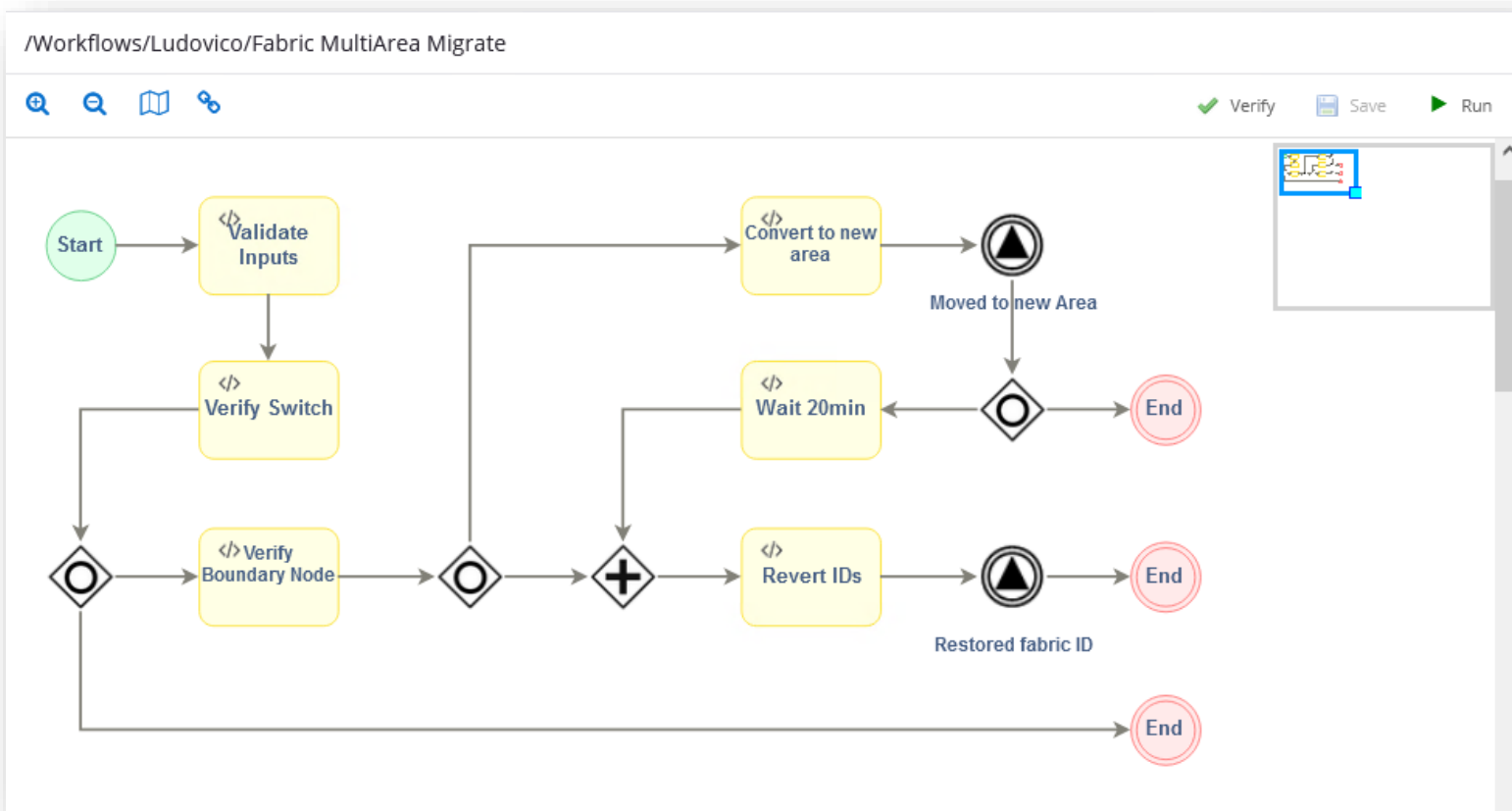


EXTREME NETWORKS

XIQ-SE workflow: Fabric MultiArea Migrate

Ludovico Stevens, December 2022

The workflow



Workflow allows changing the ISIS area of a switch in a multi-area design where nodes need to be migrated to new areas

