

EXTREME NETWORKS

Onboard Mgmt VLAN XIQ-SE workflow

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Onboard Mgmt VLAN XIQ-SE workflow



- Workflow to onboard a VOSS/Fabric Engine switch onto a dedicated switch mgmt VLAN/L2VSN
- Mgmt VLAN / I-SID and IP data extracted from CSV file previously placed on XIQ-SE
- Ability to change the switch sysname (SNMP and ISIS) at the same time
- Ability to set the auto-sense ISIS Hello authentication key during the IP mgmt change
- Ability to re-add the device into a different XIQ-SE site after the mgmt VLAN IP change
- Ability to launch a follow up workflow once this workflow has finished
- Requires minimum VOSS 8.5 (for mgmt convert support)

Workflow manual execution



- Workflow can be manually run against 1 or many switches simultaneously

The screenshot displays the 'Devices' tab in the management interface. A table lists various network devices with columns for Status, Name, Site, IP Address, Poll Status, Poll Details, Device Type, Family, and Firmware. A context menu is open over the table, showing options like FlexView, More Views, Configure..., Compass Search..., Rediscover, Clear Alarms..., Upgrade Firmware..., Add to Device Group..., and More Actions. The 'More Actions' submenu is expanded, showing categories like Access Control, Config, Example, Macro, Provisioning, System, and VLAN. The 'VLAN' category is selected, and the 'Onboard Mgmt VLAN' option is highlighted with a red box.

Status	Name ↑	Site	IP Address	Poll Status	Poll Details	Device Type	Family	Firmware
▲	5320-16P-4XE-DC-FabricEngi...	/World/CTC/Reading/Campus/Universal-Hw-Access	20.0.48.14	Available: 1...	Up: 949 Do...	5320-16P-4XE-DC-F...	Universal P...	8.8.0.0
▲	5320-24T-8XE-FabricEngine	/World/CTC/Reading/Campus/Universal-Hw-Access	20.0.48.13	Available: 1...	Up: 949 Do...	5320-24T-8XE-Fabri...	Universal P...	8.8.0.0
▲	5420F-48P-4XL-FabricEngine	/World/CTC/Reading/Campus/Universal-Hw-Access	20.0.48.10	Available: 1...	Up: 949 Do...	5420F-48P-4XL-Fab...	Universal P...	8.8.0.0
▲	5420M-24W-4YE-FabricEngine	/World/CTC/Reading/Campus/Universal-Hw-Access	20.0.48.11	Available: 1...	Up: 949 Do...	5420M-24W-4YE-Fa...	Universal P...	8.8.0.0
●	5520-24W-SwitchEngine	/World/CTC/Reading/Campus/Universal-Hw-Access	10.8.3.10	Available: 1...	Up: 949 Do...	5520-24W-SwitchEn...	Universal P...	32.1.1.6
●	5520-STK	/World/CTC/Reading/Campus/Universal-Hw-Access	20.0.48.12	Available: 1...	Up: 949 Do...	Switch Engine ARM ...	Universal P...	31.7.1.4
▲	5720-24MXW-FabricEngine	/World/CTC/Reading/Campus/Universal-Hw-Access	20.0.48.16	Available: 1...	Up: 949 Do...	5720-24MXW-Fabri...	Universal P...	8.8.0.0
●	CTC-410C-3/45	/World/CTC/Reading/Campus/Universal-Hw-Access	20.0.203.52	Available: 9...	Up: 948 Do...	XIQ AP	XIQ Native	10.5r1
▶	VSP7448-1	/World/CTC/Reading/Campus/Universal-Hw-Access	20.0.20.76	Available: 1...	Up: 949 Do...	VSP-7400-48Y-8C	VSP Series	8.8.0.0
▶	VSP7448-2	/World/CTC/Reading/Campus/Universal-Hw-Access	20.0.20.77	Available: 9...	Up: 948 Do...	VSP-7400-48Y-8C	VSP Series	8.8.0.0

Workflow automatic execution during onboarding



- Workflow can be automatically run after ZTP+ onboarding, under XIQ-SE Site Actions
- In this case script will always run against 1 switch only, the onboarding switch

Devices **Sandbox** Site Summary Endpoint Locations FlexReports

Discover **Actions** VRF/VLAN Topologies Services Port Templates ZTP+ Device Defaults Endpoint Locations Analytics Custom Variables

