Devices

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The ExtraHop system automatically discovers and classifies devices, also known as endpoints, that are actively communicating over the wire, such as clients, servers, routers, load balancers, and gateways. Each device receives the highest level of analysis available, based on your system configuration.

It is important to know that devices listed in the ExtraHop system might not have a one-to-one correlation to the physical devices in your environment. For example, if a single physical device has multiple active network interfaces, that device is identified as multiple devices in the ExtraHop Web UI.

Click **Assets** from the top navigation menu and then click **Devices** to display the following charts that provide insight about the active devices discovered on your network during the selected time interval:

Active Devices

Displays the total number of devices that have been discovered by your ExtraHop appliance. Click the number to view a list of all discovered devices.

New Devices

Displays how many devices have been discovered within the past month. The percentage shows you the rate of change for the selected time interval. Click the number to view a list of all of these devices.

Devices by Role

Displays each type of device role that is active on your network and the number of devices assigned to each role. Click a device role to view a list of all devices assigned that role.

From the Devices list, you can search for specific devices or click the device name to view device details on the Overview page. Select the checkmark next to a device to complete the following actions available from icons in the upper right corner:

- Create a chart to visualize metrics associated with the device. You can then save your chart to a dashboard.
- Add to the device to the watchlist to prioritize the device for Advanced Analysis.
- Create an activity map to view peer device relationships.
- Assign the device to a static device group.
- Assign the device to a trigger.
- Assign the device to a threshold alert or a trend alert.
- Assign a tag to the device to help you organize devices.

Device Overview page

By clicking on a device name, you can view all of the information discovered by the ExtraHop system about the device on the Overview page. The Overview page is divided into three sections: a top-level summary, a properties panel, and an activity panel.

Device summary

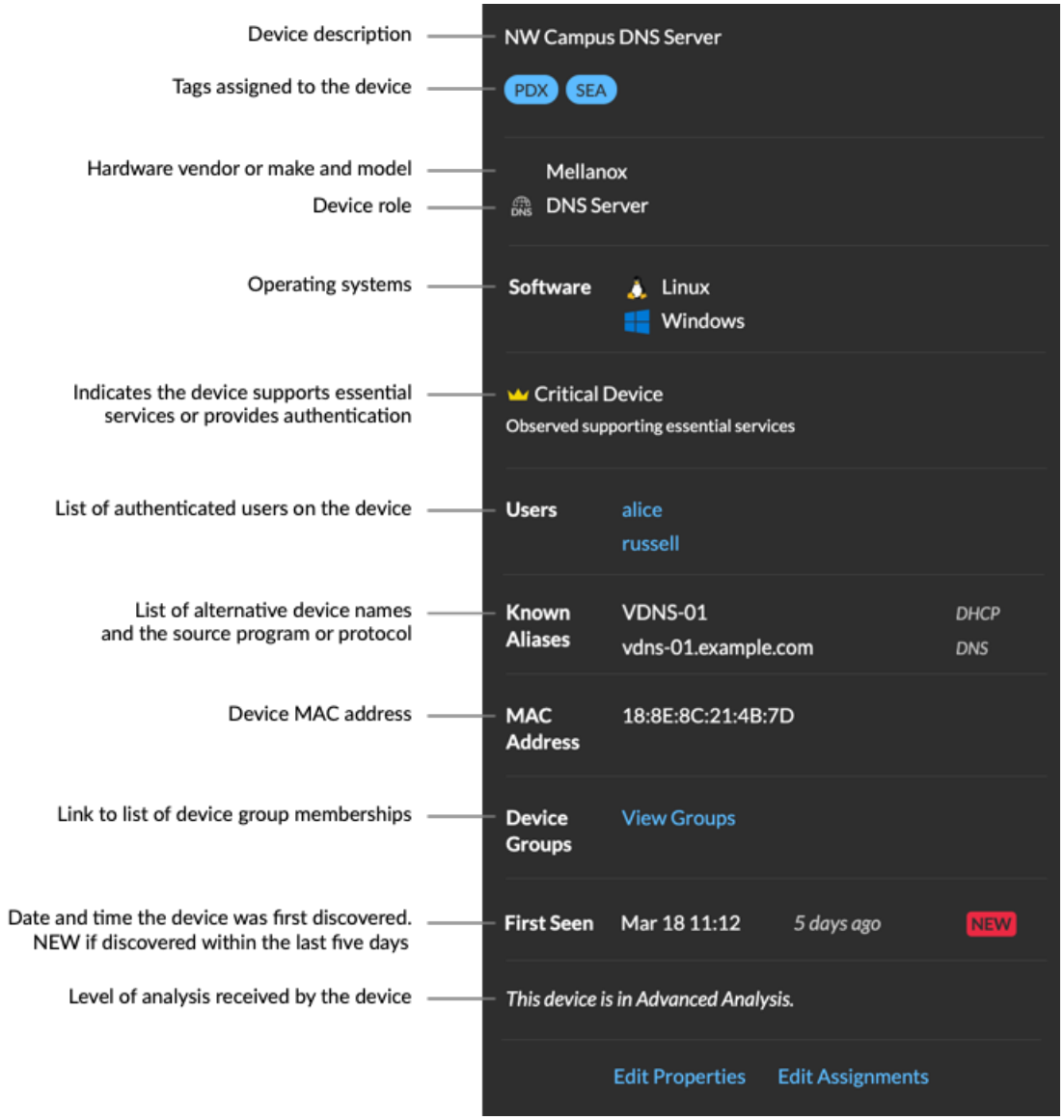
The device summary provides information that identifies the device and its role on your network.

