resume_s3_profile,繼續 -s3.profile	從 AWS 認證檔案指定用於 S3 儲存區通訊的設定檔。
繼續 -s3.noverify	覆寫 S3 Bucket 通訊的 SSL 認證預設驗證。

恢復 - BS <n[k]>

使用 -bs <n[k]> 參數 resume 指定讀寫區塊大小的命令。預設區塊大小為 64k。

語法

```
xcp resume -id <catalog_name> -bs <n[k]>
```



```
[root@localhost linux]# ./xcp resume -id ID001 -bs 32k

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
xcp: resume 'ID001': Reviewing the incomplete index...
xcp: diff 'ID001': Found 2,360 completed directories and 152 in
progress
19,440 reviewed, 1.28 MiB in (898 KiB/s), 9.77 KiB out (6.71 KiB/s),
ls.
xcp: resume 'ID001': Starting second pass for the in-progress
directories...
xcp: resume 'ID001': Resuming the in-progress directories...
xcp: resume 'ID001': Resumed command: copy {-newid: u'ID001'}
xcp: resume 'ID001': Current options: {-bs: '32k', -id: 'ID001'}
xcp: resume 'ID001': Merged options: {-bs: '32k', -id: 'ID001', -newid:
u'ID001'}
xcp: resume 'ID001': Values marked with a * include operations before
resume
44,242
MiB/s),
scanned*,
5s 24,132 copied*, 19,440 indexed*, 36.7 MiB in (7.34 MiB/s), 30.6 MiB
out (6.12
59,558
MiB/s),
59,558
scanned*,
10s
scanned*,
30,698
35,234
copied*,
copied*,
19,440
19,440
indexed*,
indexed*,
142
203
MiB
MiB
in
```

```

in
(20.9 MiB/s), 125
(12.1 MiB/s), 187
MiB
MiB
out
out
(18.8
(12.2
MiB/s),
59,558
15s
scanned*, 40,813 copied*, 19,440 indexed*, 286 MiB in (16.5 MiB/s), 269
MiB out (16.5
MiB/s),
65,126
20s
scanned*, 46,317 copied*, 24,106 indexed*, 401 MiB in (22.9 MiB/s), 382
MiB out (22.5
MiB/s),
69,214
25s
scanned*, 53,034 copied*, 29,031 indexed*, 496 MiB in (19.0 MiB/s), 476
MiB out (18.7
MiB/s),
85,438
30s
scanned*, 60,627 copied*, 53,819 indexed*, 591 MiB in (18.9 MiB/s), 569
MiB out (18.5
MiB/s),
94,647
35s
scanned*, 66,948 copied*, 53,819 indexed*, 700 MiB in (21.6 MiB/s), 679
MiB out (21.9
MiB/s),
94,647
40s
scanned*, 73,632 copied*, 53,819 indexed*, 783 MiB in (16.5 MiB/s), 761
MiB out (16.4
MiB/s),
99,683
45s
scanned*, 80,541 copied*, 58,962 indexed*, 849 MiB in (13.0 MiB/s), 824
MiB out (12.4
MiB/s), 50s
99,683

```

```

MiB/s),
scanned*,
55s
84,911 copied*, 58,962 indexed*, 1013 MiB in (32.8 MiB/s), 991 MiB out
(33.2
101,667 scanned*, 91,386 copied*, 73,849 indexed*, 1.06 GiB in (15.4
MiB/s), 1.04 GiB out (15.4
MiB/s), 1m0s
118,251 scanned*, 98,413 copied*, 89,168 indexed*, 1.13 GiB in (14.0
MiB/s), 1.11 GiB out (13.3
MiB/s), 1m5s
124,672 scanned*, 104,134 copied*, 89,168 indexed*, 1.25 GiB in (23.9
MiB/s), 1.22 GiB out (23.2
MiB/s), 1m10s
130,171 scanned*, 109,594 copied*, 94,016 indexed*, 1.38 GiB in (25.7
MiB/s), 1.35 GiB out (25.5
MiB/s), 1m15s
134,574 scanned*, 113,798 copied*, 94,016 indexed*, 1.52 GiB in (28.6
MiB/s), 1.48 GiB out (28.2
MiB/s), 1m20s
134,574 scanned*, 118,078 copied*, 94,016 indexed*, 1.64 GiB in (24.6
MiB/s), 1.61 GiB out (25.1
MiB/s), 1m25s
134,574 scanned*, 121,502 copied*, 94,016 indexed*, 1.80 GiB in (34.0
MiB/s), 1.77 GiB out (33.0
MiB/s), 1m30s
134,630 scanned*, 126,147 copied*, 104,150 indexed*, 1.88 GiB in (16.2
MiB/s), 1.86 GiB out
(17.5 MiB/s), 1m35s
134,630 scanned*, 131,830 copied*, 119,455 indexed*, 1.95 GiB in (13.6
MiB/s), 1.92 GiB out
(13.5 MiB/s), 1m41s
Xcp command : xcp resume -id ID001 -bs 32k
134,630 scanned*, 134,630 copied*, 0 modification, 0 new item, 0 delete
item, 0 error
Speed : 2.02 GiB in (19.9 MiB/s), 1.99 GiB out (19.7 MiB/s)
Total Time : 1m43s.
STATUS : PASSED

```

RESUME -dircount <n[k]>

使用 -dircount <n[k]> 參數 resume 用於指定讀取目錄時的要求大小的命令。預設值為 64k。

語法

```
xcp resume -id <catalog_name> -dircount <n[k]>
```

```

root@localhost linux]# ./xcp resume -id ID001 -dircount 32k

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
xcp: resume 'ID001': Reviewing the incomplete index...
xcp: diff 'ID001': Found 4,582 completed directories and 238 in
progress
39,520 reviewed, 2.47 MiB in (1.49 MiB/s), 12.6 KiB out (7.62 KiB/s),
1s.
xcp: resume 'ID001': Starting second pass for the in-progress
directories...
xcp: resume 'ID001': Resuming the in-progress directories...
xcp: resume 'ID001': Resumed command: copy {-newid: u'ID001'}
xcp: resume 'ID001': Current options: {-dircount: '32k', -id: 'ID001'}
xcp: resume 'ID001': Merged options: {-dircount: '32k', -id: 'ID001',
-newid: u'ID001'}
xcp: resume 'ID001': Values marked with a * include operations before
resume
76,626 scanned*, 43,825 copied*, 39,520 indexed*, 31.7 MiB in (6.33
MiB/s), 23.0 MiB out (4.60
MiB/s), 5s
79,751 scanned*, 49,942 copied*, 39,520 indexed*, 140 MiB in (21.7
MiB/s), 131 MiB out (21.5
MiB/s), 10s
79,751 scanned*, 55,901 copied*, 39,520 indexed*, 234 MiB in (18.8
MiB/s), 223 MiB out (18.3
MiB/s), 15s
79,751 scanned*, 61,764 copied*, 39,520 indexed*, 325 MiB in (18.0
MiB/s), 313 MiB out (17.9
MiB/s), 20s
84,791 scanned*, 68,129 copied*, 44,510 indexed*, 397 MiB in (14.3
MiB/s), 384 MiB out (14.2
MiB/s), 25s
94,698 scanned*, 74,741 copied*, 54,039 indexed*, 485 MiB in (17.4
MiB/s), 473 MiB out (17.8
MiB/s), 30s
99,734 scanned*, 80,110 copied*, 59,044 indexed*, 605 MiB in (24.1
MiB/s), 591 MiB out (23.7
MiB/s), 35s
104,773 scanned*, 86,288 copied*, 69,005 indexed*, 716 MiB in (22.2
MiB/s), 703 MiB out (22.3
MiB/s), 40s

```

```

110,076 scanned*, 93,265 copied*, 79,102 indexed*, 795 MiB in (15.8
MiB/s), 781 MiB out (15.5
MiB/s), 45s
121,341 scanned*, 100,077 copied*, 84,096 indexed*, 897 MiB in (20.4
MiB/s), 881 MiB out (19.9
MiB/s), 50s
125,032 scanned*, 105,712 copied*, 89,132 indexed*, 1003 MiB in (21.2
MiB/s), 985 MiB out (20.7
MiB/s), 55s
129,548 scanned*, 110,382 copied*, 89,132 indexed*, 1.14 GiB in (32.0
MiB/s), 1.12 GiB out (32.1
MiB/s), 1m0s
131,976 scanned*, 115,158 copied*, 94,221 indexed*, 1.23 GiB in (19.2
MiB/s), 1.21 GiB out (18.3
MiB/s), 1m5s
134,430 scanned*, 119,161 copied*, 94,221 indexed*, 1.37 GiB in (27.8
MiB/s), 1.35 GiB out (28.3
MiB/s), 1m10s
134,630 scanned*, 125,013 copied*, 109,402 indexed*, 1.47 GiB in (21.2
MiB/s), 1.45 GiB out
(21.4 MiB/s), 1m15s
134,630 scanned*, 129,301 copied*, 114,532 indexed*, 1.61 GiB in (29.4
MiB/s), 1.60 GiB out
(29.8 MiB/s), 1m20s
134,630 scanned*, 132,546 copied*, 124,445 indexed*, 1.69 GiB in (14.8
MiB/s), 1.67 GiB out
(15.0 MiB/s), 1m25s
Xcp command : xcp resume -id ID001 -dircount 32k
134,630 scanned*, 134,630 copied*, 0 modification, 0 new item, 0 delete
item, 0 error
Speed : 1.70 GiB in (19.7 MiB/s), 1.69 GiB out (19.5 MiB/s)
Total Time : 1m28s.
STATUS : PASSED

```

恢復平行 <n>

使用 - parallel <n> 參數 resume 命令以指定並行批次處理程序的最大數目。預設值為 7。

語法

```
xcp resume -id <catalog_name> -parallel <n>
```

```
[root@localhost linux]# ./xcp resume -id ID001 -parallel 3

xcp: Index: {source: <IP address or hostname of NFS
server>:/source_vol, target: <IP address of
destination NFS server>:/dest_vol}
xcp: resume 'ID001': Reviewing the incomplete index...
xcp: diff 'ID001': Found 2,347 completed directories and 149 in
progress
19,399 reviewed, 1.28 MiB in (659 KiB/s), 9.77 KiB out (4.93 KiB/s),
1s.
xcp: resume 'ID001': Starting second pass for the in-progress
directories...
xcp: resume 'ID001': Resuming the in-progress directories...
xcp: resume 'ID001': Resumed command: copy {-newid: u'ID001'}
xcp: resume 'ID001': Current options: {-id: 'ID001', -parallel: 3}
xcp: resume 'ID001': Merged options: {-id: 'ID001', -newid: u'ID001',
-parallel: 3}
xcp: resume 'ID001': Values marked with a * include operations before
resume
39,610 scanned*, 23,642 copied*, 19,399 indexed*, 56.3 MiB in (11.2
MiB/s), 45.8 MiB out (9.15
MiB/s), 5s
39,610 scanned*, 28,980 copied*, 19,399 indexed*, 145 MiB in (17.6
MiB/s), 134 MiB out (17.6
MiB/s), 10s
48,111 scanned*, 34,782 copied*, 34,042 indexed*, 223 MiB in (15.8
MiB/s), 212 MiB out (15.7
MiB/s), 15s
55,412 scanned*, 40,468 copied*, 34,042 indexed*, 317 MiB in (18.4
MiB/s), 304 MiB out (18.1
MiB/s), 21s
59,639 scanned*, 46,980 copied*, 39,032 indexed*, 390 MiB in (14.6
MiB/s), 377 MiB out (14.5
MiB/s), 26s
69,520 scanned*, 55,251 copied*, 49,006 indexed*, 438 MiB in (9.59
MiB/s), 423 MiB out (9.21
MiB/s), 31s
78,596 scanned*, 62,054 copied*, 59,001 indexed*, 492 MiB in (10.7
MiB/s), 476 MiB out (10.6
MiB/s), 36s
79,673 scanned*, 68,163 copied*, 59,001 indexed*, 610 MiB in (23.5
MiB/s), 593 MiB out (23.5
MiB/s), 41s
```

```

84,600 scanned*, 74,238 copied*, 64,150 indexed*, 723 MiB in (22.5
MiB/s), 705 MiB out (22.3
MiB/s), 46s
94,525 scanned*, 80,754 copied*, 74,157 indexed*, 807 MiB in (16.7
MiB/s), 788 MiB out (16.4
MiB/s), 51s
94,525 scanned*, 85,119 copied*, 74,157 indexed*, 1007 MiB in (39.9
MiB/s), 988 MiB out (39.9
MiB/s), 56s
09,514 scanned*, 93,474 copied*, 89,192 indexed*, 1.08 GiB in (20.7
MiB/s), 1.06 GiB out (20.2
MiB/s), 1m1s
111,953 scanned*, 100,639 copied*, 94,248 indexed*, 1.18 GiB in (19.3
MiB/s), 1.16 GiB out (19.2
MiB/s), 1m6s
114,605 scanned*, 105,958 copied*, 94,248 indexed*, 1.36 GiB in (36.8
MiB/s), 1.34 GiB out (36.6
MiB/s), 1m11s
124,531 scanned*, 112,340 copied*, 104,275 indexed*, 1.51 GiB in (29.8
MiB/s), 1.48 GiB out
(29.4 MiB/s), 1m16s
129,694 scanned*, 117,218 copied*, 109,236 indexed*, 1.67 GiB in (33.2
MiB/s), 1.65 GiB out
(33.1 MiB/s), 1m21s
131,753 scanned*, 123,850 copied*, 114,358 indexed*, 1.80 GiB in (25.9
MiB/s), 1.77 GiB out
(25.9 MiB/s), 1m26s
134,630 scanned*, 130,829 copied*, 124,437 indexed*, 1.85 GiB in (11.2
MiB/s), 1.83 GiB out
(11.2 MiB/s), 1m31s
Xcp command : xcp resume -id ID001 -parallel 3
134,630 scanned*, 134,630 copied*, 0 modification, 0 new item, 0 delete
item, 0 error
Speed : 2.02 GiB in (21.6 MiB/s), 2.00 GiB out (21.3 MiB/s)
Total Time : 1m35s.
STATUS : PASSED

```

恢復 - 保留 - 保留

使用 `-preserve-atime` 參數 `resume` 命令將所有檔案還原至來源上上次存取的日子。

- `-preserve-atime` 參數會將存取時間重設為 XCP 讀取作業之前設定的原始值。

語法

```
xcp resume -id <catalog_name> -preserve-ptime
```

顯示範例

```
root@client1 linux]# ./xcp resume -preserve-ptime -id XCP_copy_2022-06-30_14.22.53.742272

xcp: Job ID: Job_XCP_copy_2022-06-30_14.22.53.742272_2022-06-30_14.37.07.746208_resume
xcp: Index: {source: 101.10.10.12:/source_vol, target: 10.102.102.70:/dest_vol}
xcp: Tune: Previous operation on id 'XCP_copy_2022-06-30_14.22.53.742272' already completed;
nothing to resume
0 in (0/s), 0 out (0/s), 6s
Xcp command : xcp resume -preserve-ptime -id XCP_copy_2022-06-30_14.22.53.742272
Stats :
Speed : 0 in (0/s), 0 out (0/s)
Total Time : 6s.
Migration ID: XCP_copy_2022-06-30_14.22.53.742272
Job ID : Job_XCP_copy_2022-06-30_14.22.53.742272_2022-06-30_14.37.07.746208_resume
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2022-06-30_14.22.53.742272_2022-06-30_14.37.07.746208_resume.log
STATUS : PASSED
```

繼續 **-s3.insecure**

使用 **-s3.insecure** 參數 resume 命令使用 HTTP 取代 HTTPS 進行 S3 儲存區通訊。



如果是 **-s3.insecure** 參數用於 copy 命令、在恢復時會忽略。您必須指定 **-s3.insecure** 再次使用恢復選項。

語法

```
xcp resume -s3.insecure -id <catalog_name>
```

```

root@client1 linux]# ./xcp resume -s3.insecure -id XCP_copy_2023-06-08_10.31.47.381883

Job ID: Job_XCP_copy_2023-06-08_10.31.47.381883_2023-06-08_10.34.02.964143_resume
Index: {source: 1 hdfs:///user/demo, target: s3://bucket1/}
Reviewing the incomplete index...
Found 0 completed directories and 2 in progress
4,009 reviewed, 88.7 KiB in (76.1 KiB/s), 332 out (285/s), 1s.
4,009 reviewed, 90.9 KiB in (77.6 KiB/s), 2.44 KiB out (2.08 KiB/s), 1s.
Starting second pass for the in-progress directories...
4,009 reviewed, 4,009 re-reviewed, 179 KiB in (130 KiB/s), 2.72 KiB out (1.98 KiB/s), 1s.
9,008 scanned*, 4,540 copied*, 4,009 indexed*, 534 KiB
s3.data.uploaded, 534
s3.copied.single.key.file, 534 s3.copied.file, 2.28 MiB in (464 KiB/s), 631 KiB out (126 KiB/s), 5s
9,008 scanned*, 5,551 copied*, 4,009 indexed*, 1.51 MiB
s3.data.uploaded, 1,544
s3.copied.single.key.file, 1,544 s3.copied.file, 3.38 MiB in (222 KiB/s), 1.74 MiB out (226 KiB/s), 10s
9,008 scanned*, 6,596 copied*, 4,009 indexed*, 2.53 MiB
s3.data.uploaded, 2,595
s3.copied.single.key.file, 2,595 s3.copied.file, 4.55 MiB in (235 KiB/s), 2.91 MiB out (236 KiB/s), 15s
9,008 scanned*, 7,658 copied*, 4,009 indexed*, 3.57 MiB
s3.data.uploaded, 3,652
s3.copied.single.key.file, 3,652 s3.copied.file, 5.71 MiB in (234 KiB/s), 4.09 MiB out (238 KiB/s), 20s
9,008 scanned*, 8,711 copied*, 4,009 indexed*, 4.60 MiB
s3.data.uploaded, 4,706
s3.copied.single.key.file, 4,706 s3.copied.file, 6.88 MiB in (235 KiB/s), 5.26 MiB out (236 KiB/s), 25s
Xcp command : xcp resume -s3.insecure -id XCP_copy_2023-06-08_10.31.47.381883
Stats : 9,008 scanned*, 9,006 copied*, 9,009 indexed*, 4.88 MiB
s3.data.uploaded, 4,996

```

```
s3.copied.single.key.file, 4,996 s3.copied.file
Speed : 7.10 MiB in (270 KiB/s), 5.76 MiB out (219 KiB/s)
Total Time : 26s.
Migration ID: XCP_copy_2023-06-08_10.31.47.381883
Job ID : Job_XCP_copy_2023-06-08_10.31.47.381883_2023-06-
08_10.34.02.964143_resume
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2023-06-
08_10.31.47.381883_2023-06-
08_10.34.02.964143_resume.log
STATUS : PASSED
```

繼續 **-S3.Endpoint <s3_endpoint_url>**

使用 `-s3.endpoint <s3_endpoint_url>` 參數 `resume` 命令以 S3 Bucket 通訊的指定 URL 覆寫預設 AWS 端點 URL。



根據預設、RESUME 會使用複製作業期間指定的 S3 設定檔和 S3 端點。不過、如果您在恢復時指定新的 S3 端點和 S3 設定檔、它會覆寫與搭配使用的預設值 `copy` 命令。

語法

```
xcp resume -s3.profile <profile_name> -s3.endpoint https://<endpoint_url>:
-id <catalog_name>
```

```
[root@client1 linux]# ./xcp resume -id XCP_copy_2023-06-13_11.48.59.454327

Job ID: Job_XCP_copy_2023-06-13_11.48.59.454327_2023-06-13_11.49.34.887164_resume
Index: {source: hdfs:///user/demo, target: s3://xcp-testing/}
Reviewing the incomplete index...
Found 0 completed directories and 2 in progress
9 reviewed, 4.53 KiB in (2.47 KiB/s), 188 out (102/s), 1s.
9 reviewed, 6.81 KiB in (3.70 KiB/s), 2.30 KiB out (1.25 KiB/s), 1s.
Starting second pass for the in-progress directories...
9 reviewed, 9 re-reviewed, 10.9 KiB in (5.65 KiB/s), 2.44 KiB out (1.26 KiB/s), 1s.
15,008 scanned*, 1,532 copied*, 9 indexed*, 1.50 MiB s3.data.uploaded, 1,539
s3.copied.single.key.file, 1,539 s3.copied.file, 4.64 MiB in (946 KiB/s), 1.77 MiB out (360 KiB/s), 6s
15,008 scanned*, 4,764 copied*, 9 indexed*, 4.67 MiB s3.data.uploaded, 4,784
s3.copied.single.key.file, 4,784 s3.copied.file, 8.21 MiB in (727 KiB/s), 5.38 MiB out (736 KiB/s), 11s
15,008 scanned*, 7,928 copied*, 9 indexed*, 7.75 MiB s3.data.uploaded, 7,935
5,008 scanned*, 7,928 copied*, 9 indexed*, 7.75 MiB s3.data.uploaded, 7,935
s3.copied.single.key.file, 7,935 s3.copied.file, 11.7 MiB in (703 KiB/s), 8.89 MiB out (708 KiB/s), 16s
15,008 scanned*, 10,863 copied*, 9 indexed*, 10.6 MiB s3.data.uploaded, 10,864
s3.copied.single.key.file, 10,864 s3.copied.file, 14.9 MiB in (660 KiB/s), 12.2 MiB out (664 KiB/s), 21s
15,008 scanned*, 14,060 copied*, 9 indexed*, 13.7 MiB s3.data.uploaded, 14,076
s3.copied.single.key.file, 14,076 s3.copied.file, 18.5 MiB in (716 KiB/s), 15.7 MiB out (725 KiB/s), 26s
Xcp command : xcp resume -id XCP_copy_2023-06-13_11.48.59.454327
Stats : 15,008 scanned*, 15,006 copied*, 15,009 indexed*, 14.6 MiB s3.data.uploaded,
```

```
14,996 s3.copied.single.key.file, 14,996 s3.copied.file
Speed : 19.2 MiB in (708 KiB/s), 17.1 MiB out (631 KiB/s)
Total Time : 27s.
Migration ID: XCP_copy_2023-06-13_11.48.59.454327
Job ID : Job_XCP_copy_2023-06-13_11.48.59.454327_2023-06-
13_11.49.34.887164_resume
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2023-06-
13_11.48.59.454327_2023-06-
13_11.49.34.887164_resume.log
STATUS : PASSED
```

繼續 **s3.profile <profile_name>**

使用 `-s3.profile <profile_name>` 參數 `resume` 命令、從 AWS 認證檔案中指定用於 S3 儲存區通訊的設定檔。



根據預設、RESUME 會使用複製作業期間指定的 S3 設定檔和 S3 端點。不過、如果您在恢復時指定新的 S3 端點和 S3 設定檔、它會覆寫與搭配使用的預設值 `copy` 命令。

語法

```
xcp resume -s3.profile <name> -s3.endpoint -id <catalog_name>
```

```

[root@client1 linux]# ./xcp resume -s3.profile sg -s3.endpoint
https://<endpoint_url>: -id
XCP_copy_2023-06-08_10.40.42.519258

Job ID: Job_XCP_copy_2023-06-08_10.40.42.519258_2023-06-
08_10.52.18.453982_resume
Index: {source: hdfs:///user/demo target: s3://xxx-bucket/
Reviewing the incomplete index...
Found 0 completed directories and 2 in progress
9 reviewed, 4.53 KiB in (3.03 KiB/s), 188 out (126/s), 1s.
9 reviewed, 6.81 KiB in (4.52 KiB/s), 2.30 KiB out (1.53 KiB/s), 1s.
Starting second pass for the in-progress directories...
9 reviewed, 9 re-reviewed, 10.9 KiB in (6.76 KiB/s), 2.44 KiB out (1.51
KiB/s), 1s.
15,008 scanned*, 1,660 copied*, 9 indexed*, 1.64 MiB s3.data.uploaded,
1,675
s3.copied.single.key.file, 1,675 s3.copied.file, 4.75 MiB in (971
KiB/s), 1.92 MiB out (392
KiB/s), 5s
15,008 scanned*, 3,453 copied*, 9 indexed*, 3.39 MiB s3.data.uploaded,
3,467
s3.copied.single.key.file, 3,467 s3.copied.file, 6.79 MiB in (412
KiB/s), 3.91 MiB out (403
KiB/s), 10s
15,008 scanned*, 6,296 copied*, 9 indexed*, 6.16 MiB s3.data.uploaded,
6,305
s3.copied.single.key.file, 6,305 s3.copied.file, 9.86 MiB in (619
KiB/s), 7.08 MiB out (637
KiB/s), 15s
15,008 scanned*, 9,527 copied*, 9 indexed*, 9.33 MiB s3.data.uploaded,
9,554
s3.copied.single.key.file, 9,554 s3.copied.file, 13.4 MiB in (717
KiB/s), 10.7 MiB out (726
KiB/s), 20s
15,008 scanned*, 12,656 copied*, 9 indexed*, 12.4 MiB s3.data.uploaded,
12,648
s3.copied.single.key.file, 12,648 s3.copied.file, 16.9 MiB in (715
KiB/s), 14.1 MiB out (706
KiB/s), 25s
Xcp command : xcp resume -s3.profile sg -s3.endpoint
https://<endpoint_url>: -id XCP_copy_2023-
06-08_10.40.42.519258
Stats : 15,008 scanned*, 15,006 copied*, 15,009 indexed*, 14.6 MiB

```

```
s3.data.uploaded,  
14,996 s3.copied.single.key.file, 14,996 s3.copied.file  
Speed : 19.2 MiB in (661 KiB/s), 17.1 MiB out (590 KiB/s)  
Total Time : 29s.  
Migration ID: XCP_copy_2023-06-08_10.40.42.519258  
Job ID : Job_XCP_copy_2023-06-08_10.40.42.519258_2023-06-  
08_10.52.18.453982_resume  
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2023-06-  
08_10.40.42.519258_2023-06-  
08_10.52.18.453982_resume.log  
STATUS : PASSED
```

繼續 **-s3.noverify**

使用 `-s3.noverify` 參數 `resume` 用於覆寫 S3 儲存區通訊之 SSL 憑證預設驗證的命令。

語法

```
xcp resume -s3.noverify -id <catalog_name>
```

```
[root@client1 linux]# ./xcp resume -s3.noverify -id XCP_copy_2023-06-13_11.32.47.743708

Job ID: Job_XCP_copy_2023-06-13_11.32.47.743708_2023-06-13_11.33.41.388541_resume
Index: {source: hdfs:///user/demo, target: s3://bucket/
Reviewing the incomplete index...
Found 0 completed directories and 2 in progress
9 reviewed, 4.53 KiB in (3.70 KiB/s), 188 out (153/s), 1s.
9 reviewed, 6.81 KiB in (5.52 KiB/s), 2.30 KiB out (1.87 KiB/s), 1s.
Starting second pass for the in-progress directories...
9 reviewed, 9 re-reviewed, 10.9 KiB in (8.19 KiB/s), 2.44 KiB out (1.83 KiB/s), 1s.
15,008 scanned*, 1,643 copied*, 9 indexed*, 1.62 MiB s3.data.uploaded, 1,662
s3.copied.single.key.file, 1,662 s3.copied.file, 4.78 MiB in (969 KiB/s), 1.90 MiB out (385 KiB/s), 5s
15,008 scanned*, 4,897 copied*, 9 indexed*, 4.78 MiB s3.data.uploaded, 4,892
s3.copied.single.key.file, 4,892 s3.copied.file, 8.38 MiB in (735 KiB/s), 5.50 MiB out (737 KiB/s), 10s
15,008 scanned*, 8,034 copied*, 9 indexed*, 7.86 MiB s3.data.uploaded, 8,048
s3.copied.single.key.file, 8,048 s3.copied.file, 11.8 MiB in (696 KiB/s), 9.02 MiB out (708 KiB/s), 15s
15,008 scanned*, 11,243 copied*, 9 indexed*, 11.0 MiB s3.data.uploaded, 11,258
s3.copied.single.key.file, 11,258 s3.copied.file, 15.3 MiB in (709 KiB/s), 12.6 MiB out (724 KiB/s), 20s
15,008 scanned*, 14,185 copied*, 9 indexed*, 13.9 MiB s3.data.uploaded, 14,195
s3.copied.single.key.file, 14,195 s3.copied.file, 18.6 MiB in (662 KiB/s), 15.9 MiB out (660 KiB/s), 25s
Xcp command : xcp resume -s3.noverify -id XCP_copy_2023-06-13_11.32.47.743708
Stats : 15,008 scanned*, 15,006 copied*, 15,009 indexed*, 14.6 MiB s3.data.uploaded, 14,996 s3.copied.single.key.file, 14,996 s3.copied.file
```



```
Speed : 19.2 MiB in (736 KiB/s), 17.1 MiB out (657 KiB/s)
Total Time : 26s.
Migration ID: XCP_copy_2023-06-13_11.32.47.743708
Job ID : Job_XCP_copy_2023-06-13_11.32.47.743708_2023-06-13_11.33.41.388541_resume
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_XCP_copy_2023-06-13_11.32.47.743708_2023-06-13_11.33.41.388541_resume.log
STATUS : PASSED
```

驗證

◦ `verify` 命令會在複製作業之後、在來源目錄和目標目錄之間使用每位元組的完整資料比較、而無需使用目錄索引編號。此命令會檢查修改時間及其他檔案或目錄屬性、包括權限。命令也會讀取兩側的檔案、並比較資料。

語法

```
xcp verify <source NFS export path> <destination NFS exportpath>
```

```
[root@localhost linux]# ./xcp verify <IP address of NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_verify_2020-03-
04_23.54.40.893449
32,493 scanned, 11,303 found, 7,100 compared, 7,100 same data, 374 MiB
in (74.7 MiB/s), 4.74 MiB
out (971 KiB/s), 5s
40,109 scanned, 24,208 found, 18,866 compared, 18,866 same data, 834
MiB in (91.5 MiB/s), 10.5
MiB out (1.14 MiB/s), 10s
56,030 scanned, 14,623 indexed, 33,338 found, 27,624 compared, 27,624
same data, 1.31 GiB in
(101 MiB/s), 15.9 MiB out (1.07 MiB/s), 15s
73,938 scanned, 34,717 indexed, 45,583 found, 38,909 compared, 38,909
same data, 1.73 GiB in
(86.3 MiB/s), 22.8 MiB out (1.38 MiB/s), 20s
76,308 scanned, 39,719 indexed, 61,810 found, 54,885 compared, 54,885
same data, 2.04 GiB in
(62.8 MiB/s), 30.2 MiB out (1.48 MiB/s), 25s
103,852 scanned, 64,606 indexed, 77,823 found, 68,301 compared, 68,301
same data, 2.31 GiB in
(56.0 MiB/s), 38.2 MiB out (1.60 MiB/s), 30s
110,047 scanned, 69,579 indexed, 89,082 found, 78,794 compared, 78,794
same data, 2.73 GiB in
(85.6 MiB/s), 43.6 MiB out (1.06 MiB/s), 35s
113,871 scanned, 79,650 indexed, 99,657 found, 89,093 compared, 89,093
same data, 3.23 GiB in
(103 MiB/s), 49.3 MiB out (1.14 MiB/s), 40s
125,092 scanned, 94,616 indexed, 110,406 found, 98,369 compared, 98,369
same data, 3.74 GiB in
(103 MiB/s), 55.0 MiB out (1.15 MiB/s), 45s
134,630 scanned, 104,764 indexed, 120,506 found, 106,732 compared,
106,732 same data, 4.23 GiB
in (99.9 MiB/s), 60.4 MiB out (1.05 MiB/s), 50s
134,630 scanned, 114,823 indexed, 129,832 found, 116,198 compared,
116,198 same data, 4.71 GiB
in (97.2 MiB/s), 65.5 MiB out (1.04 MiB/s), 55s
Xcp command : xcp verify <IP address of NFS server>:/source_vol <IP
address of destination NFS
server>:/dest_vol
134,630 scanned, 0 matched, 100% found (121,150 have data), 100%
```

```
verified (data, attrs, mods), 0
different item, 0 error
Speed : 4.95 GiB in (86.4 MiB/s), 69.2 MiB out (1.18 MiB/s)
Total Time : 58s.
STATUS : PASSED
```

下表列出 `verify` 參數及其說明。

參數	說明
驗證 -stats	平行掃描來源和目標樹、並比較樹狀結構統計資料。
驗證 -csv	平行掃描來源和目標樹、並比較樹狀結構統計資料。
驗證 -nodata	不檢查資料。
驗證 -noatts	不檢查屬性。
驗證 -nomods	不會檢查檔案修改時間。
驗證 -mtimeWindow	指定可接受的修改時間差異以進行驗證。
驗證 -v	擷取輸出格式以列出找到的任何差異。
驗證 -l	擷取輸出格式以列出找到的任何差異。
驗證 -nonames	從檔案清單或報告中排除使用者和群組名稱。
驗證 -MATCH	僅處理符合格式的檔案和目錄。
<<nfs_verify_bs,驗證 -BS ; n[k]>	指定讀寫區塊大小（預設值：64K）。
<<nfs_verify_parallel,驗證 -parallel ; n>	指定並行批次處理程序的最大數目（預設值：7）。
<<nfs_verify_dircount,驗證 -dircount ; n[k]>	指定讀取目錄時的要求大小。
驗證 -nold	停用預設索引的建立（預設值：false）。
驗證 -preserve-atime	將來源上的所有檔案還原至上次存取的日期。
驗證 -s3.insecure	提供選項、可在 S3 Bucket 通訊中使用 HTTP 而非 HTTPS。
<<nfs_verify_s3_endpoint,驗證 -s3.Endpoint ; s3_Endpoint URL>	以 S3 Bucket 通訊的指定 URL 覆寫預設的 Amazon Web Services（AWS）端點 URL。
<<nfs_verify_s3_profile,驗證 -s3.profile ; profile 名稱>	從 AWS 認證檔案指定用於 S3 儲存區通訊的設定檔。
驗證 -s3.noverify	覆寫 S3 Bucket 通訊的 SSL 認證預設驗證。

驗證 [-stats](#) 並驗證 [-csv](#)

使用 `-stats` 和 `-csv` 的參數 `verify` 用於平行掃描來源和目標樹的命令、並比較樹狀結構統計資料。

語法

```
cp verify -stats <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

```

[root@localhost linux]# ./xcp verify -stats
<source_ip_address>:/source_vol <destination_ip_address>:/dest_vol

228,609 scanned, 49.7 MiB in (9.93 MiB/s), 3.06 MiB out (625 KiB/s), 5s
== Number of files ==
empty <8KiB 8-64KiB 64KiB-1MiB 1-10MiB 10-100MiB >100MiB
235 73,916 43,070 4,020 129 15
same same same same same same
== Directory entries ==
empty 1-10 10-100 100-1K 1K-10K >10K
3
same
10,300
same
2,727
same
67
same
11
same
== Depth ==
0-5 6-10 11-15 16-20 21-100 >100
47,120
same
79,772
same
7,608
same
130
same
== Modified ==
>1 year >1 month 1-31 days 1-24 hrs <1 hour <15 mins future
15
same 116,121
same 5,249
same
Total count: 134,630 / same
Directories: 13,108 / same
Regular files: 121,385 / same
Symbolic links: 137 / same
Special files: None / same
Hard links: None / same, Multilink files: None / same
Xcp command : xcp verify -stats <source_ip_address>:/source_vol

```

```
<<destination_ip_address>:/dest_vol  
269,260 scanned, 0 matched, 0 error  
Speed : 59.5 MiB in (7.44 MiB/s), 3.94 MiB out (506 KiB/s)  
Total Time : 7s.  
STATUS : PASSED
```

語法

```
xcp verify -csv <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

```

[root@localhost linux]# ./xcp verify -csv
<source_ip_address>:/source_vol <destination_ip_address>:/dest_vol

222,028 scanned, 48.2 MiB in (9.63 MiB/s), 2.95 MiB out (603 KiB/s), 5s
== Number of files ==
empty
235
same      <8KiB 73,916
same      8-64KiB
43,070
same      64KiB-1MiB
4,020
same      1-10MiB
129
same      10-100MiB   >100MiB
15
same
== Directory entries ==
empty    1-10    10-100  100-1K  1K-10K  >10K
3
same     10,300
same     2,727
same     67
same     11
same
== Depth ==
0-5
6-10
11-15
16-20
21-100
>100
47,120
same     79,772
same     7,608
same     130
same
== Modified ==
>1 year  >1 month
1-31 days
1-24 hrs
<1 hour
<15 mins

```

```
future
```

```
15
```

```
same    121,370
```

```
same
```

```
Total count: 134,630 / same Directories: 13,108 / same Regular files:
121,385 / same Symbolic links: 137 / same Special files: None / same
Hard links: None / same, Multilink files: None / same
```

```
Xcp command : xcp verify -csv <source_ip_address>:/source_vol
```

```
<destination_ip_address>:/dest_vol
```

```
269,260 scanned, 0 matched, 0 error
```

```
Speed      : 59.5 MiB in (7.53 MiB/s), 3.94 MiB out (512 KiB/s) Total Time
: 7s.
```

```
STATUS     : PASSED
```

語法

```
xcp verify -stats -csv <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
```



```

[root@localhost linux]# ./xcp verify -stats -csv <IP address of source
NFS server>:/source_vol <IP
address of destination NFS server>:/dest_vol

224,618 scanned, 48.7 MiB in (9.54 MiB/s), 2.98 MiB out (597 KiB/s), 5s
== Number of files ==
empty <8KiB 8-64KiB 64KiB-1MiB 1-10MiB 10-100MiB >100MiB
235 73,916 43,070 4,020 129 15
same same same same same same
== Directory entries ==
empty 1-10 10-100 100-1K 1K-10K >10K
3
same
10,300
same
2,727
same
67
same
11
same
== Depth ==
0-5 6-10 11-15 16-20 21-100 >100
47,120
same
79,772
same
7,608
same
130
same
== Modified ==
>1 year >1 month 1-31 days 1-24 hrs <1 hour <15 mins future
15
same 121,370
same
Total count: 134,630 / same
Directories: 13,108 / same
Regular files: 121,385 / same
Symbolic links: 137 / same
Special files: None / same
Hard links: None / same, Multilink files: None / same
Xcp command : xcp verify -stats -csv <IP address of source NFS

```

```
server>:/source_vol <IP
address of destination NFS server>:/dest_vol
269,260 scanned, 0 matched, 0 error
Speed : 59.5 MiB in (7.49 MiB/s), 3.94 MiB out (509 KiB/s)
Total Time : 7s.
STATUS : PASSED
```

驗證 -nodata

使用 -nodata 參數 verify 指定不檢查資料的命令。

語法

```
xcp verify -nodata <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
```

顯示範例

```
[root@localhost linux]# ./xcp verify -nodata <IP address of source NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_verify_2020-03-
05_02.18.01.159115
70,052 scanned, 29,795 indexed, 43,246 found, 25.8 MiB in (5.14 MiB/s),
9.39 MiB out
(1.87 MiB/s), 5s
117,136 scanned, 94,723 indexed, 101,434 found, 50.3 MiB in (4.90
MiB/s), 22.4 MiB out (2.60
MiB/s), 10s
Xcp command : xcp verify -nodata <IP address of source NFS
server>:/source_vol <IP address of
destination NFS server>:/dest_vol
134,630 scanned, 0 matched, 100% found (121,150 have data), 100%
verified (attrs, mods), 0
different item, 0 error
Speed : 62.7 MiB in (4.65 MiB/s), 30.2 MiB out (2.24MiB/s)
Total Time : 13s.
STATUS : PASSED
```

驗證 -noattrs

使用 -noattrs 參數 verify 指定不檢查屬性的命令。

語法

```
xcp verify -noattrs <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

```
[root@localhost linux]# ./xcp verify -noattrs <IP address of source NFS
server>:/source_vol <IP address
of destination NFS server>:/dest_vol
```

```
xcp: WARNING: No index name has been specified, creating one with name:
autoname_verify_2020-03-05_02.19.14.011569
```

```
40,397 scanned, 9,917 found, 4,249 compared, 4,249 same data, 211 MiB
in (41.6 MiB/s), 3.78 MiB
out (764 KiB/s), 5s
40,397 scanned, 14,533 found, 8,867 compared, 8,867 same data, 475 MiB
in (52.9 MiB/s), 6.06 MiB
out (466 KiB/s), 10s
40,397 scanned, 20,724 found, 15,038 compared, 15,038 same data, 811
MiB in (67.0 MiB/s), 9.13
MiB out (628 KiB/s), 15s
40,397 scanned, 25,659 found, 19,928 compared, 19,928 same data, 1.02
GiB in (46.6 MiB/s), 11.5
MiB out (477 KiB/s), 20s
40,397 scanned, 30,535 found, 24,803 compared, 24,803 same data, 1.32
GiB in (62.0 MiB/s), 14.0
MiB out (513 KiB/s), 25s
75,179 scanned, 34,656 indexed, 39,727 found, 32,595 compared, 32,595
same data, 1.58 GiB in
(53.4 MiB/s), 20.1 MiB out (1.22 MiB/s), 30s
75,179 scanned, 34,656 indexed, 47,680 found, 40,371 compared, 40,371
same data, 1.74 GiB in
(32.3 MiB/s), 23.6 MiB out (717 KiB/s), 35s
75,179 scanned, 34,656 indexed, 58,669 found, 51,524 compared, 51,524
same data, 1.93 GiB in
(37.9 MiB/s), 28.4 MiB out (989 KiB/s), 40s
78,097 scanned, 39,772 indexed, 69,343 found, 61,858 compared, 61,858
same data, 2.12 GiB in
(39.0 MiB/s), 33.4 MiB out (1015 KiB/s), 45s
110,213 scanned, 69,593 indexed, 80,049 found, 69,565 compared, 69,565
same data, 2.37 GiB in
(51.3 MiB/s), 39.3 MiB out (1.18 MiB/s), 50s
110,213 scanned, 69,593 indexed, 86,233 found, 75,727 compared, 75,727
same data, 2.65 GiB in
(57.8 MiB/s), 42.3 MiB out (612 KiB/s), 55s
110,213 scanned, 69,593 indexed, 93,710 found, 83,218 compared, 83,218
same data, 2.93 GiB in
(56.1 MiB/s), 45.8 MiB out (705 KiB/s), 1m0s
110,213 scanned, 69,593 indexed, 99,700 found, 89,364 compared, 89,364
```

```

same data, 3.20 GiB in
(56.9 MiB/s), 48.7 MiB out (593 KiB/s), 1m5s
124,888 scanned, 94,661 indexed, 107,509 found, 95,304 compared, 95,304
same data, 3.54 GiB in
(68.6 MiB/s), 53.5 MiB out (1000 KiB/s), 1m10s
134,630 scanned, 104,739 indexed, 116,494 found, 102,792 compared,
102,792 same data, 3.94 GiB
in (81.7 MiB/s), 58.2 MiB out (949 KiB/s), 1m15s
134,630 scanned, 104,739 indexed, 123,475 found, 109,601 compared,
109,601 same data, 4.28 GiB
in (70.0 MiB/s), 61.7 MiB out (711 KiB/s), 1m20s
134,630 scanned, 104,739 indexed, 129,354 found, 115,295 compared,
115,295 same data, 4.55 GiB
in (55.3 MiB/s), 64.5 MiB out (572 KiB/s), 1m25s
Xcp command : xcp verify -noattrs <IP address of source NFS
server>:/source_vol <IP address
of destination NFS server>:/dest_vol
134,630 scanned, 0 matched, 100% found (121,150 have data), 100%
verified (data, mods), 0
different item, 0 error
Speed : 4.95 GiB in (56.5 MiB/s), 69.2 MiB out (789 KiB/s)
Total Time : 1m29s.
STATUS : PASSED

```

驗證 -nomods

使用 -nomods 參數 verify 指定不檢查檔案修改時間的命令。

語法

