Validating Service Provisioning

Cisco EPN Manager 2.1

Job Aid

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Contents

Basics

Overview

When you provision services, validating that they are configured and running as expected is an important last step to completing your provisioning tasks.

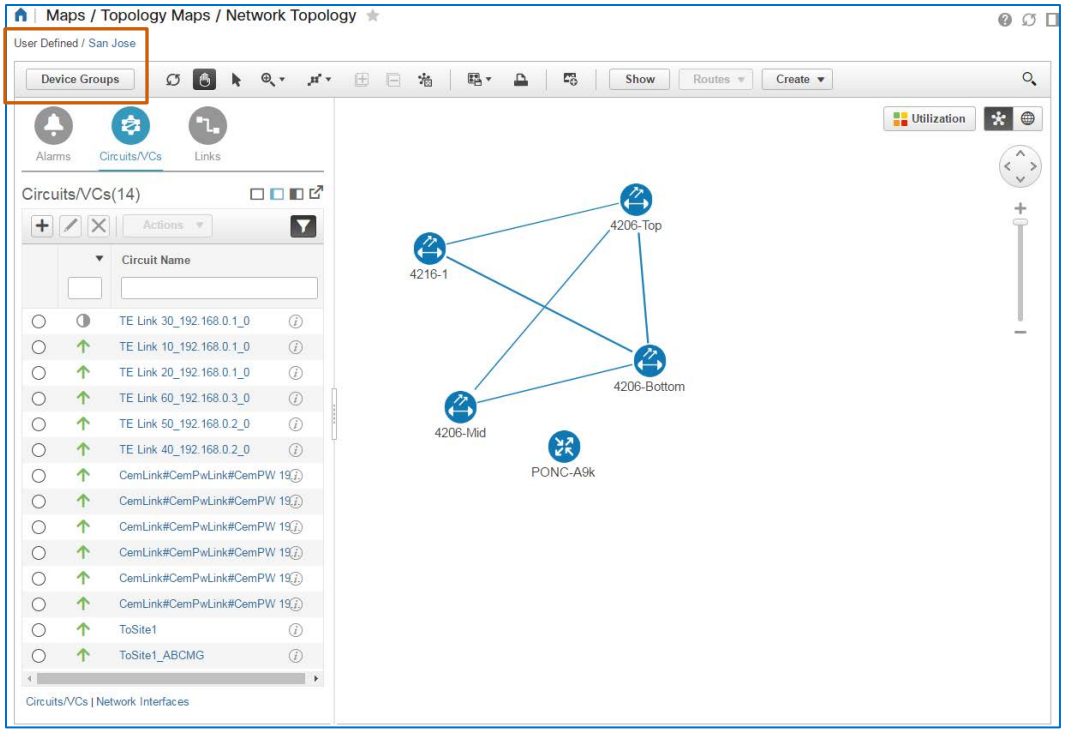
Cisco EPN Manager provides tools that you can use to monitor and evaluate provisioning, operational statuses, and connectivity, including:

- The **Circuits/VCs** lists.
- Service overlays.
- **Circuit/VC 360⁰** pop-up windows.
- **Multilayer Trace** graphical views.
- The optical service **Circuit History** audit trail.

These tools are available based on the type of service that you are provisioning, and are accessible on the **Network Topology** map.

This job aid introduces you to the types of information that you can see when using these **Network Topology** map tools.

To evaluate provisioning, open the device group that includes the devices that you are provisioning.



Skills

To use the tools that this job aid addresses effectively, you need the following experience.

