



## **Appendix - Switch Grouping**

# Table of contents

UI Presentation

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# List of Figures

Figure 0. Image2023 1 26 12 59 43 Version 1 Modificationdate  
1716900249470 Api V2

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Figure 1. Image2023 1 26 13 0 2 Version 1 Modificationdate  
1716900249007 Api V2

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Figure 2. Image2023 1 26 13 0 21 Version 1 Modificationdate  
1716900247987 Api V2

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Figure 3. Image2023 1 26 13 0 49 Version 1 Modificationdate  
1716900247710 Api V2

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Figure 4. Image2023 1 26 13 1 21 Version 1 Modificationdate  
1716900246310 Api V2

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Figure 5. Image2023 1 26 13 1 39 Version 1 Modificationdate  
1716900245810 Api V2

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Figure 6. Image2023 1 26 13 2 19 Version 1 Modificationdate  
1716900244990 Api V2

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Figure 7. Image2023 1 26 13 2 39 Version 1 Modificationdate  
1716900244517 Api V2

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To facilitate the logical grouping of 1U switches into a "director-like switch" group, the UFM implements a special dedicated group of interconnected 1U switches based on a YAML configuration file. This group, which is of type "superswitch", only includes 1U switches connected to each other, with some functioning as lines and others as spines.

To access the configuration file for superswitches, users can define the path in the [SubnetManager] section of the `gv.cfg` file, using the variable name "super\_switch\_config\_file\_path". For instance, the path can be specified as follows:  
`super_switch_config_file_path=/opt/ufm/files/conf/super_switches_configuration.cfg.`

It is important to note that the file must be located in the `/opt/ufm/files` file tree, as it should be replicated between master and slave UFM servers in a high-availability configuration.

The structure of the superswitch definition should be as follows, based on the following example:

```
superswitch:
- name: "Marlin01" # Director switch name
  description: "primary dc switch" # Free text with the customer facing description
  location: "US, NC, DC01" # Director switch location (global location, includes all
racks/switches)
  racks: # Director switch Racks definitions
    #Rack definition
    - name: "rack A" # Director switch rack name
      location:
        dc-grid-row: "A" # formalized rack location in DC
        dc-grid-column: "1" # formalized
        comments: "left-most rack in the line" #Cutomer facing comment on the rack
      leaves: # List of Director switch leaves (for the rack specified)
        - guid: "0x043f720300922a00" #required filed. Switch GUID.
          location-u: 1 # required field. Device location in rack: "U#"
          description: "MF0;gorilla-01:MQM9700/U1" # optional field.
        - guid: "0x043f720300899cc0" #required filed. Switch GUID.
          location-u: XX # required field. Device location in rack: "U#"
          description: "MF0;gorilla-01:MQM9700/U2" # optional field.
      spines: # List of Director switch spines (for the rack specified)
        - guid: "0x043f720900922a00" #required filed. Switch GUID.
```

```

location-u: 10 # required field. Device location in rack: "U#"
description: "MF0;gorilla-02:MQM9700/U1" # optional field.
- guid: "0x043f720900899cc0" #required filed. Switch GUID.
location-u: XX # required field. Device location in rack: "U#"
description: "MF0;gorilla-02:MQM9700/U2" # optional field.
- name: "Marlin02" # Director switch name
description: "primary dc switch" # Free text with the customer facing description
location: "US, NC, DC01" # Director switch location (global location, includes all
racks/switches)
racks: # Director switch Racks definitions
#Rack definition
- name: "rack B" # Director switch rack name
location:
dc-grid-row: "B" # formalized rack location in DC
dc-grid-column: "1" # formalized
comments: "left-most rack in the line" #Cutomer facing comment on the rack
leafs: # List of Director switch leafs (for the rack specified)
- guid: "0x093f720300922a00" #required filed. Switch GUID.
location-u: 1 # required field. Device location in rack: "U#"
description: "MF0;gorilla-03:MQM9700/U1" # optional field.
- guid: "0x093f720300899cc0" #required filed. Switch GUID.
location-u: XX # required field. Device location in rack: "U#"
description: "MF0;gorilla-03:MQM9700/U2" # optional field.
spines: # List of Director switch spines (for the rack specified)
- guid: "0x093f720900922a00" #required filed. Switch GUID.
location-u: 10 # required field. Device location in rack: "U#"
description: "MF0;gorilla-04:MQM9700/U1" # optional field.
- guid: "0x093f720900899cc0" #required filed. Switch GUID.
location-u: XX # required field. Device location in rack: "U#"
description: "MF0;gorilla-04:MQM9700/U2" # optional field

```

## UI Presentation

The logical grouping can be accessed under the "Groups" view, specifically listed as "SuperSwitch group" type.