```

xcp verify -nomods <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol

```

```
[root@localhost linux]# ./xcp verify -nomods <IP address of NFS
server>:/source_vol <IP address of
destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_verify_2020-03-
05_02.22.33.738593
40,371 scanned, 10,859 found, 5,401 compared, 5,401 same data, 296 MiB
in (59.1 MiB/s), 4.29 MiB
out (876 KiB/s), 5s
40,371 scanned, 22,542 found, 17,167 compared, 17,167 same data, 743
MiB in (88.9 MiB/s), 9.67
MiB out (1.07 MiB/s), 10s
43,521 scanned, 4,706 indexed, 32,166 found, 26,676 compared, 26,676
same data, 1.17 GiB in
(91.3 MiB/s), 14.5 MiB out (996 KiB/s), 15s
70,260 scanned, 29,715 indexed, 43,680 found, 37,146 compared, 37,146
same data, 1.64 GiB in
(96.0 MiB/s), 21.5 MiB out (1.38 MiB/s), 20s
75,160 scanned, 34,722 indexed, 60,079 found, 52,820 compared, 52,820
same data, 2.01 GiB in
(74.4 MiB/s), 29.1 MiB out (1.51 MiB/s), 25s
102,874 scanned, 69,594 indexed, 77,322 found, 67,907 compared, 67,907
same data, 2.36 GiB in
(71.2 MiB/s), 38.3 MiB out (1.85 MiB/s), 30s
110,284 scanned, 69,594 indexed, 89,143 found, 78,952 compared, 78,952
same data, 2.82 GiB in
(92.8 MiB/s), 43.9 MiB out (1.08 MiB/s), 35s
112,108 scanned, 79,575 indexed, 100,228 found, 89,856 compared, 89,856
same data, 3.25 GiB in
(89.3 MiB/s), 49.6 MiB out (1.15 MiB/s), 40s
128,122 scanned, 99,743 indexed, 111,358 found, 98,663 compared, 98,663
same data, 3.80 GiB in
(112 MiB/s), 55.8 MiB out (1.24 MiB/s), 45s
134,630 scanned, 104,738 indexed, 123,253 found, 109,472 compared,
109,472 same data, 4.36 GiB
in (114 MiB/s), 61.7 MiB out (1.16 MiB/s), 50s
134,630 scanned, 119,809 indexed, 133,569 found, 120,008 compared,
120,008 same data, 4.94 GiB
in (115 MiB/s), 67.8 MiB out (1.20 MiB/s), 55s]

Xcp command : xcp verify -nomods <IP address of NFS server>:/source_vol
<IP address of destination NFS server>:/dest_vol
134,630 scanned, 0 matched, 100% found (121,150 have data), 100%
```

```
verified (data, attrs), 0  
different item, 0 error  
Speed : 4.95 GiB in (90.5 MiB/s), 69.2 MiB out (1.24 MiB/s)  
Total Time : 56s.  
STATUS : PASSED
```

驗證 **-mtimeWindow <s>**

使用 `-mtimewindow <s>` 參數 `verify` 命令以指定可接受的修改時間差異以進行驗證。

語法

```
xcp verify -mtimewindow <s> <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

```
[root@localhost linux]# ./xcp verify -mtimewindow 2 <IP address of NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_verify_2020-03-
06_02.26.03.797492
27,630 scanned, 9,430 found, 5,630 compared, 5,630 same data, 322 MiB
in (64.1 MiB/s), 3.91 MiB
out (798 KiB/s), 5s
38,478 scanned, 19,840 found, 14,776 compared, 14,776 same data, 811
MiB in (97.8 MiB/s), 8.86
MiB out (1012 KiB/s), 10s
55,304 scanned, 14,660 indexed, 29,893 found, 23,904 compared, 23,904
same data, 1.33 GiB in
(109 MiB/s), 14.6 MiB out (1.14 MiB/s), 15s
64,758 scanned, 24,700 indexed, 43,133 found, 36,532 compared, 36,532
same data, 1.65 GiB in
(65.3 MiB/s), 21.0 MiB out (1.28 MiB/s), 20s
75,317 scanned, 34,655 indexed, 56,020 found, 48,942 compared, 48,942
same data, 2.01 GiB in
(72.5 MiB/s), 27.4 MiB out (1.25 MiB/s), 25s
95,024 scanned, 54,533 indexed, 70,675 found, 61,886 compared, 61,886
same data, 2.41 GiB in
(81.3 MiB/s), 34.9 MiB out (1.49 MiB/s), 30s
102,407 scanned, 64,598 indexed, 85,539 found, 76,158 compared, 76,158
same data, 2.74 GiB in
(67.3 MiB/s), 42.0 MiB out (1.42 MiB/s), 35s
113,209 scanned, 74,661 indexed, 97,126 found, 86,525 compared, 86,525
same data, 3.09 GiB in
(72.6 MiB/s), 48.0 MiB out (1.19 MiB/s), 40s
125,040 scanned, 84,710 indexed, 108,480 found, 96,253 compared, 96,253
same data, 3.51 GiB in
(84.0 MiB/s), 53.6 MiB out (1.10 MiB/s), 45s
132,726 scanned, 99,775 indexed, 117,252 found, 103,740 compared,
103,740 same data, 4.04 GiB in
(108 MiB/s), 58.4 MiB out (986 KiB/s), 50s
134,633 scanned, 109,756 indexed, 126,700 found, 112,978 compared,
112,978 same data, 4.52 GiB
in (97.6 MiB/s), 63.6 MiB out (1.03 MiB/s), 55s
134,633 scanned, 129,807 indexed, 134,302 found, 120,779 compared,
120,779 same data, 4.95 GiB
in (86.5 MiB/s), 68.8 MiB out (1.02 MiB/s), 1m0s
Xcp command : xcp verify -mtimewindow 2 <IP address of NFS
```



```
server>:/source_vol <IP address of destination NFS server>:/dest_vol  
134,633 scanned, 0 matched, 100% found (121,150 have data), 100%  
verified (data, attrs, mods), 0  
different item, 0 error  
Speed : 4.95 GiB in (83.6 MiB/s), 69.2 MiB out (1.14 MiB/s)  
Total Time : 1m0s.  
STATUS : PASSED
```

驗證 -v 並驗證 -l

使用 -v 和 l 的參數 verify 命令以擷取輸出格式、並列出發現的任何差異。

語法

```
xcp verify -v <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```



```

[root@localhost linux]# ./xcp verify -v <IP address of NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_verify_2020-03-
05_02.26.30.055115
32,349 scanned, 10,211 found, 5,946 compared, 5,946 same data, 351 MiB
in (70.1 MiB/s), 4.27 MiB
out (872 KiB/s), 5s
40,301 scanned, 21,943 found, 16,619 compared, 16,619 same data, 874
MiB in (104 MiB/s), 9.74
MiB out (1.09 MiB/s), 10s
52,201 scanned, 14,512 indexed, 33,173 found, 27,622 compared, 27,622
same data, 1.35 GiB in
(102 MiB/s), 16.0 MiB out (1.24 MiB/s), 15s
70,886 scanned, 34,689 indexed, 46,699 found, 40,243 compared, 40,243
same data, 1.77 GiB in
(86.2 MiB/s), 23.3 MiB out (1.47 MiB/s), 20s
80,072 scanned, 39,708 indexed, 63,333 found, 55,743 compared, 55,743
same data, 2.04 GiB in
(55.4 MiB/s), 31.0 MiB out (1.54 MiB/s), 25s
100,034 scanned, 59,615 indexed, 76,848 found, 67,738 compared, 67,738
same data, 2.35 GiB in
(61.6 MiB/s), 37.6 MiB out (1.31 MiB/s), 30s
110,290 scanned, 69,597 indexed, 88,493 found, 78,203 compared, 78,203
same data, 2.75 GiB in
(81.7 MiB/s), 43.4 MiB out (1.14 MiB/s), 35s
116,829 scanned, 79,603 indexed, 102,105 found, 90,998 compared, 90,998
same data, 3.32 GiB in
(117 MiB/s), 50.3 MiB out (1.38 MiB/s), 40s
59
128,954 scanned, 94,650 indexed, 114,340 found, 101,563 compared,
101,563 same data, 3.91 GiB in
(121 MiB/s), 56.8 MiB out (1.30 MiB/s), 45s
134,630 scanned, 109,858 indexed, 125,760 found, 112,077 compared,
112,077 same data, 4.41 GiB
in (99.9 MiB/s), 63.0 MiB out (1.22 MiB/s), 50s
Xcp command : xcp verify -v <IP address of NFS server>:/source_vol <IP
address of destination NFS server>:/dest_vol
134,630 scanned, 0 matched, 100% found (121,150 have data), 100%
verified (data, attrs, mods), 0
different item, 0 error
Speed : 4.95 GiB in (91.7 MiB/s), 69.2 MiB out (1.25 MiB/s)
Total Time : 55s.
STATUS : PASSED

```

語法

```
xcp verify -l <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

```
[root@localhost linux]# ./xcp verify -l <IP address of NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_verify_2020-03-
05_02.27.58.969228
32,044 scanned, 11,565 found, 7,305 compared, 7,305 same data, 419 MiB
in (83.7 MiB/s), 4.93 MiB
out (1008 KiB/s), 5s
40,111 scanned, 21,352 found, 16,008 compared, 16,008 same data, 942
MiB in (104 MiB/s), 9.64
MiB out (962 KiB/s), 10s
53,486 scanned, 14,677 indexed, 30,840 found, 25,162 compared, 25,162
same data, 1.34 GiB in
(86.4 MiB/s), 15.0 MiB out (1.07 MiB/s), 15s
71,202 scanned, 34,646 indexed, 45,082 found, 38,555 compared, 38,555
same data, 1.72 GiB in
(76.7 MiB/s), 22.5 MiB out (1.51 MiB/s), 20s
75,264 scanned, 34,646 indexed, 60,039 found, 53,099 compared, 53,099
same data, 2.00 GiB in
(58.5 MiB/s), 29.1 MiB out (1.30 MiB/s), 25s
95,205 scanned, 54,684 indexed, 76,004 found, 67,054 compared, 67,054
same data, 2.34 GiB in
(67.5 MiB/s), 37.0 MiB out (1.57 MiB/s), 30s
110,239 scanned, 69,664 indexed, 87,892 found, 77,631 compared, 77,631
same data, 2.78 GiB in
(89.7 MiB/s), 43.2 MiB out (1.23 MiB/s), 35s
115,192 scanned, 79,627 indexed, 100,246 found, 89,450 compared, 89,450
same data, 3.22 GiB in
(90.0 MiB/s), 49.4 MiB out (1.24 MiB/s), 40s
122,694 scanned, 89,740 indexed, 109,158 found, 97,422 compared, 97,422
same data, 3.65 GiB in
(89.4 MiB/s), 54.2 MiB out (978 KiB/s), 45s
134,630 scanned, 104,695 indexed, 119,683 found, 106,036 compared,
106,036 same data, 4.17 GiB
in (105 MiB/s), 59.9 MiB out (1.11 MiB/s), 50s
134,630 scanned, 109,813 indexed, 129,117 found, 115,432 compared,
115,432 same data, 4.59 GiB
in (86.1 MiB/s), 64.7 MiB out (979 KiB/s), 55s
Xcp command : xcp verify -l <IP address of NFS server>:/source_vol <IP
address of destination NFS server>:/dest_vol
134,630 scanned, 0 matched, 100% found (121,150 have data), 100%
verified (data, attrs, mods), 0
```

```
different item, 0 error
```

```
Speed : 4.95 GiB in (84.9 MiB/s), 69.2 MiB out (1.16 MiB/s)
```

```
Total Time : 59s.
```

```
STATUS : PASSED
```

語法

```
xcp verify -v -l <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

```
[root@localhost linux]# ./xcp verify -v -l <IP address of NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_verify_2020-03-
05_02.30.00.952454
24,806 scanned, 8,299 found, 4,817 compared, 4,817 same data, 296 MiB
in (59.1 MiB/s), 3.44 MiB
out (704 KiB/s), 5s
39,720 scanned, 20,219 found, 14,923 compared, 14,923 same data, 716
MiB in (84.0 MiB/s), 8.78
MiB out (1.07 MiB/s), 10s
44,395 scanned, 9,648 indexed, 29,851 found, 24,286 compared, 24,286
same data, 1.20 GiB in (102
MiB/s), 14.0 MiB out (1.05 MiB/s), 15s
62,763 scanned, 24,725 indexed, 40,946 found, 34,760 compared, 34,760
same data, 1.69 GiB in
(101 MiB/s), 20.2 MiB out (1.24 MiB/s), 20s
76,181 scanned, 39,708 indexed, 57,566 found, 50,595 compared, 50,595
same data, 1.98 GiB in
(58.7 MiB/s), 28.3 MiB out (1.61 MiB/s), 25s
90,411 scanned, 49,594 indexed, 73,357 found, 64,912 compared, 64,912
same data, 2.37 GiB in
(79.0 MiB/s), 35.8 MiB out (1.48 MiB/s), 30s

110,222 scanned, 69,593 indexed, 87,733 found, 77,466 compared, 77,466
same data, 2.77 GiB in
(80.5 MiB/s), 43.1 MiB out (1.45 MiB/s), 35s
116,417 scanned, 79,693 indexed, 100,053 found, 89,258 compared, 89,258
same data, 3.23 GiB in
(94.3 MiB/s), 49.4 MiB out (1.26 MiB/s), 40s
122,224 scanned, 89,730 indexed, 111,684 found, 100,059 compared,
100,059 same data, 3.83 GiB in
(123 MiB/s), 55.5 MiB out (1.22 MiB/s), 45s
134,630 scanned, 109,758 indexed, 121,744 found, 108,152 compared,
108,152 same data, 4.36 GiB
in (107 MiB/s), 61.3 MiB out (1.14 MiB/s), 50s
134,630 scanned, 119,849 indexed, 131,678 found, 118,015 compared,
118,015 same data, 4.79 GiB
in (87.2 MiB/s), 66.7 MiB out (1.08 MiB/s), 55s
Xcp command : xcp verify -v -l <IP address of NFS server>:/source_vol
<IP address of destination NFS server>:/dest_vol
134,630 scanned, 0 matched, 100% found (121,150 have data), 100%
verified (data, attrs, mods), 0
```

```
different item, 0 error
Speed : 4.95 GiB in (87.6 MiB/s), 69.2 MiB out (1.20 MiB/s)
Total Time : 57s.
STATUS : PASSED
```

驗證 **-nonames**

使用 **-nonames** 參數 **verify** 從檔案清單或報告中排除使用者和群組名稱的命令

語法

```
xcp verify -nonames <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
```




```

[root@localhost linux]# ./xcp verify -nonames <IP address of NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_verify_2020-03-
05_04.03.58.173082
30,728 scanned, 9,242 found, 5,248 compared, 5,248 same data, 363 MiB
in (72.6 MiB/s), 3.93 MiB
out (805 KiB/s), 5s
40,031 scanned, 20,748 found, 15,406 compared, 15,406 same data, 837
MiB in (94.5 MiB/s), 9.19
MiB out (1.05 MiB/s), 10s
50,859 scanned, 9,668 indexed, 32,410 found, 26,305 compared, 26,305
same data, 1.30 GiB in
(99.5 MiB/s), 15.2 MiB out (1.20 MiB/s), 15s
73,631 scanned, 34,712 indexed, 45,362 found, 38,567 compared, 38,567
same data, 1.75 GiB in
(92.2 MiB/s), 22.6 MiB out (1.49 MiB/s), 20s
82,931 scanned, 44,618 indexed, 59,988 found, 52,270 compared, 52,270
same data, 2.08 GiB in
(66.7 MiB/s), 29.6 MiB out (1.39 MiB/s), 25s
96,691 scanned, 59,630 indexed, 77,567 found, 68,573 compared, 68,573
same data, 2.50 GiB in
(85.2 MiB/s), 38.2 MiB out (1.73 MiB/s), 30s
110,763 scanned, 74,678 indexed, 92,246 found, 82,010 compared, 82,010
same data, 2.93 GiB in
(88.8 MiB/s), 45.5 MiB out (1.45 MiB/s), 35s
120,101 scanned, 79,664 indexed, 105,420 found, 94,046 compared, 94,046
same data, 3.47 GiB in
(110 MiB/s), 51.9 MiB out (1.27 MiB/s), 40s
131,659 scanned, 99,780 indexed, 116,418 found, 103,109 compared,
103,109 same data, 4.05 GiB in
(120 MiB/s), 58.1 MiB out (1.25 MiB/s), 45s
134,630 scanned, 114,770 indexed, 127,154 found, 113,483 compared,
113,483 same data, 4.54 GiB
in (100 MiB/s), 64.1 MiB out (1.20 MiB/s), 50s
Xcp command : xcp verify -nonames <IP address of NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol
134,630 scanned, 0 matched, 100% found (121,150 have data), 100%
verified (data, attrs, mods), 0
different item, 0 error
Speed : 4.95 GiB in (92.5 MiB/s), 69.2 MiB out (1.26 MiB/s)
Total Time : 54s.
STATUS : PASSED

```

驗證 **<filter>** 是否相符

使用 `-match <filter>` 參數 `verify` 僅處理與篩選器相符的檔案和目錄的命令。

語法

```
xcp verify -match bin <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```



```

[root@localhost linux]# ./xcp verify -match bin <IP address of NFS
server>:/source_vol <IP address
of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_verify_2020-03-
05_04.16.46.005121
32,245 scanned, 25,000 matched, 10,657 found, 6,465 compared, 6,465
same data, 347 MiB in (69.4
MiB/s), 4.44 MiB out (908 KiB/s), 5s
40,306 scanned, 35,000 matched, 21,311 found, 15,969 compared, 15,969
same data, 850 MiB in (101
MiB/s), 9.44 MiB out (1024 KiB/s), 10s
55,582 scanned, 45,000 matched, 14,686 indexed, 31,098 found, 25,293
compared, 25,293 same data,
1.33 GiB in (102 MiB/s), 15.1 MiB out (1.12 MiB/s), 15s
75,199 scanned, 65,000 matched, 34,726 indexed, 45,587 found, 38,738
compared, 38,738 same data,
1.72 GiB in (77.9 MiB/s), 22.7 MiB out (1.52 MiB/s), 20s
78,304 scanned, 70,000 matched, 39,710 indexed, 61,398 found, 54,232
compared, 54,232 same data,
2.08 GiB in (75.0 MiB/s), 30.0 MiB out (1.45 MiB/s), 25s
102,960 scanned, 95,000 matched, 69,682 indexed, 78,351 found, 69,034
compared, 69,034 same
data, 2.43 GiB in (71.9 MiB/s), 38.8 MiB out (1.76 MiB/s), 30s
110,344 scanned, 105,000 matched, 69,682 indexed, 93,873 found, 83,637
compared, 83,637 same
data, 2.85 GiB in (84.2 MiB/s), 45.6 MiB out (1.36 MiB/s), 35s
121,459 scanned, 120,000 matched, 84,800 indexed, 107,012 found, 95,357
compared, 95,357 same
data, 3.30 GiB in (92.8 MiB/s), 52.3 MiB out (1.33 MiB/s), 40s
130,006 scanned, 125,000 matched, 94,879 indexed, 115,077 found,
102,104 compared, 102,104 same
data, 3.97 GiB in (136 MiB/s), 57.2 MiB out (1001 KiB/s), 45s
134,630 scanned, 134,630 matched, 109,867 indexed, 125,755 found,
112,025 compared, 112,025 same
data, 4.53 GiB in (115 MiB/s), 63.2 MiB out (1.20 MiB/s), 50s
Xcp command : xcp verify -match bin <IP address of NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol
134,630 scanned, 134,630 matched, 100% found (121,150 have data), 100%
verified (data, attrs,
mods), 0 different item, 0 error
Speed : 4.95 GiB in (92.2 MiB/s), 69.2 MiB out (1.26 MiB/s)
Total Time : 54s.
STATUS : PASSED

```

驗證 **-Bs <n>**

使用 `-bs <n>` 參數 `verify` 指定讀寫區塊大小的命令。預設值為 64k。

語法

```
xcp verify -bs 32k <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

```
[root@localhost linux]# ./xcp verify -bs 32k <IP address of NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_verify_2020-03-
05_04.20.19.266399
29,742 scanned, 9,939 found, 5,820 compared, 5,820 same data, 312 MiB
in (62.3 MiB/s), 4.58 MiB
out (938 KiB/s), 5s
40,156 scanned, 20,828 found, 15,525 compared, 15,525 same data, 742
MiB in (85.0 MiB/s), 10.2
MiB out (1.10 MiB/s), 10s
41,906 scanned, 9,846 indexed, 30,731 found, 25,425 compared, 25,425
same data, 1.14 GiB in
(85.6 MiB/s), 16.1 MiB out (1.18 MiB/s), 15s
66,303 scanned, 29,712 indexed, 42,861 found, 36,708 compared, 36,708
same data, 1.61 GiB in
(94.9 MiB/s), 23.7 MiB out (1.53 MiB/s), 20s
70,552 scanned, 34,721 indexed, 58,157 found, 51,528 compared, 51,528
same data, 1.96 GiB in
(73.0 MiB/s), 31.4 MiB out (1.53 MiB/s), 25s
100,135 scanned, 59,611 indexed, 76,047 found, 66,811 compared, 66,811
same data, 2.29 GiB in
(66.3 MiB/s), 40.7 MiB out (1.82 MiB/s), 30s
105,951 scanned, 69,665 indexed, 90,022 found, 80,330 compared, 80,330
same data, 2.71 GiB in
(85.3 MiB/s), 48.1 MiB out (1.49 MiB/s), 35s
113,440 scanned, 89,486 indexed, 101,634 found, 91,152 compared, 91,152
same data, 3.19 GiB in
(97.8 MiB/s), 55.4 MiB out (1.45 MiB/s), 40s
128,693 scanned, 94,484 indexed, 109,999 found, 97,319 compared, 97,319
same data, 3.59 GiB in
(82.6 MiB/s), 60.2 MiB out (985 KiB/s), 45s
134,630 scanned, 94,484 indexed, 119,203 found, 105,402 compared,
105,402 same data, 3.98 GiB in
(78.3 MiB/s), 65.1 MiB out (986 KiB/s), 50s
134,630 scanned, 104,656 indexed, 127,458 found, 113,774 compared,
113,774 same data, 4.49 GiB
in (103 MiB/s), 70.8 MiB out (1.15 MiB/s), 55s
Xcp command : xcp verify -bs 32k <IP address of NFS server>:/source_vol
<IP address of destination NFS server>:/dest_vol
134,630 scanned, 0 matched, 100% found (121,150 have data), 100%
verified (data, attrs, mods), 0
```

```
different item, 0 error
Speed : 4.96 GiB in (84.5 MiB/s), 77.5 MiB out (1.29 MiB/s)
Total Time : 1m0s.
STATUS : PASSED
```

驗證平行 <n>

使用 `-parallel <n>` 參數 `verify` 命令以指定並行批次處理程序的最大數目。

語法

```
xcp verify -parallel <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
```



```
[root@localhost linux]# ./xcp verify -parallel 2 <IP address of NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_verify_2020-03-
05_04.35.10.356405
15,021 scanned, 6,946 found, 4,869 compared, 4,869 same data, 378 MiB
in (74.5 MiB/s), 3.24 MiB
out (654 KiB/s), 5s
25,165 scanned, 9,671 indexed, 15,945 found, 12,743 compared, 12,743
same data, 706 MiB in (65.4
MiB/s), 7.81 MiB out (934 KiB/s), 10s
35,367 scanned, 19,747 indexed, 24,036 found, 19,671 compared, 19,671
same data, 933 MiB in
(45.3 MiB/s), 11.9 MiB out (827 KiB/s), 15s
45,267 scanned, 29,761 indexed, 32,186 found, 26,909 compared, 26,909
same data, 1.38 GiB in
(94.6 MiB/s), 16.5 MiB out (943 KiB/s), 20s
55,690 scanned, 39,709 indexed, 40,413 found, 34,805 compared, 34,805
same data, 1.69 GiB in
(62.8 MiB/s), 20.9 MiB out (874 KiB/s), 25s
55,690 scanned, 39,709 indexed, 48,325 found, 42,690 compared, 42,690
same data, 1.88 GiB in
(38.1 MiB/s), 24.3 MiB out (703 KiB/s), 31s
65,002 scanned, 49,670 indexed, 57,872 found, 51,891 compared, 51,891
same data, 2.04 GiB in
(33.2 MiB/s), 29.0 MiB out (967 KiB/s), 36s
75,001 scanned, 59,688 indexed, 66,789 found, 60,291 compared, 60,291
same data, 2.11 GiB in
(14.8 MiB/s), 33.4 MiB out (883 KiB/s), 41s
85,122 scanned, 69,690 indexed, 75,009 found, 67,337 compared, 67,337
same data, 2.42 GiB in
(62.3 MiB/s), 37.6 MiB out (862 KiB/s), 46s
91,260 scanned, 79,686 indexed, 82,097 found, 73,854 compared, 73,854
same data, 2.69 GiB in
(55.0 MiB/s), 41.4 MiB out (770 KiB/s), 51s
95,002 scanned, 79,686 indexed, 88,238 found, 79,707 compared, 79,707
same data, 2.99 GiB in
(60.7 MiB/s), 44.4 MiB out (608 KiB/s), 56s
105,002 scanned, 89,787 indexed, 96,059 found, 86,745 compared, 86,745
same data, 3.19 GiB in
(41.3 MiB/s), 48.4 MiB out (810 KiB/s), 1m1s
110,239 scanned, 99,872 indexed, 104,757 found, 94,652 compared, 94,652
```

```

same data, 3.47 GiB in
(57.0 MiB/s), 52.7 MiB out (879 KiB/s), 1m6s
120,151 scanned, 104,848 indexed, 111,491 found, 100,317 compared,
100,317 same data, 3.95 GiB
in (97.2 MiB/s), 56.3 MiB out (733 KiB/s), 1m11s
130,068 scanned, 114,860 indexed, 119,867 found, 107,260 compared,
107,260 same data, 4.25 GiB
in (60.5 MiB/s), 60.6 MiB out (871 KiB/s), 1m16s
134,028 scanned, 119,955 indexed, 125,210 found, 111,886 compared,
111,886 same data, 4.65 GiB
in (83.2 MiB/s), 63.7 MiB out (647 KiB/s), 1m21s
134,630 scanned, 129,929 indexed, 132,679 found, 119,193 compared,
119,193 same data, 4.93 GiB
in (56.8 MiB/s), 67.9 MiB out (846 KiB/s), 1m26s
Xcp command : xcp verify -parallel 2 <IP address of NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol
134,630 scanned, 0 matched, 100% found (121,150 have data), 100%
verified (data, attrs, mods), 0
different item, 0 error

```

驗證 **-dircount** <n[k]>

使用 **-dircount** <n[k]> 參數 **verify** 用於指定讀取目錄時的要求大小的命令。預設值為 64k。

語法

```

xcp verify -dircount <n[k]> <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol

```

```
[root@localhost linux]# ./xcp verify -dircount 32k <IP address of NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol

xcp: WARNING: No index name has been specified, creating one with name:
autoname_verify_2020-03-
05_04.28.58.235953
32,221 scanned, 10,130 found, 5,955 compared, 5,955 same data, 312 MiB
in (62.1 MiB/s), 4.15 MiB
out (848 KiB/s), 5s
40,089 scanned, 21,965 found, 16,651 compared, 16,651 same data, 801
MiB in (97.5 MiB/s), 9.55
MiB out (1.07 MiB/s), 10s

51,723 scanned, 14,544 indexed, 33,019 found, 27,288 compared, 27,288
same data, 1.24 GiB in
(93.8 MiB/s), 15.6 MiB out (1.22 MiB/s), 15s
67,360 scanned, 34,733 indexed, 45,615 found, 39,341 compared, 39,341
same data, 1.73 GiB in
(100 MiB/s), 22.8 MiB out (1.43 MiB/s), 20s
82,314 scanned, 44,629 indexed, 63,276 found, 55,559 compared, 55,559
same data, 2.05 GiB in
(64.7 MiB/s), 31.0 MiB out (1.63 MiB/s), 25s
100,085 scanned, 59,585 indexed, 79,799 found, 70,618 compared, 70,618
same data, 2.43 GiB in
(77.2 MiB/s), 38.9 MiB out (1.57 MiB/s), 30s
110,158 scanned, 69,651 indexed, 93,005 found, 82,654 compared, 82,654
same data, 2.87 GiB in
(89.1 MiB/s), 45.4 MiB out (1.28 MiB/s), 35s
120,047 scanned, 79,641 indexed, 104,539 found, 93,226 compared, 93,226
same data, 3.40 GiB in
(108 MiB/s), 51.4 MiB out (1.20 MiB/s), 40s
130,362 scanned, 94,662 indexed, 114,193 found, 101,230 compared,
101,230 same data, 3.87 GiB in
(97.3 MiB/s), 56.7 MiB out (1.06 MiB/s), 45s
134,630 scanned, 104,789 indexed, 124,272 found, 110,547 compared,
110,547 same data, 4.33 GiB
in (94.2 MiB/s), 62.3 MiB out (1.12 MiB/s), 50s
134,630 scanned, 129,879 indexed, 133,227 found, 119,717 compared,
119,717 same data, 4.93 GiB
in (119 MiB/s), 68.2 MiB out (1.17 MiB/s), 55s
Xcp command : xcp verify -dircount 32k <IP address of NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol
134,630 scanned, 0 matched, 100% found (121,150 have data), 100%
verified (data, attrs, mods), 0
```

```
different item, 0 error
Speed : 4.95 GiB in (89.3 MiB/s), 69.2 MiB out (1.22 MiB/s)
Total Time : 56s.
STATUS : PASSED
```

驗證 -noid

使用 -noId 參數 verify 命令以停用預設索引的建立。預設值為假。

語法

```
xcp verify -noId <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
```

顯示範例

```
[root@localhost linux]# ./xcp verify -noid <IP address of source NFS
server>:/source_vol <IP address of destination NFS server>:/dest_vol

Job ID: Job_2024-04-22_07.19.41.825308_verify
 49,216 scanned, 10,163 found, 9,816 compared, 9.59 KiB same data, 1.15
GiB in (234 MiB/s), 5.67 MiB out (1.13 MiB/s), 6s
 49,615 scanned, 4,958 indexed, 27,018 found, 26,534 compared, 25.9 KiB
same data, 3.08 GiB in (390 MiB/s), 15.1 MiB out (1.86 MiB/s), 11s
 73,401 scanned, 34,884 indexed, 46,365 found, 45,882 compared, 44.8
KiB same data, 5.31 GiB in (420 MiB/s), 26.6 MiB out (2.12 MiB/s), 16s
 80,867 scanned, 44,880 indexed, 63,171 found, 62,704 compared, 61.2
KiB same data, 7.23 GiB in (377 MiB/s), 36.2 MiB out (1.83 MiB/s), 21s
 83,102 scanned, 69,906 indexed, 79,587 found, 79,246 compared, 77.4
KiB same data, 9.13 GiB in (387 MiB/s), 46.0 MiB out (1.95 MiB/s), 26s

Xcp command : xcp verify 10.235.122.70:/source_vol
10.235.122.86:/dest_vol
Stats       : 83,102 scanned, 83,102 indexed, 100% found (82,980 have
data), 82,980 compared, 100% verified (data, attrs, mods)
Speed       : 9.55 GiB in (347 MiB/s), 48.4 MiB out (1.72 MiB/s)
Total Time  : 28s.
Job ID      : Job_2024-04-22_07.19.41.825308_verify
Log Path    : /opt/NetApp/xFiles/xcp/xcplogs/Job_2024-04-
22_07.19.41.825308_verify.log
STATUS      : PASSED
```

驗證 **-preserve-ctime**

使用 **-preserve-ctime** 參數 **verify** 命令將所有檔案還原至來源上上次存取的日期。° **-preserve-ctime** 參數會將存取時間重設為 XCP 讀取作業之前設定的原始值。

語法

```
xcp verify -preserve-ctime <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

顯示範例

```
[root@client1 linux]# ./xcp verify -preserve-ctime  
<IP_address>:/source_vol <destination_IP_address>:/dest_vol  
  
xcp: WARNING: No index name has been specified, creating one with name:  
XCP_verify_2022-06-  
30_15.29.03.686503  
xcp: Job ID: Job_2022-06-30_15.29.03.723260_verify  
Xcp command : xcp verify -preserve-ctime <IP_address>:/source_vol  
<destination_IP_address>:/dest_vol Stats :  
110 scanned, 110 indexed, 100% found (96 have data), 96 compared, 100%  
verified (data, attrs,  
mods)  
Speed : 4.87 MiB in (3.02 MiB/s), 160 KiB out (99.4 KiB/s) Total Time :  
1s.  
Job ID : Job_2022-06-30_15.29.03.723260_verify  
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2022-06-  
30_15.29.03.723260_verify.log STATUS :  
PASSED
```

驗證 **-s3.insecure**

使用 **-s3.insecure** 參數 **verify** 命令使用 HTTP 取代 HTTPS 進行 S3 儲存區通訊。

語法

```
xcp verify -s3.insecure hdfs:///user/test s3://<bucket_name>
```

顯示範例

```
[root@client1 linux]# ./xcp verify -s3.insecure hdfs://<HDFS source>
s3://<s3-bucket>

xcp: WARNING: No index name has been specified, creating one with name:
XCP_verify_2023-06-
08_09.04.33.301709
Job ID: Job_2023-06-08_09.04.33.301709_verify
Xcp command : xcp verify -s3.insecure hdfs://<HDFS source> s3://<s3-
bucket>
Stats : 8 scanned, 8 indexed, 100% found (5 have data), 5 compared,
100% verified (data)
Speed : 21.3 KiB in (8.20 KiB/s), 90.8 KiB out (34.9 KiB/s)
Total Time : 2s.
Job ID : Job_2023-06-08_09.04.33.301709_verify
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-
08_09.04.33.301709_verify.log
STATUS : PASSED
```

驗證 -S3.Endpoint <s3_endpoint_url>

使用 -s3.endpoint <s3_endpoint_url> 參數 verify 命令以指定的 URL 取代預設 AWS 端點 URL、以進行 S3 貯體通訊。

語法

```
xcp verify -s3.endpoint https://<endpoint_url>: s3://<bucket_name>
```

顯示範例

```
[root@client1 linux]# ./xcp verify -s3.endpoint https://<endpoint_url>
hdfs://<HDFS source> s3://<s3-bucket>

xcp: WARNING: No index name has been specified, creating one with name:
XCP_verify_2023-06-
13_11.20.48.203492
Job ID: Job_2023-06-13_11.20.48.203492_verify
2 scanned, 2 found, 9.55 KiB in (1.90 KiB/s), 12.5 KiB out (2.50
KiB/s), 5s
Xcp command : xcp verify -s3.endpoint https://<endpoint_url>
hdfs://<HDFS source> s3://<s3-bucket>
Stats : 8 scanned, 8 indexed, 100% found (5 have data), 5 compared,
100% verified (data)
Speed : 21.3 KiB in (2.28 KiB/s), 91.1 KiB out (9.72 KiB/s)
Total Time : 9s.
Job ID : Job_2023-06-13_11.20.48.203492_verify
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-
13_11.20.48.203492_verify.log
STATUS : PASSED
```

驗證 **-s3.profile <name>**

使用 `s3.profile` 參數 `verify` 命令、從 AWS 認證檔案中指定用於 S3 儲存區通訊的設定檔。

語法

```
xcp verify -s3.profile <name> -s3.endpoint https://<endpoint_url>:
s3://<bucket_name>
```

```
[root@client1 linux]# ./xcp verify -s3.profile sg -s3.endpoint
https://<endpoint_url> hdfs://<HDFS source> s3://<s3-bucket>

xcp: WARNING: No index name has been specified, creating one with name:
XCP_verify_2023-06-
08_09.05.22.412914
Job ID: Job_2023-06-08_09.05.22.412914_verify
Xcp command : xcp verify -s3.profile sg -s3.endpoint
https://<endpoint_url> hdfs://<HDFS source> s3://<s3-bucket>
Stats : 8 scanned, 8 indexed, 100% found (5 have data), 5 compared,
100% verified (data)
Speed : 21.3 KiB in (6.52 KiB/s), 91.2 KiB out (27.9 KiB/s)
Total Time : 3s.
Job ID : Job_2023-06-08_09.05.22.412914_verify
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-
08_09.05.22.412914_verify.log
STATUS : PASSED

[root@client1 linux]# ./xcp verify -s3.profile sg -s3.endpoint
https://<endpoint_url> hdfs://<HDFS source> s3://<s3-bucket>

xcp: WARNING: No index name has been specified, creating one with name:
XCP_verify_2023-06-
08_09.20.53.763772
Job ID: Job_2023-06-08_09.20.53.763772_verify
Xcp command : xcp verify -s3.profile sg -s3.endpoint
https://<endpoint_url>
hdfs://<HDFS source> s3://<s3-bucket>
Stats : 8 scanned, 8 indexed, 100% found (5 have data), 5 compared,
100% verified (data)
Speed : 25.3 KiB in (14.5 KiB/s), 93.7 KiB out (53.8 KiB/s)
Total Time : 1s.
Job ID : Job_2023-06-08_09.20.53.763772_verify
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-
08_09.20.53.763772_verify.log
STATUS : PASSED
```

驗證 **-s3.noverify**

使用 **-s3.noverify** 參數 **verify** 用於覆寫 S3 儲存區通訊之 SSL 憑證預設驗證的命令。

語法

```
xcp verify -s3.noverify s3://<bucket_name>
```

```
[root@client1 linux]# ./xcp verify -s3.noverify hdfs://<HDFS source>
s3://<s3-bucket>

xcp: WARNING: No index name has been specified, creating one with name:
XCP_verify_2023-06-
13_10.59.01.817044
Job ID: Job_2023-06-13_10.59.01.817044_verify
Xcp command : xcp verify -s3.noverify hdfs://<HDFS source> s3://<s3-
bucket>
Stats : 8 scanned, 8 indexed, 100% found (5 have data), 5 compared,
100% verified (data)
Speed : 21.3 KiB in (5.84 KiB/s), 90.8 KiB out (24.9 KiB/s)
Total Time : 3s.
Job ID : Job_2023-06-13_10.59.01.817044_verify
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-
13_10.59.01.817044_verify.log
STATUS : PASSED

./xcp verify -s3.profile sg -s3.noverify -s3.endpoint
https://<endpoint_url> hdfs://<HDFS source> s3://<s3-bucket>

xcp: WARNING: No index name has been specified, creating one with name:
XCP_verify_2023-06-
13_11.29.00.543286
Job ID: Job_2023-06-13_11.29.00.543286_verify
15,009 scanned, 9 indexed, 1,194 found, 908 compared, 908 same data,
4.87 MiB in (980 KiB/s), 199 KiB
out (39.1 KiB/s), 5s
15,009 scanned, 9 indexed, 2,952 found, 2,702 compared, 2.64 KiB same
data, 8.56 MiB in (745 KiB/s),
446 KiB out (48.7 KiB/s), 10s
15,009 scanned, 9 indexed, 4,963 found, 4,841 compared, 4.73 KiB same
data, 12.9 MiB in (873 KiB/s),
729 KiB out (55.9 KiB/s), 15s
15,009 scanned, 9 indexed, 6,871 found, 6,774 compared, 6.62 KiB same
data, 16.9 MiB in (813 KiB/s),
997 KiB out (53.4 KiB/s), 20s
15,009 scanned, 9 indexed, 8,653 found, 8,552 compared, 8.35 KiB same
data, 20.6 MiB in (745 KiB/s),
1.22 MiB out (49.3 KiB/s), 25s
15,009 scanned, 9 indexed, 10,436 found, 10,333 compared, 10.1 KiB same
data, 24.3 MiB in (754
KiB/s), 1.46 MiB out (49.8 KiB/s), 31s
15,009 scanned, 9 indexed, 12,226 found, 12,114 compared, 11.8 KiB same
```

```

data, 28.0 MiB in (751
KiB/s), 1.71 MiB out (49.7 KiB/s), 36s
15,009 scanned, 9 indexed, 14,005 found, 13,895 compared, 13.6 KiB same
data, 31.7 MiB in (756
KiB/s), 1.95 MiB out (50.0 KiB/s), 41s
15,009 scanned, 9 indexed, 14,229 found, 14,067 compared, 13.7 KiB same
data, 32.2 MiB in (102
KiB/s), 1.98 MiB out (6.25 KiB/s), 46s
Xcp command : xcp verify -s3.profile sg -s3.noverify -s3.endpoint
https://<endpoint_url> <HDFS source> s3://<s3-bucket>
Stats : 15,009 scanned, 15,009 indexed, 100% found (15,005 have data),
15,005 compared, 100%
verified (data)
Speed : 33.9 MiB in (724 KiB/s), 2.50 MiB out (53.5 KiB/s)
Total Time : 47s.
Job ID : Job_2023-06-13_11.29.00.543286_verify
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-
13_11.29.00.543286_verify.log
STATUS : PASSED

```

chmod

XCP NFS chmod 命令會掃描及變更指定目錄結構中所有檔案的檔案權限。「chmod」命令需要模式或參照、NFS 共用或 POSIX 路徑做為變數。XCP chmod 命令會遞迴變更指定路徑的權限。命令輸出會顯示掃描的檔案總數、以及在輸出中變更的權限。

語法

```
xcp chmod -mode <value> <source NFS export path>
```

顯示範例

```

[root@user-1 linux]# ./xcp chmod -mode <IP address>:/source_vol

Xcp command : xcp chmod -mode <IP address>://source_vol
Stats : 6 scanned, 4 changed mode
Speed : 1.96 KiB in (2.13 KiB/s), 812 out (882/s)
Total Time : 0s.
STATUS : PASSED
[root@user-1 linux] #