Here are some ways you can learn more about the device:

- Click the pencil icon to view or modify device properties such as device role, device group memberships, or tag assignments.
- Click **View Records** to go to the Records page, which is filtered to display records for this device. (Requires an Explore appliance or other supported recordstore.)
- Click **View Packets** to go to the Packets page, which is filtered to display packets for this device. (Requires a Trace appliance or packet capture disk.)

Device properties

The device properties section provides information that identifies known attributes and assignments for the device, such as tags, aliases, and the analysis level.

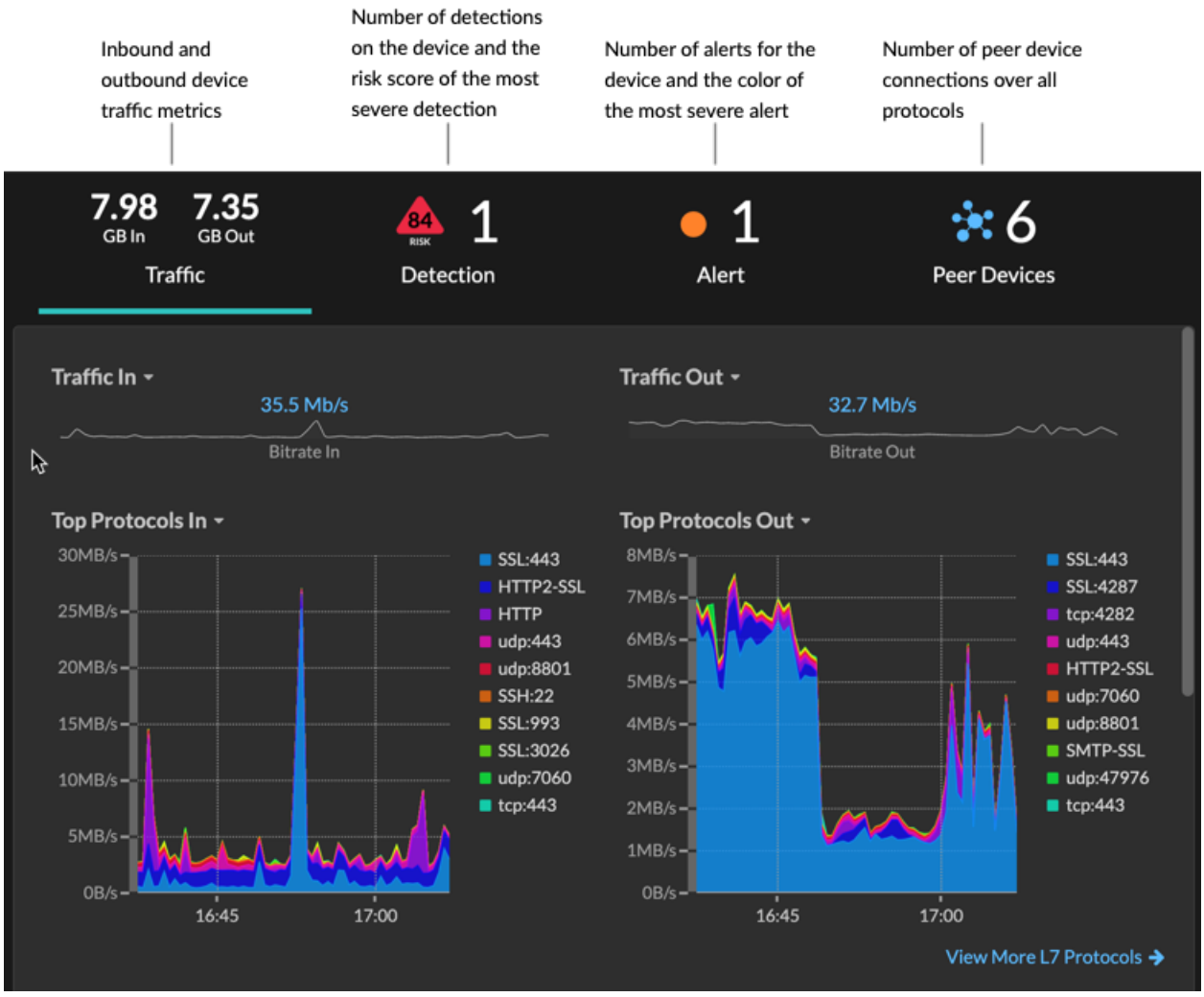


Here are some ways you can learn more about device properties:

- Click a tag to go to the Devices page, which is filtered by the name of the tag in the search bar.
- Click an active user name to go to the Users page, which is filtered by the user name in the search bar. The user name is extracted from the authentication protocol, such as LDAP or Active Directory.
- Click **View Groups** to view a list of device groups the device belongs to and to modify the group membership.
- Click **Edit Properties** to view or modify device properties such as device role, device group memberships, or tag assignments.
- Click **Edit Assignments** to view or modify which alerts and triggers are assigned to the device.

Device activity

The device activity section provides information about how the device is communicating with other devices on your network. Click on the type of activity you want to investigate from the top of the section to display the details in the content pane. For example, click **Alerts** to view a list of alerts that were issued for the device in the specified time interval.



Here are some ways you can investigate activity on the device:

- Click **Traffic** to display charts for protocol and peer data, and then drill down on metrics in traffic charts.

  Note: Traffic charts are not displayed if the device is in Discovery Mode. You can configure analysis priority rules to elevate this device to Advanced Analysis or Standard Analysis.
- Click **Detections** to display a list of detections, and then click a detection name to view detection details.
- Click **Alerts** to display a list of detections, and then click an alert name to view alert details.
- Click **Peer Devices** to display an activity map, which is visual representation of the L4-L7 protocol activity between devices in your network. To modify the activity map with additional filters and steps, click **Open Activity Map**.

Tip: You can bookmark the Overview page to a specific activity view by setting the `tab` URL parameter to one of the following values:

- `tab=traffic`
- `tab=detections`
- `tab=alerts`
- `tab=peers`

For example, the following bookmark URL defaults to the detection activity view on the Overview page:

```
https://example-eda/extrahop/#/metrics/devices/device-id/overview/
&tab=detections
```

Grouping devices

Both custom devices and device groups are ways that you can aggregate your device metrics. Custom devices are user-created devices that collect metrics based on specified criteria, while device groups gather metrics for all of the specified devices in a group. With device groups, you can still view metrics for each individual device or group member. The metrics for a custom device are collected and displayed as if for a single device—you cannot view individual device metrics.

Both device groups and custom devices can dynamically aggregate metrics based on your specified criteria. We recommend selecting reliable criteria, such as the device IP address, MAC address, VLAN, tag, or type. While you can select devices by their name, if the DNS name is not automatically discovered, the device is not added.

	Device Groups	Custom Devices
Criteria	• IP address • Source port • Destination port • VLAN • Device and vendor MAC addresses • Device tags • Device	• IP address • Source port • Destination port • VLAN
Performance cost	Comparatively low. Because device groups only combine metrics that have already been calculated, there is a relatively low effect on metric collection. However, a high number of device groups with a large number of devices and complex criteria will take more time to process.	Comparatively high. Because the metrics for custom devices are aggregated based on user-defined criteria, large numbers of custom devices, or custom devices with extremely broad criteria, require more processing. Custom devices also increase the number of system objects to which metrics are committed.
View individual device metrics	Yes	No
Best practices	Create for local devices where you want to view and compare the metrics in a single chart. Device groups can be set as a metric source.	Create for devices that are outside of your local network, or for types of traffic that you want to organize as a single source. For example, you might want to define all physical interfaces on a server as a single custom device to better view metrics for that server as a whole.

Custom devices

Custom devices enable you to collect metrics for devices that are outside of your local network or when you have a group of devices that you want to aggregate metrics for as a single device. These devices can even be different physical interfaces that are located on the same device; aggregating the metrics for these interfaces can make it easier to understand how heavily taxed your physical resources are as a whole, rather than by interface. You might create a custom device to track individual devices outside of your local broadcast domain or to collect metrics for several known IP addresses or CIDR blocks for a remote site or cloud service.

After you create a custom device, all of the metrics associated with the IP addresses and ports are aggregated into a single device that collects L2-L7 metrics. A single custom device counts as one device towards your licensed capacity for Advanced Analysis or Standard Analysis, which enables you to add a custom device to the watchlist. Any triggers or alerts are also assigned to the custom device as a single device.

While custom devices aggregate metrics based on their defined criteria, the metric calculations are not treated the same as for discovered devices. For example, you might have a trigger assigned to a custom device that commits records to a recordstore. However, the custom device is not shown as either a client or a server in any transaction records. The ExtraHop system populates those attributes with the device that corresponds to the conversation on the wire data.