Run Workflow - Fabric MultiArea Migrate

Workflow Inputs

Inception ISIS Area:
49.0000

Target ISIS Area:
49.0001

Mgmt IP of Area Boundary Nodes:
The mgmt IP of one of the area boundary nodes connecting both ISIS areas together must be provided. This allows the workflow to verify that the fabric IDs for the node being moved will be unique in both areas, including after reverting those fabric IDs if this option is selected. No config changes will be applied on the area boundary node.
20.0.20.76

Fabric ID mask manipulation Notes:
Provide mask to identify bits to modify in the system-id and nick-name. Select the manipulation required. XOR will simply flip the masked bits (replace value field not required). Replace will replace the selected bits with provided replace value.

System-id mask manipulation:
replace

System-id mask:
0000.F000.0000

System-id mask replace value:
2

System-id in new area:
Keep modified ID

Nick-name mask manipulation:
XOR

Nick-name mask:
8.00.00

Nick-name mask replace value:

Nick-name in new area:
Revert to original ID after 20min

ISIS Hello Authentication Notes:
If it is desired to set (or change) the ISIS Hello authentication keys during the area migration, set the change pull down to "enable" and provide the new ISIS Hello auth key

Change ISIS Hello Authentication:
enable

ISIS Hello Authentication key:

Running the workflow



- **Run the workflow against a single switch, if the switch is standalone and not part of a vIST cluster**

The screenshot displays the 'Devices' tab in the management interface. A table lists various network devices, including VSP4450-1, VSP4450-2, VSP4900-3, VSP4900-4, X435-8P-2T-W, X435-8P-2T-W, X440G2-12p-10G4, and X460G2-2. The 'VSP4900-3' device is highlighted, and a context menu is open over it. The menu includes options like 'Device View', 'Terminal', 'WebView', 'FlexView', 'More Views', 'Configure...', 'Compass Search...', 'Rediscover', 'Clear Alarms...', 'Upgrade Firmware...', 'Add to Device Group...', 'More Actions', 'Archives', 'Tasks', 'Maps', 'Network', 'Policy', and 'CLI Commands...'. The 'Fabric MultiArea Migrate' option is highlighted in red. To the right of the context menu, a list of CLI commands is visible, including 'CLI Custom Action - XOS SSL', 'Change persona to EXOS', 'Change persona to VOSS', 'Delete Insight VMs', 'Deploy Insight VM', 'Disable IQAgent', 'Enforce Config after Onboard', 'Fabric Attach Enforce', 'Fabric Connect Enforce', 'Fabric Extend Onboard', 'Fabric MultiArea Migrate', 'Move to CLIP Mgmt IP', 'Novant Clinic IPsec Backup', 'Novant Onboard Clinic', 'Onboard Mgmt CLIP', 'Onboard Mgmt VLAN', 'Onboard VSP', 'SMLT Pair Enforce', 'VOSS-ZTP-Delta-Config', 'XIQ AP import', 'by Marlon - Onboard VSP', and 'deliver VOSS license'.

Status	Name	Site	IP Address	Poll Status
▲	VSP4450-1	/World/CTC/Readin...	20.0.20.41	Available: 1..
▲	VSP4450-2		20.0.20.42	Available: 1..
▲	VSP4900-3		20.0.20.43	Available: 1..
▶	VSP4900-4		20.0.20.44	Available: 1..
▲	X435-8P-2T-W		20.0.205.11	Available: 1..
▲	X435-8P-2T-W		20.0.206.11	Available: 1..
●	X440G2-12p-10G4		20.0.204.11	Available: 1..
●	X460G2-2		20.0.204.12	Available: 1..

