Horizon & 3rd Party Access Circuits

Channel Partner Guidelines

# Introduction

The purpose of this document is to define the access requirements for two scenarios when Zest4 Access is not used as the delivery method for Horizon traffic to an end user site. The two scenarios are:

1. Delivered over Internet Access by a supplier other than Zest4
2. Delivered via a Private Access/Interconnect to Zest4.

Horizon is designed to work using public IP addressing for access. This provides more than just the provision of speech and signaling protocols. It provides access to other publicly available services which Horizon uses.

If a channel partner wishes to utilise another, non-Zest4 access solution, they need to ensure that the access can meet the following requirements and functionality. Failure to meet the access requirements below will result in quality and setup/support issues.

# Public Access via Internet

The channel partner or end user must ensure that the access route from the customer site to the Zest4a public interconnects is open for the following ports:

|  |  |  |
| --- | --- | --- |
| **IP Address** | **Ports** | **Function** |
| 88.215.61.171 | TCP 80,443 | Device provisioning |
| 88.215.61.173 | TCP 80,443 | Device provisioning |
| 88.215.58.1 | UDP 5060 | Call traffic signaling |
| 88.215.58.2 | UDP 10000- 60000 | Call traffic media |
| 88.215.63.171 | UDP 5060 | Call traffic signaling |
| 88.215.63.172 | UDP 10000- 60000 | Call traffic media |
| 88.215.61.81 | UDP 123 | NTP for time/date display (ntp.business-access.co.uk) |
| 88.215.61.82 | UDP 123 | NTP for time/date display (ntp.business-access.co.uk) |
| 88.215.60.129 | LDAP port 389 | Distributed directory information |
| 88.215.60.132 | LDAP port 389 | Distributed directory information |
|  | UDP 53 | DNS for resolutions or provisioning URL’s  (sip.unlimitedhorizon.co.uk) |
| 95.172.95.82 | TCP 5222 | Instant message and presence service for soft client  (im.unlimitedhorizon.co.uk) |

If these ports are not opened (i.e. a customer or network based firewall is blocking them), or IP addresses allowed, Horizon will not work.

Access to the Zest4 Horizon platform requires unrestricted phone access to the following URL’s (based within the Gamma network).

|  |
| --- |
| <http://xsp.unlimitedhorizon.co.uk:80/dms/Cisco_502d/502.xml> |
| <http://xsp.unlimitedhorizon.co.uk:80/dms/Cisco_504d/504.xml> |
| <http://xsp.unlimitedhorizon.co.uk:80/dms/Cisco_501d/501.xml> |
| <http://xsp.unlimitedhorizon.co.uk:80/dms/Cisco_2102/2102.xml> |
| <http://xsp.unlimitedhorizon.co.uk:80/dms/Cisco_525d/525.xml> |
| <http://xsp.unlimitedhorizon.co.uk:80/dms/Cisco_122/122.xml> |
| <http://xsp.unlimitedhorizon.co.uk:80/dms/Cisco_509d/509.xml> |
| <http://xsp.unlimitedhorizon.co.uk:80/dms/Polycom_335/> |
| <http://xsp.unlimitedhorizon.co.uk:80/dms/Polycom_450d/> |
| <http://xsp.unlimitedhorizon.co.uk:80/dms/Polycom_650d/> |
| <http://xsp.unlimitedhorizon.co.uk:80/dms/Polycom_331d/> |
| <http://xsp.unlimitedhorizon.co.uk:80/dms/Polycom_5000/> |

The above requirements need to be checked by the Channel Partner with the customer / access provider as part of the Sales process to ensure that the solution will be fit for purpose for Horizon. This applies to all ISPs.

If the Channel Partner has not checked the details with their ISP, or there is any doubt, they should opt for the Assured & Zest4 Ethernet access products.

