

Asiera

Advancing Services for Irish Education, Research & Academia

TNC26 status report

TNC2026 – Helsinki – 8th June 2026



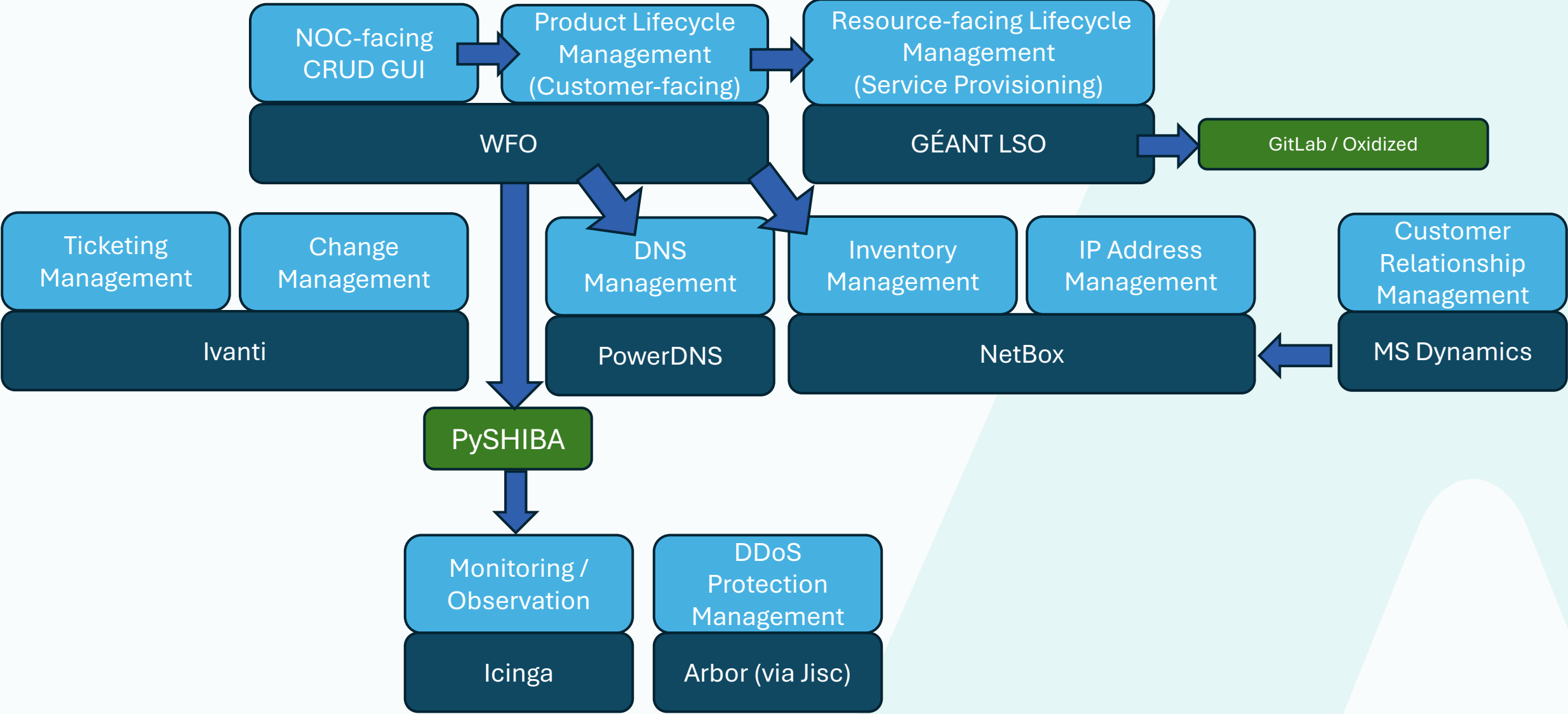
Workflow Orchestrator



Asiera Status Update

- Initial requirement to replace Juniper product – **CSD (Space)**
- Formally started automation project in Q2 2023
- Tier 1 project for 2 years
- 2 Developers ~75% time
- 2 Network Engineers ~20% time
- 12 month lead-in time
- So far...
 - 4,301 WFO Commits
 - 7,798 Device Config Commits
- **Huge** support from the WFO Community – thank you all!

