



Manage security-related operations

ONTAP 9.11.1 REST API reference

NetApp
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Manage security-related operations

Security endpoint overview

Overview

You can use this API for various cluster-wide security-related operations.

"onboard_key_manager_configurable_status" object

Use this API to retrieve details of whether or not the Onboard Key Manager can be configured on the cluster.

– GET /api/security

– GET /api/security?fields=onboard_key_manager_configurable_status

"software_data_encryption" object

Contains software data encryption related information.

The following APIs can be used to enable or disable and obtain default software data at rest encryption values:

– PATCH /api/security -d '{"software_data_encryption.disabled_by_default" : true}'

– PATCH /api/security -d '{"software_data_encryption.disabled_by_default" : false}'

– GET /api/security

– GET /api/security?fields=software_data_encryption

A PATCH request on this API using the parameter "software_data_encryption.conversion_enabled" triggers the conversion of all non-encrypted metadata volumes to encrypted metadata volumes and all non-NAE aggregates to NAE aggregates. For the conversion to start, the cluster must have either an Onboard or an external key manager set up and the aggregates should either be empty or have only metadata volumes. No data volumes should be present in any of the aggregates. For MetroCluster configurations, the PATCH request will fail if the cluster is in the switchover state.

The following API can be used to initiate software data encryption conversion.

– PATCH /api/security -d '{"software_data_encryption.conversion_enabled" : true}'

"fips" object

Contains FIPS mode information.

A PATCH request on this API using the parameter "fips.enabled" switches the system from using the default cryptographic module software implementations to validated ones or vice versa, where applicable. If the value of the parameter is "true" and unapproved algorithms are configured as permitted in relevant subsystems, those algorithms will be disabled in the relevant subsystem configurations. If "false", there will be no implied change to the relevant subsystem configurations.

– GET /api/security

– GET /api/security?fields=fips

– PATCH /api/security -d '{ "fips.enabled" : true }'

– PATCH /api/security -d '{ "fips.enabled" : false }'

"tls" object

Contains TLS configuration information.

A PATCH request on this API using the parameter "tls.cipher_suites" and/or "tls.protocol_versions" configures the permissible cipher suites and/or protocol versions for all TLS-enabled applications in the system.

– GET /api/security

– GET /api/security?fields=tls

– PATCH /api/security -d '{ "tls" : { "protocol_versions" : ["TLSv1.3", "TLSv1.2", "TLSv1.1"], "cipher_suites" : ["TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384", "TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256"] } }'

"management_protocols" object

Contains Security Protocols information.

This security protocols endpoint is used to retrieve and configure security protocols.

– GET /api/security

– GET /api/security?fields=management_protocols

– PATCH /api/security -d '{ "management_protocols" : { "rsh_enabled" : true } }'

– PATCH /api/security -d '{ "management_protocols" : { "rsh_enabled" : false } }'

– PATCH /api/security -d '{ "management_protocols" : { "telnet_enabled" : true } }'

– PATCH /api/security -d '{ "management_protocols" : { "telnet_enabled" : false } }'

– PATCH /api/security -d '{ "management_protocols" : { "rsh_enabled" : true, "telnet_enabled" : true } }'

