



# IP FABRIC

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## LOW LEVEL DESIGN

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Site 35COLO as of 2022-01-27, 12:08:12 Z

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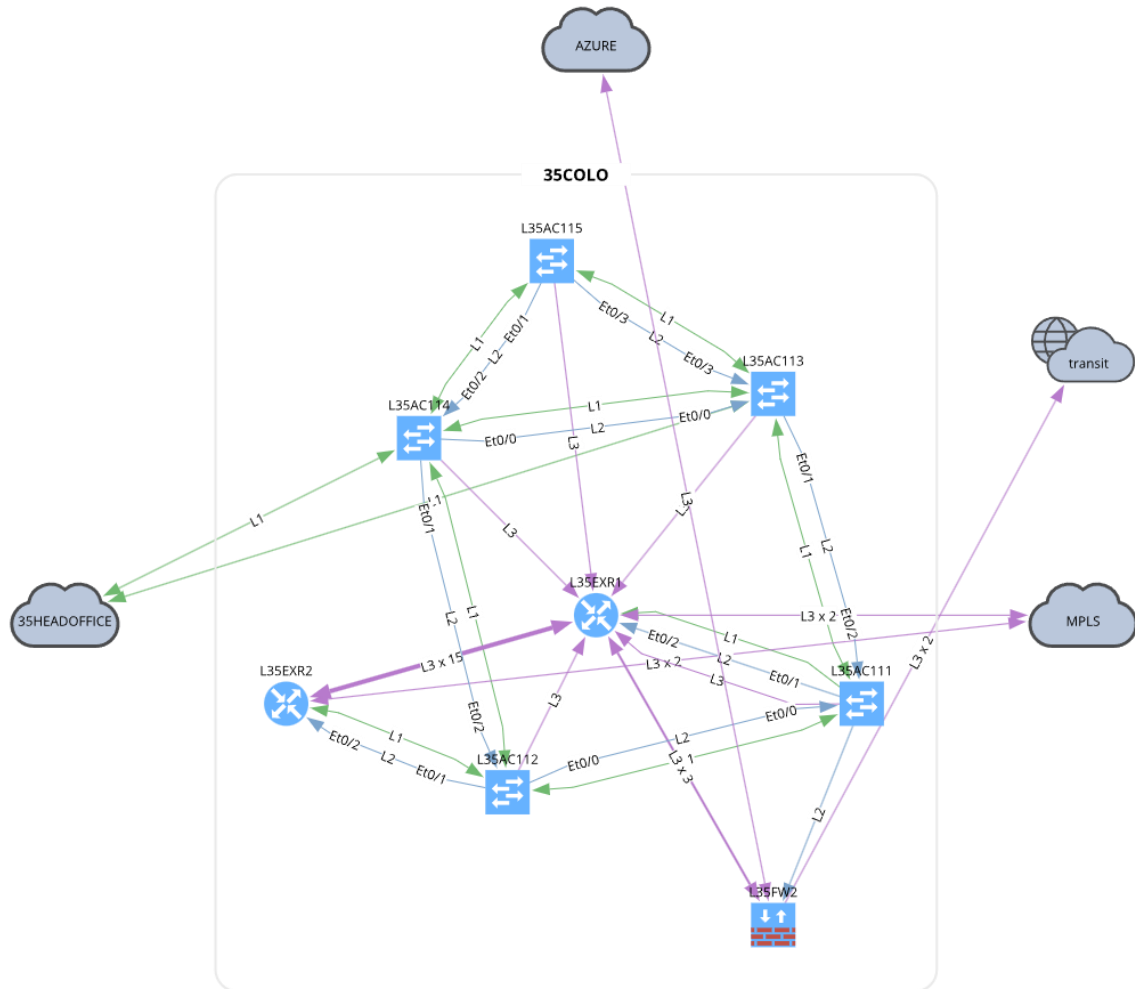
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# DOCUMENT SUMMARY

This document represents Low Level Design information for site 35COLO as of 2022-01-27, 12:08:12 Z, containing 8 managed network infrastructure devices and 1 network hosts.

## SITE DIAGRAM

The following diagram presents general site topology overview, with devices interconnected by various Layer 2 and Layer 3 technologies. When multiple interconnections are present between any two devices, the diagram displays only one for brevity.



# INVENTORY

Inventory presents information about hardware and software at the site.