☒ Automatically Add Devices Collection Mode: Historical

☒ Add Trap Receiver Collection Interval (minutes): 10

☒ Add Syslog Receiver Map Name: /World/CTC/Reading/Sandbox/Sandbox

☒ Add to Archive

☒ Add to Map

Custom Configuration

+ Add Edit - Delete

Enabled	Vendor	Family	Topology	Task
<input checked="" type="checkbox"/>	Extreme	Universal Platform Fabric Engine	Any	Provisioning/Onboard Mgmt VLAN

Update Cancel

Onboard Mgmt VLAN XIQ-SE workflow inputs



- A CSV file is uploaded to XIQ-SE beforehand
- CSV file has device data which can be device specific
- CSV data is looked up either by device initial (dhcp) IP or Serial Number or MAC Address
- CSV data can be referenced as \$<name> or \$(name) in workflow inputs
- Site variables can still also be referenced but as \${name}
- The CSV variable names are case sensitive

- If your XIQ-SE was installed without “root” access, place the CSV file here instead:
/usr/local/Extreme_Networks/NetSight/appdata/logs/scripting/NetSight_Server

The screenshot displays the XIQ-SE workflow editor and a CSV data file. The workflow editor shows a process titled "Move to VLAN mgmt IP" with a "Start" node, a "Move to VLAN mgmt IP" activity, and an "End" node. The CSV data file, named "mgmtdata.csv", is shown below the workflow. The CSV file contains columns for serial number, mgmt vlanid, mgmt isid, mgmt ip, mgmt mask, mgmt gateway, sysname, and site name. The "mgmt ip" column is highlighted in red. The workflow editor's "Inputs" tab is also visible, showing fields for "CSV data file" (set to /root/mgmtdata.csv), "Index into CSV file" (set to Serial Number), and various Mgmt VLAN configuration fields like Mgmt VLAN ID, Mgmt VLAN I-SID, Mgmt VLAN IP, Mgmt VLAN Mask, Mgmt VLAN Default Gateway, System Name to configure on device, Auto-sense ISIS Authentication key, and Site to re-add device using mgmt VLAN IP.

Workflow: /Workflows/Ludovico/Onboard Mgmt VLAN

Activities: Start → Move to VLAN mgmt IP → End

CSV data file: /root/mgmtdata.csv

Index into CSV file: Serial Number

Mgmt VLAN and re-add Site Notes:
Provide new mgmt I-SID, IP, Mask and Default Gateway. The VLAN id is optional and can be omitted. Is not used on DVR Leaf and can be auto-allocated otherwise. A system name can be configured for both SNMP and ISIS at the same time, if provided. The Site to re-add is optional, if not provided the device will get re-added to the same Site.

Mgmt VLAN ID: \$<mgmt vlanid>

Mgmt VLAN I-SID: \$<mgmt isid>

Mgmt VLAN IP: \$<mgmt ip>

Mgmt VLAN Mask: \$<mgmt mask>

Mgmt VLAN Default Gateway: \$<mgmt gateway>

System Name to configure on device: \$<sysname>

Auto-sense ISIS Authentication key:

Site to re-add device using mgmt VLAN IP:

serial number	mgmt vlanid	mgmt isid	mgmt ip	mgmt mask	mgmt gateway	sysname	site name
JA092041G-01023	209	2800209	20.0.209.54	255.255.255.0	20.0.209.1	5420-bld1	/World/building1
TB062139K-H0210	209	2800209	20.0.209.53	255.255.255.0	20.0.209.1	5320-bld1	/World/building1
TB022131K-H0059	209	2800209	20.0.209.52	255.255.255.0	20.0.209.1	5320-bld2	/World/building2
JA102040G-00003	209	2800209	20.0.209.55	255.255.255.0	20.0.209.1	5420-bld2	/World/building2

Workflow execution



Dashboard Devices Discovered Firmware Archives Configuration Templates Reports **Onboard Mgmt VLAN (26787)**

Summary

Status	Start Date/Time	Name	Version	Source	# Devices	Started By	End Date/Time	Message	Path
✓	9/7/2022 10:32:26 ...	Onboard Mgmt VLAN	25	Workflow Designer ...	1	Istevens	9/7/2022 10:32:42 ...	Re-added device using mgmt VLAN IP 20.0.2...	/Workflows/Ludovico/Onboard Mgmt VLAN

