

# CDXNET 2017

## External Services (DMZ) VLAN 100

FTP Server



Web Server



VLAN 100

Email Server



DNS Server 1



## Internal Services (BLUE) VLAN 200

Windows End-User



Yum Repo



VLAN 200

Active Directory/DNS



Linux End-User



## Monitoring/Logging (MONITOR) VLAN 300

Scoreboard Mntr.



Windows Event Collector



Monitor1



Monitor2



Monitor 3



log\_server



## Spoof (SPOOF) VLAN 800

Spoof



\*Devices in VLANs 400 & 500 route all web traffic through the Spoof

## Proxy (PROXY) VLAN 700

Proxy



## Gray Cell Web App (GRAYWEB) VLAN 600

Web App



## Generals Devices (GENERAL) VLAN 500

Generals Laptop



Generals Tablet



## Gray Cell (GRAY) VLAN 400



Relay



Alpha



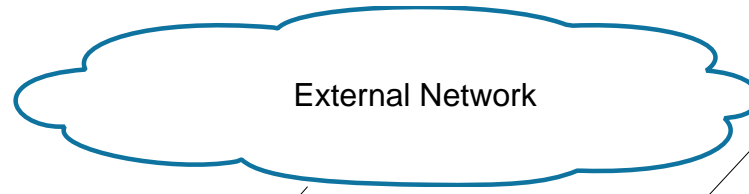
Beta



Delta



Gamma



External Network



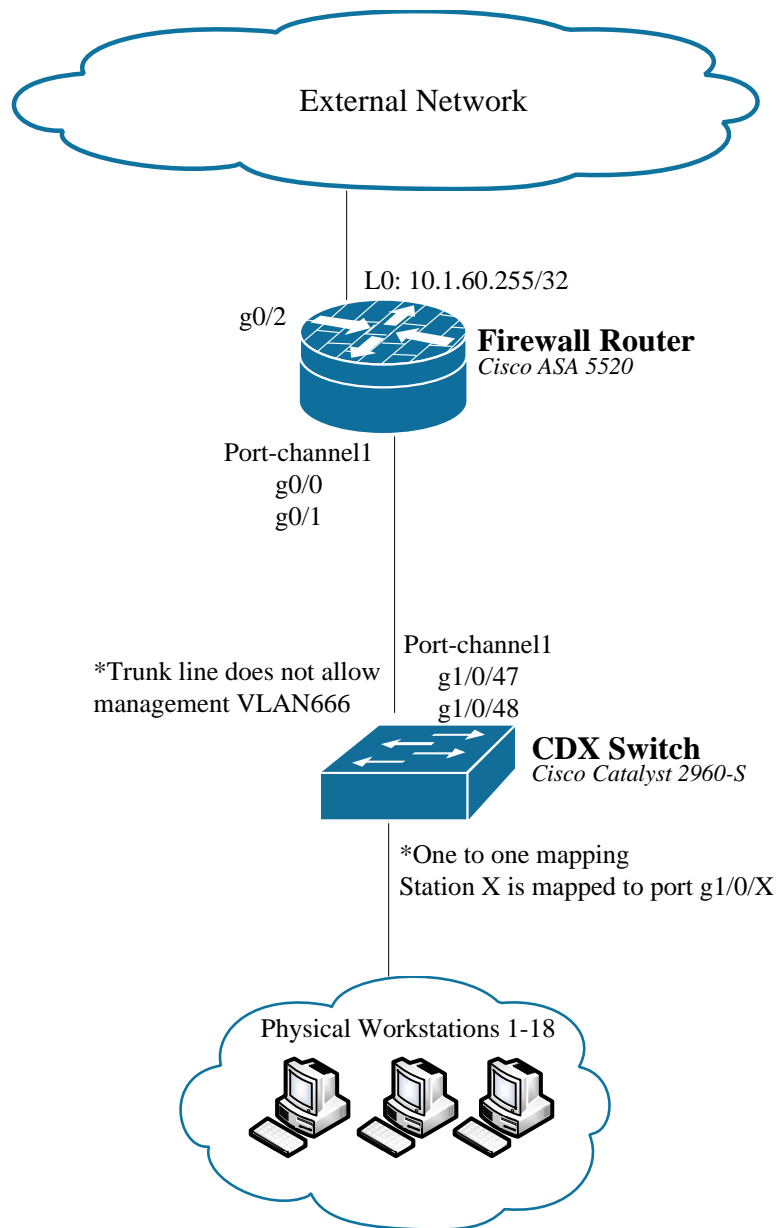
Firewall Router



CDX Switch



# CDXNET 2017



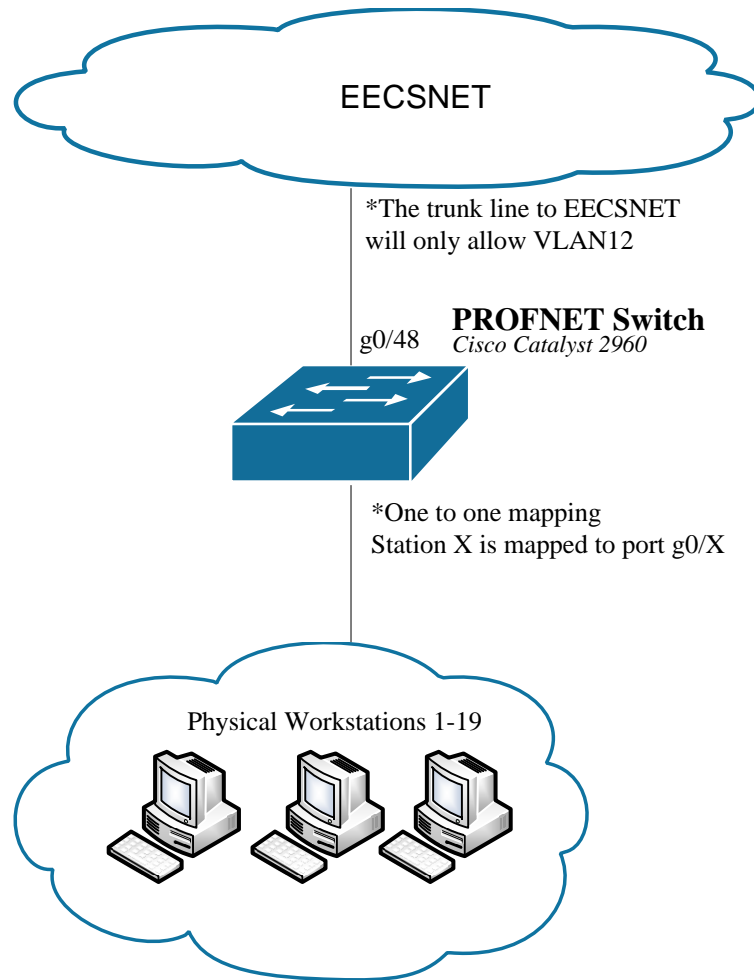
