EXTREME NETWORKS

Onboard Mgmt OOB XIQ-SE workflow

Ludovico Stevens

Technical Marketing Engineering

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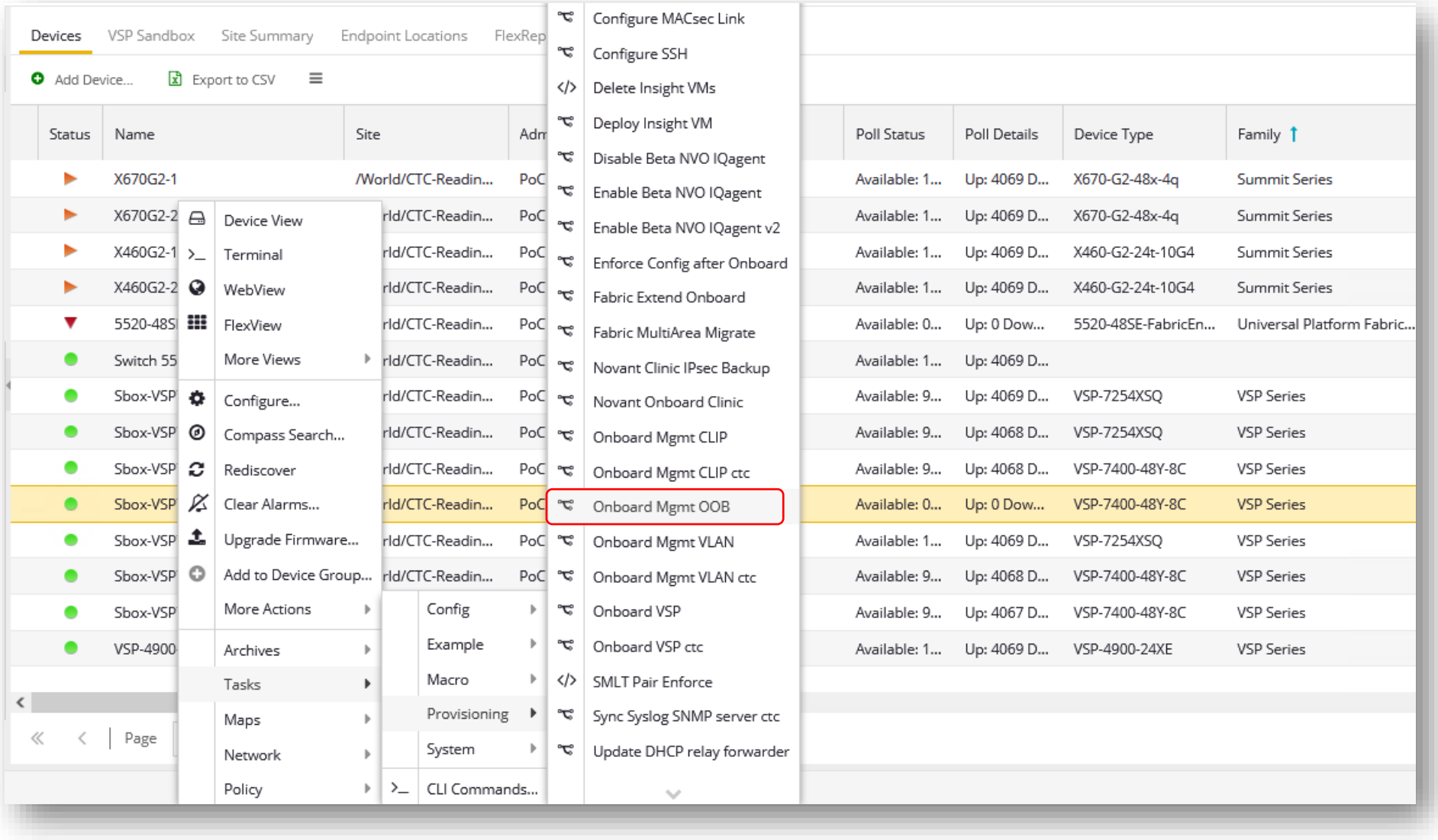
ADVANCE WITH US

Onboard Mgmt OOB XIQ-SE workflow

- Workflow to onboard a VOSS/Fabric Engine switch onto a dedicated switch mgmt OOB IP
- Mgmt OOB IP 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 send a custom set of CLI commands at the same time, with logical operators
- Ability to launch a follow up workflow once this workflow has finished
- Requires minimum VOSS 8.5 (for segmented mgmt support)