## GENERAL SITE INFORMATION

The site contains 8 network infrastructure devices supporting 1 active users.

Traffic to 28 networks is routed by 2 routers in 1 routing domains.

Switching at the site is performed by 5 switches connected in 1 contiguous switching domains supporting 20 VLANs.

## MANAGED DEVICES

Managed network infrastructure devices are those devices that actively transfer the data between user endpoints. It may be managed L2 switch, L3 router, firewall, load balancer etc. Managed devices must allow CLI access with admin credentials.

The following table represents managed network infrastructure devices at the site.

Hostname	Model	IP Address	Serial Number
L35EXR2	N/A	10.35.255.102	a23ff66
L35AC114	N/A	10.35.119.174	a23ffae
L35EXR1	N/A	10.35.255.101	a23ff65
L35AC113	N/A	10.35.119.173	a23ffad
L35AC112	N/A	10.35.119.172	a23ffac
L35AC111	N/A	10.35.119.171	a23ffab
L35FW2	ASAv10	10.35.253.51	9AJR4UMXS30
L35AC115	N/A	10.35.119.175	a23faf

*Table 1: Devices*

## OPERATING SYSTEMS

Information about unique operating systems include running OS images on managed devices for each platform family, including the number of devices of each specific platform where image is running.

Software installed for each platform should vary as little as possible to improve operational consistency, ease troubleshooting, and improve root cause analysis. While it is operationally difficult to introduce consistency as a standalone project, consistent software can be introduced as part of the lifecycle software upgrade project.

The following table represents software images running on individual platforms at the site. Device count represents the number of managed devices with the specific combination of platform and image.

Vendor	Family	Platform	Version	Device Count
cisco	asa	asav	9.9(2)32	1
cisco	ios	i86bi_linux	15.5(2)T	2
cisco	ios	i86bi_linuxl2	15.2(20170809:194209)	5

*Table 2: Operating Systems*

The following table represents software images running on the devices and modules at the site.

Hostname	Model	Image	Version	Serial Number
L35EXR2	Intel-x86	unix:/opt/unetlab/addons/iol/bin/i86bi-linux-l3-adventerprisek9-15.5	15.5(2)T	a23ff66
L35AC114	Intel-x86	unix:/opt/unetlab/addons/iol/bin/i86bi_linux_l2-ipbasek9-ms.high_iron	15.2(20170809:194209)	a23ffae
L35EXR1	Intel-x86	unix:/opt/unetlab/addons/iol/bin/i86bi-linux-l3-adventerprisek9-15.5	15.5(2)T	a23ff65
L35AC113	Intel-x86	unix:/opt/unetlab/addons/iol/bin/i86bi_linux_l2-ipbasek9-ms.high_iron	15.2(20170809:194209)	a23ffad
L35AC112	Intel-x86	unix:/opt/unetlab/addons/iol/bin/i86bi_linux_l2-ipbasek9-ms.high_iron	15.2(20170809:194209)	a23ffac
L35AC111	Intel-x86	unix:/opt/unetlab/addons/iol/bin/i86bi_linux_l2-ipbasek9-ms.high_iron	15.2(20170809:194209)	a23ffab
L35FW2	Xeon 5600 series 3333 MHz	boot:/asa992-32-smp-k8.bin	9.9(2)32	9AJR4UMXS30
L35AC115	Intel-x86	unix:/opt/unetlab/addons/iol/bin/i86bi_linux_l2-ipbasek9-ms.high_iron	15.2(20170809:194209)	a23ffaf

## PART NUMBERS

Inventory of every managed network infrastructure device is analyzed for presence of part numbers (device types) and other component identification.

Discovered part numbers are presented in the table below.

Hostname	Part Number	Serial Number
L35EXR2	Unix	75501570
L35AC114	Unix	76909233
L35EXR1	Unix	75499521
L35AC113	Unix	76907184
L35AC112	Unix	76905135
L35AC111	Unix	76903086
L35FW2	ASAv	9AJR4UMXS30
L35AC115	Unix	76911282

*Table 3: Part numbers*

# PHYSICAL LAYER

Information about physical connectivity and interfaces at the site.

## CONNECTIVITY MATRIX

The following table represents physical connectivity among network infrastructure devices.