Type	Family	Firmware
4450GSX-PWR+	VSP Series	8.5.0.0
4450GSX-PWR+	VSP Series	8.5.0.0
4900-48P	VSP Series	8.9.0.0_B011
4900-48P	VSP Series	8.8.0.0
8P-2T-W	Summit Se...	31.3.1.3-pa...
8P-2T-W	Summit Se...	31.3.1.3-pa...
G2-12p-10G4	Summit Se...	31.6.1.3
G2-24t-10G4	Summit Se...	31.5.1.6

Running the workflow



- **Run the workflow against two switches, if the switches form a vIST cluster**
- **The workflow will error if launched against a single vIST peer switch, or if the two selected switches are not part of the same vIST cluster, or if more than 2 switches are selected**

The screenshot shows a network management interface with a table of devices. The table has columns: Status, Name, Site, IP Address, Poll Status, Poll Details, and Device Type. Two devices are listed: VSP8200-1 and VSP8200-2, both with IP addresses 20.0.20.31 and 20.0.20.32 respectively, and both are 'Available'. A context menu is open over the table, showing various actions. The 'Fabric MultiArea Migrate' option is highlighted with a red box. The menu also includes options like 'Apply Config Template', 'CLI Custom Action - XOS SSL', 'Delete Insight VMs', 'Deploy Insight VM', 'Disable IQAgent', 'Enforce Config after Onboard', 'Fabric Attach Enforce', 'Fabric Connect Enforce', 'Move to CLIP Mgmt IP', 'Onboard Mgmt CLIP', 'Onboard Mgmt VLAN', 'Onboard VSP', 'SMLT Pair Enforce', 'by Marlon - Onboard VSP', 'deliver VOSS license', 'onboard CLI', and 'onboard EXOS'. The interface also shows tabs for 'Devices', 'Campus', 'Site Summary', 'Endpoint Locations', and 'FlexReports' at the top. At the bottom, there is a pagination bar showing 'Page 1 of 1'.

Status	Name	Site	IP Address	Poll Status	Poll Details	Device Type
▶	VSP8200-1	/World/CTC/Readin...	20.0.20.31	Available	...	VSP-8284XSQ
▶	VSP8200-2	/World/CTC/Readin...	20.0.20.32	Available	...	VSP-8284XSQ

Running the workflow

- **Provide the workflow inputs**
- Inception & target area ids
- Mgmt IP of 1 Multi-Area boundary node
 - This is used to check modified fabric IDs in both inception and target areas
- Select the type of ID manipulation to use for system-id and nickname
 - XOR: Mask determines which bits in the ID will be flipped
 - Replace: Mask determines which bits in the ID will be replaced with value provided
 - If a vIST cluster, the system-id manipulation will also get applied to SMLT Virt BMAC and SMLT Peer System-id
- Specify if either the Nickname or System-id are to be reverted to original ID after 20 minutes in new target area
 - If a vIST cluster, the system-id reversion will also get applied to SMLT Virt BMAC and SMLT Peer System-id
- Optionally, the ISIS hello authentication can be changed during the area move; if this is desired enable the option and provide a auth key
 - This will apply to all NNI interfaces, including MLT and FE ones
 - If the option is enabled, and no key is provided, this will result in deleting ISIS Hello auth from the interfaces

Run Workflow - Fabric MultiArea Migrate

Workflow Inputs

Inception ISIS Area:
49.0000

Target ISIS Area:
49.0001

Mgmt IP of Area Boundary Notes:
The mgmt IP of one of the area boundary nodes connecting both ISIS areas together must be provided. This allows the workflow to verify that the fabric IDs for the node being moved will be unique in both areas, including after reverting those fabric IDs if this option is selected. No config changes will be applied on the area boundary node.

Mgmt IP of 1 Area Boundary node:
20.0.20.76

Fabric ID mask manipulation Notes:
Provide mask to identify bits to modify in the system-id and nick-name. Select the manipulation required. XOR will simply flip the masked bits (replace value field not required). Replace will replace the selected bits with provided replace value.

