NetApp

Manage FC services for SVMs

REST API reference

NetApp
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Overview

A Fibre Channel Protocol (FC Protocol) service defines the properties of the FC Protocol target for an SVM. There can be at most one FC Protocol service for an SVM. An SVM FC Protocol service must be created before FC Protocol initiators can log in to the SVM.

The FC Protocol service REST API allows you to create, update, delete, and discover FC services for SVMs.

Examples

Creating an FC Protocol service for an SVM

The simplest way to create an FC Protocol service is to specify only the SVM, either by name or UUID. By default, the new FC Protocol service is enabled.

In this example, the `return_records` query parameter is used to retrieve the new FC Protocol service object in the REST response.

```
# The API:
POST /api/protocols/san/fcp/services

# The call:
curl -X POST 'https://<mgmt-
ip>/api/protocols/san/fcp/services?return_records=true' -H 'accept:
application/hal+json' -d '{ "svm": { "name": "svm1" } }'

# The response:
{
"num_records": 1,
"records": [
  {
    "svm": {
      "uuid": "5c659d90-c01a-11e8-88ed-005056bbb24b",
      "name": "svm1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/5c659d90-c01a-11e8-88ed-005056bbb24b"
        }
      }
    },
    "enabled": true,
    "target": {
      "name": "20:00:00:50:56:bb:b2:4b"
    },
    "_links": {
      "self": {
        "href": "/api/protocols/san/fcp/services/5c659d90-c01a-11e8-88ed-
005056bbb24b"
      }
    }
  }
]
}
```

Retrieving the FC Protocol services for all SVMs in the cluster

```
# The API:
GET /api/protocols/san/fcp/services

# The call:
curl -X GET 'https://<mgmt-ip>/api/protocols/san/fcp/services' -H 'accept:
```

```
application/hal+json'

# The response:
{
"records": [
  {
    "svm": {
      "uuid": "5c659d90-c01a-11e8-88ed-005056bbb24b",
      "name": "svm1",
      "_links": {
        "self": {
          "href": "/api/svm/svms/5c659d90-c01a-11e8-88ed-005056bbb24b"
        }
      }
    },
    "_links": {
      "self": {
        "href": "/api/protocols/san/fcp/services/5c659d90-c01a-11e8-88ed-
005056bbb24b"
      }
    }
  },
  {
    "svm": {
      "uuid": "6011f874-c01a-11e8-88ed-005056bbb24b",
      "name": "svm2",
      "_links": {
        "self": {
          "href": "/api/svm/svms/6011f874-c01a-11e8-88ed-005056bbb24b"
        }
      }
    },
    "_links": {
      "self": {
        "href": "/api/protocols/san/fcp/services/6011f874-c01a-11e8-88ed-
005056bbb24b"
      }
    }
  }
],
"num_records": 2,
"_links": {
  "self": {
    "href": "/api/protocols/san/fcp/services"
  }
}
}
```

```
}
```

Retrieving details for a specific FC Protocol service

The FC Protocol service is identified by the UUID of its SVM.

```
# The API:
GET /api/protocols/san/fcp/services/{svm.uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/protocols/san/fcp/services/5c659d90-
c01a-11e8-88ed-005056bbb24b' -H 'accept: application/hal+json'

# The response:
{
"svm": {
  "uuid": "5c659d90-c01a-11e8-88ed-005056bbb24b",
  "name": "svm1",
  "_links": {
    "self": {
      "href": "/api/svm/svms/5c659d90-c01a-11e8-88ed-005056bbb24b"
    }
  }
},
"enabled": true,
"target": {
  "name": "20:00:00:50:56:bb:b2:4b"
},
"_links": {
  "self": {
    "href": "/api/protocols/san/fcp/services/5c659d90-c01a-11e8-88ed-
005056bbb24b"
  }
}
}
```

Disabling an FC Protocol service

Disabling an FC Protocol service shuts down all active FC Protocol logins for the SVM and prevents new FC Protocol logins.

The FC Protocol service to update is identified by the UUID of its SVM.

```
# The API:
PATCH /api/protocols/san/fcp/services/{svm.uuid}

# The call:
curl -X PATCH 'https://<mgmt-ip>/api/protocols/san/fcp/services/5c659d90-
c01a-11e8-88ed-005056bbb24b' -H 'accept: application/hal+json' -d '{
"enabled": "false" }'
```

You can retrieve the FC Protocol service to confirm the change.

