

C7 xDSL Data Services

C7 Release 7.2

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#291-00051, Rev 10



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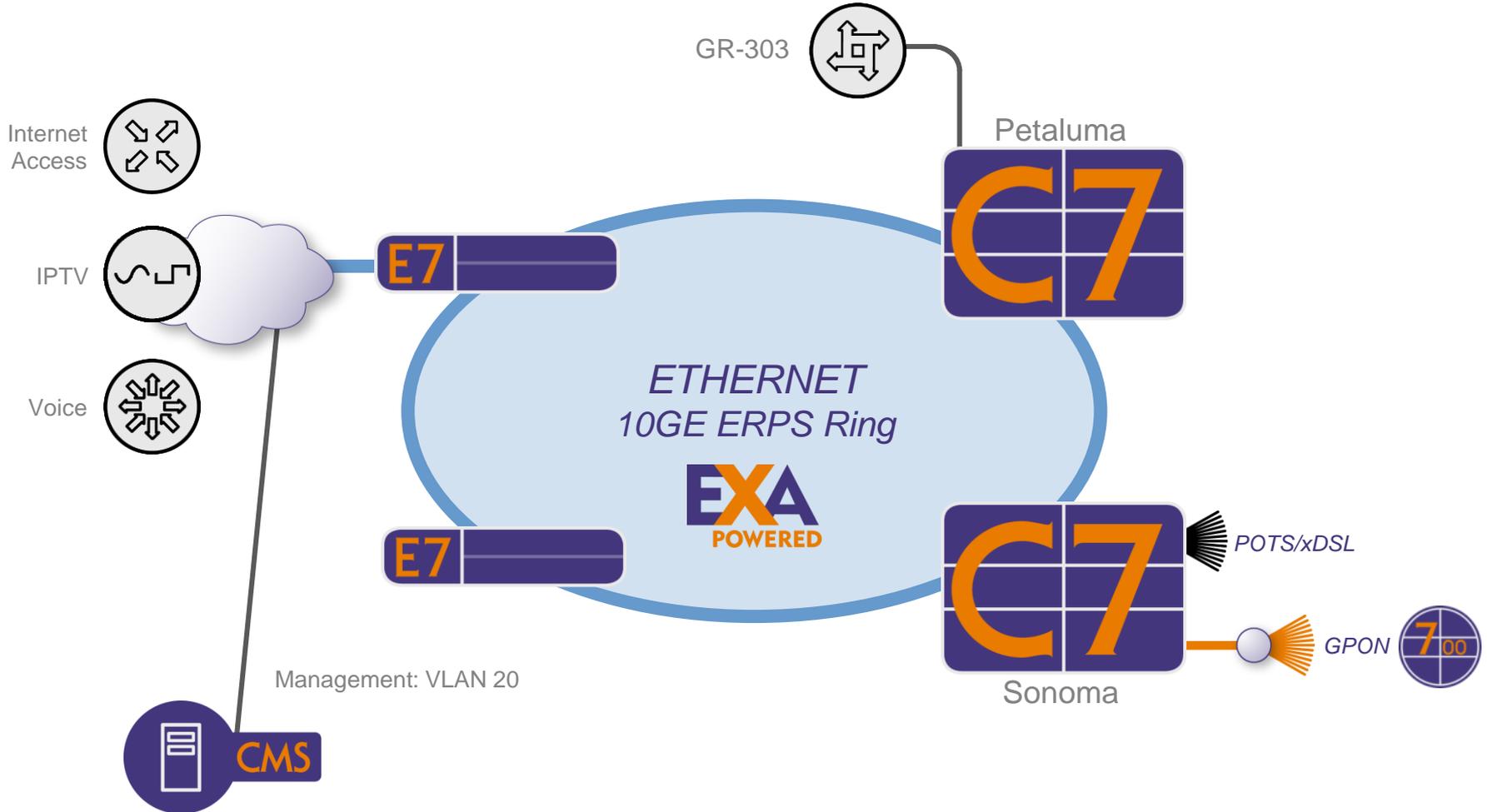
C7 EXA Data Services

Course Overview

- ▶ C7 EXA Overview
- ▶ C7 Ethernet Links
- ▶ Configuring EXA VDSL Service
 - Configuring xDSL Profiles and Templates
 - Configuring xDSL Subscribers
- ▶ Configuring EXA GPON Service
 - Configuring Bandwidth Profiles and Templates
 - Configuring GPON Subscribers

Overview

Network Example



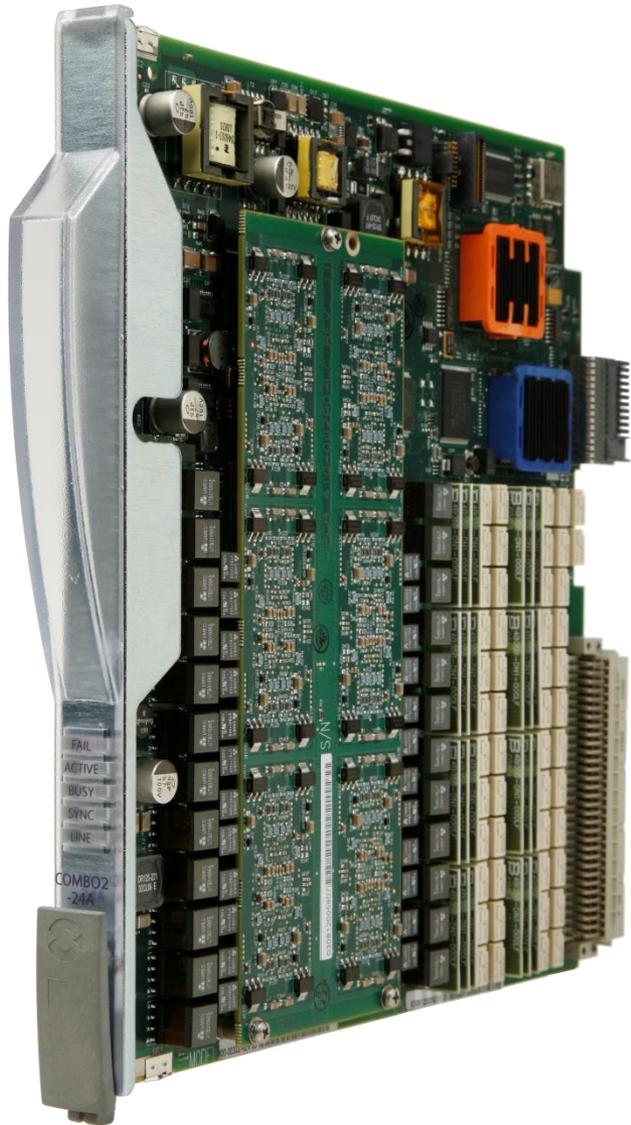
Deploying EXA Services

Calix EXA Line Cards

- ▶ xDSL service cards
 - COMBO2-24V
 - VDSL2-24
- ▶ GPON
 - OLTG4-e



COMBO2-24V Card and VDSL2-24 Card



- ▶ VDSL2 with ADSL2+ fallback
- ▶ ADSL2+ bonding
- ▶ Non-contiguous bonding
- ▶ 24 ports, single slot
- ▶ Supports EXA and multiprotocol architecture

OLTG-4E Line Card

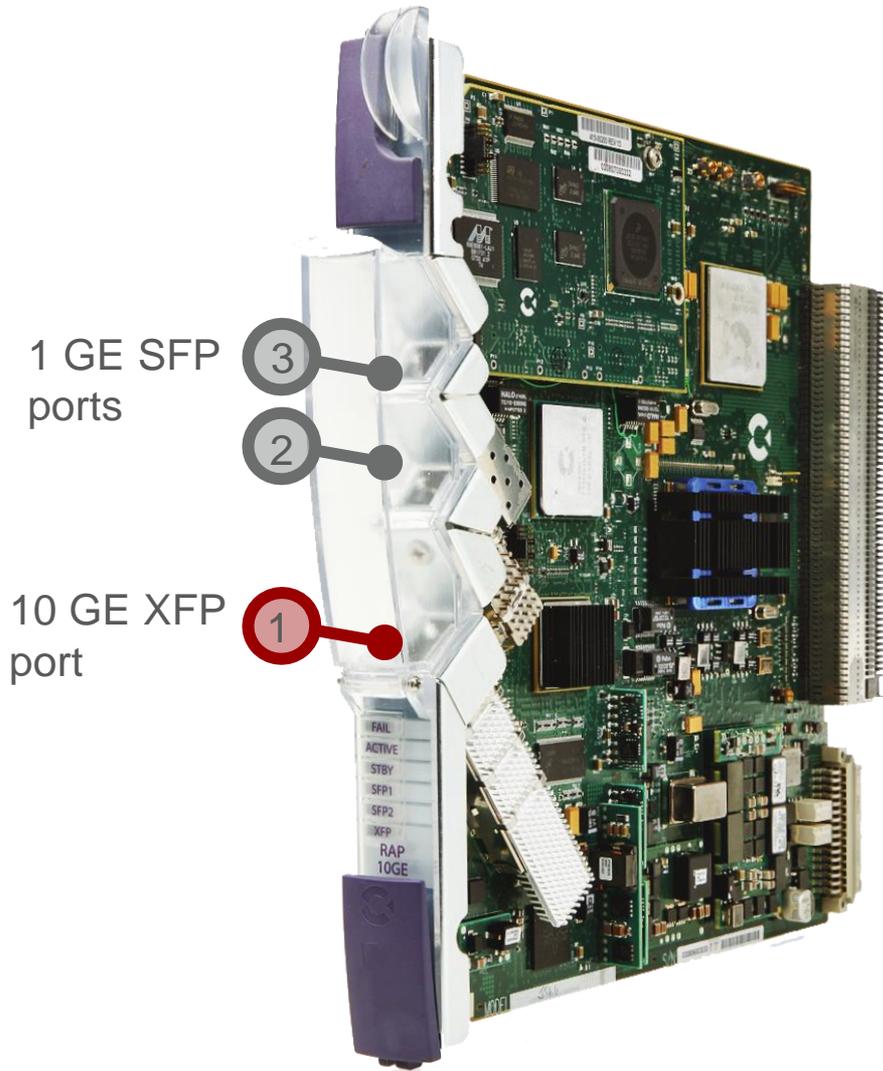


Optical Line Terminal GPON-4 ports

- ▶ Four optical ports (PONs) per card.
- ▶ Each port supports up to 64 ONTs.
 - 256 ONTs per card
- ▶ Supports 2.4 Gbps downstream, 1.2 Gbps upstream per port.
- ▶ Supports EXA and multiprotocol architecture