GET Examples

Retrieving information about the security configured on the cluster

The following example shows how to retrieve the configuration of the cluster.

```
# The API:
GET /api/security:

# The call:
curl -X GET 'https://<mgmt-ip>/api/security?fields=*' -H 'accept:
application/hal+json'
```

```

# The response:
{
  "onboard_key_manager_configurable_status": {
    "supported": false,
    "message": "Onboard Key Manager cannot be configured on the cluster.
There are no self-encrypting disks in the cluster, and the following nodes
do not support volume granular encryption: ntap-vsimg2.",
    "code": 65537300
  },
  "fips": {
    "enabled": false
  },
  "tls": {
    "cipher_suites": [
      "TLS_RSA_WITH_AES_128_CCM",
      "TLS_RSA_WITH_AES_128_CCM_8",
      "TLS_RSA_WITH_AES_128_GCM_SHA256",
      "TLS_RSA_WITH_AES_128_CBC_SHA",
      "TLS_RSA_WITH_AES_128_CBC_SHA256",
      "TLS_RSA_WITH_AES_256_CCM",
      "TLS_RSA_WITH_AES_256_CCM_8",
      "TLS_RSA_WITH_AES_256_GCM_SHA384",
      "TLS_RSA_WITH_AES_256_CBC_SHA",
      "TLS_RSA_WITH_AES_256_CBC_SHA256",
      "TLS_RSA_WITH_ARIA_128_GCM_SHA256",
      "TLS_RSA_WITH_ARIA_256_GCM_SHA384",
      "TLS_RSA_WITH_CAMELLIA_128_CBC_SHA",
      "TLS_RSA_WITH_CAMELLIA_128_CBC_SHA256",
      "TLS_RSA_WITH_CAMELLIA_256_CBC_SHA",
      "TLS_RSA_WITH_CAMELLIA_256_CBC_SHA256",
      "TLS_DHE_DSS_WITH_AES_128_GCM_SHA256",
      "TLS_DHE_DSS_WITH_AES_128_CBC_SHA",
      "TLS_DHE_DSS_WITH_AES_128_CBC_SHA256",
      "TLS_DHE_DSS_WITH_AES_256_GCM_SHA384",
      "TLS_DHE_DSS_WITH_AES_256_CBC_SHA",
      "TLS_DHE_DSS_WITH_AES_256_CBC_SHA256",
      "TLS_DHE_DSS_WITH_ARIA_128_GCM_SHA256",
      "TLS_DHE_DSS_WITH_ARIA_256_GCM_SHA384",
      "TLS_DHE_DSS_WITH_CAMELLIA_128_CBC_SHA",
      "TLS_DHE_DSS_WITH_CAMELLIA_128_CBC_SHA256",
      "TLS_DHE_DSS_WITH_CAMELLIA_256_CBC_SHA",
      "TLS_DHE_DSS_WITH_CAMELLIA_256_CBC_SHA256",
      "TLS_DHE_PSK_WITH_AES_128_CBC_SHA",
      "TLS_DHE_PSK_WITH_AES_128_CBC_SHA256",
      "TLS_DHE_PSK_WITH_AES_128_CCM",

```

"TLS_PSK_DHE_WITH_AES_128_CCM_8",
"TLS_DHE_PSK_WITH_AES_128_GCM_SHA256",
"TLS_DHE_PSK_WITH_AES_256_CBC_SHA",
"TLS_DHE_PSK_WITH_AES_256_CBC_SHA384",
"TLS_DHE_PSK_WITH_AES_256_CCM",
"TLS_PSK_DHE_WITH_AES_256_CCM_8",
"TLS_DHE_PSK_WITH_AES_256_GCM_SHA384",
"TLS_DHE_PSK_WITH_ARIA_128_GCM_SHA256",
"TLS_DHE_PSK_WITH_ARIA_256_GCM_SHA384",
"TLS_DHE_PSK_WITH_CAMELLIA_128_CBC_SHA256",
"TLS_DHE_PSK_WITH_CAMELLIA_256_CBC_SHA384",
"TLS_DHE_PSK_WITH_CHACHA20_POLY1305_SHA256",
"TLS_DHE_RSA_WITH_AES_128_CCM",
"TLS_DHE_RSA_WITH_AES_128_CCM_8",
"TLS_DHE_RSA_WITH_AES_128_GCM_SHA256",
"TLS_DHE_RSA_WITH_AES_128_CBC_SHA",
"TLS_DHE_RSA_WITH_AES_128_CBC_SHA256",
"TLS_DHE_RSA_WITH_AES_256_CCM",
"TLS_DHE_RSA_WITH_AES_256_CCM_8",
"TLS_DHE_RSA_WITH_AES_256_GCM_SHA384",
"TLS_DHE_RSA_WITH_AES_256_CBC_SHA",
"TLS_DHE_RSA_WITH_AES_256_CBC_SHA256",
"TLS_DHE_RSA_WITH_ARIA_128_GCM_SHA256",
"TLS_DHE_RSA_WITH_ARIA_256_GCM_SHA384",
"TLS_DHE_RSA_WITH_CAMELLIA_128_CBC_SHA",
"TLS_DHE_RSA_WITH_CAMELLIA_128_CBC_SHA256",
"TLS_DHE_RSA_WITH_CAMELLIA_256_CBC_SHA",
"TLS_DHE_RSA_WITH_CAMELLIA_256_CBC_SHA256",
"TLS_DHE_RSA_WITH_CHACHA20_POLY1305_SHA256",
"TLS_ECDHE_RSA_WITH_ARIA_128_GCM_SHA256",
"TLS_ECDHE_RSA_WITH_ARIA_256_GCM_SHA384",
"TLS_ECDHE_ECDSA_WITH_AES_128_CCM",
"TLS_ECDHE_ECDSA_WITH_AES_128_CCM_8",
"TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256",
"TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA",
"TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA256",
"TLS_ECDHE_ECDSA_WITH_AES_256_CCM",
"TLS_ECDHE_ECDSA_WITH_AES_256_CCM_8",
"TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384",
"TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA",
"TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA384",
"TLS_ECDHE_ECDSA_WITH_ARIA_128_GCM_SHA256",
"TLS_ECDHE_ECDSA_WITH_ARIA_256_GCM_SHA384",
"TLS_ECDHE_ECDSA_WITH_CAMELLIA_128_CBC_SHA256",
"TLS_ECDHE_ECDSA_WITH_CAMELLIA_256_CBC_SHA384",
"TLS_ECDHE_ECDSA_WITH_CHACHA20_POLY1305_SHA256",

