



# Upgrade

## Astra Automation

NetApp  
February 12, 2024

This PDF was generated from [https://docs.netapp.com/us-en/astra-automation-2307/reference/upgrade\\_overview.html](https://docs.netapp.com/us-en/astra-automation-2307/reference/upgrade_overview.html) on February 12, 2024. Always check docs.netapp.com for the latest.

# Table of Contents

- Upgrade ..... 1
  - Upgrade overview ..... 1
  - List all upgrades ..... 1
  - Retrieve an upgrade ..... 12
  - Modify an upgrade ..... 21

# Upgrade

## Upgrade overview

The Upgrade App API provides access to software components that are eligible for upgrade, and to initiate upgrades. The availability of upgrades is determined based on packages registered with the Packages API.

## List all upgrades

GET `/accounts/{account_id}/core/v1/upgrades`

Returns a JSON array of all matching resources in the collection. If individual fields are specified in the request, the items JSON array will contain the fields requested for each matching resource in the order specified.

### Parameters

Name	Type	In	Required	Description
account_id	string	path	True	ID of the containing account resource <ul style="list-style-type: none"><li>example: {{.Account}}</li></ul>
include	string	query	False	Indicates which fields should be returned when listing a collection.  URL examples: "include=id", "include=id,name"  OpenAPI examples: "id" <ul style="list-style-type: none"><li>example: id,componentName,upgradeVersion</li></ul>

Name	Type	In	Required	Description
limit	string	query	False	<p>Indicates the maximum number of resources to return when listing a collection.</p> <p>URL examples: "limit=2"</p> <p>OpenAPI examples: "2"</p>
filter	string	query	False	<p>Indicates which fields should be matched in order to return a resource when listing a collection.</p> <p>Supported operators are:</p> <ul style="list-style-type: none"> <li>• eq - Equality</li> <li>• lt/gt - Less than/Greater than</li> <li>• lte/gte - Less than or equals to/Greater than or equals to</li> </ul> <p>URL example: "filter=field%20eq%20%27value%27"</p> <p>OpenAPI examples: "field eq 'value'"</p>

## Response

Status: 200, Returns a JSON array of all matching resources in the collection. If individual fields are specified in the request, the items JSON array will contain the fields requested for each matching resource in the order specified.

Name	Type	Required	Description
items	array[Any of: <a href="#">upgrade_1.1_get_response_body</a> , array[]]	True	
metadata	<a href="#">type_astra_metadata_list</a>	True	

### Example response

```
{
  "type": "application/astra-upgrades",
  "version": "1.1",
  "items": [
    [
      "01982783-b1eb-4dca-a3fe-a385a3186c53",
      "acc",
      "21.07.1"
    ],
    [
      "0a5abab2-39b2-4101-87b9-0d9b8f537ca1",
      "acc",
      "21.07.2"
    ]
  ],
  "metadata": {
    "labels": [],
    "creationTimestamp": "2022-10-06T20:58:16.305662Z",
    "modificationTimestamp": "2022-10-06T20:58:16.305662Z",
    "createdBy": "8f84cf09-8036-51e4-b579-bd30cb07b269"
  }
}
```

### Response

Status: 401, Unauthorized

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	

Name	Type	Required	Description
correlationID	string	False	

### Example response

```
{
  "type": "https://astra.netapp.io/problems/3",
  "title": "Missing bearer token",
  "detail": "The request is missing the required bearer token.",
  "status": "401"
}
```

### Response

Status: 400, Bad request

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	
invalidParams	array[invalidParams]	False	List of invalid query parameters

### Example response

```
{
  "type": "https://astra.netapp.io/problems/5",
  "title": "Invalid query parameters",
  "detail": "The supplied query parameters are invalid.",
  "status": "400"
}
```

### Response

Status: 403, Forbidden

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

### Example response

```
{
  "type": "https://astra.netapp.io/problems/11",
  "title": "Operation not permitted",
  "detail": "The requested operation isn't permitted.",
  "status": "403"
}
```