Proficient

- EPN Manager navigation and behaviors
- Networking and provisioning concepts, technologies, and network devices

Expert

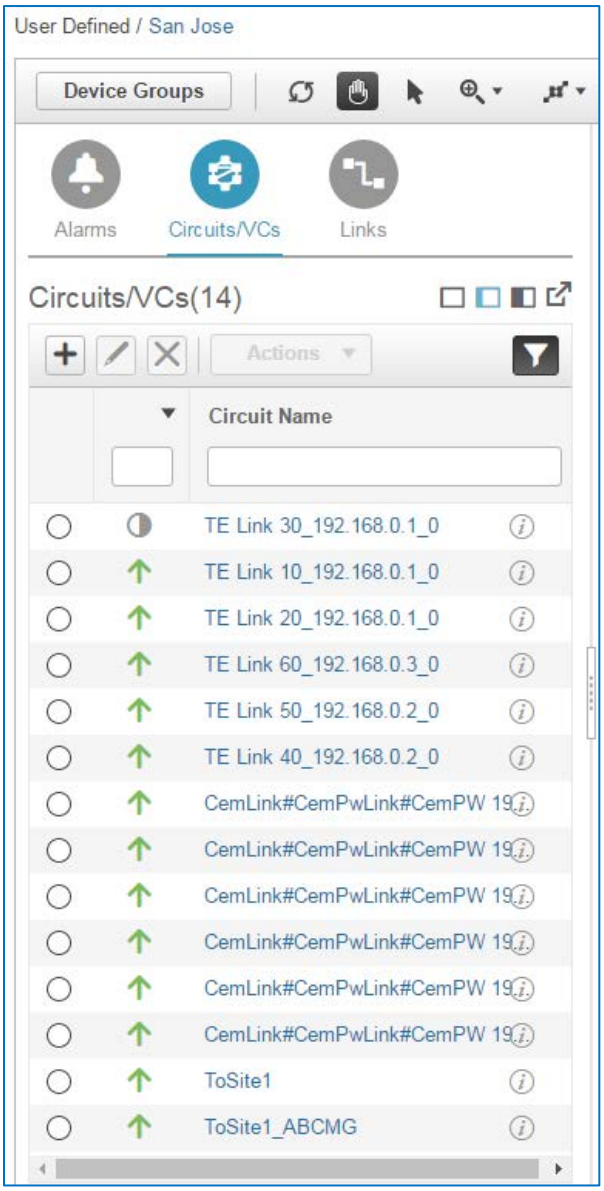
- Concepts and practical working knowledge of the type of service that you are provisioning
- Knowledge of the capabilities and configuration of the hardware that is supporting the service

Service Provisioning Tools Overview

Monitoring Provisioning Status

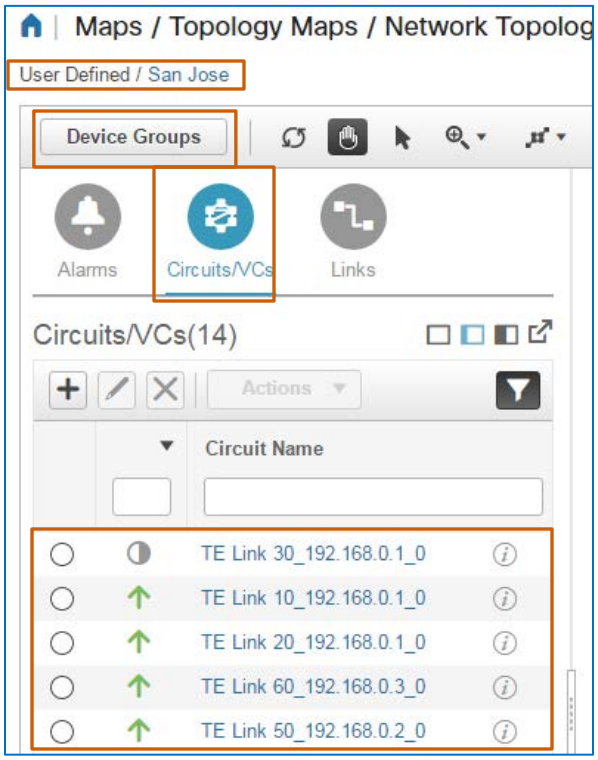
The Circuits/VCs List

When a system user completes service provisioning by deploying the code that the user configured in the **Provisioning Wizard**, the system monitors the provisioning process and reports its progress and result in the **Circuits/VCs** list.



To evaluate the progress of provisioning, on the Network Topology Map:

- Open the device group that contains the devices that are being provisioned, and then click **Circuits/VCs**.