System-id mask manipulation:
replace

System-id mask:
0000.F000.0000

System-id mask replace value:
2

System-id in new area:
Keep modified ID

Nick-name mask manipulation:
XOR

Nick-name mask:
8.00.00

Nick-name mask replace value:

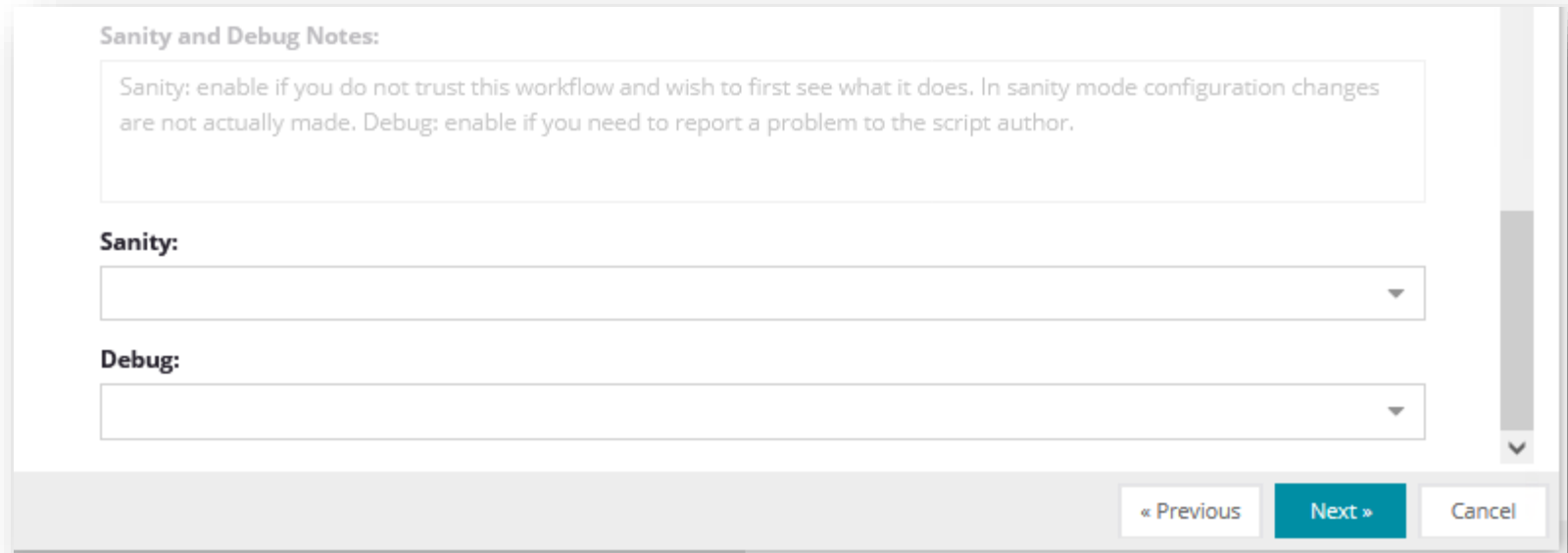
Nick-name in new area:
Revert to original ID after 20min

ISIS Hello Authentication Notes:
If it is desired to set (or change) the ISIS Hello authentication keys during the area migration, set the change pull down to "enable" and provide the new ISIS Hello auth key

Change ISIS Hello Authentication:
enable

ISIS Hello Authentication key:





Sanity and Debug Notes:

Sanity: enable if you do not trust this workflow and wish to first see what it does. In sanity mode configuration changes are not actually made. Debug: enable if you need to report a problem to the script author.