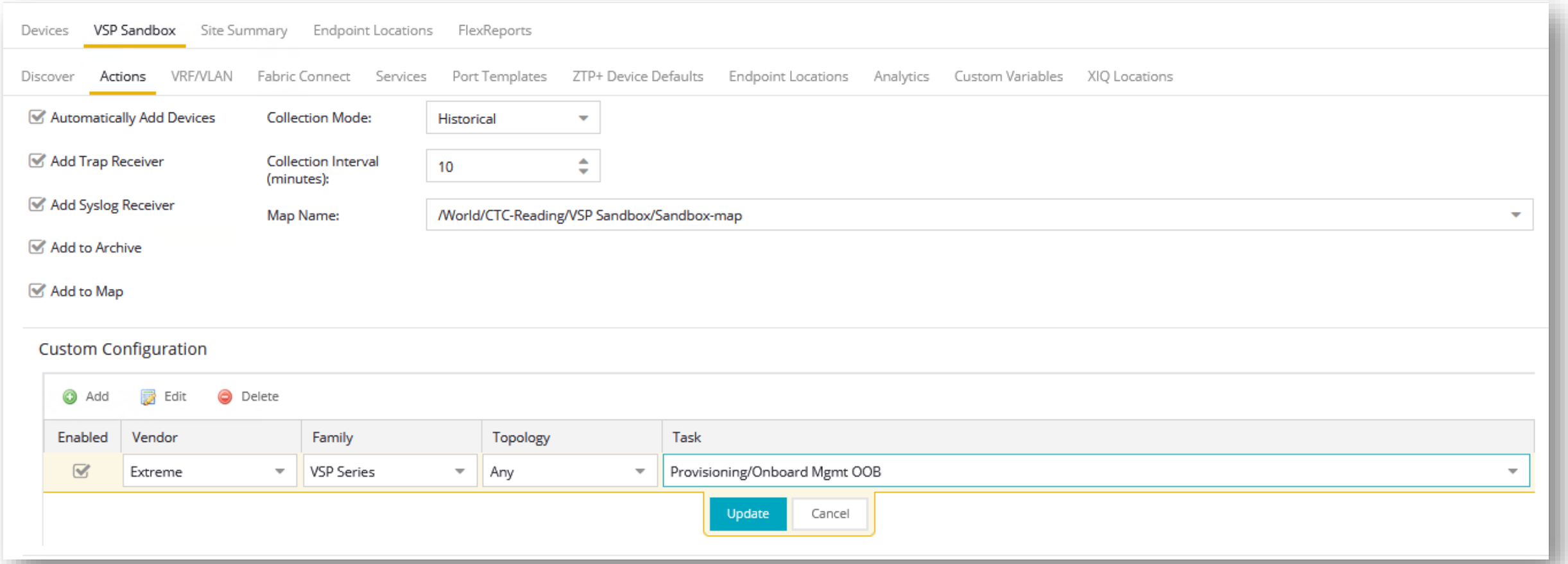
Workflow manual execution

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



Workflow automatic execution during onboarding

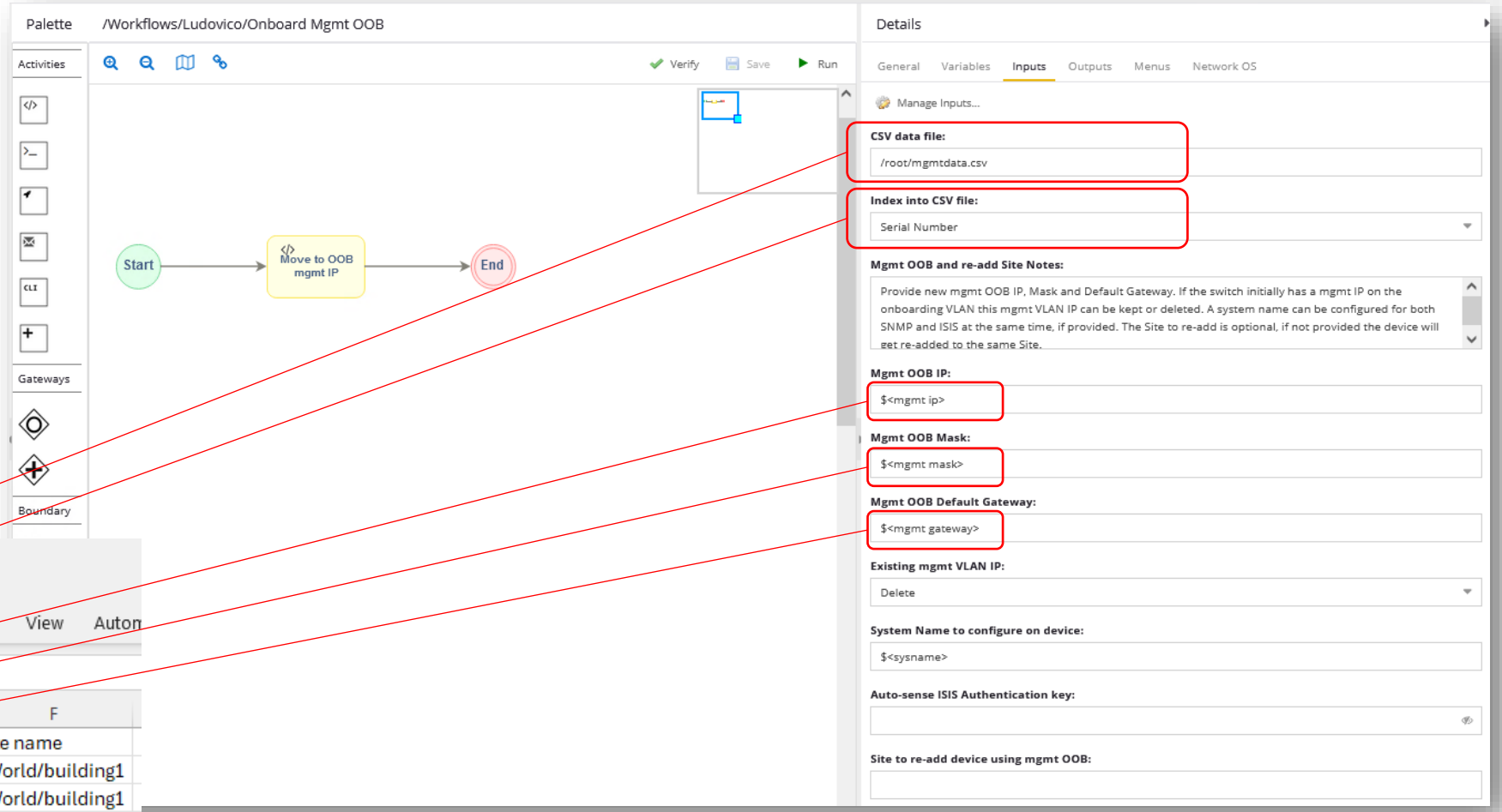
- Workflow can be automatically run after ZTP+ onboarding, under XIQ-SE Site Actions
- In this case script will always run against 1 switch only, the onboarding switch

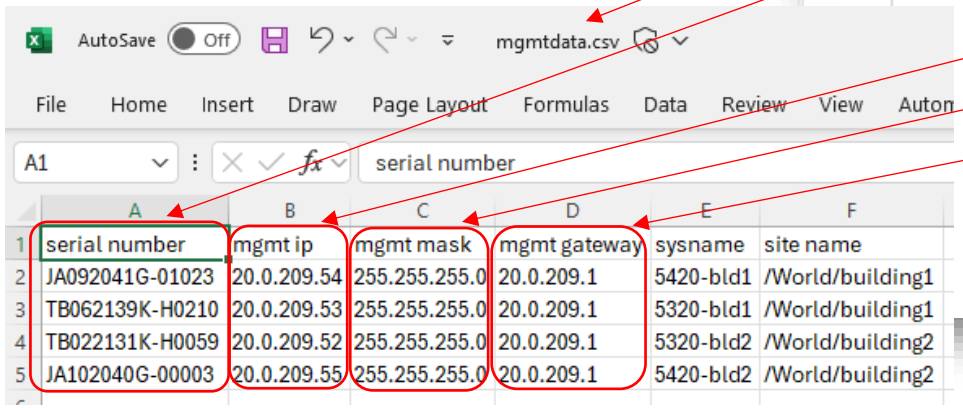


Onboard Mgmt OOB XIQ-SE workflow inputs

- 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`





	A	B	C	D	E	F
1	serial number	mgmt ip	mgmt mask	mgmt gateway	sysname	site name
2	JA092041G-01023	20.0.209.54	255.255.255.0	20.0.209.1	5420-bld1	/World/building1
3	TB062139K-H0210	20.0.209.53	255.255.255.0	20.0.209.1	5320-bld1	/World/building1
4	TB022131K-H0059	20.0.209.52	255.255.255.0	20.0.209.1	5320-bld2	/World/building2
5	JA102040G-00003	20.0.209.55	255.255.255.0	20.0.209.1	5420-bld2	/World/building2