Below the toolbar, the **Circuits/VCs** list indicates each service that has been provisioned and its overall status.

When you begin provisioning, the system lists the service immediately and reports progress by using status indicator icons.

The length of the provisioning process varies based on configuration complexity. Provisioning simple configurations generally take about 5 minutes to complete, while provisioning complex configurations can take significantly more time.

Note: The system begins reporting metrics related to the service based on monitoring policies and device polling frequencies.

The following table maps how the list indicates the progress of service provisioning.

Tip: You can refresh the page manually to help ensure that you are seeing current information.

Step	Description	Status Indicator Name	Status Indicator Icon
1	Initial status of provisioning; the system has not yet added or discovered the service.	**Missing**	
2	Service provisioning is in progress. **Note:** If provisioning does not progress to the point of discovery, the service can remain in a partially discovered state.	**Partially Discovered**	
3	EPN Manager has discovered the service.	**Full**	
Result	The serviceability state of the service. After service discovery, the system reports the serviceability state the next time that the device inventory synchronizes. **Note:** Once services are managed and operational, indicator icons also can change to indicate alarm states.	**Up**	
		Down	

Evaluating Service Connectivity

Service Overlays

The service overlay displays the device connectivity at a network device level.

Reviewing the circuit overlay after provisioning helps you to ensure that provisioning has occurred on the devices, as expected.

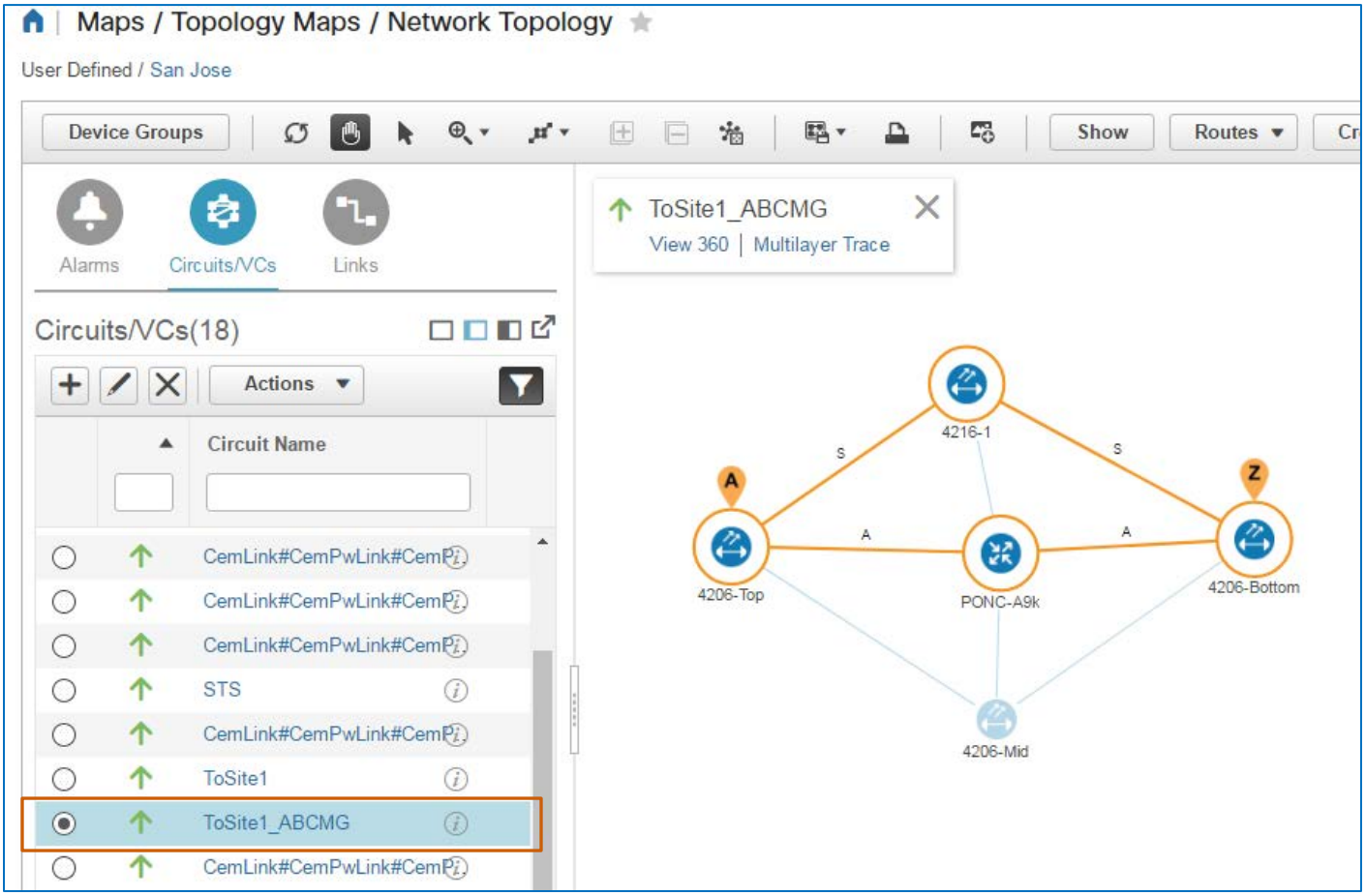
Note: The system identifies the working path as an action (**A**) path, and protected and restore paths as standby (**S**) paths.