C7 Ethernet Overview

RAP-10GE Card

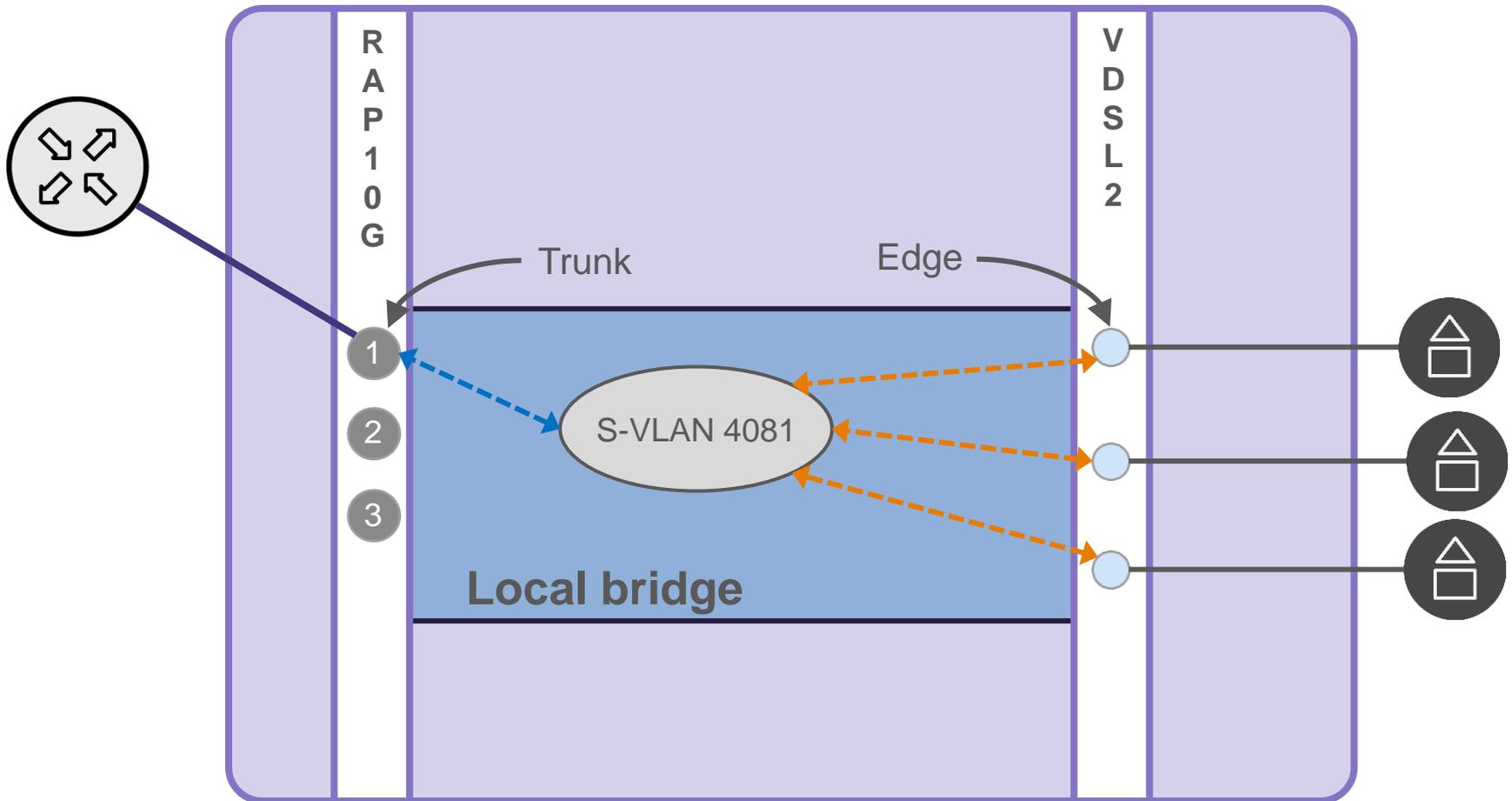


- ▶ Enables EXA architecture
- ▶ Supports traditional multiprotocol services
- ▶ Ethernet link protection:
 - ERPS
 - RSTP
 - Link aggregation
- ▶ All functions of RAP2/RAP3