Asiera OSS/BSS 2026



Versions (as of the end of May 2026)

- **WFO**
 - UI 7.2.0
 - Orchestrator Core 4.4.2
 - Scheduler
 - Redis
 - Celery
- **NetBox**
 - 4.5.8
 - Extra workers
- **LSO**
 - 2.3.0

Asiera WFO



Total active subscriptions

2662

Most recent subscriptions

port 1G edge2-uofg-shannon1 et-0/0/0
25/05/2026, 2:26:57 pm

core port 1G edge2-uofg-shannon1 et-0/0/18
25/05/2026, 2:25:01 pm

core port 1G edge2-uofg-shannon1 et-0/0/15
25/05/2026, 2:23:17 pm

port 1G edge1-ul-spt et-0/0/0
25/05/2026, 1:13:10 pm

core port 1G edge1-ul-spt et-0/0/18
25/05/2026, 1:11:15 pm

Show all active subscriptions



Total number of products

26

Total number of product instances

port 1G	535
core link	379
core port 1G	312
core port 10G	311
node Juniper	290
port 10G	144
IPT static	143
core port 100G	79

WFO Products and Product Types

- Commodity IP
- Core Link x 7 types
- IP Transit x 3 types
- LIR x 2 types
- L2VPN x 4 types
- L3VPN
- LAG Port
- Port
- Node
- 21 Product Blocks
- 87 Resource Types
- 57 Workflows
- 24 Tasks
- Modify
- Create
- Terminate
- Validations

Virtual Circuits

[+ Add](#) [↑ Import](#) [↓ Export](#)

Results **1028**

[Filters](#)

Quick search



[⚙️ Configure Table](#)

