Server Setup

This chapter provides instructions for setting up the server. It includes the following topics:

Connect Power Supplies and KVM Adapter

To begin, connect both power supplies on the back of your appliance. Connect the included KVM adapter to an external monitor and keyboard, and plug into the KVM port located at the front of the server, as illustrated in Figure 3.

If CIMC is configured, you can use a remote KVM. See CIMC Configuration in the Appendix.

Refer to the server product documentation for detailed hardware and environmental setup information (See Product Documentation).

Network Interface Connections Setup

The SFP+ modules must be connected to the chassis *before* the appliance is powered on for the session in which the configuration wizard is going to be run. However, wiring the SFP up to the network can be done between power on and configuration.

C220 M3 Rack Server Setup

The interfaces must be properly connected and configured for the appliance to operate.

Note The details for your appliance may differ from the illustrations. Contact **support@threatgrid.com** if you have any questions.

Find the two SFP+ ports and three Ethernet ports on the back of the appliance and attach the network cables as illustrated in Figure 4.

Reserved is the non-Admin SFP+ port that is reserved for future use.

Figure 1: Cisco UCS C220 M3 SFF Rack Server

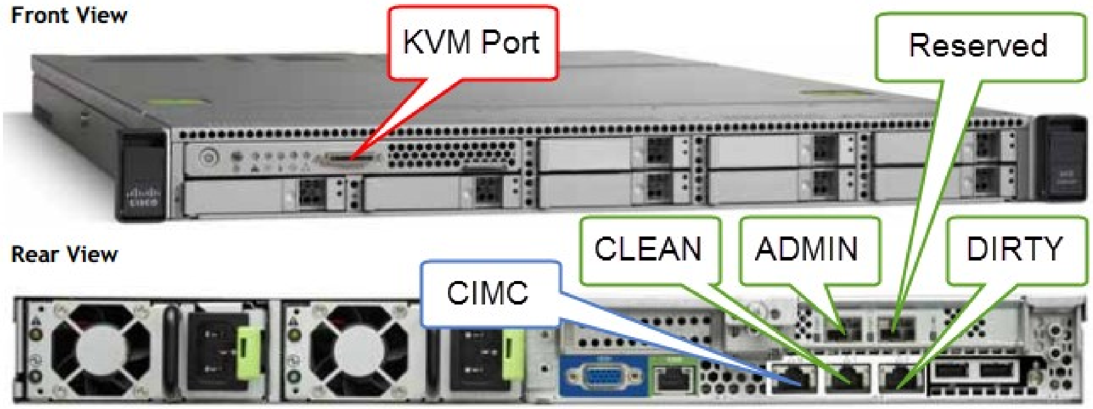
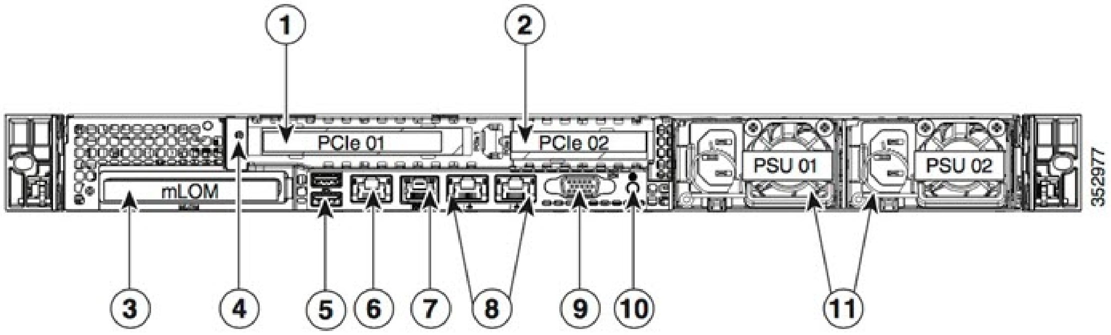