## ROAS Gateway Interfaces 10.1.60.0/24

Port-channel1.100 IPv4: 10.1.60.30/27 IPv6: fd20:d310:9bc7:100::dead:beef/64	Port-channel1.500 IPv4: 10.1.60.118/29 IPv6: fd20:d310:9bc7:500::dead:beef/64
Port-channel1.200 IPv4: 10.1.60.62/27 IPv6: fd20:d310:9bc7:200::dead:beef/64	Port-channel1.600 IPv4: 10.1.60.126/29 IPv6: fd20:d310:9bc7:600::dead:beef/64
Port-channel1.300 IPv4: 10.1.60.64/27 IPv6: fd20:d310:9bc7:300::dead:beef/64	Port-channel1.700 IPv4: 10.1.60.134/29 IPv6: fd20:d310:9bc7:700::dead:beef/64
Port-channel1.400 IPv4: 10.1.60.110/28 IPv6: fd20:d310:9bc7:400::dead:beef/64	Port-channel1.800 IPv4: 10.1.60.142/29 IPv6: fd20:d310:9bc7:800::dead:beef/64

## Switch Port VLAN Assignment (g1/0/X)

VLAN100 External Services: <b>7, 8, 9, 10</b>
VLAN200 Internal Services: <b>11, 12, 13, 14, 15, 18</b>
VLAN300 Monitoring/Logging: <b>1, 2, 3</b>
VLAN400 Gray Cell: <b>25, 27, 29, 31, 33</b>
VLAN500 General's Devices: <b>17</b>
VLAN600 Gray Cell Web App: <b>16</b>
VLAN666 Management: <b>5-6</b> *see MANAGENET Diagram