### Error

Status: 404, Not found

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

## Example error response

```
{
  "type": "https://astra.netapp.io/problems/2",
  "title": "Collection not found",
  "detail": "The collection specified in the request URI wasn't
found.",
  "status": "404"
}
```

## Definitions



## See Definitions

additionalDetails

type\_astra\_stateDetail

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
additionalDetails	<a href="#">additionalDetails</a>	False	

type\_astra\_label

Name	Type	Required	Description
name	string	True	
value	string	True	

type\_astra\_metadata\_update

Client and service-specified metadata associated with the resource. Defined values are:

- Conforms to the Astra Metadata Schema If not specified on update, the metadata object's labels, creationTimestamp and createdBy, will be preserved without modification.

Name	Type	Required	Description
labels	array[ <a href="#">type_astra_label</a> ]	False	
creationTimestamp	string	False	
modificationTimestamp	string	False	
createdBy	string	False	
modifiedBy	string	False	

upgrade\_1.1\_get\_response\_body

Name	Type	Required	Description
type	string	True	Media type of the resource. Defined values are: <ul style="list-style-type: none"><li>• "application/astra-upgrade"</li></ul>

Name	Type	Required	Description
version	string	True	Version of the resource. Defined values are: <ul style="list-style-type: none"> <li>• "1.0"</li> <li>• "1.1"</li> </ul>
id	string	True	Globally unique identifier of the resource. Defined values are: <ul style="list-style-type: none"> <li>• Conforms to the UUIDv4 Schema</li> </ul>
componentName	string	True	JSON string containing the name of the type of software that can be upgraded. Defined values are: <ul style="list-style-type: none"> <li>• "acc"</li> <li>• "acs"</li> <li>• "trident"</li> <li>• "kubernetes"</li> </ul>
componentInstance	string	True	JSON string containing the URI of the component that can be upgraded. Defined values are: <ul style="list-style-type: none"> <li>• Minimum length: 3</li> <li>• Maximum length: 4095</li> </ul>
componentID	string	True	JSON string containing a globally unique identifier of the component that can be upgraded. Defined values are: <ul style="list-style-type: none"> <li>• Conforms to the Astra Identifier Schema</li> </ul>

Name	Type	Required	Description
upgradeVersion	string	True	<p>JSON string containing the SemVer of the software image file that can be upgraded to. Defined values are:</p> <ul style="list-style-type: none"> <li>• Conforms to the SemVer Schema</li> </ul>
currentVersion	string	True	<p>JSON string containing the current SemVer of the entity to be upgraded. Defined values are:</p> <ul style="list-style-type: none"> <li>• Conforms to the SemVer Schema</li> </ul>
dependencies	array[string]	True	<p>JSON array of JSON strings, each containing the UUID of an upgrade that must be completed before this upgrade can proceed. Used to determine which upgrades will be performed as prerequisites and in which order. Defined values are:</p> <ul style="list-style-type: none"> <li>• Conforms to the Astra Identifier Schema</li> </ul>

Name	Type	Required	Description
state	string	True	<p>JSON string containing a value indicating the operational state of the upgrade. If auto-upgrade is enabled, upgrades will start in the "scheduled" state. Otherwise, upgrades will start in the "proposed" state. Defined values are:</p> <ul style="list-style-type: none"> <li>• "unavailable" - The upgrade is not available at this time</li> <li>• "proposed" - The upgrade is proposed but will not automatically run until approved</li> <li>• "scheduled" - The upgrade is approved but is not ready to be installed due to dependencies, time windows, or available resources</li> <li>• "running" - The upgrade is in progress</li> <li>• "complete" - The upgrade has completed</li> <li>• "failed" - The upgrade did not complete</li> </ul>