Hostname1	Interface1	Media1	Media2	Interface2	Hostname2
L35AC111	Et0/3	RJ45	N/A	GigabitEthernet0/1	L35FW2
L35AC112	Et0/2	RJ45	RJ45	Et0/1	L35AC114
L35AC114	Et0/1	RJ45	RJ45	Et0/2	L35AC112
L35AC114	Et0/2	RJ45	RJ45	Et0/1	L35AC115
L35AC115	Et0/1	RJ45	RJ45	Et0/2	L35AC114
L35EXR2	Et0/2	N/A	RJ45	Et0/1	L35AC112
L35AC112	Et0/1	RJ45	N/A	Et0/2	L35EXR2
L35EXR1	Et0/2.110	N/A	N/A	Et0/2.110	L35EXR2
L35EXR2	Et0/2.110	N/A	N/A	Et0/2.110	L35EXR1
L35AC115	Vl119	N/A	N/A	Et0/2.119	L35EXR1
L35AC111	Et0/2	RJ45	RJ45	Et0/1	L35AC113
L35AC113	Et0/1	RJ45	RJ45	Et0/2	L35AC111
L35AC112	Et0/0	RJ45	RJ45	Et0/0	L35AC111
L35AC114	Et0/0	RJ45	RJ45	Et0/0	L35AC113
L35AC114	Et0/3	RJ45	RJ45	Et0/2	L35AC88
L35EXR1	Et0/2.111	N/A	N/A	Et0/2.111	L35EXR2
L35EXR2	Et0/2.111	N/A	N/A	Et0/2.111	L35EXR1
L35AC111	Et0/0	RJ45	RJ45	Et0/0	L35AC112
L35AC112	Et0/0	RJ45	RJ45	Et0/0	L35AC111
L35EXR2	Et0/0.3634	N/A	N/A	Et0/0.3634	L21PE152
L35EXR1	Et0/2.112	N/A	N/A	Et0/2.112	L35EXR2
L35EXR2	Et0/2.112	N/A	N/A	Et0/2.112	L35EXR1
L35EXR1	Tu35	N/A	N/A	Tu35	L35EXR2
L35EXR2	Tu35	N/A	N/A	Tu35	L35EXR1
L35AC113	Vl119	N/A	N/A	Et0/2.119	L35EXR1
L35EXR1	Et0/0.3633	N/A	N/A	Et0/0.3633	L21PE151
L35AC113	Et0/0	RJ45	RJ45	Et0/0	L35AC114
L35AC114	Et0/0	RJ45	RJ45	Et0/0	L35AC113
L35EXR1	Et0/2.114	N/A	N/A	Et0/2.114	L35EXR2
L35EXR2	Et0/2.114	N/A	N/A	Et0/2.114	L35EXR1
L35AC114	Vl119	N/A	N/A	Et0/2.119	L35EXR1
L35AC113	Et0/3	RJ45	RJ45	Et0/3	L35AC115
L35AC115	Et0/3	RJ45	RJ45	Et0/3	L35AC113
L35AC113	Et0/1	RJ45	RJ45	Et0/2	L35AC111
L35FW2	GigabitEthernet0/1	N/A	N/A	Et0/2.5	L35EXR1
L35EXR1	Et0/2.5	N/A	N/A	GigabitEthernet0/1	L35FW2

L35AC112	Vl119	N/A	N/A	Et0/2.119	L35EXR1
L35AC114	Et0/1	RJ45	RJ45	Et0/2	L35AC112
L35AC115	Et0/1	RJ45	RJ45	Et0/2	L35AC114
L35AC113	Et0/2	RJ45	RJ45	Et0/2	L35AC87
L35AC111	Et0/1	RJ45	N/A	Et0/2	L35EXR1
L35AC112	Et0/1	RJ45	N/A	Et0/2	L35EXR2
L35AC115	Et0/3	RJ45	RJ45	Et0/3	L35AC113
L35AC111	Vl119	N/A	N/A	Et0/2.119	L35EXR1
L35AC111	Et0/1	RJ45	N/A	Et0/2	L35EXR1

*Table 4: Physical connectivity matrix*

## HALF-DUPLEX INTERFACES

Most network equipment supports and prefers full duplex setting. There are few exceptions when half duplex operation is necessary, and in such a case all sides must be set for consistently half-duplex operation. Most frequent cause of half-duplex state is due to poor compatibility in historical Ethernet standard implementations, or from legacy configuration.