When reviewing overlays, the working path is indicated with an **A**, and other paths with an **S**.

To display an overlay:

- In the **Circuits/VCs** list, click the service entry.

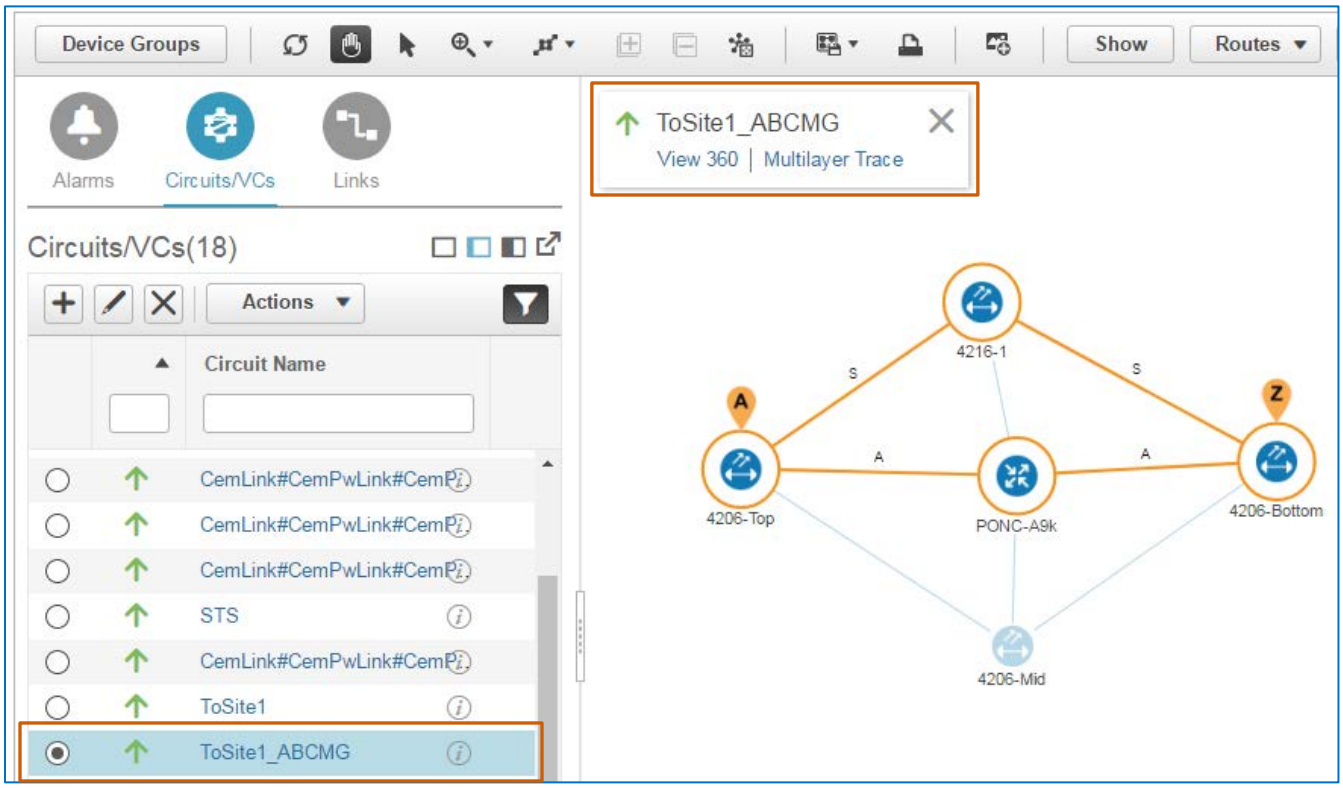
  The overlay appears indicating device connectivity, including the working and any alternate, or protection, paths that are configured for the service.