EXA
POWERED

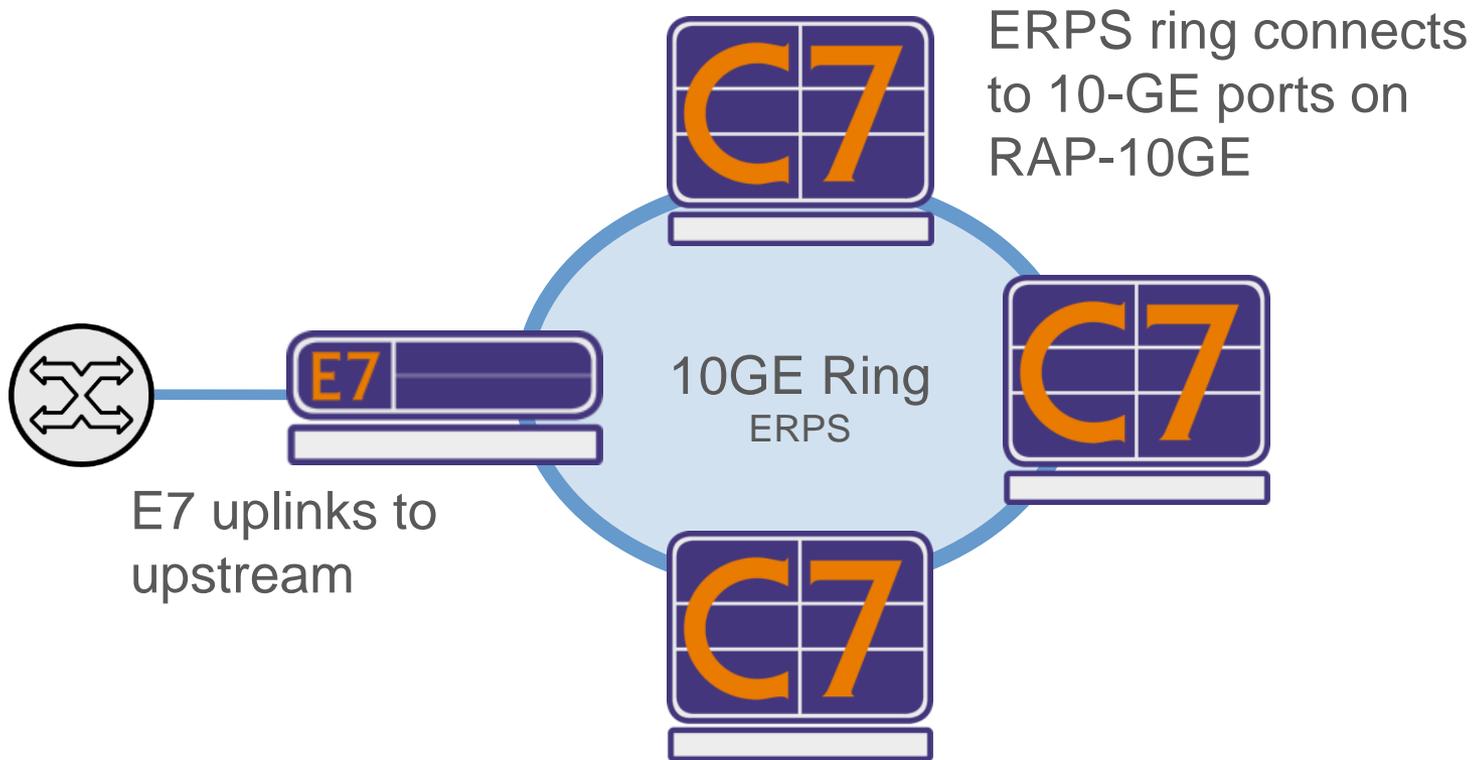
Local Bridging

- Requires RAP-10GE and EXA line cards

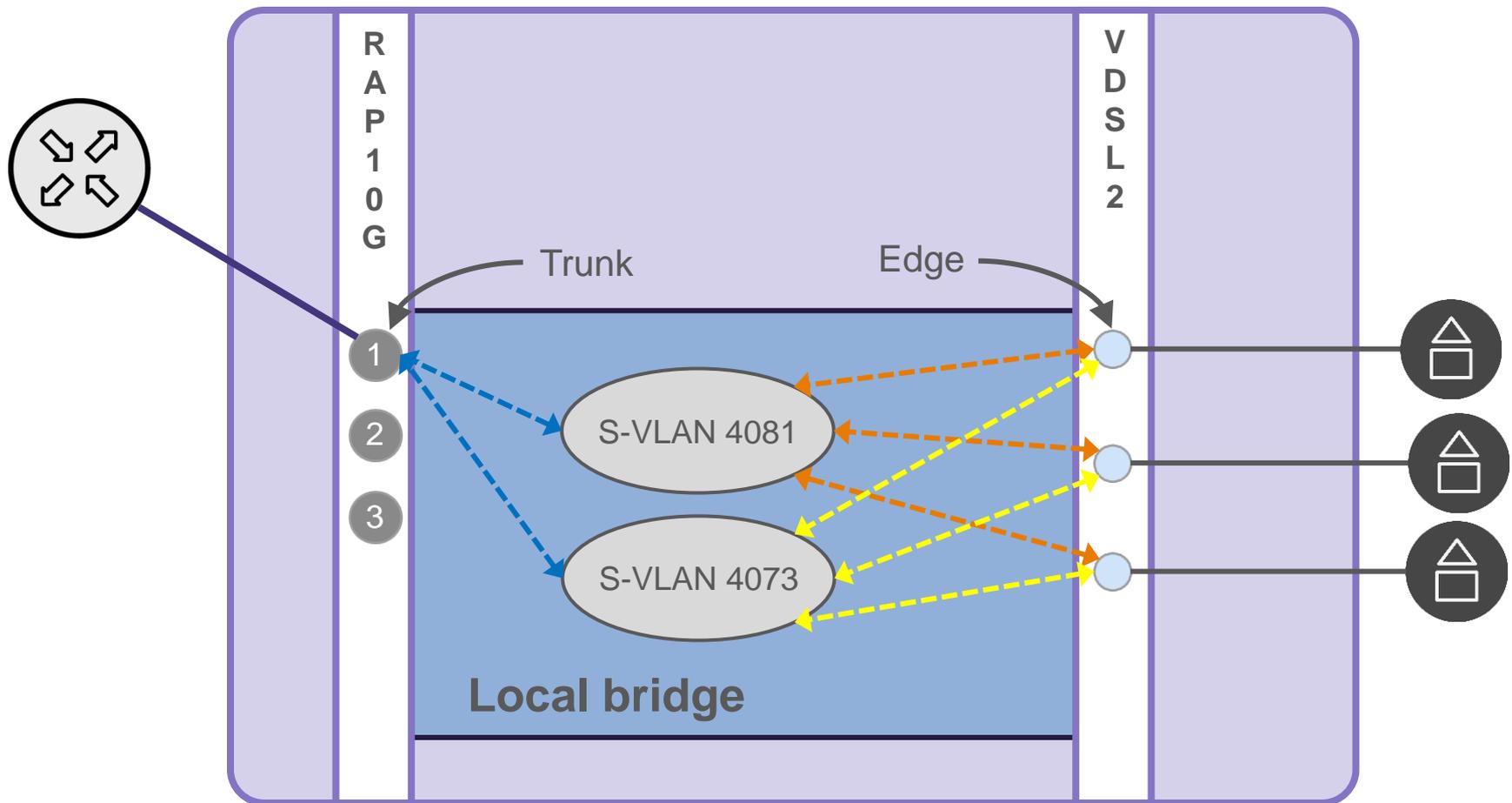


EXA Ethernet Links

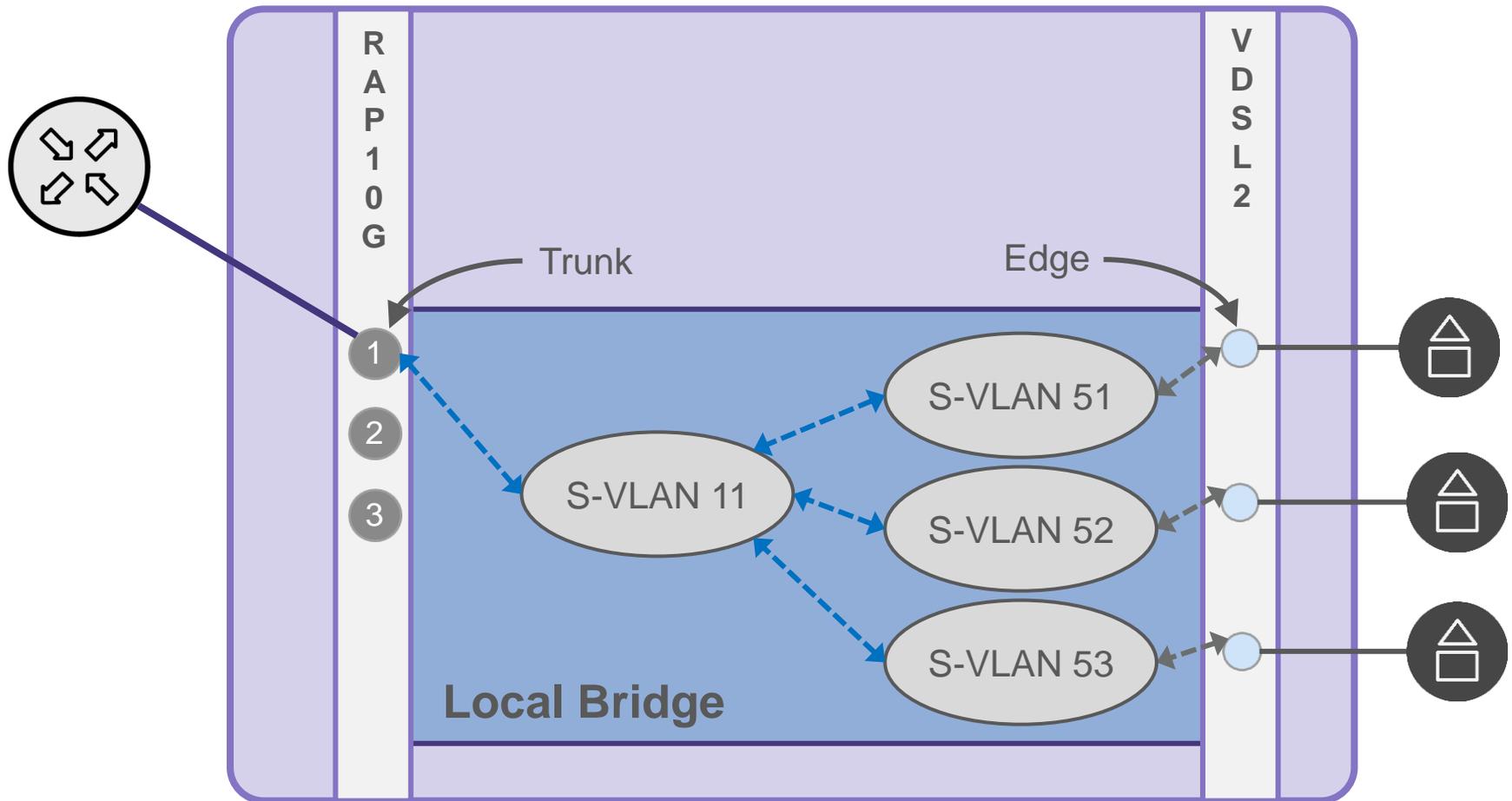
EXA Uplink and Downlink Basics



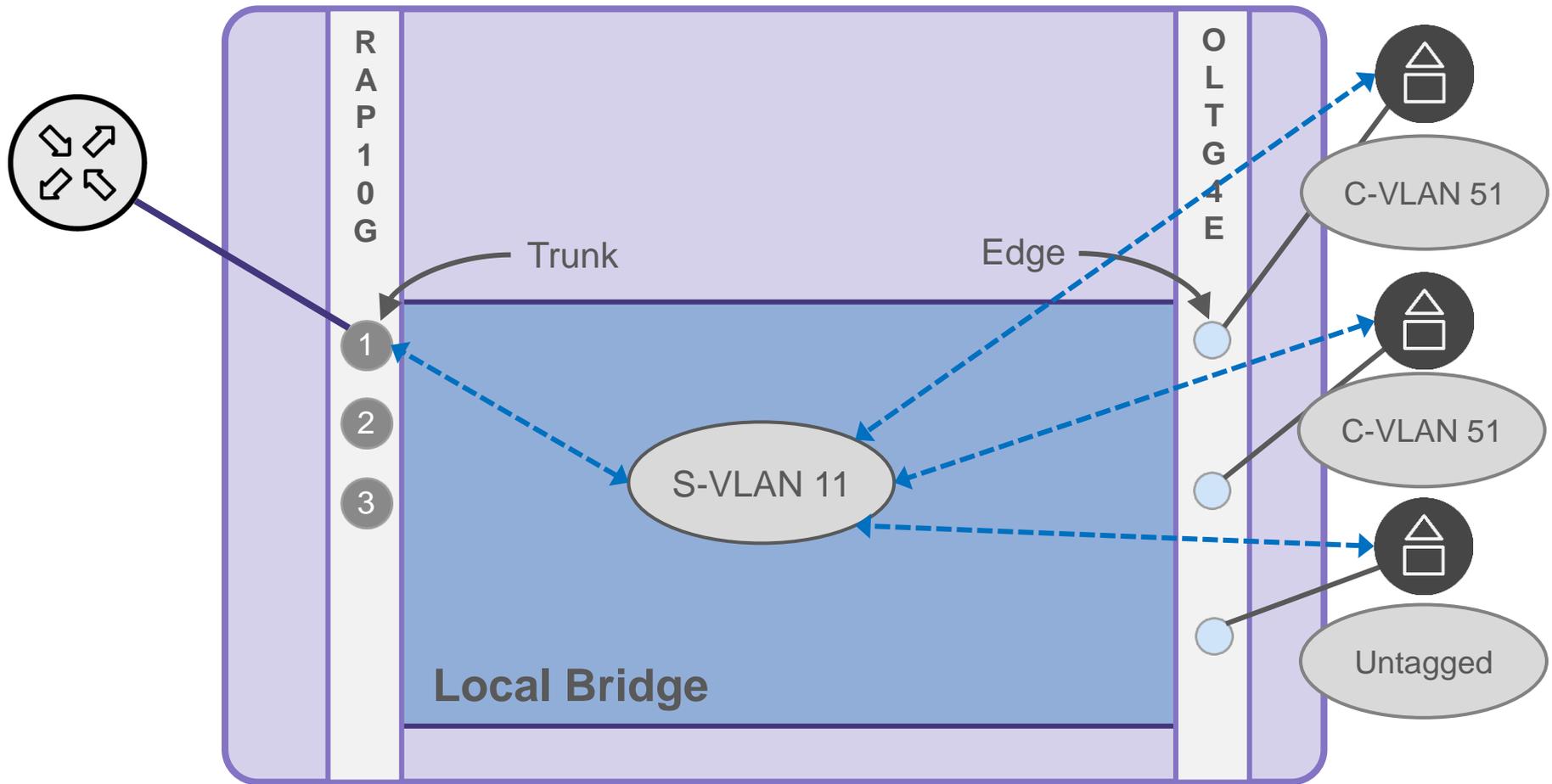
Service Models – VLAN per Service



Service Models – VLAN Per Port

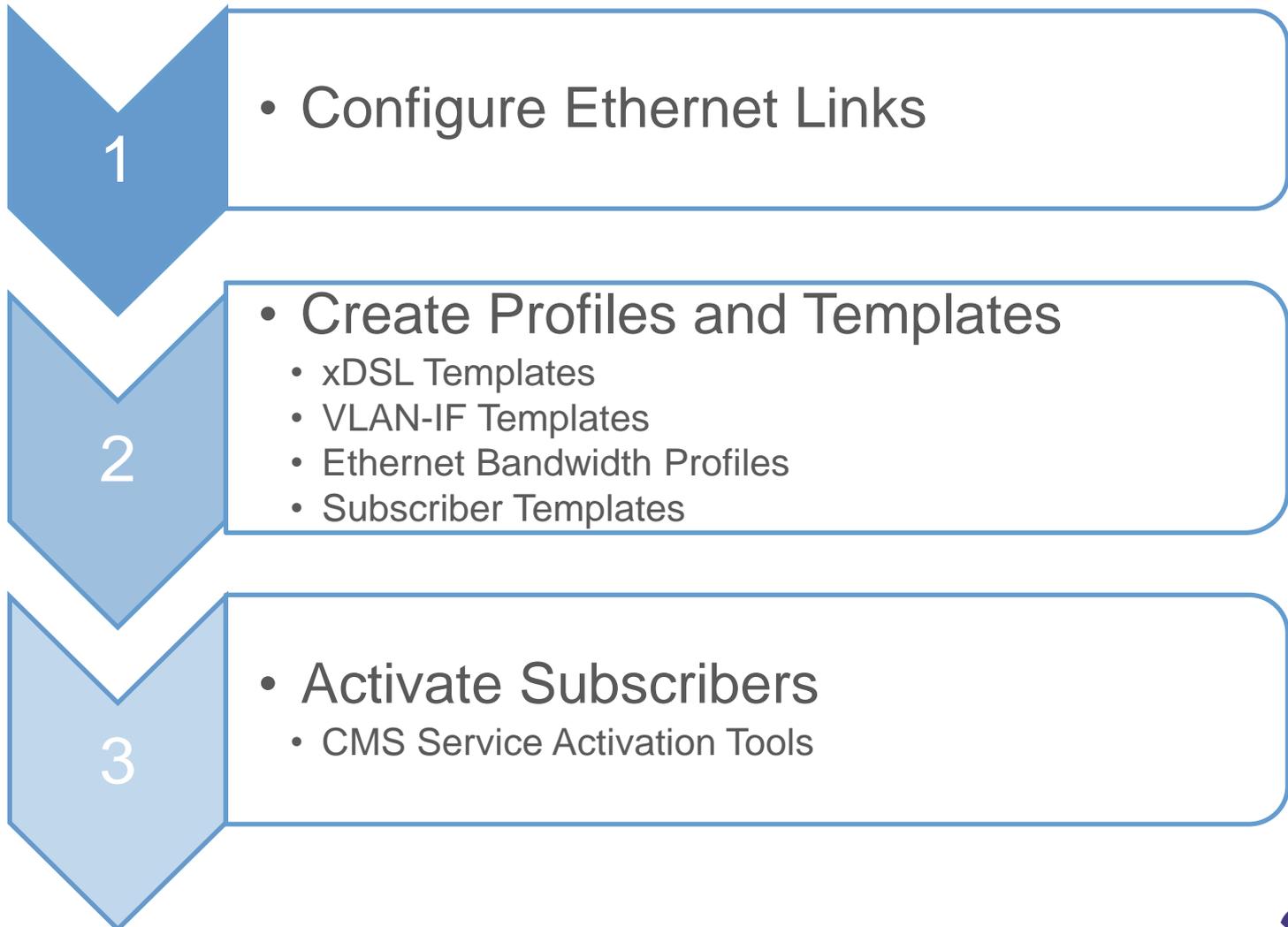


Service Models – Transparent LAN Service



Configuration

Configuration Process



Ethernet Uplink

Uplink Configuration Process

1

- Create an S-VLAN

2

- Create a trunk VLAN-IF to ERPS

Create an S-VLAN

The screenshot shows the 'S-VLAN' configuration window. On the left, there are fields for 'Shelf' (N1-1 (WZVLMOXAH00)), 'VB' (N1-1-VB1), 'Address' (a list of VLAN IDs with 'N1-1-VB1-VLAN4081' selected), 'Description' (Data), 'Application Mode' (VLAN Per Port), 'DHCP L2 Relay ...', 'Option 82 Format', and 'Number Priority'. On the right, a table titled 'S-VLAN object(s) to be created' has columns for ID, DESC, APPMODE, L2RLYM..., OPTION..., and NUMPRIO. Three callout boxes with arrows point to the configuration fields: 'Select a VLAN ID' points to the Address list, 'Enter a description' points to the Description field, and 'Choose the Application Mode:' points to the Application Mode dropdown. Below the configuration fields is an 'ADD >>' button, and below the table is a '<< REMOVE' button. At the bottom right are 'CREATE' and 'CANCEL' buttons.

ID	DESC	APPMODE	L2RLYM...	OPTION...	NUMPRIO
----	------	---------	-----------	-----------	---------

Annotations:

- Select a VLAN ID
- Enter a description
- Choose the Application Mode:
 - VLAN Per Port
 - VLAN Per Service
 - TLS

Create a Trunk VLAN Interface

CREATE > VLAN-IF > VLAN INTERFACE

The screenshot shows the 'VLAN Interface' configuration window. On the left, the 'VLAN Interface' section contains the following fields:

- Bridge/Uplink Shelf: N1-1 (DEVELOPME...)
- VLAN: 4080
- Bridge: Bridge ATM Uplink
- Equipment/Group: N1-1-CSB (RAP-10GE)
- Interfaces: A list containing N1-1-CSB-1 (DEVEL), N1-1-CSB-2 (DEVEL), and N1-1-CSB-3 (DEVEL). N1-1-CSB-2 is highlighted.
- Port Type: Trunk
- Local SVLAN ID: (empty)
- Template: (empty)
- Override Template Parameters

On the right, the 'VLAN Interface object(s) to be created' table is displayed:

ID	BRIDGE/UPLINK	VLAN	TEMPLATE	PORTTYPE
N1-1-CSA-1	LOCAL	4080	?	Trunk
N1-1-CSB-1	LOCAL	4080	?	Trunk

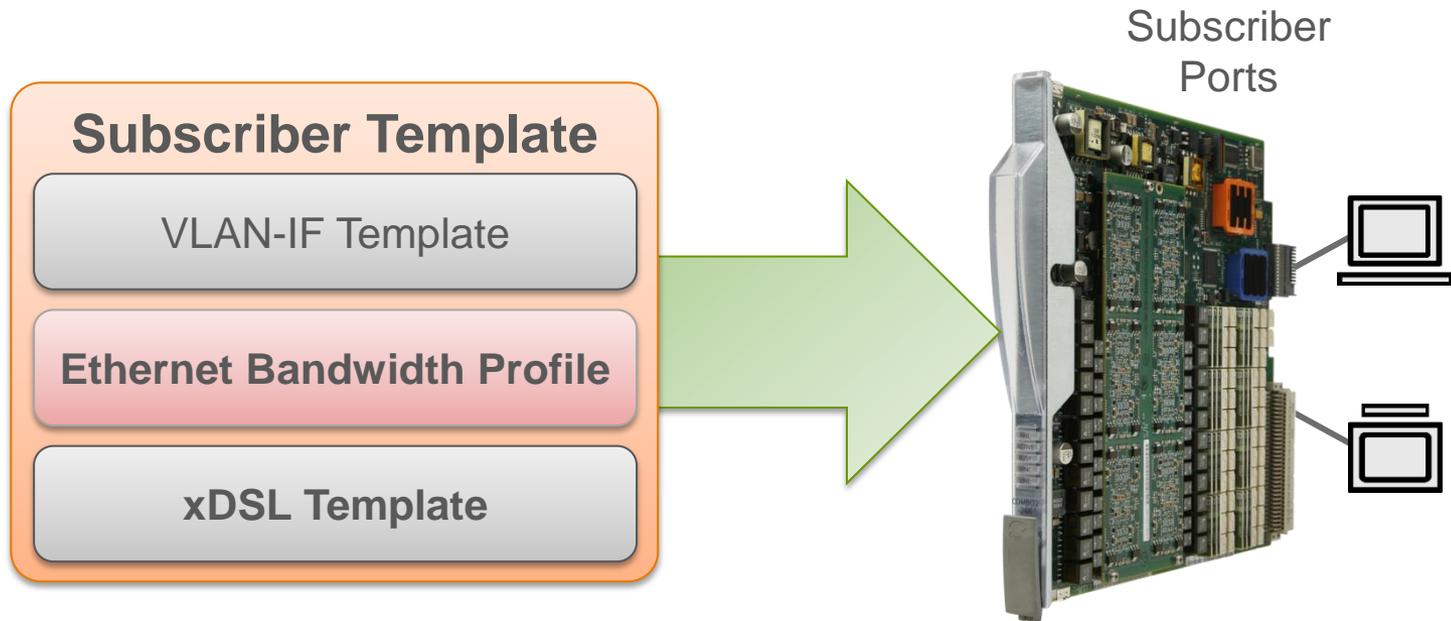
Annotations with arrows point to the following elements:

- 'Select a service VLAN' points to the 'VLAN' field (4080).
- 'Select the Local Bridge' points to the 'Equipment/Group' dropdown (N1-1-CSB (RAP-10GE)).
- 'Choose the trunk ports on the RAP-10GE' points to the 'Interfaces' list.
- 'Select trunk as the Port Type' points to the 'Port Type' dropdown (Trunk).

At the bottom of the window, there are buttons for 'ADD >>', '<< REMOVE', 'CREATE', and 'CANCEL'.

Service Configuration

Subscriber Data Templates



Templates should be based on service offerings

- ▶ Simplify provisioning
- ▶ Apply pre-defined settings to subscriber connection
- ▶ Templates stored in CMS and applied using profiles that have been synchronized to networks.

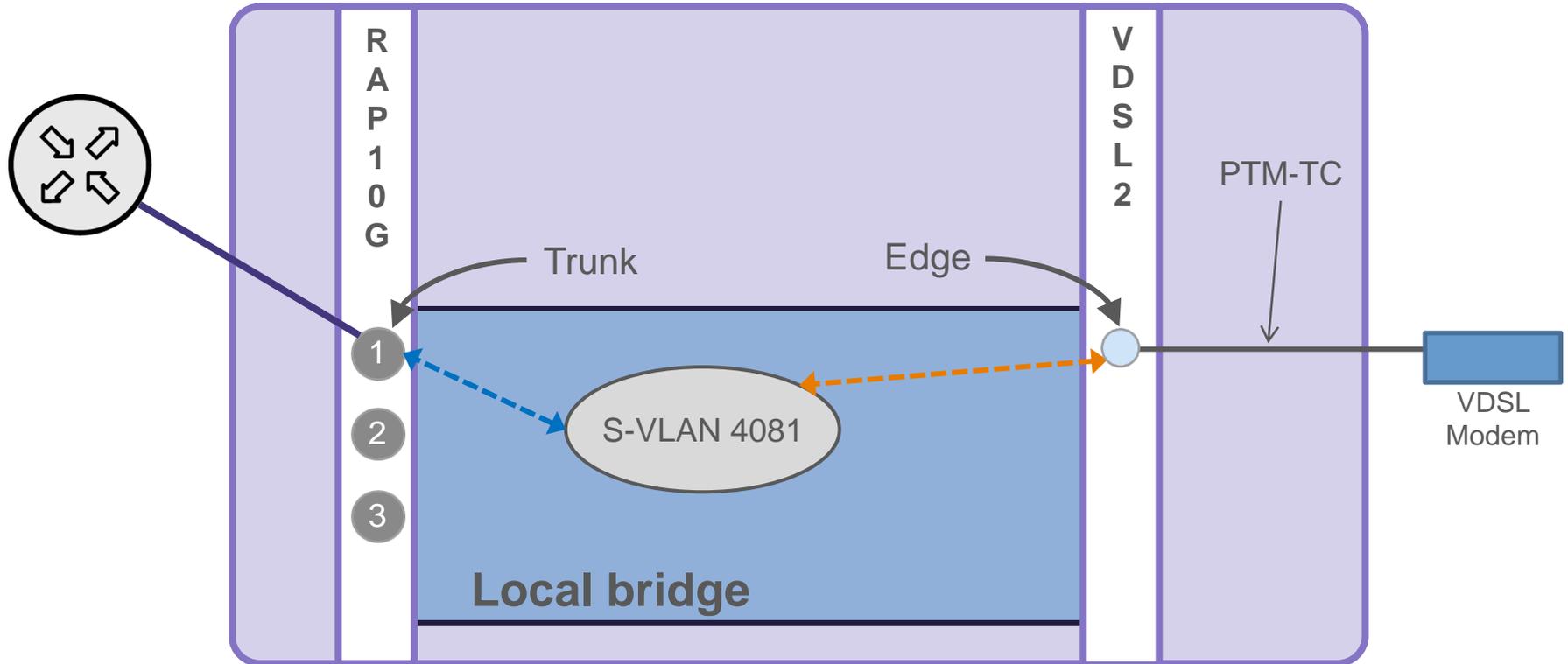
Configuring xDSL Service

In this section:

- ▶ C7 Internal xDSL Connections
- ▶ xDSL Configuration
 - Creating Profiles and Templates
 - Activating service



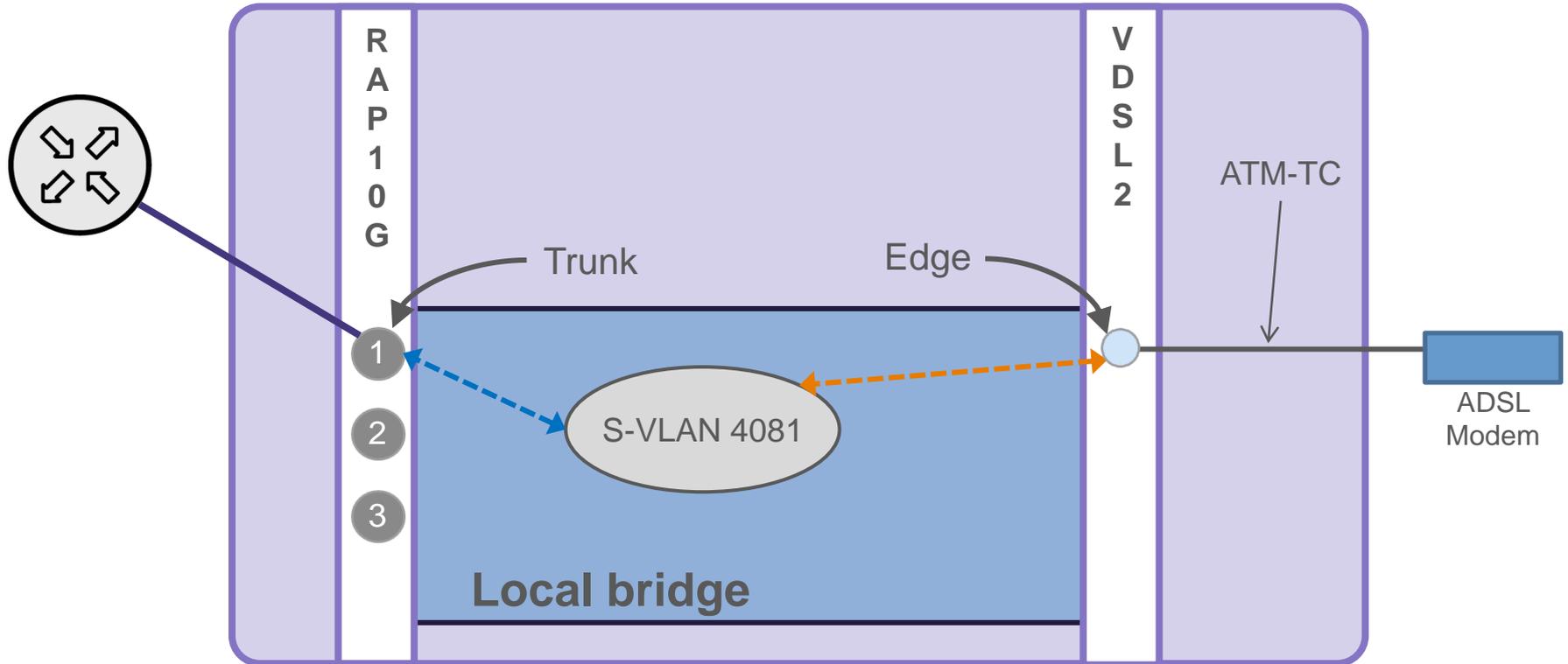
C7 VDSL Connections - EXA



VDSL CPE

- ▶ VLAN-IF between local bridge and VDSL port
- ▶ VDSL port to VDSL CPE uses PTM-TC on the line

C7 ADSL Connections - EXA



VDSL CPE

- ▶ VLAN-IF between local bridge and VDSL port
- ▶ VDSL port to ADSL CPE uses ATM-TC on the line
- ▶ Same as VDSL in ADSL fallback mode