Duplex directly impacts both performance and capacity. Performance is further impacted due to wait times before sending traffic, imposed by the mandatory minimum interval dictated by CSMA/CD. Duplex issues cause packet loss due to alignment errors, input errors due to overvoltage that scrambles encoding on the link, and other collision induced performance degradation, worsened by often inconsistent duplex state of direct neighbors. Standard collisions are expected on the half-duplex links, however late collisions should be investigated and avoided.

The following table represents enabled Interfaces not in full duplex state.

Hostname	Interface	Speed	Duplex	Description
L35AC112	Et0/1	auto	half	w6mi7x3(q2 i3!p78ygyi c0e-zn36h6
L35AC111	Et0/1	auto	half	kqia!0e%0k 10udlvioe- (0)0#g51bc

*Table 5: Enabled interfaces not in full duplex*

## ERROR-DISABLED INTERFACES

No interfaces have been disabled due to error events.



## **LINK LAYER**

Detailed operational parameters of link layer protocols such as discovery protocols, link aggregation channels, and spanning tree protocols.

### **SPANNING TREE**

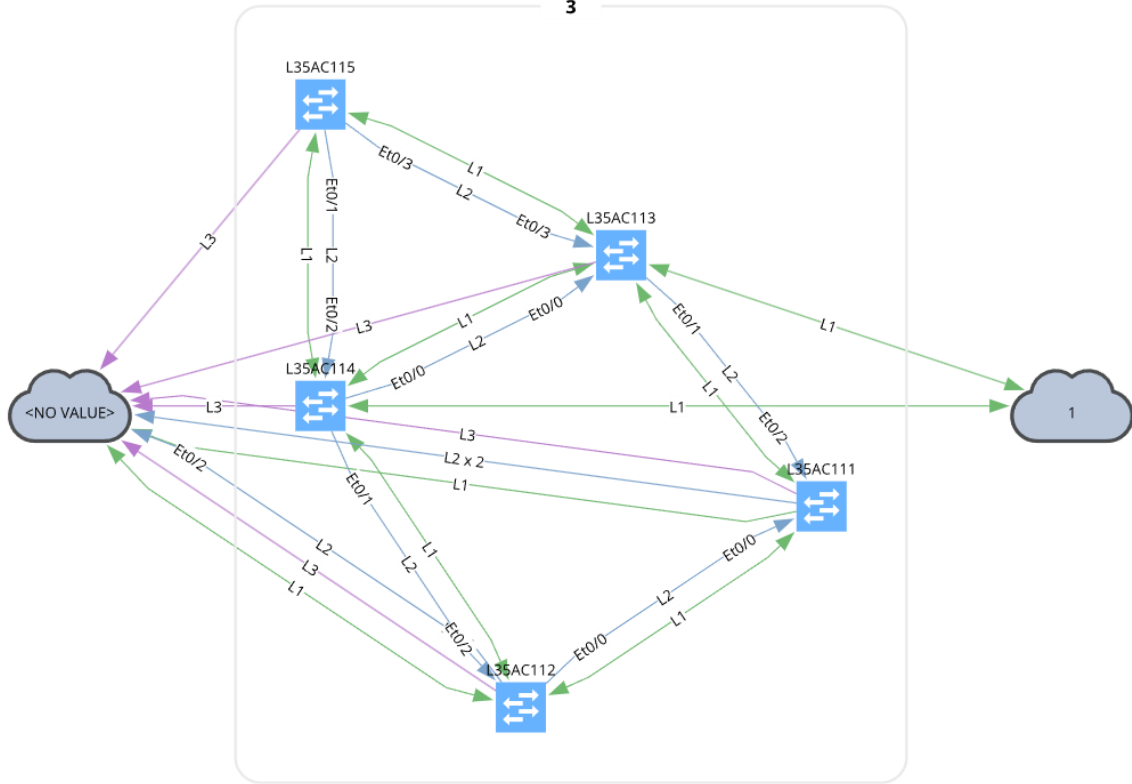
Spanning tree protocol prevents loops and manages redundancy in a layer 2 network. Each spanning tree instance is managed separately.

### **SPANNING TREE DOMAINS**

Spanning tree domains are contiguously connected Spanning Tree instances, which form a Layer 2 failure domain. Layer 2 failure domain represents the worst-case scenario of a fault propagation, where loop in one instance can cause loops in all other overlapping instances.