"TLS_ECDHE_PSK_WITH_AES_128_CBC_SHA",
"TLS_ECDHE_PSK_WITH_AES_128_CBC_SHA256",
"TLS_ECDHE_PSK_WITH_AES_256_CBC_SHA",
"TLS_ECDHE_PSK_WITH_AES_256_CBC_SHA384",
"TLS_ECDHE_PSK_WITH_CAMELLIA_128_CBC_SHA256",
"TLS_ECDHE_PSK_WITH_CAMELLIA_256_CBC_SHA384",
"TLS_ECDHE_PSK_WITH_CHACHA20_POLY1305_SHA256",
"TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256",
"TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA",
"TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256",
"TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384",
"TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA",
"TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384",
"TLS_ECDHE_RSA_WITH_CAMELLIA_128_CBC_SHA256",
"TLS_ECDHE_RSA_WITH_CAMELLIA_256_CBC_SHA384",
"TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256",
"TLS_PSK_WITH_AES_128_CBC_SHA",
"TLS_PSK_WITH_AES_128_CBC_SHA256",
"TLS_PSK_WITH_AES_128_CCM",
"TLS_PSK_WITH_AES_128_CCM_8",
"TLS_PSK_WITH_AES_128_GCM_SHA256",
"TLS_PSK_WITH_AES_256_CBC_SHA",
"TLS_PSK_WITH_AES_256_CBC_SHA384",
"TLS_PSK_WITH_AES_256_CCM",
"TLS_PSK_WITH_AES_256_CCM_8",
"TLS_PSK_WITH_AES_256_GCM_SHA384",
"TLS_PSK_WITH_ARIA_128_GCM_SHA256",
"TLS_PSK_WITH_ARIA_256_GCM_SHA384",
"TLS_PSK_WITH_CAMELLIA_128_CBC_SHA256",
"TLS_PSK_WITH_CAMELLIA_256_CBC_SHA384",
"TLS_PSK_WITH_CHACHA20_POLY1305_SHA256",
"TLS_RSA_PSK_WITH_AES_128_CBC_SHA",
"TLS_RSA_PSK_WITH_AES_128_CBC_SHA256",
"TLS_RSA_PSK_WITH_AES_128_GCM_SHA256",
"TLS_RSA_PSK_WITH_AES_256_CBC_SHA",
"TLS_RSA_PSK_WITH_AES_256_CBC_SHA384",
"TLS_RSA_PSK_WITH_AES_256_GCM_SHA384",
"TLS_RSA_PSK_WITH_ARIA_128_GCM_SHA256",
"TLS_RSA_PSK_WITH_ARIA_256_GCM_SHA384",
"TLS_RSA_PSK_WITH_CAMELLIA_128_CBC_SHA256",
"TLS_RSA_PSK_WITH_CAMELLIA_256_CBC_SHA384",
"TLS_RSA_PSK_WITH_CHACHA20_POLY1305_SHA256",
"TLS_SRP_SHA_WITH_AES_128_CBC_SHA",
"TLS_SRP_SHA_WITH_AES_256_CBC_SHA",
"TLS_SRP_SHA_DSS_WITH_AES_128_CBC_SHA",
"TLS_SRP_SHA_DSS_WITH_AES_256_CBC_SHA",

```

    "TLS_SRP_SHA_RSA_WITH_AES_128_CBC_SHA",
    "TLS_SRP_SHA_RSA_WITH_AES_256_CBC_SHA"
  ],
  "protocol_versions": [
    "TLSv1.3",
    "TLSv1.2",
    "TLSv1.1"
  ]
},
"management_protocols": {
  "rsh_enabled": false,
  "telnet_enabled": false
}
}

```

...

