VECTRA®

Deployment preparation, installation and configuration of the Vectra X-series platform

Traffic requirements

The Vectra X-series platform automatically detects threats in real-time by passively monitoring network traffic. The Vectra X-series platform is deployed by connecting to a port on the core network switch configured as a Switch Port Analyzer (SPAN) port or to a network Test Access Port (TAP). Since most threats originate from a compromised host within an enterprise network, the X-series must see bidirectional traffic flows for accurate threat detection.

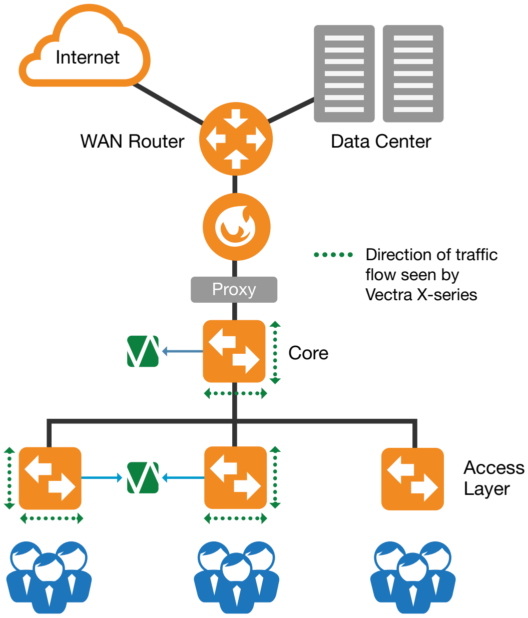
The table below outlines the types of network traffic that enable the X-series to detect phases of an attack in progress.

Traffic type	Purpose
User to Internet	Detect C&C connections, botnet monetization, click fraud, data exfiltration
User to data center	Detect reconnaissance, data acquisition, data exfiltration
User to user	Detect reconnaissance, lateral movement, data acquisition, data exfiltration
User to authentication servers	Detect brute force login attempts, lateral movement. Also used for host identification
DHCP	Identify hosts

Network deployment

Network placement of the Vectra X-series is critical to ensure it detects all phases of an attack. Different segments of the network provide access to different types of data traffic. The X-series should be deployed on the internal side of the network, behind the firewall and proxy at the core or aggregation layer switch.

This placement enables the X-series to monitor traffic to the Internet, internal traffic that crosses the switch and traffic to the data center. The network topology in the next column shows a sample deployment of the X-series.



Network deployment	Traffic visibility
Core switch	• User-to-Internet traffic • User-to-user traffic crossing the switch • User-to-server traffic
Access switch	• User-to-Internet traffic • User-to-user traffic within the switch • User-to-server traffic

Initial configuration

Before you begin, obtain the following configuration parameters:

- IP address, network mask and default gateway for the Vectra X-series management interface
- DNS server address
- NTP server hostname or IP address
- SMTP server hostname or IP address (optional)
- Syslog server hostname or IP address (optional)
- Any public IP address within your organization to be monitored (optional)

Connectivity requirements

The table below outlines the connectivity needed by the Vectra X-series. You may require modification of firewall rules to allow access to these services from the Vectra X-series platform.

Source IP address	Destination host	Comment
MGT1 IP address	update2.vectranetworks.com: 443	SSL access to Vectra cloud update (required)
MGT1 IP address	api.vectranetworks.com: 443	SSL access to Vectra cloud service (required)
MGT1 IP address	vpn.vectranetworks.com UDP: 9970, TCP: 443	OpenVPN tunnel to the Vectra support operations (required)
MGT1 IP address	DNS Server	Domain name resolution (required)
MGT1 IP address	NTP Server	Setting time (required)
MGT1 IP address	Syslog Server	Syslog messages (required)
MGT1 IP address	Email Server	Email notifications (optional)

The Vectra X-series initial configuration requires both CLI and HTTPS UI access to the X-series.

1) CLI access is required for setting the IP address, network mask and default gateway.

2) UI access is required for setting DNS, NTP server settings and other optional settings such as notifications.

The table below lists the default admin credentials required to access the X-series:

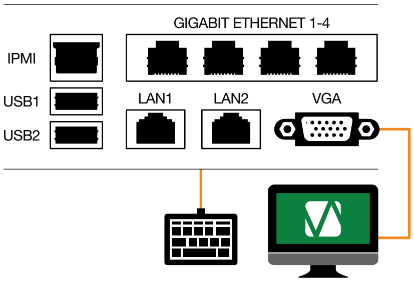
Username/password	Purpose
vectra/youshouldchangethis	Default user credentials used for CLI access
admin/youshouldchangethis	Default user credentials used for UI access

Connecting to the CLI

Note: The two onboard Ethernet ports on the Vectra X-series are labeled LAN1 and LAN2. LAN1 corresponds to MGT1 and LAN2 corresponds to MGT2.

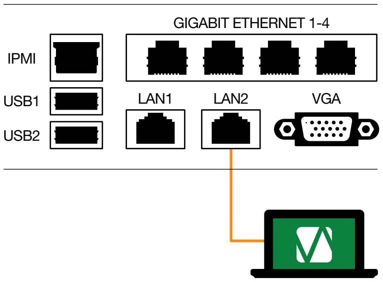
Connection Method 1: Using monitor and keyboard

- Connect a monitor and keyboard to the VGA and USB ports on the rear of the Vectra X-series platform.
- Use the default user credentials used for CLI access vectra/youshouldchangethis.