### **SPANNING TREE DOMAIN 3 DIAGRAM**

The following diagram represents all contiguously connected Spanning Tree instances. Consistent state across instances sharing the same physical topology is presented in blue for forwarding state and grey for blocking state. Arrows represent Spanning Tree state direction. Inconsistent information about between the instances is denoted is highlighted in yellow. Device color reflects the amount of traffic handled by the device, with darker colors representing higher amounts.



## VLANS

VLANS - Summary per device

Hostname	Site	VLANs Total	VLANs Active
L35AC114	35COLO	16	12
L35AC113	35COLO	16	12
L35AC112	35COLO	20	16
L35AC111	35COLO	19	15
L35AC115	35COLO	16	12

Table 6: Vlans

## DISCOVERY PROTOCOLS

Layer 2 discovery protocols such as CDP & LLDP provide direct link visibility and ease of management. The sections describe specific operational state of those protocols in the network.

## PROTOCOL NEIGHBORS

The following table represents Layer 2 connectivity between network infrastructure devices.

Hostname1	Interface1	Protocol	Interface2	Hostname2
L35AC114	Et0/1	cdp	Et0/2	L35AC112
L35AC113	Et0/2	cdp	Et0/2	L35AC87
L35AC111	Et0/2	cdp	Et0/1	L35AC113
L35AC113	Et0/0	cdp	Et0/0	L35AC114
L35AC112	Et0/2	cdp	Et0/1	L35AC114
L35AC114	Et0/3	cdp	Et0/2	L35AC88
L35EXR2	Et0/2	cdp	Et0/1	L35AC112
L35AC115	Et0/1	cdp	Et0/2	L35AC114
L35AC113	Et0/3	cdp	Et0/3	L35AC115
L35AC111	Et0/1	cdp	Et0/2	L35EXR1
L35AC112	Et0/1	cdp	Et0/2	L35EXR2
L35AC115	Et0/3	cdp	Et0/3	L35AC113
L35AC113	Et0/1	cdp	Et0/2	L35AC111
L35AC114	Et0/2	cdp	Et0/1	L35AC115
L35AC111	Et0/0	cdp	Et0/0	L35AC112
L35AC112	Et0/0	cdp	Et0/0	L35AC111
L35AC114	Et0/0	cdp	Et0/0	L35AC113

*Table 7: CDP & LLDP neighborhood table*

## UNMANAGED DISCOVERY PROTOCOL NEIGHBORS

No unmanaged discovery protocol neighbors are present at the site.

## UNIDIRECTIONAL DISCOVERY PROTOCOL NEIGHBORS

The following table represents discovery protocol neighborhood, where only local device sees the neighbor entry, while the remote device does not. Link layer discovery protocols on one link should share same discovery protocol settings.

Local hostname	Local interface	Remote hostname	Remote IP	Remote Interface	Protocol
L35AC111	Et0/1	L35EXR1	10.35.254.2	Et0/2	cdp

*Table 8: Unidirectional neighbors*

## LINK AGGREGATION CHANNELS

No link aggregation channels are present in the network.

# NETWORK LAYER

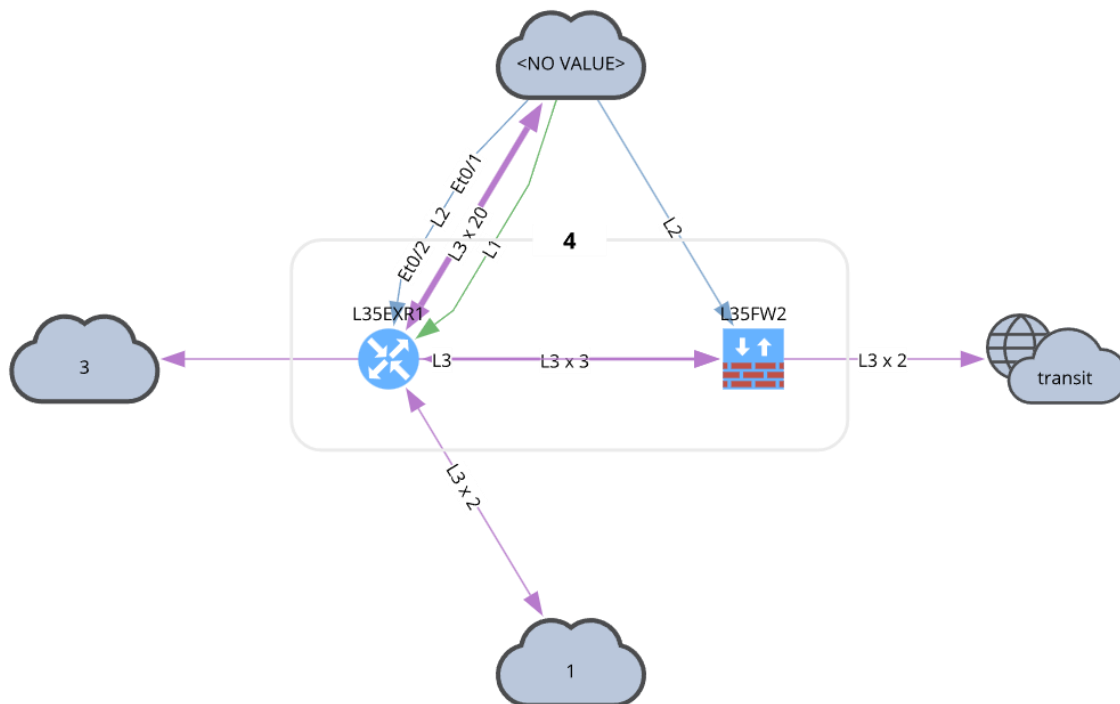
The following section presents detailed information about Layer 3 addressing and routing at the site.