```

下表列出 chmod 參數及其說明。

參數	說明
<<nfs_chmod_exclude,chmod -exclude ；篩選器 >	排除符合篩選條件的檔案和目錄。
<<nfs_chmod_match,chmod -match ；篩選器 >	僅處理與篩選器相符的檔案和目錄。
<<nfs_chmod_reference,chmod -reference ；參考 gt;	指定參考的檔案或目錄點。
chmod -v	報告每個已處理物件的輸出。

chmod -exclude <filter>

使用 -exclude <filter> 參數 chmod 命令來排除符合篩選條件的檔案和目錄。

語法

```
xcp chmod -exclude <filter> -mode <value> <source NFS export path>
```

顯示範例

```
[root@user-1 linux]# ./xcp chmod -exclude "fnm('3.img')" -mode 770
101.11.10.10:/s_v1/D3/

Excluded: 1 excluded, 0 did not match exclude criteria
Xcp command : xcp chmod -exclude fnm('3.img') -mode 770
101.11.10.10:/s_v1/D3/
Stats : 5 scanned, 1 excluded, 5 changed mode
Speed : 2.10 KiB in (7.55 KiB/s), 976 out (3.43 KiB/s)
Total Time : 0s.
STATUS : PASSED
[root@user-1 linux]#
```

chmod -Match <filter>

使用 -match <filter> 參數 chmod 僅處理與篩選器相符的檔案和目錄的命令。

語法

```
xcp chmod -match <filter> -mode <value> <source NFS export path>
```

顯示範例

```
[root@user-1 linux]# ./xcp chmod -match "fnm('2.img')" -mode 777
101.11.10.10:/s_v1/D2/

Filtered: 1 matched, 5 did not match
Xcp command : xcp chmod -match fnm('2.img') -mode
101.11.10.10:/s_v1/D2/
Stats : 6 scanned, 1 matched, 2 changed mode
Speed : 1.67 KiB in (1.99 KiB/s), 484 out (578/s)
Total Time : 0s.
STATUS : PASSED
[root@user-1 linux]
```

chmod -reference <reference>

使用 -reference <reference> 參數 chmod 指定參考檔案或目錄點的命令。

語法

```
xcp chmod -reference <reference> <source NFS export path>
```

顯示範例

```
[root@user-1 linux]# ./xcp chmod -reference 101.11.10.10:/s_v1/D1/1.txt
102.21.10.10:/s_v1/D2/

Xcp command : xcp chmod -reference 101.11.10.10:/s_v1/D1/1.txt
102.21.10.10:/s_v1/D2/
Stats : 6 scanned, 6 changed mode
Speed : 3.11 KiB in (3.15 KiB/s), 1.98 KiB out (2.00 KiB/s)
Total Time : 0s.
STATUS : PASSED
[root@user-1 linux]#
```

chmod -v

使用 -v 參數 chmod 用於報告每個已處理物件輸出的命令。

語法

```
chmod -mode <value> -v <source NFS export path>
```

顯示範例

```
[root@user-1 linux]# ./xcp chmod -mode 111 -v file:///mnt/s_v1/D1/

mode of 'file:///mnt/s_v1/D1' changed from 0777 to 0111
mode of 'file:///mnt/s_v1/D1/1.txt' changed from 0777 to 0111
mode of 'file:///mnt/s_v1/D1/softlink_1.img' changed from 0777 to 0111
mode of 'file:///mnt/s_v1/D1/softlink_to_hardlink_1.img' changed from
0777 to 0111 mode
of 'file:///mnt/s_v1/D1/1.img' changed from 0777 to 0111
mode of 'file:///mnt/s_v1/D1/hardlink_1.img' changed from 0777 to 0111
mode of
'file:///mnt/s_v1/D1/1.img1' changed from 0777 to 0111
Xcp command : xcp chmod -mode 111 -v file:///mnt/s_v1/D1/ Stats : 7
scanned, 7
changed mode
Speed : 0 in (0/s), 0 out (0/s)
Total Time : 0s.
STATUS : PASSED
[root@user-1 linux]#
```

Chown

XCP NFS `chown` 命令會掃描並變更指定目錄結構的所有檔案擁有權。◦ `chown` 命令需要 NFS 共用或 POSIX 路徑做為變數。XCP 會遞迴變更指定路徑的擁有權。◦ `chown` 命令會顯示檔案的已變更使用者 ID（UID）。

語法

```
xcp chown -user/-group <user-name/group-name> <source NFS export path>
```

```
[root@user-1 linux]# ./xcp chown -user user2 -v
101.101.10.110:/s_v1/smaple_set/D1

Sat Apr 2 23:06:05 2022
changed ownership of 101.101.10.110:/s_v1/smaple_set/D1 from 1001:0 to
1004:0
changed ownership of 101.101.10.110:/s_v1/smaple_set/D1/1.txt from
1001:0 to 1004:0
changed ownership of 101.101.10.110:/s_v1/smaple_set/D1/softlink_1.img
from 1001:0 to 1004:0
changed ownership of 101.101.10.110:/s_v1/smaple_set/D1/1.img from
1001:0 to 1004:0
changed ownership of 101.101.10.110:/s_v1/smaple_set/D1/hardlink_1.img
from 1001:0 to 1004:0
changed ownership of
101.101.10.110:/s_v1/smaple_set/D1/softlink_to_hardlink_1.img from
1001:0 to
1004:0
Xcp command : xcp chown -user user2 -v
101.101.10.110:/s_v1/smaple_set/D1
Stats : 6 scanned, 6 changed ownership
Speed : 2.25 KiB in (1.82 KiB/s), 1.11 KiB out (923/s)
Total Time : 1s.
STATUS : PASSED
[root@user-1 linux]#
```

下表列出 `chown` 參數及其說明。

參數	說明
<<nfs_chown_exclude,chown - 排除 ；篩選器 >	排除符合篩選條件的檔案和目錄。
<<nfs_chown_match,chown -match ；篩選器 >	僅處理與篩選器相符的檔案和目錄。
<<nfs_chown_group,chown - 群組 ；群組 >	設定來源的 Linux 群組 ID （ GID ）。
<<nfs_chown_user,chown - 使用者 ；使用者 >	設定來源的 Linux UID 。
<<nfs_chown_user_from,chown -user-from ； user_from gt;	變更 UID 。
<<nfs_chown_group_from,chown -group-from ； group_from gt;	變更 GID 。
<<nfs_chown_reference,chown - 參考 ；參考 >	指定參考的檔案或目錄點。
chown -v	報告每個已處理物件的輸出。

chown - 排除 <filter>

使用 `-exclude <filter>` 參數 `chown` 命令來排除符合篩選條件的檔案和目錄。

語法

```
xcp chown -exclude <filter> -user <user_name> <source NFS export path>
```

顯示範例

```
[root@user-1 linux]# ./xcp chown -exclude "fnm('1.img')" -user user2
101.101.10.210:/s_v1/smaple_set/D1

Excluded: 1 excluded, 0 did not match exclude criteria
Xcp command : xcp chown -exclude fnm('1.img') -user
user2101.101.10.210:/s_v1/smaple_set/D1
Stats : 5 scanned, 1 excluded, 5 changed ownership
Speed : 2.10 KiB in (1.75 KiB/s), 976 out (812/s)
Total Time : 1s.
STATUS : PASSED
[root@user-1 linux]#
```

Chown -Match <filter>

使用 `-match <filter>` 參數 `chown` 僅處理與篩選器相符的檔案和目錄的命令。

語法

```
xcp chown -match <filter> -user <user_name> <source NFS export path>
```


顯示範例

```
[root@user-1 linux]# ./xcp chown -exclude "fnm('1.img')" -user user2
101.101.10.210:/s_v1/smaple_set/D1

Excluded: 1 excluded, 0 did not match exclude criteria
Xcp command : xcp chown -exclude fnm('1.img') -user
user2101.101.10.210:/s_v1/smaple_set/D1
Stats : 5 scanned, 1 excluded, 5 changed ownership
Speed : 2.10 KiB in (1.75 KiB/s), 976 out (812/s)
Total Time : 1s.
STATUS : PASSED
[root@user-1 linux]#
```

Chown 群組 <group>

使用 `-group <group>` 參數 `chown` 在來源設定 Linux GID 的命令。

語法

```
xcp chown -match <filter> -user <user_name> <source NFS export path>
```

顯示範例

```
[root@user-1 linux]# ./xcp chown -group group1
101.101.10.210:/s_v1/smaple_set/D1

Xcp command : xcp chown -group group1
101.101.10.210:/s_v1/smaple_set/D1
Stats : 6 scanned, 6 changed ownership
Speed : 2.25 KiB in (1.92 KiB/s), 1.11 KiB out (974/s)
Total Time : 1s.
STATUS : PASSED
[root@user-1 linux]#
```

Chown - 使用者 <user>

使用 `-user <user>` 參數 `chown` 在來源設定 Linux UID 的命令。

語法

```
xcp chown -user -user <user_name> <source NFS export path>
```

顯示範例

```
[root@user-1 linux]# ./xcp chown -user user1
102.101.10.210:/s_v1/smaple_set/D1

Xcp command : xcp chown -user user1 102.101.10.210:/s_v1/smaple_set/D1
Stats : 6 scanned, 6 changed ownership
Speed : 2.25 KiB in (3.12 KiB/s), 1.11 KiB out (1.55 KiB/s)
Total Time : 0s.
STATUS : PASSED
[root@user-1 linux]#
```

Chown -user-from <user_from>

使用 -user-from <user_from> 參數 chown 變更 UID 的命令。

語法

```
xcp chown -user-from user1 -user <user_name> <source NFS export path>
```

顯示範例

```
[root@user-1 linux]# ./xcp chown -user-from user1 -user user2
101.101.10.210:/s_v1/smaple_set/D1

Xcp command : xcp chown -user-from user1 -user user2
102.108.10.210:/s_v1/smaple_set/D1
Stats : 6 scanned, 6 changed ownership
Speed : 2.25 KiB in (2.44 KiB/s), 1.11 KiB out (1.21 KiB/s)
Total Time : 0s.
STATUS : PASSED
[root@user-1 linux]#
```

來自 <group_from> 的 chown -group-

使用 -group-from <group_from> 參數 chown 變更 GID 的命令。

語法

```
xcp chown -group-from <group_name> -group <group_name> <source NFS export
path>
```

顯示範例

```
[root@user-1 linux]# ./xcp chown -group-from group1 -group group2
101.101.10.210:/s_v1/smaple_set/D1

Xcp command : xcp chown -group-from group1 -group group2
101.101.10.210:/s_v1/smaple_set/D1
Stats : 6 scanned, 6 changed ownership
Speed : 2.25 KiB in (4.99 KiB/s), 1.11 KiB out (2.47 KiB/s)
Total Time : 0s.
STATUS : PASSED
[root@user-1 linux]#
```

Chown - 參考 <reference>

使用 `-reference <reference>` 參數 `chown` 指定參考檔案或目錄點的命令。

語法

```
xcp chown -reference <reference> <source NFS export path>
```

顯示範例

```
[root@user-1 linux]# ./xcp chown -reference
101.101.10.210:/s_v1/smaple_set/D2/2.img
101.101.10.210:/s_v1/smaple_set/D1

Xcp command : xcp chown -reference
101.101.10.210:/s_v1/smaple_set/D2/2.img
101.101.10.210:/s_v1/smaple_set/D1
Stats : 6 scanned, 6 changed ownership
Speed : 3.11 KiB in (6.25 KiB/s), 2.01 KiB out (4.05 KiB/s)
Total Time : 0s.
STATUS : PASSED
[root@user-1 linux]#
```

chown -v

使用 `-v` 參數 `chown` 用於報告每個已處理物件輸出的命令。

語法

```
xcp chown -user-from <user_name> -v -user <user_name> <source NFS export path>
```

顯示範例

```
[root@user-1 linux]# ./xcp chown -user-from user2 -v -user user1
101.101.10.210:/s_v1/smaple_set/D1

changed ownership of 101.101.10.210:/s_v1/smaple_set/D1 from 1004:1003
to 1001:1003
changed ownership of 101.101.10.210:/s_v1/smaple_set/D1/1.img from
1004:1003 to 1001:1003
changed ownership of 101.101.10.210:/s_v1/smaple_set/D1/1.txt from
1004:1003 to 1001:1003
changed ownership of 101.101.10.210:/s_v1/smaple_set/D1/softlink_1.img
from 1004:1003 to
1001:1003
changed ownership of
101.101.10.210:/s_v1/smaple_set/D1/softlink_to_hardlink_1.img from
1004:1003 to 1001:1003
changed ownership of 101.101.10.210:/s_v1/smaple_set/D1/hardlink_1.img
from 1004:1003 to
1001:1003
Xcp command : xcp chown -user-from user2 -v -user user1
101.101.10.210:/s_v1/smaple_set/D1
Stats : 6 scanned, 6 changed ownership
Speed : 2.25 KiB in (2.02 KiB/s), 1.11 KiB out (1.00 KiB/s)
Total Time : 1s.

STATUS : PASSED
[root@user-1]
```

記錄傾印

NFS logdump 命令會根據移轉 ID 或工作 ID 來篩選記錄、並將這些記錄傾印至 .zip 目前目錄中的檔案。。.zip 檔案的名稱與命令所使用的移轉或工作 ID 相同。

語法

```
xcp logdump -m <migration ID>
xcp logdump -j <job ID>
```

```

[root@client1 xcp_nfs]# xcp logdump -j Job_2022-06-14_21.49.28.060943_scan

xcp: Job ID: Job_2022-06-14_21.52.48.744198_logdump
Xcp command : xcp logdump -j Job_2022-06-14_21.49.28.060943_scan
Stats :
Speed : 0 in (0/s), 0 out (0/s)
Total Time : 0s.
Job ID : Job_2022-06-14_21.52.48.744198_logdump
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2022-06-14_21.52.48.744198_logdump.log
STATUS : PASSED
[root@client xcp_nfs]# ls Job_2022-06-14_21.49.28.060943_scan
Job_2022-06-14_21.49.28.060943_scan.log supplementary
[root@client1 xcp_nfs]# ls Job_2022-06-14_21.49.28.060943_scan/supplementary/
Job_idx_2022-06-14_21.46.05.167338_copy.log Job_idx_2022-06-14_21.47.41.868410_sync.log
xcp_history.json

Job_idx_2022-06-14_21.46.35.134294_sync.log Job_idx_2022-06-14_21.48.00.085869_sync.log
[root@client1 xcp_nfs]#
[root@client1 xcp_nfs]# ./xcp logdump -m idx

xcp: Job ID: Job_2022-06-14_21.56.04.218977_logdump
Xcp command : xcp logdump -m idx
Stats :
Speed : 0 in (0/s), 0 out (0/s)
Total Time : 0s.
Job ID : Job_2022-06-14_21.56.04.218977_logdump
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2022-06-14_21.56.04.218977_logdump.log
STATUS : PASSED
[root@client1 xcp_nfs]# ls idx
Job_idx_2022-06-14_21.46.05.167338_copy.log Job_idx_2022-06-14_21.47.41.868410_sync.log
xcp_history.json
Job_idx_2022-06-14_21.46.35.134294_sync.log Job_idx_2022-06-14_21.48.00.085869_sync.log

```

刪除

XCP NFS delete 命令會刪除指定路徑中的所有內容。

語法

```
xcp delete <NFS export path>
```

```

[root@localhost ]# /xcp/linux/xcp delete <IP address of destination
NFSserver>:/dest_vol

WARNING: You have selected <IP address of destination NFS
server>:/dest_vol for
removing data.Data in this path /dest_vol will be deleted.
Are you sure you want to delete (yes/no): yes
Recursively removing data in <IP address of destination NFS
server>:/dest_vol ...
31,996 scanned, 5,786 removes, 3 rmdirs, 8.27 MiB in (1.65 MiB/s), 1.52
MiB out (312
KiB/s), 5s
40,324 scanned, 19,829 removes, 22 rmdirs, 12.2 MiB in (799 KiB/s),
3.89 MiB out
(485 KiB/s),10s
54,281 scanned, 32,194 removes, 2,365 rmdirs, 17.0 MiB in (991 KiB/s),
6.15 MiB out
(463 KiB/s),15s
75,869 scanned, 44,903 removes, 4,420 rmdirs, 23.4 MiB in (1.29 MiB/s),
8.60
MiB out (501KiB/s), 20s
85,400 scanned, 59,728 removes, 5,178 rmdirs, 27.8 MiB in (881 KiB/s),
11.1 MiB out
(511 KiB/s),25s
106,391 scanned, 76,229 removes, 6,298 rmdirs, 34.7 MiB in (1.39
MiB/s), 14.0
MiB out (590KiB/s), 30s
122,107 scanned, 93,203 removes, 7,448 rmdirs, 40.9 MiB in (1.24
MiB/s), 16.9
MiB out (606KiB/s), 35s
134,633 scanned, 109,815 removes, 9,011 rmdirs, 46.5 MiB in (1.12
MiB/s), 20.0
MiB out (622KiB/s), 40s
134,633 scanned, 119,858 removes, 9,051 rmdirs, 47.9 MiB in (288
KiB/s), 21.4
MiB out (296KiB/s), 45s
134,633 scanned, 119,858 removes, 9,051 rmdirs, 47.9 MiB in (0/s), 21.4
MiB out (0/s), 50s
134,633 scanned, 121,524 removes, 9,307 rmdirs, 48.2 MiB in (51.7
KiB/s), 21.7
MiB out (49.5KiB/s), 55s
Xcp command : xcp delete <IP address of destination NFS
server>:/dest_vol134,633 scanned, 0 matched, 134,632 delete

```

```
items, 0 error
Speed : 48.7 MiB in (869 KiB/s), 22.2 MiB out
(396 KiB/s)Total Time : 57s.
STATUS : PASSED
```

下表列出 delete 參數及其說明。

參數	說明
<<nfs_delete_match,刪除 - 符合 ; 篩選器 >	僅處理與篩選器相符的檔案和目錄。
刪除 - 強制	刪除但不確認。
刪除 -remotivopdir	移除目錄、包括子目錄。
<<nfs_delete_exclude,刪除 - 排除 ; 篩選器 >	排除符合篩選條件的檔案和目錄。
<<nfs_delete_parallel,刪除平行 ; n>	指定最大並行批次處理程序數（預設值：7）。
刪除 -preserve-atime	保留檔案或目錄的存取時間（預設：false）。
<<nfs_delete_loglevel,刪除 -loglevel ; 名稱 >	設定記錄層級；可用層級為 info 、 debug （預設：info）。
刪除 -s3.insecure	提供選項、可在 S3 Bucket 通訊中使用 HTTP 而非 HTTPS。
<<nfs_delete_endpoint,刪除 -s3.Endpoint ; s3_Endpoint URL>	以 S3 Bucket 通訊的指定 URL 覆寫預設的 Amazon Web Services （AWS）端點 URL。
<<nfs_delete_s3_profile,刪除 -s3.profile ; profile_name gt;	從 AWS 認證檔案指定用於 S3 儲存區通訊的設定檔。
刪除 -s3.noverify	覆寫 S3 Bucket 通訊的 SSL 認證預設驗證。

刪除 - 比對 <filter>

使用 -match <filter> 參數 delete 僅處理與篩選器相符的檔案和目錄的命令。

語法

```
xcp delete -match <filter> <NFS export path>
```


顯示範例

```
[root@client1 linux]# ./xcp delete -match "fnm('XCP_copy_2023-04-25_05.51.28.315997')" 10.101.10.101:/xcp_catalog

Job ID: Job_2023-04-25_06.10.29.637371_delete
WARNING: You have selected 10.101.10.101:/xcp_catalog for removing
data. Data in this path
/xcp_catalog will be deleted.
Are you sure you want to delete (yes/no): yes
Recursively removing data in 10.101.10.101:/xcp_catalog ...
Xcp command : xcp delete -match fnm('XCP_copy_2023-04-25_05.51.28.315997')
10.101.10.101:/xcp_catalog
Stats : 209 scanned, 14 matched, 12 removes, 2 rmdirs
Speed : 58.9 KiB in (18.6 KiB/s), 8.25 KiB out (2.60 KiB/s)
Total Time : 3s.
Job ID : Job_2023-04-25_06.10.29.637371_delete
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-25_06.10.29.637371_delete.log
STATUS : PASSED
```

刪除 - 強制

使用 `-force` 參數 `delete` 不經確認即刪除的命令。

語法

```
xcp delete -force <NFS export path>
```

顯示範例

```
[root@client1 linux]# ./xcp delete -force
10.101.10.101:/xcp_catalog/catalog/indexes/XCP_copy_2023-04-
25_05.53.58.273910

Job ID: Job_2023-04-25_06.11.30.584440_delete
WARNING: You have selected
10.101.10.101:/xcp_catalog/catalog/indexes/XCP_copy_2023-04-
25_05.53.58.273910 for removing data. Data in this path
/xcp_catalog/catalog/indexes/XCP_copy_2023-04-25_05.53.58.273910 will
be deleted.
Recursively removing data in
10.101.10.101:/xcp_catalog/catalog/indexes/XCP_copy_2023-04-
25_05.53.58.273910 ...
Xcp command : xcp delete -force
110.101.10.101:/xcp_catalog/catalog/indexes/XCP_copy_2023-04-
25_05.53.58.273910
Stats : 14 scanned, 12 removes, 1 rmdir
Speed : 6.44 KiB in (4.73 KiB/s), 3.59 KiB out (2.64 KiB/s)
Total Time : 1s.
Job ID : Job_2023-04-25_06.11.30.584440_delete
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
25_06.11.30.584440_delete.log
STATUS : PASSED
[root@client-1 linux] #
```

刪除 -remotivopdir

使用 -removetopdir 參數 delete 移除目錄的命令、包括子目錄。

語法

```
xcp delete -force -loglevel <name> -removetopdir <NFS export path>
```

顯示範例

```
[root@client1 linux]# ./xcp delete -force -loglevel DEBUG -removetopdir
10.101.10.101:/temp7/user9

Job ID: Job_2023-04-25_08.03.38.218893_delete
WARNING: You have selected 10.101.10.101:/temp7/user9 for removing
data. Data in this path
/temp7/user9 will be deleted.
Recursively removing data in 10.101.10.101:/temp7/user9 ...
50,500 scanned, 16,838 removes, 11.5 MiB in (2.27 MiB/s), 2.70 MiB out
(547 KiB/s), 5s
85,595 scanned, 43,016 removes, 21.5 MiB in (1.97 MiB/s), 6.70 MiB out
(806 KiB/s), 10s
.
.
.
1.01M scanned, 999,771 removes, 1,925 rmdirs, 324 MiB in (1.42 MiB/s),
153 MiB out (922
KiB/s), 3m6s

Xcp command : xcp delete -force -loglevel DEBUG -removetopdir
10.101.10.101:/temp7/user9
Stats : 1.01M scanned, 1.01M removes, 2,041 rmdirs
Speed : 326 MiB in (1.73 MiB/s), 155 MiB out (842 KiB/s)
Total Time : 3m8s.
Job ID : Job_2023-04-25_08.03.38.218893_delete
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
25_08.03.38.218893_delete.log
STATUS : PASSED
[root@client1 linux]#
```

刪除 - 排除 <filter>

使用 `-exclude <filter>` 參數 `delete` 命令來排除符合篩選條件的檔案和目錄。

語法

```
xcp delete -force -exclude <filter> <NFS export path>
```

顯示範例

```
[root@client1 linux]# ./xcp delete -force -exclude "fnm('USER5')"  
10.101.10.101:/temp7/user2/  
  
Job ID: Job_2023-04-25_07.54.25.241216_delete  
WARNING: You have selected 10.101.10.101:/temp7/user2 for removing  
data. Data in this path  
/temp7/user2 will be deleted.  
Recursively removing data in 10.101.10.101:/temp7/user2 ...  
29,946 scanned, 1 excluded, 6,492 removes, 977 rmdirs, 7.42 MiB in  
(1.48 MiB/s), 1.54 MiB out  
(316 KiB/s), 5s  
Xcp command : xcp delete -force -exclude fnm('USER5')  
10.101.10.101:/temp7/user2/  
Stats : 29,946 scanned, 1 excluded, 28,160 removes, 1,785 rmdirs  
Speed : 10.6 MiB in (1.18 MiB/s), 5.03 MiB out (574 KiB/s)  
Total Time : 8s.  
Job ID : Job_2023-04-25_07.54.25.241216_delete  
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-  
25_07.54.25.241216_delete.log  
STATUS : PASSED  
[root@client1 linux]#
```

刪除平行 <n>

使用 `-parallel <n>` 參數 `delete` 命令以指定並行批次處理程序的最大數目。預設值為 7。

語法

```
xcp delete -force -parallel <n> -match <filter> <NFS export path>
```

顯示範例

```
[root@client1 linux]# ./xcp delete -force -parallel 8 -match
"fnm('2023-04-25_05.49.26.733160*')" 10.101.10.101:/xcp_catalog/

Job ID: Job_2023-04-25_06.15.27.024987_delete
WARNING: You have selected 10.101.10.101:/xcp_catalog for removing
data. Data in this path /xcp_catalog will be deleted.
Recursively removing data in 10.101.10.101:/xcp_catalog ...
Xcp command : xcp delete -force -parallel 8 -match fnm('2023-04-
25_05.49.26.733160*')
10.101.10.101:/xcp_catalog/
Stats : 182 scanned, 1 matched, 1 remove
Speed : 50.0 KiB in (115 KiB/s), 5.45 KiB out (12.5 KiB/s)
Total Time : 0s.
Job ID : Job_2023-04-25_06.15.27.024987_delete
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
25_06.15.27.024987_delete.log
STATUS : PASSED
[root@client1 linux]#
```

刪除 **-preserve-ctime**

使用 `-preserve-ctime <preserve-ctime>` 參數 `delete` 保留檔案或目錄存取時間的命令。預設值為假。

語法

```
xcp delete -force -preserve-ctime <NFS export path>
```

顯示範例

```
[root@client1 linux]# ./xcp delete -force -preserve-atime
<IP_address>:/temp7/user2/

Job ID: Job_2023-04-25_07.55.30.972162_delete
WARNING: You have selected <IP_address>:/temp7/user2 for removing data.
Data in this path
/temp7/user2 will be deleted.
Recursively removing data in <IP_address>:/temp7/user2 ...
Xcp command : xcp delete -force -preserve-atime
<IP_address>:/temp7/user2/
Stats : 256 scanned, 255 rmdirs
Speed : 199 KiB in (108 KiB/s), 75.7 KiB out (41.1 KiB/s)
Total Time : 1s.
Job ID : Job_2023-04-25_07.55.30.972162_delete
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
25_07.55.30.972162_delete.log
STATUS : PASSED
[root@client-1 linux]#
```

刪除 -logLevel <name>

使用 -loglevel <name> 參數 delete 用於設置日誌級別的命令；可用級別為 info 和 debug 。預設層級為資訊。

語法

```
xcp delete -force -loglevel DEBUG -removetopdir <NFS export path>
```

顯示範例

```
[root@client1 linux]# ./xcp delete -force -loglevel DEBUG -removetopdir
10.101.10.101:/temp7/user9

Job ID: Job_2023-04-25_08.03.38.218893_delete
WARNING: You have selected 10.101.10.101:/temp7/user9 for removing
data. Data in this
path /temp7/user9 will be deleted.
Recursively removing data in 10.101.10.101:/temp7/user9 ...
50,500 scanned, 16,838 removes, 11.5 MiB in (2.27 MiB/s), 2.70 MiB out
(547 KiB/s), 5s
85,595 scanned, 43,016 removes, 21.5 MiB in (1.97 MiB/s), 6.70 MiB out
(806 KiB/s),
10s
.
.
.
1.01M scanned, 999,771 removes, 1,925 rmdirs, 324 MiB in (1.42 MiB/s),
153 MiB out
(922 KiB/s), 3m6s
Xcp command : xcp delete -force -loglevel DEBUG -removetopdir
10.101.10.101:/temp7/user9
Stats : 1.01M scanned, 1.01M removes, 2,041 rmdirs
Speed : 326 MiB in (1.73 MiB/s), 155 MiB out (842 KiB/s)
Total Time : 3m8s.
Job ID : Job_2023-04-25_08.03.38.218893_delete
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
25_08.03.38.218893_delete.log
STATUS : PASSED
[root@client-1 linux]#
```

刪除 -s3.insecure

使用 -s3.insecure 參數 delete 命令使用 HTTP 取代 HTTPS 進行 S3 儲存區通訊。

語法

```
xcp delete -s3.insecure s3://bucket1
```

顯示範例

```
[root@client1 linux]# ./xcp delete -s3.insecure s3:// bucket1

Job ID: Job_2023-06-08_08.51.40.849991_delete
WARNING: You have selected s3://bucket1 for removing data. Data in this
path //bucket1 will be
deleted.
Are you sure you want to delete (yes/no): yes
Recursively removing data in s3://bucket1 ...
Xcp command : xcp delete -s3.insecure s3://bucket1
Stats : 8 scanned, 6 s3.objects, 6 s3.removed
Speed : 0 in (0/s), 0 out (0/s)
Total Time : 5s.
Job ID : Job_2023-06-08_08.51.40.849991_delete
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-
08_08.51.40.849991_delete.log
STATUS : PASSED
```

刪除 -S3.Endpoint <s3_endpoint_url>

使用 -s3.endpoint <s3_endpoint_url> 參數 delete 命令以指定的 URL 取代預設 AWS 端點 URL、以進行 S3 貯體通訊。

語法

```
xcp delete -s3.endpoint https://<endpoint_url>: s3://bucket
```


顯示範例

```
[root@client1 linux]# ./xcp delete -s3.endpoint https://<endpoint_url>:
s3://xcp-testing

Job ID: Job_2023-06-13_11.39.33.042545_delete
WARNING: You have selected s3://xcp-testing for removing data. Data in
this path //xcp-testing
will be deleted.
Are you sure you want to delete (yes/no): yes
Recursively removing data in s3://xcp-testing ...
Xcp command : xcp delete -s3.endpoint https://<endpoint_url>: s3://xcp-
testing
Stats : 8 scanned, 5 s3.objects, 5 s3.removed
Speed : 0 in (0/s), 0 out (0/s)
Total Time : 4s.
Job ID : Job_2023-06-13_11.39.33.042545_delete
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-
13_11.39.33.042545_delete.log
STATUS : PASSED
```

刪除 -s3.profile <name>

使用 s3.profile 參數 delete 命令、從 AWS 認證檔案中指定用於 S3 儲存區通訊的設定檔。

語法

```
xcp delete -s3.profile sg -s3.endpoint https://<endpoint_url>:
s3://bucket
```

顯示範例

```
[root@client1 linux]# ./xcp delete -s3.profile sg -s3.endpoint
https://<endpoint_url>: s3://bucket

Job ID: Job_2023-06-08_08.53.19.059745_delete
WARNING: You have selected s3://bucket for removing data. Data in this
path //bucket will be deleted.
Are you sure you want to delete (yes/no): yes
Recursively removing data in s3://bucket ...
1 scanned, 0 in (0/s), 0 out (0/s), 5s
Xcp command : xcp delete -s3.profile sg -s3.endpoint
https://<endpoint_url>: s3:/ bucket
Stats : 7 scanned, 5 s3.objects, 5 s3.removed
Speed : 0 in (0/s), 0 out (0/s)
Total Time : 9s.
Job ID : Job_2023-06-08_08.53.19.059745_delete
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-
08_08.53.19.059745_delete.log
STATUS : PASSED
```

刪除 -s3.noverify

使用 -s3.noverify 參數 delete 用於覆寫 S3 儲存區通訊之 SSL 憑證預設驗證的命令。

語法

```
xcp delete -s3.noverify s3://bucket
```

顯示範例

```
[root@client-1 linux]# ./xcp delete -s3.noverify s3://bucket1

Job ID: Job_2023-06-13_10.56.19.319076_delete
WARNING: You have selected s3://bucket1 for removing data. Data in this
path //bucket1 will be
deleted.
Are you sure you want to delete (yes/no): yes
Recursively removing data in s3://bucket1 ...
2,771 scanned, 0 in (0/s), 0 out (0/s), 5s
9,009 scanned, 9,005 s3.objects, 2,000 s3.removed, 0 in (0/s), 0 out
(0/s), 10s
Xcp command : xcp delete -s3.noverify s3://bucket1
Stats : 9,009 scanned, 9,005 s3.objects, 9,005 s3.removed
Speed : 0 in (0/s), 0 out (0/s)
Total Time : 15s.
Job ID : Job_2023-06-13_10.56.19.319076_delete
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-06-
13_10.56.19.319076_delete.log
STATUS : PASSED
```

預估

XCP NFS estimate 命令用於估計從來源複本到目的地完成基準複本的時間。它會使用所有目前可用的系統資源（例如 CPU 、 RAM 、 網路和其他參數）來計算完成基礎複本的預估時間。您可以使用 **-target** 選項可開始範例複本作業並取得預估時間。

語法

```
xcp estimate -id <name>
```

顯示範例

```
[root@client-01 linux]# ./xcp estimate -t 100 -id estimate01 -target
10.101.10.10:/temp8

xcp: WARNING: your license will expire in less than 10 days! You can
renew your license at https://xcp.netapp.com
Job ID: Job_2023-04-12_08.09.16.126908_estimate
Starting live test for 1m40s to estimate time to copy
'10.101.10.10:/temp4' to
'10.101.10.10:/temp8'...
estimate regular file copy task completed before the 1m40s duration
0 in (0/s), 0 out (0/s), 5s
0 in (0/s), 0 out (0/s), 10s
Estimated time to copy '10.101.12.11:/temp4' to '10.101.12.10:/temp8'
based on a 1m40s live test:
5.3s
Xcp command : xcp estimate -t 100 -id estimate01 -target
10.101.12.10:/temp8
Estimated Time : 5.3s
Job ID : Job_2023-04-12_08.09.16.126908_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
12_08.09.16.126908_estimate.log
STATUS : PASSED
[root@client-01linux]#
```

下表列出 `estimate` 參數及其說明。

參數	說明
<<nfs_estimate_id,估計 -id ; 名稱 >	指定先前複本或掃描索引的目錄名稱。
<<nfs_estimate_gbit,估計 -Gbit () ;	使用 Gb 頻寬來估計最佳案例時間（預設值：1）。
估計 - 目標	指定用於即時測試複本的目標。
<<nfs_estimate_t,估計 -t ; n/s/m/h>	指定即時測試複本的持續時間（預設值：5 分鐘）。
<<nfs_estimate_bs,估計 -bs ; n[k]>	指定讀寫區塊大小（預設值：64K）。
<<nfs_estimate_dircount,估計 -dircount ; n[k]>	指定讀取目錄的要求大小（預設值：64K）。
預估 - 保留 - 保留	保留檔案或目錄的存取時間（預設：false）。
<<nfs_estimate_loglevel,估計 -loglevel ; 名稱 >	設定記錄層級；可用層級為 info 、 debug （預設：info）

估計 -id <name>

使用 `-id <name>` 參數 `estimate` 命令來排除符合篩選條件的檔案和目錄。

語法

```
xcp estimate -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp estimate -id csdata01

xcp: WARNING: your license will expire in less than 11 days! You can
renew your license at
https://xcp.netapp.com
xcp: WARNING: XCP catalog volume is low on disk space: 99.99% used,
62.0 MiB free space.
Job ID: Job_2023-04-20_12.59.31.260914_estimate
== Best-case estimate to copy `data-set:/user1given 1 gigabit of
bandwidth ==
112 TiB of data at max 128 MiB/s: at least 10d13h
Xcp command : xcp estimate -id csdata01
Estimated Time : 10d13h
Job ID : Job_2023-04-20_12.59.31.260914_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
20_12.59.31.260914_estimate.log
STATUS : PASSED
xcp: WARNING: XCP catalog volume is low on disk space: 99.99% used,
62.0 MiB free space.
[root@client1 linux]#
```

估計 -Gbit <n>

使用 -gbit <n> 參數 estimate 估計最佳案例時間的命令（預設值：1）。此選項無法與搭配使用 -target 選項。

語法

```
xcp estimate -gbit <n> -id <name>
```

顯示範例

```
[root@client-01 linux]# ./xcp estimate -gbit 10 -id estimate01

xcp: WARNING: your license will expire in less than 10 days! You can
renew your license at
https://xcp.netapp.com
Job ID: Job_2023-04-12_08.12.28.453735_estimate
== Best-case estimate to copy '10.101.12.11:/temp4' given 10 gigabits
of bandwidth ==
0 of data at max 1.25 GiB/s: at least 0.0s
Xcp command : xcp estimate -gbit 10 -id estimate01
Estimated Time : 0.0s
Job ID : Job_2023-04-12_08.12.28.453735_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
12_08.12.28.453735_estimate.log
STATUS : PASSED
[root@client-01linux]#
```

預估 - 目標 <path>

使用 `-target <path>` 參數 `estimate` 指定用於即時測試複本的目標命令。

語法

```
xcp estimate -t 100 -id <name> -target <path>
```

顯示範例

```
[root@client-01 linux]# ./xcp estimate -t 100 -id estimate01 -target
10.101.12.11:/temp8

xcp: WARNING: your license will expire in less than 10 days! You can
renew your license at https://xcp.netapp.com
Job ID: Job_2023-04-12_08.09.16.126908_estimate
Starting live test for 1m40s to estimate time to copy
'10.101.12.11:/temp4' to '10.101.12.11:/temp8'...
estimate regular file copy task completed before the 1m40s duration
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
12_08.09.16.126908_estimate.log
STATUS : PASSED
[root@client-01linux]#
```

估計 -t <n[s|m|h]>

使用 -t <n[s|m|h]> 參數 estimate 指定即時測試複本持續時間的命令。預設值為 5 公尺。

語法

```
xcp estimate -t <n[s|m|h]> -id <name> -target <path>
```

顯示範例

```
[root@client-01 linux]# ./xcp estimate -t 100 -id estimate01 -target
10.101.12.12:/temp8

xcp: WARNING: your license will expire in less than 10 days! You can
renew your license at
https://xcp.netapp.com
Job ID: Job_2023-04-12_08.09.16.126908_estimate
Starting live test for 1m40s to estimate time to copy
'10.101.12.11:/temp4' to
'10.101.12.12:/temp8'...
estimate regular file copy task completed before the 1m40s duration
0 in (0/s), 0 out (0/s), 5s
0 in (0/s), 0 out (0/s), 10s
Estimated time to copy '10.101.12.11:/temp4' to '10.101.12.12:/temp8'
based on a 1m40s live
test: 5.3s

Xcp command : xcp estimate -t 100 -id estimate01 -target
10.101.12.11:/temp8
Estimated Time : 5.3s
Job ID : Job_2023-04-12_08.09.16.126908_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
12_08.09.16.126908_estimate.log
STATUS : PASSED
[root@client-01linux]#
```

估計 -BS <n[k]>

使用 -bs <n[k]> 參數 estimate 指定讀寫區塊大小的命令。預設值為 64k。

語法

```
xcp estimate -id <name> -bs <n[k]>
```

顯示範例

```
[root@client1 linux]# ./xcp estimate -id estimate01 -bs 128k

xcp: WARNING: your license will expire in less than 7 days! You can
renew your license at
https://xcp.netapp.com
Job ID: Job_2023-04-24_08.44.12.564441_estimate
63.2 KiB in (12.5 KiB/s), 2.38 KiB out (484/s), 5s
== Best-case estimate to copy 'xxx' given 1 gigabit of bandwidth ==
112 TiB of data at max 128 MiB/s: at least 10d13h
Xcp command : xcp estimate -id estimate01 -bs 128k
Estimated Time : 10d13h
Job ID : Job_2023-04-24_08.44.12.564441_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
24_08.44.12.564441_estimate.log
STATUS : PASSED
[root@client1 linux]#
```

估計 -dircount <n[k]>

使用 -dircount <n[k]> 參數 estimate 用於指定讀取目錄所需大小的命令。預設值為 64k。

語法

```
xcp estimate -id <name> -dircount <n[k]> -t <n> -target <path>
```



```
[root@client1 linux]# ./xcp estimate -id csdata01 -dircount 128k -t 300
-target <path>

xcp: WARNING: your license will expire in less than 11 days! You can
renew your license at
https://xcp.netapp.com
xcp: WARNING: XCP catalog volume is low on disk space: 99.99% used,
61.6 MiB free space.
Job ID: Job_2023-04-20_13.03.46.820673_estimate
Starting live test for 5m0s to estimate time to copy 'data-set:/user1
to '<path>'...
1,909 scanned, 126 copied, 2 giants, 580 MiB in (115 MiB/s), 451 MiB
out (89.5 MiB/s), 5s
1,909 scanned, 134 copied, 2 giants, 1.23 GiB in (136 MiB/s), 1015 MiB
out (112 MiB/s), 10s
1,909 scanned, 143 copied, 2 giants, 1.88 GiB in (131 MiB/s), 1.54 GiB
out (113 MiB/s), 15s
.
.
.
7,136 scanned, 2,140 copied, 4 linked, 8 giants, 33.6 GiB in (110
MiB/s), 32.4 GiB out (110
MiB/s), 4m57s
Sample test copy completed for, 300.03s
0 in (-7215675436.180/s), 0 out (-6951487617.036/s), 5m2s
2,186 scanned, 610 KiB in (121 KiB/s), 76.9 KiB out (15.3 KiB/s), 5m7s
Estimated time to copy 'data-set:/user1to '10.01.12.11:/mapr11' based
on a 5m0s live test:
7d6h
Xcp command : xcp estimate -id csdata01 -dircount 128k -t 300 -target
10.101.12.11:/mapr11
Estimated Time : 7d6h
Job ID : Job_2023-04-20_13.03.46.820673_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
20_13.03.46.820673_estimate.log
STATUS : PASSED
xcp: WARNING: XCP catalog volume is low on disk space: 99.99% used,
61.6 MiB free space.
[root@client1 linux]#
```

估計平行 <n>

使用 `-parallel <n>` 參數 `estimate` 命令以指定並行批次處理程序的最大數目。預設值為 7。

語法

```
xcp estimate -loglevel <name> -parallel <n> -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp estimate -loglevel DEBUG -parallel 8 -id
estimate1

xcp: WARNING: your license will expire in less than 11 days! You can
renew your license at
https://xcp.netapp.com
Job ID: Job_2023-04-20_11.36.45.535209_estimate
== Best-case estimate to copy '10.10.101.10:/users009/xxx/mnt' given 1
gigabit of bandwidth ==
6.75 GiB of data at max 128 MiB/s: at least 54.0s
Xcp command : xcp estimate -loglevel DEBUG -parallel 8 -id estimate1
Estimated Time : 54.0s
Job ID : Job_2023-04-20_11.36.45.535209_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
20_11.36.45.535209_estimate.log
STATUS : PASSED
[root@client1 linux]#
```

預估 - 保留 - 保留

使用 `-preserve-ctime` 參數 `estimate` 保留檔案或目錄存取時間的命令。預設值為假。

語法

```
xcp estimate -loglevel <name> -preserve-ctime -id <name>
```

顯示範例

```
root@client1 linux]# ./xcp estimate -loglevel DEBUG -preserve-atype -id
estimate1

xcp: WARNING: your license will expire in less than 11 days! You can
renew your license at
https://xcp.netapp.com
Job ID: Job_2023-04-20_11.19.04.050516_estimate
== Best-case estimate to copy '10.10.101.10:/users009/xxx/mnt' given 1
gigabit of bandwidth
==
6.75 GiB of data at max 128 MiB/s: at least 54.0s
Xcp command : xcp estimate -loglevel DEBUG -preserve-atype -id
estimate1
Estimated Time : 54.0s
Job ID : Job_2023-04-20_11.19.04.050516_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
20_11.19.04.050516_estimate.log
STATUS : PASSED
[root@client1 linux]#
```

估計 -logLevel <name>

使用 -loglevel <name> 參數 estimate 用於設置日誌級別的命令；可用級別為 info 和 debug。預設層級為資訊。

語法

```
xcp estimate -loglevel <name> -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp estimate -loglevel DEBUG -parallel 8 -id estimate1

xcp: WARNING: your license will expire in less than 11 days! You can
renew your license at
https://xcp.netapp.com
Job ID: Job_2023-04-20_11.36.45.535209_estimate
== Best-case estimate to copy '10.10.101.10:/users009/xxx/mnt' given 1
gigabit of bandwidth ==
6.75 GiB of data at max 128 MiB/s: at least 54.0s
Xcp command : xcp estimate -loglevel DEBUG -parallel 8 -id estimate1
Estimated Time : 54.0s
Job ID : Job_2023-04-20_11.36.45.535209_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-04-
20_11.36.45.535209_estimate.log
STATUS : PASSED
[root@client1 linux]#
```

索引刪除

NFS indexdelete 命令會刪除目錄索引。

語法

```
xcp indexdelete
```

```
[root@client1 linux]# ./xcp indexdelete

Job ID: Job_2023-11-16_02.41.20.260166_indexdelete
=====
=====
Name Command Size Created Updated
=====
=====
isync_tcl_retry copy 996 KiB 15-Nov-2023 15-Nov-2023
isync_est_isync isync 1012 KiB 15-Nov-2023 15-Nov-2023
XCP_verify_2023-11-15_05.56.17.522428 verify 1016 KiB 15-Nov-2023 15-
Nov-2023
XCP_verify_2023-11-15_06.04.31.693517 verify 1.00 MiB 15-Nov-2023 15-
Nov-2023
isync_tcl_retry1 copy 988 KiB 15-Nov-2023 15-Nov-2023
XCP_verify_2023-11-15_09.02.46.973624 verify 988 KiB 15-Nov-2023 15-
Nov-2023
est001 isync 1012 KiB 15-Nov-2023 15-Nov-2023
XCP_verify_2023-11-15_09.37.24.179634 verify 0 15-Nov-2023 15-Nov-2023
albatch_error1 copy 368 KiB 15-Nov-2023 15-Nov-2023
XCP_verify_2023-11-15_09.45.53.104055 verify 360 KiB 15-Nov-2023 15-
Nov-2023
albatch_error2 isync 376 KiB 15-Nov-2023 15-Nov-2023
XCP_verify_2023-11-15_09.48.05.000473 verify 372 KiB 15-Nov-2023 15-
Nov-2023
blbatch_error1 copy 4.50 KiB 15-Nov-2023 15-Nov-2023
XCP_verify_2023-11-15_12.00.29.214479 verify 4.50 KiB 15-Nov-2023 15-
Nov-2023
blbatch_error2 isync 4.50 KiB 15-Nov-2023 15-Nov-2023
XCP_verify_2023-11-15_12.00.40.536687 verify 4.50 KiB 15-Nov-2023 15-
Nov-2023
XCP_verify_2023-11-15_12.27.08.055501 verify 4.50 KiB 15-Nov-2023 15-
Nov-2023
XCP_verify_2023-11-15_12.27.39.797020 verify 4.50 KiB 15-Nov-2023 15-
Nov-2023
XCP_verify_2023-11-15_12.52.29.408766 verify 4.50 KiB 15-Nov-2023 15-
Nov-2023
XCP_verify_2023-11-15_12.53.01.870109 verify 4.50 KiB 15-Nov-2023 15-
Nov-2023
clbatch_error1 copy 988 KiB 15-Nov-2023 15-Nov-2023
XCP_verify_2023-11-15_22.54.11.081944 verify 976 KiB 15-Nov-2023 15-
Nov-2023
clbatch_error2 isync 1020 KiB 15-Nov-2023 15-Nov-2023
```

```

XCP_verify_2023-11-15_23.19.44.158263 verify 1.00 MiB 15-Nov-2023 15-
Nov-2023
XCP_verify_2023-11-15_23.44.01.274732 verify 4.50 KiB 15-Nov-2023 15-
Nov-2023
clbatch_error132576 copy 992 KiB 16-Nov-2023 16-Nov-2023
clbatch_error227998 isync 1004 KiB 16-Nov-2023 16-Nov-2023
XCP_verify_2023-11-16_01.07.45.824516 verify 1012 KiB 16-Nov-2023 16-
Nov-2023
S3_index copy 52.5 KiB 16-Nov-2023 16-Nov-2023
S3_index1 copy 52.5 KiB 16-Nov-2023 16-Nov-2023
clbatch_error14383 copy 728 KiB 16-Nov-2023 16-Nov-2023
32 scanned, 941 KiB in (1.04 MiB/s), 48.8 KiB out (55.4 KiB/s), 0s.
WARNING: 31 indexes will be deleted permanently.
Are you sure you want to delete (yes/no): yes
Xcp command : xcp indexdelete
Stats : 466 scanned, 31 index deleted
Speed : 1.09 MiB in (216 KiB/s), 133 KiB out (25.8 KiB/s)
Total Time : 5s.
Job ID : Job_2023-11-16_02.41.20.260166_indexdelete
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_02.41.20.260166_indexdelete.log
STATUS : PASSED
[root@client1 linux]#

```

下表列出 `indexdelete` 參數及其說明。

參數	說明
<<nfs_indexdelete_match,索引刪除 - 符合 ；篩選器 >	僅處理與篩選器相符的檔案和目錄。
<<nfs_indexdelete_loglevel,indexdelete -loglevel ；名稱 >	設定記錄層級；可用層級為 info 、 debug （預設：info ）。

indexdelete -match <filter>

使用 `-match <filter>` 參數 `indexdelete` 僅處理與篩選器相符的檔案和目錄的命令。

語法

```
xcp indexdelete -match <filter>
```

顯示範例

```
[root@client1 linux]# ./xcp indexdelete -match "fnm('S3_index12')"
```

Job ID: Job_2023-11-16_02.44.39.862423_indexdelete

=====

==

Name	Command	Size	Created	Updated
=====				
==				
S3_index12	copy	52.5 KiB	16-Nov-2023	16-Nov-2023

5 scanned, 1 matched, 141 KiB in (121 KiB/s), 6.05 KiB out (5.20 KiB/s), 1s.