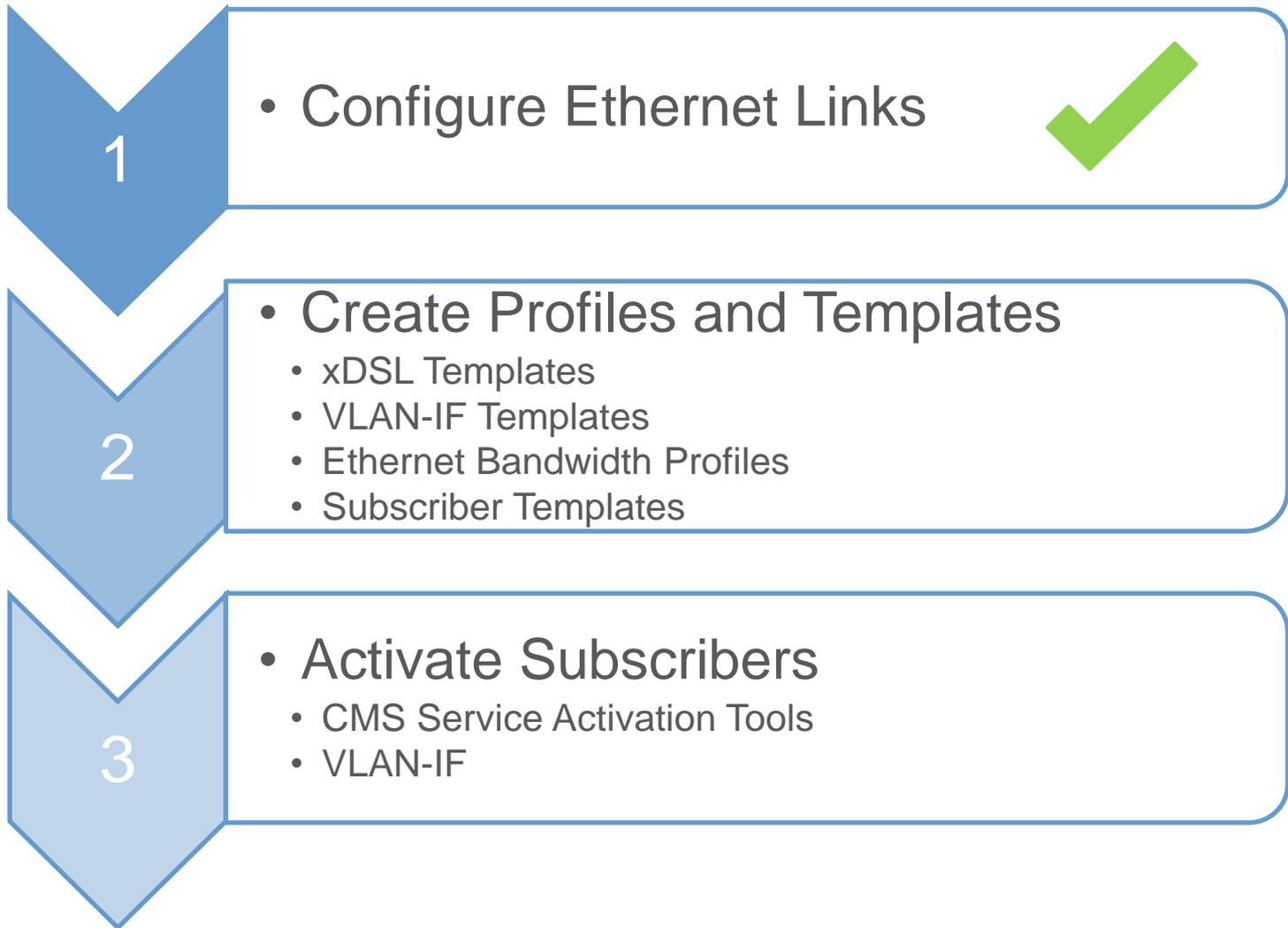
Packet Mode

- ▶ **Packet mode refers to traffic flow inside the C7**
 - Packet mode Y = VLAN-IF (EXA)
 - Packet mode N = virtual bridge (non EXA)
- ▶ **Only applicable to EXA Powered cards**
 - Leave at “Default” – allows xDSL template to be used with all cards
 - C7 chooses correct mode
- ▶ **No – Forces connection to VDSL ports to use Multiprotocol switch fabric**
 - Can't use VDSL service types – Must have ADSL CPE
 - Uses normal VCs within C7
 - Uses ATM VCs on the line
- ▶ **Yes – Connections to port can access EXA switch fabric OR multiprotocol switch fabric**
 - Uses VLAN-IF or VC with Endpoint ID within C7
 - For ADSL Fallback, uses one ATM VC on the line

EXA Data Services

xDSL Configuration

xDSL Configuration Process



VLAN-IF Template

- ▶ Only used with Ethernet uplinks
- ▶ Define common values for subscriber facing VLAN interfaces
- ▶ Not all fields are used
 - See Course Guide
- ▶ Up to 20 VLAN-IF templates are allowed

NEW VLAN-IF Template	
Template Identifier	
Description	
ARP Learning	Y
DHCP Directionality	Client
IGMP Type	IGMP None
PPPoE Access Concentrator Enable	N
PPPoE Subscriber Enable	Y
Encapsulation Type	Ethernet V2
DOS Protection	N
Port Direction	Both (Unsecure)
Option 82 Action	NONE
STP	
STP Cost	100
STP Priority	128
Local SVLAN ID	
Port Type	
S-Tag Type	
Cross-Connect Path	
Protection Class	
DHCP Relay Enable	
Layer-2 User Priority	
Tagging	Default
Enabled	Y

OK CANCEL

xDSL Template – VDSL Key Settings

- ▶ Service Type – Must be **VDSL2** or **VDSL2MM**
 - VDSL2MM allows for ADSL fallback
- ▶ Packet Mode – Forced Y for VDSL
- ▶ Fallback VP/VC
- ▶ Line Profile – Default is 8D
- ▶ Maximum and Minimum Rate Downstream and Upstream
 - Enter values in kbps
 - Values are automatically rounded to the next increment of 32

XDSL Templates

- Define service attributes for xDSL service
- Three key fields:

The screenshot shows the 'NEW XDSL Template' configuration window. Three green arrows point from text labels to specific fields in the configuration table:

- Service Type** points to the 'Service Type' field, which is set to 'VDSL2MM'.
- Max Downstream** points to the 'Maximum Rate Downstream' field, which is set to '10016' Kbps.
- Max Upstream** points to the 'Maximum Rate Upstream' field, which is set to '1024' Kbps.

Field	Value	Unit
Template Identifier	1	
Description	10Mb/1Mb	
Service Type	VDSL2MM	
Packet Mode	Yes	
Fallback VPI	0	
Fallback VCI	35	
Line Profile	8D	
Report Remove/Restore	N	
Channel Latency	INTLV	
Trellis Coding	ENABLED	
Maximum Rate Downstream	10016	Kbps
Minimum Rate Downstream	64	Kbps
Maximum SNR Margin Downstream	16	dB
Target SNR Margin Downstream	6	dB
Minimum SNR Margin Downstream	0	dB
Maximum Interleaving Latency Downstr...	AUTO	ms
Minimum Impulse Noise Protection Do...	1/2 Symbol	symbols
Maximum Rate Upstream	1024	Kbps
Minimum Rate Upstream	64	Kbps
Maximum SNR Margin Upstream	16	dB
Target SNR Margin Upstream	6	dB
Minimum SNR Margin Upstream	0	dB
Maximum Interleaving Latency Upstream	AUTO	ms
Minimum Impulse Noise Protection Up...	1/2 Symbol	symbols
PTM Encapsulation Override	N	
Power Management Mode	L0	
L0 Time	255	seconds

Ethernet Bandwidth Profile Parameters

Committed Information Rate (CIR)

- ◀ Guaranteed bandwidth
- ◀ Analogous to GFR

Excess Information Rate (EIR)

- ◀ Uncommitted bandwidth in excess of CIR
- ◀ Analogous to UBR+

Ethernet Bandwidth Profile is global in CMS and can be reused

Ethernet Bandwidth Profile

The screenshot displays a network management application interface. At the top, there is a menu bar with 'FILE | VIEW | TOOLS | HELP'. Below the menu bar, a navigation pane on the left shows a tree structure with 'CMS' and 'REGION root'. The main area contains a series of buttons: 'CREATE', 'DELETE', 'ACTION', 'REVERT', 'REFRESH', and 'APPLY'. The 'CREATE' button is highlighted with a yellow box. Below these buttons are several menu items: 'SECURITY', 'SYSTEM', 'PROFILE', 'SUBSCRIBER TEMPLATES', 'C7', 'B6', 'E7/ONT', 'E5-400/E7', 'E3/E5-100', 'DEVICES', 'TRAFFIC PROFILE', 'XDSL TEMPLATE', 'ETHERNET BANDWIDTH PROFILE', and 'ETHERNET P'. The 'ETHERNET BANDWIDTH PROFILE' menu item is highlighted with a yellow box. A dialog box titled 'Ethernet Bandwidth Profile' is open in the foreground, showing a 'NEW Ethernet Bandwidth Profile' form. The form contains the following fields: Identifier (1), Description (10meg), Committed Information Rate (0 kbps), Excess Information Rate (10112 kbps), and Enabled (Y). The 'OK' button is highlighted with a mouse cursor.

FILE | VIEW | TOOLS | HELP

Previous

CREATE DELETE ACTION REVERT REFRESH APPLY

SECURITY SYSTEM PROFILE SUBSCRIBER TEMPLATES

C7 B6 E7/ONT E5-400/E7 E3/E5-100 DEVICES

TRAFFIC PROFILE XDSL TEMPLATE **ETHERNET BANDWIDTH PROFILE** ETHERNET P

ID DESC CIR FIR ENABLED SYNCSTATE ISDEFAULT

edit

ONTVEPLINE ONTVEPL
ONTVEPLINE3 ONTVEPL

NEW Ethernet Bandwidth Profile

Identifier 1

Description 10meg

Committed Information Rate 0 kbps

Excess Information Rate 10112 kbps

Enabled Y

OK CANCEL

The Ethernet Bandwidth Profile sets CIR or EIR values to be used in a subscriber template.

Creating Subscriber Templates - EXA

- ▶ **CMS > Subscriber Templates > C7 > Data > Create**
- ▶ Must select correct **Template Type: XDSL - EXA**
 - Cannot apply EXA templates to ports on non-EXA cards

The screenshot shows a configuration window titled "Subscriber Template" with a sub-header "NEW C7 Data Subscriber Template". The form contains the following fields and sections:

- Template ID:
- Template Type:
- Description:
- XDSL Template:
- XDSL template override (optional):
 - Min DS Rate: Kbps
 - Max DS Rate: Kbps
 - Min US Rate: Kbps
 - Max US Rate: Kbps
- VLAN-IF Template:

Data Service Info

Data Service	Component	TxEthBW Prof	RxEthBW Prof
Data VLAN-IF		<input type="text" value="10(@10meg)"/>	<input type="text" value="1(@1meg)"/>

At the bottom of the window are two buttons: "CREATE" and "CANCEL".

Activating Service

Using the Services Screen

- ▶ Enter subscriber information
 - Used with Search
- ▶ Data template
 - Only valid templates for the port type will show
 - ADSL ports won't show VDSL templates

▼ **ADSL Port** N2-1-16-1

Subscriber ID

User Description

Subscriber Template

Uplink VLAN

Data Service

Data Template

Uplink

Status Provisioned with CMS

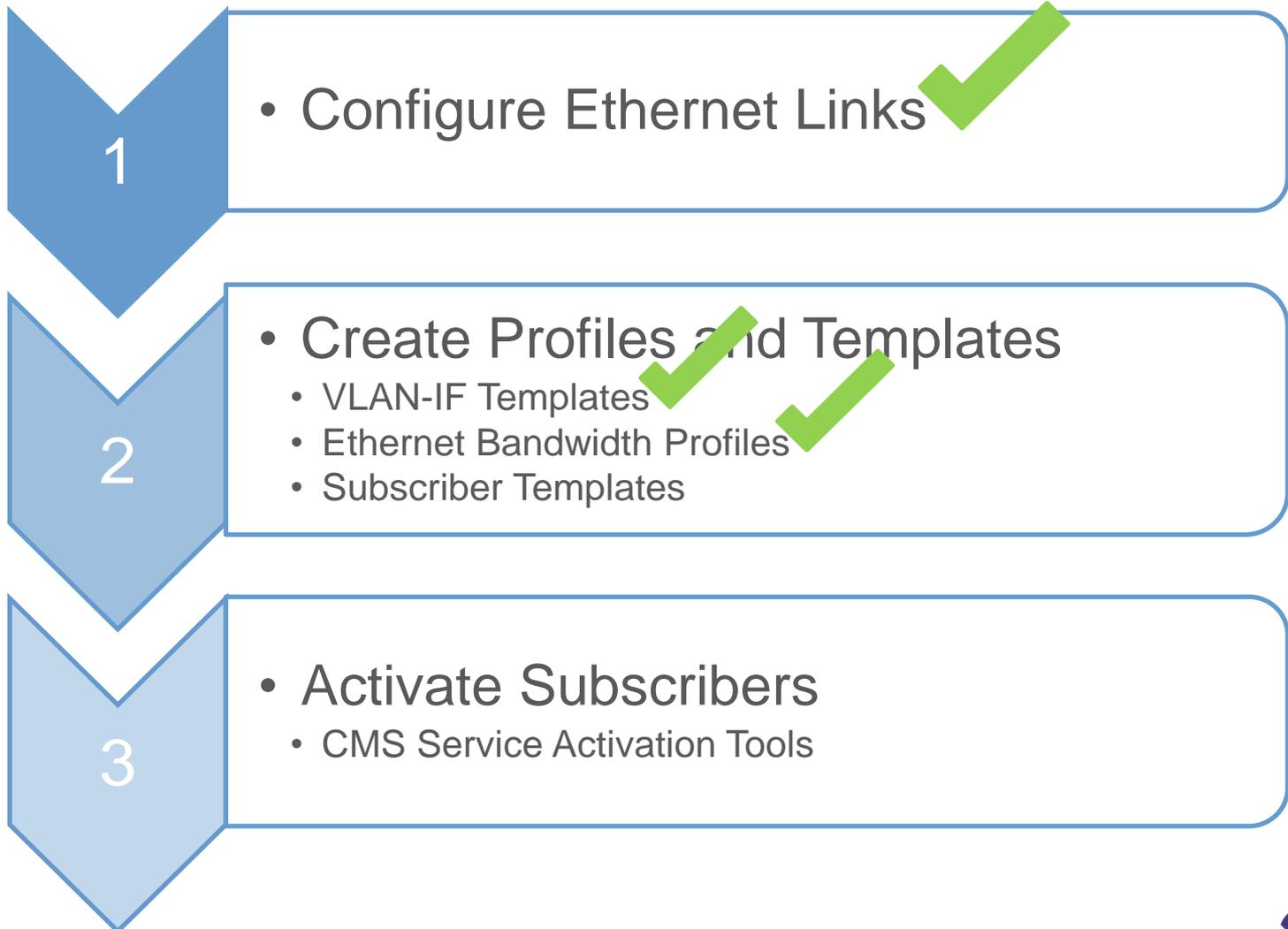
Data BWC

CVid RCVid PBits

Based on uplink type

GPON Configuration

GPON Configuration Process



Creating Subscriber Templates - EXA

- ▶ **CMS > Subscriber Templates > C7 > Data > Create**
- ▶ Must select correct **Template Type: ONT - EXA**
 - Cannot apply EXA templates to ports on non-EXA cards