## ROUTING DOMAINS

Routing domains are contiguously connected routers via next-hops, which form a Layer 3 failure domain. Layer 3 failure domain represents the worst-case scenario of a routing fault propagation if unrestricted by a policy.

### ROUTING DOMAIN 4 DIAGRAM

The diagram of a routing domain represents contiguously connected routing neighbors.



## MANAGED IP NETWORKS

A network connected to any of the managed devices at the site is considered a managed network.

The following table presents information about every Layer 3 managed network at the site. Users of the network are active non-network ARP entries (entries of unmanaged devices) observed on the corresponding network routers. Gateways are the IP address of the corresponding managed device or devices. Both primary and secondary addresses are considered as gateways. Virtual Gateways presents active virtual IP address of the First Hop Redundancy Protocol (FHRP) group active in the network.

Network	Users	Gateways	Virtual Gateways	VRF
10.35.110.0/24	0	10.35.110.102, 10.35.110.101	10.35.110.1	N/A
10.35.111.0/24	0	10.35.111.102, 10.35.111.101	10.35.111.1	N/A
10.35.112.0/24	0	10.35.112.102, 10.35.112.101	10.35.112.1	N/A
10.35.113.0/24	0	10.35.113.102, 10.35.113.101	10.35.113.1	N/A
10.35.114.0/24	0	10.35.114.102, 10.35.114.101	10.35.114.1	N/A
10.35.115.0/24	0	10.35.115.102, 10.35.115.101	10.35.115.1	N/A
10.35.116.0/24	0	10.35.116.102, 10.35.116.101	10.35.116.1	N/A
10.35.117.0/24	0	10.35.117.102, 10.35.117.101	10.35.117.1	N/A
10.35.118.0/24	0	10.35.118.102, 10.35.118.101	10.35.118.1	N/A
10.35.119.0/24	0	10.35.119.102, 10.35.119.101	10.35.119.1	N/A
10.35.253.48/29	0	10.35.253.50, 10.35.253.49, 10.35.253.51	N/A	N/A
10.35.253.64/29	0	10.35.253.70	10.35.253.68	N/A
10.35.254.0/30	0	10.35.254.2	N/A	N/A
10.35.254.248/30	1	10.35.254.250	N/A	N/A
10.35.254.4/30	0	10.35.254.6	N/A	N/A
10.35.254.64/30	0	10.35.254.65	N/A	N/A
10.35.255.101/32	0	10.35.255.101	N/A	N/A
10.35.255.102/32	0	10.35.255.102	N/A	N/A
10.35.35.0/24	0	10.35.35.2, 10.35.35.1	N/A	DWAN
10.35.36.0/24	0	10.35.36.2, 10.35.36.1	N/A	TENANT
10.35.37.1/32	0	10.35.37.1	N/A	TENANT
10.35.37.2/32	0	10.35.37.2	N/A	TENANT

*Table 9: Managed networks*

## MANAGED IP ADDRESSES

Every IP address on every interface of every managed device is considered a Managed IP address.

The following table presents all managed IP addresses at the site.