== PATCH Examples

=== Enabling software encryption conversion in the cluster

The following example shows how to convert all the aggregates and metadata volumes in the cluster from non-encrypted to encrypted.

= The API:

PATCH /api/security

= The call

```

curl -X PATCH "https://+++<mgmt_ip>+++/api/security" -d '{
"software_data_encryption.conversion_enabled" : true }'+++</mgmt_ip>+++

```

= The response:

```

{
  "job": {
    "uuid": "ebcbd82d-1cd4-11ea-8f75-005056ac4adc",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/ebcbd82d-1cd4-11ea-8f75-
005056ac4adc"
      }
    }
  }
}

```



```
}
```

```
}
```

This returns a job UUID. A subsequent GET for this job UUID returns details of the job.

= The call

```
curl -X GET "https://+++<mgmt_ip>+++/api/cluster/jobs/ebcbd82d-1cd4-11ea-8f75-005056ac4adc"+++</mgmt_ip>+++
```

= The response:

```
{
  "uuid": "ebcbd82d-1cd4-11ea-8f75-005056ac4adc",
  "description": "PATCH /api/security",
  "state": "success",
  "message": "success",
  "code": 0,
  "start_time": "2019-12-12T06:45:40-05:00",
  "end_time": "2019-12-12T06:45:40-05:00",
  "_links": {
    "self": {
      "href": "/api/cluster/jobs/ebcbd82d-1cd4-11ea-8f75-005056ac4adc"
    }
  }
}
```

[discrete]

=== Enabling FIPS mode in the cluster

The following example shows how to enable FIPS mode in the cluster.

= The API:

```
PATCH /api/security
```

= The call

```
curl -X PATCH "https://+++<mgmt_ip>+++/api/security" -d '{ "fips.enabled" : true }'+++</mgmt_ip>+++
```

= The response:

```
{
  "job": {
    "uuid": "8e7f59ee-a9c4-4faa-9513-bef689bbf2c2",
    "_links": {
```

```
    "self": {
      "href": "/api/cluster/jobs/8e7f59ee-a9c4-4faa-9513-
bef689bbf2c2"
    }
  }
}
```

This returns a job UUID. A subsequent GET for this job UUID returns details of the job.

= The call

```
curl -X GET "https://+++<mgmt_ip>+++/api/cluster/jobs/8e7f59ee-a9c4-4faa-
9513-bef689bbf2c2"+++</mgmt_ip>+++
```

= The response:

```
{
  "uuid": "8e7f59ee-a9c4-4faa-9513-bef689bbf2c2",
  "description": "PATCH /api/security",
  "state": "success",
  "message": "success",
  "code": 0,
  "start_time": "2020-04-28T06:55:40-05:00",
  "end_time": "2020-04-28T06:55:41-05:00",
  "_links": {
    "self": {
      "href": "/api/cluster/jobs/8e7f59ee-a9c4-4faa-9513-bef689bbf2c2"
    }
  }
}
```

[discrete]

=== Configuring permissible TLS protocols and cipher suites in the cluster

The following example shows how to configure the cluster to only allow TLSv1.3 & TLSv1.2 with selected cipher suites.

= The API:

```
PATCH /api/security
```

= The call

```
curl -X PATCH "https://+++<mgmt_ip>+++/api/security" -d '{ "tls" : {
"protocol_versions" : ["TLSv1.3", "TLSv1.2"], "cipher_suites" :
["TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384",
```

```
"TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256"] } }'+++</mgmt_ip>+++
```

= The response:

```
{
  "job": {
    "uuid": "b45b6290-f4f2-442a-aa0e-4d3ffefe5e0d",
    "_links": {
      "self": {
        "href": "/api/cluster/jobs/b45b6290-f4f2-442a-aa0e-4d3ffefe5e0d"
      }
    }
  }
}
```

This returns a job UUID. A subsequent GET for this job UUID returns details of the job.