Sanity:

Debug:

« Previous **Next »** Cancel

- **Sanity and Debug inputs**

- Sanity: Enable this initially, when testing the workflow. The workflow will run but will not make any config changes on the switch nor any API writes to XIQ-SE. Allows to understand what the workflows do and how it works, without actually doing the changes.
- Debug: If the workflow is failing, enable this, so get extra debug in the activity logs

Running the workflow



- **Hit Run**

Run Workflow - Fabric MultiArea Migrate

Schedule Task

Task Details

Task Name: Scheduled Task - 12/8/2022 10:37:56 AM

Description:

Enabled: ☐

« Previous Run Save Task Cancel

Wait for workflow completion



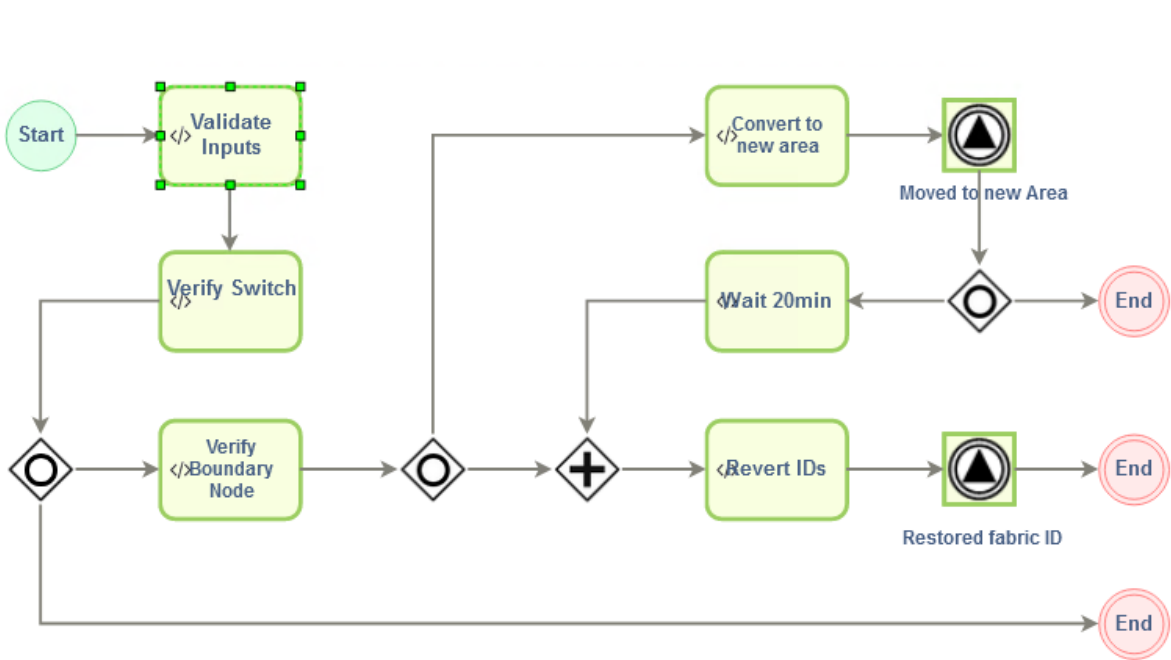
Summary

Status	Start Date/Time	Name	Version	Source	# Devices	Started By	End Date/Time	Message	Path
✓	12/8/2022 9:18:17 ...	Fabric MultiArea Mi...	52	Workflow Designer ...	2	Istevens	12/8/2022 9:18:45 ...	Configured RADIUS and EAPoL on devices 20.0.20.31, 20.0.20.32	/Workflows/Ludovico/Fabric MultiArea Migrate

Graph View Table View



Stop Workflow Show Output Show Variables



Devices Grid

Show Output

Status	Device IP	Output Path	Start Date/Time	End Date/Time	Message
SUCCESS	20.0.20.31		12/8/2022 9:1...	12/8/2022 9:1...	Validated ...
SUCCESS	20.0.20.32		12/8/2022 9:1...	12/8/2022 9:1...	Validated ...