Figure 2: Cisco UCS C220 M3 Rear View Details



1	PCIe riser 1/slot 1	**7**	Serial port (RJ-45 connector)
2	PCIe riser 2/slot 2	**8**	Dual 1-Gb Ethernet ports (LAN1 and LAN2)
3	Modular LAN-on-motherboard (mLOM) card slot	**9**	VGA video port (DB-15)
4	Grounding-lug hole (for DC power supplies)	**10**	Rear unit identification button/LED
5	USB 3.0 ports (two)	**11**	Power supplies (up to two, redundant as 1+1)
6	1-Gb Ethernet dedicated management port		

Note For releases 1.0-1.2 a reboot may be needed if an interface was not plugged in at boot time. This is a pre-1.3 issue, except for any interface requiring an SFP, which will still needs to be plugged in at boot time post 1.3. The network cable plugged into the SFP may be safely hot-plugged.

C220 M4 Rack Server Setup

The interfaces must be properly connected and configured for the appliance to operate.

Use port 3 Slot 2 for the (optional) Clust interface.

Note The details for your appliance may differ from the illustrations. Contact **support@threatgrid.com** if you have any questions.

Figure 3: Cisco UCS C220 M4 SFF Rack Server

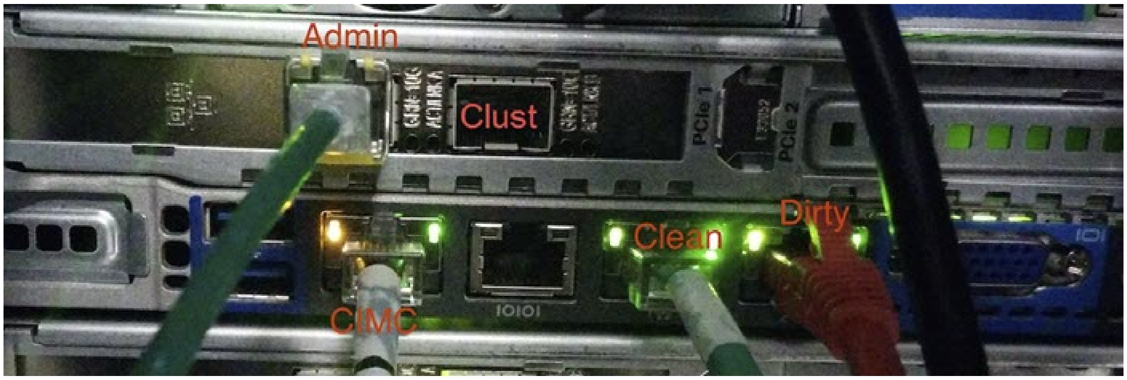
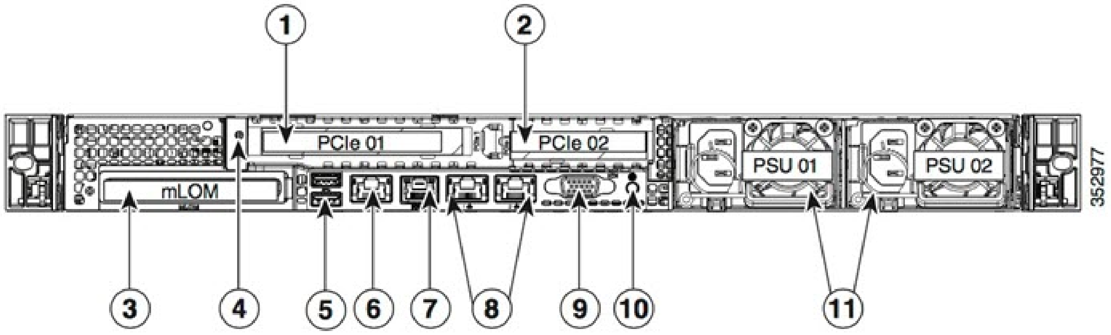