Hostname	Interface	IP	Net	Type	VRF
L35EXR2	Et0/2.114	10.35.114.102	10.35.114.0/24	primary	N/A
L35EXR2	Lo35	10.35.37.2	10.35.37.2/32	primary	TENANT
L35EXR2	Et0/2.110	10.35.110.102	10.35.110.0/24	primary	N/A
L35EXR2	Et0/2.6	10.35.253.70	10.35.253.64/29	primary	N/A
L35EXR2	Et0/2.6	10.35.253.68	10.35.253.64/29	virtual	N/A
L35EXR2	Et0/2.117	10.35.117.102	10.35.117.0/24	primary	N/A
L35EXR2	Et0/0.3634	10.35.254.6	10.35.254.4/30	primary	N/A
L35EXR2	Et0/2.116	10.35.116.102	10.35.116.0/24	primary	N/A
L35EXR2	Et0/2.5	10.35.253.50	10.35.253.48/29	primary	N/A
L35EXR2	Et0/2.118	10.35.118.102	10.35.118.0/24	primary	N/A
L35EXR2	Et0/2.119	10.35.119.102	10.35.119.0/24	primary	N/A
L35EXR2	Et0/2.115	10.35.115.102	10.35.115.0/24	primary	N/A
L35EXR2	Tu35	10.35.36.2	10.35.36.0/24	primary	TENANT
L35EXR2	Et0/2.113	10.35.113.102	10.35.113.0/24	primary	N/A
L35EXR2	Et0/2.111	10.35.111.102	10.35.111.0/24	primary	N/A
L35EXR2	Et0/2.112	10.35.112.102	10.35.112.0/24	primary	N/A
L35EXR2	Et0/2.1	10.35.254.250	10.35.254.248/30	primary	N/A
L35EXR2	Lo0	10.35.255.102	10.35.255.102/32	primary	N/A
L35EXR2	Et0/2.35	10.35.35.2	10.35.35.0/24	primary	DWAN
L35AC114	Lo0	10.35.255.174	10.35.255.174/32	primary	N/A
L35AC114	Vl119	10.35.119.174	10.35.119.0/24	primary	N/A
L35EXR1	Et0/2.116	10.35.116.101	10.35.116.0/24	primary	N/A
L35EXR1	Et0/2.116	10.35.116.1	10.35.116.0/24	virtual	N/A
L35EXR1	Et0/2.5	10.35.253.49	10.35.253.48/29	primary	N/A
L35EXR1	Et0/2.118	10.35.118.101	10.35.118.0/24	primary	N/A
L35EXR1	Et0/2.118	10.35.118.1	10.35.118.0/24	virtual	N/A
L35EXR1	Et0/2.117	10.35.117.101	10.35.117.0/24	primary	N/A
L35EXR1	Et0/2.117	10.35.117.1	10.35.117.0/24	virtual	N/A
L35EXR1	Et0/2.110	10.35.110.101	10.35.110.0/24	primary	N/A
L35EXR1	Et0/2.110	10.35.110.1	10.35.110.0/24	virtual	N/A
L35EXR1	Et0/2.113	10.35.113.101	10.35.113.0/24	primary	N/A
L35EXR1	Et0/2.113	10.35.113.1	10.35.113.0/24	virtual	N/A
L35EXR1	Et0/2.115	10.35.115.101	10.35.115.0/24	primary	N/A
L35EXR1	Et0/2.115	10.35.115.1	10.35.115.0/24	virtual	N/A
L35EXR1	Tu35	10.35.36.1	10.35.36.0/24	primary	TENANT
L35EXR1	Et0/2.114	10.35.114.101	10.35.114.0/24	primary	N/A
L35EXR1	Et0/2.114	10.35.114.1	10.35.114.0/24	virtual	N/A
L35EXR1	Et0/2.112	10.35.112.101	10.35.112.0/24	primary	N/A
L35EXR1	Et0/2.112	10.35.112.1	10.35.112.0/24	virtual	N/A
L35EXR1	Lo0	10.35.255.101	10.35.255.101/32	primary	N/A
L35EXR1	Et0/2.111	10.35.111.101	10.35.111.0/24	primary	N/A
L35EXR1	Et0/2.111	10.35.111.1	10.35.111.0/24	virtual	N/A
L35EXR1	Et0/0.3633	10.35.254.2	10.35.254.0/30	primary	N/A
L35EXR1	Et0/2.35	10.35.35.1	10.35.35.0/24	primary	DWAN
L35EXR1	Lo35	10.35.37.1	10.35.37.1/32	primary	TENANT
L35EXR1	Et0/2.119	10.35.119.101	10.35.119.0/24	primary	N/A
L35EXR1	Et0/2.119	10.35.119.1	10.35.119.0/24	virtual	N/A
L35AC113	Vl119	10.35.119.173	10.35.119.0/24	primary	N/A
L35AC113	Lo0	10.35.255.173	10.35.255.173/32	primary	N/A
L35AC112	Vl119	10.35.119.172	10.35.119.0/24	primary	N/A
L35AC112	Lo0	10.35.255.172	10.35.255.172/32	primary	N/A
L35AC111	Lo0	10.35.255.171	10.35.255.171/32	primary	N/A
L35AC111	Vl119	10.35.119.171	10.35.119.0/24	primary	N/A