# Private access/Interconnect into Zest4

In some instances the end user / Channel Partner access provider (none Zest4) may already have, or wish to create a direct peering to the Zest4 network for delivery of Horizon traffic to and from the customer site over the provider’s network.

If you wish to progress this requirement please contact a member of the Pre Sales team. We will require cooperation from the 3rd party provider.

The following providers have a direct interconnect with Zest4 that will support the delivery of Horizon services:

|  |
| --- |
| **Service Provider** |
| **Griffin** |
| **Exponential-E** |
| **janet** |

Please note the above list is independent of the IPDC SIP Trunking provider peering list.

# Additional configuration requirements

## UDP Fragmentation during Horizon communications.

In some instances the size of the UDP datagrams packets transmitted between the Zest4 Horizon platform and customer endpoints (phones) will exceed the default 1500 byte payload. In this scenario UDP fragmentation will occur and it is the responsibility of the Channel Partner and or End User to make sure that any Customer Premise Equipment (CPE) that the Horizon traffic will flow through is able to support UDP fragmentation. It is also advised that a check is made to confirm that any further applications and functions running on the CPE do not interfere with the reassembly of fragmented UDP datagrams.’

If UDP fragmentation is not allowed at the CPE then the end user will face problems with the following Horizon services.

* BLF (Busy Lamp Field)
* Feature Synchronisation (DND, Call Forward Busy, Call Forward Always & Call Forward Unreachable/No Answer)

The use of BLF will cease to work unless UDP packet fragmentation is allowed at the CPE, all NOTIFY packets sent for this service breach 1500 bytes.

When a handset is powered on the NOTIFY packet that serves Feature Synchronisation breaches 1500 bytes. This packet updates the IP Phone with any changes that may have been made by the customer on the Horizon GUI to the services associated with Feature Synchronisation. This could lead to synchronisation issues between the IP Phone and the Horizon Portal. On our Cisco device range this will also manifest itself in that the DND button on the IP Phone display will no longer appear.

## SIP ALG

SIP Application Layer Gateway (ALG) is common in many of today’s routers and in most cases enabled by default on enterprise, business and home broadband routers.  Its primary use is to prevent problems associated to the router’s firewalls by inspecting VOIP traffic packets, and if necessary modifying them to allow connection to the required protocols or ports.

On many business and home class routers Active SIP ALG will cause a mixture of problems by adjusting or terminating Horizon traffic packets in such a manner that they are corrupted and cause issues with the service, manifesting in a range of intermittent issues such as; one way audio, dropped calls, problems transferring calls, handset dropping registration and making or receiving internal calls.

As specified in this document SIP ALG must be disabled on the sites router, we are unable to accept any faults or issues with Horizon if SIP ALG is enabled.

For instructions on disabling this feature please refer to the specific router user guide. We have a limited selection of instructions for completing this via telnet which are available on the knowledge base under technical support > misc.

# Routing of traffic in your Local Area Network

Cisco and Polycom phones that are connected to the Horizon service have CDP (Cisco Discovery Protocol) and LLDP (Link Layer Discover Protocol) enabled as standard. These protocols, CDP (developed by Cisco), and LLDP (vendor neutral), are link layer protocols used by network devices for advertising their identities and capabilities in order to assist with management of the local area network environment, specifically VLAN segregation.

If you wish to support either of these functions for VLAN support on your network then you should enable the desired function on the customer’s network equipment and disable the alternative option. For example if you wish to support CDP for a particular end user you should make sure LLDP is not configured as an option on their network equipment.

The following VLAN ID’s are used on all Horizon handsets, however can be customized through the settings on the switch.

Native VLAN: 1

Data VLAN: 20

Voice VLAN: 30

**What we do not support:**

* We cannot change the fixed VLAN ID’s as set out above.
* We cannot enable only one of the VLAN options (either CDP or LLDP). Both will always be enabled on Horizon phones and it is the customer’s responsibility to enable/disable the required functions on their network.
* We do not support static VLAN assignment.