Figure 4: CIsco UCS C220 M4 Rear View Details



1	PCIe riser 1/slot 1	**7**	Serial port (RJ-45 connector)
2	PCIe riser 2/slot 2	**8**	Dual 1-Gb Ethernet ports (LAN1 and LAN2)
3	Modular LAN-on-motherboard (mLOM) card slot	**9**	VGA video port (DB-15)
4	Grounding-lug hole (for DC power supplies)	**10**	Rear unit identification button/LED
5	USB 3.0 ports (two)	**11**	Power supplies (up to two, redundant as 1+1)
6	1-Gb Ethernet dedicated management port		

Connections:

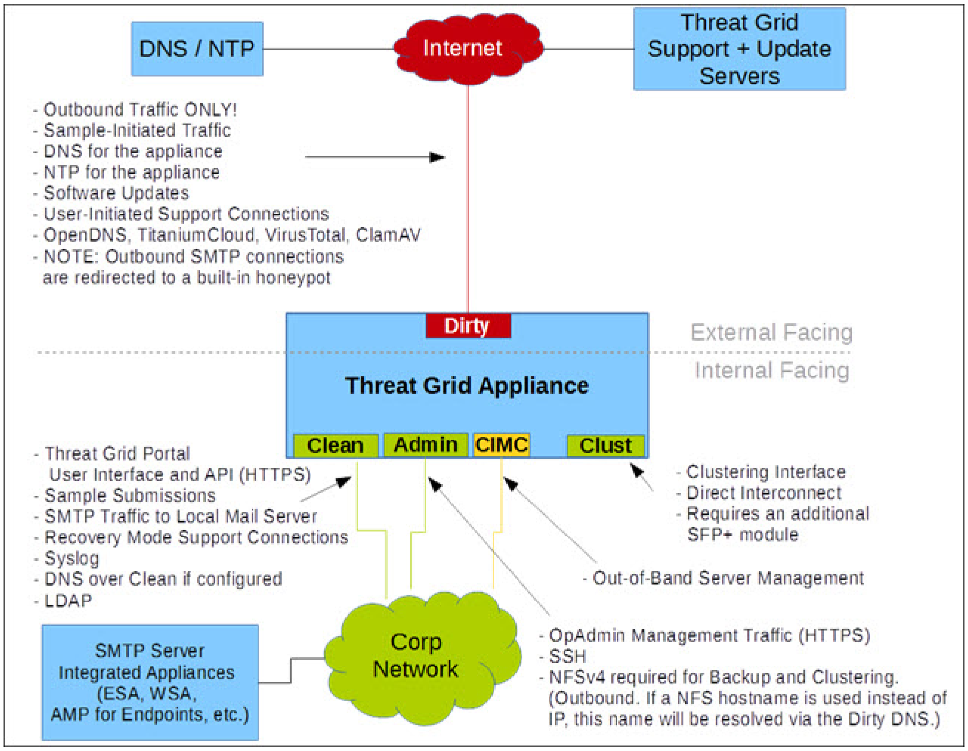
- **1** Admin, Clust

- **8** (left) Clean
- **8** (right) Dirty
- **6** CIMC

Network Interface Setup Diagram

This section describes the most logical and recommended setup for a Threat Grid Appliance. However, each customer's interface setup is different. Depending on your network requirements, you may decide to connect the Dirty interface to the inside, or the Clean interface to the outside with appropriate network security measures in place, for example.

Figure 5: Network Interfaces Setup Diagram


DNS / NTP
Internet
Threat Grid Support + Update Servers
- Outbound Traffic ONLY!
- Sample-Initiated Traffic
- DNS for the appliance
- NTP for the appliance
- Software Updates
- User-Initiated Support Connections
- OpenDNS, TitaniumCloud, VirusTotal, ClamAV
- NOTE: Outbound SMTP connections are redirected to a built-in honeypot
Dirty
External Facing
Internal Facing
Threat Grid Appliance
Clean
Admin
CIMC
Clust
- Threat Grid Portal User Interface and API (HTTPS)
- Sample Submissions
- SMTP Traffic to Local Mail Server
- Recovery Mode Support Connections
- Syslog
- DNS over Clean if configured
- LDAP
- Clustering Interface
- Direct Interconnect
- Requires an additional SFP+ module
- Out-of-Band Server Management
SMTP Server Integrated Appliances (ESA, WSA, AMP for Endpoints, etc.)
Corp Network
- OpAdmin Management Traffic (HTTPS)
- SSH
- NFSv4 required for Backup and Clustering. (Outbound. If a NFS hostname is used instead of IP, this name will be resolved via the Dirty DNS.)

