# Dell Fabric Manager

Automated deployment for data center infrastructure

Dell Fabric Manager is a comprehensive network automation tool that helps in designing, deploying and monitoring data center network infrastructure. It is a web browser based software with an intuitive GUI. The first version of Dell Fabric Manager is focused on the ease of design and deployment of Distributed Core Fabric. The following is an overview of a Distributed Core Fabric.

Distributed Core Fabric overview

A Distributed Core Fabric is a high performance, highly reliable core network architecture leveraging cost effective switching components. In more technical terms, it is a two stage Clos Leaf-Spine fabric based on a fat tree architecture. It provides full bisectional bandwidth between any two compute nodes in a large cluster using high-capacity low-cost Ethernet switches.

Dell Fabric Manager simplifies and automates the design process for building a Distributed Core Fabric, creates a wiring plan that helps in implementing the architecture with exact guidance on how the switch ports need to be connected and helps automate the multi-switch configuration process. It also makes remote monitoring of the distributed core switches easier and provides a graphical network view. Simply stated, Dell Fabric Manager allows the entire Distributed Core Fabric to be managed as a single entity.
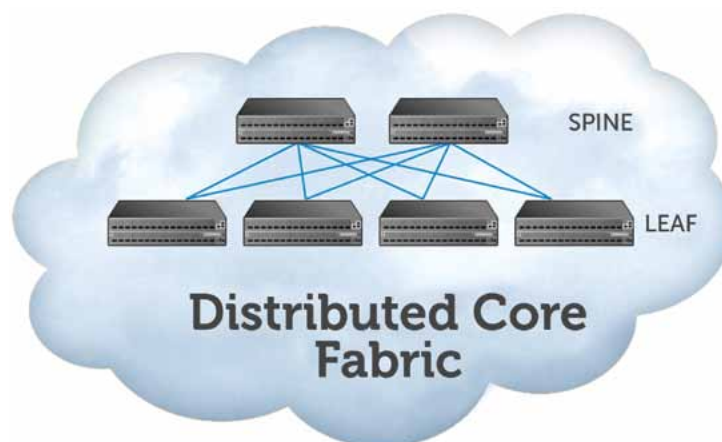
Distributed Core Fabric

Design Wizard

The Design Wizard provides step-by-step guidance in designing a Distributed Core Fabric. It helps simplify the process with a web based GUI that systematically guides the user and collects essential information necessary for generating the design. To start with, the user needs to select a size for the design which will determine the number of ports that the design can support. For example, a large core design consists of Z9000 as the spine nodes as well as leaf nodes. The selection of the switch used in a particular design is based on the current and projected port requirement.
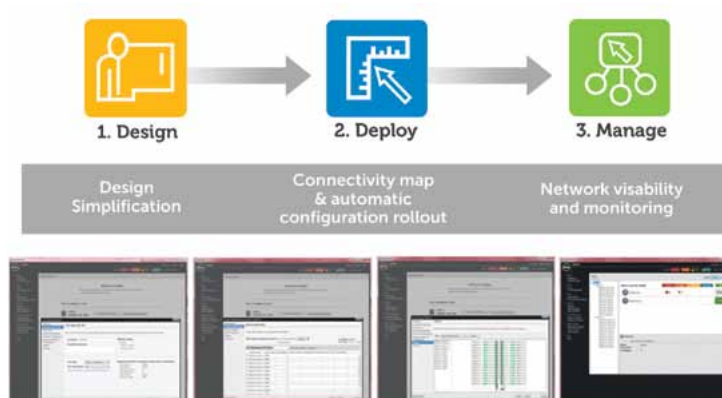

Design Wizard

The software provides the user option to select the oversubscription ratio, that determines the number of user ports.

The table lists the design options available and the port capacity supported with each of the design option.

Size	Spine	Leaf	User ports
Type 1	Up to 16xZ9000	Up to 32xZ9000	2048x10GbE or 512x40GbE
Type 2	Up to 4xZ9000	Up to 32xS4810	1536x10GbE
Type 3	Up to 4xS4810	Up to 12xS4810	576x10GbE

Design options available

Wiring Plan

Based on the information collected during the design phase, the Dell Fabric Manager will create a wiring plan as an output. This is presented as a table as well as a graphic image. The wiring plan can be printed or saved as a file. The design could be modified at any time before finalizing it. Based on the wiring plan, the equipment is procured, stacked and the wiring is completed.
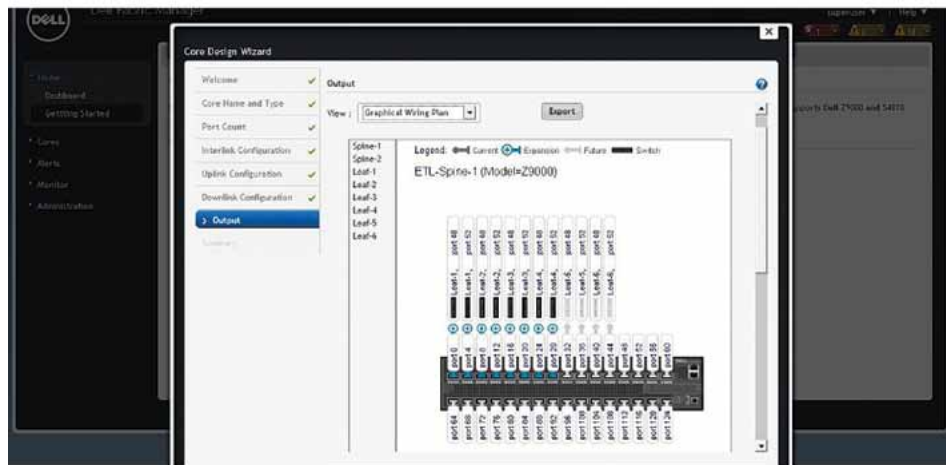
Wiring Plan

Configuration Manager

The configuration manager guides the user through the process of configuring the switches. This includes assigning MAC addresses which can be done manually or automatically using a CSV file. The MAC addresses enable the correlation between the design and the physical deployment. In a similar manner, the management IP addresses can be applied either manually or automatically. The configuration manager will provision all the nodes using bare metal provisioning (BMP) feature. The administrator will be able to monitor the progress of the deployment. If there are any issues or errors during switch configuration, the administrator will get an error highlighting the relevant portions of the configuration that need to be fixed.

Event Monitoring and Reporting

Once the fabric is successfully deployed it needs to be monitored. Dell Fabric Manager provides complete visibility into the state of all the nodes. The monitoring can be done at different levels. The administrator can monitor each of the node examining run time information and statistics. This information can be viewed as text or converted to graphs.

The other important management aspect is reporting. Dell Fabric Manager enables generation of customized reports. The administrator can choose the parameters that they want to monitor selecting the nodes and the time duration for the report. The report could be generated on demand or scheduled at specific intervals.

Adminstration

The Dell Fabric Manager supports two user access levels which include admin and read only user level access. An admin can make changes while a regular user can just check the config.

Key Features:

- Wizard based designer
- Automated Fabric Deployment
- Ability to manage multiple cores
- Report Generator
- Workflow based execution model

Supported Operating Systems:

- CentOS 5.7 onwards
- Microsoft Windows 7

Supported Web Browsers:

- Chrome (v6 and above)
- Firefox (v3.6 and above)
- Internet Explorer (v8 and above)

Supported Dell Networking Devices:

- Dell Force10 Z9000
- Dell Force10 S4810

Cost:

- Dell Fabric Manager is available at no cost.

Simplify the complex with Dell Fabric Manager

www.Dell.com/Networking

DELL