<input type="checkbox"/>	CIRCUIT ID	PROVIDER	ACCOUNT	PROVIDER NETWORK	TYPE	STATUS	TENANT	TERMINATIONS	DESCRIPTION	BILLABLE	TAGS	CREATED ~	<input type="checkbox"/>
<input type="checkbox"/>	tus-thurles.tus-limerick1.2ca99a73	HEAnet	—	Client or Internal Layer 2 Services	L2VPN Port-to-Port	Active	Technological University of the Shannon: Midlands Mid-West	2	edge1-tus-thurles1 et-0/0/2.0 <-> dist1-lit1 et-0/0/8.0	✓	—	2026-06-03 12:44:37	
<input type="checkbox"/>	tus-thurles.ipt.e9f39c7e	HEAnet	—	Client IP Transit Services	IP Transit VRRP	Active	Technological University of the Shannon: Midlands Mid-West	2	tus-thurles.ipt.e9f39c7e :: IPTVRRP 1000 Mbit/s :: edge1-tus-thurles1 et-0/0/0.12-edge2-tus-thurles1 et-0/0/0.12	✓	—	2026-06-02 14:52:43	
<input type="checkbox"/>	GN-INTERAGENCY.I3vpn.7a8d8c1e	HEAnet	—	L3 VPN Services	L3VPN	Active	GOVERNMENT NETWORKS	3	—	—	—	2026-06-02 08:47:55	
<input type="checkbox"/>	GN-MANAGEDACCESS.I3vpn.f1d80690	HEAnet	—	L3 VPN Services	L3VPN	Active	GOVERNMENT NETWORKS	4	—	—	—	2026-06-02 08:47:47	
<input type="checkbox"/>	GN-MULTIMEDIA.I3vpn.7d5308c8	HEAnet	—	L3 VPN Services	L3VPN	Active	GOVERNMENT NETWORKS	4	—	—	—	2026-06-02 08:47:34	
<input type="checkbox"/>	GN-SERVICES.I3vpn.e5bf9223	HEAnet	—	L3 VPN Services	L3VPN	Active	GOVERNMENT NETWORKS	4	—	—	—	2026-06-02 08:47:00	
<input type="checkbox"/>	tus-thurles.tus-thurles.c77077eb	HEAnet	—	Core Links	Core Link	Active	HEAnet	2	edge1-tus-thurles1 ge-0/0/3.0 <-> edge2-tus-thurles1 et-0/0/15.0	—	—	2026-05-29 11:00:38	
<input type="checkbox"/>	cwt.tus-thurles.0ae9cdb0	HEAnet	—	Core Links	Core Link	Active	HEAnet	2	edge3-cwt xe-0/0/41.0 <-> edge2-tus-thurles1 et-0/0/18.0	—	—	2026-05-29 10:40:59	
<input type="checkbox"/>	revenue1.ipt.28392656	HEAnet	—	Client IP Transit Services	IP Transit VRRP	Active	Met Éireann	2	revenue1.ipt.28392656 :: IPTVRRP 0 Mbit/s :: edge2-revenue ae1.1207-edge3-revenue1 ae1.1207	—	—	2026-05-27 09:58:31	
<input type="checkbox"/>	revenue1.ipt.db98c99f	HEAnet	—	Client IP Transit Services	IP Transit VRRP	Active	Met Éireann	2	revenue1.ipt.db98c99f :: IPTVRRP 0 Mbit/s :: edge2-revenue ae1.1205-edge3-revenue1 ae1.1205	—	—	2026-05-27 09:46:49	
<input type="checkbox"/>	revenue1.ipt.79df63bf	HEAnet	—	Client IP Transit Services	IP Transit VRRP	Decommissioned	Met Éireann	0	revenue1.ipt.79df63bf :: IPTVRRP 0 Mbit/s :: edge2-revenue ae1.1205-edge3-revenue1 ae1.1205	—	—	2026-05-27 09:42:20	
<input type="checkbox"/>	uofg-shannon.uofg1.7408300a	HEAnet	—	Client or Internal Layer 2 Services	L2VPN Port-to-Port	Active	University of Galway	2	edge1-uofg-shannon1 et-0/0/0.0 <-> edge1-gal1 xe-0/0/15.0	—	—	2026-05-25 11:29:40	
<input type="checkbox"/>	revenue1.ipt.39f95ee7	HEAnet	—	Client IP Transit Services	IP Transit Static	Active	Irish Prison Service	1	revenue1.ipt.39f95ee7 :: IPTStatic 1000 Mbit/s :: edge2-revenue et-0/0/9.0	—	—	2026-05-19 15:39:44	
<input type="checkbox"/>	setu-stkierans.wat-car1.ade1feba	HEAnet	—	Client or Internal Layer 2 Services	L2VPN Port-to-Port	Active	—	2	—	—	—	2026-05-18 15:49:14	
<input type="checkbox"/>	ucc-bio1.ucc-victoriamills1.c0ccf96d	HEAnet	—	Client or Internal Layer 2 Services	L2VPN Port-to-Port	Active	University College Cork	2	edge1-ucc-bio1 ge-0/0/0.0 <-> edge1-ucc-victoriamills1 ge-0/1/0.0	—	—	2026-05-14 10:46:34	
<input type="checkbox"/>	pw.pw.c9f7752e	HEAnet	—	Core Links	Core Link	Active	HEAnet	2	edge3-pw ae2.0 <-> edge4-pw ae2.0	—	—	2026-05-13 20:28:28	
<input type="checkbox"/>	pw.pw.4d1fb351	HEAnet	—	Core Links	Core Link	Active	HEAnet	2	core1-pw ae1.0 <-> edge3-pw ae1.0	—	—	2026-05-13 19:33:55	
<input type="checkbox"/>	tus-athlone2.pw.4cb503ae	HEAnet	—	Client or Internal Layer 2	L2VPN Port-to-Port	Active	Schools	2	tus-athlone2.pw.4cb503ae :: L2VPNPP 1000 Mbit/s	—	—	2026-05-13	