CSV data file input

CSV data file:

```
%rootDir%/%sitePath%/%siteName%.cvs
```

- Available path variables: **%rootDir%, %sitePath%, %siteName%**
  - %rootDir% by default is /root/; can be changed via workflow variable const_ROOT_PATH_VAR
  - %sitePath% and %siteName% are set based on site path of device; e.g. if device is in "/World/CTC-Reading/VSP Sandbox“ then %sitePath% = “World/CTC-Reading” and %siteName% = “VSP Sandbox”
- Can use these to have different CSV per site

Workflow execution

Workflow Dashboard | Scheduled Tasks | Saved Tasks | Scripts | Workflows | Onboard Mgmt OOB (336)

Summary

Status	Start Date/Time	Name	Version	Source	# Devices	Started By	End Date/Time	Message	Path
✔	10/11/2024 9:48:03...	Onboard Mgmt OOB	4	Site Discover Action...	1	NetSight Server	10/11/2024 9:49:07...	2128Q-40009: Re-added device using mgmt ...	/Workflows/Ludovico/Onboard Mgmt OOB

Graph View | Table View

Stop Workflow | Show Output | Show Variables

Devices Grid

Show Output | Show Variables

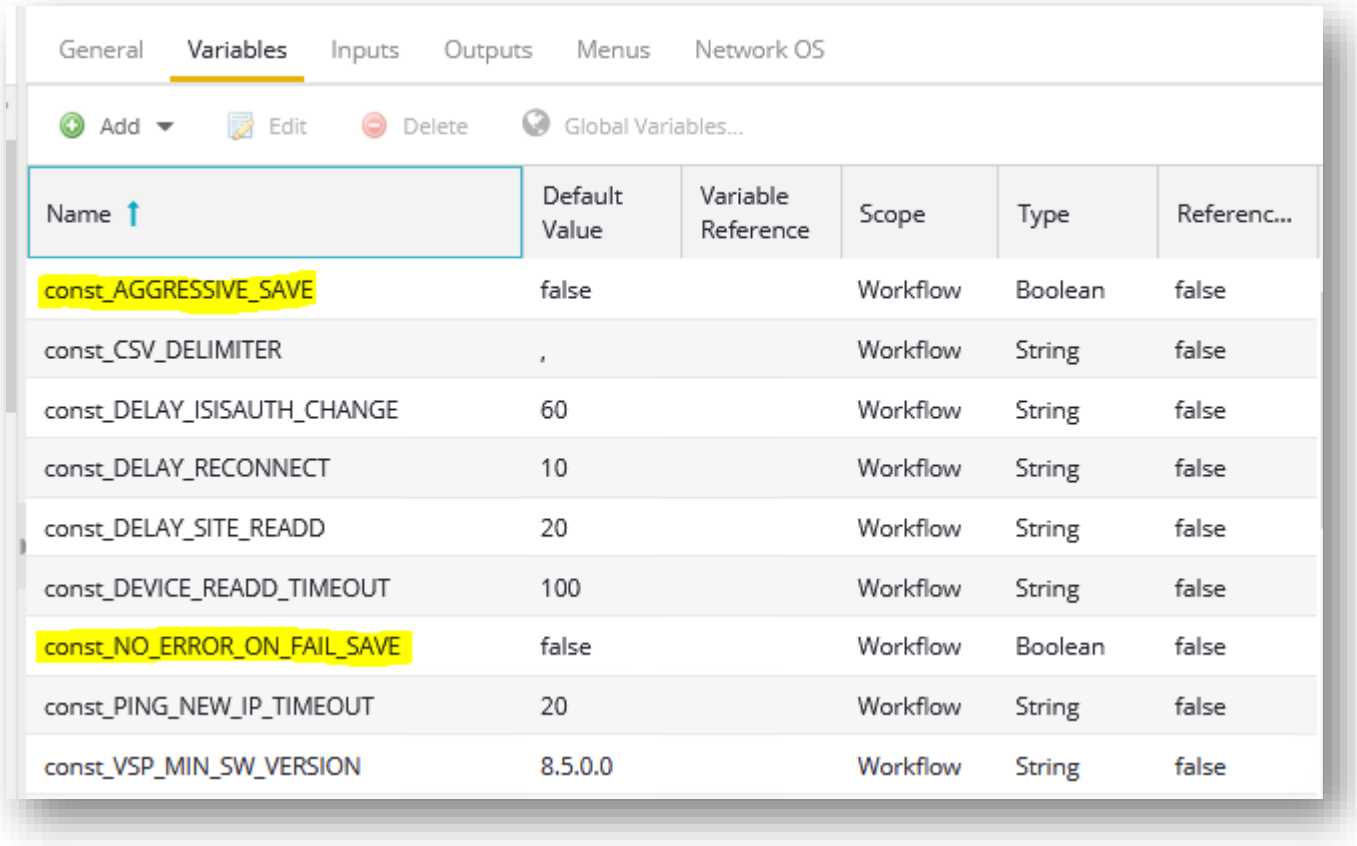
Status	Device IP	Output Path	Start Date/Time	End Date/Time	Message
SUCCESS	10.8.4.8		10/11/2024 9:48:...	10/11/2024 9:...	2128Q-40009: Re-added device using mgmt OOB 10.8.15.73 to XIQ-SE Site '/World/CTC-Reading/VSP Sandbox'

```
The following configuration was successfully performed on switch:
-> config term
-> snmp-server name Sbox-VSP7400-3
-> router isis
->    sys-name Sbox-VSP7400-3
-> exit
-> mgmt oob
->    convert ip 10.8.15.73 255.255.224.0 gateway 10.8.0.1 rollback 240
-> config term
-> mgmt convert-commit
-> end
-> save config
Deleted IP '10.8.4.8' from XIQ-SE's database
Added new device IP '10.8.15.73' to XIQ-SE Site '/World/CTC-Reading/VSP Sandbox' with admin
profile 'PoC SNMPv2 Profile'
Initiated XIQ-SE rediscovery of newly added device 10.8.15.73
Initiated XIQ-SE config reload of newly added device 10.8.15.73
Exit code SUCCESS
```