Name	Type	Required	Description
stateDesired	string	True	<p>JSON string containing a value indicating the desired state for "state". This field is only included when the user can directly request a change in the state of the resource. Defined values are:</p> <ul style="list-style-type: none"> <li>• "proposed" - The upgrade is not approved and must not be performed</li> <li>• "scheduled" - The upgrade is approved and must be performed in the specified time window</li> <li>• "running" - The upgrade must be performed immediately, regardless of the time window</li> </ul>
stateDetails	array[type_astra_stateDe tail]	True	<p>JSON array of JSON objects that lists additional details about the current "state". If no details are available, this array will be empty.</p> <ul style="list-style-type: none"> <li>• Minimum Items: 0</li> </ul>

Name	Type	Required	Description
metadata	<a href="#">type_astra_metadata_update</a>	True	Client and service-specified metadata associated with the resource. Defined values are: <ul style="list-style-type: none"> <li>Conforms to the Astra Metadata Schema. If not specified on update, the metadata object's labels, creationTimestamp and createdBy, will be preserved without modification.</li> </ul>

#### type\_astra\_metadata\_list

Name	Type	Required	Description
continue	string	False	
count	number	False	
labels	array[ <a href="#">type_astra_label</a> ]	False	
creationTimestamp	string	False	
modificationTimestamp	string	False	
createdBy	string	False	
modifiedBy	string	False	

#### invalidParams

Name	Type	Required	Description
name	string	True	Name of the invalid query parameter
reason	string	True	Reason why the query parameter is invalid

## Retrieve an upgrade

GET /accounts/{account\_id}/core/v1/upgrades/{upgrade\_id}

Returns the stored Upgrade API resource in the JSON response body.

## Parameters

Name	Type	In	Required	Description
account_id	string	path	True	ID of the containing account resource <ul style="list-style-type: none"><li>example: <code>{{.Account}}</code></li></ul>
upgrade_id	string	path	True	ID of the upgrade collection to list

## Response

Status: 200, Returns the stored Upgrade API resource in the JSON response body.

Name	Type	Required	Description
type	string	True	Media type of the resource. Defined values are: <ul style="list-style-type: none"><li>"application/astra-upgrade"</li></ul>
version	string	True	Version of the resource. Defined values are: <ul style="list-style-type: none"><li>"1.0"</li><li>"1.1"</li></ul>
id	string	True	Globally unique identifier of the resource. Defined values are: <ul style="list-style-type: none"><li>Conforms to the UUIDv4 Schema</li></ul>

Name	Type	Required	Description
componentName	string	True	<p>JSON string containing the name of the type of software that can be upgraded. Defined values are:</p> <ul style="list-style-type: none"> <li>• "acc"</li> <li>• "acs"</li> <li>• "trident"</li> <li>• "kubernetes"</li> </ul>
componentInstance	string	True	<p>JSON string containing the URI of the component that can be upgraded. Defined values are:</p> <ul style="list-style-type: none"> <li>• Minimum length: 3</li> <li>• Maximum length: 4095</li> </ul>
componentID	string	True	<p>JSON string containing a globally unique identifier of the component that can be upgraded. Defined values are:</p> <ul style="list-style-type: none"> <li>• Conforms to the Astra Identifier Schema</li> </ul>
upgradeVersion	string	True	<p>JSON string containing the SemVer of the software image file that can be upgraded to. Defined values are:</p> <ul style="list-style-type: none"> <li>• Conforms to the SemVer Schema</li> </ul>
currentVersion	string	True	<p>JSON string containing the current SemVer of the entity to be upgraded. Defined values are:</p> <ul style="list-style-type: none"> <li>• Conforms to the SemVer Schema</li> </ul>



Name	Type	Required	Description
dependencies	array[string]	True	<p>JSON array of JSON strings, each containing the UUID of an upgrade that must be completed before this upgrade can proceed. Used to determine which upgrades will be performed as prerequisites and in which order. Defined values are:</p> <ul style="list-style-type: none"> <li>• Conforms to the Astra Identifier Schema</li> </ul>
state	string	True	<p>JSON string containing a value indicating the operational state of the upgrade. If auto-upgrade is enabled, upgrades will start in the "scheduled" state. Otherwise, upgrades will start in the "proposed" state. Defined values are:</p> <ul style="list-style-type: none"> <li>• "unavailable" - The upgrade is not available at this time</li> <li>• "proposed" - The upgrade is proposed but will not automatically run until approved</li> <li>• "scheduled" - The upgrade is approved but is not ready to be installed due to dependencies, time windows, or available resources</li> <li>• "running" - The upgrade is in progress</li> <li>• "complete" - The upgrade has completed</li> <li>• "failed" - The upgrade did not complete</li> </ul>