Subscriber Template

NEW C7 Data Subscriber Template

Template ID: 21 Description: 10x1

Template Type: ONT - EXA

VLAN-IF Template: 5(@subscriber)

Data Service Info

Data Service	Component	TxEthBW Prof	RxEthBW Prof
Data VLAN-IF		10(@10meg)	1(@1meg)

CREATE **CANCEL**

Activating Service

Using the Services Screen

- ▶ Enter subscriber information
 - Used with Search
- ▶ Data template
 - Only valid templates for the port type will show
 - ADSL ports won't show VDSL templates

▼ **ADSL Port** N2-1-16-1

Subscriber ID

User Description

Subscriber Template

Uplink VLAN

Data Service

Data Template

Uplink

Status Provisioned with CMS

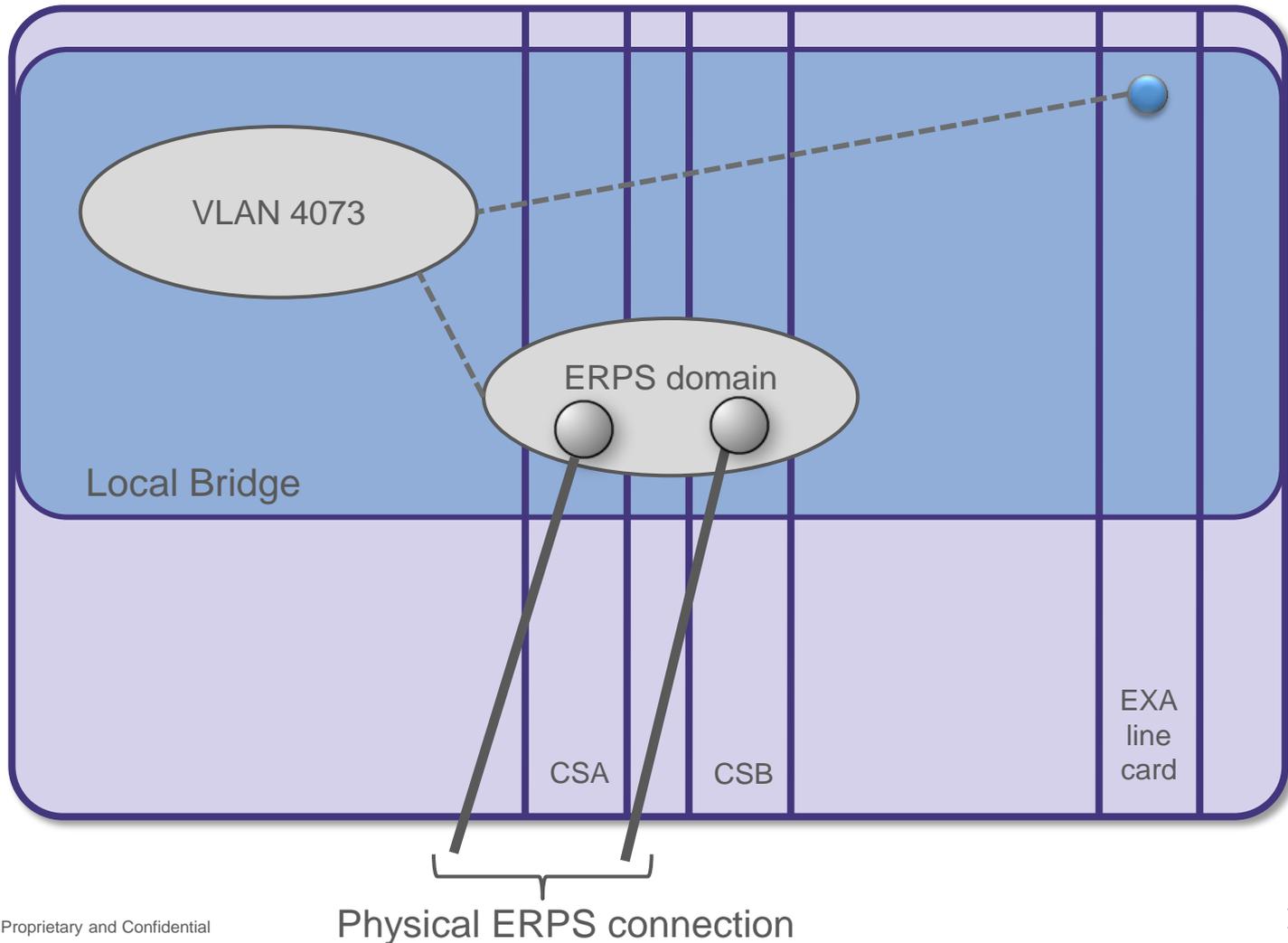
Data BWC

CVid RCVid PBits

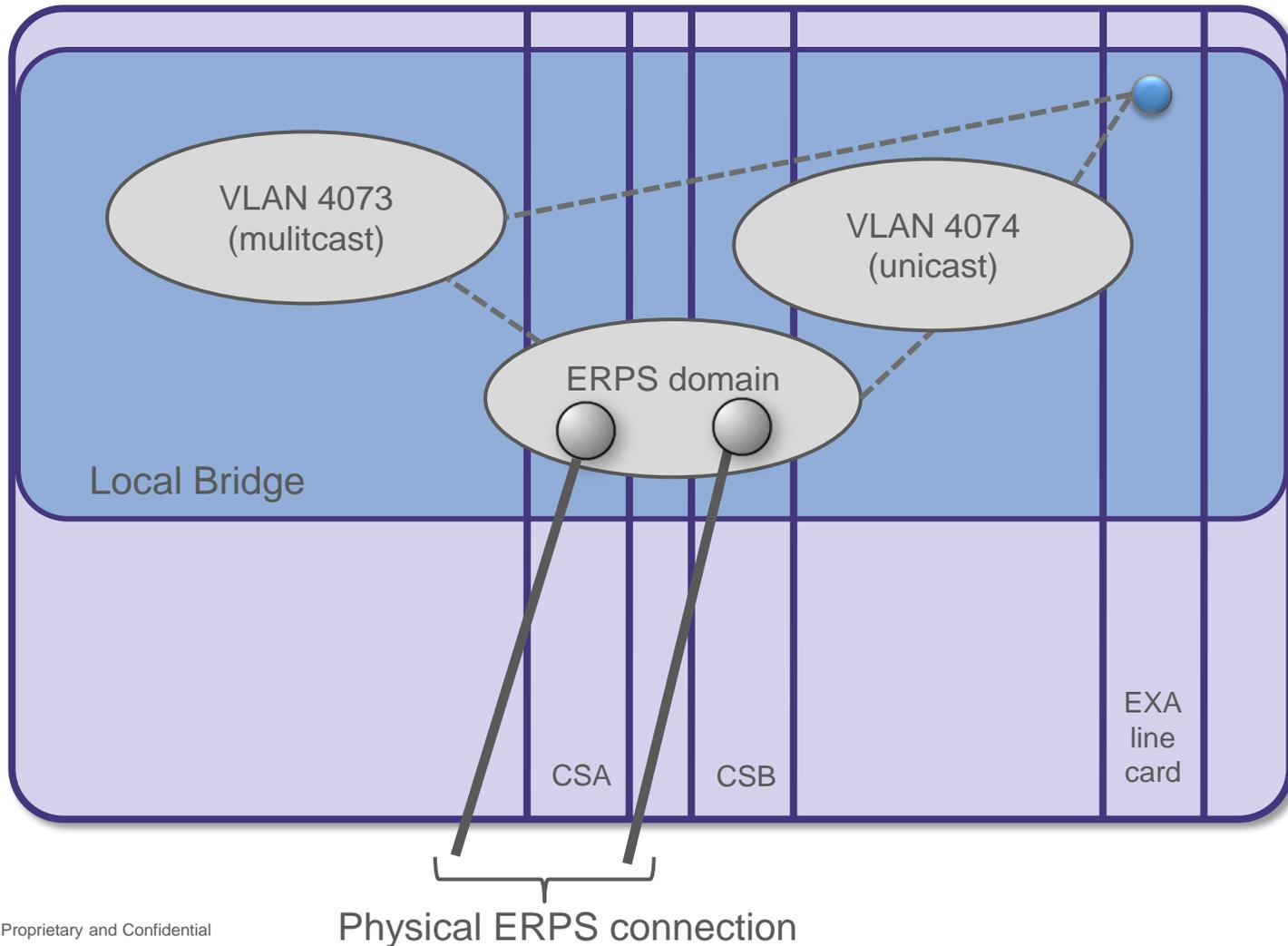
Based on uplink type

EXA Video Services

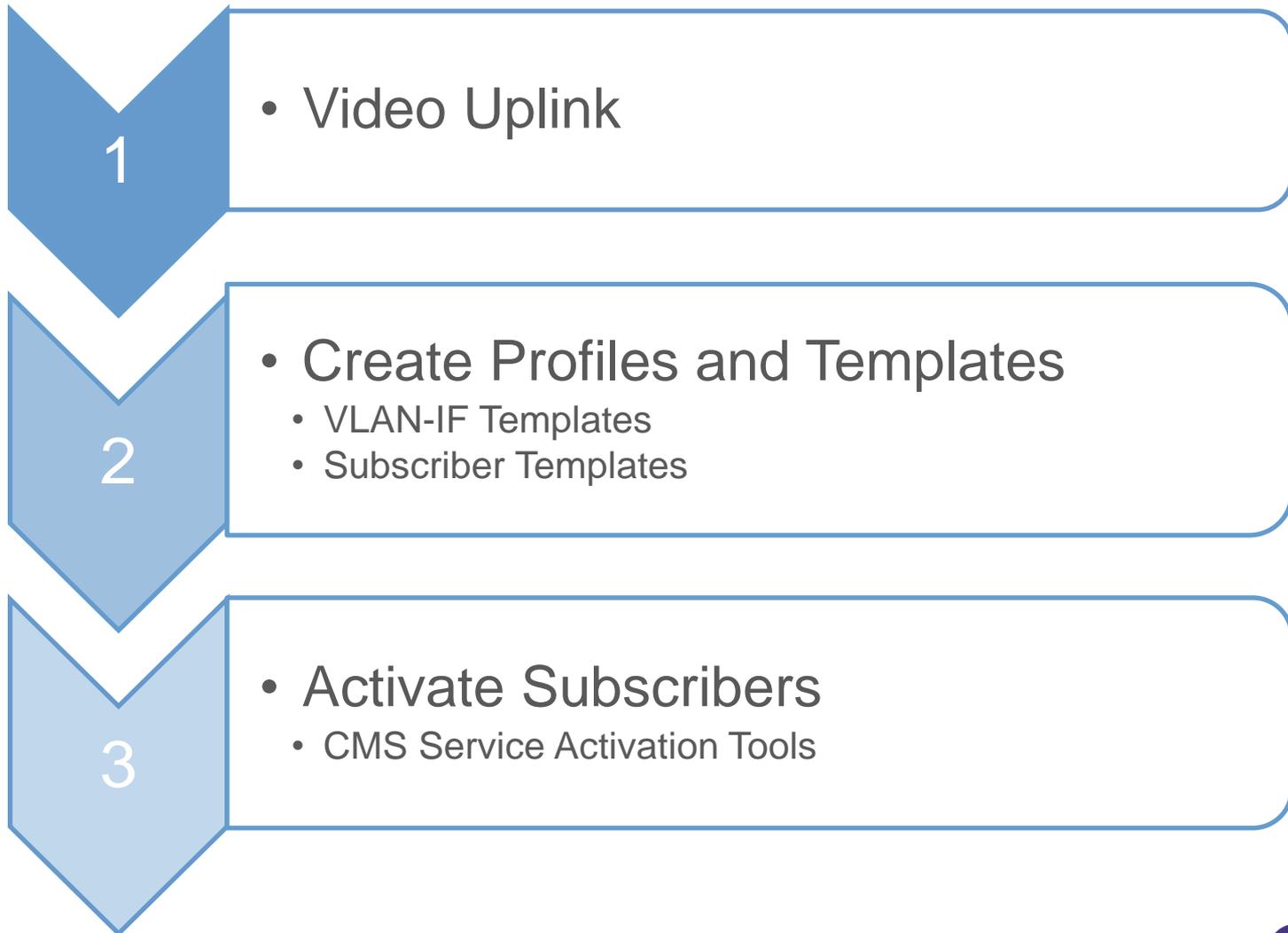
Single VLAN



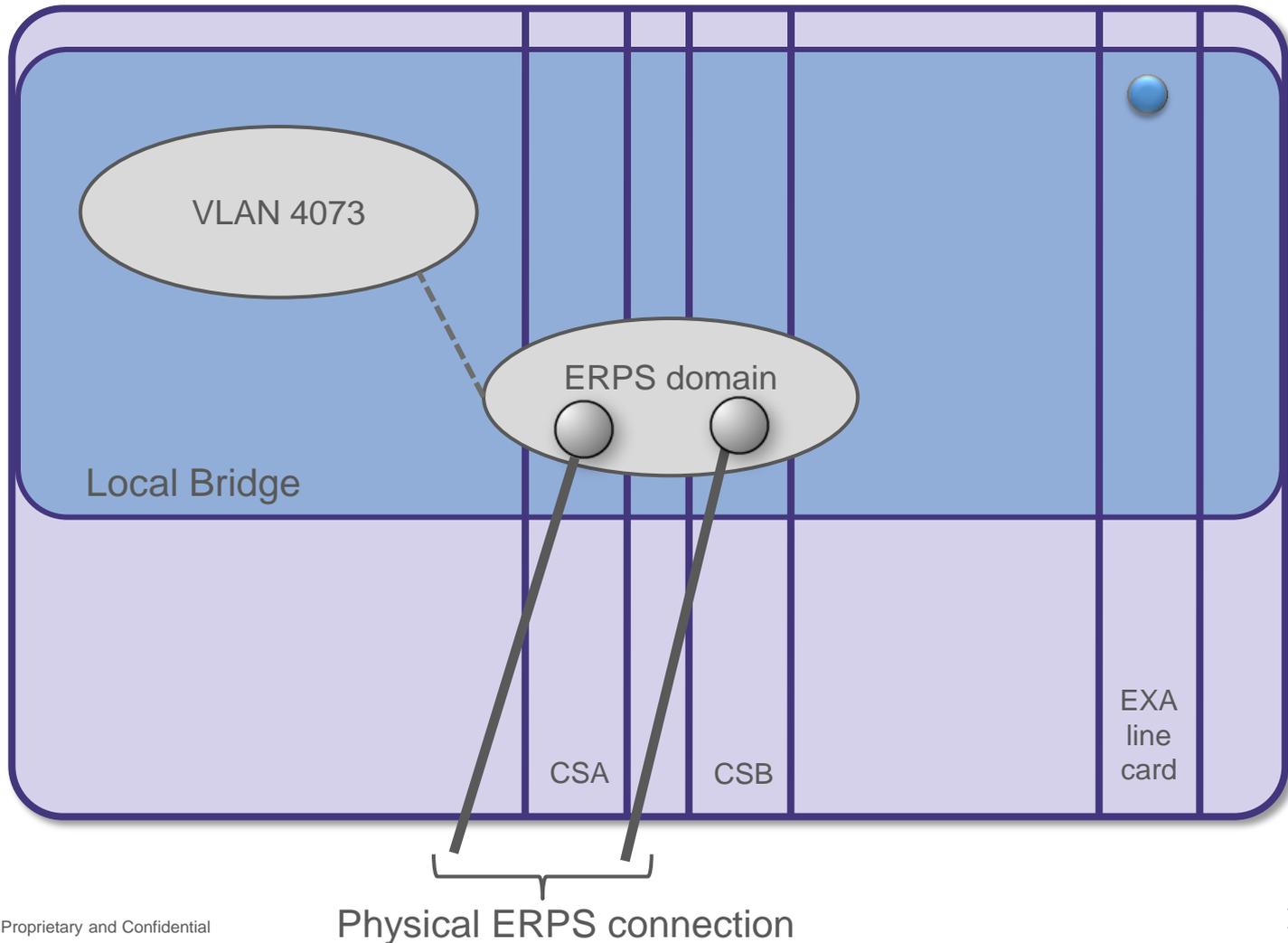
MVR



Configuration Process



Video Uplink



Video Uplink

S-VLAN

S-VLAN

S-VLAN object(s) to be created

ID	APPM...	DESC	L2RLY...	OPTIO...	NUMP...	STBR...
N1-1-VB1...	VLAN Per...	Video	NONE	NONE	1	Y

Shelf: N1-1 (PETALUMACO)

VB: N1-1-VB1

Address: N1-1-VB1-VLAN4071, N1-1-VB1-VLAN4072, N1-1-VB1-VLAN4074, N1-1-VB1-VLAN4075, N1-1-VB1-VLAN4076, N1-1-VR1-VI AN4077

Description: Video

DHCP L2 Relay ...: NONE

Option 82 Format: NONE

Number Priority: 1

STB Relay ARP: Y

Application Mode: VLAN Per Service

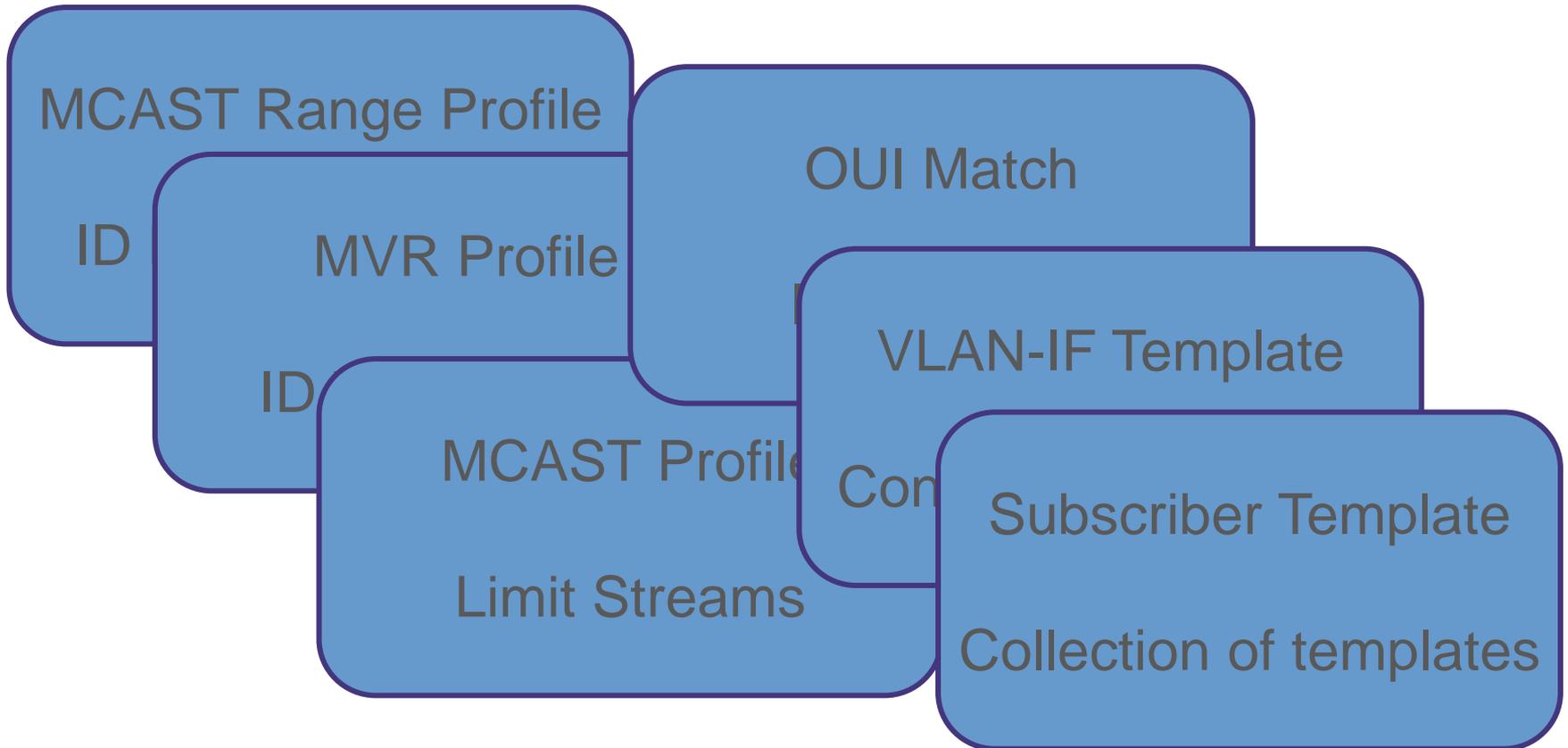
IGMP Mode: Snoop

Create Uplink: LOCAL

ADD >> << REMOVE

CREATE CANCEL

Profiles and Templates



Profiles and Templates

Multicast Range

- Create an MCAST Range Profile to specify each range of IP addresses
- Create the MVR Profile to map each range profile to a VLAN
- If you only have one video VLAN, you may use the existing ANY range profile