When you apply a service overlay, other tools that you can use to evaluate the state and connectivity of the service open in a pop-up window.

The screenshot below illustrates the tools that are available for a CEM service provisioned on a traffic engineering tunnel.

Note: The **View 360** link in the pop-up window opens the **Circuit/VC 360⁰** pop-up window.



To remove the overlay from the map:

- In the pop-up window, click the close button.

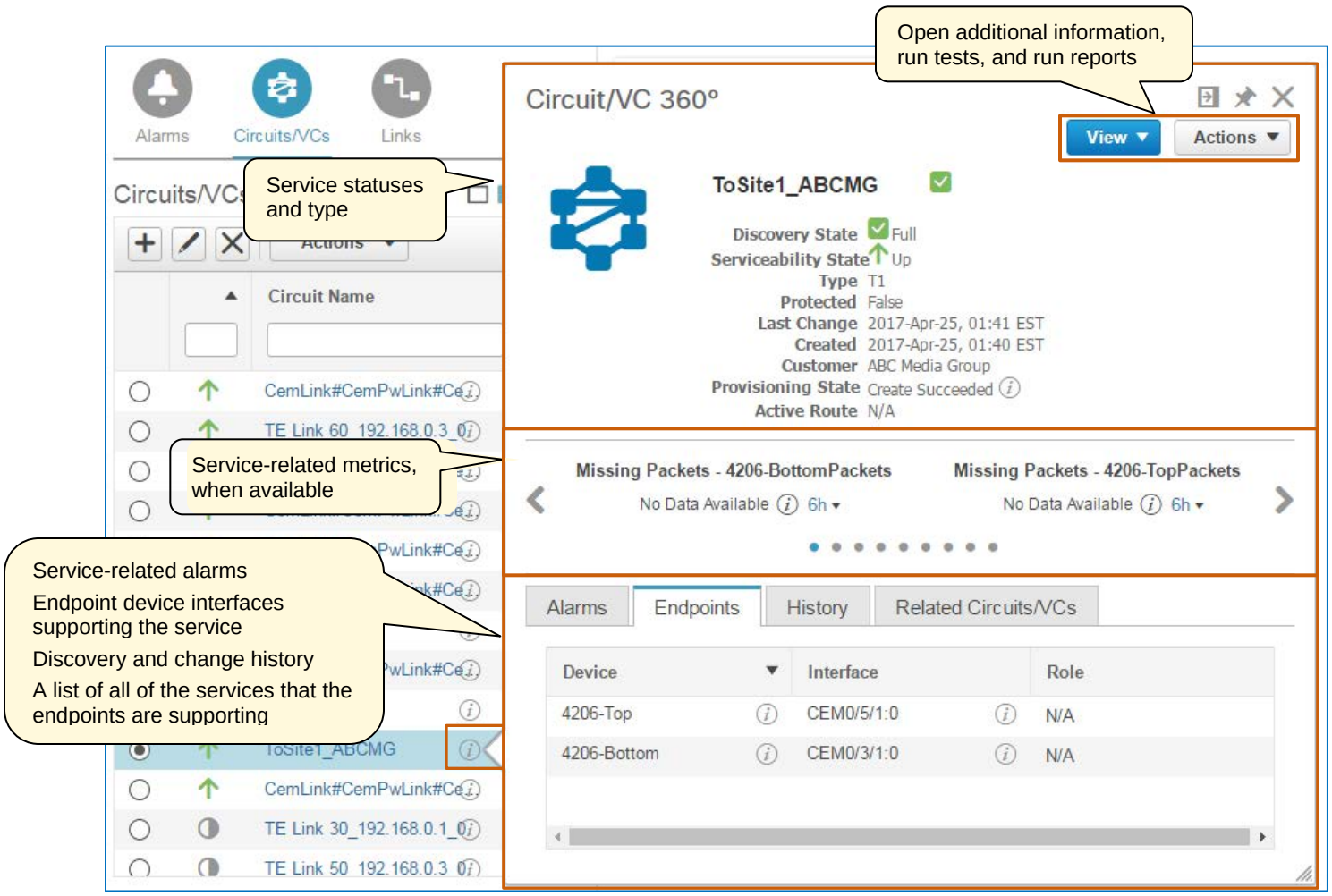
Evaluating Service Details

The Circuit/VC 360^0 Pop-Up Window

The **Circuit/VC 360^0** pop-up window provides detailed information about the service.