Name	Type	Required	Description
stateDesired	string	True	<p>JSON string containing a value indicating the desired state for "state". This field is only included when the user can directly request a change in the state of the resource. Defined values are:</p> <ul style="list-style-type: none"> <li>• "proposed" - The upgrade is not approved and must not be performed</li> <li>• "scheduled" - The upgrade is approved and must be performed in the specified time window</li> <li>• "running" - The upgrade must be performed immediately, regardless of the time window</li> </ul>
stateDetails	array[type_astra_stateDetail]	True	<p>JSON array of JSON objects that lists additional details about the current "state". If no details are available, this array will be empty.</p> <ul style="list-style-type: none"> <li>• Minimum Items: 0</li> </ul>
metadata	type_astra_metadata_update	True	<p>Client and service-specified metadata associated with the resource. Defined values are:</p> <ul style="list-style-type: none"> <li>• Conforms to the Astra Metadata Schema. If not specified on update, the metadata object's labels, creationTimestamp and createdBy, will be preserved without modification.</li> </ul>

## Example response

```
{
  "type": "application/astra-upgrade",
  "version": "1.1",
  "id": "aa9a8e88-c012-55b1-b514-7cd94dc79008",
  "componentName": "trident",
  "componentInstance": "https://<dns_name>/accounts/0b311ae7-d89a-4a11-
a52c-1349ca090415/topology/v1/clouds/fdda3ff3-a46a-43a4-902e-
444fde2baeba/storageBackends/72d19c3c-eb43-4bec-b23e-a228c900aded",
  "componentID": "72d19c3c-eb43-4bec-b23e-a228c900aded",
  "upgradeVersion": "21.07.1",
  "currentVersion": "21.04.1",
  "dependencies": [],
  "state": "scheduled",
  "stateDesired": "scheduled",
  "stateDetails": [],
  "metadata": {
    "labels": [],
    "creationTimestamp": "2022-10-06T20:58:16.305662Z",
    "modificationTimestamp": "2022-10-06T20:58:16.305662Z",
    "createdBy": "8f84cf09-8036-51e4-b579-bd30cb07b269"
  }
}
```

## Response

Status: 401, Unauthorized

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

### Example response

```
{
  "type": "https://astra.netapp.io/problems/3",
  "title": "Missing bearer token",
  "detail": "The request is missing the required bearer token.",
  "status": "401"
}
```

### Response

Status: 400, Bad request

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	
invalidParams	array[invalidParams]	False	List of invalid query parameters

### Example response

```
{
  "type": "https://astra.netapp.io/problems/5",
  "title": "Invalid query parameters",
  "detail": "The supplied query parameters are invalid.",
  "status": "400"
}
```

### Response

Status: 403, Forbidden

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

### Example response

```
{
  "type": "https://astra.netapp.io/problems/11",
  "title": "Operation not permitted",
  "detail": "The requested operation isn't permitted.",
  "status": "403"
}
```

### Error

Status: 404, Not found

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

### Example error response

```
{
  "type": "https://astra.netapp.io/problems/2",
  "title": "Collection not found",
  "detail": "The collection specified in the request URI wasn't
found.",
  "status": "404"
}
```

## Definitions

### See Definitions

additionalDetails

type\_astra\_stateDetail

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
additionalDetails	<a href="#">additionalDetails</a>	False	

type\_astra\_label

Name	Type	Required	Description
name	string	True	
value	string	True	

type\_astra\_metadata\_update

Client and service-specified metadata associated with the resource. Defined values are:

- Conforms to the Astra Metadata Schema If not specified on update, the metadata object's labels, creationTimestamp and createdBy, will be preserved without modification.