Close

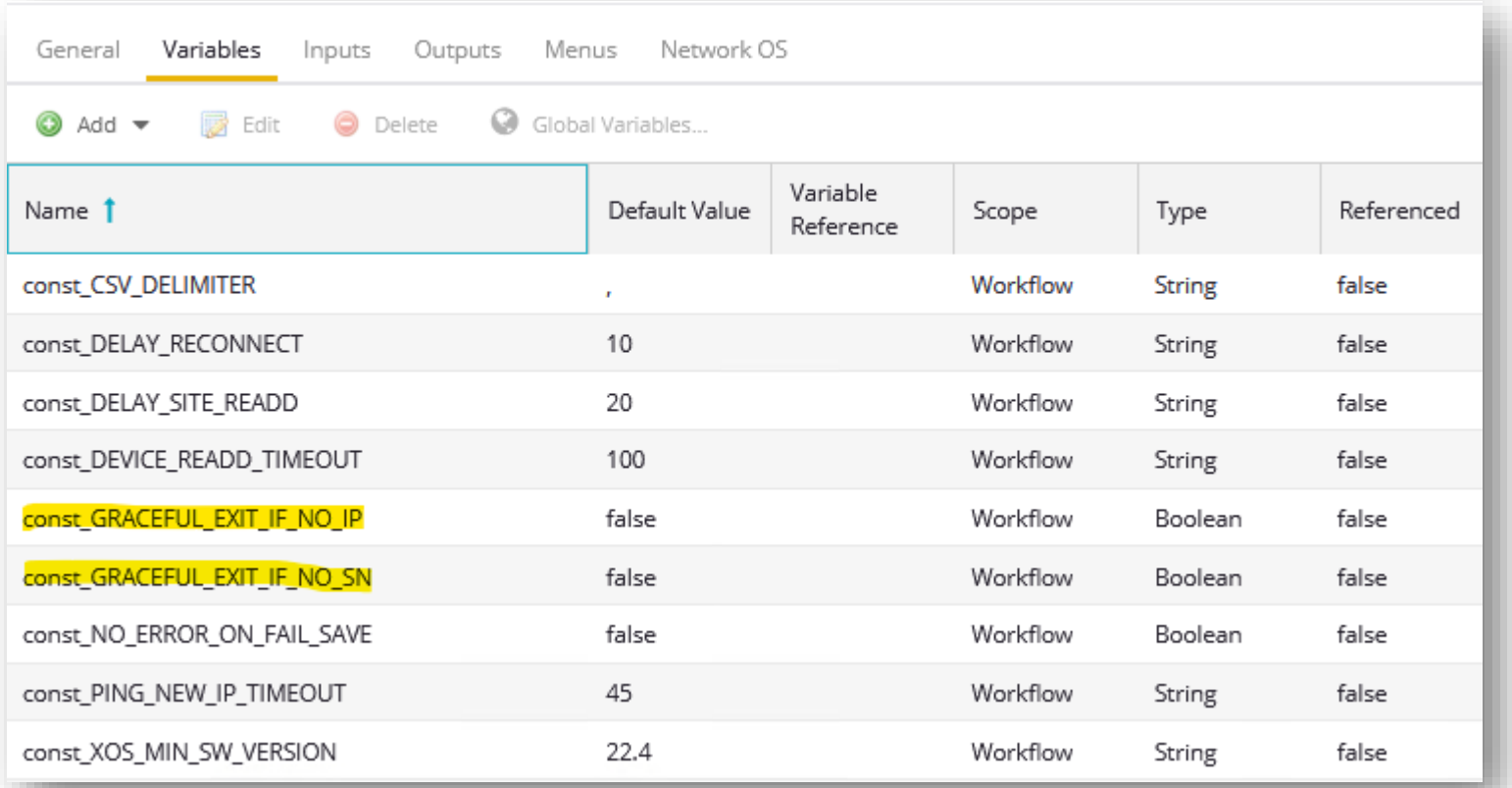
Workflow tuning

- 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



Workflow tuning 2

- Workflow variables:
- 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
- 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



Name	Default Value	Variable Reference	Scope	Type	Referenced
const_CSV_DELIMITER	,		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_GRACEFUL_EXIT_IF_NO_IP	false		Workflow	Boolean	false
const_GRACEFUL_EXIT_IF_NO_SN	false		Workflow	Boolean	false
const_NO_ERROR_ON_FAIL_SAVE	false		Workflow	Boolean	false
const_PING_NEW_IP_TIMEOUT	45		Workflow	String	false
const_XOS_MIN_SW_VERSION	22.4		Workflow	String	false

Additional CLI commands input / sample ➔

Additional CLI commands:

```
#No need to start with enable, config term; commented lines are ignored
#clock time-zone US Eastern
#snmp-server location $<location>
#snmp-server contact "Master of Disaster!"
```

```
#No need to start with enable, config term; commented lines are ignored
clock time-zone US Eastern
snmp-server location $<location>
snmp-server contact "Master of Disaster!"
no snmp-server community-by-index first
no snmp-server community-by-index second
router isis; spbm 1 multicast enable; exit
auto-sense eapol voice lldp-auth
ip dhcp-snooping enable
web-server password ro user // password // password
web-server password rwa admin // password // password
#if    ("5520-24" in ${deviceType} or "5420-24" in ${deviceType})
                interface gigabitEthernet 1/1-1/24
                   no snmp trap link-status