= The call

```
curl -X GET "https://+++</mgmt_ip>+++/api/cluster/jobs/b45b6290-f4f2-442a-aa0e-4d3ffefe5e0d"+++</mgmt_ip>+++
```

= The response:

```
{
  "uuid": "b45b6290-f4f2-442a-aa0e-4d3ffefe5e0d",
  "description": "PATCH /api/security",
  "state": "success",
  "message": "success",
  "code": 0,
  "start_time": "2021-03-22T08:52:50-05:00",
  "end_time": "2021-03-22T08:52:51-05:00",
  "_links": {
    "self": {
      "href": "/api/cluster/jobs/b45b6290-f4f2-442a-aa0e-4d3ffefe5e0d"
    }
  }
}
```

[discrete]

=== Enabling security protocols in the cluster

The following example shows how to enable the security protocol rsh in the cluster.

= The API:

```
PATCH /api/security
```

= The call

```
curl -X PATCH "https://+++<mgmt_ip>+++/api/security" -d '{  
"management_protocols" : { "rsh_enabled" : true } }'+++</mgmt_ip>+++
```

= The response

```
{  
"job": {  
"uuid": "2980ba28-adab-11eb-8fa3-005056bbfa84",  
"_links": {  
  "self": {  
    "href": "/api/cluster/jobs/2980ba28-adab-11eb-8fa3-005056bbfa84"  
  }  
}  
}  
}
```

= The call:

```
curl -H "accept: application/hal+json" -X GET "https://+++<mgmt-  
ip>+++/api/security/?fields=management_protocols"+++</mgmt-ip>+++
```

= The response:

```
{  
"management_protocols": {  
  "rsh_enabled": false,  
  "telnet_enabled": false  
},  
"_links": {  
  "self": {  
    "href": "/api/security"  
  }  
}  
}  
...  
...  
...
```

```

[[ID9efeeb02881c36a008770e6f4cf0dc53]]
= Retrieve information about security configured on the cluster

[.api-doc-operation .api-doc-operation-get]#GET# [.api-doc-code-
block]#`/security`#

*Introduced In:* 9.7

Retrieves information about the security configured on the cluster.

== Parameters

[cols=5*,options=header]
|===
|Name
|Type
|In
|Required
|Description

|fields
|array[string]
|query
|False
a|Specify the fields to return.

|===

== Response

```

Status: 200, Ok

```

[cols=3*,options=header]
|===
|Name
|Type
|Description

|_links
|link:#_links[_links]
a|

|fips
|link:#fips[fips]

```

a|Cluster-wide Federal Information Processing Standards (FIPS) mode information.

|management_protocols

|link:#management_protocols[management_protocols]

a|Cluster-wide security protocols related information.

|onboard_key_manager_configurable_status

|link:#onboard_key_manager_configurable_status[onboard_key_manager_configurable_status]

a|Indicates whether the Onboard Key Manager can be configured in the cluster.

|software_data_encryption

|link:#software_data_encryption[software_data_encryption]

a|Cluster-wide software data encryption related information.

|tls

|link:#tls[tls]

a|Cluster-wide Transport Layer Security (TLS) configuration information

|===

.Example response

[%collapsible%closed]

====

[source,json,subs=+macros]

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "onboard_key_manager_configurable_status": {
    "code": 65537300,
    "message": "No platform support for volume encryption in following nodes - node1, node2."
  },
  "tls": {
    "cipher_suites": [
      "TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384"
    ]
  }
}
```

```

    ],
    "protocol_versions": [
      "string"
    ]
  }
}
====

== Error

```

Status: Default, Error

```

[cols=3*,options=header]
|===
|Name
|Type
|Description

|error
|link:#error[error]
a|

|===

.Example error
[%collapsible%closed]
====
[source,json,subs=+macros]
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
====

== Definitions

```

```

[.api-def-first-level]
.See Definitions
[%collapsible%closed]
//Start collapsible Definitions block
====
[#href]
[.api-collapsible-fifth-title]
href

[cols=3*,options=header]
|===
|Name
|Type
|Description

|href
|string
a|

|===

[#_links]
[.api-collapsible-fifth-title]
_links

[cols=3*,options=header]
|===
|Name
|Type
|Description

|self
|link:#href[href]
a|

|===

[#fips]
[.api-collapsible-fifth-title]
fips

Cluster-wide Federal Information Processing Standards (FIPS) mode
information.

```



```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|enabled
```

```
|boolean
```

a|Indicates whether or not the software FIPS mode is enabled on the cluster. Our FIPS compliance involves configuring the use of only approved algorithms in applicable contexts (for example TLS), as well as the use of formally validated cryptographic module software implementations, where applicable. The US government documents concerning FIPS 140-2 outline the relevant security policies in detail.