Connection Method 2: SSH access to the LAN2 port

- Connect a computer to port LAN2 via an Ethernet cable. The LAN2 interface has a default IP address of 169.254.0.10 and subnet mask 255.255.0.0.
- Set the management host IP address to 169.254.0.11 with subnet mask of 255.255.0.0, and initiate the SSH connection to the X-series. » ssh vectra@169.254.0.10
- Use the default user credentials for CLI access vectra/youshouldchangethis.



Note: You can complete the initial configuration by accessing the UI via LAN2 interface https://169.254.0.10. Refer to the section *Connecting to the User Interface* on Page 4 for configuration steps.

The table below lists the commands required for initial configuration:

Command	Purpose
set password	Change the default CLI access password
set interface mgt1 [ip <ip>] [netmask <netmask>] [gw <ip>]	Set the MGT1 interface network settings
show interface mgt1	Display interface network settings
exit	Exit CLI

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Changing the default CLI access password

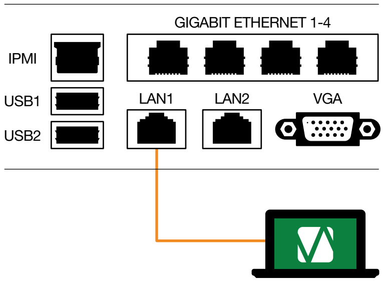
```
> set password
(current) password: ********************
Passwords must be at least 8 characters long and contain at least
1) one digit (0-9)
2) one upper case letter (A-Z)
3) one lower case letter (a-z)
4) one symbol (~!@#$%^&*_-+=`| \ ( ){ }[ ]:;”’<>,.?/)
Enter new password: **********
Retype new password: **********
```

Setting the MGT1 IP address

```
> set interface mgt1 ip 192.168.254.209 netmask
255.255.255.0 gw
192.168.254.254
```

Verifying the interface configuration

```
> show interface mgt1
mgt1 :
dhcp :
ip : 192.168.254.209
netmask : 255.255.255.0
gw : 192.168.254.254
```



Connecting to the user interface

Note: The default credentials for accessing the UI is admin/youshouldchangethis.

From a computer attached to the network, connect to the MGT1 interface of Vectra X-series platform with a standard Web browser (e.g., Firefox, Chrome, Safari, IE version 9 or newer).

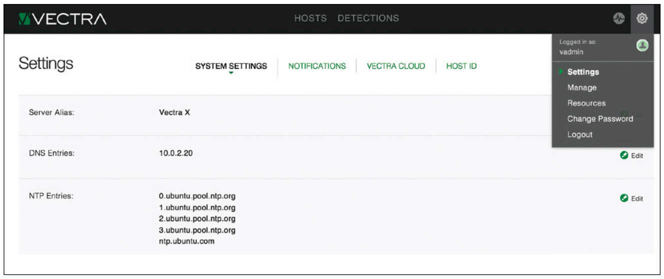
1) Enter *https://[IP address for MGT1]* into the address line of the browser. (e.g., https://192.168.254.209).

2) Login with username *admin* and password *youshouldchangethis*.

3) Navigate to the settings icon (a gear icon in the upper right corner) and click on *Settings*.

4) Change the password for admin user. You can also create additional admin user accounts from the users page.

5) Configure the system settings:



Server Alias: Vectra X

DNS Entries: 10.0.2.20

NTP Entries: 0.ubuntu.pool.ntp.org
1.ubuntu.pool.ntp.org
2.ubuntu.pool.ntp.org
3.ubuntu.pool.ntp.org
ntp.ubuntu.com

- DNS server IP address. The system default is the Google domain name service.
- NTP server IP address or hostname. The system default is set to the Ubuntu network time protocol servers.
- Custom e-mail alerts to selected recipients for high-severity threats (optional).
- Syslog integration for detected threats and their contextual information (optional).
- Click on *Apply Changes* at the bottom of the page to apply the changes.

Best practices for configuring SPAN

The Switch Port Analyzer (SPAN) enables a switch to copy traffic from a port or a VLAN to another port for network monitoring. While the syntax for configuring switches will differ from vendor to vendor, best practices and deployment considerations for SPAN and TAP ports are consistent.

- When planning a port mirroring strategy, consider that many switch vendors have a limit of two SPAN ports per switch.
- It is easy to oversubscribe SPAN ports resulting in dropped packets. Use of TAP may be preferred.
- If only one port is to be mirrored, capture both RX and TX to ensure monitoring of bidirectional traffic.
- If all ports are to be mirrored, capture either RX or TX to prevent duplication of traffic twice and reduce the load on the switch.
- If one or more VLANs are to be mirrored, capture either RX or TX to prevent duplication of traffic twice and reduce the load on the switch.
- If multiple ports are to be mirrored, capture both RX and TX with filters to prevent duplication of traffic. Consider using VLANs if the traffic from the monitored ports can be isolated.