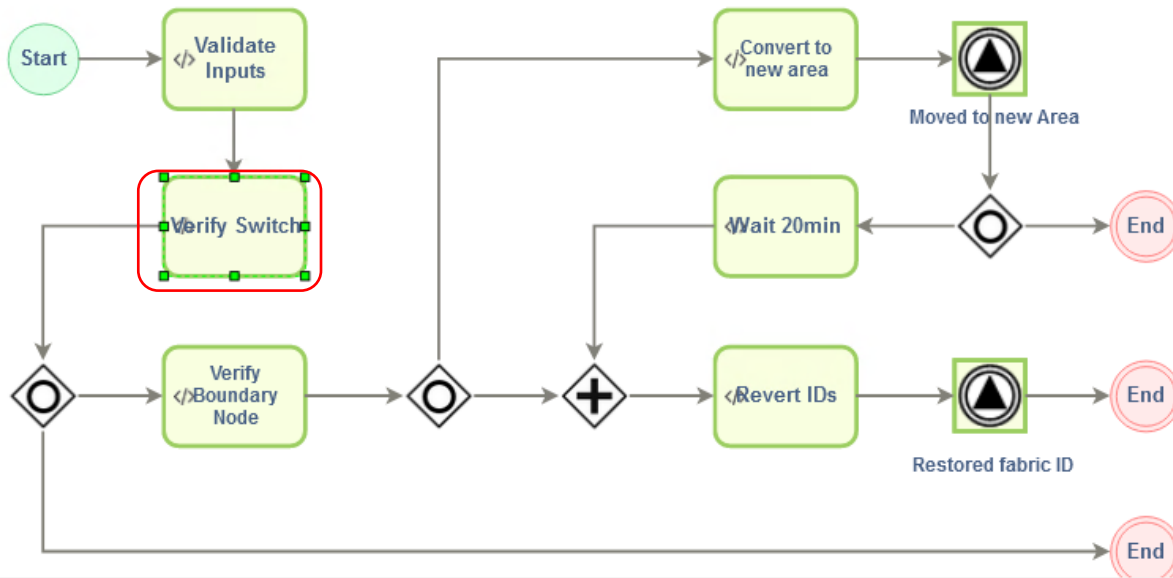
Inspect Workflow execution



Summary

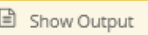
Status	Start Date/Time	Name	Version	Source	# Devices	Started By	End Date/Time	Message	Path
✓	12/8/2022 9:18:17 ...	Fabric MultiArea Mi...	52	Workflow Designer ...	2	Istevens	12/8/2022 9:18:45 ...	Configured RADIUS and EAPoL on devices 20.0.20.31, 20.0.20.32	/Workflows/Ludovico/Fabric MultiArea Migrate

Graph View



Select activity, then “show Output”
Activity which fail, will be in red

Devices Grid



Output - 20.0.20.31

```
=====
=====
                        ISIS Area Address
=====
=====
ADDRESS                ORIGIN    AREA      AREA-NAME
-----
49.0000                 config   HOME
VSP8200-1:1#
Current and modified fabric IDs to use in target area 49.0002 for switch 20.0.20.31:
- Current System-id    = 82bb.0000.3100
- Modified System-id   = 82bb.2000.3100
- Current Nickname     = 0.00.31
- Modified Nickname    = 8.00.31
- Current SMLT Virt BMAC = 82:bb:00:00:31:ff
- Modified SMLT Virt BMAC = 82:bb:20:00:31:ff
- Current SMLT Peer System-id = 82bb.0000.3200
- Modified SMLT Peer System-id = 82bb.2000.3200
SANITY - NBI Mutation:
```

Workflow Events recorded



Alarms Alarm Configuration Events Event Configuration										
<div><div> All</div><div>Type: Console View</div><div> Export to CSV</div></div>										
Severity	Event Type	Category	Date/Time ↓	Source	Subcomponent	Client	User	Type	Event	Information
●	Console	Workflows	12/8/2022 10:11:17 AM	[20.0.20.43]	Workflow: Fabric MultiArea Migrate	---	Istevens	Event	Fabric IDs reverted on device	Reverted fabric IDs to original values for device(s) [20.0.20.43]
●	Console	Workflows	12/8/2022 10:11:12 AM	[20.0.20.43]	Workflow: Fabric MultiArea Migrate	---	Istevens	Event	Device moved to new ISIS area	Device(s) [20.0.20.43] moved from ISIS area 49.0000 to 49.0002