Virtual Circuits

Results 1028

Filters

Quick search

▼

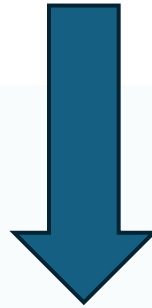
<input type="checkbox"/> CIRCUIT ID	<input checked="" type="checkbox"/> PROVIDER	ACCOUNT	PROVIDER NETWORK	TYPE	STATUS	TENANT	TERMINATIONS
<input type="checkbox"/> dun1.ipt.b392c3de	HEAnet	—	Client IP Transit Services	IP Transit Commodity	Active	Dundalk Institute of Technology	2
<input type="checkbox"/> dun1.ipt.df2fd4d0	HEAnet	—	Client IP Transit Services	IP Transit Static	Active	HEAnet	1
<input type="checkbox"/> dun1.ipt.ee5c0b78	HEAnet	—	Client IP Transit Services	IP Transit VRRP	Decommissioned	Dundalk Institute of Technology	0
<input type="checkbox"/> dun1.pw.1df0ab46	HEAnet	—	Client or Internal Layer 2 Services	L2VPN Port-to-Port	Active	Schools	2
<input type="checkbox"/> dun1.pw.526cc215	HEAnet	—	Client or Internal Layer 2 Services	L2VPN Port-to-Port	Active	Schools	2
<input type="checkbox"/> dun1.pw.e827a117	HEAnet	—	Client or Internal Layer 2 Services	L2VPN Port-to-Port	Active	Schools	2
<input type="checkbox"/> dun1.pw.f9616b27	HEAnet	—	Client or Internal Layer 2 Services	L2VPN Port-to-Port	Active	Schools	2
<input type="checkbox"/> dun2.ipt.68d75b88	HEAnet	—	Client IP Transit Services	IP Transit Static	Decommissioned	HEAnet	0
<input type="checkbox"/> dun2.ipt.fa3563cd	HEAnet	—	Client IP Transit Services	IP Transit Static	Active	HEAnet	1

CPE Replacement Project – 180+ routers

ACX2200



10 x 1G
2 x 10G



ACX7020



16 x SFP+ 1/10G
4 x SFP28 1/10/25G

CPER – prep work

1. Asiera Check Subscriptions are in Sync

2. Asiera Configuration Generation

(Modify Workflow)

- Configuration Shared with Partner
- New CPE appliance pre-configured by Partner

3. Partner goes to site with new appliance

Asiera Configuration Generation – a closer look

Workflow Orchestrator **Asiera Provisioning Tool** Engine is RUNNING 121

Generate config (CPER) ⚡

node Juniper

Retry Abort

Status	Current step	Customer	Started by	Started on	Last update	Related subscriptions
COMPLETED	Done	Default::Orchestrator-Core Customer	SYSTEM	04/06/2026, 14:31:19	04/06/2026, 14:33:46	node edge1-tcd-stackb (active)

Workflow steps [Expand all](#) [Show subscription delta </>](#) [Options](#)

- Start**
success - 04/06/2026, 14:31:19
Duration: 00:00:00
- Create Process Subscription relation**
success - 04/06/2026, 14:31:19
Duration: 00:00:00
- Lock subscription**
success - 04/06/2026, 14:31:21
Duration: 00:00:01
- Find all associated active ports and core ports, and any active subscriptions on those ports**
success - 04/06/2026, 14:31:24
Duration: 00:00:03
- Classify ports**
success - 04/06/2026, 14:31:24
Duration: 00:00:00

```
1 {
2   "output": "Classification results: 1 CORE, 0 IPT, 2 L2VPN, 0 L3VPN",
3   "l2_ports": [
4     "ge-0/1/0",
5     "ge-0/1/1"
6   ],
7   "l3_ports": [],
8   "ipt_ports": [],
9   "core_ports": [
10    "ge-0/2/1"
11  ]
12 }
```
- Check number of core ports**
success - 04/06/2026, 14:31:24
Duration: 00:00:00

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Asiera Configuration Generation - continued



Workflow Orchestrator

Asiera Provisioning Tool

Engine is RUNNING 121



+ New subscription

Start

Subscriptions

Workflows

Tasks

Metadata

Settings

Maps

Better Search



Assign core ports

success - 04/06/2026, 14:31:26



Duration

00:00:02

log

The reserved ports for core links are:

- et-0/0/18 (PORT_PRIMARY)
- et-0/0/12 (PORT_SECONDARY)
- et-0/0/15 (PORT_ADJACENT)
- et-0/0/17 (PORT_OFFCORE_PRIMARY)
- et-0/0/16 (PORT_OFFCORE_SECONDARY)
- et-0/0/13 (PORT_MISC)