WARNING: 1 matched index will be deleted permanently.

Are you sure you want to delete (yes/no): yes

Xcp command : xcp indexdelete -match fnm('S3_index12')

Stats : 19 scanned, 1 matched, 1 index deleted

Speed : 146 KiB in (29.3 KiB/s), 8.59 KiB out (1.72 KiB/s)

Total Time : 4s.

Job ID : Job_2023-11-16_02.44.39.862423_indexdelete

Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-16_02.44.39.862423_indexdelete.log

STATUS : PASSED

```
[root@client1 linux]#
```

indexdelete -loglevel <name>

使用 `-loglevel <name>` 參數 `indexdelete` 用於設置日誌級別的命令；可用級別為 `info` 和 `debug`。預設層級為資訊。

語法

```
xcp indexdelete -loglevel <name> -match <filter>
```

```

root@client1 linux]# ./xcp indexdelete -loglevel DEBUG -match
"fnm('test*')"

Job ID: Job_2023-11-16_03.39.36.814557_indexdelete
=====
=====
Name Command Size Created Updated
=====
=====
testing scan 24.5 KiB 16-Nov-2023 16-Nov-2023
testingisync isync 12.5 KiB 16-Nov-2023 16-Nov-2023
5 scanned, 2 matched, 65.1 KiB in (61.1 KiB/s), 6.24 KiB out (5.85
KiB/s), 1s.
WARNING: 2 matched indexes will be deleted permanently.
Are you sure you want to delete (yes/no): yes
6 scanned, 2 matched, 65.1 KiB in (10.5 KiB/s), 6.39 KiB out (1.03
KiB/s), 7s
Xcp command : xcp indexdelete -loglevel DEBUG -match fnm('test*')
Stats : 32 scanned, 2 matched, 2 index deleted
Speed : 75.5 KiB in (10.3 KiB/s), 11.1 KiB out (1.52 KiB/s)
Total Time : 7s.
Job ID : Job_2023-11-16_03.39.36.814557_indexdelete
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_03.39.36.814557_indexdelete.log
STATUS : PASSED
[root@client1 linux]#

```

iSync

檢視 XCP 的說明、參數和範例 `isync` 命令、包括何時執行 `isync` 命令可搭配使用 `estimate` 選項。

iSync

XCP NFS `isync` 命令會比較來源和目的地、並在不使用目錄索引的情況下同步目標上的差異。

語法

```
xcp isync <source_ip_address>:/src <destination_ip_address>:/dest
```



```
[root@client1 linux]# ./xcp isync <source_ip_address>:/src
<destination_ip_address>:/dest

Job ID: Job_2023-11-20_04.11.03.128824_isync
41,030 scanned, 935 MiB in (162 MiB/s), 4.23 MiB out (752 KiB/s), 6s
57,915 scanned, 2.10 GiB in (239 MiB/s), 10.00 MiB out (1.13 MiB/s),
11s
57,915 scanned, 3.20 GiB in (210 MiB/s), 14.6 MiB out (879 KiB/s), 16s
92,042 scanned, 4.35 GiB in (196 MiB/s), 21.6 MiB out (1.17 MiB/s), 22s
123,977 scanned, 5.70 GiB in (257 MiB/s), 29.6 MiB out (1.49 MiB/s),
27s
137,341 scanned, 6.75 GiB in (212 MiB/s), 36.0 MiB out (1.25 MiB/s),
32s
154,503 scanned, 8.00 GiB in (226 MiB/s), 43.0 MiB out (1.24 MiB/s),
38s
181,578 scanned, 36 copied, 8.68 GiB in (132 MiB/s), 49.7 MiB out (1.26
MiB/s), 43s
target scan completed: 181,656 scanned, 1,477 copied, 1 removed, 8.76
GiB in (200 MiB/s), 123 MiB
out (2.75 MiB/s), 44s.
181,907 scanned, 10,013 copied, 1 removed, 9.17 GiB in (95.3 MiB/s),
545 MiB out (95.2 MiB/s), 49s
Xcp command : xcp isync <source_ip_address>:/src
<destination_ip_address>:/dest
Stats : 1 removed, 181,907 scanned, 10,263 copied
Speed : 9.17 GiB in (190 MiB/s), 548 MiB out (11.1 MiB/s)
Total Time : 49s.
Job ID : Job_2023-11-20_04.11.03.128824_isync
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
20_04.11.03.128824_isync.log
STATUS : PASSED
[root@client1 linux]
```

下表列出 isync 參數及其說明。

參數	說明
iSync -nodata	不檢查資料。
iSync -noattos	不檢查屬性。
iSync -nomods	不會檢查檔案修改時間。
iSync -mtimeWindow	指定可接受的修改時間差異以進行驗證。

參數	說明
<<nfs_isync_match,iSync - 符合 ; 篩選器 >	僅處理與篩選器相符的檔案和目錄。
<<nfs_isync_bs,iSync -BS ; n[k]>	指定讀寫區塊大小（預設值： 64K ）。
<<nfs_isync_parallel,iSync -parallel ; n>	指定並行批次處理程序的最大數目（預設值： 7 ）。
<<nfs_isync_dircount,iSync -dircount ; n[k]>	指定讀取目錄時的要求大小（預設為 64k ）。
<<nfs_isync_exclude,iSync - 排除 ; 篩選器 >	排除符合篩選條件的檔案和目錄。
<<nfs_isync_newid,iSync -nevid ; 名稱 >	指定新索引目錄的目錄名稱。
<<nfs_isync_loglevel,iSync -loglevel ; 名稱 >	設定記錄層級；可用層級為 info 、 debug （預設： info ）。
iSync -preserve-atime	將來源上的所有檔案還原至上次存取的日期。
iSync -s3.insecure	提供選項、可在 S3 Bucket 通訊中使用 HTTP 而非 HTTPS 。
<<nfs_isync_endpoint,iSync -S3.Endpoint ; S3_端點_URL>	以 S3 Bucket 通訊的指定 URL 覆寫預設的 Amazon Web Services （ AWS ）端點 URL 。
<<nfs_isync_s3_profile,iSync -s3.profile ; profile_name gt;	從 AWS 認證檔案指定用於 S3 儲存區通訊的設定檔。
iSync -s3.noverify	覆寫 S3 Bucket 通訊的 SSL 認證預設驗證。

iSync -nodata

使用 -nodata 參數 isync 指定不檢查資料的命令。

語法

```
xcp isync -nodata <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
```

```

root@client1 linux]# ./xcp isync -nodata
<source_ip_address>:/source_vol<destination_ip_address>:/dest_vol

Job ID: Job_2023-11-16_22.47.20.930900_isync
11,301 scanned, 3.26 MiB in (414 KiB/s), 479 KiB out (59.5 KiB/s), 8s
28,644 scanned, 437 copied, 33.7 MiB in (5.39 MiB/s), 27.2 MiB out
(4.75 MiB/s), 13s
29,086 scanned, 1,001 copied, 58.2 MiB in (3.54 MiB/s), 51.8 MiB out
(3.55 MiB/s), 20s
29,490 scanned, 1,001 copied, 597 removed, 61.1 MiB in (592 KiB/s),
53.7 MiB out (375 KiB/s),
25s
98
.
.
.
43,391 scanned, 1,063 copied, 1,001 removed, 2.49 GiB in (115 MiB/s),
2.48 GiB out (115 MiB/s),
1m17s
43,391 scanned, 1,082 copied, 1,001 removed, 3.08 GiB in (119 MiB/s),
3.07 GiB out (119 MiB/s),
1m23s
43,391 scanned, 1,088 copied, 1,001 removed, 3.68 GiB in (122 MiB/s),
3.67 GiB out (122 MiB/s),
1m28s
Xcp command : xcp isync -nodata <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
Stats : 1,001 removed, 43,391 scanned, 1,108 copied
Speed : 4.19 GiB in (46.7 MiB/s), 4.18 GiB out (46.5 MiB/s)
Total Time : 1m31s.
Job ID : Job_2023-11-16_22.47.20.930900_isync
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_22.47.20.930900_isync.log
Error Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_22.47.20.930900_isync.error
STATUS : PASSED

```

iSync -noattos

使用 `-noattr` 參數 `isync` 指定不檢查屬性的命令。

語法

```
xcp isync -noattrs <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

顯示範例

```
[root@client1 linux]# ./xcp isync -noattrs  
<source_ip_address>:/source_vol <destination_ip_address>:/dest_vol  
  
Job ID: Job_2023-11-16_22.49.22.056646_isync  
18,036 scanned, 940 MiB in (168 MiB/s), 2.67 MiB out (488 KiB/s), 5s  
30,617 scanned, 285 removed, 4.23 GiB in (666 MiB/s), 12.0 MiB out  
(1.82 MiB/s), 10s  
32,975 scanned, 746 removed, 6.71 GiB in (505 MiB/s), 18.3 MiB out  
(1.25 MiB/s), 15s  
34,354 scanned, 1,000 removed, 9.39 GiB in (543 MiB/s), 24.9 MiB out  
(1.32 MiB/s), 20s  
34,594 scanned, 1,000 removed, 12.1 GiB in (540 MiB/s), 31.2 MiB out  
(1.24 MiB/s), 26s  
36,142 scanned, 722 copied, 1,000 removed, 14.9 GiB in (540 MiB/s),  
73.7 MiB out (7.93 MiB/s),  
31s  
.  
.  
.  
42,496 scanned, 1,000 copied, 1,000 removed, 234 GiB in (716 MiB/s),  
582 MiB out (1.55 MiB/s),  
7m22s  
Xcp command : xcp isync -noattrs <<source_ip_address>>:/source_vol  
<destination_ip_address>:/dest_vol  
Stats : 1,000 removed, 42,496 scanned, 1,000 copied  
Speed : 234 GiB in (542 MiB/s), 583 MiB out (1.32 MiB/s)  
Total Time : 7m22s.  
Job ID : Job_2023-11-16_22.49.22.056646_isync  
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-  
16_22.49.22.056646_isync.log  
Error Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-  
16_22.49.22.056646_isync.error  
STATUS : PASSED
```

iSync - nomods

使用 `-nomods` 參數 `isync` 指定不檢查檔案修改時間的命令。

語法

```
isync -nomods <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

顯示範例

```
[root@client1 linux]# ./xcp isync -nomodes  
<source_ip_address>:/source_vol <destination_ip_address>:/dest_vol  
  
Job ID: Job_2023-11-16_22.56.48.571392_isync  
13,897 scanned, 763 MiB in (152 MiB/s), 2.28 MiB out (463 KiB/s), 5s  
21,393 scanned, 148 removed, 4.81 GiB in (739 MiB/s), 12.5 MiB out  
(1.81 MiB/s), 11s  
28,517 scanned, 148 removed, 7.68 GiB in (578 MiB/s), 19.1 MiB out  
(1.31 MiB/s), 16s  
28,517 scanned, 148 removed, 10.7 GiB in (619 MiB/s), 26.3 MiB out  
(1.43 MiB/s), 21s  
29,167 scanned, 396 copied, 148 removed, 13.2 GiB in (434 MiB/s), 51.4  
MiB out (4.33 MiB/s), 27s  
.  
.  
.  
42,790 scanned, 1,000 copied, 1,000 removed, 229 GiB in (641 MiB/s),  
571 MiB out (1.40 MiB/s),  
6m42s  
42,790 scanned, 1,000 copied, 1,000 removed, 232 GiB in (668 MiB/s),  
578 MiB out (1.46 MiB/s),  
6m47s  
Xcp command : xcp isync -nomods <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol  
Stats : 1,000 removed, 42,790 scanned, 1,000 copied  
Speed : 234 GiB in (585 MiB/s), 583 MiB out (1.42 MiB/s)  
Total Time : 6m50s.  
Job ID : Job_2023-11-16_22.56.48.571392_isync  
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-  
16_22.56.48.571392_isync.log  
STATUS : PASSED
```

iSync -mtimeWindow <s>

使用 -mtimewindow <s> 參數 isync 命令以指定可接受的修改時間差異以進行驗證。

語法

```
xcp isync -mtimewindow <s> <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

```

[root@client1 linux]# ./xcp isync -mtimewindow 10
10.101.101.101:/source_vol 10.101.101.101:/dest_vol

Job ID: Job_2023-11-16_23.03.41.617300_isync

 23,154 scanned, 146 removed, 1.26 GiB in (247 MiB/s), 4.50 MiB out
(882 KiB/s), 5s

 29,587 scanned, 485 removed, 4.51 GiB in (659 MiB/s), 13.4 MiB out
(1.77 MiB/s), 10s

 29,587 scanned, 485 removed, 7.40 GiB in (590 MiB/s), 20.0 MiB out
(1.32 MiB/s), 16s

 32,712 scanned, 485 removed, 10.3 GiB in (592 MiB/s), 26.9 MiB out
(1.34 MiB/s), 21s

 33,712 scanned, 485 removed, 13.2 GiB in (578 MiB/s), 33.6 MiB out
(1.33 MiB/s), 26s

 33,712 scanned, 961 copied, 485 removed, 15.5 GiB in (445 MiB/s), 86.6
MiB out (9.89 MiB/s), 31s

.

.

.

42,496 scanned, 1,000 copied, 1,000 removed, 233 GiB in (655 MiB/s),
581 MiB out (1.43 MiB/s), 7m11s

Xcp command : xcp isync -mtimewindow 10 -loglevel DEBUG
10.101.101.101:/source_vol 10.101.101.101:/dest_vol

Stats          : 1,000 removed, 42,496 scanned, 1,000 copied

Speed          : 234 GiB in (554 MiB/s), 583 MiB out (1.35 MiB/s)

Total Time    : 7m12s.

Job ID        : Job_2023-11-16_23.03.41.617300_isync

```

```
Log Path      : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-16_23.03.41.617300_isync.log
```

```
Error Path    : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-16_23.03.41.617300_isync.error
```

```
STATUS       : PASSED
```

iSync -Match <filter>

使用 `-match <filter>` 參數 `isync` 僅處理與篩選器相符的檔案和目錄的命令。

語法

```
xcp isync -match <filter> -id <name>
```


顯示範例

```
[root@client1 linux]# ./xcp isync -match fnm("FILE_USER5*")
<source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
Job ID: Job_2023-11-16_23.25.03.734323_isync
24,006 scanned, 570 matched, 32.5 MiB in (5.31 MiB/s), 221 KiB out
(36.2 KiB/s), 6s
33,012 scanned, 570 matched, 34.2 MiB in (223 KiB/s), 237 KiB out (2.06
KiB/s), 14s
33,149 scanned, 572 matched, 275 MiB in (38.3 MiB/s), 781 KiB out (86.6
KiB/s), 20s
39,965 scanned, 572 matched, 276 MiB in (214 KiB/s), 812 KiB out (4.95
KiB/s), 27s
40,542 scanned, 572 matched, 276 MiB in (15.4 KiB/s), 818 KiB out (1.00
KiB/s), 32s
40,765 scanned, 1,024 matched, 1.88 GiB in (297 MiB/s), 4.51 MiB out
(682 KiB/s), 38s
target scan completed: 41,125 scanned, 1,055 matched, 1.88 GiB in (48.9
MiB/s), 4.51 MiB out
(117 KiB/s), 39s.
42,372 scanned, 1,206 matched, 4.26 GiB in (445 MiB/s), 9.92 MiB out
(1013 KiB/s), 43s
Filtered: 1206 matched, 41290 did not match
Xcp command : xcp isync -match fnm("FILE_USER5*")
<source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
Stats : 42,496 scanned, 1,206 matched
Speed : 6.70 GiB in (145 MiB/s), 15.4 MiB out (332 KiB/s)
Total Time : 47s.
Job ID : Job_2023-11-16_23.25.03.734323_isync
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_23.25.03.734323_isync.log
STATUS : PASSED
```

iSync -BS <n[k]>

使用 -bs <n[k]> 參數 isync 指定讀寫區塊大小的命令。預設區塊大小為 64k。

語法

```
xcp isync -loglevel DEBUG -bs <n[k]> <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
```

顯示範例

```
root@client1 linux]# ./xcp isync -loglevel DEBUG -bs 32k
<source_ip_address>:/source_vol <destination_ip_address>:/dest_vol

Job ID: Job_2023-11-17_00.49.20.336389_isync
20,616 scanned, 1.62 GiB in (332 MiB/s), 8.23 MiB out (1.64 MiB/s), 5s
30,240 scanned, 4.55 GiB in (594 MiB/s), 22.4 MiB out (2.81 MiB/s), 10s
30,439 scanned, 7.47 GiB in (589 MiB/s), 35.6 MiB out (2.60 MiB/s), 15s
30,439 scanned, 10.5 GiB in (617 MiB/s), 49.5 MiB out (2.75 MiB/s), 20s
30,863 scanned, 1 copied, 13.3 GiB in (547 MiB/s), 62.7 MiB out (2.56
MiB/s), 25s
.
.
.
42,497 scanned, 71 copied, 227 GiB in (637 MiB/s), 5.12 GiB out (2.79
MiB/s), 6m40s
42,497 scanned, 71 copied, 229 GiB in (538 MiB/s), 5.13 GiB out (2.35
MiB/s), 6m45s
Xcp command : xcp isync -loglevel DEBUG -bs 32k
<source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
Stats : 42,497 scanned, 71 copied
Speed : 231 GiB in (579 MiB/s), 5.14 GiB out (12.9 MiB/s)
Total Time : 6m48s.
Job ID : Job_2023-11-17_00.49.20.336389_isync
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
17_00.49.20.336389_isync.log
Error Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
17_00.49.20.336389_isync.error
STATUS : PASSED
[root@client1 linux]#
```

iSync - 平行

使用 `-parallel <n>` 參數 `isync` 命令以指定並行批次處理程序的最大數目。預設值為 7。

語法

```
xcp isync -parallel <n> <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
```

顯示範例

```
[root@client1 linux]# xcp isync -parallel 16
<source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol

Job ID: Job_2023-11-16_23.25.57.058655_isync
21,279 scanned, 765 MiB in (104 MiB/s), 2.43 MiB out (337 KiB/s), 7s
30,208 scanned, 126 removed, 3.00 GiB in (461 MiB/s), 9.11 MiB out
(1.33 MiB/s), 12s
35,062 scanned, 592 removed, 6.01 GiB in (615 MiB/s), 17.2 MiB out
(1.61 MiB/s), 17s
35,062 scanned, 592 removed, 7.35 GiB in (272 MiB/s), 20.3 MiB out (642
KiB/s), 22s
.
.
.
42,496 scanned, 1,027 copied, 1,027 removed, 231 GiB in (602 MiB/s),
576 MiB out (1.31 MiB/s),
7m40s
Xcp command : xcp isync -parallel 16 <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
Stats : 1,027 removed, 42,496 scanned, 1,027 copied
Speed : 234 GiB in (515 MiB/s), 584 MiB out (1.26 MiB/s)
Total Time : 7m45s.
Job ID : Job_2023-11-16_23.25.57.058655_isync
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_23.25.57.058655_isync.log
Error Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_23.25.57.058655_isync.error
STATUS : PASSED
```

iSync -dircount <n[k]>

使用 -dircount <n[k]> 參數 isync 用於指定讀取目錄時的要求大小的命令。預設值為 64k 。

語法

```
xcp isync -dircount <n[k]> <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
```

```

root@client1 linux]# ./xcp isync -dircount 32k
<source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
Job ID: Job_2023-11-16_23.33.45.854686_isync
16,086 scanned, 824 MiB in (164 MiB/s), 2.75 MiB out (558 KiB/s), 5s
24,916 scanned, 4.42 GiB in (727 MiB/s), 12.5 MiB out (1.91 MiB/s), 11s
31,633 scanned, 237 removed, 7.19 GiB in (567 MiB/s), 19.0 MiB out
(1.30 MiB/s), 16s
31,633 scanned, 237 removed, 9.74 GiB in (512 MiB/s), 24.7 MiB out
(1.13 MiB/s), 21s
33,434 scanned, 237 removed, 11.6 GiB in (385 MiB/s), 29.3 MiB out (935
KiB/s), 26s
33,434 scanned, 499 copied, 237 removed, 13.1 GiB in (298 MiB/s), 57.7
MiB out (5.66 MiB/s), 31s
.
.
.
42,496 scanned, 1,000 copied, 1,000 removed, 229 GiB in (609 MiB/s),
572 MiB out (1.34 MiB/s),
7m3s
42,496 scanned, 1,000 copied, 1,000 removed, 232 GiB in (549 MiB/s),
578 MiB out (1.20 MiB/s),
7m8s
Xcp command : xcp isync -dircount 32k <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
Stats : 1,000 removed, 42,496 scanned, 1,000 copied
Speed : 234 GiB in (555 MiB/s), 583 MiB out (1.35 MiB/s)
Total Time : 7m11s.
Job ID : Job_2023-11-16_23.33.45.854686_isync
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_23.33.45.854686_isync.log
Error Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_23.33.45.854686_isync.error
STATUS : PASSED

```

iSync - 排除 <filter>

使用 `-exclude <filter>` 參數 `isync` 命令來排除符合篩選條件的檔案和目錄。

語法

```
xcp isync -exclude <filter> <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

顯示範例

```
[root@client1 linux]# ./xcp isync -exclude fnm("FILE_USER5*")  
<source_ip_address>:/source_vol <destination_ip_address>:/dest_vol  
Job ID: Job_2023-11-16_23.41.00.713151_isync  
14,514 scanned, 570 excluded, 675 MiB in (133 MiB/s), 2.03 MiB out (411  
KiB/s), 5s  
24,211 scanned, 570 excluded, 4.17 GiB in (713 MiB/s), 11.0 MiB out  
(1.79 MiB/s), 10s  
30,786 scanned, 574 excluded, 116 removed, 7.07 GiB in (589 MiB/s),  
17.7 MiB out (1.32  
MiB/s), 15s  
30,786 scanned, 574 excluded, 116 removed, 10.1 GiB in (629 MiB/s),  
24.7 MiB out (1.40  
MiB/s), 20s  
31,106 scanned, 222 copied, 574 excluded, 116 removed, 12.8 GiB in (510  
MiB/s), 42.3 MiB out  
(3.33 MiB/s), 26s  
.  
.  
.  
41,316 scanned, 1,000 copied, 1,206 excluded, 1,000 removed, 225 GiB in  
(616 MiB/s), 563 MiB  
out (1.36 MiB/s), 6m35s  
Excluded: 1206 excluded, 0 did not match exclude criteria  
Xcp command : xcp isync -exclude fnm("FILE_USER5*")  
<source_ip_address>:/source_vol <destination_ip_address>:/dest_vol  
Stats : 1,000 removed, 41,316 scanned, 1,000 copied, 1,206 excluded  
Speed : 227 GiB in (584 MiB/s), 568 MiB out (1.42 MiB/s)  
Total Time : 6m38s.  
Job ID : Job_2023-11-16_23.41.00.713151_isync  
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-  
16_23.41.00.713151_isync.log  
Error Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-  
16_23.41.00.713151_isync.error  
STATUS : PASSED
```

iSync -newid <name>

使用 -newid <name> 參數 isync 用於指定新索引目錄的目錄名稱的命令。

語法

```
xcp isync -newid <name> -s3.endpoint <S3_endpoint_url>  
<source_ip_address>:/src/USER4 s3://isyncestimate/
```

顯示範例

```
root@client1 linux]# ./xcp isync -newid testing -s3.endpoint  
<S3_endpoint_url> <source_ip_address>:/src/USER4 s3://isyncestimate/  
  
Job ID: Job_2023-11-16_04.33.32.381458_isync  
target scan completed: 502 scanned, 250 s3.objects, 251 indexed, 118  
KiB in (38.9 KiB/s), 63.7  
KiB out (20.9 KiB/s), 3s.  
Xcp command : xcp isync -newid testing -s3.endpoint S3_endpoint_url>  
<source_ip_address>:/src/USER4 s3://isyncestimate/  
Stats : 502 scanned, 250 s3.objects, 251 indexed  
Speed : 118 KiB in (38.8 KiB/s), 63.7 KiB out (20.9 KiB/s)  
Total Time : 3s.  
Job ID : Job_2023-11-16_04.33.32.381458_isync  
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-  
16_04.33.32.381458_isync.log  
STATUS : PASSED
```

iSync -logLevel <name>

使用 -loglevel <name> 參數 isync 用於設置日誌級別的命令；可用級別為 info 和 debug 。預設值為 info 。

語法

```
xcp isync -loglevel <name> -bs <n[k]> <source_ip_address>:/source_vol  
<destination_ip_address>:/dest_vol
```

顯示範例

```
[root@client1 linux]# ./xcp isync -loglevel DEBUG -bs 32k
<source_ip_address>:/source_vol <destination_ip_address>:/dest_vol

Job ID: Job_2023-11-17_00.49.20.336389_isync
20,616 scanned, 1.62 GiB in (332 MiB/s), 8.23 MiB out (1.64 MiB/s), 5s
30,240 scanned, 4.55 GiB in (594 MiB/s), 22.4 MiB out (2.81 MiB/s), 10s
30,439 scanned, 7.47 GiB in (589 MiB/s), 35.6 MiB out (2.60 MiB/s), 15s
30,439 scanned, 10.5 GiB in (617 MiB/s), 49.5 MiB out (2.75 MiB/s), 20s
30,863 scanned, 1 copied, 13.3 GiB in (547 MiB/s), 62.7 MiB out (2.56
MiB/s), 25s
.
.
.
42,497 scanned, 71 copied, 227 GiB in (637 MiB/s), 5.12 GiB out (2.79
MiB/s), 6m40s
42,497 scanned, 71 copied, 229 GiB in (538 MiB/s), 5.13 GiB out (2.35
MiB/s), 6m45s
Xcp command : xcp isync -loglevel DEBUG -bs 32k
<source_ip_address>:/source_vol <destination_ip_address>:/dest_vol
Stats : 42,497 scanned, 71 copied
Speed : 231 GiB in (579 MiB/s), 5.14 GiB out (12.9 MiB/s)
Total Time : 6m48s.
Job ID : Job_2023-11-17_00.49.20.336389_isync
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
17_00.49.20.336389_isync.log
Error Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
17_00.49.20.336389_isync.error
STATUS : PASSED
```

iSync -preserve-ctime

使用 `-preserve-ctime` 參數 `isync` 命令將所有檔案還原至來源上上次存取的日期。

語法

```
xcp isync -preserve-ctime <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
```

顯示範例

```
[root@client1 linux]# ./xcp isync -preserve-ctime
<source_ip_address>:/source_vol <destination_ip_address>:/dest_vol

Job ID: Job_2023-11-17_01.31.26.077154_isync
21,649 scanned, 1.41 GiB in (260 MiB/s), 5.63 MiB out (1.01 MiB/s), 5s
32,034 scanned, 10.9 GiB in (400 MiB/s), 29.3 MiB out (925 KiB/s), 30s
33,950 scanned, 1 copied, 12.9 GiB in (399 MiB/s), 35.5 MiB out (1.24
MiB/s), 35s
33,950 scanned, 1 copied, 14.7 GiB in (361 MiB/s), 39.6 MiB out (830
KiB/s), 41s
.
.
.
42,499 scanned, 1 copied, 229 GiB in (623 MiB/s), 529 MiB out (1.37
MiB/s), 7m16s
42,499 scanned, 1 copied, 233 GiB in (719 MiB/s), 536 MiB out (1.56
MiB/s), 7m21s
Xcp command : xcp isync -preserve-ctime <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
Stats : 42,499 scanned, 1 copied
Speed : 234 GiB in (541 MiB/s), 540 MiB out (1.22 MiB/s)
Total Time : 7m23s.
Job ID : Job_2023-11-17_01.31.26.077154_isync
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
17_01.31.26.077154_isync.log
Error Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
17_01.31.26.077154_isync.error
STATUS : PASSED
```

iSync -s3.insecure

使用 -s3.insecure 參數 isync 命令使用 HTTP 取代 HTTPS 進行 S3 儲存區通訊。

語法

```
xcp isync -newid <name> -s3.insecure -s3.endpoint <S3_endpoint_url>
<source_ip_address>:/src/USER4 s3://isyncestimate/
```


顯示範例

```
[root@client1 linux]# ./xcp isync -newid testing2 -s3.insecure
-s3.endpoint <S3_endpoint_url> <source_ip_address>:/src/USER4
s3://isyncestimate/

Job ID: Job_2023-11-16_05.09.28.579606_isync
target scan completed: 502 scanned, 250 s3.objects, 118 KiB in (47.6
KiB/s), 50.8 KiB out (20.5
KiB/s), 2s.
Xcp command : xcp isync -newid testing2 -s3.insecure -s3.endpoint
<S3_endpoint_url> <source_ip_address>:/src/USER4 s3://isyncestimate/
Stats : 502 scanned, 250 s3.objects, 251 indexed
Speed : 118 KiB in (38.5 KiB/s), 63.8 KiB out (20.7 KiB/s)
Total Time : 3s.
Job ID : Job_2023-11-16_05.09.28.579606_isync
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_05.09.28.579606_isync.log
STATUS : PASSED
[root@client1 linux]#
```

iSync -S3.Endpoint <s3_endpoint_url>

使用 `-s3.endpoint <s3_endpoint_url>` 參數 `isync` 命令以指定的 URL 取代預設 AWS 端點 URL、以進行 S3 貯體通訊。

語法

```
xcp isync -newid <name> -s3.noverify -s3.endpoint <endpoint_url>
<source_ip_address>:/src/USER4 s3://isyncestimate/
```

顯示範例

```
root@client1 linux]# ./xcp isync -newid testing -s3.endpoint <S3-  
endpoint_url> <source_ip_address>:/src/USER4 s3://isyncestimate/  
  
Job ID: Job_2023-11-16_04.33.32.381458_isync  
target scan completed: 502 scanned, 250 s3.objects, 251 indexed, 118  
KiB in (38.9 KiB/s), 63.7 KiB  
out (20.9 KiB/s), 3s.  
Xcp command : xcp isync -newid testing -s3.endpoint S3-endpoint_url>  
<source_ip_address>:/src/USER4 s3://isyncestimate/  
Stats : 502 scanned, 250 s3.objects, 251 indexed  
Speed : 118 KiB in (38.8 KiB/s), 63.7 KiB out (20.9 KiB/s)  
Total Time : 3s.  
Job ID : Job_2023-11-16_04.33.32.381458_isync  
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-  
16_04.33.32.381458_isync.log  
STATUS : PASSED
```

iSync -s3.profile <name>

使用 s3.profile 參數 isync 命令、從 AWS 認證檔案中指定用於 S3 儲存區通訊的設定檔。

語法

```
xcp isync -s3.profile <name> -s3.endpoint <S3-endpoint_url>  
<source_ip_address>:/src/USER4 s3://isyncestimate
```

顯示範例

```
[root@client1 linux]# /xcp/linux/xcp isync -s3.profile s3_profile
-s3.endpoint <S3-endpoint_url> <source_ip_address>:/src/USER4
s3://isyncestimate

Job ID: Job_2023-11-16_05.29.21.279709_isync
target scan completed: 502 scanned, 250 s3.objects, 108 KiB in (46.5
KiB/s), 38.4 KiB out (16.5
KiB/s), 2s.
Xcp command : xcp isync -s3.profile s3_profile -s3. <S3-endpoint_url>
<source_ip_address>:/src/USER4 s3://isyncestimate
Stats : 502 scanned, 250 s3.objects
Speed : 108 KiB in (34.2 KiB/s), 38.4 KiB out (12.1 KiB/s)
Total Time : 3s.
Job ID : Job_2023-11-16_05.29.21.279709_isync
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_05.29.21.279709_isync.log
STATUS : PASSED
[root@client1 linux]#
```

iSync -s3.noverify

使用 `-s3.noverify` 參數 `isync` 用於覆寫 S3 儲存區通訊之 SSL 憑證預設驗證的命令。

語法

```
xcp isync -newid <name> -s3.noverify -s3.endpoint <endpoint_url>
<source_ip_address>:/src/USER4 s3://isyncestimate/
```

顯示範例

```
root@client1 linux]# ./xcp isync -newid testing5 -s3.noverify
-s3.endpoint <endpoint_url> <source_ip_address>:/src/USER4
s3://isyncestimate/

Job ID: Job_2023-11-16_05.11.12.803441_isync
target scan completed: 502 scanned, 250 s3.objects, 118 KiB in (40.8
KiB/s), 50.8 KiB out (17.6
KiB/s), 2s.
Xcp command : xcp isync -newid testing5 -s3.noverify -s3.endpoint
<endpoint_url>
<source_ip_address>:/src/USER4 s3://isyncestimate/
Stats : 502 scanned, 250 s3.objects, 251 indexed
Speed : 118 KiB in (34.7 KiB/s), 63.8 KiB out (18.6 KiB/s)
Total Time : 3s.
Job ID : Job_2023-11-16_05.11.12.803441_isync
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_05.11.12.803441_isync.log
STATUS : PASSED
[root@client1 linux]#
```

iSync 預估

◦ isync 命令可搭配使用 estimate 預估所需時間的選項 isync 同步遞增變更的命令。◦ -id 參數指定先前複本作業的目錄名稱。

語法

```
xcp isync estimate -id <name>
```



◦ -id 參數是必要的 isync estimate 命令選項。

```
[root@client1 linux]# ./xcp isync estimate -id <name>

Job ID: Job_2023-11-20_04.08.18.967541_isync_estimate
Index: aalbatch_error1 {source: <source_ip_address>:/src, target:
<destination_ip_address>:/dest}
30,611 scanned, 786 MiB in (141 MiB/s), 3.60 MiB out (661 KiB/s), 5s
45,958 scanned, 1.92 GiB in (223 MiB/s), 8.48 MiB out (939 KiB/s), 10s
53,825 scanned, 3.11 GiB in (216 MiB/s), 13.5 MiB out (912 KiB/s), 16s
67,260 scanned, 4.33 GiB in (231 MiB/s), 18.6 MiB out (961 KiB/s), 22s
81,328 scanned, 5.57 GiB in (253 MiB/s), 23.8 MiB out (1.05 MiB/s), 27s
85,697 scanned, 6.85 GiB in (241 MiB/s), 29.2 MiB out (1005 KiB/s), 32s
85,697 scanned, 8.14 GiB in (262 MiB/s), 34.5 MiB out (1.06 MiB/s), 37s
Xcp command : xcp isync estimate -id <name>
Estimated Time : 45.1s
Job ID : Job_2023-11-20_04.08.18.967541_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
20_04.08.18.967541_isync_estimate.log
Error Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
20_04.08.18.967541_isync_estimate.error
STATUS : PASSED
```

下表列出 isync estimate 參數及其說明。

參數	說明
iSync 預估 -nodata	不檢查資料。
iSync 預估 -noattis	不檢查屬性。
iSync 預估 -nomods	不會檢查檔案修改時間。
iSync 預估 -mtimeWindow	指定可接受的修改時間差異以進行驗證。
<<nfs_isync_estimate_match,iSync 預估值 - 符合 ; 篩選器 >	僅處理與篩選器相符的檔案和目錄。
<<nfs_isync_estimate_bs,iSync 預估 - bs ; n[k]>	指定讀寫區塊大小（預設值：64K）。
<<nfs_isync_estimate_parallel,iSync 預估 - 平行 ; n>	指定並行批次處理程序的最大數目（預設值：7）。
<<nfs_isync_estimate_dircount,iSync 預估 -dircount ; n[k]>	指定讀取目錄時的要求大小（預設為 64k）。
<<nfs_isync_estimate_exclude,iSync 預估 - 排除 ; 篩選器 >	排除符合篩選條件的檔案和目錄。
<<nfs_isync_estimate_id,iSync 預估 -id ; 名稱 >	指定先前複本作業的目錄名稱。
<<nfs_isync_estimate_loglevel,iSync 估計值 -loglevel ; 名稱 >	設定記錄層級；可用層級為 info 、 debug （預設：info）。