```
|===
```

```
[#management_protocols]
```

```
[.api-collapsible-fifth-title]
```

```
management_protocols
```

Cluster-wide security protocols related information.

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|rsh_enabled
```

```
|boolean
```

a|Indicates whether or not security protocol rsh is enabled on the cluster.

```
|telnet_enabled
```

```
|boolean
```

a|Indicates whether or not security protocol telnet is enabled on the cluster.

```
|===
```

```
[#onboard_key_manager_configurable_status]
```

```
[.api-collapsible-fifth-title]
```

```
onboard_key_manager_configurable_status
```

Indicates whether the Onboard Key Manager can be configured in the cluster.

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|code
```

```
|integer
```

a|Code corresponding to the status message. Returns a 0 if the Onboard Key Manager can be configured in the cluster.

```
|message
```

```
|string
```

a|Reason that Onboard Key Manager cannot be configured in the cluster.

```
|supported
```

```
|boolean
```

a|Set to true if the Onboard Key Manager can be configured in the cluster.

```
|===
```

```
[#software_data_encryption]
```

```
[.api-collapsible-fifth-title]
```

```
software_data_encryption
```

Cluster-wide software data encryption related information.

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|conversion_enabled
```

|boolean

a|Indicates whether or not software encryption conversion is enabled on the cluster. A PATCH request initiates the conversion of all non-encrypted metadata volumes in the cluster to encrypted metadata volumes and all non-NAE aggregates to NAE aggregates. For the PATCH request to start, the cluster must have either an Onboard or an external key manager set up and the aggregates should either be empty or have only metadata volumes. No data volumes should be present in any of the aggregates in the cluster. For MetroCluster configurations, a PATCH request enables conversion on all the aggregates and metadata volumes of both local and remote clusters and is not allowed when the MetroCluster is in switchover state.

|disabled_by_default

|boolean

a|Indicates whether or not default software data at rest encryption is disabled on the cluster.

|===

[#tls]

[.api-collapsible-fifth-title]

tls

Cluster-wide Transport Layer Security (TLS) configuration information

[cols=3*,options=header]

|===

|Name

|Type

|Description

|cipher_suites

|array[string]

a|Names a cipher suite that the system can select during TLS handshakes. A list of available options can be found on the Internet Assigned Number Authority (IANA) website.

|protocol_versions

|array[string]

a|Names a TLS protocol version that the system can select during TLS handshakes. The use of SSLv3 or TLSv1 is discouraged.

```
|===
```

```
[#error_arguments]  
[.api-collapsible-fifth-title]  
error_arguments
```

```
[cols=3*,options=header]
```

```
|===
```

```
|Name  
|Type  
|Description
```

```
|code  
|string  
a|Argument code
```

```
|message  
|string  
a|Message argument
```

```
|===
```

```
[#error]  
[.api-collapsible-fifth-title]  
error
```

```
[cols=3*,options=header]
```

```
|===
```

```
|Name  
|Type  
|Description
```

```
|arguments  
|array[link:#error_arguments[error_arguments]]  
a|Message arguments
```

```
|code  
|string  
a|Error code
```

```

|message
|string
a|Error message

|target
|string
a|The target parameter that caused the error.

|===

//end collapsible .Definitions block
====

[[ID8f3c4d22e323bf5caf9542e7677228e2]]
= Update the software FIPS mode or enable conversion of non-encrypted
metadata volumes non-NAE aggregates

[.api-doc-operation .api-doc-operation-patch]#PATCH# [.api-doc-code-
block]#`/security`#

*Introduced In:* 9.8

Updates the software FIPS mode or enables conversion of non-encrypted
metadata volumes to encrypted metadata volumes and non-NAE aggregates to
NAE aggregates.

== Parameters

[cols=5*,options=header]
|===

|Name
|Type
|In
|Required
|Description

|return_timeout
|integer
|query
|False

```

a|The number of seconds to allow the call to execute before returning. When doing a POST, PATCH, or DELETE operation on a single record, the default is 0 seconds. This means that if an asynchronous operation is started, the server immediately returns HTTP code 202 (Accepted) along with a link to the job. If a non-zero value is specified for POST, PATCH, or DELETE operations, ONTAP waits that length of time to see if the job completes so it can return something other than 202.