- 1 if this is the only core link → et-0/0/18 (PORT_PRIMARY)
(i.e. definitely connection toward core network)
- 2 if this core link B end is a device on the same site → et-0/0/15 (PORT_ADJACENT)
- 3 if this core link B end device is in ['ACX5448-M', 'ACX7024-AC'] → et-0/0/18 (PORT_PRIMARY)
(i.e. definitely connection toward core network)
- 3.1 if et-0/0/18 is already used, use et-0/0/12 (PORT_SECONDARY)
- 4 if this core link B end device is NOT in ['ACX5448-M', 'ACX7024-AC'], but another core link is → et-0/0/17 (PORT_OFFCORE_PRIMARY)
- 4.1 if et-0/0/17 in use, use et-0/0/16 (PORT_OFFCORE_SECONDARY)
5. if all available ports for a function are full, use et-0/0/13

Found neighbour name edge2-tcd in [NN] edge2-tcd xe-0/0/31 ENDF05723Found neighbour type ACX5448-Mis_core_facing? TrueFound neighbour site TCD PoP2is_same_site? False
Adding this entry to core ports to be re-assigned: {'port_name': 'ge-0/2/1', 'desc': '[NN] edge2-tcd xe-0/0/31 ENDF05723', 'neighbour_type': 'ACX5448-M', 'is_same_site': False, 'is_core_facing': True}

Assigned single CORE link ge-0/2/1 → et-0/0/18 (Rule 1)

core_port_mapping

{"ge-0/2/1": "et-0/0/18"}



Assign service ports

success - 04/06/2026, 14:31:26

Duration

00:00:00



Generate config for node

awaiting_callback - 04/06/2026, 14:31:42

Duration

00:00:15



Generate config for node

success - 04/06/2026, 14:33:39

Duration

00:00:00



Return node base config

success - 04/06/2026, 14:33:39

Duration

00:00:00



Return node base config and local-export config

success - 04/06/2026, 14:33:40

Duration

00:00:00



Return node base config and local-export config and model specific config

Duration

4. Asiera Day of Migration – Migration Script

- Partner has a micro-plan – with a port mapping table!
- New device-specific interfaces created in NetBox
- Device type updated from ACX2200 to ACX7020
- New port subscriptions
- Service subscription migration in both NetBox and WFO
- Move Subscriptions from old ports to new ports
- Migrate monitoring
- Terminate old subscription and NetBox entry
- Refresh SNMP indexes

```
orchestrator@545aaae7092:~/etc/wfo-scripts$ python cper-migration.py
```

```
Enter device name:      edge1-ucc-beaufort      ← User Input
Enter new asset tag:    36657
```

```
Checking NetBox for device type 'ACX7020-AC'...
```

```
Found device type: ACX7020-AC
```

```
--- Device Information ---
```

```
Name:      edge1-ucc-beaufort
New asset Tag: 36657
New type:   ACX7020-AC
```

```
Use these details? (y/n):  y      ← User Input
```

User Input (optional)

```
Do you wish to continue in dry run mode? Enter 'REAL' to perform real migration, anything else to continue in dry mode:
```

```
Device information complete! Attempting to find WFO subscription to update...
```

```
Found matching subscription with ID 2382573b-4f33-4c6f-80e7-63497efb2be5
```

```
Modifying edge1-ucc-beaufort with new asset tag and device type in WFO/NetBox
```

```
[DRY-RUN] Would POST to https://OUR_WFO/api/processes/modify_node with payload:
```

```
{'subscription_id': '2382573b-4f33-4c6f-80e7-63497efb2be5'}, {'asset_tag': '36657', 'type_id': '30', 'node_status': ...
{'id': 'dry-run-id', 'last_status': 'completed'}
```

```
Device updated in WFO and NetBox!
```

```
*****
```

Check for objects in non-valid state...
Finding ports and services on this device...

Found active core / LAG port on device: **ge-0/2/1**
Found active CoreLink subscription on device: **edge1-ucc-beaufort**
Found active port/LAG on device: **ge-0/1/0**

Found active L2VPNPP subscription on device: **cork1.ucc-beaufort.2257834d :: L2VPNPP 1000 Mbit/s**

All ports and services are valid!