In this example, the `fields` query parameter is used to limit the response to the `enabled` property and FC Protocol service identifiers.

```
# The API:
GET /api/protocols/san/fcp/services/{svm.uuid}

# The call:
curl -X GET 'https://<mgmt-ip>/api/protocols/san/fcp/services/5c659d90-
c01a-11e8-88ed-005056bbb24b?fields=enabled' -H 'accept:
application/hal+json'

# The response:
{
"svm": {
  "uuid": "5c659d90-c01a-11e8-88ed-005056bbb24b",
  "name": "svm1",
  "_links": {
    "self": {
      "href": "/api/svm/svms/5c659d90-c01a-11e8-88ed-005056bbb24b"
    }
  }
},
"enabled": false,
"_links": {
  "self": {
    "href": "/api/protocols/san/fcp/services/5c659d90-c01a-11e8-88ed-
005056bbb24b"
  }
}
}
```

Deleting an FC Protocol service

The FC Protocol service must be disabled before it can be deleted.

The FC Protocol service to delete is identified by the UUID of its SVM.

```
# The API:
DELETE /api/protocols/san/fcp/services/{svm.uuid}

# The call:
curl -X DELETE 'https://<mgmt-ip>/api/protocols/san/fcp/services/5c659d90-
c01a-11e8-88ed-005056bbb24b' -H 'accept: application/hal+json'
```

Retrieves fc protocol services

related ontap commands

* `vserver fcp show` # learn more
* `[doc /protocols/san/fcp/services](#docs-san-protocols_san_fcp_services)`

GET `/protocols/san/fcp/services`

Retrieves FC Protocol services.

Related ONTAP commands

* `vserver fcp show`

Learn more

* DOC /protocols/san/fcp/services

Parameters

Name	Type	In	Required	Description
svm.name	string	query	False	Filter by svm.name
svm.uuid	string	query	False	Filter by svm.uuid
enabled	boolean	query	False	Filter by enabled
target.name	string	query	False	Filter by target.name
fields	array[string]	query	False	Specify the fields to return.

Name	Type	In	Required	Description
max_records	integer	query	False	Limit the number of records returned.
return_records	boolean	query	False	The default is true for GET calls. When set to false, only the number of records is returned.
return_timeout	integer	query	False	The number of seconds to allow the call to execute before returning. When iterating over a collection, the default is 15 seconds. ONTAP returns earlier if either max records or the end of the collection is reached.
order_by	array[string]	query	False	Order results by specified fields and optional [asc

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
num_records	integer	Number of records.
records	array[fcp_service]	

Example response

```json
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "target": {
        "name": "20:00:00:50:56:bb:b2:4b"
      }
    }
  ]
}
```

Error

```
Status: Default, Error
```

Name	Type	Description
error	error	

Example error

```json
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
next	href	
self	href	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

target

Name	Type	Description
name	string	The target name of the FC Protocol service. This is generated for the SVM during POST. The FC Protocol target name is a world wide node name (WWNN). If required, the target name can be modified using the ONTAP command line. • example: 20:00:00:50:56:bb:b2:4b • maxLength: 128 • minLength: 1 • readOnly: 1

fcp_service

A Fibre Channel (FC) Protocol service defines the properties of the FC Protocol target for an SVM. There can be at most one FC Protocol service for an SVM. An SVM's FC Protocol service must be created before FC Protocol initiators can login to the SVM.

A FC Protocol service is identified by the UUID of its SVM.

Name	Type	Description
_links	_links	
enabled	boolean	The administrative state of the FC Protocol service. The FC Protocol service can be disabled to block all FC Protocol connectivity to the SVM. This is optional in POST and PATCH. The default setting is *true* (enabled) in POST.
svm	svm	SVM, applies only to SVM-scoped objects.
target	target	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Creates an fc protocol service

required properties

- `svmuuid` or `svmname` - existing svm in which to create the fc service <mark>#</mark> related ontap commands

- `vserver fcp create` <mark>#</mark> learn more

- [doc /protocols/san/fcp/services](#docs-san-protocols_san_fcp_services)

POST /protocols/san/fcp/services

Creates an FC Protocol service.

Required properties

- `svm.uuid` or `svm.name` - Existing SVM in which to create the FC service.

Related ONTAP commands

- `vserver fcp create`

Learn more

- DOC /protocols/san/fcp/services

Request Body

Name	Type	Description
_links	_links	
enabled	boolean	The administrative state of the FC Protocol service. The FC Protocol service can be disabled to block all FC Protocol connectivity to the SVM. This is optional in POST and PATCH. The default setting is *true* (enabled) in POST.
svm	svm	SVM, applies only to SVM-scoped objects.
target	target	

Example request