參數	說明
iSync 預估 - Preserve-atime	將來源上的所有檔案還原至上次存取的日期。
iSync 預估 -s3.insecure	提供選項、可在 S3 Bucket 通訊中使用 HTTP 而非 HTTPS。
<<nfs_isync_estimate_endpoint,iSync 預估 -S3.Endpoint ; S3_Endpoint_URL>	以 S3 Bucket 通訊的指定 URL 覆寫預設的 Amazon Web Services (AWS) 端點 URL。
<<nfs_isync_estimate_s3_profile,iSync -s3.profile ; profile_name gt;	從 AWS 認證檔案指定用於 S3 儲存區通訊的設定檔。
iSync 預估 -s3.noverify	覆寫 S3 Bucket 通訊的 SSL 認證預設驗證。

iSync 預估 -nodata

使用 -nodata 參數 isync estimate 指定不檢查資料。

語法

```
xcp isync estimate -nodata -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync estimate -nodata -id <name>

Job ID: Job_2023-11-23_23.19.45.648691_isync_estimate
Index: isync_est {source: <source_ip_address>:/fg1, target:
<destination_ip_address>:/fv}
Xcp command : xcp isync estimate -nodata -id <name>
Estimated Time : 0.6s
Job ID : Job_2023-11-23_23.19.45.648691_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
23_23.19.45.648691_isync_estimate.log
STATUS : PASSED
```

iSync 預估 -noattis

使用 -noattrrs 參數 isync estimate 指定不檢查屬性。

語法

```
xcp isync estimate -noattrrs -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync estimate -noattrs -id <name>

Job ID: Job_2023-11-23_23.20.25.042500_isync_estimate
Index: isync_est {source: <source_ip_address>:/fg1, target:
<target_ip_address>:/fv}
Xcp command : xcp isync estimate -noattrs -id <name>
Estimated Time : 2.4s
Job ID : Job_2023-11-23_23.20.25.042500_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
23_23.20.25.042500_isync_estimate.log
STATUS : PASSED
```

iSync 預估 - nomods

使用 `-nomods` 參數 `isync estimate` 指定不檢查檔案修改時間。

語法

```
xcp isync estimate -nomods -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync -nomodes
<source_ip_address>:/source_vol <destination_ip_address>:/dest_vol

Job ID: Job_2023-11-16_22.56.48.571392_isync
13,897 scanned, 763 MiB in (152 MiB/s), 2.28 MiB out (463 KiB/s), 5s
21,393 scanned, 148 removed, 4.81 GiB in (739 MiB/s), 12.5 MiB out
(1.81 MiB/s), 11s
28,517 scanned, 148 removed, 7.68 GiB in (578 MiB/s), 19.1 MiB out
(1.31 MiB/s), 16s
28,517 scanned, 148 removed, 10.7 GiB in (619 MiB/s), 26.3 MiB out
(1.43 MiB/s), 21s
29,167 scanned, 396 copied, 148 removed, 13.2 GiB in (434 MiB/s), 51.4
MiB out (4.33 MiB/s), 27s
.
.
.
42,790 scanned, 1,000 copied, 1,000 removed, 229 GiB in (641 MiB/s),
571 MiB out (1.40 MiB/s),
6m42s
42,790 scanned, 1,000 copied, 1,000 removed, 232 GiB in (668 MiB/s),
578 MiB out (1.46 MiB/s),
6m47s
Xcp command : xcp isync -nomods <source_ip_address>:/source_vol
<destination_ip_address>:/dest_vol
Stats : 1,000 removed, 42,790 scanned, 1,000 copied
Speed : 234 GiB in (585 MiB/s), 583 MiB out (1.42 MiB/s)
Total Time : 6m50s.
Job ID : Job_2023-11-16_22.56.48.571392_isync
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_22.56.48.571392_isync.log
STATUS : PASSED
```

iSync 估算 -mtimeWindow <s>

使用 -mtimewindow <s> 參數 isync estimate 指定可接受的修改時間差異以進行驗證。

語法

```
xcp isync estimate -mtimewindow <s> -id <name>
```


顯示範例

```
[root@client1 linux]# ./xcp isync estimate -mtimewindow 10 -id <name>

Job ID: Job_2023-11-16_01.47.05.139847_isync_estimate
Index: <name> {source: <source_ip_address>:/source_vol, target:
<destination_ip_address>:/dest_vol}
Xcp command : xcp isync estimate -mtimewindow 10 -id <name>
Estimated Time : 2m42s
Job ID : Job_2023-11-16_01.47.05.139847_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_01.47.05.139847_isync_estimate.log
Error Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_01.47.05.139847_isync_estimate.error
STATUS : PASSED
```

iSync 預估 - 符合 <filter>

使用 `-match <filter>` 參數 `isync estimate` 僅處理與篩選器相符的檔案和目錄。

語法

```
xcp isync estimate -match <filter> -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync estimate -match <filter> -id <name>

Job ID: Job_2023-11-16_02.13.34.904794_isync_estimate
Index: <name> {source: <source_ip_address>:/source_vol, target:
<destination_ip_address>:/dest_vol}
Filtered: 0 matched, 6 did not match
Xcp command : xcp isync estimate -match fnm('FILE_*') -id <name>
Estimated Time : 0.8s
Job ID : Job_2023-11-16_02.13.34.904794_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_02.13.34.904794_isync_estimate.log
STATUS : PASSED
```

iSync 預估 -BS <n[k]>

使用 `-bs <n[k]>` 參數 `isync estimate` 指定讀取 / 寫入區塊大小。預設區塊大小為 64k。

語法

```
xcp isync estimate -bs <n[k]> -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync estimate -bs 128k -id <name>

Job ID: Job_2023-11-16_02.14.21.263618_isync_estimate
Index: <name> {source: <source_ip_address>:/source_vol, target:
<destination_ip_address>:/dest_vol}
Xcp command : xcp isync estimate -bs 128k -id <name>
Estimated Time : 6m48s
Job ID : Job_2023-11-16_02.14.21.263618_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_02.14.21.263618_isync_estimate.log
STATUS : PASSED
```

iSync 預估 - 平行

使用 `-parallel <n>` 參數 `isync estimate` 指定並行批次處理程序的最大數目。預設值為 7。

語法

```
xcp isync estimate -parallel <n> -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync estimate -parallel 10 -id <name>

Job ID: Job_2023-11-16_02.15.25.109554_isync_estimate
Index: <name> {source: <source_ip_address>:/source_vol, target:
<destination_ip_address>:/dest_vol}
Xcp command : xcp isync estimate -parallel 10 -id <name>
Estimated Time : 8m3s
Job ID : Job_2023-11-16_02.15.25.109554_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_02.15.25.109554_isync_estimate.log
STATUS : PASSED
```

iSync 預估 -dircount <n[k]>

使用 -dircount <n[k]> 參數 isync estimate 指定讀取目錄時的要求大小。預設值為 64k。

語法

```
xcp isync estimate -dircount <n[k]> -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync estimate -dircount 128k -id <name>

Job ID: Job_2023-11-16_02.15.56.200697_isync_estimate
Index: <name> {source: <source_ip_address>:/source_vol, target:
<destination_ip_address>:/dest_vol}
Xcp command : xcp isync estimate -dircount 128k -id <name>
Estimated Time : 8m6s
Job ID : Job_2023-11-16_02.15.56.200697_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_02.15.56.200697_isync_estimate.log
STATUS : PASSED
```

iSync 預估 -排除 <filter>

使用 -exclude <filter> 參數 isync estimate 可排除與篩選器匹配的文件和目錄。

語法

```
xcp isync estimate -exclude <filter> -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync estimate -exclude "fnm('DIR1*')" -id <name>
```

```
Job ID: Job_2023-11-16_02.16.30.449378_isync_estimate
Index: <name> {source: <source_ip_address>:/source_vol, target:
<destination_ip_address>:/dest_vol}
Excluded: 60 excluded, 0 did not match exclude criteria
Xcp command : xcp isync estimate -exclude fnm('DIR1*') -id <name>
Estimated Time : 3m29s
Job ID : Job_2023-11-16_02.16.30.449378_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_02.16.30.449378_isync_estimate.log
STATUS : PASSED
```

iSync 預估 -id <name>

使用 -id <name> 參數 isync estimate 指定目錄名稱 pf 先前的複本作業。

語法

```
xcp isync estimate -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync estimate -id <name>

Job ID: Job_2023-11-20_04.08.18.967541_isync_estimate
Index: <name> {source: <source_ip_address>:/src, target:
<destination_ip_address>:/dest}
30,611 scanned, 786 MiB in (141 MiB/s), 3.60 MiB out (661 KiB/s), 5s
45,958 scanned, 1.92 GiB in (223 MiB/s), 8.48 MiB out (939 KiB/s), 10s
53,825 scanned, 3.11 GiB in (216 MiB/s), 13.5 MiB out (912 KiB/s), 16s
67,260 scanned, 4.33 GiB in (231 MiB/s), 18.6 MiB out (961 KiB/s), 22s
81,328 scanned, 5.57 GiB in (253 MiB/s), 23.8 MiB out (1.05 MiB/s), 27s
85,697 scanned, 6.85 GiB in (241 MiB/s), 29.2 MiB out (1005 KiB/s), 32s
85,697 scanned, 8.14 GiB in (262 MiB/s), 34.5 MiB out (1.06 MiB/s), 37s
Xcp command : xcp isync estimate -id <name>
Estimated Time : 45.1s
Job ID : Job_2023-11-20_04.08.18.967541_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
20_04.08.18.967541_isync_estimate.log
Error Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
20_04.08.18.967541_isync_estimate.error
STATUS : PASSED
```

iSync 預估 -logLevel <name>

使用 -loglevel <name> 參數 isync estimate 若要設定記錄層級、可用的層級為 info 和 debug 。預設值為 info 。

語法

```
xcp isync estimate -loglevel <name> -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync estimate -loglevel DEBUG -id <name>

Job ID: Job_2023-11-16_02.16.58.212518_isync_estimate
Index: <name> {source: <source_ip_address>:/source_vol, target:
<destination_ip_address>:/dest_vol}
Xcp command : xcp isync estimate -loglevel DEBUG -id <name>
Estimated Time : 8m18s
Job ID : Job_2023-11-16_02.16.58.212518_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_02.16.58.212518_isync_estimate.log
STATUS : PASSED
```

iSync 預估 - Preserve-atime

使用 `-preserve-atime` 參數 `isync estimate` 將所有檔案還原至來源上上次存取的日期。

語法

```
xcp isync estimate -preserve-atime -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync estimate -preserve-atime -id <name>

Job ID: Job_2023-11-16_02.17.32.085754_isync_estimate
Index: <name> {source: <source_ip_address>:/source_vol, target:
<destination_ip_address>:/dest_vol}
Xcp command : xcp isync estimate -preserve-atime -id <name>
Estimated Time : 8m26s
Job ID : Job_2023-11-16_02.17.32.085754_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_02.17.32.085754_isync_estimate.log
STATUS : PASSED
```

iSync 預估 -s3.insecure

使用 `-s3.insecure` 參數 `isync estimate` 使用 HTTP 取代 HTTPS 進行 S3 儲存區通訊。

語法

```
xcp isync estimate -s3.insecure -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync estimate -s3.insecure -id S3_index

Job ID: Job_2023-11-16_02.22.36.481539_isync_estimate
Index: S3_index {source: <source_ip_address>:/source_vol/USER5, target:
s3://
xcptesting/test_ankit/}
2,002 scanned, 432 KiB in (86.1 KiB/s), 5.53 KiB out (1.10 KiB/s), 5s
2,002 scanned, 432 KiB in (0/s), 5.53 KiB out (0/s), 10s
Xcp command : xcp isync estimate -s3.insecure -id S3_index
Estimated Time : 9.4s
Job ID : Job_2023-11-16_02.22.36.481539_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_02.22.36.481539_isync_estimate.log
STATUS : PASSED
```

iSync 預估 -S3.Endpoint <s3_endpoint_url>

使用 -s3.endpoint <s3_endpoint_url> 參數 isync estimate 以指定的 URL 覆寫預設 AWS 端點 URL 以進行 S3 儲存區通訊。

語法

```
xcp isync estimate -s3.endpoint <S3_endpoint_url> -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync estimate -s3.endpoint
<S3_endpoint_url> -id S3_index1

Job ID: Job_2023-11-16_02.35.49.911194_isync_estimate
Index: S3_index1 {source: <source_ip_address>:/source_vol/USER5,
target: s3://isyncestimate/}
2,002 scanned, 432 KiB in (85.6 KiB/s), 5.54 KiB out (1.10 KiB/s), 5s
2,002 scanned, 432 KiB in (0/s), 5.54 KiB out (0/s), 10s
Xcp command : xcp isync estimate -s3.endpoint <S3_endpoint_url> -id
S3_index1
Estimated Time : 13.3s
Job ID : Job_2023-11-16_02.35.49.911194_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-
16_02.35.49.911194_isync_estimate.log
STATUS : PASSED
```

iSync 預估 -s3.profile <name>

使用 s3.profile 參數 isync estimate 從 AWS 認證檔案中指定用於 S3 儲存區通訊的設定檔。

語法

```
xcp isync estimate -s3.profile s3_profile -id <name>
```


顯示範例

```
[root@client1 linux]# ./xcp isync estimate -s3.profile s3_profile -id S3_index

Job ID: Job_2023-11-16_02.25.57.045692_isync_estimate
Index: S3_index {source: <source_ip_address>:/source_vol/USER5, target: s3://xcptesting/test_ankit/}
2,002 scanned, 432 KiB in (84.9 KiB/s), 5.53 KiB out (1.09 KiB/s), 5s
2,002 scanned, 432 KiB in (0/s), 5.53 KiB out (0/s), 10s
Xcp command : xcp isync estimate -s3.profile s3_profile -id S3_index
Estimated Time : 9.7s
Job ID : Job_2023-11-16_02.25.57.045692_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-16_02.25.57.045692_isync_estimate.log
STATUS : PASSED
```

iSync 預估 -s3.noverify

使用 -s3.noverify 參數 isync estimate 覆寫 S3 Bucket 通訊的 SSL 憑證預設驗證。

語法

```
xcp isync estimate -s3.noverify -id <name>
```

顯示範例

```
[root@client1 linux]# ./xcp isync estimate -s3.noverify -id S3_index

Job ID: Job_2023-11-16_02.23.36.515890_isync_estimate
Index: S3_index {source: <source_ip_address>:/source_vol/USER5, target: s3://xcptesting/test_ankit/}
2,002 scanned, 432 KiB in (85.7 KiB/s), 5.53 KiB out (1.10 KiB/s), 5s
2,002 scanned, 432 KiB in (0/s), 5.53 KiB out (0/s), 10s
Xcp command : xcp isync estimate -s3.noverify -id S3_index
Estimated Time : 9.3s
Job ID : Job_2023-11-16_02.23.36.515890_isync_estimate
Log Path : /opt/NetApp/xFiles/xcp/xcplogs/Job_2023-11-16_02.23.36.515890_isync_estimate.log
STATUS : PASSED
```

smb 命令參照

說明

中小企業 help 命令會顯示命令清單、命令參數、以及每個參數的簡短說明。此命令對於剛接觸 XCP 的初學者非常有用。

語法

```
xcp --help
```

顯示範例

```
C:\Users\Administrator\Desktop\xcp>xcp --help
usage: xcp [-h] [-version]

{scan,show,listen,configure,copy,sync,verify,license,activate,help}
    ...
optional arguments:
  -h, --help            show this help message and exit
  -version              show program's version number and exit

XCP commands:
  {scan,show,listen,configure,copy,sync,verify,license,activate,help}
  scan                  Read all the files in a file tree
  show                  Request information from host about SMB shares
  listen                Run xcp service
  configure              Configure xcp.ini file
  copy                  Recursively copy everything from source to target
  sync                  Sync target with source
  verify                Verify that the target is the same as the source
  license                Show xcp license info
  activate              Activate a license on the current host
  help                  Show help for commands
```

Help <command>

搭配使用 <command> help 顯示指定 <command> 的範例和選項詳細資料。

語法

```
xcp help <command>
```

下列範例輸出顯示的詳細資料、使用方式、引數和選用引數 `sync` 命令。



```

C:\Users\Administrator\Desktop\xcp>xcp help sync
usage: xcp sync [-h] [-v] [-parallel <n>] [-match <filter>] [-preserve-
atime]
[-noatime] [-noctime] [-nomtime] [-noattrs]
[-noownership] [-atimewindow <float>] [-ctimewindow <float>]
[-mtimewindow <float>] [-acl] [-fallback-user FALLBACK_USER]
[-fallback-group FALLBACK_GROUP] [-l]
source target
Note: ONTAP does not let a SMB client modify COMPRESSED or ENCRYPTED
attributes.
XCP sync will ignore these file attributes.
positional arguments:
source
target
optional arguments:
-h, --help            show this help message and exit
-v                    increase debug verbosity
-parallel <n>         number of concurrent processes (default: <cpu-
count>)
-match <filter>       only process files and directories that match the
filter
                        see `xcp help -match` for details)
-preserve-atime       restore last accessed date on source
-noatime              do not check file access time
-noctime              do not check file creation time
-nomtime              do not check file modification time
-noattrs              do not check attributes
-noownership          do not check ownership
-atimewindow <float>  acceptable access time difference in seconds
-ctimewindow <float>  acceptable creation time difference in seconds
-mtimewindow <float>  acceptable modification time difference in
seconds
-acl                  copy security information
-fallback-user FALLBACK_USER
                        a user on the target machine to receive the
permissions of local
(nondomain)source machine users (eg. domain\administrator)
-fallback-group      FALLBACK_GROUP
                        a group on the target machine to receive the
permissions of local
(non-domain) source machine groups (eg. domain\administrators)
-l                    increase output
-root                sync acl for root directory
C:\Users\Administrator\Desktop\xcp>

```

顯示

中小企業 `show` 命令會查詢一或多個儲存伺服器的 RPC 服務和 NFS 匯出。此命令也會列出可用的服務和匯出、以及每個匯出的已使用和可用容量、以及每個匯出的根目錄屬性。

語法

- `show` 命令需要 NFSv3 匯出系統的主機名稱或 IP 位址：

```
xcp show \\<IP address or hostname of SMB server>
```

```

C:\Users\Administrator\Desktop\xcp>xcp show \\<IP address or hostname
of SMB server>
Shares Errors Server
7 0 <IP address or hostname of SMB server>
== SMB Shares ==
Space Space Current
Free Used Connections Share Path Folder Path
0 0 N/A \\<IP address or hostname of SMB server>\IPC$ N/A
533GiB 4.72GiB 0 \\<IP address or hostname of SMB server>\ETC$ C:\etc
533GiB 4.72GiB 0 \\<IP address or hostname of SMB server>\HOME
C:\vol\vol0\home
533GiB 4.72GiB 0 \\<IP address or hostname of SMB server>\C$ C:\
972MiB 376KiB 0 \\<IP address or hostname of SMB
server>\testsecureC:\vol\testsecure
12 XCP SMB v1.6 User Guide © 2020 NetApp, Inc. All rights reserved.
47.8GiB 167MiB 1 \\<IP address or hostname of SMB server>\volxcp
C:\vol\volxcp
9.50GiB 512KiB 1 \\<IP address or hostname of SMB server>\jl C:\vol\jl
== Attributes of SMB Shares ==
Share Types Remark
IPC$ PRINTQ,IPC,SPECIAL,DEVICE Remote IPC
ETC$ SPECIAL Remote Administration
HOME DISKTREE Default Share
C$ SPECIAL Remote Administration
testsecure DISKTREE for secure copy
volxcp DISKTREE for xcpSMB
jl DISKTREE
== Permissions of SMB Shares ==
Share Entity Type
IPC$ Everyone Allow/Full Control
ETC$ Administrators Allow/FullControl
HOME Everyone Allow/Full Control
C$ Administrators Allow/Full Control

xcp show \\<IP address or hostname of SMB server>
0 errors
Total Time : 0s
STATUS : PASSED

```

下表列出 show 參數及其說明。

參數	說明
顯示 -v	使用 IP 位址或主機名稱列印 SMB 伺服器的詳細資料。
顯示 -h 、 --help	顯示如何使用命令的詳細資訊。

授權

中小企業 `license` 命令會顯示 XCP 授權資訊。

語法

```
xcp license
```

顯示範例

```
C:\Users\Administrator\Desktop\xcp>xcp license
xcp license
XCP <version>; (c) yyyy NetApp, Inc.; Licensed to XXX [NetApp Inc]
until Mon Dec 31 00:00:00 yyyy
License type: SANDBOX
License status: ACTIVE
Customer name: N/A
Project number: N/A
Offline Host: Yes
Send statistics: No
Host activation date: N/A
License management URL: https://xcp.netapp.com
```

啟動

中小企業 `activate` 命令會啟動 XCP 授權。執行此命令之前、請確認已下載授權檔案並複製到 XCP 主機或用戶端機器的 C : \NetApp\XCP 目錄。授權可在任何數量的主機上啟動。

語法

```
xcp activate
```


顯示範例

```
C:\Users\Administrator\Desktop\xcp>xcp activate
XCP activated
```

掃描

中小企業 scan 命令會遞迴掃描整個 SMB 共用區、並在結束前列出所有檔案 scan 命令。

語法

```
xcp scan \\<<SMB share path>
```

顯示範例

```
C:\Users\Administrator\Desktop\xcp>xcp scan \\<<IP address or hostname
of SMB server>\volxcp
c:\netapp\xcp\xcp scan \\<<IP address of SMB destination
server>\source_share
volxcp\3333.txt
volxcp\SMB.txt
volxcp\SMB1.txt
volxcp\com.txt
volxcp\commands.txt
volxcp\console.txt
volxcp\linux.txt
volxcp\net use.txt
volxcp\newcom.txt
volxcp\notepad.txt
c:\netapp\xcp\xcp scan \\<<IP address of SMB destination
server>\source_share
60,345 scanned, 0 matched, 0 errors
Total Time : 8s
STATUS : PASSED
C:\Users\Administrator\Desktop\xcp>Parameters
```

下表列出 scan 參數及其說明。

參數	說明
掃描 -h 、 - help	顯示如何使用掃描命令的詳細資訊。
掃描 -v	增加除錯的詳細度。

參數	說明
<<smb_scan_parallel,掃描平行 ; n>	指定並行處理程序的數目（預設值：<cpu-count>）。
<<smb_scan_match_filter,掃描 - 符合 ; 篩選器 >	僅處理符合篩選條件的檔案和目錄。
<<smb_scan_exclude_filter,掃描 - 排除 ; 篩選器 >	僅排除篩選器中的檔案和目錄。
掃描 -preserve-atime	還原上次存取的來源日期。
<<smb_scan_depth,掃描深度 ; n>	將搜尋深度限制在 n 個層級。
掃描 -統計資料	以樹狀結構統計報告格式列出檔案。
掃描 -HTML	以樹狀結構統計 HTML 報告格式列出檔案。
掃描 -csv	以樹狀結構統計 CSV 報告格式列出檔案。
掃描 -l	以長列表輸出格式列出檔案。
[掃描擁有權]	擷取來源上檔案和目錄的擁有權資訊系統。
掃描 -du	摘要說明每個目錄（包括子目錄）的空間使用量。
<<smb_scan_fmt,掃描 -fmt ; 運算式 >	根據 Python 運算式格式化檔案清單（請參閱 xcp help -fmt 以取得詳細資料）。
[掃描廣告]	遞迴掃描整個 SMB 共用區、並列出所有檔案及任何相關的替代資料流。

掃描 -h 、 - help

使用 -h 和 --help 的參數 scan 命令顯示如何使用掃描命令的詳細資訊。

語法

```
xcp scan --help
```

```

C:\netapp\xcp>xcp scan --help

usage: xcp scan [-h] [-v] [-parallel <n>] [-match <filter>] [-exclude
<filter>] [-preserve-atime] [-depth
<n>] [-loglevel <name>] [-stats] [-l] [-ownership] [-du]
                [-fmt <expression>] [-html] [-csv] [-edupe] [-bs <n>]
[-ads]
                source
positional arguments:
  source
optional arguments:
  -h, --help            show this help message and exit
  -v                    increase debug verbosity
  -parallel <n>         number of concurrent processes (default: <cpu-
count>)
  -match <filter>       only process files and directories that match
the filter (see `xcp help -match` for details)
  -exclude <filter>    Exclude files and directories that match the
filter (see `xcp help -exclude` for details)
  -preserve-atime       restore last accessed date on source
  -depth <n>           limit the search depth
  -loglevel <name>     option to set log level filter (default:INFO)
  -stats               print tree statistics report
  -l                   detailed file listing output
  -ownership           retrieve ownership information
  -du                  summarize space usage of each directory
including subdirectories
  -fmt <expression>    format file listing according to the python
expression (see `xcp help -fmt` for details)
  -html                Save HTML statistics report
  -csv                 Save CSV statistics report
  -edupe               Include dedupe and sparse data estimate in
reports (see documentation for details)
  -bs <n>              read/write block size for scans which read data
with -edupe (default: 64k)
  -ads                 scan NTFS alternate data stream

```

掃描 -v

使用 -v 參數 scan 命令提供詳細的記錄資訊、以便在報告錯誤或警告時進行疑難排解或偵錯。

語法

```
xcp scan -v \\<IP address or hostname of SMB server>\source_share
```

顯示範例

```
c:\netapp\xcp>xcp scan -v \\<IP address or hostname of SMB
server>\source_share
xcp scan -v \\<IP address or hostname of SMB server>\source_share
---Truncated output---
source_share\ASUP.pm
source_share\ASUP_REST.pm
source_share\Allflavors_v2.pm
source_share\Armadillo.pm
source_share\AsupExtractor.pm
source_share\BTS_Config.pm
source_share\Backup.pm
source_share\Aggregate.pm
source_share\Burt.pm
source_share\CConfig.pm
source_share\CIFS.pm
source_share\CR.pm
source_share\CRC.pm
source_share\CSHM.pm
source_share\CSM.pm
source_share\agnostic\SFXOD.pm
source_share\agnostic\Snapmirror.pm
source_share\agnostic\VolEfficiency.pm
source_share\agnostic\flatfile.txt
source_share\agnostic
source_share
xcp scan \\<IP address or hostname of SMB server>\source_share
317 scanned, 0 matched, 0 errors
Total Time : 0s
STATUS : PASSED
```

掃描平行 <n>

使用 `-parallel <n>` 參數 `scan` 命令可設定較高或較低數量的 XCP 並行處理程序。



n 的最大值為 61。

語法

```
xcp scan -parallel <n> \\<IP address or hostname of SMB  
server>\source_share
```

顯示範例

```
c:\netapp\xcp>xcp scan -parallel 8 \\<IP address or hostname of SMB
server>\cifs_share
xcp scan -parallel 8 \\<IP address or hostname of SMB
server>\cifs_share

cifs_share\ASUP.pm
cifs_share\ASUP_REST.pm
cifs_share\Allflavors_v2.pm
cifs_share\Armadillo.pm
cifs_share\AsupExtractor.pm
cifs_share\BTS_Config.pm
cifs_share\Backup.pm
cifs_share\Aggregate.pm
cifs_share\agnostic\CifsAccess.pm
cifs_share\agnostic\DU_Cmode.pm
cifs_share\agnostic\Flexclone.pm
cifs_share\agnostic\HyA_Clone_Utils.pm
cifs_share\agnostic\Fileclone.pm
cifs_share\agnostic\Jobs.pm
cifs_share\agnostic\License.pm
cifs_share\agnostic\Panamax_Clone_Utils.pm
cifs_share\agnostic\LunCmds.pm
cifs_share\agnostic\ProtocolAccess.pm
cifs_share\agnostic\Qtree.pm
cifs_share\agnostic\Quota.pm
cifs_share\agnostic\RbacCmdFetcher.pm
cifs_share\agnostic\RbacCmdFetcher_ReadMe
cifs_share\agnostic\SFXOD.pm
cifs_share\agnostic\Snapmirror.pm
cifs_share\agnostic\VolEfficiency.pm
cifs_share\agnostic\flatfile.txt
cifs_share\agnostic
cifs_share
xcp scan -parallel 8 \\<IP address or hostname of SMB
server>\cifs_share
317 scanned, 0 matched, 0 errors
Total Time : 0s
STATUS : PASSED
```

掃描 - 比對 <filter>

使用 -match <filter> 參數 scan 僅處理符合篩選條件的檔案和目錄的命令。

語法

```
xcp scan -match <filter> \\<IP address or hostname of SMB
server>\source_share
```

在下列範例中、scan -match 掃描在一個月到一年之間變更的所有檔案、並針對找到的每個檔案、在主控台列印一行。會針對每個檔案傳回上次修改時間的 ISO 格式、人類可讀的檔案大小、檔案類型及其相對路徑。

顯示範例

```
c:\netapp\xcp>xcp scan -match "1*month < modified < 1*year" -fmt
"'{:>15} {:>7}{}
{}'.'.format(iso(mtime), humanize_size(size), type, relpath)" \\<IP
address or hostname of SMB server>\source_share
xcp scan -match "1*month < modified < 1*year" -fmt "'{:>15} {:>7} {}
{}'.'.format(iso(mtime), humanize_size(size), type, relpath)" \\<IP
address or hostname of SMB server>\source_share

xcp scan -match 1*month < modified < 1*year -fmt '{:>15} {:>7} {}
{}'.'.format(iso(mtime), humanize_size(size), type, relpath) \\<IP
address or hostname of SMB server>\source_share
317 scanned, 0 matched, 0 errors
Total Time : 0s
STATUS : PASSED
```

在下列範例中、scan -match 列出 3 個月以上未修改且大小大於 4 MB 的檔案。

顯示範例

```
c:\netapp\xcp>xcp scan -match "modified > 3*month and size > 4194304"
-fmt "'{}', {}, {}'.'.format(iso(mtime), humanize_size(size), relpath)" \\<IP address or
hostname of SMB
server>\source_share
xcp scan -match "modified > 3*month and size > 4194304" -fmt "'{}', {}, {}'.'.format(iso(mtime), humanize_size(size), relpath)" \\<IP address or
hostname of SMB server>\source_share

xcp scan -match modified > 3*month and size > 4194304 -fmt '{}', {}, {}'.'.format(iso(mtime), humanize_size(size), relpath) \\<IP address or
hostname of SMB server>\source_share
317 scanned, 0 matched, 0 errors
Total Time : 0s
STATUS : PASSED
```

下列兩個範例中的第一個僅符合目錄、格式化會在變數「mtime」、「Relative path」和「depth」之間新增一個逗號。

第二個範例會將相同的輸出重新導向至「name.csv」。

顯示範例

```
c:\netapp\xcp>xcp scan -match "type is directory" -fmt
"','.join(map(str, [iso(mtime), relpath, depth]))" \\<IP address or
hostname of SMB server>\source_share
xcp scan -match "type is directory" -fmt "','.join(map(str,
[iso(mtime), relpath, depth]))" \\<IP address or hostname of SMB
server>\source_share

2013-03-07_15:41:40.376072,source_share\agnostic,1
2020-03-05_04:15:07.769268,source_share,0

xcp scan -match type is directory -fmt "','.join(map(str, [iso(mtime),
relpath, depth]))" \\<IP address or hostname of SMB server>\source_share
317 scanned, 2 matched, 0 errors
Total Time : 0s
STATUS : PASSED
```


顯示範例

```
c:\netapp\xcp>xcp scan -match "type is directory" -fmt
"','.join(map(str, [iso(mtime), relpath, depth]))" "\\<IP address or
hostname of SMB server>\source_share > name.csv
xcp scan -match "type is directory" -fmt "','.join(map(str,
[iso(mtime), relpath, depth]))" "\\<IP address or hostname of SMB
server>\source_share > name.csv
```

下列範例會列印完整路徑和原始路徑 `mtime` 不是目錄的所有檔案的值。◦ `mtime` 值會加上 70 個字元、以利提供可讀取的主控台報告。

```
c:\netapp\xcp>xcp scan -match "type is not directory" -fmt
"'{}{:>70}'.format(abspath, mtime)" "\\<IP address or hostname of SMB
server>\source_share
xcp scan -match "type is not directory" -fmt "'{}
{:>70}'.format(abspath, mtime)" "\\<IP address or hostname of SMB
server>\source_share

--truncated output--
\\<IP address or hostname of SMB server>\source_share\ASUP.pm
1362688899.238098
\\<IP address or hostname of SMB server>\source_share\ASUP_REST.pm
1362688899.264073
\\<IP address or hostname of SMB server>\source_share\Allflavors_v2.pm
1362688899.394938
\\<IP address or hostname of SMB server>\source_share\Armadillo.pm
1362688899.402936
\\<IP address or hostname of SMB server>\source_share\AsupExtractor.pm
1362688899.410922
\\<IP address or hostname of SMB server>\source_share\BTS_Config.pm
1362688899.443902
\\<IP address or hostname of SMB server>\source_share\Backup.pm
1362688899.444905
\\<IP address or hostname of SMB server>\source_share\Aggregate.pm
1362688899.322019
\\<IP address or hostname of SMB server>\source_share\Burt.pm
1362688899.446889
\\<IP address or hostname of SMB server>\source_share\CConfig.pm
1362688899.4479
\\<IP address or hostname of SMB server>\source_share\CIFS.pm
1362688899.562795
\\<IP address or hostname of SMB
server>\source_share\agnostic\ProtocolAccess.pm
1362688900.358093
\\<IP address or hostname of SMB server>\source_share\agnostic\Qtree.pm
1362688900.359095
\\<IP address or hostname of SMB server>\source_share\agnostic\Quota.pm
1362688900.360094
\\<IP address or hostname of SMB
server>\source_share\agnostic\RbacCmdFetcher.pm
1362688900.3611
\\<IP address or hostname of SMB
server>\source_share\agnostic\RbacCmdFetcher_ReadMe
1362688900.362094
```

```

\\<IP address or hostname of SMB server>\source_share\agnostic\SFXOD.pm
1362688900.363094
\\<IP address or hostname of SMB
server>\source_share\agnostic\Snapmirror.pm
1362688900.364092
\\<IP address or hostname of SMB
server>\source_share\agnostic\VolEfficiency.pm
1362688900.375077
\\<IP address or hostname of SMB
server>\source_share\agnostic\flatfile.txt
1362688900.376076

xcp scan -match type is not directory -fmt '{} {:>70}'.format(abspath,
mtime) \\<IP address or hostname of SMB server>\source_share
317 scanned, 315 matched, 0 errors
Total Time : 0s
STATUS : PASSED

```

掃描 - 排除 <filter>

使用 `-exclude <filter>` 使用 `scan` 根據篩選器中的模式排除目錄和檔案的命令。

語法

```

xcp scan -exclude <filter> \\<IP address or hostname of SMB
server>\source_share

```

在下列範例中、`scan -exclude` 排除在一個月到一年之間變更的任何檔案、並針對未排除的每個檔案、在主控制台列印一行。針對每個檔案所列印的詳細資料為其上次修改時間的 ISO 格式、檔案的人類可讀大小、檔案類型及其相對路徑。

```

c:\netapp\xcp>xcp scan -exclude "1*month < modified < 1*year" -fmt
"'{:>15} {:>7}{}
{}'.'.format(iso(mtime), humanize_size(size), type, relpath)" \\<IP
address or hostname ofSMB server>\localtest\arch\win32\agnostic
xcp scan -exclude "1*month < modified < 1*year" -fmt "'{:>15} {:>7}
{}{}'.'.format(iso(mtime), humanize_size(size), type, relpath)" \\<IP
address or hostname of SMB server>\localtest\arch\win32\agnostic
2013-03-07_15:39:22.852698 46 regular agnostic\P4ENV
2013-03-07_15:40:27.093887 8.40KiB regular agnostic\Client_outage.thpl
2013-03-07_15:40:38.381870 23.0KiB regular
agnostic\IPv6_RA_Configuration_Of_LLA_In_SK_BSD.thpl
2013-03-07_15:40:38.382876 12.0KiB regular
agnostic\IPv6_RA_Default_Route_changes.thpl
2013-03-07_15:40:38.383870 25.8KiB regular
agnostic\IPv6_RA_Port_Role_Change.thpl
2013-03-07_15:40:38.385863 28.6KiB regular
agnostic\IPv6_RA_processing_And_Default_Route_Installation.thpl
2013-03-07_15:40:38.386865 21.8KiB regular
agnostic\IPv6_RA_processing_large_No_Prefix.thpl
2013-03-07_15:40:40.323163          225 regular agnostic\Makefile
2013-03-07_15:40:40.324160          165 regular
agnostic\Makefile.template
----truncated output ----
2013-03-07_15:45:36.668516          0 directory
agnostic\tools\limits_finder\vendor\symfony\src
2013-03-07_15:45:36.668514          0 directory
agnostic\tools\limits_finder\vendor\symfony
2013-03-07_15:45:40.782881          0 directory
agnostic\tools\limits_finder\vendor
2013-03-07_15:45:40.992685          0 directory
agnostic\tools\limits_finder
2013-03-07_15:45:53.242817          0 directory agnostic\tools
2013-03-07_15:46:11.334815          0 directory agnostic

xcp scan -exclude 1*month < modified < 1*year -fmt "'{:>15} {:>7} {}
{}'.'.format(iso(mtime), humanize_size(size), type, relpath)" \\<IP
address or hostname of SMB server>\localtest\arch\win32\agnostic
140,856 scanned, 1 excluded, 0 errors
Total Time : 46s
STATUS : PASSED

```

在下列範例中、 scan -exclude 列出未修改超過三個月且大小超過 5.5 KB 的未排除檔案。針對每個檔案所列

印的詳細資料是其上次修改時間的 ISO 格式、檔案的人類可讀大小、檔案類型及其相對路徑。

顯示範例

```
c:\netapp\xcp>xcp scan -exclude "modified > 3*month and size > 5650"
-fmt "'{ }, { }, {''.format(iso(mtime), humanize_size(size), relpath)"
\\<IP address or hostname of SMB
server>\localtest\arch\win32\agnostic\snapmirror
xcp scan -exclude "modified > 3*month and size > 5650" -fmt "'{ }, { },
{''.format(iso(mtime), humanize_size(size) relpath)" \\<IP address or
hostname of SMB server>\localtest\arch\win32\agnostic\snapmirror

2013-03-07_15:44:53.713279, 4.31KiB, snapmirror\rsm_abort.thpl
2013-03-07_15:44:53.714269, 3.80KiB, snapmirror\rsm_break.thpl
2013-03-07_15:44:53.715270, 3.99KiB, snapmirror\rsm_init.thpl
2013-03-07_15:44:53.716268, 2.41KiB, snapmirror\rsm_quiesce.thpl
2013-03-07_15:44:53.717263, 2.70KiB, snapmirror\rsm_release.thpl
2013-03-07_15:44:53.718260, 4.06KiB, snapmirror\rsm_resume.thpl
2013-03-07_15:44:53.720256, 4.77KiB, snapmirror\rsm_resync.thpl
2013-03-07_15:44:53.721258, 3.83KiB, snapmirror\rsm_update.thpl
2013-03-07_15:44:53.724256, 4.74KiB, snapmirror\sm_quiesce.thpl
2013-03-07_15:44:53.725254, 4.03KiB, snapmirror\sm_resync.thpl
2013-03-07_15:44:53.727249, 4.30KiB, snapmirror\sm_store_complete.thpl
2013-03-07_15:44:53.729250, 0, snapmirror

xcp scan -exclude modified > 3*month and size > 5650 -fmt '{ }, { },
{''.format(iso(mtime), humanize_size(size), relpath) \\<IP address or
hostname of SMB server>\localtest\arch\win32\agnostic\snapmirror
18 scanned, 6 excluded, 0 errors Total Time : 0s
STATUS : PASSED
```

以下範例不包含目錄。它會列出未排除的檔案、其中的格式設定會在變數之間新增一個逗號 mtime、relpath 和 depth。

```

c:\netapp\xcp>xcp scan -exclude "type is directory" -fmt
"','.join(map(str, [iso(mtime), relpath, depth]))" \\<IP address or
hostname of SMB server>\localtest\arch\win32\agnostic\snapmirror
xcp scan -exclude "type is directory" -fmt "','.join(map(str,
[iso(mtime), relpath,depth]))"
\\<IP address or hostname of
SMBserver>\localtest\arch\win32\agnostic\snapmirror
2013-03-07_15:44:53.712271,snapmirror\SMutils.pm,1
2013-03-07_15:44:53.713279,snapmirror\rsm_abort.pm,1
2013-03-07_15:44:53.714269,snapmirror\rsm_break.pm,1
2013-03-07_15:44:53.715270,snapmirror\rsm_init.thpl,1
2013-03-07_15:44:53.716268,snapmirror\rsm_quiesce.thpl,1
2013-03-07_15:44:53.717263,snapmirror\rsm_release.thpl,1
2013-03-07_15:44:53.718260,snapmirror\rsm_resume.thpl,1
2013-03-07_15:44:53.720256,snapmirror\rsm_resync.thpl,1
2013-03-07_15:44:53.721258,snapmirror\rsm_update.thpl,1
2013-03-07_15:44:53.722261,snapmirror\sm_init.thpl,1
2013-03-07_15:44:53.723257,snapmirror\sm_init_complete.thpl,1
2013-03-07_15:44:53.724256,snapmirror\sm_quiesce.thpl,1
2013-03-07_15:44:53.725254,snapmirror\sm_resync.thpl,1
2013-03-07_15:44:53.726250,snapmirror\sm_retrieve_complete.thpl,1
2013-03-07_15:44:53.727249,snapmirror\sm_store_complete.thpl,1
2013-03-07_15:44:53.728256,snapmirror\sm_update.thpl,1
2013-03-07_15:44:53.729260,snapmirror\sm_update_start.thpl,1

xcp scan -exclude type is directory -fmt "','.join(map(str, [iso(mtime),
relpath, depth])) \\<IP address or hostname of SMB
server>\localtest\arch\win32\agnostic\snapmirror
18 scanned, 1 excluded, 0 errors
Total Time : 0s
STATUS : PASSED

```

以下範例會列印完整的檔案路徑和原始檔案 mtimevalue 所有非目錄的檔案。° mtimevalue 以 70 個字元填充、方便閱讀主控台報告。

顯示範例

```
c:\netapp\xcp>xcp scan -exclude "type is not directory" -fmt '{}'
{:>70}'.format(abspath, mtime)" \\<IP address or hostname of
SMBserver>\source_share

xcp scan -exclude type is not directory -fmt '{}'
{:>70}'.format(abspath, mtime) \\<IP address or hostname of SMB
server>\source_share
18 scanned, 17 excluded, 0errors
Total Time : 0s
STATUS : PASSED
```

掃描 **-preserve-ctime**

使用 `-preserve-ctime` 參數 `scan` 命令可還原來源上所有檔案的上次存取日期、然後重設 `ctime` 到 XCP 讀取檔案之前的原始值。

掃描 SMB 共用時、檔案上的存取時間會修改（如果儲存系統設定為修改 `ctime` 讀取時）、因為 XCP 正在逐一讀取檔案。XCP 永遠不會變更 `ctime`、只會讀取檔案、就會在其上觸發更新 `ctime`。

語法

```
xcp scan -preserve-ctime \\<IP address or hostname of SMB
server>\source_share
```

```
c:\netapp\xcp>xcp scan -preserve-atime \\<IP address or hostname of SMB
server>\source_share
xcp scan -preserve-atime \\<IP address or hostname of SMB
server>\source_share

source_share\ASUP.pm
source_share\ASUP_REST.pm
source_share\Allflavors_v2.pm
source_share\Armadillo.pm
source_share\AsupExtractor.pm
source_share\BTS_Config.pm
source_share\Backup.pm
source_share\Aggregate.pm
source_share\Burt.pm
source_share\CConfig.pm
source_share\agnostic\ProtocolAccess.pm
source_share\agnostic\Qtree.pm
source_share\agnostic\Quota.pm
source_share\agnostic\RbacCmdFetcher.pm
source_share\agnostic\RbacCmdFetcher_ReadMe
source_share\agnostic\SFXOD.pm
source_share\agnostic\Snapmirror.pm
source_share\agnostic\VolEfficiency.pm
source_share\agnostic\flatfile.txt
source_share\agnostic
source_share

xcp scan -preserve-atime \\<IP address or hostname of
SMBserver>\source_share
317 scanned, 0 matched, 0 errors
Total Time : 1s
STATUS : PASSED
```

掃描深度 <n>

使用 -depth <n> 參數 scan 限制 SMB 共用目錄搜尋深度的命令。



- -depth 選項指定 XCP 如何將檔案掃描至子目錄。

語法

```
xcp scan -depth <2> \\<IP address or hostname of SMB server>\source_share
```

```
c:\netapp\xcp>xcp scan -depth 2 \\<IP address or hostname of SMB
server>\source_share
xcp scan -depth 2 \\<IP address or hostname of SMB server>\source_share

source_share\ASUP.pm
source_share\ASUP_REST.pm
source_share\Allflavors_v2.pm
source_share\Armadillo.pm
source_share\AsupExtractor.pm
source_share\BTS_Config.pm
source_share\Backup.pm
source_share\Aggregate.pm
source_share\Burt.pm
source_share\CConfig.pm
source_share\CIFS.pm
source_share\CR.pm
source_share\CRC.pm
source_share\CSHM.pm
source_share\agnostic\Fileclone.pm
source_share\agnostic\Jobs.pm
source_share\agnostic\License.pm
source_share\agnostic\Panamax_Clone_Utils.pm
source_share\agnostic\LunCmds.pm
source_share\agnostic\ProtocolAccess.pm
source_share\agnostic\Qtree.pm
source_share\agnostic\Quota.pm
source_share\agnostic\RbacCmdFetcher.pm
source_share\agnostic\RbacCmdFetcher_ReadMe
source_share\agnostic\SFXOD.pm
source_share\agnostic\Snapmirror.pm
source_share\agnostic\VolEfficiency.pm
source_share\agnostic\flatfile.txt
source_share\agnostic
source_share

xcp scan -depth 2 \\<IP address or hostname of SMB server>\source_share
317 scanned, 0 matched, 0 errors
Total Time : 0s
STATUS : PASSED
```

掃描 - 統計資料

使用 `-stats` 參數 `scan` 以樹狀結構統計報告格式列出檔案的命令。



`stats` 選項會將人類可讀的報告列印至主控台。其他報告格式選項為 `-HTML` 或 `-csv`。以逗號分隔的值（CSV）格式具有精確的值。如果目錄存在，CSV 和 HTML 報告會自動儲存在目錄中。