To open the view:

- In the **Circuits/VCs** list, click the virtual connection's (VC's) information icon.



Note: When reviewing the information in the pop-up window, keep in mind that the system begins reporting metrics and alarms based on the monitoring policies and reporting parameters that administrators or users can configure.

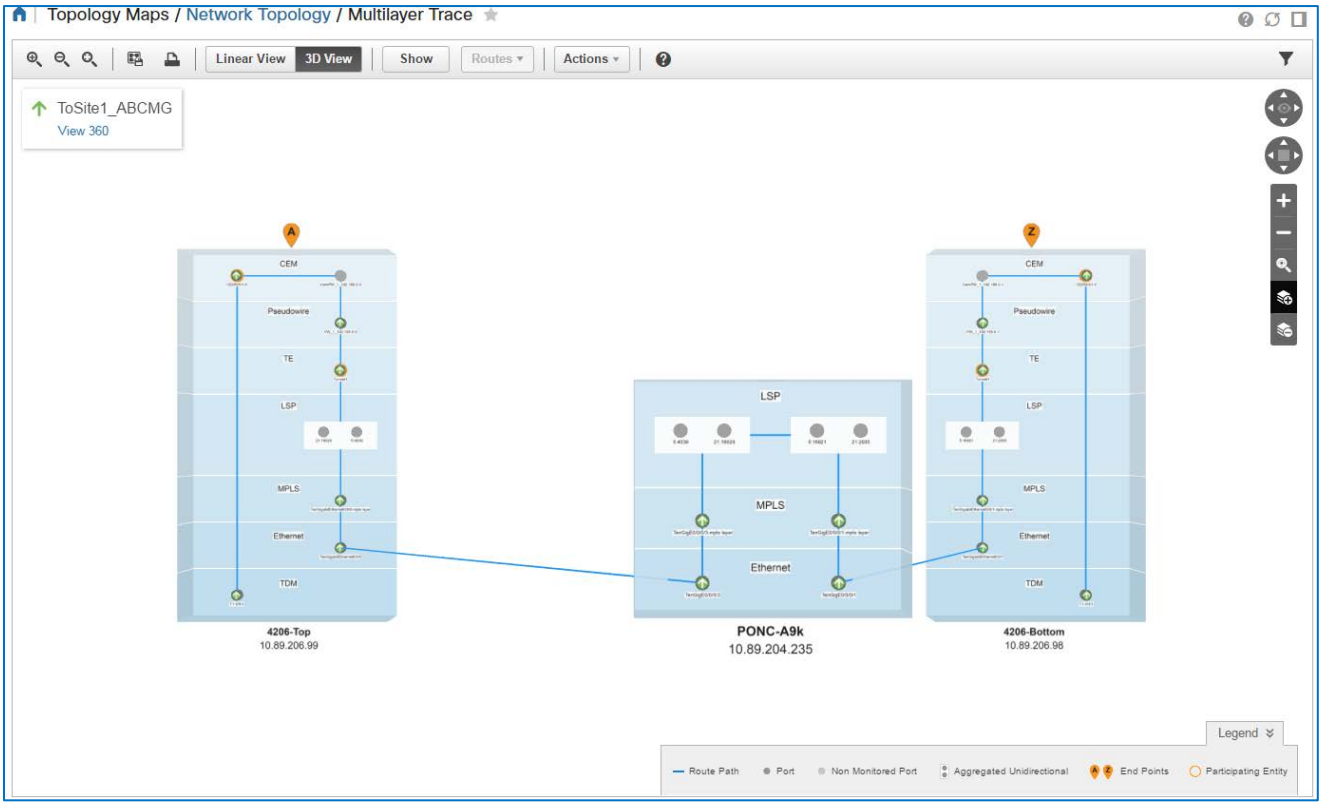
Monitoring policies define such parameters as device polling frequency, the types of data to report, and reporting thresholds. This means that you might not see metrics, alarms, or other data immediately after service provisioning.