Firewall Rules

This section provides suggested firewall rules.

Note Implementing a restrictive outgoing policy on the Dirty interface for ports 22 and 19791 requires tracking updates over time and spending more time maintaining the firewall. See the required destinations in the configuration sections.

Note Using IPv4LL address space (168.254.0.16) for the Dirty interface is NOT supported.

Dirty Interface Outbout

Source	Destination	Protocol	Port	Action	Note
Dirty Interface	Internet	ANY	ANY	Allow	Allow outbound traffic from samples. (To get accurate results it is required that malware be allowed to contact its command and control server using whatever port and protocol it is designed to use.)

Dirty Interface Inbound

Source	Destination	Protocol	Port	Action	Note
ANY	Dirty Internet	ANY	ANY	Deny	Deny all incoming connections.

Clean Interface Outbound

Source	Destination	Protocol	Port	Action	Note
Clean Interface	SMTP Servers	TCP	25	Allow	The appliance uses the clean interface to initiate SMTP connections to the configured mail server.

Clean Interface Outbound (Optional)

Source	Destination	Protocol	Port	Action	Note
Clean Interface	Corporate DNS Server	TCP/UDP	53	Allow	Optional, only required if Clean DNS is configured.
Clean Interface	AMP Private Cloud	TCP	443	Allow	Optional, only required if AMP for Endpoints Private Cloud integration is used.
Clean Interface	Syslog Servers	UDP	514	Allow	Allow connectivity to server designated to receive Syslog messages and Threat Grid notifications.
Clean Interface	LDAP Servers	TCP/UDP	389	Allow	Optional, only required if LDAP is configured.

Source	Destination	Protocol	Port	Action	Note
Cean Interface	LDAP Servers	TCP	636	Allow	Optional, only required if LDAP is configured.

Clean Interface Inbound

Source	Destination	Protocol	Port	Action	Note
User Subnet	Clean Interface	TCP	22	Allow	Allow SSH conectivity to the tgsh-dialog.
User Subnet	Clean Interface	TCP	80	Allow	Appliance API and Threat Grid user interface. This will redirect to HTTPS TCP/443.
User Subnet	Clean Interface	TCP	443	Allow	Appliance API and Threat Grid user interface.
User Subnet	Clean Interface	TCP	9443	Allow	Allow connectivity to the Threat Grid UI Glovebox.

Admin Interface Outbound (Optional)

The following depends on what services are configured.

Source	Destination	Protocol	Port	Action	Note
Admin Interface	NFSv4 Server	TCP	2049	Allow	Optional, only required if Threat Grid appliance is configured to send backups to an NFSv4 share.

Admin Interface Inbound

Source	Destination	Protocol	Port	Action	Note
Admin Subnet	Admin Interface	TCP	22	Allow	Allow SSH connectivity to the TGSH Dialog.
Admin Subnet	Admin Interface	TCP	80	Allow	Allow Access to the OpAdmin Portal interface. This will redirect to HTTPS TCP/443.
Admin Subnet	Admin Interface	TCP	443	Allow	Allow Access to the OpAdmin Portal interface.