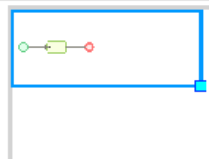
Graph View Table View



Stop Workflow

Show Output

Show Variables



Devices Grid

Show Output

Show Variables

Status	Device IP	Output Path	Start Date/Time	End Date/Time	Message
SUCCESS	20.0.48.10		9/7/2022 10:3...	9/7/2022 10:3...	Re-added device using mgmt VLAN IP 20.0.209.54 on L2 I-SID 2800209 to XIQ-SE Site '/World/CTC/Reading/Campus/Univer

The following configuration was successfully performed on switch:

```
-> config term
-> mgmt vlan
->   convert i-sid 2800209 ip 20.0.209.54 255.255.255.0 gateway 20.0.209.1 rollback 130
-> config term
-> mgmt convert-commit
-> snmp-server name 5420-bld1
-> router isis
->   sys-name 5420-bld1
-> exit
-> end
-> save config
Deleted IP '20.0.48.10' from XIQ-SE's database
Deleted IP '20.0.48.10' in NAC Engine Group
Added new device IP '20.0.209.54' to XIQ-SE Site '/World/CTC/Reading/Campus/Universal-Hw-
Access' with admin profile 'PoC Profile'
Exit code SUCCESS
```