- * Default value: 1
- * Max value: 120
- * Min value: 0

|===

== Request Body

[cols=3*,options=header]

|===

|Name

|Type

|Description

|_links

|link:#_links[_links]

a|

|fips

|link:#fips[fips]

a|Cluster-wide Federal Information Processing Standards (FIPS) mode information.

|management_protocols

|link:#management_protocols[management_protocols]

a|Cluster-wide security protocols related information.

|onboard_key_manager_configurable_status

|link:#onboard_key_manager_configurable_status[onboard_key_manager_configurable_status]

a|Indicates whether the Onboard Key Manager can be configured in the cluster.

|software_data_encryption

```
|link:#software_data_encryption[software_data_encryption]
a|Cluster-wide software data encryption related information.
```

```
|tls
|link:#tls[tls]
a|Cluster-wide Transport Layer Security (TLS) configuration information
```

```
|===
```

```
.Example request
```

```
[%collapsible%closed]
```

```
=====
```

```
[source,json,subs=+macros]
```

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "onboard_key_manager_configurable_status": {
    "code": 65537300,
    "message": "No platform support for volume encryption in following
nodes - nodel, node2."
  },
  "tls": {
    "cipher_suites": [
      "TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384"
    ],
    "protocol_versions": [
      "string"
    ]
  }
}
=====
```

```
== Response
```

Status: 202, Accepted

```

[cols=3*,options=header]
|===
|Name
|Type
|Description

|job
|link:#job_link[job_link]
a|

|===

.Example response
[%collapsible%closed]
=====
[source,json,subs=+macros]
{
  "job": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "uuid": "string"
  }
}
=====

== Error

```

Status: Default

ONTAP Error Response Codes

```

|===
| Error Code | Description

| 5636142
| This operation is not supported in a mixed-release cluster.

| 52428817
| SSLv3 is not supported when FIPS is enabled.

| 52428824

```



```
| TLSv1 is not supported when FIPS is enabled.

| 52428830
| Cannot enable FIPS-compliant mode because the configured minimum
security strength for certificates is not compatible.

| 52428832
| TLSv1.1 is not supported when FIPS is enabled.

| 52559974
| Cannot enable FIPS-compliant mode because a certificate that is not
FIPS-compliant is in use.

| 196608081
| Cannot start software encryption conversion while there are data volumes
in the cluster.

| 196608082
| The operation is not valid when the MetroCluster is in switchover mode.
|===
```

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|error
```

```
|link:#error[error]
```

```
a|
```

```
|===
```

```
.Example error
```

```
[%collapsible%closed]
```

```
=====
```

```
[source,json,subs=+macros]
```

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ]
  }
}
```

```

    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
=====

```

== Definitions

```

[.api-def-first-level]
.See Definitions
[%collapsible%closed]
//Start collapsible Definitions block
=====

```

```

[#href]
[.api-collapsible-fifth-title]
href

```

```

[cols=3*,options=header]

```

```

|===
|Name
|Type
|Description

```

```

|href
|string
a|

```

```

|===

```

```

[#_links]
[.api-collapsible-fifth-title]
_links

```

```

[cols=3*,options=header]

```

```

|===
|Name
|Type
|Description

```

```

|self
|link:#href[href]
a|

```

```

|===

```

```
[#fips]
[.api-collapsible-fifth-title]
fips
```

Cluster-wide Federal Information Processing Standards (FIPS) mode information.

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|enabled
```

```
|boolean
```

a|Indicates whether or not the software FIPS mode is enabled on the cluster. Our FIPS compliance involves configuring the use of only approved algorithms in applicable contexts (for example TLS), as well as the use of formally validated cryptographic module software implementations, where applicable. The US government documents concerning FIPS 140-2 outline the relevant security policies in detail.

```
|===
```

```
[#management_protocols]
```

```
[.api-collapsible-fifth-title]
```

```
management_protocols
```

Cluster-wide security protocols related information.