Groups Local Time [redacted] admin

All + New Displayed Columns CSV

Severity	Name ↑	Description	Type
Info	1U Switches	Includes all 1U Switches that exist in the fabric	General
Info	Alarmed Devices	Devices with alarms	General
Info	Devices Pending FW Transceivers Reset	Includes all Devices that pending FW transceivers reset t...	General
Info	Gateway Devices	Includes all Gateway Devices that exist in the fabric	General
Info	Marlin01	SuperSwitch group	SuperSwitch
Info	Marlin02	SuperSwitch group	SuperSwitch
Info	Modular Switches	Includes all Modular Switches that exist in the fabric	General
Info	Routers	Includes all Router Devices that exist in the fabric	General
Info	Servers	Includes all Hosts that exist in the fabric	General
Info	Servers With DPU	Includes all Devices that has DPU that exist in the fabric	General
Info	Suppressed Devices	No event notifications issued	General
Info	Switches	Includes all Switches that exist in the fabric	General

Viewing 1-12 of 12 [Navigation icons] 20

Upon selecting the group type SuperSwitch, additional columns containing information related to the SuperSwitch are added to the details view.

Groups Local Time [redacted] Last Update [redacted] admin

All + New Displayed Columns CSV

Severity	Name ↑	Description	Type
Info	1U Switches	Includes all 1U Switche...	General
Info	Alarmed Devices	Devices with alarms	General
Info	Devices Pending FW Tr...	Includes all Devices tha...	General
Info	Gateway Devices	Includes all Gateway D...	General
Info	Marlin01	SuperSwitch group	SuperSwitch
Info	Marlin02	SuperSwitch group	SuperSwitch
Info	Modular Switches	Includes all Modular S...	General
Info	Routers	Includes all Router Dev...	General
Info	Servers	Includes all Hosts that ...	General
Info	Servers With DPU	Includes all Devices tha...	General
Info	Suppressed Devices	No event notifications i...	General
Info	Switches	Includes all Switches t...	General

Viewing 1-12 of 12 [Navigation icons] 20

Marlin01 - Members Displayed Columns

Name ↑	GUID	IP	Type	Descri...	Locati...	Rack
gorilla-01	0x043f72...	0.0.0.0	leaf	MF0:gori...	1	rack A
gorilla-01	0x043f72...	0.0.0.0	leaf	MF0:gori...	XX	rack A
gorilla-07	0x073f72...	0.0.0.0	spine	MF0:gori...	10	rack A
gorilla-07	0x073f72...	0.0.0.0	spine	MF0:gori...	XX	rack A

Viewing 1-4 of 4 [Navigation icons] 20

An icon for the SuperSwitch group in its collapsed view exists on the network map.

Network Map

Layout: Hierarchical Graph Views: Default Regex Filters: Starts With: Enter filter

View Zoom In Filters: Select nodes to highlight and display in Zoom In tab

View Properties

Display Label System Name

Type

- Rack
- Host
- Gateway
- Switch
- Router

Severity

- Info
- Warning
- Minor
- Critical

Network Analysis

- Link Analysis

Network Compare

- Topology Compare

Upon selecting the SuperSwitch group, all of its properties can be viewed in the details view.

Network Map

Layout: Hierarchical Graph Views: Default Regex Filters: Starts With: Enter filter

View Zoom In Filters: Select nodes to highlight and display in Zoom In tab

View Properties

Super Switch Properties

Property	Value
Name	Marlin01
Severity	Info
Description	primary dc switch
Location	US, NC, DC01
Rack	rack A
Rack Location	dc-grid-row= A, dc-grid-column= 1, comments= left-most rack in the line

Leaves

Description	Location	Rack
MF0.gorilla-01:MQM9700/U1	1	rack A
MF0.gorilla-01:MQM9700/U2	XX	rack A

Spines

Description	Location	Rack
MF0.gorilla-02:MQM9700/U1	10	rack A
MF0.gorilla-02:MQM9700/U2	XX	rack A

Expanding the SuperSwitch group icon displays all the switches included in the group as separate 1U switches, along with their respective properties.