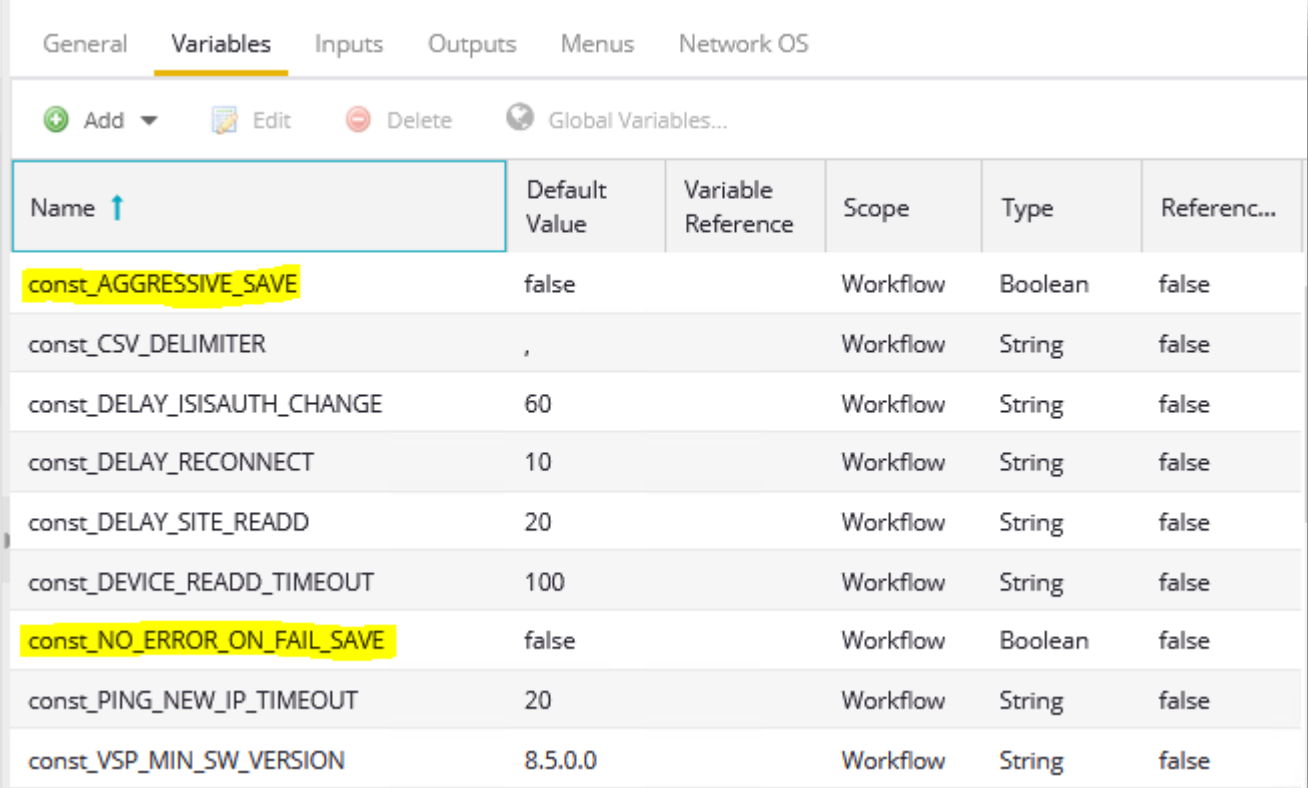
Close

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Workflow tuning



- If the workflow is found to fail, because after all the changes it is unable to perform “save config” on the switch, this is because during onboarding XIQ-SE is also busy making changes and saving the config itself
 - On VOSS / Fabric Engine only 1 user at a time can perform “save config” or “show run”
- To avoid the workflow failures two variables can be set:
- `const_NO_ERROR_ON_FAIL_SAVE`
 - If set, the workflow will still try and save the config at the end, but if unable to, the workflow will complete without any errors
- `const_AGGRESSIVE_SAVE`
 - If set, the workflow will try and save the config as before, 3 tries at 10sec intervals, but if these tries fail, all other CLI sessions will be kicked, and a final save is performed again, which will now succeed



General Variables Inputs Outputs Menus Network OS					
Add Edit Delete Global Variables...					
Name ↑	Default Value	Variable Reference	Scope	Type	Referenc...
const_AGGRESSIVE_SAVE	false		Workflow	Boolean	false
const_CSV_DELIMITER	,		Workflow	String	false
const_DELAY_ISISAUTH_CHANGE	60		Workflow	String	false
const_DELAY_RECONNECT	10		Workflow	String	false
const_DELAY_SITE_READD	20		Workflow	String	false
const_DEVICE_READD_TIMEOUT	100		Workflow	String	false
const_NO_ERROR_ON_FAIL_SAVE	false		Workflow	Boolean	false
const_PING_NEW_IP_TIMEOUT	20		Workflow	String	false
const_VSP_MIN_SW_VERSION	8.5.0.0		Workflow	String	false

Workflow tuning 2



- If it is desired to allocate both mgmt VLAN IP and mgmt CLIP IP to devices onboarded into the same XIQ-SE site, both workflows “Onboard Mgmt VLAN” and “Onboard Mgmt CLIP” can be assigned to the same site for the same Fabric Engine/VOSS platforms.
- Then either configure each workflow to use a different CSV file, and ensure that a given switch is only found in one of the CSV files; and also set:
- `const_GRACEFUL_EXIT_IF_NO_SN`
 - If set, the workflow will gracefully exit if the device lookup key was not found in the provided CSV file
- Or configure both workflows to use the same CSV file and ensure that in the CSV file a given switch is only allocated either a mgmt CLIP or a mgmt VLAN IP (not both); and also set:
- `const_GRACEFUL_EXIT_IF_NO_IP`
 - If set, the workflow will gracefully exit if no Mgmt VLAN IP value was obtained from Site or CSV inputs

General Variables Inputs Outputs Menus Network OS					
Add Edit Delete Global Variables...					
Name ↑	Default Value	Variable Reference	Scope	Type	Referenced
<code>const_AGGRESSIVE_SAVE</code>	false		Workflow	Boolean	false
<code>const_CSV_DELIMITER</code>	,		Workflow	String	false
<code>const_DELAY_ISISAUTH_CHANGE</code>	60		Workflow	String	false
<code>const_DELAY_RECONNECT</code>	10		Workflow	String	false
<code>const_DELAY_SITE_READD</code>	20		Workflow	String	false
<code>const_DEVICE_READD_TIMEOUT</code>	100		Workflow	String	false
<code>const_GRACEFUL_EXIT_IF_NO_IP</code>	false		Workflow	Boolean	false
<code>const_GRACEFUL_EXIT_IF_NO_SN</code>	false		Workflow	Boolean	false
<code>const_NO_ERROR_ON_FAIL_SAVE</code>	false		Workflow	Boolean	false
<code>const_PING_NEW_IP_TIMEOUT</code>	20		Workflow	String	false
<code>const_VSP_MIN_SW_VERSION</code>	8.5.0.0		Workflow	String	false