Name	Type	Required	Description
labels	array[ <a href="#">type_astra_label</a> ]	False	
creationTimestamp	string	False	
modificationTimestamp	string	False	
createdBy	string	False	
modifiedBy	string	False	

invalidParams

Name	Type	Required	Description
name	string	True	Name of the invalid query parameter
reason	string	True	Reason why the query parameter is invalid

# Modify an upgrade

PUT /accounts/{account\_id}/core/v1/upgrades/{upgrade\_id}

Replaces the entire stored resource with the supplied JSON request body while preserving key values that are not user-modifiable.

## Side Effects

- Upgrades are scheduled or run based on desired state.

## Parameters

Name	Type	In	Required	Description
account_id	string	path	True	ID of the containing account resource <ul style="list-style-type: none"><li>• example: <code>{{.Account}}</code></li></ul>
upgrade_id	string	path	True	ID of the upgrade collection to list

## Request Body

Replaces the entire stored resource with the supplied JSON request body while preserving key values that are not user-modifiable.

## Side Effects

- Upgrades are scheduled or run based on desired state.

Name	Type	Required	Description
type	string	True	Media type of the resource. Defined values are: <ul style="list-style-type: none"><li>• "application/astra-upgrade"</li></ul>
version	string	True	Version of the resource. Defined values are: <ul style="list-style-type: none"><li>• "1.0"</li><li>• "1.1"</li></ul>

Name	Type	Required	Description
id	string	False	Globally unique identifier of the resource. Defined values are: <ul style="list-style-type: none"> <li>• Conforms to the UUIDv4 Schema</li> </ul>
componentName	string	False	JSON string containing the name of the type of software that can be upgraded. Defined values are: <ul style="list-style-type: none"> <li>• "acc"</li> <li>• "acs"</li> <li>• "trident"</li> <li>• "kubernetes"</li> </ul>
componentInstance	string	False	JSON string containing the URI of the component that can be upgraded. Defined values are: <ul style="list-style-type: none"> <li>• Minimum length: 3</li> <li>• Maximum length: 4095</li> </ul>
componentID	string	False	JSON string containing a globally unique identifier of the component that can be upgraded. Defined values are: <ul style="list-style-type: none"> <li>• Conforms to the Astra Identifier Schema</li> </ul>
upgradeVersion	string	False	JSON string containing the SemVer of the software image file that can be upgraded to. Defined values are: <ul style="list-style-type: none"> <li>• Conforms to the SemVer Schema</li> </ul>



Name	Type	Required	Description
currentVersion	string	False	<p>JSON string containing the current SemVer of the entity to be upgraded. Defined values are:</p> <ul style="list-style-type: none"> <li>• Conforms to the SemVer Schema</li> </ul>
dependencies	array[string]	False	<p>JSON array of JSON strings, each containing the UUID of an upgrade that must be completed before this upgrade can proceed. Used to determine which upgrades will be performed as prerequisites and in which order. Defined values are:</p> <ul style="list-style-type: none"> <li>• Conforms to the Astra Identifier Schema</li> </ul>

Name	Type	Required	Description
state	string	False	<p>JSON string containing a value indicating the operational state of the upgrade. If auto-upgrade is enabled, upgrades will start in the "scheduled" state. Otherwise, upgrades will start in the "proposed" state. Defined values are:</p> <ul style="list-style-type: none"> <li>• "unavailable" - The upgrade is not available at this time</li> <li>• "proposed" - The upgrade is proposed but will not automatically run until approved</li> <li>• "scheduled" - The upgrade is approved but is not ready to be installed due to dependencies, time windows, or available resources</li> <li>• "running" - The upgrade is in progress</li> <li>• "complete" - The upgrade has completed</li> <li>• "failed" - The upgrade did not complete</li> </ul>