語法

```
xcp scan -stats \\<IP address or hostname of SMB server>\source_share
```

```
C:\netapp\xcp>xcp scan -stats \\<IP address or hostname of SMB
server>\cifs_share

== Maximum Values ==
      Size      Depth      Namelen      Dirsize
    88.2MiB         3         108         20

== Average Values ==
      Size      Depth      Namelen      Dirsize
    4.74MiB         2         21          9

== Top File Extensions ==
no extension      .PDF      .exe      .html      .whl      .py
other
    22              2          2          2          2          1
9
    20.0KiB      1.54MiB    88.4MiB    124KiB    1.47MiB    1.62KiB
98.3MiB

== Number of files ==
empty    <8KiB    8-64KiB    64KiB-1MiB    1-10MiB    10-100MiB
>100MiB
    2         24          2          7          2          3

== Space used ==
empty    <8KiB    8-64KiB    64KiB-1MiB    1-10MiB    10-100MiB
>100MiB
    0  24.0KiB    124KiB      2.87MiB    2.91MiB      184MiB
0

== Directory entries ==
empty    1-10    10-100      100-1K    1K-10K      >10K
         4          1

== Depth ==
    0-5    6-10    11-15      16-20    21-100      >100
    45

== Modified ==
>1 year  9-12 months  6-9 months  3-6 months  1-3 months  1-31 days  1-
24 hrs  <1
hour      <15 mins      future      <1970      invalid

                                         44
1
                                         190MiB
```

```

== Created ==
>1 year  9-12 months  6-9 months  3-6 months  1-3 months  1-31 days  1-
24 hrs  <1
hour      <15 mins      future      <1970      invalid
                                                    45
                                                    190MiB

Total count: 45
Directories: 5
Regular files: 40
Symbolic links:
Junctions:
Special files:
Total space for regular files: 190MiB
Total space for directories: 0
Total space used: 190MiB
Dedupe estimate: N/A
Sparse data: N/A
xcp scan -stats \\<IP address or hostname of SMB server>\cifs_share
45 scanned, 0 matched, 0 errors
Total Time : 0s
STATUS : PASSED

```

掃描 -HTML

使用 -html 參數 scan 列出 HTML 統計報告中檔案的命令。



XCP 報告（.csv、.html）會儲存在 XCP 二進位檔案所在的相同位置。檔案名稱格式為 <xcp_process_id> <time_stamp>。當 XCP 無法將安全性識別碼（SID）對應至擁有者名稱時、它會使用位於 SID 最後一個「-」之後的最後幾個數字來代表擁有者。例如、當 XCP 無法將 SID S-1-5-21-1896871423-3211229150-3383017265-4854184 對應至其擁有者時、它會使用 4854184 代表擁有者。

語法

```

xcp scan -stats -html -preserve-atime -ownership \\<IP address or hostname
of SMB server>\source_share

```

```

Z:\scripts\xcp\windows>xcp scan -stats -html -preserve-atime -ownership
\\<IP address or hostname of SMB server>\source_share
1,972 scanned, 0 matched, 0 errors, 7s
4,768 scanned, 0 matched, 0 errors,12s
7,963 scanned, 0 matched, 0 errors,17s
10,532 scanned, 0 matched, 0 errors,22s
12,866 scanned, 0 matched, 0 errors,27s
15,770 scanned, 0 matched, 0 errors,32s
17,676 scanned, 0 matched, 0 errors,37s

== Maximum Values ==
      Size      Depth      Namelen      Dirsize
    535KiB        16         33         45

== Average Values ==
      Size      Depth      Namelen      Dirsize
    10.3KiB         7         11         6

== Top File SIDs ==
S-1-5-21-1896871423-3211229150-3383017265-4854184 S-1-5-32-544 S-1-5-
21-1896871423-3211229150-3383017265-3403389
      9318      8470          1

== Top Space SIDs ==
S-1-5-21-1896871423-3211229150-3383017265-4854184 S-1-5-32-544 S-1-5-
21-1896871423-3211229150-3383017265-3403389
    76.8MiB    69.8MiB          0

== Top File Extensions ==
      py      .rst      .html  no  extension      .txt
.png      other
    5418      3738      1974      1197      630      336
1344

== Number of files ==
      empty      <8KiB      8-64KiB      64KiB-1MiB      1-10MiB      10-100MiB
>100MiB
    168      11466      2709      294

== Space used ==
      empty      <8KiB      8-64KiB      64KiB-1MiB      1-10MiB      10-100MiB
>100MiB
    0      24.4MiB      55.3MiB      66.9MiB

```

```

== Directory entries ==
      empty      1-10      10-100      100-1K      1K-10K      >10K
        42      2690      420

```

== Depth ==					
0-5	6-10	11-15	16-20	21-100	>100
3832	12527	1424	6		

```

== Modified ==
      >1 year      >1 month      1-31 days      1-24 hrs      <1 hour
<15 mins      future      invalid
      11718      2961      3110
== Created ==
      >1 year      >1 month      1-31 days      1-24 hrs      <1 hour      <15
mins      future      invalid
                                1      17788
== Accessed ==
      >1 year      >1 month      1-31 days      1-24 hrs      <1 hour      <15
mins      future      invalid
                                14624
3165

```

Total count: 17789
 Directories: 3152
 Regular files: 14637
 Symbolic links:
 Junctions:
 Special files:
 Total space for regular files:147MiB
 Total space for directories: 0
 Total space used: 147MiB
 Dedupe estimate: N/A
 Sparse data: N/A
 xcp scan -stats -html -preserve-atime -ownership \\<IP address or
 hostname ofSMB
 server>\source_share
 17,789 scanned, 0 matched, 0errors
 Total Time : 39s
 STATUS : PASSED

掃描 -csv

使用 -csv 參數 scan 用於列出 CSV 樹狀結構統計資料報告中檔案的命令。

語法

```
xcp scan -stats -csv -preserve-atime -ownership \\<IP address or hostname  
of SMB server>\source_share
```



```
Z:\scripts\xcp\windows>xcp scan -stats -csv -preserve-atime -ownership
\\<IP address or hostname of SMB server>\source_share
```

```
1,761 scanned, 0 matched, 0 errors, 6s
4,949 scanned, 0 matched, 0 errors,11s
7,500 scanned, 0 matched, 0 errors,16s
10,175 scanned, 0 matched, 0 errors,21s
12,371 scanned, 0 matched, 0 errors,26s
15,330 scanned, 0 matched, 0 errors,31s
17,501 scanned, 0 matched, 0 errors,36s
```

```
== Maximum Values ==
```

Size	Depth	Namelen	Dirsize
535KiB	16	33	45

```
== Average Values ==
```

Size	Depth	Namelen	Dirsize
10.3KiB	7	11	6

```
== Top File SIDs ==
```

```
S-1-5-21-1896871423-3211229150-3383017265-4854184 S-1-5-32-544 S-1-5-
21-1896871423-3211229150- 3383017265-3403389
9318 8470 1
```

```
== Top Space SIDs ==
```

```
S-1-5-21-1896871423-3211229150-3383017265-4854184 S-1-5-32-544 S-1-5-
21-1896871423-3211229150- 3383017265-3403389
76.8MiB 69.8MiB 0
```

```
== Top File Extensions ==
```

.py	.rst	.html	no extension	.txt	.png
5418	3738	1974	1197	630	336
1344					

```
== Number of files ==
```

empty	<8KiB	8-64KiB	64KiB-1MiB	1-10MiB	10-100MiB
>100MiB					
168	11466	2709	294		

```
== Space used ==
```

empty	<8KiB	8-64KiB	64KiB-1MiB	1-10MiB	10-100MiB
>100MiB					
0	24.4MiB	55.3MiB	66.9MiB	0	0

0

== Directory entries ==

empty	1-10	10-100	100-1K	1K-10K	>10K
42	2690	420			

== Depth ==

0-5	6-10	11-15	16-20	21-100	>100
3832	12527	1424	6		

== Modified ==

>1 year	>1 month	1-31 days	1-24 hrs	<1 hour	<15 mins
future	invalid				
11718	2961		3110		

== Created ==

>1 year	>1 month	1-31 days	1-24 hrs	<1 hour	<15 mins
future	invalid				
			17789		

== Accessed ==

>1 year	>1 month	1-31 days	1-24 hrs	<1 hour	<15 mins
future	invalid				
			15754	2035	

Total count: 17789

Directories: 3152

Regular files: 14637 Symbolic links:

Junctions:

Special files:

Total space for regular files: 147MiB Total space for directories: 0

Total space used: 147MiB

Dedupe estimate: N/A Sparse data: N/A

xcp scan -stats -csv -preserve-atime -ownership \\<IP address or
hostname of SMB server>\source_share

17,789 scanned, 0 matched, 0 errors Total Time : 40s

STATUS : PASSED

掃描 -l

使用 -l 參數 scan 以長清單輸出格式列出檔案的命令。

語法

```
xcp scan -l \\<IP address or hostname of SMB server>\source_share
```

```
c:\netapp\xcp>xcp scan -l \\<IP address or hostname of SMB
server>\source_share xcp scan -l \\<IP address or hostname of SMB
server>\source_share
```

```
f    195KiB    7y0d source_share\ASUP.pm
f   34.7KiB    7y0d source_share\ASUP_REST.pm
f    4.11KiB    7y0d source_share\Allflavors_v2.pm
f   38.1KiB    7y0d source_share\Armadillo.pm
f   3.83KiB    7y0d source_share\AsupExtractor.pm
f   70.1KiB    7y0d source_share\BTS_Config.pm
f    2.65KiB    7y0d source_share\Backup.pm
f   60.3KiB    7y0d source_share\Aggregate.pm
f   36.9KiB    7y0d source_share\Burt.pm
f    8.98KiB    7y0d source_share\CConfig.pm
f   19.3KiB    7y0d source_share\CIFS.pm
f   20.7KiB    7y0d source_share\CR.pm
f    2.28KiB    7y0d source_share\CRC.pm
f   18.7KiB    7y0d source_share\CSHM.pm
f   43.0KiB    7y0d source_share\CSM.pm
f   19.7KiB    7y0d source_share\ChangeModel.pm
f   33.3KiB    7y0d source_share\Checker.pm
f    3.47KiB    7y0d source_share\Class.pm
f   37.8KiB    7y0d source_share\Client.pm
f   188KiB     7y0d source_share\agnostic\Flexclone.pm
f   15.9KiB    7y0d source_share\agnostic\HyA_Clone_Utils.pm
f   13.4KiB    7y0d source_share\agnostic\Fileclone.pm
f   41.8KiB    7y0d source_share\agnostic\Jobs.pm
f   24.0KiB    7y0d source_share\agnostic\License.pm
f   34.8KiB    7y0d source_share\agnostic\Panamax_Clone_Utils.pm
f   30.2KiB    7y0d source_share\agnostic\LunCmds.pm
f   40.9KiB    7y0d source_share\agnostic\ProtocolAccess.pm
f   15.7KiB    7y0d source_share\agnostic\Qtree.pm
f   29.3KiB    7y0d source_share\agnostic\Quota.pm
f   13.7KiB    7y0d source_share\agnostic\RbacCmdFetcher.pm
f    5.55KiB    7y0d source_share\agnostic\RbacCmdFetcher_ReadMe
f    3.92KiB    7y0d source_share\agnostic\SFXOD.pm
f   35.8KiB    7y0d source_share\agnostic\Snapmirror.pm
f   40.4KiB    7y0d source_share\agnostic\VolEfficiency.pm
f    6.22KiB    7y0d source_share\agnostic\flatfile.txt
d         0    7y0d source_share\agnostic
d         0 19h17m source_share
```

```
xcp scan -l \\<IP address or hostname of SMB server>\source_share
317 scanned, 0 matched, 0 errors
```

```
Total Time : 0s
```

```
STATUS : PASSED
```

掃描擁有權

使用 `-ownership` 參數 `scan` 擷取檔案所有權資訊的命令。



您只能使用 `-ownership` 使用 `-l`、`-match`、`-fmt` 或 `-stats` 參數。

語法

```
xcp scan -l -ownership \\<IP address or hostname of SMB  
server>\source_share
```

```

c:\netapp\xcp>xcp scan -l -ownership \\<IP address or hostname of SMB
server>\source_share xcp scan -l -ownership \\<IP address or hostname
of SMB server>\source_share

f   BUILTIN\Administrators 195KiB 7y0d   source_share\ASUP.pm
f   BUILTIN\Administrators 34.7KiB 7y0d   source_share\ASUP_REST.pm
f   BUILTIN\Administrators 4.11KiB 7y0d   source_share\Allflavors_v2.pm
f   BUILTIN\Administrators 38.1KiB 7y0d   source_share\Armadillo.pm
f   BUILTIN\Administrators 3.83KiB 7y0d   source_share\AsupExtractor.pm
f   BUILTIN\Administrators 70.1KiB 7y0d   source_share\BTS_Config.pm
f   BUILTIN\Administrators 2.65KiB 7y0d   source_share\Backup.pm
f   BUILTIN\Administrators 60.3KiB 7y0d   source_share\Aggregate.pm
f   BUILTIN\Administrators 36.9KiB 7y0d   source_share\Burt.pm
f   BUILTIN\Administrators 8.98KiB 7y0d   source_share\CConfig.pm
f   BUILTIN\Administrators 19.3KiB 7y0d   source_share\CIFS.pm
f   BUILTIN\Administrators 20.7KiB 7y0d   source_share\CR.pm
f   BUILTIN\Administrators 2.28KiB 7y0d   source_share\CRC.pm
f   BUILTIN\Administrators 18.7KiB 7y0d   source_share\CSHM.pm
f   BUILTIN\Administrators 43.0KiB 7y0d   source_share\CSM.pm
f   BUILTIN\Administrators 19.7KiB 7y0d   source_share\ChangeModel.pm
f   BUILTIN\Administrators 33.3KiB 7y0d   source_share\Checker.pm
f   BUILTIN\Administrators 3.47KiB 7y0d   source_share\Class.pm
f   BUILTIN\Administrators 37.8KiB 7y0d   source_share\Client.pm
f   BUILTIN\Administrators 2.44KiB 7y0d   source_share\ClientInfo.pm
f   BUILTIN\Administrators 37.2KiB 7y0d   source_share\ClientMgr.pm
f   BUILTIN\Administrators 17.1KiB 7y0d   source_share\ClientRPC.pm
f   BUILTIN\Administrators 9.21KiB 7y0d   source_share\ClusterAgent.pm
f   BUILTIN\Administrators 15.7KiB 7y0d   source_share\agnostic\Qtree.pm
f   BUILTIN\Administrators 29.3KiB 7y0d   source_share\agnostic\Quota.pm
f   BUILTIN\Administrators 13.7KiB 7y0d   source_share\agnostic\RbacCmdFetcher.pm
f   BUILTIN\Administrators 5.55KiB 7y0d   source_share\agnostic\RbacCmdFetcher_ReadMe
f   BUILTIN\Administrators 3.92KiB 7y0d   source_share\agnostic\SFXOD.pm
f   BUILTIN\Administrators 35.8KiB 7y0d   source_share\agnostic\Snapmirror.pm
f   BUILTIN\Administrators 40.4KiB 7y0d   source_share\agnostic\VolEfficiency.pm
f   BUILTIN\Administrators 6.22KiB 7y0d   source_share\agnostic\flatfile.txt

```

```
d    BUILTIN\Administrators  7y0d source_share\agnostic
d    BUILTIN\Administrators

xcp scan -l -ownership \\<IP address or hostname of SMB
server>\source_share
317 scanned, 0 matched, 0 errors Total Time : 1s
STATUS : PASSED
```

掃描 -du

使用 -du 參數 scan 用於總結每個目錄（包括子目錄）的空間使用情況的命令。

語法

```
xcp scan -du \\<IP address or hostname of SMB server>\source_share
```

顯示範例

```
c:\netapp\xcp>xcp scan -du \\<IP address or hostname of SMB
server>\source_share xcp scan -du \\<IP address or hostname of SMB
server>\source_share

569KiB source_share\agnostic
19.8MiB source_share

xcp scan -du \\<IP address or hostname of SMB server>\source_share
317 scanned, 0 matched, 0 errors
Total Time : 0s
STATUS : PASSED
```

掃描 -fmt <expression>

使用 -fmt <expression> 參數 scan 根據定義的運算式格式化檔案清單的命令。

語法

```
xcp scan -fmt "'", '.join(map(str, [relpath, name, size, depth]))'
\\<IPaddress or hostname of SMB server>\source_share
```

```

c:\netapp\xcp>xcp scan -fmt "'", '.join(map(str, [relpath, name, size,
depth]))" \\<IP address or hostname of SMB server>\source_share
xcp scan -fmt "'", '.join(map(str, [relpath, name, size, depth]))"
\\<IP address or hostname of SMB server>\source_share

source_share\ASUP.pm, ASUP.pm, 199239, 1
source_share\ASUP_REST.pm, ASUP_REST.pm, 35506, 1
source_share\Allflavors_v2.pm, Allflavors_v2.pm, 4204, 1
source_share\Armadillo.pm, Armadillo.pm, 39024, 1
source_share\AsupExtractor.pm, AsupExtractor.pm, 3924, 1
source_share\BTS_Config.pm, BTS_Config.pm, 71777, 1
source_share\Backup.pm, Backup.pm, 2714, 1
source_share\Aggregate.pm, Aggregate.pm, 61699, 1
source_share\Burt.pm, Burt.pm, 37780, 1
source_share\CConfig.pm, CConfig.pm, 9195, 1
source_share\CIFS.pm, CIFS.pm, 19779, 1
source_share\CR.pm, CR.pm, 21215, 1
source_share\CRC.pm, CRC.pm, 2337, 1
source_share\agnostic\LunCmds.pm, LunCmds.pm, 30962, 2
source_share\agnostic\ProtocolAccess.pm, ProtocolAccess.pm, 41868, 2
source_share\agnostic\Qtree.pm, Qtree.pm, 16057,2
source_share\agnostic\Quota.pm, Quota.pm, 30018,2
source_share\agnostic\RbacCmdFetcher.pm, RbacCmdFetcher.pm, 14067, 2
source_share\agnostic\RbacCmdFetcher_ReadMe, RbacCmdFetcher_ReadMe,
5685, 2
source_share\agnostic\SFXOD.pm, SFXOD.pm, 4019, 2
source_share\agnostic\Snapmirror.pm, Snapmirror.pm, 36624, 2
source_share\agnostic\VolEfficiency.pm, VolEfficiency.pm, 41344, 2
source_share\agnostic\flatfile.txt, flatfile.txt, 6366, 2
source_share\agnostic, agnostic, 0, 1
source_share, , 0, 0
xcp scan -fmt "'", '.join(map(str, [relpath, name, size, depth])) \\<IP
address or hostname of SMB server>\source_share
317 scanned, 0 matched, 0 errors
Total Time : 0s
STATUS : PASSED

```

掃描廣告

使用 `-ads` 使用標記參數 `scan` 命令以遞迴方式掃描整個 SMB 共用區、並列出所有檔案及任何相關的替代資料流。

語法

```
xcp scan -ads \\<source_ip_address>\source_share\src
```

顯示範例

```
C:\netapp\xcp>xcp scan -ads \\<source_ip_address>\source_share\src

src\file1.txt:ads1
src\file1.txt:ads_file1.txt_1697037934.4154522.txt
src\file1.txt
src\file2.txt:ads1
src\file2.txt:ads_file2.txt_1697037934.5873265.txt
src\file2.txt
src\test1.txt:ads_test1.txt_1697037934.7435765.txt
src\test1.txt
src\dir1\dfile1.txt:ads1
src\dir1\dfile1.txt:ads_dfile1.txt_1697037934.1185782.txt
src\dir1\dfile1.txt:ads_xcp.exe
src\dir1\dfile1.txt:ads_tar
src\dir1\dfile1.txt:java_exe
src\dir1\dfile1.txt:cmdzip
src\dir1\dfile1.txt:ads1_2GB
src\dir1\dfile1.txt
src\dir1:ads1
src\dir1:ads_dir1_1697038504.087317.txt
src\dir1
src:ads_src_1697038504.7123322.txt
src

xcp scan -ads \\<source_ip_address>\source_share\src
6 scanned, 0 matched, 0 errors, 15 ads scanned
Total Time : 2s
STATUS : PASSED
```

複本

。copy 命令會掃描整個來源目錄結構、並將其複製到目的地 SMB 共用。。copy 命令需要來源和目的地路徑做為變數。掃描和複製的檔案、處理量/速度和經過時間等詳細資料、每五秒會列印一次到主控台。



- 執行階段記錄檔儲存在「C:\NetApp\XCP」下。
- 這 copy 命令會在沒有存取控制清單（ACL）的情況下複製資料。

語法

```
xcp copy \\<IP address or hostname of SMB server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp copy \\<IP address or hostname of SMB server>\source_share \\<IP address of SMB destination server>\dest_share

xcp copy \\<IP address or hostname of SMB server>\source_share \\<IP address of SMB destination server>\dest_share
317 scanned, 0 matched, 316 copied, 0 errors
Total Time : 2s
STATUS : PASSED
```

下表列出 copy 參數及其說明。

參數	說明
copy -h 、 --help	顯示的詳細資訊 copy 命令。
複製 -v	增加除錯的詳細度。
<<smb_copy_parallel,複製平行 ; n>	指定並行處理程序的數目（預設值： <cpu-count> ）。
<<smb_copy_match,複製 - 符合 ; 篩選器 >	僅處理符合篩選條件的檔案和目錄（請參閱 xcp help - match 以取得詳細資料）。
<<smb_copy_exclude,複製 - 排除 ; 篩選器 >	僅排除篩選器中的檔案和目錄
複製 - 保留 - atime	還原上次存取的來源日期。
copy -acl	複製安全性資訊。
<<smb_copy_acl,複製 - 容錯移轉使用者 ; 容錯移轉使用者 >	指定目標機器上的 Active Directory 使用者或本機（非網域）使用者、該使用者會收到本機（非網域）來源機器使用者的權限。例如、網域\系統管理員。
<<smb_copy_acl,複製 -backback-group ; fallback_group>	指定目標機器上的 Active Directory 群組或本機（非網域）群組、以接收本機（非網域）來源機器群組的權限。例如、網域\系統管理員。
複製根目錄	複製根目錄的 ACL 。
複製 -aclVerify { yes 、 no }	提供在複製 -ACL 作業期間跳過或包含 ACL 驗證的選項。
copy -no所有權	不複製所有權。
複製 -BS	讀取 / 寫入區塊大小（預設： 1M ）

參數	說明
[複製廣告]	將 NTFS 替代資料串流從來源 SMB 共用複製到目的地 SMB 共用。

copy -h 、 --help

使用 -h 和 --help 的參數 copy 命令以顯示有關的詳細資訊 copy 命令

語法

```
xcp copy -help
```

```
C:\netapp\xcp>xcp copy -help
```

```
usage: xcp copy [-h] [-v] [-parallel <n>] [-match <filter>] [-exclude
<filter>] [-preserve- atime] [-acl] [-fallback-user FALLBACK_USER]
[-fallback-group FALLBACK_GROUP] [-loglevel <name>] [-root] [-
noownership] [- aclverify {yes,no}] [-bs <n>] [-ads]
        source target
```

positional arguments:

source

target

optional arguments:

```
-h, --help            show this help message and exit
-v                    increase debug verbosity
-parallel <n>         number of concurrent processes (default: <cpu-
count>)
-match <filter>       only process files and directories that match the
filter (see `xcp help -match` for details)
-exclude <filter>     Exclude files and directories that match the
filter (see `xcp help - exclude` for details)
-preserve-atime       restore last accessed date on source
-acl                  copy security information
-fallback-user FALLBACK_USER
                        the name of the user on the target machine to
receive the permissions of local (non-domain) source machine users (eg.
domain\administrator)
-fallback-group FALLBACK_GROUP
                        the name of the group on the target machine to
receive the permissions of local (non-domain) source machine groups
(eg. domain\administrators)
-loglevel <name>      option to set log level filter (default:INFO)
-root                copy acl for root directory
-noownership          do not copy ownership
-aclverify {yes,no}   choose whether you need to skip acl verification
-bs <n>              read/write block size for copy (default: 1M)
-ads                 copy NTFS alternate data streams.
```

複本 -v

使用 -v 參數 copy 提供詳細除錯資訊的命令。

語法

```
xcp copy -v \\<IP address or hostname of SMB server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp copy -v \\<IP address of SMB destination server>\src
\\<IP address of SMB destination server>\dest\d1

failed to set attributes for "d1": (5, 'CreateDirectory', 'Access is
denied.')
failed to copy "f1.txt": (5, 'CreateFile', 'Access is denied.')
failed to set attributes for "": (5, 'SetFileAttributesW', 'Access is
denied.') error setting timestamps on "": errno (code: 5) Access is
denied.
H:\p 4\xcp_latest\xcp_cifs\xcp\ main .py copy -v \\<IP address of SMB
destination server>\src \\<IP address of SMB destination
server>\dest\d1
3 scanned, 0 matched, 0 skipped, 1 copied, 0 (0/s), 3 errors
Total Time : 3s
STATUS : FAILED
```

複製平行 <n>

使用 `-parallel <n>` 參數 `copy` 命令可設定較高或較低數量的 XCP 並行處理程序。的預設值 `-parallel` 等於 CPU 數。



n 的最大值為 61。

語法

```
xcp copy -parallel <n> \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp copy -parallel 7 \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp copy -parallel 7 \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
317 scanned, 0 matched, 316 copied, 0errors
Total Time : 2s
STATUS : PASSED
```

複製 - 比對 <filter>

使用 -match <filter> 參數 copy 命令、僅複製符合所傳遞之引數的資料。

語法

```
xcp copy -match <filter> \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp copy -match "'gx' in name" \\<IP address or hostname
of SMB server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp copy -match 'gx' in name \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
317 scanned, 5 matched, 4 copied, 0 errors
Total Time : 1s
STATUS : PASSED
```

複製 - 排除 <filter>

使用 -exclude <filter> 參數 copy 僅複製排除資料的命令。

語法

```
xcp copy -exclude <filter> \\<IP address or hostname of SMB  
server>\source_share \\<IP address of SMB destination server>\dest_share
```

在下列範例中、名稱中有字串「resync」的檔案和目錄已排除以供複製。

顯示範例

```
c:\netapp\xcp>xcp copy -exclude "'resync' in name" \\<IP address or  
hostname of SMB server>\source_share \\<IP address or hostname of SMB  
server>\dest_share
```

```
xcp copy -exclude 'resync' in name \\<IP address or hostname of SMB  
server>\source_share \\<IP address or hostname of SMB  
server>\dest_share  
18 scanned, 2 excluded, 0 skipped, 15 copied, 122KiB (50.5KiB/s), 0  
errors  
Total Time : 2s  
STATUS : PASSED
```

複製 - 保留 - atime

使用 `-preserve-atime` 參數 `copy` 命令、在 XCP 讀取檔案之前、將「`atime`」重設為原始值。

語法

```
xcp copy -preserve-atime \\<IP address or hostname of SMB  
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp copy -preserve-ctime \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp copy -preserve-ctime \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
317 scanned, 0 matched, 316 copied, 0 errors
Total Time : 2s
STATUS : PASSED
```

copy -acl -fallback-user <fallback_user> -fallback-group <fallback_group>

使用 -acl 參數 copy 用於啟動安全性描述元（ACL）傳輸的命令。

使用 -acl 參數 -fallback-user 和 -fallback-group 用於在目標機器或 Active Directory 上指定使用者和群組的選項、以接收本機（非網域）來源機器使用者或群組的權限。這並不表示來自 Active Directory 的不相符使用者。

語法

```
xcp copy -acl -fallback-user <fallback_user> -fallback-group
<fallback_group> \\<IP address or hostname of SMB server>\source_share
\\<IP address of SMB destination server>\dest_share
```

複製 -aclVerify {yes、no}

使用 -aclverify {yes,no} 參數 copy 命令提供在 ACL 複製作業期間跳過或包含 ACL 驗證的選項。

您必須使用 -aclverify {yes,no} 參數 copy -acl 命令。根據預設，ACL 複製作業會驗證 ACL。如果您設定 -aclverify 選項 no，您可以跳過 ACL 驗證和 fallback-user 和 fallback-group 不需要選項。如果您已設定 -aclverify 至 yes、需要 fallback-user 和 fallback-group 選項、如下列範例所示。

語法

```
xcp copy -acl -aclverify yes -fallback-user <fallback_user> -fallback
-group <fallback_group> \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
C:\NetApp\xcp>xcp copy -acl -aclverify yes -fallback-user "DOMAIN\User"
-fallback-group "DOMAIN\Group"
\\<source_IP_address>\source_share
\\<destination_IP_address>\dest_share

12 scanned, 0 matched, 0 skipped, 0 copied, 0 (0/s), 0 errors, 5s, 0
acls copied
12 scanned, 0 matched, 0 skipped, 0 copied, 0 (0/s), 0 errors, 10s, 0
acls copied
12 scanned, 0 matched, 0 skipped, 0 copied, 0 (0/s), 0 errors, 15s, 0
acls copied xcp copy -acl -aclverify yes -fallback-user "DOMAIN\User"
-fallback-group "DOMAIN\Group" \\<source_IP_address>\source_share
\\<destination_IP_address>\dest_share
12 scanned, 0 matched, 0 skipped, 11 copied, 10KiB (634/s), 0 errors,
11 acls copied
Total Time : 16s
STATUS : PASSED

C:\NetApp\xcp>xcp copy -acl -aclverify no
\\<source_IP_address>\source_share
\\<destination_IP_address>\dest_share

xcp copy -acl -aclverify no \\<source_IP_address>\source_share
\\<destination_IP_address>\dest_share
12 scanned, 0 matched, 0 skipped, 11 copied, 10KiB (5.61KiB/s), 0
errors, 11 acls copied
Total Time : 1s
STATUS : PASSED
```

複製根目錄

使用 `-root` 參數 `copy` 用於複製根目錄 ACL 的命令。

語法

```
xcp copy -acl -root -fallback-user "DOMAIN\User" -fallback-group
"DOMAIN\Group" \\<IP address or hostname of SMB server>\source_share \\<IP
address of SMB destination server>\dest_share
```


顯示範例

```
C:\NetApp\XCP>xcp copy -acl -root -fallback-user "DOMAIN\User"
-fallback-group "DOMAIN\Group" \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp copy -acl -root -fallback-user "DOMAIN\User" -fallback-group
"DOMAIN\Group" \\<IP address or hostname of SMB server>\source_share
\\<IP address of SMB destination server>\dest_share
6 scanned, 0 matched, 0 skipped, 5 copied, 200 (108/s), 0 errors, 6
acIs copied
Total Time : 1s
STATUS : PASSED
```

copy -no所有權

使用 `-noownership` 參數 `copy` 命令、指定不將所有權從來源複製到目的地。您必須使用 `-noownership` 使用 `-acl` 選項、而且需要 `fallback-user` 和 `fallback-group` 做為必要參數。

語法

```
xcp.exe copy -acl -noownership -fallback-user <fallback_user> -fallback
-group <fallback_group> \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
C:\Netapp\xcp>xcp.exe copy -acl -noownership -fallback-user
"DOMAIN\User" -fallback-group "DOMAIN\Group"
\\<source_IP_address>\source_share
\\<destination_IP_address>\dest_share

568 scanned, 0 matched, 0 skipped, 0 copied, 0 (0/s), 0 errors, 5s, 0
acls copied
568 scanned, 0 matched, 0 skipped, 0 copied, 0 (0/s), 0 errors, 10s, 0
acls copied
568 scanned, 0 matched, 0 skipped, 135 copied, 4.26MiB (872KiB/s), 0
errors, 15s, 137 acls copied xcp.exe copy -acl -noownership -fallback
-user "DOMAIN\User" -fallback-group "DOMAIN\Group"
\\<source_IP_address>\source_share
\\<destination_IP_address>\dest_share
568 scanned, 0 matched, 0 skipped, 567 copied, 17.7MiB (1.01MiB/s), 0
errors, 567 acls copied
Total Time : 17s
STATUS : PASSED
```

Copy -BS <n>

使用 -bs <n> 參數 copy 提供讀寫區塊大小的命令。預設值為 1M。

語法

```
xcp.exe copy -bs <n> \\<IP address or hostname of SMB server>\source_share
\\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\Netapp\xcp>xcp.exe copy -bs 32k \\<source_IP_address>\source_share
\\<destination_IP_address>\dest_share

xcp.exe copy -bs 32k \\<source_IP_address>\source_share
\\<destination_IP_address>\dest_share
568 scanned, 0 matched, 0 skipped, 567 copied, 17.7MiB (6.75MiB/s), 0
errors
Total Time : 2s
STATUS : PASSED
```

複製廣告

使用 `-ads` 參數 `copy` 命令將 NTFS 替代資料串流從來源 SMB 共用複製到目的地 SMB 共用。

語法

```
xcp copy -ads \\<IP address or hostname of SMB server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp copy -ads \\<source_IP_address>\source_share\src
\\<dest_IP_address>\dest_share

6 scanned, 0 matched, 0 skipped, 3 copied, 13 (2.41/s), 0 errors, 5s,
10 ads copied
6 scanned, 0 matched, 0 skipped, 3 copied, 13 (0/s),
0 errors, 10s, 11 ads copied
6 scanned, 0 matched, 0 skipped, 3 copied, 13 (0/s),
0 errors, 15s, 12 ads copied
6 scanned, 0 matched, 0 skipped, 3 copied, 13 (0/s),
0 errors, 20s, 13 ads copied
6 scanned, 0 matched, 0 skipped, 3 copied, 13 (0/s),
0 errors, 25s, 13 ads copied
6 scanned, 0 matched, 0 skipped, 3 copied, 13 (0/s),
0 errors, 30s, 13 ads copied
6 scanned, 0 matched, 0 skipped, 3 copied, 13 (0/s),
0 errors, 35s, 13 ads copied
6 scanned, 0 matched, 0 skipped, 3 copied, 13 (0/s),
0 errors, 40s, 13 ads copied
6 scanned, 0 matched, 0 skipped, 3 copied, 13 (0/s),
0 errors, 45s, 13 ads copied
6 scanned, 0 matched, 0 skipped, 3 copied, 13 (0/s),
0 errors, 2m15s, 13 ads copied
6 scanned, 0 matched, 0 skipped, 3 copied, 13 (0/s),
0 errors, 3m5s, 13 ads copied
xcp copy -ads \\<source_IP_address>\source_share\src
\\<desination_IP_address>\dest_share
6 scanned, 0 matched, 0 skipped, 5 copied, 26 (0.137/s), 0 errors, 14
ads copied
Total Time : 3m9s
STATUS : PASSED
```

同步

◦ `sync` 命令會平行掃描來源和目標共用的變更和修改、並將適當的動作套用至目標、以確保目標與來源相同。◦ `sync` 命令會比較資料內容、時間戳記、檔案屬性、擁有權和安全性資訊。

語法

```
xcp sync \\<source SMB share> \\<IP address of SMB destination server>
```

顯示範例

```
c:\netapp\xcp>xcp sync \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp sync \\<IP address or hostname of SMB server>\source_share \\<IP
address of SMB destination server>\dest_share
xcp sync \\<IP address or hostname of SMB server>\source_share \\<IP
address of SMB destination server>\dest_share
634 scanned, 0 copied, 634 compared, 0 removed, 0 errors
Total Time : 3s
STATUS : PASSED
```

下表列出 `sync` 參數及其說明。

參數	說明
同步 -h 、 --help	顯示此說明訊息並結束。
同步 -v	增加除錯的詳細度。
<<smb_sync_parallel,同步 -parallel ; n>	並行處理程序數（預設值： <cpu-count> ）。
<<smb_sync_match,同步 -Match （匹配）；篩選器 >	僅處理符合篩選條件的檔案和目錄（請參閱 <code>xcp help - match</code> 以取得詳細資料）。
<<smb_sync_exclude,同步 - 排除；篩選器 >	僅排除篩選器中的檔案和目錄。
同步 -preserve-ctime	在來源上還原上次存取的日期。
同步 -noatime	請勿檢查檔案存取時間。
同步處理 - 夜間作業	請勿檢查檔案建立時間。
同步 -nomtime	請勿檢查檔案修改時間。（此選項已過時。同步將繼續執行、但不使用此選項。）
Sync -noatt/s	請勿檢查屬性。
同步 -nodison	請勿檢查所有權。
<<sync_smb_atime,同步 -atimeWindow；浮點 >	可接受的存取時間差異、以秒為單位。

參數	說明
同步 -ctimeWindow	可接受的建立時間差異、以秒為單位。
同步 -mtimeWindow	可接受的修改時間差異（以秒為單位）、
SYNC -ACL	複製安全資訊。
<<sync_smb_acl,同步 -backbackback-user ; fallback_user>	目標機器上的 Active Directory 使用者或本機（非網域）使用者、可接收本機（非網域）來源機器使用者的權限（例如：網域\系統管理員）。
<<sync_smb_acl,同步 -backback-group ; fallback_group>	目標機器上的 Active Directory 群組或本機（非網域）群組、可接收本機（非網域）來源機器群組的權限（例如：網域\系統管理員）。
同步 -l	增加輸出細節。
Sync -root	同步根目錄的 ACL。
僅同步	僅複製安全性資訊。
同步 -aclVERIFY { yes 、 no }	在 ACL 同步作業期間、提供包含或略過 ACL 驗證的選項。
<<smb_sync_bs,同步 -BS () ; n>	讀取 / 寫入區塊大小（預設： 1M ）。
[同步處理廣告]	使用 sync 命令 -ads 用於掃描來源和目標 SMB 共用區中替代資料流變更和修改的旗標。如果有變更、則會將變更套用至目標 確定目標與來源相同。

同步 [-h](#) 、 [--help](#)

使用 [-h](#) 和 [--help](#) 的參數 sync 命令以顯示有關的詳細資訊 sync 命令

語法

```
xcp sync --help
```

```
C:\Netapp\xcp>xcp sync --help
usage: xcp sync [-h] [-v] [-parallel <n>] [-match <filter>] [-exclude
<filter>] [-preserve-ctime] [-noatime] [-noctime] [-nomtime] [-noattrs]
[-atimewindow <float>]
[-ctimewindow <float>] [-mtimewindow <float>] [-acl] [-fallback-user
FALLBACK_USER] [-fallback-group FALLBACK_GROUP] [-loglevel <name>] [-l]
[-root]
[-noownership] [-onlyacl] [-aclverify {yes,no}] [-bs <n>] [-ads] source
target
```

Note: ONTAP does not let a SMB client modify COMPRESSED or ENCRYPTED attributes. XCP sync will ignore these file attributes.

positional arguments:

```
source
target
```

optional arguments:

```
-h, --help          show this help message and exit
-v                  increase debug verbosity
-parallel <n>       number of concurrent processes (default:
<cpu-count>)
-match <filter>     only process files and directories that
match the filter (see `xcp help -match` for details)
-exclude <filter>   Exclude files and directories that match the
filter (see `xcp help -exclude` for details)
-preserve-ctime     restore last accessed date on source
-noatime            do not check file access time
-noctime            do not check file creation time
-nomtime            do not check file modification time
-noattrs            do not check attributes
-atimewindow <float> acceptable access time difference in seconds
-ctimewindow <float> acceptable creation time difference in
seconds
-mtimewindow <float> acceptable modification time difference in
seconds
-acl                copy security information
-fallback-user FALLBACK_USER
                    the name of the user on the target machine
to receive the permissions of local (non-domain) source machine users
(eg. domain\administrator)
-fallback-group FALLBACK_GROUP
                    the name of the group on the target machine
to receive the permissions of local (non-domain) source machine groups
```

```
(eg. domain\administrators)
-loglevel <name>      option to set log levelfilter
-l                    increase output detail
-root                sync acl for root directory
-noownership          do not sync ownership
-onlyacl              sync only acls
-aclverify {yes,no}   choose whether you need to skip acl
verification
-bs <n>               read/write block size for sync (default: 1M)
-ads                  sync ntfs alternate data stream
```

同步 -v

使用 -v 參數 sync 提供詳細除錯資訊的命令。

語法

```
xcp sync -v \\<IP address or hostname of SMB
server>\vol_SMB_source_xxxxxx\warning \\<IP address of SMB destination
server>\vol_SMB_target_xxxxxx
```

```

C:\XCP>xcp sync -v \\<IP address or hostname of SMB
server>\vol_SMB_source_XXXXXX\warning \\<IP address of SMB destination
server>\vol_SMB_target_XXXXXX
ERROR failed to remove from target
"assembly\GAC_32\Microsoft.CertificateServices.PKIClient.Cmdlets\v4.0_6
.3.0.0 31bf3856ad364e35\pki.psd1": [Errno 13] Access is denied:
'\\?\UNC\\<IP address of SMB destination server>\vol_SMB_tar
shil\assembly\GAC_32\Microsoft.CertificateServices.PKIClient.Cmdlets
\v4.0_6.3.0.0 31bf3856ad364e35\pki.psd1'
ERROR failed to remove from target
"assembly\GAC_64\Microsoft.GroupPolicy.AdmTmplEditor\v4.0_6.3.0.0
31bf3856ad364e35\Microsoft.GroupPolicy.AdmTmplEditor.dll": [Errno 13]
Access is denied: '\\?\UNC\10.61.
\vol_SMB_target_XXXXXX\assembly\GAC_64\Microsoft.GroupPolicy.AdmTmpl
Editor\v4.0_6.3.0.0 31bf
3856ad364e35\Microsoft.GroupPolicy.AdmTmplEditor.dll'
1,933 scanned, 1,361 compared, 2 errors, 0 skipped, 0 copied, 1,120
removed, 5s ERROR failed to remove from target
"assembly\GAC_64\System.Printing\v4.0_4.0.0.0
31bf3856ad364e35\System.Printing.dll": [Errno 13] Access is denied:
'\\?\UNC\\<IP address of SMB destination
server>\vol_SMB_target_XXXXXX\assembly\
4\System.Printing\v4.0_4.0.0.0 31bf3856ad364e35\System.Printing.dll'
ERROR failed to remove from target
"assembly\GAC_MSIL\Microsoft.PowerShell.Workflow.ServiceCore\v4.0_3.0.0
.0 31bf3856ad364e35\Microsoft.PowerShell.Workflow.ServiceCore.dll":
[Errno 13] Access is denied: '\\
\\<IP address of SMB destination
server>\vol_SMB_target_XXXXXX\assembly\GAC_MSIL\Microsoft.PowerShel
l.Workflow.ServiceCore\v4
.0_3.0.0.0
31bf3856ad364e35\Microsoft.PowerShell.Workflow.ServiceCore.dll' ERROR
failed to remove from target
"assembly\GAC_MSIL\Microsoft.RightsManagementServices.ServerManager.Dep
loymentPlugin\v4.0_6.3.0.0
31bf3856ad364e35\Microsoft.RightsManagementServices.ServerManager.Deplo
ymen n.dll": [Errno 13] Access is denied: '\\?\UNC\\<IP address of
SMB destination
server>\vol_SMB_target_XXXXXX\assembly\GAC_MSIL\Microsoft.RightsMan
agementServices.ServerMana ger.DeploymentPlugin\v4.0_6.3.0.0
31bf3856ad364e35\Mic
.RightsManagementServices.ServerManager.DeploymentPlugin.dll'
ERROR failed to remove from target

