Logical Circuit Order Low Level Process Document

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BUILDING A LIMITLESS IRELAND

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Document Overview

Amendment Record

Revision No.	Changes	Author	Date
1.0	Final version: • Updated section 10.2 (Logical Circuit Order Types) • Added new Bitstream Logical Circuit Order Process (section 10.3) • Added new VUA Logical Circuit Order Process (section 10.4) • Added copy of Logical Order form (appendix) • General updates and amendments	Product Management	September 2020

10 Logical Circuit Orders

10.1 Prerequisites

A Service Provider must have a physical Interconnect in place before being able to place a Logical circuit. With the Interconnect in place, a Service Provider can then order the mandatory logical unicast circuit at each PoH they intend to serve End Users from.

A Service Provider must order a logical circuit from each PoH to their chosen Interconnect (national Interconnect for Bitstream and Regional Interconnect for VUA). These logical circuits are specific to each Service Provider and will carry the aggregated Service Provider traffic from the regional PoH across the network to the regional or national Interconnect. This logical connectivity is mandatory to ensure effective service and is required to be completed before a Service Provider can place orders for Bitstream and VUA Products for its End Users.

If a Service Provider has multiple resellers/connections from a single PoH, then each logical unicast connection will be assigned its own Egress Domain identifier. This Egress Domain identifier is used on End User orders to identify which specific Reseller/connection should be used. The same Egress Domains identifiers are used across all PoH sites.

Note: Service Providers wishing to place orders for support of multiple RSPs (WSPs) intending to use multi-VPLS must be configured with separate Egress Domains for each of their RSPs. By default, Service Providers (with no RSPs) will be assigned to Egress Domain 1.

For more information on logical circuits please refer to the Bitstream & VUA Technical Manual.

10.2 ~~Bitstream and VUA -~~ Logical Circuit Order Types ~~Process~~

This section covers the process for ordering the logical circuits available to support Bitstream and VUA, including Multicast.

The following Bitstream and VUA Unicast and Multicast order types are described in this process:

~~A Logical Order allows Service Providers to order each of the Logical Circuits for Bitstream and VUA. For full instructions on how to order Interconnects and Logical Orders please refer to the Interconnect & Symmetric Ethernet (SES) Process Manual.~~

- BUC - Bitstream Unicast (Per PoH)
- BMC - Bitstream Multicast (Per PoH) (up to a maximum of 32 concurrent Multicast Addresses per IGMP User)
- BMS – Bitstream Multicast Setup (network level)
- VUC - Virtual Unbundled Access Unicast (Per PoH)
- VMC - Virtual Unbundled Access Multicast (Per PoH)
- VMS – VUA Multicast Setup (network level)

10.3 Bitstream Logical Circuit Order Process

1. The Service Provider orders a logical unicast service (BUC) from its specified Interconnect to the desired PoH. The Egress Domain must be specified for the BUC.
    a. This creates a logical connection for unicast traffic through the NBI network between the Service Providers handover point and the NBI Bitstream network.
    b. Note that the default is for NBI to assign the S-VLAN ID presented at the handover on the external Network to Network interface (E-NNI) port. However the Service Provider may optionally specify the S-VLAN ID presented at the E-NNI for all SVLANs on that E-NNI.
2. For unicast resilience, the Service Provider may optionally order multiple BUC logical connections to multiple Interconnects for the same BUC traffic.
3. For Multicast, the Service Provider must order Multicast at the network level (BMS – Bitstream Multicast Setup) before individual Multicast connectivity to individual exchange areas can be ordered.
4. Service Provider orders a BMS, which requests the creation of an MVPN (Multicast IP-VPN) in the NBI core to a Service Provider specified Interconnect. This is a single once-off order per Service Provider per Multicast instance.
5. Service Providers wishing to support different Multicast RSPs must order an additional BMS per RSP, specifying the required Egress Domain.
6. For Multicast resilience, the Service Provider optionally orders a second BMS on a separate Interconnect for resilience using its existing MVPN. This circuit carries no traffic through the service access point in normal operation.
7. When the BMS is delivered, the Service Provider orders BMC (Multicast logical connectivity) to each PoH area. The BMC order is linked to the Service Provider's associated BUC and BMS.
8. The Service Provider has the option of ordering additional BMC logical connectivity circuits to each PoH to support different Multicast RSPs.

10.4 VUA Logical Circuit Order Process

1. For unicast, the Service Provider orders the VUA logical connectivity (VUC order) from its specified Interconnect to the desired PoH. The Egress Domain must be specified for the VUC.
    a. This creates a logical connection for unicast traffic through the NBI network between the Service Providers local handover point and the NBI network.
    b. The Service Provider must specify the S-VLAN ID presented at the E-NNI for all SVLANs on that E-NNI.
2. For Multicast, the Service Provider must order Multicast at the network level (VMS – VUA Multicast Setup) before individual Multicast connectivity to individual exchange areas can be ordered. This is a single once-off order per Service Provider per Multicast instance.
3. The Service Provider must then order a VMC circuit for each PoH in scope.
4. For Multicast resilience, the Service Provider may order an additional VMC circuit to a different Interconnect.
5. If a Service Provider wishes to support Multicast for multiple RSPs, then a separate VUC is a pre-requisite for an associated VMC order per RSP. The Service Provider must supply the required Egress Domain for each VMC order.
6. The VMC order is linked to the Service Provider's associated VUC and VMS.

The logical circuit order form is included in the appendix of the Bitstream & VUA Product Process Manual.

Appendix – Logical Order Form

Logical Circuit Order Form	
General Information	**To be populated:**
Service Provider Name	
Service Provider Code	
Contact name	
Contact email address	
Order Reference (NBI create if not populated)	
Logical Order Information	
Logical Order Type	Please select logical order type
Order Details	**To be populated:**
Circuit Reference (NBIX reference)	NBIX
PoH	E.g. GAL
Egress Domain	E.g. ED 1
Customer VLAN ID	E.g. 2001
**If BMS or VMS Logical Order:*	
PIM-SM reference	
PIM-SSM reference	