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|rsh_enabled
```

```
|boolean
```

a|Indicates whether or not security protocol rsh is enabled on the cluster.

```
|telnet_enabled
|boolean
a|Indicates whether or not security protocol telnet is enabled on the
cluster.
```

```
|===
```

```
[#onboard_key_manager_configurable_status]
[.api-collapsible-fifth-title]
onboard_key_manager_configurable_status
```

Indicates whether the Onboard Key Manager can be configured in the cluster.

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|code
```

```
|integer
```

a|Code corresponding to the status message. Returns a 0 if the Onboard Key Manager can be configured in the cluster.

```
|message
```

```
|string
```

a|Reason that Onboard Key Manager cannot be configured in the cluster.

```
|supported
```

```
|boolean
```

a|Set to true if the Onboard Key Manager can be configured in the cluster.

```
|===
```

```
[#software_data_encryption]
[.api-collapsible-fifth-title]
software_data_encryption
```

Cluster-wide software data encryption related information.

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|conversion_enabled
```

```
|boolean
```

a|Indicates whether or not software encryption conversion is enabled on the cluster. A PATCH request initiates the conversion of all non-encrypted metadata volumes in the cluster to encrypted metadata volumes and all non-NAE aggregates to NAE aggregates. For the PATCH request to start, the cluster must have either an Onboard or an external key manager set up and the aggregates should either be empty or have only metadata volumes. No data volumes should be present in any of the aggregates in the cluster. For MetroCluster configurations, a PATCH request enables conversion on all the aggregates and metadata volumes of both local and remote clusters and is not allowed when the MetroCluster is in switchover state.

```
|disabled_by_default
```

```
|boolean
```

a|Indicates whether or not default software data at rest encryption is disabled on the cluster.

```
|===
```

```
[#tls]
```

```
[.api-collapsible-fifth-title]
```

```
tls
```

Cluster-wide Transport Layer Security (TLS) configuration information

```
[cols=3*,options=header]
```

```
|===
```

```
|Name
```

```
|Type
```

```
|Description
```

```
|cipher_suites
```

```
|array[string]
```

a|Names a cipher suite that the system can select during TLS handshakes. A list of available options can be found on the Internet Assigned Number Authority (IANA) website.

|protocol_versions

|array[string]

a|Names a TLS protocol version that the system can select during TLS handshakes. The use of SSLv3 or TLSv1 is discouraged.

|===

[#security_config]

[.api-collapsible-fifth-title]

security_config

[cols=3*,options=header]

|===

|Name

|Type

|Description

|_links

|link:#_links[_links]

a|

|fips

|link:#fips[fips]

a|Cluster-wide Federal Information Processing Standards (FIPS) mode information.

|management_protocols

|link:#management_protocols[management_protocols]

a|Cluster-wide security protocols related information.

|onboard_key_manager_configurable_status

|link:#onboard_key_manager_configurable_status[onboard_key_manager_configurable_status]

a|Indicates whether the Onboard Key Manager can be configured in the cluster.

|software_data_encryption

```
|link:#software_data_encryption[software_data_encryption]
a|Cluster-wide software data encryption related information.
```

```
|tls
|link:#tls[tls]
a|Cluster-wide Transport Layer Security (TLS) configuration information
```

```
|===
```

```
[#job_link]
[.api-collapsible-fifth-title]
job_link
```

```
[cols=3*,options=header]
```

```
|===
|Name
|Type
|Description
```

```
 |_links
|link:#_links[_links]
a|
```

```
|uuid
|string
a|The UUID of the asynchronous job that is triggered by a POST, PATCH, or DELETE operation.
```

```
|===
```

```
[#error_arguments]
[.api-collapsible-fifth-title]
error_arguments
```

```
[cols=3*,options=header]
```

```
|===
|Name
|Type
|Description
```

```
|code
|string
```

```

a|Argument code

|message
|string
a|Message argument

|===

[#error]
[.api-collapsible-fifth-title]
error

[cols=3*,options=header]
|===
|Name
|Type
|Description

|arguments
|array[link:#error_arguments[error_arguments]]
a|Message arguments

|code
|string
a|Error code

|message
|string
a|Error message

|target
|string
a|The target parameter that caused the error.

|===

//end collapsible .Definitions block
=====

```


:leveloffset: -1

:leveloffset: -1

<<<

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