Evaluating Service Connectivity Details

The Multilayer Trace Graphical View

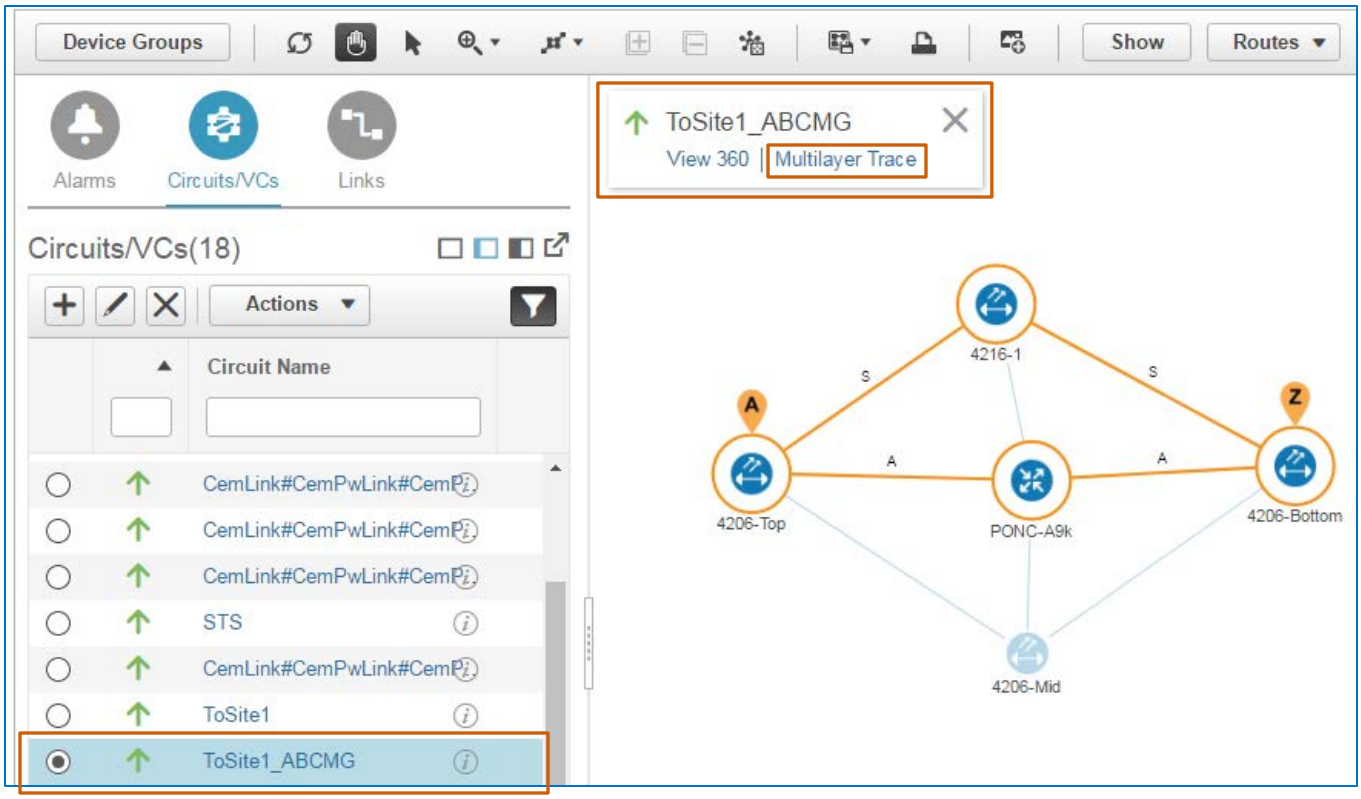
The **Multilayer Trace** graphical view illustrates the technology layers that are supporting the service's route.