                   slpp-guard enable timeout 0
                   spanning-tree bpduguard enable timeout 0
                   eapol re-authentication enable re-authentication-period 36000
                exit
#elseif("5520-48" in ${deviceType} or "5420-48" in ${deviceType})
                interface gigabitEthernet 1/1-1/48
                   no snmp trap link-status
                   slpp-guard enable timeout 0
                   spanning-tree bpduguard enable timeout 0
                   eapol re-authentication enable re-authentication-period 36000
                exit
#end
```

- The additional CLI commands input can make use of the following variables:
  - Site variables **${var}**: Useful to apply same values to all devices in same XIQ-SE Site. Or to apply same values to all devices in same sub-Sites
  - **Emc_vars** ${deviceIP}: Useful to feed some of these values into the same space as Site variables
  - CSV variables **$<var>**: Useful to provide device specific values
  - Eval variables **$[var]**: Useful to compute new values within the template file and be able to store and re-use these values via a variable
- The additional CLI commands input can make use of the following pragmas
  - **#if/#elseif/#else/#end, #error fail|stop|continue, #eval / #eval <varname>=(), #sleep, #last**
  - but not: #block start|execute
- Please refer to documentation of the Apply Config Template workflow here:
  - https://github.com/extremenetworks/ExtremeScripting/blob/master/XMC_XIQ-SE/oneview_workflows/xwf/Apply_Config_Template_Workflow.pdf