```



```

"assembly\GAC_MSIL\Microsoft.WSMan.Management\v4.0_3.0.0.0
31bf3856ad364e35\Microsoft.WSMan.Management.dll": [Errno 13] Access is
denied: '\\\\?\\UNC\\<IP address of SMB destination server>\\vol_SMB_
_target_XXXXXX\\assembly\\GAC_MSIL\\Microsoft.WSMan.Management\\v4.0_3.0.0.0
31bf3856ad364e35\\Microsoft.WSMan.Management.dll'
ERROR failed to remove from target
"assembly\GAC_MSIL\PresentationUI\v4.0_4.0.0.0
31bf3856ad364e35\PresentationUI.dll": [Errno 13] Access is denied:
'\\\\?\\UNC\\<IP address of SMB destination
server>\\vol_SMB_target_XXXXXX\\assembly\
SIL\\PresentationUI\\v4.0_4.0.0.0 31bf3856ad364e35\\PresentationUI.dll'
ERROR failed to remove from target
"assembly\GAC_MSIL\System.IO.Compression.FileSystem\v4.0_4.0.0.0
b77a5c561934e089\System.IO.Compression.FileSystem.dll": [Errno 13]
Access is denied: '\\\\?\\UNC\\10.61.71.5
_SMB_target_XXXXXX\\assembly\\GAC_MSIL\\System.IO.Compression.FileSyste
m\\v4.0_4.0.0.0 b77a5c561
934e089\\System.IO.Compression.FileSystem.dll'
ERROR failed to remove from target
"assembly\GAC_MSIL\System.IdentityModel.Selectors\v4.0_4.0.0.0
b77a5c561934e089\System.IdentityModel.Selectors.dll": [Errno 13]
Access is denied: '\\\\?\\UNC\\<IP address of SMB destination
server>\\v
s_target_XXXXXX\\assembly\\GAC_MSIL\\System.IdentityModel.Selectors\\v4
.0_4.0.0.0 b77a5c561934e089\\System.IdentityModel.Selectors.dll'
2,747 scanned, 2,675 compared, 9 errors, 0 skipped, 0 copied, 2,624
removed, 10s ERROR failed to remove from target
"assembly\GAC_MSIL\System.Web.DataVisualization\v4.0_4.0.0.0
31bf3856ad364e35\System.Web.DataVisualization.dll": [Errno 13] Access
is denied: '\\\\?\\UNC\\<IP address of SMB destination server>\\vol_c
rget_XXXXXX\\assembly\\GAC_MSIL\\System.Web.DataVisualization\\v4.0_4.0
.0 31bf3856ad364e35\\System.Web.DataVisualization.dll'
cp sync -v <IP address or hostname of SMB
server>\\vol_SMB_source_XXXXXX\warning <IP address of SMB destination
server>\\vol_SMB_target_XXXXXX
2,831 scanned, 0 copied, 2,831 compared, 0 removed, 10 errors Total
Time : 10s
STATUS : PASSED

```

同步平行 <n>

使用 `-parallel <n>` 參數 `sync` 命令可設定較高或較低數量的 XCP 並行處理程序。。`sync -parallel <n>` 命令會與並行處理程序數同步（預設值：`<cpu-count>`）。



n 的最大值為 61。

語法

```
xcp sync -parallel <n>> \\<IP address or hostname of SMB
server>\volxcp\\<IP address of SMB destination server>\xcp1_test1
```

顯示範例

```
C:\xcp>xcp sync -parallel 5 \\<IP address or hostname of SMB
server>\volxcp\\<IP address of SMB destination server>\xcp1_test1
658 scanned, 244 compared, 0 errors, 0 skipped, 0 copied, 0 removed, 5s
658 scanned, 606 compared, 0 errors, 0 skipped, 0 copied, 0 removed,
10s
658 scanned, 658 compared, 0 errors, 0 skipped, 0 copied, 0 removed,
10s
Sending statistics...
```

Sync -Match <filter>

使用 `-match <filter>` 參數 `sync` 命令來掃描來源和目標樹狀結構、並僅比較符合篩選參數的檔案或目錄。如果有任何差異、命令會在目標上套用必要的動作、以保持同步。

語法

```
xcp sync -match <filter> \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp sync -match "'gx' in name" \\<IP address or hostname
of SMB server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp sync -match "'gx' in name" \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp sync -match 'gx' in name \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
634 scanned, 0 copied, 10 compared, 0 removed, 0 errors
Total Time : 2s
STATUS : PASSED
```

同步 - 排除 <filter>

使用 `-exclude <filter>` 參數 `sync` 命令僅排除篩選器中的檔案和目錄。

語法

```
xcp sync -exclude <filter> \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
C:\netapp\xcp>xcp sync -exclude "path('*Exceptions*')" \\<IP address or
hostname of SMB server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp sync -exclude path('*Exceptions*') \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
451 scanned, 427 excluded, 0 copied, 24 compared, 0 skipped, 0 removed,
0 errors
Total Time : 2s
STATUS : PASSED
```

同步 -preserve-ctime

使用 `-preserve-ctime` 參數 `sync` 命令、在 XCP 讀取檔案之前、將「`ctime`」重設為原始值。

語法

```
xcp sync -preserve-ctime \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp sync -preserve-ctime \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp sync -preserve-ctime \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp sync -preserve-ctime \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
634 scanned, 0 copied, 634 compared, 0 removed, 0 errors
Total Time : 4s
STATUS : PASSED
```

同步 -noatime

使用 -noatime 參數 sync 將來源與目標之間的所有差異同步化的命令、不包括只有存取時間差異的檔案。

語法

```
xcp sync -noatime \\<IP address or hostname of SMB server>\source_share
\\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp sync -noatime \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp sync -noatime \\<IP address or hostname of SMB server>\source_share
\\<IP address of SMB destination server>\dest_share

xcp sync -noatime \\<IP address or hostname of SMB server>\source_share
\\<IP address of SMB destination server>\dest_share
634 scanned, 0 copied, 634 compared, 0 removed, 0 errors
Total Time : 3s
STATUS : PASSED
```

同步處理 - 夜間作業

使用 -noctime 參數 sync 將來源與目標之間的所有差異同步化的命令、不包括只有建立時間差異的檔案。

語法

```
xcp sync -noctime \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp sync -noctime \\<IP address or hostname of SMB  
server>\source_share \\<IP address of SMB destination  
server>\dest_share  
xcp sync -noctime \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share  
  
xcp sync -noctime \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share  
634 scanned, 0 copied, 634 compared, 0 removed, 0 errors  
Total Time : 3s  
STATUS : PASSED
```

同步 - nomtime

使用 `-nomtime` 參數 `sync` 將來源與目標之間的所有差異同步化的命令、不包括只有不同修改時間的檔案。（此選項已過時。◦ `sync` 命令將繼續執行而不使用此選項。）

語法

```
xcp sync -nomtime \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp sync -nomtime \\<IP address or hostname of SMB  
server>\source_share \\<IP address of SMB destination  
server>\dest_share  
xcp sync -nomtime \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share  
  
xcp sync -nomtime \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share  
634 scanned, 0 copied, 634 compared, 0 removed, 0 errors  
Total Time : 3s  
STATUS : PASSED
```

Sync -noatt/s

使用 `-noattrs` 參數 `sync` 將來源與目標之間的所有差異同步化的命令、不包括檔案屬性只有差異的檔案。XCP 只有在檔案內容不同時才會複製檔案（ACL 會傳輸）。

語法

```
xcp sync -noattrs \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp sync -noattrs \\<IP address or hostname of SMB  
server>\source_share \\<IP address of SMB destination  
server>\dest_share  
xcp sync -noattrs \\<IP address or hostname of SMB  
server>\source_share \\<IP address of SMB destination  
server>\dest_share  
  
xcp sync -noattrs \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share  
634 scanned, 0 copied, 634 compared, 0 removed, 0 errors  
Total Time : 3s  
STATUS : PASSED
```

同步 -nodison

使用 `-noownership` 參數 `sync` 將來源與目標的所有差異同步化的命令、不包括只有所有權差異的檔案。

語法

```
xcp sync -noownership \\<IP address or hostname of SMB  
server>\vol_SMB_source_xxxxxx \\<IP address of SMB destination  
server>\vol_SMB_target_xxxxxx
```

```
>xcp sync -acl -noownership -fallback-user "DOMAIN\User" -fallback
-group "DOMAIN\Group" \\<source_IP_address>\source_share \\<IP address
of SMB destination server>\dest_share
```

Truncated Output

```
302,909 scanned,      301,365 compared,    0 errors, 0 skipped,    0
copied, 0 removed, 9m46s
307,632 scanned,      303,530 compared,    0 errors, 0 skipped,    0
copied, 0 removed, 9m51s
308,434 scanned,      305,462 compared,    0 errors, 0 skipped,    0
copied, 0 removed, 9m56s
310,824 scanned,      307,328 compared,    0 errors, 0 skipped,    0
copied, 0 removed, 10m1s
313,238 scanned,      310,083 compared,    0 errors, 0 skipped,    0
copied, 0 removed, 10m6s
314,867 scanned,      313,407 compared,    0 errors, 0 skipped,    0
copied, 0 removed, 10m11s
318,277 scanned,      315,856 compared,    0 errors, 0 skipped,    0
copied, 0 removed, 10m17s
321,005 scanned,      318,384 compared,    0 errors, 0 skipped,    0
copied, 0 removed, 10m22s
322,189 scanned,      321,863 compared,    0 errors, 0 skipped,    0
copied, 0 removed, 10m27s
323,906 scanned,      323,906 compared,    0 errors, 0 skipped,    0
copied, 0 removed, 10m29s
```

```
xcp sync -acl -noownership -fallback-user "DOMAIN\User" -fallback-group
"DOMAIN\Group" \\<source_IP_address>\source_share \\<IP address of SMB
destination server>\dest_share
323,906 scanned, 0 copied, 323,906 compared, 0 removed, 0 errors
Total Time : 10m29s
STATUS : PASSED
```

同步 -atimeWindow <float>

使用 -atimewindow <float> 參數 sync 命令，以秒為單位指定檔案從來源到目的地的可接受差異。如果 atime 的差異小於 <value> 、則 XCP 不會將檔案回報為不同。

語法

```
xcp sync -atimewindow <float> \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination server>\dest_share
```

在以下範例中、XCP 接受來源和目的地檔案之間最多 10 分鐘的 atime 差異、而且不會更新目標上的 atime。

顯示範例

```
c:\netapp\xcp>xcp sync -atimewindow 600 \\<IP address or hostname of
SMB server>\source_share \\<IP address of SMB destination
server>\source_share
xcp sync -atimewindow 600 \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\source_share

xcp sync -atimewindow 600 \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\source_share
634 scanned, 0 copied, 634 compared, 0 removed, 0 errors
Total Time : 3s
STATUS : PASSED
```

Sync -ctimeWindow <float>

使用 -ctimewindow <float> 參數 sync 命令，以秒為單位指定從來源到目的地的檔案之 ctime 的可接受差異。當 ctime 的差異小於 <value> 時、XCP 不會將檔案回報為不同。

語法

```
xcp sync -ctimewindow <float> \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination server>\dest_share
```

在以下範例中、XCP 接受來源和目的地檔案之間最多 10 分鐘的 atime 差異、而且不會更新目標上的 ctime。

顯示範例

```
c:\netapp\xcp>xcp sync -ctimewindow 600 \\<IP address or hostname of
SMB server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp sync -ctimewindow 600 \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp sync -ctimewindow 600 \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
634 scanned, 0 copied, 634 compared, 0 removed, 0 errors
Total Time : 3s
STATUS : PASSED
```

同步 -mtimeWindow <float>

使用 -mtimewindow <float> 參數 sync 命令，以秒為單位指定從來源到目的地之檔案的 mtime 的可接受差異。當時間差異小於 <value> 時、XCP 不會將檔案回報為不同。

語法

```
xcp sync -mtimewindow <float> \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp sync -mtimewindow 600 \\<IP address or hostname of
SMB server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp sync -mtimewindow 600 \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp sync -mtimewindow 600 \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
634 scanned, 0 copied, 634 compared, 0 removed, 0 errors Total Time :
3s
STATUS : PASSED
```

SYNC -ACL-Fallback-user <fallback_user> -Fallback-group <fallback_group>

使用 `-acl`、`-fallback-user` 和 `-fallback-group` 的參數 `sync` 命令來比較來源和目標的資料和安全性資訊、並在目標上套用必要的動作。。`-fallback-user` 和 `-fallback-group` 選項是目標機器或 Active Directory 中接收本機（非網域）來源使用者或群組權限的使用者或群組。



您無法使用 `-acl` 選項、不含 `-fallback-user` 和 `-fallback-group` 選項：

語法

```
xcp sync -acl -fallback-user <fallback_user> -fallback-group  
<fallback_group> \\<IP address or hostname of SMB  
server>\performance_SMB_home_dirs \\<IP address of SMB destination  
server>\performance_SMB_home_dirs
```

```

C:\xcp>xcp sync -acl -fallback-user "DOMAIN\User" -fallback-group
"DOMAIN\Group" \\<IP address or hostname of SMB server>\source_share
\\<IP address of SMB destination server>\dest_share
10,796 scanned, 4,002 compared, 0 errors, 0 skipped, 0
copied, 0 removed, s
15,796 scanned, 8,038 compared, 0 errors, 0 skipped, 0
copied, 0 removed, 0s
15,796 scanned, 8,505 compared, 0 errors, 0 skipped, 0
copied, 0 removed, 5s
15,796 scanned, 8,707 compared, 0 errors, 0 skipped, 0
copied, 0 removed, 0s
15,796 scanned, 8,730 compared, 0 errors, 0 skipped, 0
copied, 0 removed, 5s
15,796 scanned, 8,749 compared, 0 errors, 0 skipped, 0
copied, 0 removed, 0s
15,796 scanned, 8,765 compared, 0 errors, 0 skipped, 0
copied, 0 removed, 5s
15,796 scanned, 8,786 compared, 0 errors, 0 skipped, 0
copied, 0 removed, 0s
15,796 scanned, 8,956 compared, 0 errors, 0 skipped, 0
copied, 0 removed, 5s
15,796 scanned, 9,320 compared, 0 errors, 0 skipped, 0
copied, 0 removed, 0s
15,796 scanned, 9,339 compared, 0 errors, 0 skipped, 0
copied, 0 removed, 5s
15,796 scanned, 9,363 compared, 0 errors, 0 skipped, 0
copied, 0 removed, m0s
15,796 scanned, 10,019 compared, 0 errors, 0 skipped, 0
copied 0 removed, 1m5s
15,796 scanned, 10,042 compared, 0 errors, 0 skipped, 0
copied 0 removed, 1m10s
15,796 scanned, 10,059 compared, 0 errors, 0 skipped, 0
copied 0 removed, 1m15s
15,796 scanned, 10,075 compared, 0 errors, 0 skipped, 0
copied 0 removed, 1m20s
15,796 scanned, 10,091 compared, 0 errors, 0 skipped, 0
copied 0 removed, 1m25s
15,796 scanned, 10,108 compared, 0 errors, 0 skipped, 0
copied 0 removed, 1m30s
15,796 scanned, 10,929 compared, 0 errors, 0 skipped, 0
copied 0 removed, 1m35s
15,796 scanned, 12,443 compared, 0 errors, 0 skipped, 0
copied 0 removed, 1m40s

```

```

15,796 scanned, 13,963 compared, 0 errors, 0 skipped, 0
copied 0 removed, 1m45s
15,796 scanned, 15,488 compared, 0 errors, 0 skipped, 0
copied 0 removed, 1m50s
15,796 scanned, 15,796 compared, 0 errors, 0 skipped, 0
copied 0 removed, 1m51s

xcp sync -acl -fallback-user "DOMAIN\User" -fallback-group
"DOMAIN\Group \\<IP address or hostname of SMB server>\source_share
\\<IP address of SMB destination server>\dest_share
15,796 scanned, 0 copied, 15,796 compared, 0 removed, 0 errors
Total Time : 1m51
STATUS : PASSED

```

同步 -l

使用 -l 參數 sync 命令、針對 XCP 在目標上執行的所有動作、在標準輸出中提供詳細的記錄資訊。

語法

```

xcp sync -l \\<IP address or hostname of SMB server>\source_share \\<IP
address of SMB destination server>\dest_share

```

顯示範例

```

c:\netapp\xcp>xcp sync -l \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp sync -l \\<IP address or hostname of SMB server>\source_share \\<IP
address of SMB destination server>\dest_share

File "atime" changed, timestamps set for "agnostic"
File "atime" changed, timestamps set for "<root>"
xcp sync -l \\<IP address or hostname of SMB server>\source_share \\<IP
address of SMB destination server>\dest_share
634 scanned, 0 copied, 634 compared, 0 removed, 0 errors
Total Time : 3s
STATUS : PASSED

```

Sync -root

使用 -root 參數 sync 用於同步根目錄 ACL 的命令。

語法

```
xcp sync -acl -root -fallback-user "DOMAIN\User" -fallback-group  
"DOMAIN\Group" \\<IP address or hostname of SMB server>\source_share \\<IP  
address of SMB destination server>\dest_share
```

顯示範例

```
C:\NetApp\XCP>xcp sync -acl -root -fallback-user "DOMAIN\User"  
-fallback-group "DOMAIN\Group" \\<IP address or hostname of SMB  
server>\source_share \\<IP address of SMB destination  
server>\dest_share  
  
xcp sync -acl -root -fallback-user "DOMAIN\User" -fallback-group  
"DOMAIN\Group" \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share  
12 scanned, 0 copied, 12 compared, 0 skipped, 0 removed, 0 errors, 1  
acls copied  
Total Time : 2s  
STATUS : PASSED
```

僅同步處理 - 容錯移轉使用者 <fallback_user> - 容錯移轉群組 <fallback_group>

使用 `-onlyacl`、`-fallback-user` 和 `-fallback-group` 的參數 `sync` 命令來比較來源與目標之間的安全性資訊、並在目標上套用必要的動作。° `-fallback-user` 和 `-fallback-group` 是目標機器或 Active Directory 中接收本機（非網域）來源使用者或群組權限的使用者或群組。



您無法使用 `-onlyacl` 不含的參數 `-fallback-user` 和 `-fallback-group` 選項：

語法

```
xcp sync -onlyacl -fallback-user <fallback_user> -fallback-group  
<fallback_group> \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share
```

```
C:\Users\ctladmin\Desktop>xcp sync -onlyacl -fallback-user
"DOMAIN\User" -fallback-group "DOMAIN\Group"
\\<source_IP_address>\source_share \\<IP address of SMB destination
server>\dest_share
```

```
8,814 scanned, 0 copied, 620 compared, 0 skipped, 0
removed, 0 errors, 6s
9,294 scanned, 0 copied, 2,064 compared, 0 skipped, 0
removed, 0 errors, 11s
12,614 scanned, 0 copied, 3,729 compared, 0 skipped, 0
removed, 0 errors, 16s
13,034 scanned, 0 copied, 5,136 compared, 0 skipped, 0
removed, 0 errors, 21s
14,282 scanned, 0 copied, 7,241 compared, 0 skipped, 0
removed, 0 errors, 26s
14,282 scanned, 0 copied, 8,101 compared, 0 skipped, 0
removed, 0 errors, 31s
14,282 scanned, 0 copied, 8,801 compared, 0 skipped, 0
removed, 0 errors, 36s
14,282 scanned, 0 copied, 9,681 compared, 0 skipped, 0
removed, 0 errors, 41s
14,282 scanned, 0 copied, 10,405 compared, 0 skipped, 0
removed, 0 errors, 46s
14,282 scanned, 0 copied, 11,431 compared, 0 skipped, 0
removed, 0 errors, 51s
14,282 scanned, 0 copied, 12,471 compared, 0 skipped, 0
removed, 0 errors, 56s
14,282 scanned, 0 copied, 13,495 compared, 0 skipped, 0
removed, 0 errors, 1m1s
14,282 scanned, 0 copied, 14,282 compared, 0 skipped, 0
removed, 0 errors, 1m6s
```

```
xcp sync -onlyacl -preserve-ctime -fallback-user "DOMAIN\User"
-fallback-group "DOMAIN\Group" \\<source_IP_address>\source_share \\<IP
address of SMB destination server>\dest_share
14,282 scanned, 0 copied, 14,282 compared, 0 skipped, 0 removed, 0
errors
Total Time : 1m7s
STATUS : PASSED
```

同步 **-aclVERIFY** {**yes** 、 **no**}

使用 `-aclverify{yes,no}` 參數 `sync` 命令，提供在 ACL 同步作業期間包含或略過 ACL 驗證的選項。此選項只能與搭配使用 `sync -acl` 和 `sync -onlyacl` 命令。ACL 同步預設會執行 ACL 驗證。如果您設定 `-aclverify` 選項 `no`，您可以跳過 ACL 驗證和 `fallback-user` 和 `fallback-group` 不需要選項。如果您已設定 `-aclverify` 至 `yes`、需要 `fallback-user` 和 `fallback-group` 選項、如下列範例所示。

語法

```
xcp sync -acl -aclverify yes -fallback-user <fallback_user> -fallback  
-group <fallback_group> \\<IP address or hostname of SMB  
server>\source_share \\<IP address of SMB destination server>\dest_share
```

```

C:\NetApp\xcp>xcp sync -acl -aclverify yes -fallback-user "DOMAIN\User"
-fallback-group "DOMAIN\Group" \\<source_IP_address>\source_share \\<IP
address of SMB destination server>\dest_share

25 scanned, 0 copied, 24 compared, 0 skipped, 0 removed, 0 errors, 5s,
0 acls copied
25 scanned, 0 copied, 24 compared, 0 skipped, 0 removed, 0 errors, 10s,
0 acls copied
25 scanned, 0 copied, 24 compared, 0 skipped, 0 removed, 0 errors, 15s,
0 acls copied xcp sync -acl -aclverify yes -fallback-user "DOMAIN\User"
-fallback-group "DOMAIN\Group" \\<source_IP_address>\source_share \\<IP
address of SMB destination server>\dest_share
25 scanned, 1 copied, 25 compared, 0 skipped, 0 removed, 0 errors, 12
acls copied Total Time : 16s
STATUS : PASSED
C:\NetApp\xcp>xcp sync -acl -aclverify no
\\<source_IP_address>\source_share \\<IP address of SMB destination
server>\dest_share

xcp sync -acl -aclverify no \\<source_IP_address>\source_share \\<IP
address of SMB destination server>\dest_share
27 scanned, 1 copied, 27 compared, 0 skipped, 0 removed, 0 errors, 13
acls copied Total Time : 2s
STATUS : PASSED
C:\NetApp\xcp>xcp sync -onlyacl -aclverify yes -fallback-user
"DOMAIN\User" -fallback-group "DOMAIN\Group"
\\<source_IP_address>\source_share \\<IP address of SMB destination
server>\dest_share
24 scanned, 0 copied, 24 compared, 0 skipped, 0 removed, 0 errors, 5s,
0 acls copied
24 scanned, 0 copied, 24 compared, 0 skipped, 0 removed, 0 errors, 10s,
0 acls copied
24 scanned, 0 copied, 24 compared, 0 skipped, 0 removed, 0 errors, 15s,
0 acls copied xcp sync -onlyacl -aclverify yes -fallback-user
"DOMAIN\User" -fallback-group "DOMAIN\Group"
\\<source_IP_address>\source_share \\<IP address of SMB destination
server>\dest_share
C:\NetApp\xcp>xcp sync -onlyacl -aclverify no
\\<source_IP_address>\source_share \\<IP address of SMB destination
server>\dest_share
xcp sync -onlyacl -aclverify no \\<source_IP_address>\source_share
\\<IP address of SMB destination server>\dest_share
24 scanned, 0 copied, 24 compared, 0 skipped, 0 removed, 0 errors, 11
acls copied

```



```
Total Time : 2s  
STATUS : PASSED
```

同步 **-BS** <n>

使用 `-bs <n>` 參數 `sync` 提供讀寫區塊大小的命令。預設大小為 1M。

語法

```
xcp.exe sync -bs <n> \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share
```

顯示範例

```
C:\Netapp\xcp>xcp.exe sync -bs 64k \\<source_IP_address>\source_share  
\\<IP address of SMB destination server>\dest_share  
1,136 scanned, 0 copied, 1,135 compared, 0 skipped, 95 removed, 0  
errors, 5s  
xcp.exe sync -bs 64k \\<source_IP_address>\source_share \\<IP address  
of SMB destination server>\dest_share 1,136 scanned, 283 copied, 1,136  
compared, 0 skipped, 283 removed, 0 errors  
Total Time : 10s  
STATUS : PASSED
```

同步處理廣告

使用 `-ads` 參數 `sync` 用於掃描來源和目標 SMB 共用區中替代資料流的變更和修改的命令。如果有變更、則會將變更套用至目標、以確保目標與來源相同。

語法

```
xcp sync -ads \\<IP address or hostname of SMB server>\source_share \\<IP  
address of SMB destination server>\dest_share
```

```
C:\netapp\xcp>xcp sync -ads \\<source_IP_address>\source_share\src
\\<dest_IP_address>\dest_share
```

```
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 5s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 10s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 15s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 20s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 25s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 30s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 1m0s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 2m50s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 2m55s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 3m0s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 3m55s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 4m0s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 4m55s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 5m0s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 5m5s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 5m10s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 5m55s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 6m0s, 1 ads copied
13 scanned,      1 copied, 12 compared,    0 skipped,    0
removed,    0 errors, 6m5s, 1 ads copied
xcp sync -ads \\<source_IP_address>\source_share\src
\\<dest_IP_address>\dest_share
```

```
13 scanned, 1 copied, 13 compared, 0 skipped, 0 removed, 0 errors, 1
ads copied
Total Time : 6m9s
STATUS : PASSED
```

驗證

◦ `verify` 命令會讀取及比較來源和目標共用、並提供不同之處的相關資訊。您可以使用 `verify` 命令、無論用於執行複製或同步作業的工具為何。

語法

```
xcp verify \\<IP address or hostname of SMB server>\source_share \\<IP
address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp verify \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp verify \\<IP address of SMB source server>\source_share \\ <IP
address of SMB destination server>\dest_share

xcp verify \\<IP address of SMB source server>\source_share \\<IP
address of SMB destination server>\dest_share
374 scanned, 373 compared, 373 same, 0 different, 0 missing, 0 errors
xcp verify \\<IP address of SMB source server>\source_share \\<IP
address of SMB destination server>\dest_share
Total Time : 3s
STATUS : PASSED
```

下表列出 `verify` 參數及其說明。

參數	說明
驗證 -h 、 --help	顯示此說明訊息並結束。
驗證 -v	增加除錯的詳細度。
<<smb_verify_parallel,驗證 -parallel ; n>	並行處理程序數（預設值： <cpu-count> ）。
驗證 -MATCH	僅處理符合篩選條件的檔案和目錄（請參閱 <code>xcp help - match</code> 以取得詳細資料）。
<<smb_verify_exclude,驗證 - 排除 ; 篩選器 >	僅排除篩選器中的檔案和目錄。

參數	說明
驗證 -preserve-atime	在來源上還原上次存取的日期。
驗證 -nodata	請勿檢查資料。
驗證 -atime	確認檔案存取時間。
驗證 - 夜間作業	請勿檢查檔案建立時間。
驗證 - nomtime	請勿檢查檔案修改時間。
驗證 -noatt些	請勿檢查屬性。
驗證 -No所有權	請勿檢查所有權。
驗證 -ADS	`verify`含有`-ads`參數的命令會檢查來源和目的地上的任何替代資料流、並顯示任何差異。
驗證 -noacls	請勿檢查 ACL 。
驗證 -atimeWindow	可接受的存取時間差異、以秒為單位。
驗證 -ctimeWindow	可接受的建立時間差異、以秒為單位。
驗證 -mtimeWindow	可接受的修改時間差異（以秒為單位）、
驗證 -stats	平行掃描來源和目標樹狀結構、並比較樹狀結構統計資料。
驗證 -l	增加輸出細節。
驗證 -ll	增加輸出細節（git 差異格式）。
<<verify_smb_acl,驗證 -fallback-user ; fallback_user>	目標機器上的 Active Directory 使用者或本機（非網域）使用者、可接收本機（非網域）來源機器使用者的權限（例如：網域\系統管理員）。
<<verify_smb_acl,驗證 -fallback-group ; fallback_group>	目標機器上的 Active Directory 群組或本機（非網域）群組、可接收本機（非網域）來源機器群組的權限（例如：網域\系統管理員）。
驗證 -root	驗證根目錄的 ACL 。
驗證 - 僅限	僅驗證安全性資訊。

驗證 [-h](#) 、 [--help](#)

使用 [-h](#) 和 [--help](#) 的參數 `verify` 命令以顯示有關的詳細資訊 `verify` 命令

語法

```
xcp verify -help
```

```
C:\Netapp\xcp>xcp verify -help
usage: xcp verify [-h] [-v] [-parallel <n>] [-match <filter>] [-exclude
<filter>] [-preserve-ctime]
[-loglevel <name>] [-fallback-user FALLBACK_USER]
[-fallback-group FALLBACK_GROUP] [-noacls] [-nodata] [-stats] [-l] [-
root] [-noownership] [-onlyacl] [-noctime] [-nomtime] [-noattrs] [-
ctime]
[-atimewindow <float>] [-ctimewindow <float>] [-mtimewindow <float>] [-
ads] source target
```

Note: ONTAP does not let a SMB client modify COMPRESSED or ENCRYPTED attributes. XCP sync will ignore these file attributes.

positional arguments:

```
source
target
```

optional arguments:

```
-h, --help            show this help message and exit
-v                    increase debug verbosity
-parallel <n>         number of concurrent processes (default: <cpu-
count>)
-match <filter>       only process files and directories that match
the filter (see `xcp help -match` for details)
-exclude <filter>     Exclude files and directories that match the
filter (see `xcp help -exclude` for details)
-preserve-ctime       restore last accessed date on source
--help-diag          Show all options including diag. The diag options
should be used only on recommendation by NetApp support.
-loglevel <name>      option to set log level filter (default:INFO)
-fallback-user FALLBACK_USER
                        a user on the target machine to translate the
permissions of local (non-domain) source machine users (eg.
domain\administrator)
-fallback-group FALLBACK_GROUP
                        a group on the target machine to translate the
permissions of local (non- domain) source machine groups (eg.
domain\administrators)
-nodata              do not check data
-stats              scan source and target trees in parallel and
compare tree statistics
-l                  detailed file listing output
-root              verify acl for root directory
-noacls             do not check acs
```

-noownership	do not check ownership
-onlyacl	verify only acls
-noctime	do not check file creation time
-nomtime	do not check file modification time
-noattrs	do not check attributes
-atime	verify access time as well
-atimewindow <float>	acceptable access time difference in seconds
-ctimewindow <float>	acceptable creation time difference in seconds
-mtimewindow <float>	acceptable modification time difference in seconds
-ads	verify ntfs alternate data stream

驗證 -v

使用 -v 參數 verify 提供詳細除錯資訊的命令。

語法

```
xcp verify -v \\<IP address of SMB source server>\source_share address of
SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp> xcp verify -v \\<IP address of SMB source
server>\source_share address of SMB destination server>\dest_share
xcp verify -v \\<IP address of SMB source server>\source_share \\<IP
address of SMB destination server>\dest_share

xcp verify -v \\< IP address of SMB source server>\source_share \\<IP
address of SMB destination server>\dest_share
374 scanned, 373 compared, 373 same, 0 different, 0 missing, 0 errors
Total Time : 3s
STATUS : PASSED
```

驗證平行 <n>

使用 -parallel <n> 參數 verify 命令可設定較高或較低數量的 XCP 並行處理程序。 verify -parallel <n> 命令會驗證並行處理程序的數目（預設值：<cpu-count>）。



n 的最大值為 61。

語法

```
xcp verify -v -parallel <n> \\<IP address of SMB source  
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp verify -v -parallel 8 \\<IP address of SMB source  
server>\source_share \\<IP address of SMB destination  
server>\dest_share  
xcp verify -v -parallel 8 \\<IP address of SMB source  
server>\source_share \\<IP address of SMB destination  
server>\dest_share  
  
xcp verify -v -parallel 8 \\<IP address of SMB source  
server>\source_share \\<IP address of SMB destination  
server>\dest_share  
374 scanned, 373 compared, 373 same, 0 different, 0 missing, 0 errors  
Total Time : 4s  
STATUS : PASSED
```

驗證 <filter> 是否相符

使用 `-match <filter>` 參數 `verify` 命令來掃描來源和目標樹狀結構、並僅比較符合篩選參數的檔案或目錄。如果有任何差異、命令會在目標上套用必要的動作、以保持同步。

語法

```
xcp verify -v -match <filter> \\<IP address of SMB source  
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp verify -v -match "'Microsoft' in name" \\<IP address
of SMB source server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp verify -v -match "'Microsoft' in name" \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp verify -v -match 'Microsoft' in name \\<IP address of SMB source
server> \source_share \\<IP address of SMB destination
server>\dest_share
374 scanned, 0 compared, 0 same, 0 different, 0 missing, 0 errors
Total Time : 1s
STATUS : PASSED
```

驗證 - 排除 <filter>

使用 -exclude <filter> 參數 verify 命令僅排除篩選器中的檔案和目錄。

語法

```
xcp verify -exclude <filter> \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination server>\dest_share
```



```
C:\netapp\xcp>xcp verify -exclude "path('*Exceptions*')" \\<IP address
of SMB sourceserver>\source_share \\<IP address of SMB destination
server>\dest_share

210 scanned, 99 excluded, 6 compared, 5 same, 1 different, 0 missing, 0
errors, 5s
210 scanned, 107 excluded, 13 compared, 12 same, 1 different, 0
missing, 0 errors, 10s
210 scanned, 107 excluded, 13 compared, 12 same, 1 different, 0
missing, 0 errors, 15s
210 scanned, 107 excluded, 13 compared, 12 same, 1 different, 0
missing, 0 errors, 20s
335 scanned, 253 excluded, 13 compared, 12 same, 1 different, 0
missing, 0 errors, 25s
445 scanned, 427 excluded, 15 compared, 14 same, 1 different, 0
missing, 0 errors, 30s
445 scanned, 427 excluded, 15 compared, 14 same, 1 different, 0
missing, 0 errors, 35s
445 scanned, 427 excluded, 15 compared, 14 same, 1 different, 0
missing, 0 errors, 40s
445 scanned, 427 excluded, 15 compared, 14 same, 1 different, 0
missing, 0 errors, 45s
445 scanned, 427 excluded, 16 compared, 15 same, 1 different, 0
missing, 0 errors, 50s
xcp verify -exclude path('*Exceptions*') \\<IP address of SMB
sourceserver>\source_share \\<IP address of SMB destination
server>\dest_share
445 scanned, 427 excluded, 17 compared, 17 same, 0 different, 0
missing, 0 errors
Total Time : 1m11s
STATUS : PASSED
```

驗證 -preserve-ctime

使用 -preserve-ctime 參數 verify 重設命令 ctime 到 XCP 讀取檔案之前的原始值。

語法

```
xcp verify -preserve-ctime \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp verify -preserve-ctime \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp verify -preserve-ctime \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share

374 scanned, 179 compared, 179 same, 0 different, 0 missing, 0 errors,
5s
xcp verify -preserve-ctime \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share
374 scanned, 373 compared, 373 same, 0 different, 0 missing, 0 errors
Total Time : 8s
STATUS : PASSED
```

驗證 -nodata

使用 -nodata 參數 verify 不比較資料的命令。

語法

```
xcp verify -nodata \\<IP address of SMB source server>\source_share \\<IP
address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp verify -nodata \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp verify -nodata \\<IP address of SMB source server>\source_share
\\<IP address of SMB destination server>\dest_share

xcp verify -nodata \\<IP address of SMB source server> \source_share
\\<IP address of SMB destination server>\dest_share : PASSED
374 scanned, 373 compared, 373 same, 0 different, 0 missing, 0 errors
Total Time : 3s
STATUS : PASSED
```

驗證 -atime

使用 -atime 參數 verify 用於比較來源與目的地之間的檔案存取時間戳記的命令。

語法

```
xcp verify -ll -atime \\<IP address of SMB source server>\source_share  
\\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\Netapp\xcp> xcp verify -ll -atime \\<IP address of SMB source  
server>\source_share \\<IP address of SMB destination  
server>\dest_share  
  
WARNING: your license will expire in less than one week! You can renew  
your license at https://xcp.netapp.com  
dir1: Changed (atime)  
    atime  
      - 2023-04-14 10:28:47 (1681482527.564423)  
      + 2023-04-14 10:24:40 (1681482280.366317)  
dir2: Changed (atime)  
    atime  
      - 2023-04-14 10:28:47 (1681482527.564424)  
      + 2023-04-14 10:24:40 (1681482280.366318)  
<root>: Changed (atime)  
    atime  
      - 2023-04-14 10:28:47 (1681482527.054403)  
      + 2023-04-14 10:28:35 (1681482515.538801)  
xcp verify -ll -atime \\<IP address of SMB source server>\source_share  
\\<IP address of SMB destination server>\dest_share  
14 scanned, 13 compared, 10 same, 3 different, 0 missing, 0 errors  
Total Time : 1s  
STATUS : FAILED
```

驗證 -夜間作業

使用 -noctime 參數 verify 命令、不比較來源與目的地之間的檔案建立時間戳記。

語法

```
xcp verify -noctime \\<IP address of SMB source server>\source_share \\<IP  
address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp verify -noctime \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp verify -noctime \\<IP address of SMB source server>\source_share
\\<IP address of SMB destination server>\dest_share

xcp verify -noctime \\<IP address of SMB source server>\source_share
\\<IP address of SMB destination server>\dest_share : PASSED
374 scanned, 373 compared, 373 same, 0 different, 0 missing, 0 errors
Total Time : 3s
STATUS : PASSED
```

驗證 - nomtime

使用 -nomtime 參數 verify 不比較來源與目的地之間檔案修改時間戳記的命令。

語法

```
xcp verify -nomtime \\<IP address of SMB source server>\source_share \\<IP
address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp verify -nomtime \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp verify -nomtime \\<IP address of SMB source server>\source_share
\\<IP address of SMB destination server>\dest_share

xcp verify -nomtime \\<IP address of SMB source server>\source_share
\\<IP address of SMB destination server>\dest_share : PASSED
374 scanned, 373 compared, 373 same, 0 different, 0 missing, 0 errors
Total Time : 3s
STATUS : PASSED
```

驗證 -noattr些

使用 -noattr些 參數 verify 不檢查屬性的命令。

語法

```
xcp verify -noattrs \\<IP address of SMB source server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp verify -noattrs \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp verify -noattrs \\<IP address of SMB source server>\source_share
\\<IP address of SMB destination server>\dest_share

xcp verify -noattrs \\<IP address of SMB source server>\source_share
\\<IP address of SMB destination server>\dest_share : PASSED
374 scanned, 373 compared, 373 same, 0 different, 0 missing, 0 errors
Total Time : 3s
STATUS : PASSED
```

驗證 -No所有權

使用 -noownership 參數 verify 不檢查所有權的命令。

語法

```
xcp verify -noownership \\<IP address of SMB source server>\source_share
\\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp verify -noownership \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp verify -noownership \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp verify -noownership \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share : PASSED
374 scanned, 373 compared, 373 same, 0 different, 0 missing, 0 errors
Total Time : 3s
STATUS : PASSED
```

驗證 -ADS

使用 `-ads` 參數搭配 `verify` 命令、檢查來源和目的地上是否有任何替代資料串流、並顯示任何差異。

語法

```
xcp verify -ads \\<IP address or hostname of SMB server>\source_share
\\<IP address of SMB destination server>\dest_share
```

```
c:\netapp\xcp>xcp verify -ads \\<source_IP_address>\source_share\src
\\<dest_IP_address>\dest_share
```

7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 5s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 10s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 1m0s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 1m55s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 2m0s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 2m5s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 2m55s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 3m0s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 3m5s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 3m55s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 4m55s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 5m0s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 5m5s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 5m55s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 6m0s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 6m5s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 6m10s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 7m0s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 7m5s			
7 scanned,	5 compared,	5 same,	0 different,	0
missing, 0	errors, 7m55s			

```

7 scanned, 5 compared, 5 same, 0 different, 0
missing, 0 errors, 8m0s

xcp verify -ads \\source_ip_address>\source_share\src
\\<dest_ip_address>\dest_share
7 scanned, 6 compared, 6 same, 0 different, 0 missing, 0 errors
Total Time : 8m4s
STATUS : PASSED

```

驗證 **-noacls**

使用 **-noacls** 參數 **verify** 不檢查 ACL 的命令。

語法

```

xcp verify -noacls -noownership \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination server>\dest_share

```

顯示範例

```

c:\netapp\xcp>xcp verify -noacls -noownership \\<IP address or hostname
of SMB server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp verify -noacls -noownership \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp verify -noacls -noownership \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
318 scanned, 317 compared, 317 same, 0 different, 0 missing, 0 errors
Total Time : 1s
STATUS : PASSED

```

驗證 **-noacls -nodisoon**

使用 **-noownership** 參數 **verify -noacls** 不檢查從來源到目的地的 ACL 或所有權。

語法

```

xcp verify -noacls -noownership <source> <target>

```


驗證 **-atimeWindow <float>**

使用 `-atimewindow <float>` 參數 `verify` 命令、以秒為單位指定可接受的差異 `atime` 從來源到目的地的檔案。如果不同、XCP 不會將檔案回報為不同 `atime` 低於 `<value>`。◦◦ `verify - atimewindow` 命令只能搭配使用 `-atime` 旗標。

語法

```
xcp verify -atimewindow <float> \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\Netapp\xcp> xcp verify -atimewindow 600 -atime \\<IP address of SMB
source server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp verify -atimewindow 600 -atime \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share

14 scanned, 13 compared, 13 same, 0 different, 0 missing, 0 errors
```

驗證 **-ctimeWindow <float>**

使用 `-ctimewindow <float>` 參數 `verify` 命令、以秒為單位指定可接受的差異 `ctime` 從來源到目的地的檔案。XCP 不會在不同的情況下回報檔案不同 `ctime` 低於 `<value>`。

語法

```
xcp verify -ctimewindow <float> \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp verify -ctimewindow 600 \\<IP address of SMB
sourceserver>\source_share \\<IP address of SMB destination
server>\dest_share
xcp verify -ctimewindow 600 \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp verify -ctimewindow 600 \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share
374 scanned, 373 compared, 373 same, 0 different, 0 missing, 0 errors
Total Time : 3s
STATUS : PASSED
```

驗證 -mtimeWindow <float>

使用 -mtimewindow <float> 參數 verify 命令、以秒為單位指定可接受的差異 mtime 從來源到目的地的檔案。XCP 不會在不同的情況下回報檔案不同 mtime 低於 <value> 。

語法

```
xcp verify -mtimewindow <float> \\<IP address of SMB
sourceserver>\source_share \\<IP address of SMB destination
server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp verify -mtimewindow 600 \\<IP address of SMB
sourceserver>\source_share \\<IP address of SMB destination
server>\dest_share
xcp verify -mtimewindow 600 \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share

xcp verify -mtimewindow 600 \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share
374 scanned, 373 compared, 373 same, 0 different, 0 missing, 0 errors
Total Time : 3s
STATUS : PASSED
```

驗證 **-stats**

使用 `-stats` 參數 `verify` 用於掃描來源和目的地的命令、並列印樹狀結構統計報告、顯示兩個共用區之間的相似點或差異。

語法

```
xcp verify -stats \\<IP address or hostname of SMB server>\source_share  
\\<IP address of SMB destination server>\dest_share
```



```

c:\netapp\xcp>xcp verify -stats \\<IP address or hostname of SMB
server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp verify -stats \\<IP address or hostname of SMB server>\source_share
\\<IP address of SMB destination server>\dest_share

    == Number of files ==
                empty    <8KiB    8-64KiB    64KiB-1MiB    1-10MiB    10-
100MiB    >100MiB
                        81        170                62        2
on-target                same        same        same        same
on-source                same        same        same        same

    == Directory entries ==
                empty    1-10    10-100    100-1K    1K-10K
>10K
                        1                1
on-target                same        same        same
on-source                same        same

    == Depth ==
                0-5    6-10    11-15    16-20    21-100
>100
                317
on-target                same
on-source                same

    == Modified ==
                >1 year    >1 month    1-31 days    1-24 hrs    <1 hour
<15 mins    future    invalid
                315                2
on-target                same        same
on-source                same        same

Total count: 317 / same / same
Directories: 2 / same / same
Regular files: 315 / same / same
Symbolic links:
Junctions:
Special files:
xcp verify -stats \\<IP address or hostname of SMB server>\source_share
\\<IP address of SMB destination server>\dest_share
635 scanned, 0 errors Total Time : 1s
STATUS : PASSED