Custom devices can affect the overall system performance, so you should avoid the following configurations:

- Avoid creating multiple custom devices for the same IP addresses or ports. Custom devices that are configured with overlapping criteria might degrade system performance.
- Avoid creating a custom device for a broad range of IP addresses or ports, which might degrade system performance.

If a large number of custom devices is affecting your system performance, you can delete or disable a custom device. The unique Discovery ID for the custom device always remains in the system. See Create a custom device to monitor remote office traffic to familiarize yourself with custom devices.

Device groups

A device group is a user-defined collection that can help you track metrics across multiple devices that are typically grouped by shared attributes such as protocol activity.

You can create a static device group that requires you to manually add or remove a device from the group. Or, you cancreate a dynamic device group that includes criteria that determines which devices are automatically included in the group. For example, you can create a dynamic device group based on the device discovery time that adds devices that are discovered during a specific time interval. In addition, there are some built-in device groups that dynamically group devices by their discovery time, device role, or type.

There is no performance impact to collecting metrics with device groups. However, we recommend that you prioritize these groups by their importance to make sure that the right devices receive the highest level of analysis.

Device groups are a good choice when you have devices that you want to collectively apply as a source. For example, you could collect and display metrics for all of your high-priority production web servers in a dashboard.

By creating a device group, you can manage all of those devices as a single metric source instead of adding them to your charts as individual sources. However, note that any assigned triggers or alerts are assigned to each group member (or individual device).

Device names and roles

After a device is discovered, the ExtraHop system tracks all of the wire data traffic associated with the device. The ExtraHop system discovers device names by passively monitoring naming protocols, including DNS, DHCP, NETBIOS, and Cisco Discovery Protocol (CDP).

A device can be identified by multiple names, which are all searchable. If a name is not discovered through a naming protocol, the default name is derived from device attributes, such as MAC addresses and IP addresses. You can also create a custom name for a device.

Note: If a device name does not include a hostname, the ExtraHop system has not yet observed naming protocol traffic associated with that device. The ExtraHop system does not perform DNS lookups for device names.

Based on the type of traffic associated with the device or the device model, the ExtraHop system assigns a role to the device, such as a gateway, file server, database, or load balancer. Not all roles are automatically assigned to a device, however, you can manually assign or change a device role to any of the following roles:

Icon	Role	Description
	Database	A device that hosts a database instance.
	DHCP Server	A device that processes DHCP server activity.
	DNS Server	A device that processes DNS server activity.
	Domain Controller	A device that acts as a domain controller for Kerberos, CIFS, and MSRPC server activity.
	File Server	A device that responds to read and write requests for files over NFS and CIFS/SMB protocols.
	Firewall	A device that monitors incoming and outgoing network traffic and blocks traffic according to security rules. The ExtraHop system does not automatically assign this role to devices.
	Gateway	A device that acts as a router or gateway. The ExtraHop system looks for devices associated with a large amount of unique IP addresses (past a certain threshold) when identifying gateways. Gateway device names include the router name such as Cisco B1B500. Unlike other L2 parent devices, you can add a gateway device to the watchlist for Advanced Analysis.
	IP Camera	A device that sends image and video data through the network. The ExtraHop system assigns this role based on the device model.

Icon	Role	Description
	Load Balancer	A device that acts as a reverse proxy for distributing traffic across multiple servers.
	Medical Device	A device designed for healthcare needs and medical environments that processes DICOM traffic.
	Mobile Device	A device that has a mobile operating system installed, such as iOS or Android.
	PC	A device such as a laptop, desktop, Windows VM, or macOS device that processes DNS, HTTP, and SSL client traffic.
	Printer	A device that enables users to print text and graphics from other connected devices.The ExtraHop system assigns this role based on the device model or on traffic observed over mDNS (multicast DNS).
	VoIP Phone	A device that manages voice over IP (VoIP) phone calls.
	VPN Gateway	A device that connects two or more VPN devices or networks together to bridge remote connections. The ExtraHop system assigns this role to devices with a large number of external VPN peers.
	Vulnerability Scanner	A device that runs vulnerability scanner programs.
	Web Proxy Server	A device that processes HTTP requests between a device and another server.
	Web Server	A device that hosts web resources and responds to HTTP requests.
	Wi-Fi Access Point	A device that creates a wireless local area network and projects a wireless network signal to a designated area. The ExtraHop system assigns this role based on the device model.

Analyzing devices

Each device or device group receives the highest level of analysis possible, based on your license and your system configuration. In addition, if you have a Command appliance, you can manage your analysis priorities from a centralized location for all connected Discover appliances.

Learn more about how analysis priorities work and how you can optimize metrics for your high-priority devices.