Name	Type	Required	Description
stateDesired	string	False	<p>JSON string containing a value indicating the desired state for "state". This field is only included when the user can directly request a change in the state of the resource. Defined values are:</p> <ul style="list-style-type: none"> <li>• "proposed" - The upgrade is not approved and must not be performed</li> <li>• "scheduled" - The upgrade is approved and must be performed in the specified time window</li> <li>• "running" - The upgrade must be performed immediately, regardless of the time window</li> </ul>
stateDetails	array[type_astra_stateDetail]	False	<p>JSON array of JSON objects that lists additional details about the current "state". If no details are available, this array will be empty.</p> <ul style="list-style-type: none"> <li>• Minimum Items: 0</li> </ul>
metadata	type_astra_metadata_update	False	<p>Client and service-specified metadata associated with the resource. Defined values are:</p> <ul style="list-style-type: none"> <li>• Conforms to the Astra Metadata Schema. If not specified on update, the metadata object's labels, creationTimestamp and createdBy, will be preserved without modification.</li> </ul>

### Example request

```
{
  "type": "application/astra-upgrade",
  "version": "1.1",
  "stateDesired": "running"
}
```

### Response

Status: 204, Indicates if the upgrade resource was updated.

### Response

Status: 401, Unauthorized

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

### Example response

```
{
  "type": "https://astra.netapp.io/problems/3",
  "title": "Missing bearer token",
  "detail": "The request is missing the required bearer token.",
  "status": "401"
}
```

### Response

Status: 400, Bad request

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	
invalidFields	array[invalidFields]	False	List of invalid request body fields

### Example response

```
{
  "type": "https://astra.netapp.io/problems/5",
  "title": "Invalid query parameters",
  "detail": "The supplied query parameters are invalid.",
  "status": "400"
}
```

### Response

Status: 409, Conflict

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	
invalidFields	array[invalidFields]	False	List of invalid request body fields

### Example response

```
{
  "type": "https://astra.netapp.io/problems/10",
  "title": "JSON resource conflict",
  "detail": "The request body JSON contains a field that conflicts with
an idempotent value.",
  "status": "409"
}
```

### Response

Status: 403, Forbidden

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
status	string	True	
correlationID	string	False	

### Example response

```
{
  "type": "https://astra.netapp.io/problems/11",
  "title": "Operation not permitted",
  "detail": "The requested operation isn't permitted.",
  "status": "403"
}
```

### Error

Status: 404, Not found

Name	Type	Required	Description
type	string	True	
title	string	True	

Name	Type	Required	Description
detail	string	True	
status	string	True	
correlationID	string	False	

### Example error response

```
{  
  "type": "https://astra.netapp.io/problems/1",  
  "title": "Resource not found",  
  "detail": "The resource specified in the request URI wasn't found.",  
  "status": "404"  
}
```

### Definitions

## See Definitions

additionalDetails

type\_astra\_stateDetail

Name	Type	Required	Description
type	string	True	
title	string	True	
detail	string	True	
additionalDetails	<a href="#">additionalDetails</a>	False	

type\_astra\_label

Name	Type	Required	Description
name	string	True	
value	string	True	

type\_astra\_metadata\_update

Client and service-specified metadata associated with the resource. Defined values are:

- Conforms to the Astra Metadata Schema If not specified on update, the metadata object's labels, creationTimestamp and createdBy, will be preserved without modification.

Name	Type	Required	Description
labels	array[ <a href="#">type_astra_label</a> ]	False	
creationTimestamp	string	False	
modificationTimestamp	string	False	
createdBy	string	False	
modifiedBy	string	False	

invalidParams

Name	Type	Required	Description
name	string	True	Name of the invalid query parameter
reason	string	True	Reason why the query parameter is invalid

invalidFields



<b>Name</b>	<b>Type</b>	<b>Required</b>	<b>Description</b>
name	string	True	Name of the invalid request body field
reason	string	True	Reason why the request body field is invalid

## Copyright information

Copyright © 2024 NetApp, Inc. All Rights Reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

## Trademark information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.