```

驗證 -I

使用 -l 參數 verify 命令，列出來源和目的地上檔案與目錄之間的差異。

語法

```
xcp verify -l \\<IP address of SMB source server>\source_share \\<IP  
address of SMB destination server>\dest_share
```

在下列範例中、複製期間並未傳輸所有權資訊、您可以看到命令輸出的差異。

顯示範例

```
c:\netapp\xcp>xcp verify -l \\<IP address of SMB source  
server>\source_share \\<IP address of SMB destination  
server>\dest_share  
xcp verify -l \\<IP address of SMB source server>\source_share \\<IP  
address of SMB destination server>\dest_share  
  
xcp verify -l \\<IP address of SMB source server>\source_share \\<IP  
address of SMB destination server>\dest_share  
374 scanned, 373 compared, 373 same, 0 different, 0 missing, 0 errors  
Total Time : 3s  
STATUS : PASSED
```

驗證 -II

使用 -ll 參數 verify 命令列出檔案或目錄與來源和目標之間的詳細差異。格式類似 git diff。紅色值是來源的舊值、綠色值是目標的新值。

語法

```
xcp verify -ll \\<IP address of SMB source server>\source_share \\<IP  
address of SMB destination server>\dest_share
```

顯示範例

```
c:\netapp\xcp>xcp verify -ll \\<IP address of SMB source
server>\source_share \\<IP address of SMB destination
server>\dest_share
xcp verify -ll \\<IP address of SMB source server>\source_share \\<IP
address of SMB destination server>\dest_share

xcp verify -ll \\<IP address of SMB source server>\source_share \\<IP
address of SMB destination server>\dest_share
374 scanned, 373 compared, 373 same, 0 different, 0 missing, 0 errors
Total Time : 3s
STATUS : PASSED
```

VERIF-Fallback-user <fallback_user> -Fallback-group <fallback_group>

使用 `-fallback-user` 和 `-fallback-group` 的參數 `verify` 命令列出來源和目的地上檔案和目錄之間的 ACL 和擁有權差異。



如果您使用 `fallback-user` 和 `fallback-group` 若執行複本或同步作業、NetApp 建議您也使用 `fallback-user` 和 `fallback-group` 驗證作業的參數。

語法

```
xcp verify -fallback-user <fallback_user> -fallback-group <fallback_group>
\\<IP address of SMB source server>\source_share \\<IP address of SMB
destination server>\dest_share
```

驗證 -nodise-fallback-user <fallback_user> -fallback-group <fallback_group>

使用 `-noownership`、`-fallback-user` 和 `-fallback-group` 的參數 `verify` 命令列出 ACL 差異、並略過來源與目的地上檔案與目錄之間的所有權驗證。

語法

```
xcp verify -noownership -fallback-user <fallback_user> -fallback-group
<fallback_group> \\<IP address of SMB source server>\source_share \\<IP
address of SMB destination server>\dest_share
```

驗證 -noacis-fallback-user <fallback_user> -fallback-group <fallback_group>

使用 `-noacis`、`-fallback-user` 和 `-fallback-group` 的參數 `verify` 命令可略過 ACL 驗證、並驗證來源與目的地上檔案與目錄之間的所有權。

語法

```
xcp verify -noacl -fallback-user <fallback_user> -fallback-group  
<fallback_group> \\<IP address of SMB source server>\source_share \\<IP  
address of SMB destination server>\dest_share
```

驗證 -root

使用 `-root` 參數搭配 `verify` 命令來驗證根目錄的 ACL。

語法

```
xcp verify -root -fallback-user <fallback_user> -fallback- group  
<fallback_group> \\<IP address of SMB source server>\source_share \\<IP  
address of SMB destination server>\dest_share
```

顯示範例

```
C:\NetApp\XCP>xcp verify -root -fallback-user "DOMAIN\User" -fallback  
-group "DOMAIN\Group" \\<IP address of SMB source server>\source_share  
\\<IP address of SMB destination server>\dest_share
```

```
xcp verify -l -root -fallback-user "DOMAIN\User" -fallback-group  
"DOMAIN\Group" \\<IP address of SMB source server>\source_share \\<IP  
address of SMB destination server>\dest_share
```

```
7 scanned, 6 compared, 6 same, 0 different, 0 missing, 0 errors
```

```
Total Time : 1s
```

```
STATUS : PASSED
```

驗證 -lacl -fallback-user <fallback_user> -fallback- group <fallback_group>

使用 `-onlyacl`、`-fallback-user` 和 `-fallback-group` 的參數 `verify` 僅比較來源與目的地之間的安全性資訊的命令。

語法

```
xcp verify -onlyacl -preserve-ptime -fallback-user <fallback_user>  
-fallback- group <fallback_group> \\<IP address of SMB source  
server>\source_share \\<IP address of SMB destination server>\dest_share
```



```
C:\Users\ctladmin\Desktop>xcp verify -onlyacl -preserve-atime -fallback
-user "DOMAIN\User" -fallback- group "DOMAIN\Group" -ll
\\<source_IP_address>\source_share \\<IP address of SMB destination
server>\dest_share
```

```
4,722 scanned, 0 compared, 0 same, 0 different, 0 missing, 0
errors, 5s
7,142 scanned, 120 compared, 120 same, 0 different, 0 missing, 0
errors, 10s
7,142 scanned, 856 compared, 856 same, 0 different, 0 missing, 0
errors, 15s
7,142 scanned, 1,374 compared, 1,374 same, 0 different, 0 missing,
0 errors, 20s
7,142 scanned, 2,168 compared, 2,168 same, 0 different, 0 missing,
0 errors, 25s
7,142 scanned, 2,910 compared, 2,910 same, 0 different, 0 missing,
0 errors, 30s
7,142 scanned, 3,629 compared, 3,629 same, 0 different, 0 missing,
0 errors, 35s
7,142 scanned, 4,190 compared, 4,190 same, 0 different, 0 missing,
0 errors, 40s
7,142 scanned, 4,842 compared, 4,842 same, 0 different, 0 missing,
0 errors, 45s
7,142 scanned, 5,622 compared, 5,622 same, 0 different, 0 missing,
0 errors, 50s
7,142 scanned, 6,402 compared, 6,402 same, 0 different, 0 missing,
0 errors, 55s
7,142 scanned, 7,019 compared, 7,019 same, 0 different, 0 missing,
0 errors, 1m0s
```

```
xcp verify -onlyacl -preserve-atime -fallback-user "DOMAIN\User"
-fallback-group "DOMAIN\Group" -ll \\<source_IP_address>\source_share
\\<IP address of SMB destination server>\dest_share
7,142 scanned, 7,141 compared, 7,141 same, 0 different, 0 missing, 0
errors
Total Time : 1m2s
STATUS : PASSED
```

設定

- `configure` 命令會設定 SMB 系統、並連線到 PostgreSQL 資料庫執行的系統。

語法

```
xcp.exe configure
```

顯示範例

```
C:\NetApp\XCP>xcp.exe configure

Please choose the menu you want to start:
1. Configure xcp.ini file
0. Quit
```

傾聽

- `listen` 命令會讀取 XCP 二進位檔案並啟動 XCP 服務。

語法

```
xcp.exe listen
```

顯示範例

```
c:\NetApp\XCP>xcp.exe listen
* Serving Flask app "xcp_rest_smb_app" (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production
deployment. Use a production WSGI server instead.
* Debug mode: off
```

XCP 使用案例

適用於 **XCP NFS** 和 **SMB** 的使用案例

瞭解適用於 NetApp XCP 的 XCP 不同資料移轉使用案例。

["資料從7-Mode移轉至ONTAP VMware"](#)

["透過ACL從來源儲存箱移轉CIFS資料至ONTAP 功能區"](#)

XCP 記錄

設定 logconfig 選項

瞭解中的 logconfig 選項 `xcpLogConfig.json` 適用於 XCP NFS 和 SMB 的 JSON 組態檔案。

以下範例顯示使用 "logconfig" 選項設定的 JSON 組態檔：

- 範例 *

```
{
  "level": "INFO",
  "maxBytes": "52428800",
  "name": "xcp.log"
}
```

- 使用此組態、您可以從選取有效的層級值、根據訊息的嚴重性來篩選訊息 CRITICAL、ERROR、WARNING、INFO 和 Debug。
- `maxBytes` 設定可讓您變更旋轉記錄檔的檔案大小。預設為 50MB。將值設為 0 會停止旋轉、並為所有記錄建立單一檔案。
- `name` 選項可設定記錄檔的名稱。
- 如果缺少任何金鑰值配對、系統會使用預設值。如果您錯誤地指定現有金鑰的名稱、則會將其視為新的金鑰、而新的金鑰不會影響系統的運作方式或系統功能。

設定 eventlog 選項

XCP 支援事件訊息、您可以使用啟用 eventlog 中的選項 `xcpLogConfig.json` JSON 組態檔。

對於 NFS、所有事件訊息都會寫入 `xcp_event.log` 檔案位於任一預設位置 `/opt/NetApp/xFiles/xcp/` 或使用下列環境變數設定的自訂位置：

`XCP_CONFIG_DIR`



當兩個位置都設定好時、`XCP_LOG_DIR` 已使用。

對於 SMB、所有事件訊息都會寫入檔案 `xcp_event.log` 位於預設位置 `C:\NetApp\XCP\`。

適用於 **NFS** 和 **SMB** 的事件訊息的 **JSON** 組態

在下列範例中、JSON 組態檔案可為 NFS 和 SMB 啟用事件訊息。

啟用 **eventlog** 選項的 **JSON** 組態檔範例

```
{
  "eventlog": {
    "isEnabled": true,
    "level": "INFO"
  },
  "sanitize": false
}
```

啟用 **eventlog** 和其他選項的 **JSON** 組態檔範例

```
{
  "logConfig": {
    "level": "INFO",
    "maxBytes": 52428800,
    "name": "xcp.log"
  },
  "eventlog": {
    "isEnabled": true,
    "level": "INFO"
  },
  "syslog": {
    "isEnabled": true,
    "level": "info",
    "serverIp": "10.101.101.10",
    "port": 514
  },
  "sanitize": false
}
```

下表顯示事件記錄子選項及其說明：

子選項	Json資料類型	預設值	說明
isEnabled	布林值	錯	此布林選項用於啟用事件訊息。如果設為 false 、則不會產生任何事件訊息、也不會將事件記錄發佈至事件記錄檔。
level	字串	資訊	事件訊息嚴重性篩選器層級。事件訊息支援五個嚴重性等級、依嚴重性遞減順序排列：嚴重、錯誤、警告、資訊和偵錯

NFS 事件記錄訊息的範本

下表顯示 NFS 事件記錄訊息的範本和範例：

範本	範例
<pre><Time stamp> - <Severity level> {"Event ID": <ID>, "Event Category":<category of xcp event log>, "Event Type": <type of event log>, "ExecutionId": < unique ID for each xcp command execution >, "Event Source": <host name>, "Description": <XCP event log message>}</pre>	<pre>2020-07-14 07:07:07,286 - ERROR {"Event ID": 51, "Event Category": "Application failure", "Event Type": "No space left on destination error", " ExecutionId ": 408252316712, "Event Source": "NETAPP-01", "Description": "Target volume is left with no free space while executing : copy {}. Please increase the size of target volume 10.101.101.101:/cat_vol"}</pre>

Eventlog 訊息選項

以下選項可用於 eventlog 訊息：

- Event ID：每個事件記錄訊息的唯一識別碼。
- Event Category：說明事件類型和事件記錄訊息的類別。
- Event Type：這是描述事件訊息的簡短字串。多個事件類型可以屬於一個類別。
- Description：說明欄位包含 XCP 產生的事件記錄訊息。
- ExecutionId：每個執行的 XCP 命令的唯一識別碼。

啟用 Syslog 用戶端

XCP 支援 Syslog 用戶端、可將 XCP 事件記錄訊息傳送至 NFS 和 SMB 的遠端 Syslog 接收器。它支援使用預設連接埠 514 的 UDP 傳輸協定。

設定 NFS 和 SMB 的 Syslog 用戶端

若要啟用 Syslog 用戶端、必須設定 syslog 中的選項 xcpLogConfig.json NFS 和 SMB 的組態檔。

以下 NFS 與 SMB 的 Syslog 用戶端組態範例：

```
{
  "syslog":{
    "isEnabled":true,
    "level":"INFO",
    "serverIp":"10.101.101.d",
    "port":514
  },
  "sanitize":false
}
```

系統記錄選項

下表顯示 Syslog 子選項及其說明：

子選項	Json資料類型	預設值	說明
isEnabled	布林值	錯	此布林選項可在 XCP 中啟用 Syslog 用戶端。設定為 False 將忽略系統記錄組態。
level	字串	資訊	事件訊息嚴重性篩選器層級。事件訊息支援五個嚴重性等級、依嚴重性遞減順序排列：嚴重、錯誤、警告、資訊和偵錯
serverIp	字串	無	此選項會列出遠端 Syslog 伺服器 IP 位址或主機名稱。
port	Integer	514	此選項為遠端 Syslog 接收器連接埠。您可以使用此選項、將 Syslog 接收器設定為在不同的連接埠上接受 Syslog 資料報。預設的 UDP 連接埠為 514。



。sanitize 不應在「Syslog」組態中指定選項。此選項具有全域範圍、而且在 JSON 組態內的記錄、事件記錄和系統記錄都很常見。將此值設為「true」將會隱藏張貼至 Syslog 伺服器的 Syslog 訊息中的敏感資訊。

系統記錄訊息格式

透過 UDP 傳送至遠端 Syslog 伺服器的每個 Syslog 訊息、都會依照 NFS 和 SMB 的 RFC 5424 格式進行格式化。

下表顯示 XCP 系統記錄訊息所支援的 RFC 5424 嚴重性等級：

嚴重性值	嚴重性等級
3.	錯誤：錯誤狀況
4.	警告：警告狀況
6.	資訊：資訊訊息
7.	偵錯：偵錯層級訊息

在 NFS 和 SMB 的 Syslog 標頭中、版本的值為 1、XCP 所有訊息的設施值都設為 1（使用者層級訊息）：
 $\text{<PRI> = syslog facility} * 8 + \text{severity value}$

XCP 應用程式 Syslog 訊息格式、含 NFS 的 Syslog 標頭：

下表顯示 Syslog 訊息格式的範本和範例、以及 NFS 的 Syslog 標頭：

範本	範例
<pre><PRI><version> <Time stamp> <hostname> xcp_nfs - - - <XCP message></pre>	<pre><14>1 2020-07-08T06:30:34.341Z netapp xcp_nfs - - - INFO {"Event ID": 14, "Event Category": "XCP job status", "Event Type": "XCP scan completion", "Event Source": "netapp", "Description": "XCP scan is completed by scanning 8 items"}</pre>

XCP 應用程式訊息、不含 NFS 的 Syslog 標頭

下表顯示不含 NFS 之 Syslog 標頭的 Syslog 訊息格式範本和範例：

範本	範例
<pre><message severity level i.e CRITICAL, ERROR, WARNING, INFO, DEBUG> <XCP event log message></pre>	<pre>INFO {"Event ID": 14, "Event Category": "XCP job status", "Event Type": "XCP scan completion", "Event Source": "netapp", "Description": "XCP scan is completed by scanning 8 items"}</pre>

XCP 應用程式 Syslog 訊息格式、含 SMB 的 Syslog 標頭

下表顯示 Syslog 訊息格式的範本和範例、以及 SMB 的 Syslog 標頭：

範本	範例
<pre><PRI><version> <Time stamp> <hostname> xcp_smb - - - <XCP message></pre>	<pre><14>1 2020-07-10T10:37:18.452Z bansala01 xcp_smb - - - INFO {"Event ID": 14, "Event Category": "XCP job status", "Event Type": "XCP scan completion", "Event Source": "NETAPP- 01", "Description": "XCP scan is completed by scanning 17 items"}</pre>

不含 SMB 之 Syslog 標頭的 XCP 應用程式訊息

下表顯示不含 SMB 之 Syslog 標頭的 Syslog 訊息格式範本和範例：

範本	範例
<pre><message severity level i.e CRITICAL, ERROR, WARNING, INFO, DEBUG> <XCP event log message></pre>	<pre>NFO {"Event ID": 14, "Event Category": "XCP job status", "Event Type": "XCP scan completion", "Event Source": "NETAPP-01", "Description": "XCP scan is completed by scanning 17items"}</pre>

XCP 事件記錄

XCP NFS 事件記錄

檢閱 XCP NFS 的事件記錄範例。

下表顯示 XCP NFS 的事件記錄。

事件ID	事件範本	事件範例
401	Mounted on NFS export <mount path> with maximum read block size <read block size> bytes, maximum write block size <write block size> bytes. Mount point has mode value<mode bits> and type: <fattr3 type>.	2020-07-14 03:53:59,811 - INFO {"Event ID":401, "Event Category": "Mounting unmounting file system", "Event Type": "Mount file system information", "ExecutionId": 408249379415, "Event Source": "NETAPP-01", "Description": "Mounted on NFS export <IPaddress of NFS server>:/test1 with maximum read block size 65536 bytes, maximum write block size 65536 bytes. Mount point has mode value 493 and type : Directory"}
181	This license is issued to <username>of <company name>,license type is <license type> with <license status> status, license will expire on <expire date>	2020-07-14 03:53:59,463 - INFO {"Event ID": 181, "Event Category": "Authentication and authorization", "Event Type": "License information", "ExecutionId": 408249379415, "Event Source": "NETAPP-01", "Description": "This license is issued to NetApp User of Network Appliance, Inc, license type is SANDBOX with ACTIVE status, license will expire on Thu Jul 1 00:00:00 2021"}

事件ID	事件範本	事件範例
183	The license issued to <username> of <company name> will expire in less than one week	2020-07-14 04:02:55,151 - WARNING {"Event ID": 183, "Event Category": "Authentication and authorisation", "Event Type": "License warning", "ExecutionId": 408249519546, "Event Source": "NETAPP-01", "Description": "The license issued to NetApp User of Network Appliance, Inc will expire in less than one week"}
581	Catalog path <catalog volume path> to store catalog directory is not accessible. Refer user guide for configuring catalog volume.	2020-07-14 04:05:00,857 - ERROR {"Event ID": 581, "Event Category": "Catalog and indexing", "Event Type": "Catalog exporting error", "ExecutionId": 408249552351, "Event Source": "NETAPP-01", "Description": "Catalog path <IP address of NFS server>:/test11 to store catalog directory is not accessible. Refer user guide for configuring catalog volume."}
582	Failed creating catalog directory in catalog volume path <catalog volume path>	2020-07-14 04:10:12,895 - ERROR {"Event ID": 582, "Event Category": "Catalog and indexing", "Event Type": "Catalog directory creation error", "ExecutionId": 408249630498, "Event Source": "NETAPP-01", "Description": "Failed creating catalog directory in catalogvolume path 10.234.104.250:/cat_vol"}

事件ID	事件範本	事件範例
584	Error in creating index directory <index id> for <command>	2020-07-14 04:52:15,918 - ERROR { "Event ID": 584, "Event Category": "Catalog and indexing", "Event Type": "Error in index creation", "ExecutionId": 408250278214, "Event Source": "NETAPP-01", "Description": "Error in creating index directory abc7 for scan" }
586	Failed to create index <index id> in catalog volume while executing command : <command>	2020-07-14 04:45:46,275 - ERROR { "Event ID": 586, "Event Category": "Catalog and indexing", "Event Type": "Error in index creation", "ExecutionId": 408250177021, "Event Source": "NETAPP-01", "Description": "Failed to create index abc6 in catalog volume while executing command : scan {- newid: 'abc6'}" }
351	System resources available while executing xcp command: <command>, are : <CPU info>, <memory info>	2020-07-14 05:08:35,393 - INFO { "Event ID": 351, "Event Category": "System resource utilization", "Event Type": "Resources available for scan", "ExecutionId": 408250529264, "Event Source": "NETAPP-01", "Description": "System resources available while executing xcp command : scan , are : CPU: count 4, load avg (1/5/15m) 0.0, 0.0, 0.0, System memory (GiB): avail 7.3, total 7.8, free 6.6, buffer 0.1, cache 0.5" }

事件ID	事件範本	事件範例
13.	XCP <command> is running on platform <platform info> for source <source info>	2020-07-14 05:08:35,478 - INFO { "Event ID": 13, "Event Category": "XCP job status", "Event Type": "Starting xcp scan operation", "ExecutionId": 408250529264, "Event Source": "NETAPP-01", "Description": "XCP command : scan {-newid: 'abc7'} is running on platform Linux-2.6.26-2-amd64-x86_64-with-debian- 5.0.10 for source 10.234.104.250:/test1" }
14.	XCP scan completed successfully after scanning <scan item count> items. Source : <source scanned>	2020-07-14 05:08:35,653 - INFO { "Event ID": 14, "Event Category": "XCP job status", "Event Type": "XCP scan completion", "ExecutionId": 408250529264, "Event Source": "NETAPP-01", "Description": "XCP scan completed successfully after scanning 479 items. Source : 10.234.104.250:/test1" }
354	System resources available while executing xcp command: <command>, are : <CPU info>, <memory info>	2020-07-14 05:15:13,562 - INFO { "Event ID": 354, "Event Category": "System resource utilization", "Event Type": "Resources available for copy", "ExecutionId": 408250596708, "Event Source": "NETAPP-01", "Description": "System resources available while executing xcp command : copy , are : CPU: count 4, load avg (1/5/15m) 0.0, 0.0, 0.0, System memory (GiB): avail 7.3, total 7.8, free 6.6, buffer 0.1, cache 0.5" }

事件ID	事件範本	事件範例
25.	XCP <command> is running on platform <platform info> for source <copy source> and destination <copy destination/target>	2020-07-14 05:15:13,647 - INFO {"Event ID": 25, "Event Category": "XCP job status", "Event Type": "Starting xcp copy operation", "ExecutionId": 408250596708, "Event Source": "NETAPP-01", "Description": "XCP command : copy {} is running on platform Linux-2.6.26- 2-amd64-x86 64-with-debian-5.0.10 for source <IP address of NFS server>:/source_vol and destination <NFS destination source>:/test1"}
26	XCP copy completed successfully after scanning <scanned item count> of which <matched item count> are matched and <copied item count> items are copied to the destination. Source : <copy source>, destination :<copy destination/target	2020-07-14 05:15:13,885 - INFO {"Event ID":26, "Event Category": "XCP job status", "Event Type": "XCP copy completion", "ExecutionId": 408250596708, "Event Source": "NETAPP-01", "Description": "XCP copy completed successfully after scanning 3 of which 0 are matched and 2 items are copied to the destination. Source : <IP address of NFS server>:/source_vol, destination : <NFS destination source>:/test1"}

事件ID	事件範本	事件範例
16.	XCP <command> is running on platform <platform info> for source <sync source> and destination <sync destination>	2020-07-14 06:41:20,145 - INFO {"Event ID": 16, "Event Category": "XCP job status", "Event Type": "Starting xcp sync operation", "ExecutionId": 408251920146, "Event Source": "NETAPP-01", "Description": "XCP command : sync {-id: 'autoname_copy_2020-07-14_06.22.07.233271'} is running on platform Linux-2.6.26-2-amd64-x86_64-with-debian-5.0.10 for source <IP address of NFS server>:/src_vol and destination <NFS destination source>:/dest_vol"}
352	System resources available while executing xcp command: <command>, are : <CPU info>, <memory info>	2020-07-14 06:41:28,728 - INFO {"Event ID": 352, "Event Category": "System resource utilization", "Event Type": "Resource available for sync", "ExecutionId": 408251920146, "Event Source": "NETAPP-01", "Description": "System resources available while executing xcp command : sync {-id: 'autoname_copy_2020-07-14_06.22.07.233271'} , are : CPU: count 4, load avg (1/5/15m) 0.1, 0.0, 0.0, System memory (GiB): avail 7.2, total 7.8, free 6.6, buffer 0.1, cache 0.5"}

事件ID	事件範本	事件範例
17.	XCP sync is completed. Total scanned <scanned item count>, copied <copied item count>, modification <modification item count>, new file <new file count>, delete item <delete item count>. Command executed : <command>	2020-07-14 06:41:29,245 - INFO {"Event ID":17, "Event Category": "XCP job status", "Event Type": "XCP sync completion", "ExecutionId": 408251920146, "Event Source": "NETAPP-01", "Description": "XCP sync is completed. Total scanned 66, copied 0, modification 1, new file 0, delete item 0. Command executed : sync {-id: 'autoname_copy_2020-07-14_06.22.07.233271'}"}
19	XCP <command> is running on platform <platform info> for source <verify source> and destination <verify destination>	2020-07-14 06:54:59,084 - INFO {"Event ID": 19, "Event Category": "XCP job status", "Event Type": "Starting xcp verify operation", "ExecutionId": 408252130477, "Event Source": "NETAPP-01", "Description": "XCP command : verify {} is running on platform Linux-2.6.26-2-amd64-x86_64-with- debian-5.0.10 for source <IP address of NFS server>:/src_vol and destination <IP address of NFS destination server>:/dest_vol"}
353	System resources available while executing xcp command: <command>, are : <CPU info>, <memory info>	2020-07-14 06:54:59,085 - INFO {"Event ID": 353, "Event Category": "System resource utilization", "Event Type": "Resources available for verify", "ExecutionId": 408252130477, "Event Source": "NETAPP-01", "Description": "System resources available while executing xcp command : verify , are : CPU: count 4, load avg (1/5/15m) 0.0, 0.0, 0.0, System memory (GiB): avail 7.3, total 7.8, free 6.6, buffer 0.1, cache 0.5"}

事件ID	事件範本	事件範例
211	log file path : <file path> , severity filter level <severity level>, log message sanitization is set as <sanitization value>	2020-07-14 06:40:59,104 - INFO { "Event ID": 211, "Event Category": "Logging and supportability", "Event Type": "XCP logging information", "ExecutionId": 408251920146, "Event Source": "NETAPP-01", "Description": "Log file path : /opt/NetApp/xFiles/xcp/xcplogs/ xcp.log, severity filter level INFO, log message sanitization is set as False" }
2..	Event file path: <file path>, severity filter level <severity level>, event message sanitization is set as <sanitization value>	2020-07-14 06:40:59,105 - INFO { "Event ID": 215, "Event Category": "Logging and supportability", "Event Type": "XCP event information", "ExecutionId": 408251920146, "Event Source": "NETAPP-01", "Description": "Event file path :/opt/NetApp/xFiles/xcp/xcplogs /xcp_event.log, severity filter level INFO, event message sanitization is set as False" }
54	Catalog volume is left with no free space please increase the size of catalog volume <catalog volume running out of space>	2020-07-14 04:10:12,897 - ERROR { "Event ID": 54, "Event Category": "Application failure", "Event Type": "No space left on Catalog volume error", "ExecutionId": 408249630498, "Event Source": "NETAPP-01", "Description": "Catalog volume is left with no free space. Please increase the size of catalog volume<IP address of NFS destination server>:/cat_vol" }

事件ID	事件範本	事件範例
53.	Catalog volume <catalog volume> is left with no free space to store index <index id> while executing <command>. Please increase the size of the catalog volume <catalog volume running out of space>	2020-07-14 04:52:15,922 - ERROR { "Event ID": 53, "Event Category": "Application failure", "Event Type": "No space left for catalog volume error", "ExecutionId": 408250278214, "Event Source": "NETAPP-01", "Description": "Catalog volume 10.234.104.250:/cat_vol is left with no free space to store index abc7 while executing : scan {-newid: 'abc7'}. Please increase the size of the catalog volume <IP address of NFS destination server>:/cat_vol" }
61.	NFS LIF <LIF IP> is not reachable for path <volume path without IP> while executing <command>. Please check volume is not offline and is reachable.	2020-07-14 07:38:20,100 - ERROR { "Event ID": 61, "Event Category": "Application failure", "Event Type": "NFS mount has failed", "ExecutionId": 408252799101, "Event Source": "NETAPP-01", "Description": "NFS LIF <IP address of NFS destination server> is not reachable for path /test11 while executing : scan {}. Please check volume is not offline and is reachable" }
71	TCP connection could not be established for IP address <IP>. Check network setting and configuration.	2020-07-14 07:44:44,578 - ERROR { "Event ID": 71, "Event Category": "Application failure", "Event Type": "IP is not active", "ExecutionId": 408252889541, "Event Source": "NETAPP-01", "Description": "TCP connection could not be established to the address <IP address of NFS destination server>. Check network setting and configuration." } (UT done)

事件ID	事件範本	事件範例
51	Target volume is left with no free space while executing: <command>. Please increase the size of target volume <volume running out of space>.	2020-07-14 07:07:07,286 - ERROR {"Event ID": 51, "Event Category": "Application failure", "Event Type": "No space left on destination error", "ExecutionId": 408252316712, "Event Source": "NETAPP-01", "Description": "Target volume is left with no free space while executing : copy {}. Please increase the size of target volume <IP address of NFS destination server>:/cat_vol"}
76	Index id {} is already present . Use new index id and rerun command : <command>	2020-07-14 09:18:41,441 - ERROR {"Event ID": 76, "Event Category": "Application failure", "Event Type": "Index ID problem", "ExecutionId": null, "Event Source": "NETAPP-01", "Description": "Index id asd is already present . Use new index id and rerun command: scan {-newid: 'asd'} "}
363.62	CPU usage has crossed <percentage CPU used>%	2020-06-16 00:17:28,294 - ERROR {"Event ID": 362, "Event Category": "System resource utilization", "Event Type": "resources available for xcp", "Event Source": "NETAPP- 01 ", "Description": "CPU Usage has crossed 90.07%"}
363	Memory Usage has crossed <percentage memory used>%	2020-06-16 00:17:28,300 - ERROR {"Event ID": 363, "Event Category": "System resource utilization", "Event Type": "resources available for xcp", "Event Source": "NETAPP- 01", "Description": "Memory Usage has crossed 95%"}

事件ID	事件範本	事件範例
22	XCP <command> is running on platform <platform information> for source <resume source> and destination <resume destination>	2020-07-14 06:24:26,768 - INFO {"Event ID": 22, "Event Category": "XCP job status", "Event Type": "Starting xcp resume operation", "ExecutionId": 408251663404, "Event Source": "NETAPP-01", "Description": "XCP command : resume {-id: 'autoname_copy_2020-07-14_06.22.07.233271'} is running on platform Linux-2.6.26-2-amd64- x86_64-with-debian-5.0.10 for source <IP address for NFS sever>:/src_vol and destination <IP address of NFS destination server>:/dest_vol"}
356	System resources available while executing xcp command: <command> , are : <CPU info>, <memory information>	2020-07-14 06:24:26,837 - INFO {"Event ID": 356, "Event Category": "System resource utilization", "Event Type": "Resource available for resume", "ExecutionId": 408251663404, "Event Source": "NETAPP-01", "Description": "System resources available while executing xcp command : resume {-id: 'autoname_copy_2020-07-14_06.22.07.233271'} , are : CPU: count 4, load avg (1/5/15m) 0.1, 0.1, 0.0, System memory (GiB): avail 7.2,total 7.8, free 6.6, buffer 0.1, cache 0.5"}

事件ID	事件範本	事件範例
23	XCP resume is completed. Total scanned items <scanned item count>, total copied items <copied item count>. Command executed :<command>	2020-07-14 06:26:15,608 - INFO {"Event ID": 23, "Event Category": "XCP job status", "Event Type": "XCP resume completion", "ExecutionId": 408251663404, "Event Source": "NETAPP-01", "Description": "XCP resume is completed. Total scanned items 5982, total copied items 5973. Command executed : resume {-id: 'autoname_copy_2020-07-14_06.22.07.233271'} "}
76	Index id <index id> is already present. Use new index id and rerun command : <command>	2020-07-14 09:43:08,381 - ERROR {"Event ID": 76, "Event Category": "Application failure", "Event Type": "Index ID problem", "ExecutionId": null, "Event Source": "NETAPP-01", "Description": "Index id asd is already present . Use new index id and rerun command : scan {-newid: 'asd'} "}
82	Index id <index id> used while executing sync is incomplete. Try resume on the existing index id <index id>	2020-07-14 10:33:09,307 - ERROR {"Event ID": 82, "Event Category": "Application failure", "Event Type": "Incomplete index used for sync", "ExecutionId": null, "Event Source": "NETAPP-01", "Description": "Index id autoname_copy_2020-07-14_10.28.22.323897 used while executing sync is incomplete. Try resume on the existing index id autoname_copy_2020-07-14_10.28.22.323897."}

事件ID	事件範本	事件範例
365	CPU utilization reduced to <CPU percentage used>%	2020-07-14 09:43:08 381 - ERROR { "Event ID": 364, "Event Category": "System resource utilization", "Event Type": "Resources available for xcp", "ExecutionId": 408251663404, "Event Source": "NETAPP-01", "Description": " CPU utilization reduced to 26% }
364	Memory utilization reduced to <CPU percentage used>%	2020-07-14 09:43:08,381 - INFO { "Event ID": 364, "Event Category": " Resources available for xcp", "Event Type": "Resources available for xcp", "ExecutionId": 408351663478, "Event Source": "NETAPP-01", "Description": " Memory utilization reduced to 16.2% " }
10.	XCP command <command> has failed	2020-07-14 09:43:08,381 - INFO { "Event ID": 10, "Event Category": " Xcp job status", "Event Type": "XCP command failure", "ExecutionId": 4082516634506, "Event Source": "NETAPP-01", "Description": " XCP command verify has failed " }

XCP SMB 事件記錄

檢閱 XCP SMB 的事件記錄範例。

下表顯示 XCP SMB 的事件記錄。

事件ID	事件範本	事件範例
355	CPU usage has crossed <CPU percentage use>%	2020-06-23 12:42:02,705 - INFO { "Event ID": 355, "Event Category": "System resource utilization", "Event Type": "CPU usage for xcp", "Event Source": "NETAPP-01", "Description": "CPU usage has crossed 96% " }

事件ID	事件範本	事件範例
356	Memory usage has crossed <memory percentage use>%	2020-06-23 12:42:02,705 - INFO { "Event ID": 356, "Event Category": "System resource utilization", "Event Type": "Memory usage for xcp", "Event Source": "NETAPP-01", "Description": "CPU usage has crossed92.5%" }
61.	Address was not found: <complete address over which command is fired>	2020-07-15 02:57:06,466 - ERROR { "Event ID": 61, "Event Category": "Application Failure", "Event Type": "Address was not found", "ExecutionId": 408264113696, "Event Source": "NETAPP-01", "Description": "Address was not found: '\\\\<IP address of SMB server>\\cifs1\" }
62.	Interface cannot be found: <complete address over which command is fired >	2020-07-15 02:52:00,603 - ERROR { "Event ID": 62, "Event Category": "Application Failure", "Event Type": "Interface was not found", "ExecutionId": 408264071616, "Event Source": "NETAPP-01", "Description": "Interface cannot be found: '\\\\<IP address of SMB server>\\cifs11\" }
63.	Invalid Address. Please make sure that the Address starts with '\\'	2020-07-15 03:00:10,422 - ERROR { "Event ID": 63, "Event Category": "Application Failure", "Event Type": "Invalid Address", "ExecutionId": 408264197308, "Event Source": "NETAPP-01", "Description": "Invalid Address. Please make sure that the Address starts with '\\'" }

事件ID	事件範本	事件範例
41	Destination volume is left with no free space please increase the size target volume:<destination volume>	2020-06-15 17:12:46,413 - ERROR { "Event ID": 41, "Event Category": "Application Failure", "Event Type": "No space left on destination error", "Event Source": "NETAPP-01", "Description": "Destination volume is left with no free space please increase the size of target volume: <IP address of SMB server>\\to" }
211	Log file path : <file path>, severity filter level <severity level>, log message sanitization is set as <value of sanitization option>	{ "Event ID": 211, "Event Category": "Logging and supportability", "Event Type": "XCP logging information", "ExecutionId": 408252673852, "Event Source": "NETAPP-01", "Description": "Log file path : C:\\NetApp\\XCP\\Logs\\xcp.log, severity filter level DEBUG, log message sanitization is set as False" }
2..	Event file path : <file path>, severity filter level <severity level>, Event message sanitization is set as <sanitization option>	{ "Event ID": 215, "Event Category": "Logging and supportability", "Event Type": "XCP event information", "ExecutionId": 408252673852, "Event Source": "NETAPP-01", "Description": "Event file path : C:\\NetApp\\XCP\\Logs\\xcp_event.log, severity filter level INFO, Event message sanitization is set as False" }

事件ID	事件範本	事件範例
181	This license is issued to <user name> of <company name>, license type is <license type> with <status> status, license will expire expires on <expiration date>	{"Event ID": 181, "Event Category": "Authentication and authorization", "Event Type": "license information", "ExecutionId": 408252673852, "Event Source": "NETAPP-01", "Description": "This license is issued to calin of NetApp Inc, license type is SANDBOX with ACTIVE status, license will expire on Mon Dec 31 00:00:00 2029"}
13.	XCP <command> is running on platform <platform information> for source <scan source>	2020-07-15 02:12:56,917 - INFO {"Event ID": 13, "Event Category": "XCP job status", "Event Type": "Starting xcp scan operation", "ExecutionId": 408263470688, "Event Source": "NETAPP-01", "Description": "XCP {scan} is running on platform Windows- 8.1-6.3.9600-SP0 for source \\\\ <ip address="" of="" server>\\cifs"}<="" smb="" td=""></ip>
351	System resources available while command : <command>, are : cpu <CPU information>, total memory <total memory on system>, available memory	2020-07-15 02:12:56,917 - INFO {"Event ID": 351, "Event Category": "System resource utilization", "Event Type": "Resources available for scan", "ExecutionId": 408263470688, "Event Source": "NETAPP-01", "Description": "System resources available while executing xcp command : scan, are : cpu 4, total memory 8.00GiB, available memory 6.81GiB"}

事件ID	事件範本	事件範例
14.	XCP scan completed successfully after scanning <scanned items count> items. Source :<scan source>	2020-07-15 02:12:57,932 - INFO {"Event ID": 14, "Event Category": "XCP job status", "Event Type": "XCP scan completion", "ExecutionId": 408263470688, "Event Source": "NETAPP-01", "Description": "XCP scan completed successfully after scanning 29 items. Source : \\<IP address of SMB server>\\cifs"}
25.	XCP <command> is running on platform <platform information> for source <copy source> and destination <copy destination>	2020-07-15 02:19:06,562 - INFO {"Event ID": 25, "Event Category": "XCP job status", "Event Type": "Starting xcp copy operation", "ExecutionId": 408263563552, "Event Source": "NETAPP-01", "Description": "XCP {copy} is running on platform Windows- 8.1-6.3.9600-SP0 for source \\<IP address of SMB server>\\cifs and destination \\<IP address of SMB destination server>\\source_vol"}
352	System resources available while executing command :<command>, are : cpu <CPU information>, total memory <Total memory>, available memory <memory available for execution>	2020-07-15 02:19:06,562 - INFO {"Event ID": 352, "Event Category": "System resource utilization", "Event Type": "Resources available for copy", "ExecutionId": 408263563552, "Event Source": "NETAPP-01", "Description": "System resources available while executing xcp command : copy, are : cpu 4, total memory 8.00GiB, available memory 6.82GiB"}

事件ID	事件範本	事件範例
26	XCP copy completed successfully after copying <copied items count> items. Source :<copy source>, destination : <copy destination>	2020-07-15 02:19:14,500 - INFO {"Event ID": 26, "Event Category": "XCP job status", "Event Type": "XCP copy completion", "ExecutionId": 408263563552, "Event Source": "NETAPP-01", "Description": "XCP copy completed successfully after copying 0 items. Source :
16.	XCP <command> is running on platform <platform> for source <sync source> and destination <sync destination>	2020-07-15 02:27:10,490 - INFO {"Event ID": 16, "Event Category": "XCP job status", "Event Type": "Starting xcp sync operation", "ExecutionId": 408263688308, "Event Source": "NETAPP-01", "Description": "XCP {sync} is running on platform Windows- 8.1-6.3.9600-SP0 for source \\\\ <ip \\\\<ip="" address="" and="" destination="" of="" server>\\cifs="" server>\\source_vol"}<="" smb="" td=""></ip>
353	System resources available while executing xcp command: <command>, are : cpu <CPU information>, total memory <total memory>, available memory <available memory>	2020-07-15 02:27:10,490 - INFO {"Event ID": 353, "Event Category": "System resource utilization", "Event Type": "Resources available for sync", "ExecutionId": 408263688308, "Event Source": "NETAPP-01", "Description": "System resources available while executing xcp command : sync, are : cpu 4, total memory 8.00GiB, available memory 6.83GiB"}

事件ID	事件範本	事件範例
17.	XCP sync completed successfully after scanning <scanned item count> items, copying <copied item count> items, comparing <compared item count> items, removing <removed item count> items. Source : <sync source>, destination : <sync destination>	2020-07-15 03:04:14,269 - INFO {"Event ID": 17, "Event Category": "XCP job status", "Event Type": "XCP sync completion", "ExecutionId": 408264256392, "Event Source": "NETAPP-01", "Description": "XCP sync completed successfully after scanning30 items, copying 20 items, comparing 30 items, removing 0 items. Source : \\<IP address of SMB server>\\cifs, destination : \\<IP address of SMB destination server>\\source_vol"}
19	XCP <command> is running on platform <platform information> for source <verify source> and destination <verify destination>	2020-07-15 03:14:04,854 - INFO {"Event ID": 19, "Event Category": "XCP job status", "Event Type": "Starting xcp verify operation", "ExecutionId": 408264409944, "Event Source": "NETAPP-01", "Description": "XCP {verify -noacl} is running on platform Windows-8.1-6.3.9600-SP0 for source \\<IP address of SMB server>\\cifs and destination \\<IP address of SMB destination server>\\source_vol"}
354	System resources available for command : <command>, are : cpu <CPU information>, total memory <total memory>, available memory <available memory for execution>	2020-07-15 03:14:04,854 - INFO {"Event ID": 354, "Event Category": "System resource utilization", "Event Type": "Resources available for verify", "ExecutionId": 408264409944, "Event Source": "NETAPP-01", "Description": "System resources available while executing xcp command : verify, are : cpu 4, total memory 8.00GiB, available memory 6.80GiB"}

事件ID	事件範本	事件範例
20.	XCP verify is completed by scanning <scanned item count> items, comparing <compared item count> items	{"Event ID": 20, "Event Category": "XCP job status", "Event Type": "XCP verify completion", "command Id": 408227440800, "Event Source": "NETAPP-01", "Description": "XCP verify is completed by scanning 59 items, comparing 0 items"}
357	CPU utilization reduced to <CPU utilization percentage>%	{"Event ID": 357, "Event Category": "System resource utilization", "Event Type": "CPU usage for xcp", "Event Source": "NETAPP- 01", "Description": "CPU utilization reduced to 8.2%"}
358	Memory utilization reduced to <memory utilization percentage>%	{"Event ID": 358, "Event Category": "System resource utilization", "Event Type": "Memory usage for xcp", "Event Source": "NETAPP-01", "Description": "Memory utilization reduced to 19%"}
10.	XCP command <command> has failed	2020-07-14 09:43:08,381 - INFO {"Event ID": 10, "Event Category": " Xcp job status", "Event Type": "XCP command failure", "Event Source": "NETAPP-01", "Description": " XCP command H:\\console_msg\\xcp_cifs\\xcp\\ \\ main .py verify \\\\<IP address of SMB server>\\cifs \\\\<IP address of SMB destination server>\\source_vol has failed"

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