Dirty Interface for Non Cisco-Validated/Recommended Deployment

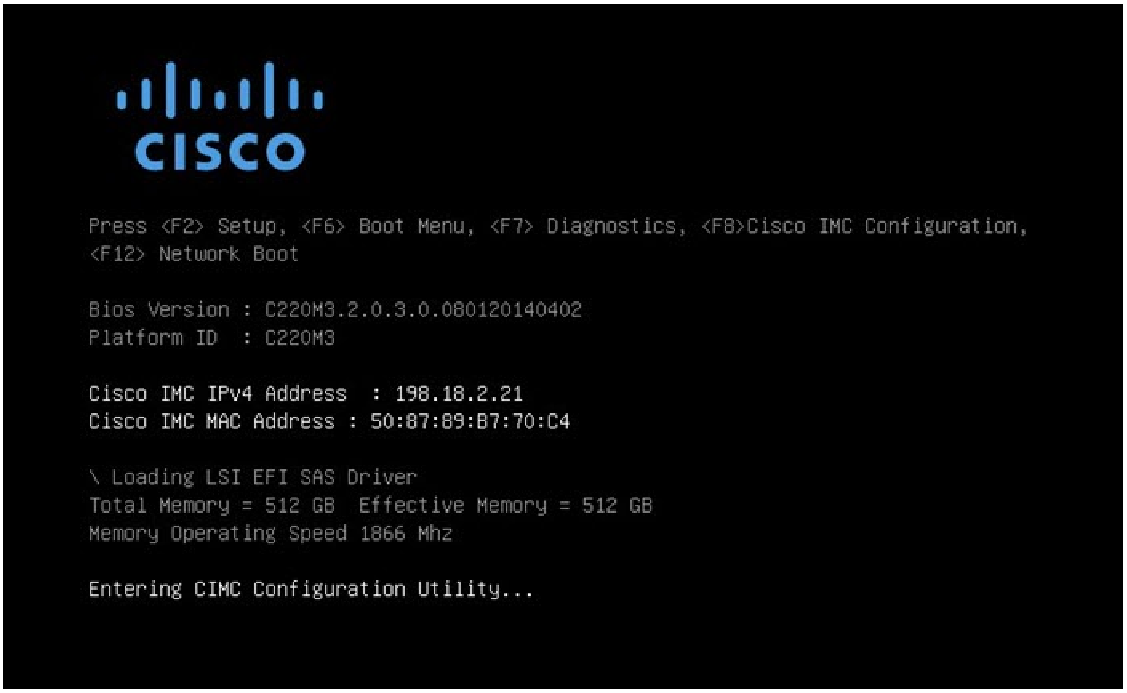
Source	Destination	Protocol	Port	Action	Note
Dirty Interface	Internet	TCP	22	Allow	Update, support snapshot, and licensing services.

Source	Destination	Protocol	Port	Action	Note
Dirty Interface	Internet	TCP/UDP	53	Allow	Allow outbound DNS.
Dirty Interface	Internet	UDP	123	Allow	Allow outbound NTP.
Dirty Interface	Internet	TCP	19791	Allow	Allow connectivity to Threat Grid support.
Dirty Interface	Cisco Umbrella	TCP	443	Allow	Connect with third-party detection and enrichment services.
Dirty Interface	VirusTotal	TCP	443	Allow	Connect with third-party detection and enrichment services.
Dirty Interface	TitaniumCloud	TCP	443	Allow	Connect with third-party detection and enrichment services.

Power On and Boot Up Appliance

Once you have connected the server peripherals and the network interfaces (don't forget to attach and plug in the power cables), turn on the appliance and wait for it to boot up. The Cisco screen is briefly displayed.