L35FW2	Tunnel1	10.35.254.65	10.35.254.64/30	primary	N/A
L35FW2	GigabitEthernet0/0	172.29.129.241	172.29.129.0/24	primary	N/A
L35FW2	GigabitEthernet0/1	10.35.253.51	10.35.253.48/29	primary	N/A
L35AC115	VI119	10.35.119.175	10.35.119.0/24	primary	N/A
L35AC115	Lo0	10.35.255.175	10.35.255.175/32	primary	N/A

*Table 10: Managed IP addresses*

## FIRST HOP REDUNDANCY PROTOCOLS

First hop redundancy protocols (FHRP) provide router gateway redundancy for the network users.

The following table represents first hop redundancy protocols member interfaces present at the site.

Hostname	Virtual Address	Interface	Priority	State
L35EXR2	10.35.253.68	Et0/2.6	110	active
L35EXR1	10.35.110.1	Et0/2.110	199	active
L35EXR2	10.35.110.1	Et0/2.110	198	standby
L35EXR2	10.35.111.1	Et0/2.111	198	standby
L35EXR1	10.35.111.1	Et0/2.111	199	active
L35EXR2	10.35.112.1	Et0/2.112	198	standby
L35EXR1	10.35.112.1	Et0/2.112	199	active
L35EXR1	10.35.113.1	Et0/2.113	199	active
L35EXR2	10.35.113.1	Et0/2.113	198	standby
L35EXR1	10.35.114.1	Et0/2.114	199	active
L35EXR2	10.35.114.1	Et0/2.114	198	standby
L35EXR2	10.35.115.1	Et0/2.115	198	standby
L35EXR1	10.35.115.1	Et0/2.115	199	active
L35EXR2	10.35.116.1	Et0/2.116	198	standby
L35EXR1	10.35.116.1	Et0/2.116	199	active
L35EXR1	10.35.117.1	Et0/2.117	199	active
L35EXR2	10.35.117.1	Et0/2.117	198	standby
L35EXR1	10.35.118.1	Et0/2.118	199	active
L35EXR2	10.35.118.1	Et0/2.118	198	standby
L35EXR1	10.35.119.1	Et0/2.119	199	active
L35EXR2	10.35.119.1	Et0/2.119	198	standby

*Table 11: First hop redundancy protocol member interfaces*

## MANAGEMENT

Device management parameters and access

### END OF LIFE MILESTONES

Network infrastructure vendors use end of life milestones to communicate stage of the product lifecycle, allowing sufficient time to migrate to a next generation product.

No end of life milestones have been announced for any of the discovered part numbers.

### TELNET ACCESS

The following table represents devices with enabled telnet access for management.

Hostname	IP Address
L35EXR2	10.35.255.102
L35AC114	10.35.119.174
L35EXR1	10.35.255.101
L35AC113	10.35.119.173
L35AC112	10.35.119.172
L35AC111	10.35.119.171
L35AC115	10.35.119.175

*Table 12: Telnet Management Access*

### CISCO CONFIGURATION REGISTER

Configuration register instructs the system how to behave during boot, and can modify operational low level system parameters.

Irregular configuration register settings can significantly prolong recovery after a failure or a reboot, complicate management over console interface, or cause abnormal broadcast behavior.

Usual symptoms of suboptimal configuration register settings include device losing its configuration upon reboot or device not loading the system image, both of which require manual intervention via the console port.

All of the analyzed devices have expected configuration register.



## **UNEXPECTED RELOADS**

The reason of the device operational state should be an expected event, such as device power event, reload command, or an upgrade.

All devices have expected reload reason.