```json
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "target": {
    "name": "20:00:00:50:56:bb:b2:4b"
  }
}
```

Response

```
Status: 201, Created
```

Name	Type	Description
_links	_links	
num_records	integer	Number of records.
records	array[fcp_service]	

Example response

```
{
  "_links": {
    "next": {
      "href": "/api/resourcelink"
    },
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "records": [
    {
      "_links": {
        "self": {
          "href": "/api/resourcelink"
        }
      },
      "svm": {
        "_links": {
          "self": {
            "href": "/api/resourcelink"
          }
        },
        "name": "svm1",
        "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
      },
      "target": {
        "name": "20:00:00:50:56:bb:b2:4b"
      }
    }
  ]
}
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
1115127	The cluster lacks a valid FCP license.
2621462	The supplied SVM does not exist.
2621706	The specified `svm.uuid` and `svm.name` do not refer to the same SVM.
2621707	No SVM was specified. Either `svm.name` or `svm.uuid` must be supplied.
2621507	The Fibre Channel Protocol is not allowed for the specified SVM.
5374092	The Fibre Channel Procotol is not supported on the cluster hardware configuration; there are no Fibre Channel adapters.
5374893	The SVM is stopped. The SVM must be running to create a Fibre Channel Protocol service.
5374082	The Fibre Channel Protocol service already exists for the SVM.

Name	Type	Description
error	error	

Example error

```
{
    "error": {
        "arguments": [
            {
                "code": "string",
                "message": "string"
            }
        ],
        "code": "4",
        "message": "entry doesn't exist",
        "target": "uuid"
    }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

target

Name	Type	Description
name	string	The target name of the FC Protocol service. This is generated for the SVM during POST. The FC Protocol target name is a world wide node name (WWNN). If required, the target name can be modified using the ONTAP command line. - example: 20:00:00:50:56:bb:b2:4b - maxLength: 128 - minLength: 1 - readOnly: 1

fcp_service

A Fibre Channel (FC) Protocol service defines the properties of the FC Protocol target for an SVM. There

can be at most one FC Protocol service for an SVM. An SVM's FC Protocol service must be created before FC Protocol initiators can login to the SVM.

A FC Protocol service is identified by the UUID of its SVM.

Name	Type	Description
_links	_links	
enabled	boolean	The administrative state of the FC Protocol service. The FC Protocol service can be disabled to block all FC Protocol connectivity to the SVM. This is optional in POST and PATCH. The default setting is *true* (enabled) in POST.
svm	svm	SVM, applies only to SVM-scoped objects.
target	target	

_links

Name	Type	Description
next	href	
self	href	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message

Name	Type	Description
target	string	The target parameter that caused the error.

Deletes an fc protocol service an fc protocol service must be disabled before it can be deleted

related ontap commands

- `vserver fcp delete` <mark>#</mark> learn more

- `[doc /protocols/san/fcp/services](#docs-san-protocols_san_fcp_services)`

DELETE `/protocols/san/fcp/services/{svm.uuid}`

Deletes an FC Protocol service. An FC Protocol service must be disabled before it can be deleted.

Related ONTAP commands

- `vserver fcp delete`

Learn more

- DOC /protocols/san/fcp/services

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
2621462	An SVM with the specified UUID does not exist.

Error Code	Description
5374083	There is no Fibre Channel Protocol service for the specified SVM.
5373960	The Fibre Channel Protocol service cannot be removed while it is enabled.

Name	Type	Description
error	error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Retrieves a fibre channel protocol service

related ontap commands

- `vserver fcp show` <mark>#</mark> learn more
- `[doc /protocols/san/fcp/services](#docs-san-protocols_san_fcp_services)`

`GET /protocols/san/fcp/services/{svm.uuid}`

Retrieves a Fibre Channel Protocol service.

Related ONTAP commands

- `vserver fcp show`

Learn more

- DOC /protocols/san/fcp/services

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	The unique identifier of the SVM for which to retrieve the FC Protocol service.
fields	array[string]	query	False	Specify the fields to return.

Response

```
Status: 200, Ok
```

Name	Type	Description
_links	_links	
enabled	boolean	The administrative state of the FC Protocol service. The FC Protocol service can be disabled to block all FC Protocol connectivity to the SVM.

This is optional in POST and PATCH. The default setting is *true* (enabled) in POST. |
| svm | svm | SVM, applies only to SVM-scoped objects. |
| target | target | |

Example response

```
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "target": {
    "name": "20:00:00:50:56:bb:b2:4b"
  }
}
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
2621462	An SVM with the specified UUID does not exist.
5374083	There is no Fibre Channel Protocol service for the specified SVM.