Figure 6: Cisco Screen During Bootup

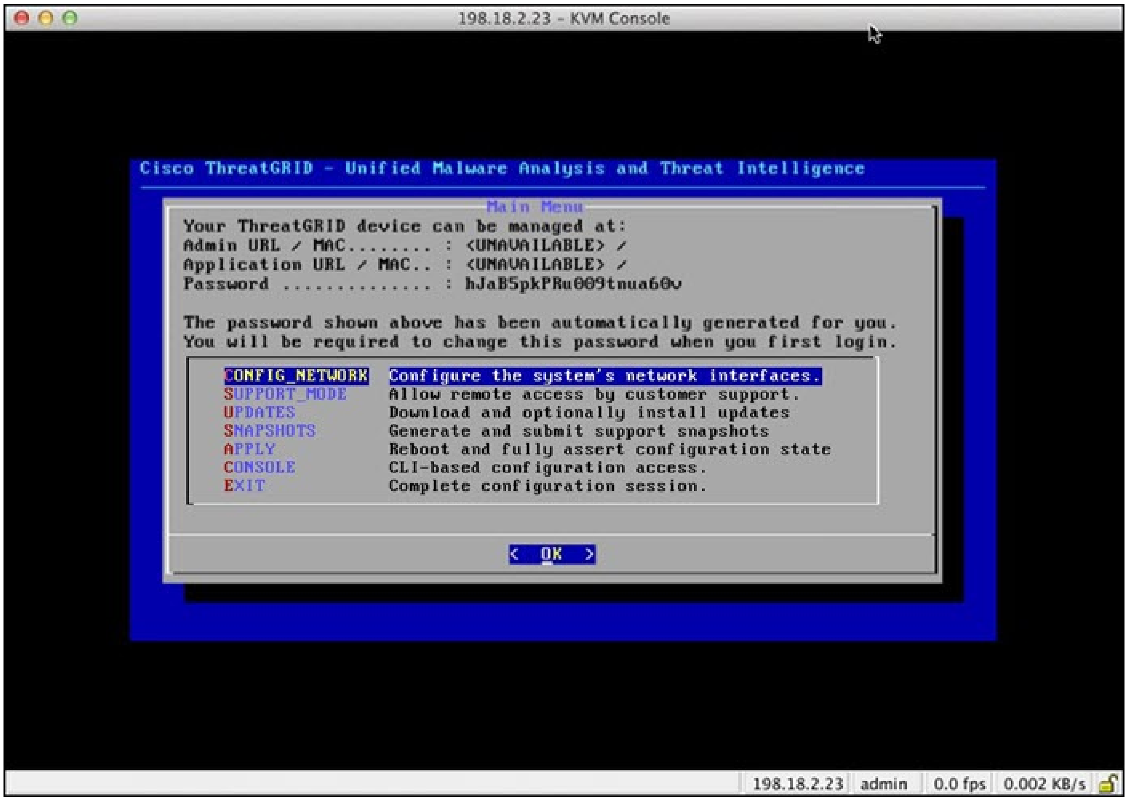


```
Press <F2> Setup, <F6> Boot Menu, <F7> Diagnostics, <F8>Cisco IMC Configuration,
<F12> Network Boot

Bios Version : C220M3.2.0.3.0.080120140402
Platform ID  : C220M3

Cisco IMC IPv4 Address  : 198.18.2.21
Cisco IMC MAC Address : 50:87:89:B7:70:C4

\ Loading LSI EFI SAS Driver
Total Memory = 512 GB  Effective Memory = 512 GB
Memory Operating Speed 1866 Mhz

Entering CIMC Configuration Utility...
```

Note If you want to configure this interface, press **F8** after the memory check is completed and follow the instructions in CIMC Configuration.

The **TGSH Dialog** is displayed on the console when the server has successfully booted up and connected.

Figure 7: TGSH Dialog



```
Cisco ThreatGRID - Unified Malware Analysis and Threat Intelligence

                         Main Menu
Your ThreatGRID device can be managed at:
Admin URL / MAC........ : <UNAVAILABLE> /
Application URL / MAC.. : <UNAVAILABLE> /
Password .............. : hJaB5pkPRu009tnua60v

The password shown above has been automatically generated for you.
You will be required to change this password when you first login.

    CONFIG_NETWORK   Configure the system's network interfaces.
    SUPPORT_MODE     Allow remote access by customer support.
    UPDATES          Download and optionally install updates
    SNAPSHOTS        Generate and submit support snapshots
    APPLY            Reboot and fully assert configuration state
    CONSOLE          CLI-based configuration access.
    EXIT             Complete configuration session.

                         < OK >
```

The Admin URL shows as unavailable because the network interface connections are not yet configured and the OpAdmin Portal cannot be reached yet to perform this task.

Important The **TGSH Dialog** displays the initial administrator password, which will be needed to access and configure the OpAdmin Portal interface later in the configuration. Make a note of the administrator Password in a separate text file f(copy and paste).