

Overview

Brocade introduced a RESTConf API in FOS in December 2017 with the release of FOS v8.2.0. Beginning with FOS 8.2.1, requests from the RESTCONF API in FOS returns JSON format. Interface details are documented in the Brocade Fabric OS REST API Reference Manual. Based on a combination of customer feedback and time to implement planned features, most customers will want to start with FOS v8.2.1b or higher.

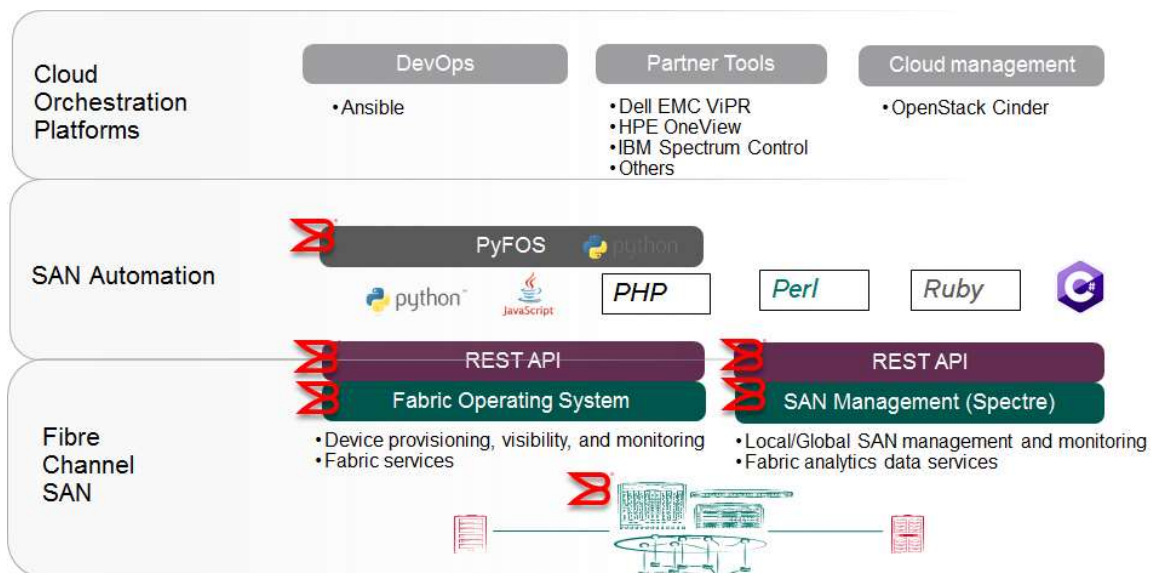
Requirements

Hardware	Gen5 fixed port switches: 6505, 6510, 6520 Gen5 blade servers: M6505, 654x, 6558 Gen5 extension switch: 7840 Gen5 directors: DCX 8510-8, DCX 8510-4 Gen6 fixed port switch: G610, G620, G630 Gen6 directors: X6-4, X6-8
Software	FOS 8.2.0 and above. Recommend FOS 8.2.1b or higher.

PyFOS

PyFOS is a set of Python libraries that interfaces with the Rest API interface. The library provides a high-level set of modules that can be used with automation engines such as Ansible.

Several sample Ansible Playbooks have been developed. These samples interface with PyFOS and do not touch the API directly.



PyFOS Requirements

Hardware	Same as general requirements
Software	FOS 8.2.0 and above. Recommend FOS 8.2.1b or higher.
Python	3.3 minimum, 3.5 or higher is recommended.
¹ Ansible	2.5 or higher

Notes:

1. Ansible is only required when used the Brocade Ansible Playbooks

Accessing the API Directly

For customers who prefer to access the API directly, rather than use PyFOS, any programming language capable of supporting a RESTConf API should work; however, nearly all testing was performed with Python. Furthermore, all sample scripts are written in Python.

Corporate Sponsored Github Site

Even if you are not planning to use PyFOS, there are two useful documents here:

- The PyFOS library contains a Word document explaining how to configure HTTPS certificates.
- The Yang models are posted here

My Personal Github Site

Although there are some stand-alone applications, the primary purpose of my personal site is to provide sample scripts and documentation for programmers writing directly to the API.

<code>brcdapi_brcddb_guide</code>	Tips, explanation of how to correlate data returned from various requests, FOS throttling mechanism, and more. Can be found in <code>brcddb</code> and <code>brcdapi</code> libraries.
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27_scripts	Written for Python 2.7. Same functionality as api_direct but does not require brcdapi.
brcdapi	Essentially a driver. Single interface to the API. Can be used as is or used as an example on how to build headers, pause for required throttling, re-drive requests when the switch is busy, and convert empty list errors to empty lists.
api_direct	Includes a library check module to validate the version of Python, the library path, and make sure all required libraries are accessible. Also contains examples on how to perform all requests FOS supported as of v8.2.1c, basic logical switch creation and configuration, and perform various zoning operations.
brcdb	Creates a container with a hierarchical relational database front end that resolves all relationships. Includes examples on how to search the database and built in applications that fill the container, use the database for zoning, and generate Excel reports.
applications	Sample scripts that leverage the brcdb libraries.

Resources

GitHub – Corporate Sponsored

PyFOS, sample programs, sample Ansible playbooks, Yang models, and other useful tools:

<https://github.com/brocade>

GitHub – My Personal Site

<https://github.com/jconsoli>

Brocade Community

Blogs, articles, guides, and more. Registration to MyBrocade.com is required. Registration is easy and free to all Brocade partners and customers.

<https://community.broadcom.com/fibrechannelnetworking/communities/community-home?CommunityKey=d52042e0-2c27-4adf-b2a5-e285df468b38>

You Tube

Demo of a program that uses the PyFOS library. In just 164 lines, comments and all, it reads zoning information from a switch, applies zone changes from a spreadsheet, confirms the changes, and writes an Excel zone report.

<https://youtu.be/maHWwYoTliA>

Education

All Brocade education is offered at no charge. Recommended course:

“Introduction to the Brocade RESTCONF API”, API 200-WBT

Available from:

<https://www.broadcom.com/>

This course can be found in the “Education” section. If you haven’t registered already, registration is easy and available to all Brocade customers whether direct or through a partner or OEM.