Name	Type	Description
error	error	

Example error

```json
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

target

Name	Type	Description
name	string	The target name of the FC Protocol service. This is generated for the SVM during POST. The FC Protocol target name is a world wide node name (WWNN). If required, the target name can be modified using the ONTAP command line. • example: 20:00:00:50:56:bb:b2:4b • maxLength: 128 • minLength: 1 • readOnly: 1

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.

Updates an fc protocol service

related ontap commands

- `vserver fcp modify`
- `vserver fcp start`
- `vserver fcp stop` <mark>#</mark> learn more
- `[doc /protocols/san/fcp/services](#docs-san-protocols_san_fcp_services)`

PATCH `/protocols/san/fcp/services/{svm.uuid}`

Updates an FC Protocol service.

Related ONTAP commands

- `vserver fcp modify`
- `vserver fcp start`
- `vserver fcp stop`

Learn more

- DOC /protocols/san/fcp/services

Parameters

Name	Type	In	Required	Description
svm.uuid	string	path	True	The unique identifier of the SVM whose FC Protocol service is to be patched.

Request Body

Name	Type	Description
_links	_links	
enabled	boolean	The administrative state of the FC Protocol service. The FC Protocol service can be disabled to block all FC Protocol connectivity to the SVM. This is optional in POST and PATCH. The default setting is *true* (enabled) in POST.
svm	svm	SVM, applies only to SVM-scoped objects.
target	target	

Example request

```json
{
  "_links": {
    "self": {
      "href": "/api/resourcelink"
    }
  },
  "svm": {
    "_links": {
      "self": {
        "href": "/api/resourcelink"
      }
    },
    "name": "svm1",
    "uuid": "02c9e252-41be-11e9-81d5-00a0986138f7"
  },
  "target": {
    "name": "20:00:00:50:56:bb:b2:4b"
  }
}
```

Response

```
Status: 200, Ok
```

Error

```
Status: Default
```

ONTAP Error Response Codes

Error Code	Description
2621462	An SVM with the specified UUID does not exist.
5374083	There is no Fibre Channel Protocol service for the specified SVM.

Name	Type	Description
error	error	

Example error

```
{
  "error": {
    "arguments": [
      {
        "code": "string",
        "message": "string"
      }
    ],
    "code": "4",
    "message": "entry doesn't exist",
    "target": "uuid"
  }
}
```

Definitions

See Definitions

href

Name	Type	Description
href	string	

_links

Name	Type	Description
self	href	

svm

SVM, applies only to SVM-scoped objects.

Name	Type	Description
_links	_links	
name	string	The name of the SVM.
uuid	string	The unique identifier of the SVM.

target

Name	Type	Description
name	string	The target name of the FC Protocol service. This is generated for the SVM during POST. The FC Protocol target name is a world wide node name (WWNN). If required, the target name can be modified using the ONTAP command line. • example: 20:00:00:50:56:bb:b2:4b • maxLength: 128 • minLength: 1 • readOnly: 1

fcp_service

A Fibre Channel (FC) Protocol service defines the properties of the FC Protocol target for an SVM. There

can be at most one FC Protocol service for an SVM. An SVM's FC Protocol service must be created before FC Protocol initiators can login to the SVM.

A FC Protocol service is identified by the UUID of its SVM.

Name	Type	Description
_links	_links	
enabled	boolean	The administrative state of the FC Protocol service. The FC Protocol service can be disabled to block all FC Protocol connectivity to the SVM. This is optional in POST and PATCH. The default setting is *true* (enabled) in POST.
svm	svm	SVM, applies only to SVM-scoped objects.
target	target	

error_arguments

Name	Type	Description
code	string	Argument code
message	string	Message argument

error

Name	Type	Description
arguments	array[error_arguments]	Message arguments
code	string	Error code
message	string	Error message
target	string	The target parameter that caused the error.