Network Map

Layout: Hierarchical Graph Views: Default Regex Filters: Starts With: Enter filter

View Zoom In Filters: Select nodes to highlight and display in Zoom In tab

Super Switch Properties

Property	Value
Name	Marlin01
Severity	Info
Description	primary dc switch
Location	US, NC, DC01
Rack	rack A
Rack Location	dc-grid-row= A, dc-grid-column= 1, comments= left-most rack in the line

Leafs

Description	Location	Rack
MF0:gorilla-01:MQM9700/U1	1	rack A
MF0:gorilla-01:MQM9700/U2	XX	rack A

Spines

Description	Location	Rack
MF0:gorilla-02:MQM9700/U1	10	rack A
MF0:gorilla-02:MQM9700/U2	XX	rack A



Network Map

Layout: Hierarchical Graph Views: Default Regex Filters: Starts With: Enter filter

View: Zoom In Filters: Select nodes to highlight and display in Zoom In tab

System Properties

Property	Value
Name	gorilla-07
IP	0.0.0.0
GUID	0x073f720300922a00
Type	switch
Model	MQM9700
Severity	Info
FW Version	N/A
PSID	N/A
Total Alarms	0
Temperature	N/A
Description	MQM9700
SW Version	N/A

System Ports

Port Name
gorilla-07:1
gorilla-07:13
gorilla-07:14

On the devices view, switches that are part of the SuperSwitch group are marked with an additional icon that indicates their role in the group. The "S" icon denotes spines, while the "L" icon denotes lines.

Devices

Local Time Last Update admin

All Types All Groups Displayed Columns CSV

Severity	Name	GUID	Type	Model	IP	Firmware Version
Info	gorilla-01	0x043f720300922a00	switch	MQM9700	0.0.0.0	
Info	gorilla-07	0x073f720300922a00	switch	MQM9700	0.0.0.0	
Info	gorilla-08	0x083f720300922a00	switch	MQM9700	0.0.0.0	
Info	gorilla-02	0x093f720300922a00	switch	MQM9700	0.0.0.0	
Info	gorilla-01	0x043f720300899cc0	switch	MQM9700	0.0.0.0	
Info	gorilla-07	0x073f720300899cc0	switch	MQM9700	0.0.0.0	
Info	gorilla-08	0x083f720300899cc0	switch	MQM9700	0.0.0.0	
Info	gorilla-02	0x093f720300899cc0	switch	MQM9700	0.0.0.0	
Info	r-ufm50	0x248a0703008fa050	host		0.0.0.0	

Viewing 1-9 of 9

Selecting a switch that belongs to the SuperSwitch group in the properties view allows you to view all the switch properties related to the SuperSwitch group.

Devices Local Time Last Update [redacted] ? admin

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All Types All Groups Refresh Displayed Columns CSV

Name	GUID	Type	Model	IP	Firmwa...
gorilla-01	0x043f720...	switch	MQM97	0.0.0.0	
gorilla-07	0x073f720...	switch	MQM97	0.0.0.0	
gorilla-08	0x083f720...	switch	MQM97	0.0.0.0	
gorilla-02	0x093f720...	switch	MQM97	0.0.0.0	
gorilla-01	0x043f720...	switch	MQM97	0.0.0.0	
gorilla-07	0x073f720...	switch	MQM97	0.0.0.0	
gorilla-08	0x083f720...	switch	MQM97	0.0.0.0	
gorilla-02	0x093f720...	switch	MQM97	0.0.0.0	
r-ufm50	0x248a07...	host		0.0.0.0	

Viewing 1-9 of 9

0x073f720300922a00 - Device Information

General Ports Cables Groups Alarms Events Inventory

Device Access Super Switch

Property	Value
Description	MF0:gorilla-02:MQM9700/U1
Location	10
Type	spine
Rack Name	rack A
Rack Location	dc-grid-row=A, dc-grid-column=1, comment...
Super Switch Name	Marlin01

**Note**

Each SuperSwitch definition can include one or more racks where each embedded rack can include multiple leaves and spines switches.