# PROFNET 2017



## PROFNET

VLAN12

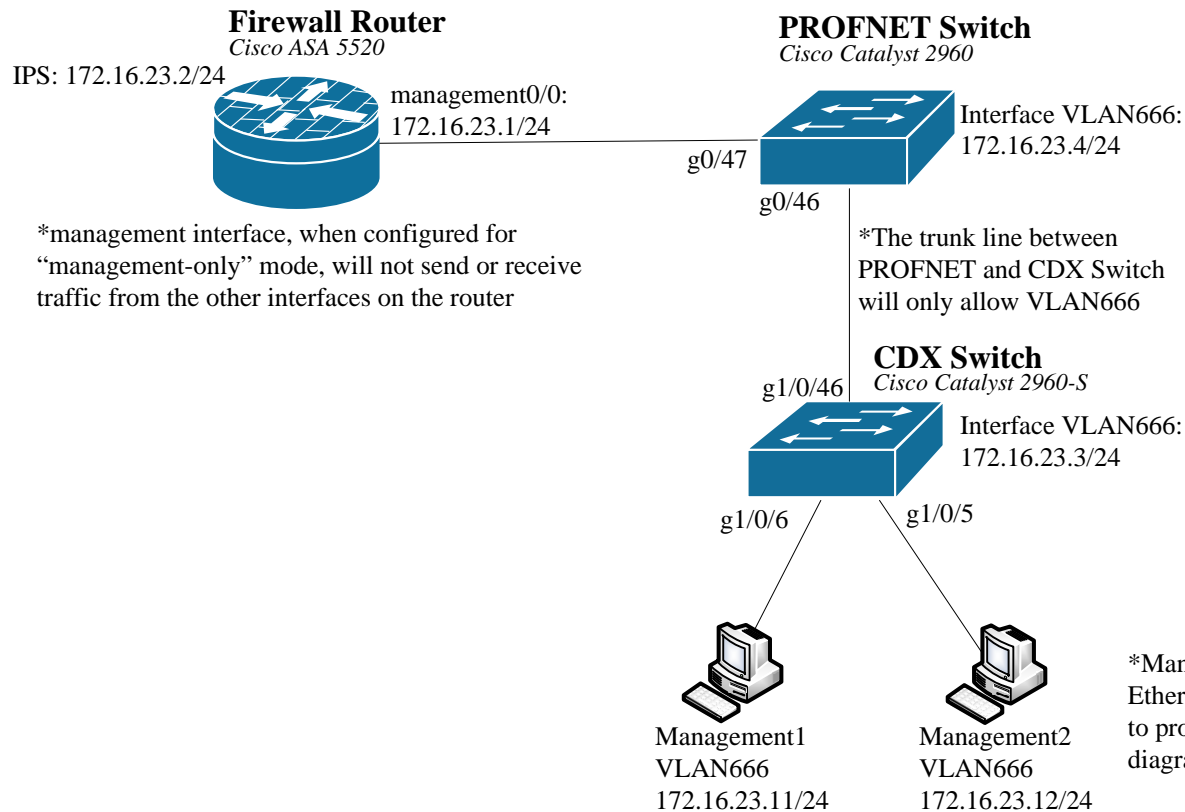
10.17.17.0/24

DHCP enabled

\*PROFNET is essentially commercial internet for the purposes of updating and installing software on VMs running on the Physical Workstations. PROFNET is completely separate from the CDXNET. During the CDX, the VMs being used in the exercise will strictly access the CDXNET. Before the CDX, VMs may switch back and forth as needed by switching the virtual adapter to bridge out the desired physical one.

\*\*Concerning the message above about swapping virtual adapters, this implies that the physical workstations have an Ethernet connection to both the PROFNET and CDXNET. Note, however, the host machines should not be configured for use on either of these networks. That will be reserved only for VMs running under the host OS that elect to bridge out the desired interface.

# MANAGENET 2017



\*management interface, when configured for “management-only” mode, will not send or receive traffic from the other interfaces on the router

\*The trunk line between PROFNET and CDX Switch will only allow VLAN666

## MANAGENET

172.16.23.0/24

VLAN666

\*This is a logically isolated network. Traffic from MANAGENET will be contained within MANAGENET

\*Management terminals will also have a second Ethernet connection from the PROFNET switch to provide internet access. See PROFNET diagram

\*\*Management terminals, unlike the other machines in CDXNET, will have their OS installed as the host OS instead of VM in a virtualization program.

# CDX Seating Chart 2017

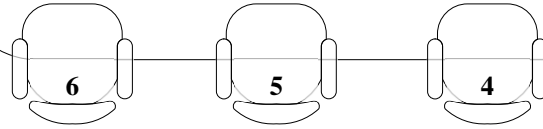
Graycell

\*Workstations 1-18 are mapped to CDX\_Switch g1/0/X, where X is the station number