The image shows a network configuration interface with a tree view on the left and a main configuration area on the right. The tree view shows a hierarchy: CMS > REGION root > REGION C7 8.0 training > NETWORK tactm06 > NODE TACTRN06 (N1) > NODE TACTRN06-2 (N2) > NETWORK GROUP TAC B6 > NETWORK GROUP autodiscover > NETWORK GROUP az > AE ONTs.

The main configuration area has a top bar with buttons: CREATE, DELETE, ACTION, REVERT, REFRESH, APPLY, SEARCH. Below this is a navigation bar with tabs: SECURITY, SYSTEM, PROFILE, SUBSCRIBER TEMPLATES. The 'PROFILE' tab is active, showing a table with columns: C7, E7, ONT, E5-400/E7, E3/E5-100, DEVICES. Below this is another table with columns: VIDEO CHANNELS, VIDEO CHANNEL TEMPLATE, VLAN-IF TEMPLATE, PWE3 TEMPLATE, TRAFFIC PROFILE, XDSL TEMPLATE, ETHERNET BANDWIDTH PROFILE, ETHERNET PROFILE, EXA VIDEO. Below that is a table with columns: MCAST RANGE PROFILE, MVR PROFILE, MCAST PROFILE, MATCH RULE PROFILE, MATCH LIST PROFILE. The 'MCAST RANGE PROFILE' table is expanded, showing a table with columns: ID, DESC, MCAST RANGES, ENABLED, SYNCSTATE. The table contains two rows: 1 | @All vi... (225.1.1.0,225.1.1.6)(239.10.10.0,239.255.255.255) | Y | Synchronized and ANYANY (0.0.0.0,255.255.255.255) | Y | Not-Synchronized.

Two configuration windows are overlaid on the main interface. The 'Global MCast Range Profile' window is titled 'NEW Global MCast Range Profile' and has fields for Identifier (1), Description (All video), Min Range 1 (225.1.1.0), Max Range 1 (225.1.1.6), Min Range 2 (239.10.10.1), Max Range 2 (239.255.5.5), and an Enabled checkbox. The 'Global MVR Profile' window is titled 'Create Global MVR Profile' and has fields for ID (1), Description (All Video), and a list of VLANs (VLAN 1 to VLAN 4) with corresponding RANGE Profile dropdowns. The RANGE Profile 1 dropdown is set to '1 (@All video)'. There is also an Enabled checkbox and an 'ADD >>' button.