Attempting to create ACX7020-AC interfaces on **edge1-ucc-beaufort** in NetBox...

*[DRY-RUN] Would create port **et-0/0/0***
*[DRY-RUN] Would create port **et-0/0/1***
*[DRY-RUN] Would create port **et-0/0/2***
...
*[DRY-RUN] Would create port **et-0/0/19***

Interfaces created in NetBox!

All ports and services scanned.

Classifying ports per service type...

Classifying port: **ge-0/2/1** with **1** services - classified as **CORE** port
Classifying port: **ge-0/1/0** with **1** services - classified as **L2VPN** port

Classification results: 1 CORE, 0 IPT, 1 L2VPN, 0 L3VPN

Discovered 1 core ports to migrate

Found neighbour name `edge1-cork2` in `[NN]` `edge1-cork2 xe-0/0/41 (1550nm)`

Checking neighbour_type `ACX5448-M` in `['ACX5448-M', 'ACX7024-AC']`

`is_core_facing?` `True`

Comparing current SG `UCC Beaufort Research Lab` with neighbour SG `University College Cork Campus`

`is_same_site?` `False`

Assigned single **CORE** link `ge-0/2/1 → et-0/0/18` **(Rule 1)**

Discovered 1 client ports to migrate

Assigned **L2VPN** port `ge-0/1/0 → et-0/0/0`

All service ports re-mapped

Mapping of ports complete!

- all services on `ge-0/2/1` will be moved to `et-0/0/18`

- all services on `ge-0/1/0` will be moved to `et-0/0/0`

Is this mapping correct, and does it match the generated config? (y/n): `y` ← User Input

[DRY-RUN] would create **new port** subscription for **et-0/0/18**

[DRY-RUN] find sub for **new port**

[DRY-RUN] setting UUID for **new port** to **12345678**

Port subscription created

Migrating services from **ge-0/2/1** to **et-0/0/18**.

Modifying **CORE** service **cork2.ucc-beaufort.f1b186e8 edge1-cork2 xe-0/0/41 <-> ge-0/2/1 edge1-ucc-beaufort** to use new port...

Sending new data to WFO to https://OUR_WFO/api/processes/modify_core_link: ...

Terminate old port

Terminating **ge-0/2/1** on **edge1-ucc-beaufort** in WFO

...

Port subscription created

Migrating services from **ge-0/1/0** to **et-0/0/0**.

Modifying **L2VPN** service **cork1.ucc-beaufort.2257834d :: L2VPNPP 1000 Mbit/s** to use new port...

Sending new data to WFO to https://OUR_WFO/api/processes/modify_l2vpn_pp: ...

Terminate old port

Terminating **ge-0/1/0** on **edge1-ucc-beaufort** in WFO

...

Port terminated

Delete old interfaces from NetBox

Deleting old interface `ge-0/0/0`

Deleting old interface `ge-0/0/1`

...

Deleting old interface `xe-0/3/1`

ALL old interfaces deleted

Renaming local management interface

[DRY-RUN] Would update NetBox interface: `re0:mgmt-0`

Renamed local management interface

Refreshing SNMP i/f indexes

Refreshing SNMP indexes for all ports on `edge1-ucc-beaufort` in WFO

[DRY-RUN] Would POST to https://OUR_WFO/api/processes/update_snmp_if_indexes with payload: ...

[DRY-RUN] Skipping workflow polling – assuming completed

SNMP `ifIndexes` refreshed

Icinga and Cacti monitoring regenerated

Migration completed successfully

CPER – the end result

1. Asiera Check Subscription in Sync
2. Asiera Configuration Generation : Modify Workflow
3. Partner goes to site with new appliance
4. Asiera Day of Migration – Run The Migration Script
5. Migration Complete

3 migrations per day vs. 2 migrations per week!

As of the end of May 2026 – 87 migrations completed!

Future Plans

- Make this Python script an actual task/workflow in the Orchestrator
(time constraints are only reason this has not been done already)
- Integrate into Zabbix
- RMA workflow
- Kubernetes integration

Asiera

Advancing Services for Irish Education, Research & Academia

Thank you!

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