Battle Captain

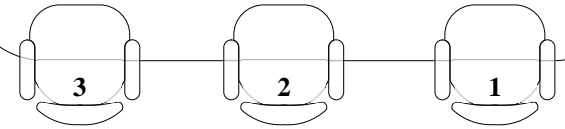
## Network

net-manager      firewall      proxy



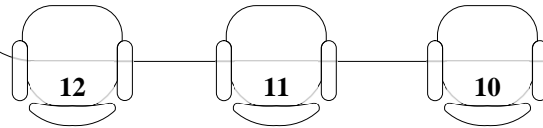
## Monitor

logclient      logserver      scoreboard



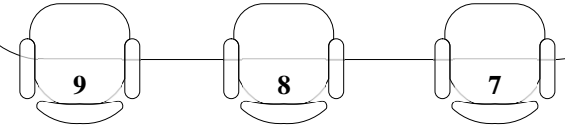
## Internal Services

winEnd      dc1      ftp



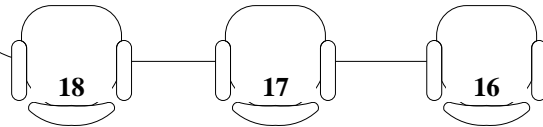
## External Services

ns1      www      email



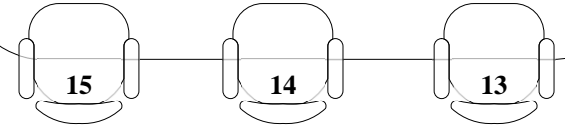
## End Users

linuxEnd      genLaptop      grayWebApp



## Systems

linuxSE      yum      spare



Gamma  
Patch Panel 35  
g1/0/33

Delta  
Patch Panel 34  
g1/0/31

Beta  
Patch Panel 33  
g1/0/29

Alpha  
Patch Panel 32  
g1/0/27

Relay  
Patch Panel 31  
g1/0/25

# CDXNET

## IPv4 Subnets: 10.1.60.0/24

Subnet Name	Allocated Size	Network Address	CIDR Mask	Subnet Mask	Assignable Range	Broadcast Address
VLAN100 External Services	32	10.1.60.0	/27	255.255.255.224	10.1.60.1-30	10.1.60.31
VLAN200 Internal Services	32	10.1.60.32	/27	255.255.255.224	10.1.60.33-62	10.1.60.63
VLAN300 Monitoring & Logging	32	10.1.60.64	/27	255.255.255.224	10.1.60.65-94	10.1.60.95
VLAN400 Gray Cell	16	10.1.60.96	/28	255.255.255.240	10.1.60.97-110	10.1.60.111
VLAN500 General's Devices	8	10.1.60.112	/29	255.255.255.248	10.1.60.113-118	10.1.60.119
VLAN600 Gray Cell Web App	8	10.1.60.120	/29	255.255.255.248	10.1.60.121-126	10.1.60.127
VLAN700 Proxy	8	10.1.60.128	/29	255.255.255.248	10.1.60.129-134	10.1.60.135
VLAN800 Spoofer	8	10.1.60.136	/29	255.255.255.248	10.1.60.137-142	10.1.60.143
VLAN666 Management*	256	172.16.23.0	/24	255.255.255.0	172.16.23.1-254	172.16.23.255
VLAN12 Profnet**	256	10.17.25.0	/24	255.255.255.0	10.17.25.1-254	10.17.25.255

\*VLAN666 is a logically isolated management subnet; see MANAGENET diagram

\*\*VLAN12 is a logically isolated DHCP enabled network with commercial internet; see PROFNET diagram

## IPv6 Subnets: fd20:d310:9bc7::/48

Subnet Name	Network Address	CIDR Mask
VLAN100 External Services	fd20:d310:9bc7:100::	/64
VLAN200 Internal Services	fd20:d310:9bc7:200::	/64
VLAN300 Monitoring & Logging	fd20:d310:9bc7:300::	/64
VLAN400 Gray Cell	fd20:d310:9bc7:400::	/64
VLAN500 General's Devices	fd20:d310:9bc7:500::	/64
VLAN600 Gray Cell Web App	fd20:d310:9bc7:600::	/64
VLAN700 Proxy	fd20:d310:9bc7:700::	/64
VLAN800 Spoofer	fd20:d310:9bc7:800::	/64

# SIMNET

(10.2.0.0/16)

# BLUENET

(10.1.0.0/16)