Arrows point from the text in the list to the configuration windows. One arrow points from 'Create an MCAST Range Profile...' to the 'Global MCast Range Profile' window. Another arrow points from 'Create the MVR Profile...' to the 'Global MVR Profile' window. A third arrow points from 'If you only have one video VLAN, you may use the existing ANY range profile' to the 'RANGE Profile 1' dropdown in the 'Global MVR Profile' window.

Profiles and Templates

MVR Profile

The screenshot displays a network management interface with a tree view on the left and a configuration panel on the right. The tree view shows a hierarchy: CMS (checked) > REGION root (checked) > NETWORK GROUP autodiscovered (checked) > AE ONTs (checked). A mouse cursor is positioned over the 'AE ONTs' item.

The main configuration area features a toolbar with buttons: CREATE, DELETE, ACTION, REVERT, REFRESH, APPLY, and SEARCH. Below the toolbar is a navigation menu with the following items: SECURITY, SYSTEM, PROFILE (selected), SUBSCRIBER TEMPLATES, C7, ONT, E5-400/E7, E3/E5-100, DEVICES, ETHERNET PROFILE, EXA VIDEO, VIDEO CHANNELS, and VIDEO CHANNEL. The 'PROFILE' menu item is expanded, showing 'GLOBAL MVR PROFILE 1' (01 of 01).

The configuration details for 'GLOBAL MVR PROFILE 1' are as follows:

Description	@MVR4073
Associated VLANs	4073
Enabled	Y
Sync State	Synchronized

Profiles and Templates

MCAST Profile

- Create the MCAST profile that points to the MVR profile

Global MCAST Profile

Global MCAST Profile

Global MCAST Profile

ID	DESC	MAXSTREAMS	MVRPROF
----	------	------------	---------

Global MCAST Profile object(s) to be created

ID	DESC	MAXSTREAMS	MVRPROF
----	------	------------	---------

Global MCAST Profile

ID: 1

Description: 8 Streams

Max Streams: 8

MVR Profile: 1 (@All Video)

Enabled: Y

ADD >> << REMOVE

CREATE CANCEL

Profiles and Templates

OUI Match List for Untagged EXA Video

- Create the Match Rule(s):
 - In CMS, create a Match Rule Profile for each STB type

The screenshot shows the CMS interface. On the left is a navigation tree with the following structure:

- CMS
 - REGION root
 - REGION C7 8.0 training
 - NETWORK tactrn06
 - NODE TACTRN06 (N1)
 - NODE TACTRN06-2 (N2)
 - NETWORK GROUP TAC B6
 - NETWORK GROUP autodiscover
 - NETWORK GROUP az
 - AE ONTS

The main content area shows a menu with the following items:

- CREATE DELETE ACTION REVERT REFRESH APPLY SEARCH
- SECURITY SYSTEM PROFILE SUBSCRIBER TEMPLATES
- C7 E7 ONT E5-400/E7 E3/E5-100 DEVICES
- VIDEO CHANNELS VIDEO CHANNEL TEMPLATE VLAN-IF TEMPLATE PWE3 TEMPLATE
- TRAFFIC PROFILE XDSL TEMPLATE ETHERNET BANDWIDTH PROFILE ETHERNET PROFILE EXA VIDEO
- MCAST RANGE PROFILE MVR PROFILE MCAST PROFILE MATCH RULE PROFILE MATCH LIST PROFILE

Below the menu is a table with the following columns: ID, DESC, SRCMAC, SRCMACMASK, ENABLED, SYNCSTATE.

| ID | DESC | SRCMAC | SRCMACMASK | ENABLED | SYNCSTATE |
|----|----------|----------------|------------|---------|--------------|
| 1 | @Amin... | 00:02:02:00... | 24 | Y | Synchronized |
| 2 | @ADB | 00:03:91:00... | 24 | Y | Synchronized |

The screenshot shows the Match Rule Profile configuration dialog box. The title is "Match Rule Profile". The content area is titled "NEW Match Rule Profile". The fields are:

- Identifier: 2
- Description: ADB
- Source MAC Address: 00:03:91:00:00:00
- Source MAC Mask: 24
- Enabled: Y

Buttons: OK, CANCEL

The screenshot shows the Match Rule Profile configuration dialog box. The title is "Match Rule Profile". The content area is titled "NEW Match Rule Profile". The fields are:

- Identifier: 1
- Description: Amino STB
- Source MAC Address: 00:02:02:00:00:00
- Source MAC Mask: 24
- Enabled: Y

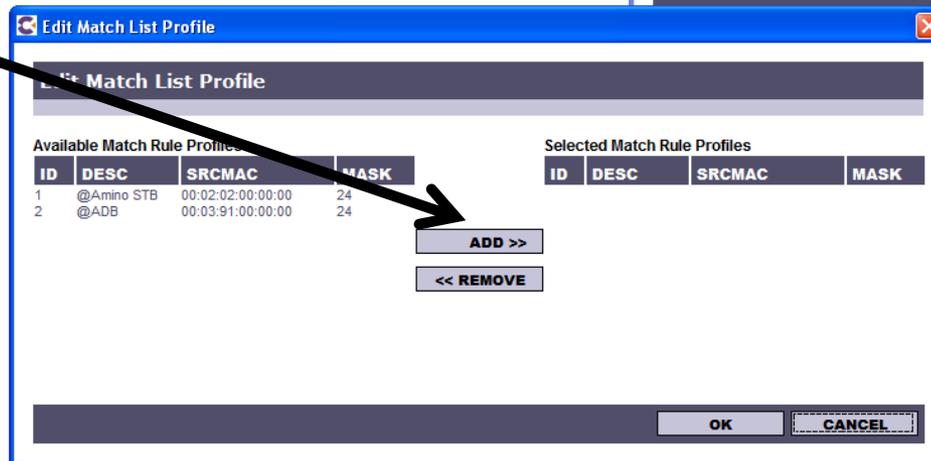
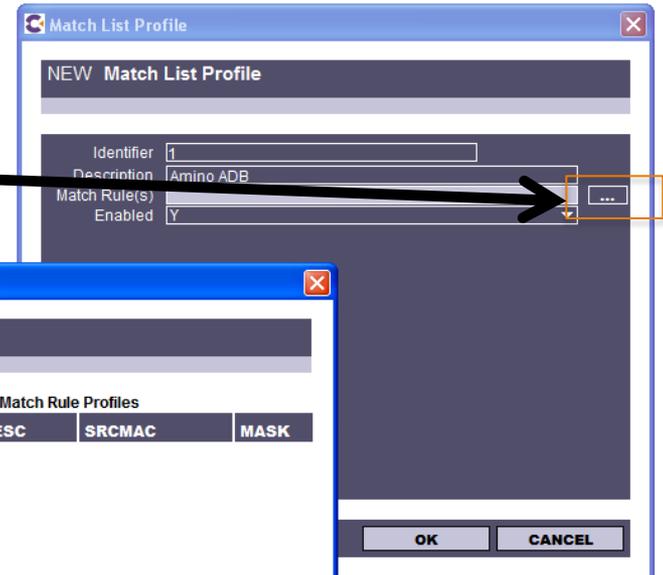
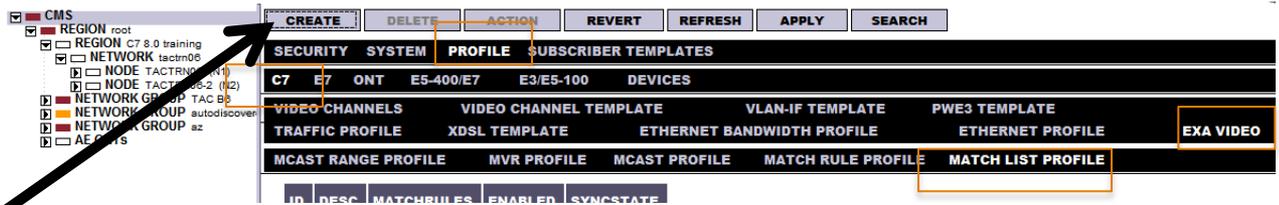
Buttons: OK, CANCEL

Profiles and Templates

OUI Match List for Untagged EXA Video

- Create the Match List Profile:

- From CMS Profile>C7>EXA Video>Match List Profile, click Create.
- Click the selection button.
- Specify the rule(s) to include.



Profiles and Templates

VLAN-IF Template

- Create the VLAN-IF Template
 - Specify the MCAST and Match List Profile

| NEW VLAN-IF Template | |
|----------------------------------|---------------------|
| Template Identifier | 1 |
| Description | EXA video |
| Port Type | Edge |
| ARP Learning | N |
| DHCP Directionality | Client |
| Lease Limit | 4 |
| IGMP Type | None |
| Encapsulation Type | Ethernet V2 |
| DOS Protection | N |
| Port Direction | Downstream (Secure) |
| Option 82 Action | None |
| PPPoE Access Concentrator Enable | N |
| PPPoE Subscriber Enable | N |
| STP | Off |
| STP Cost | 100 |
| STP Priority | 128 |
| Local SVLAN ID | |
| S-Tag Type | C-Tag 8100 |
| Traffic Profile | |
| Backward Traffic Profile | |
| Cross-Connect Path | |
| Protection Class | |
| Tx Ethernet Bandwidth Profile | |
| Rx Ethernet Bandwidth Profile | |
| MCAST Profile | 1 |
| Match List Profile | 1 |
| 802.1q Priority Bits Policy | Priority 4 |

OK CANCEL

Profiles and Templates

Subscriber Template

- Create Video Subscriber Template(s) that reference the correct VLAN-IF template

Subscriber Template

NEW C7 Video Subscriber Template

Template ID: 1 Description: EXA Video 8 Streams

Template Type: ONT - EXA

VLAN-IF Template: 1(@Video EXA SUB)

Video Service Info

Video Subscriber VCs

| Component | TxEthBW Prof | RxEthBW Prof |
|-------------------|--------------|--------------|
| EXA Video VLAN-IF | NONE | NONE |

Create Residential Gateway (RG) Enabled Video Subscriber Template by removing Subscriber IP Channel Stream.

REMOVE ALL REMOVE

CREATE CANCEL

Subscriber Template

NEW C7 Video Subscriber Template

Template ID: 2 Description: VDSL 8 Stream

Template Type: XDSL - EXA XDSL Template: 5(@VDSL10/1)

XDSL template override (optional):

Min DS Rate: Kbps Max DS Rate: Kbps

Min US Rate: Kbps Max US Rate: Kbps

VLAN-IF Template: 1(@Video EXA SUB)

Video Service Info

Video Subscriber VCs

| Component | TxEthBW Prof | RxEthBW Prof |
|-------------------|--------------|--------------|
| EXA Video VLAN-IF | NONE | NONE |

Create Residential Gateway (RG) Enabled Video Subscriber Template by removing Subscriber IP Channel Stream.

REMOVE ALL REMOVE

CREATE CANCEL

Service Activation

Apply Subscriber Template

- Apply the Video Subscriber Template

OPTICAL NETWORK TERMINATION N1-1-1-1-1

Subscriber ID **COPY TO ALL PORTS**

User Description

▼ **GE** N1-1-1-1-1-1

Subscriber ID

User Description

Residential Gateway

Video Service

Video Template **1 (EXA Video 8 Streams)**

Base VLAN **Vlan 60 (Video Uplink)** CVID **TAGGED** RCVID **NONE** PBits **Priority 4**

Status **Not Provisioned with CMS**

Data Service

Data Template Data BWC

Uplink

Status **Not Provisioned with CMS**

Data Service

Data Template Data BWC

Uplink

Status **Not Provisioned with CMS**

► **FE** N1-1-1-1-1-2

► **Voice** N1-1-1-1-1-1

► **Voice** N1-1-1-1-1-2

XDSL PORT N2-1-1-1

Subscriber ID **COPY TO ALL PORTS**

User Description

▼ **XDSL Port** N2-1-1-1

Subscriber ID

User Description

Residential Gateway

Video Service

Video Template **2 (VDSL 8 Stream)**

Base VLAN **Vlan 60 (Video Uplink)** CVID **TAGGED** RCVID **NONE** PBits **Priority 4**

Status **Not Provisioned with CMS**

Data Service

Data Template Data BWC

Uplink

Status **Not Provisioned with CMS**

Data Service

Data Template Data BWC

Uplink

Status **Not Provisioned with CMS**

► **Voice** N2-1-1-1

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