## Name Resolution

[service].[academy].bluenet ex)

www.usma.bluenet

Cell	Domain Name	IPv4	IPv6
Exercise Headquarters	hq.bluenet	10.1.10.0/24	fd3:1726:8838::/48
USCGA (physical infrastructure)	uscga.bluenet	10.1.40.0/24	fd30:d3fd:204::/48
USMMA (virtual infrastructure)	usmma.bluenet	10.1.50.0/24	fde4:f22e:0ad9::/48
USMA (physical infrastructure)	usma.bluenet	10.1.60.0/24	fd20:d310:9bc7::/48
USNA (physical infrastructure)	usna.bluenet	10.1.70.0/24	fdc2:49bb:0ada::/48
RMC (physical infrastructure)	rmc.bluenet	10.1.100.0/24	fd05:ce63:cd34::/48
RMC-U (physical infrastructure)	rmcu.bluenet	10.1.110.0/24	fd83:7c38:ec7b::/48
USCC (virtual infrastructure)	-	10.1.150.0/24	fd1d:46d1:290a::/48
Test	-	10.1.120.0/24	fd5e:4d21:4cb6::/48
Scoring Baseline	-	10.1.190.0/24	fd2b:2f63:3266::/48

### Locally Resolvable (within respective BLUENET)

alpha smtp  
beta imap  
delta ns1  
gamma ns2  
dc1

### Publicly Resolvable (across all SIMNET & BLUENET)

www imap  
www6 grayadmin  
ftp

### **Global Time Server**

ntp.hq.bluenet

# CDXNET Host Mapping

## VLAN100 External Services

gateway 10.1.60.30/27 fd20:d310:9bc7:100::dead:beef/64			
Name	Station	IPv4	IPv6
smtp / imap	07	10.1.60.1	
www / www6	08	10.1.60.2	fd20:d310:9bc7:100::2
ftp	10	10.1.60.3	
ns1	09	10.1.60.5	
ns2		10.1.60.6	
www-testclient		10.1.60.10	fd20:d310:9bc7:100::10
email-testclient		10.1.60.11	Note: .10 & .11 remove before cdx
available addresses: 10.1.60.4, 6-29			

## VLAN200 Internal Services

gateway 10.1.60.62/27 fd20:d310:9bc7:200::dead:beef/64			
Name	Station	IPv4	IPv6
dc1	11	10.1.60.33	
winadmin	12	10.1.60.34	
yum	14	10.1.60.35	
linuxadmin	18	10.1.60.36	
linuxse	15	10.1.60.37	Note: .37 & .38 remove before cdx
spare	13	10.1.60.38	
available addresses: 10.1.60.39-61			

## VLAN300 Monitoring/Logging

gateway 10.1.60.94/27 fd20:d310:9bc7:300::dead:beef/64			
Name	Station	IPv4	IPv6
monitor1	Laptop	10.1.60.65	
monitor2	Laptop	10.1.60.66	
monitor3	Laptop	10.1.60.67	
scoreboard	01	10.1.60.68	
networkmonitoring	03	10.1.60.69	
logserver	02	10.1.60.70	fd20:d310:9bc7:300::70
monitor4	Laptop	10.1.60.70	
available addresses: 10.1.60.71-93			

## VLAN400 Gray Cell

gateway 10.1.60.109/28 fd20:d310:9bc7:400::dead:beef/64			
Name	Station	IPv4	IPv6
grayadmin	Laptop	10.1.60.97	
alpha	Laptop	10.1.60.98	fd20:d310:9bc7:400::98
beta	Laptop	10.1.60.99	fd20:d310:9bc7:400::99
delta	Laptop	10.1.60.100	fd20:d310:9bc7:400::100
gamma	Laptop	10.1.60.101	fd20:d310:9bc7:400::101
spoofer	Laptop	10.1.60.109	fd20:d310:9bc7:400::109
available addresses: 10.1.60.102-108			

## VLAN500 General's Devices

gateway 10.1.60.117/29 fd20:d310:9bc7:500::dead:beef/64			
Name	Station	IPv4	IPv6
genlaptop	17	10.1.60.113	fd20:d310:9bc7:500::113
gentablet		10.1.60.114	fd20:d310:9bc7:500::114
spoofer		10.1.60.117	fd20:d310:9bc7:500::117
available addresses: 10.1.60.115-116			

## VLAN600 Gray Cell Web App

gateway 10.1.60.126 fd20:d310:9bc7:600::dead:beef/64			
Name	Station	IPv4	IPv6
admwebapp	16	10.1.60.121	fd20:d310:9bc7:600::121
available addresses: 10.1.60.122-125			

## VLAN700 Proxy

gateway 10.1.60.134 fd20:d310:9bc7:700::dead:beef/64			
Name	Station	IPv4	IPv6
proxy	04	10.1.60.129	fd20:d310:9bc7:600::129
available addresses: 10.1.60.130-133			

## VLAN800 Spoofer

gateway 10.1.60.142 fd20:d310:9bc7:800::dead:beef/64			
Name	Station	IPv4	IPv6
spoofer		10.1.60.137	fd20:d310:9bc7:800::137
available addresses: 10.1.60.138-141			