Tip: The **Multilayer Trace** graphical view is helpful when evaluating issues or alarms that the system is reporting on the service or related-devices, also.



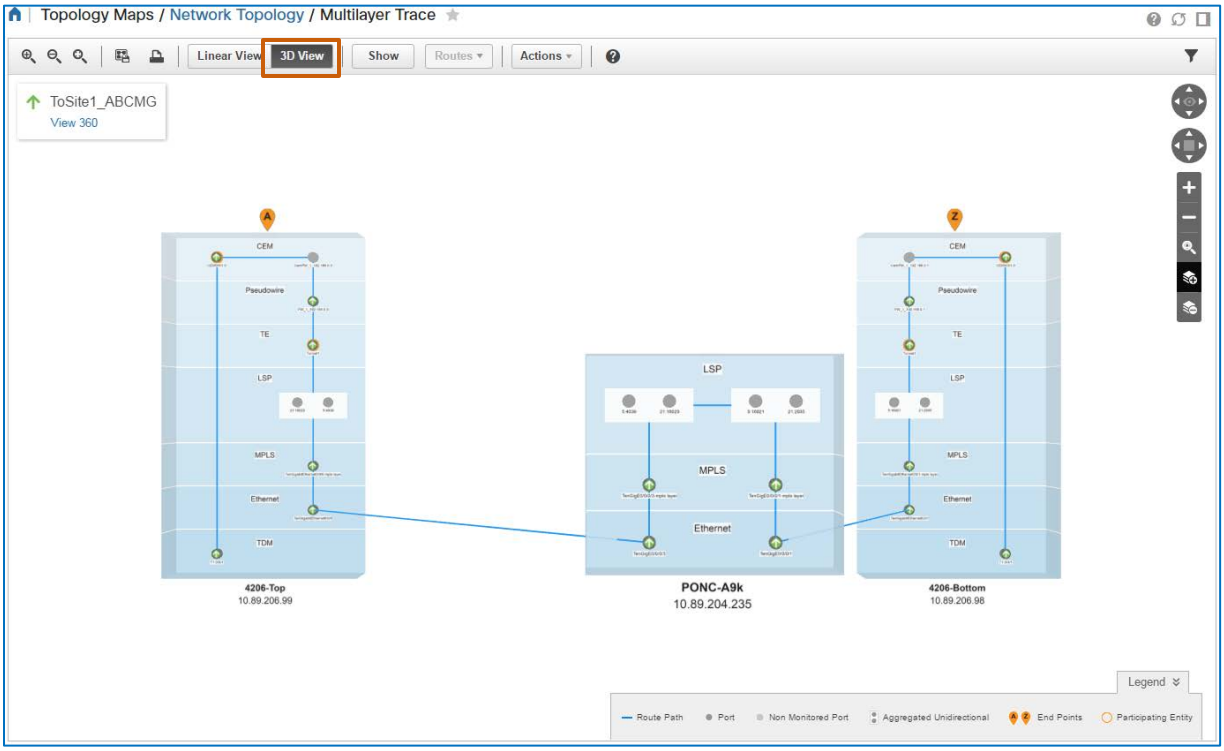
To open the Multilayer Trace:

- In the **Circuits/VCs** list, click the service entry, and then, in the pop-up window, click **Multilayer Trace**.

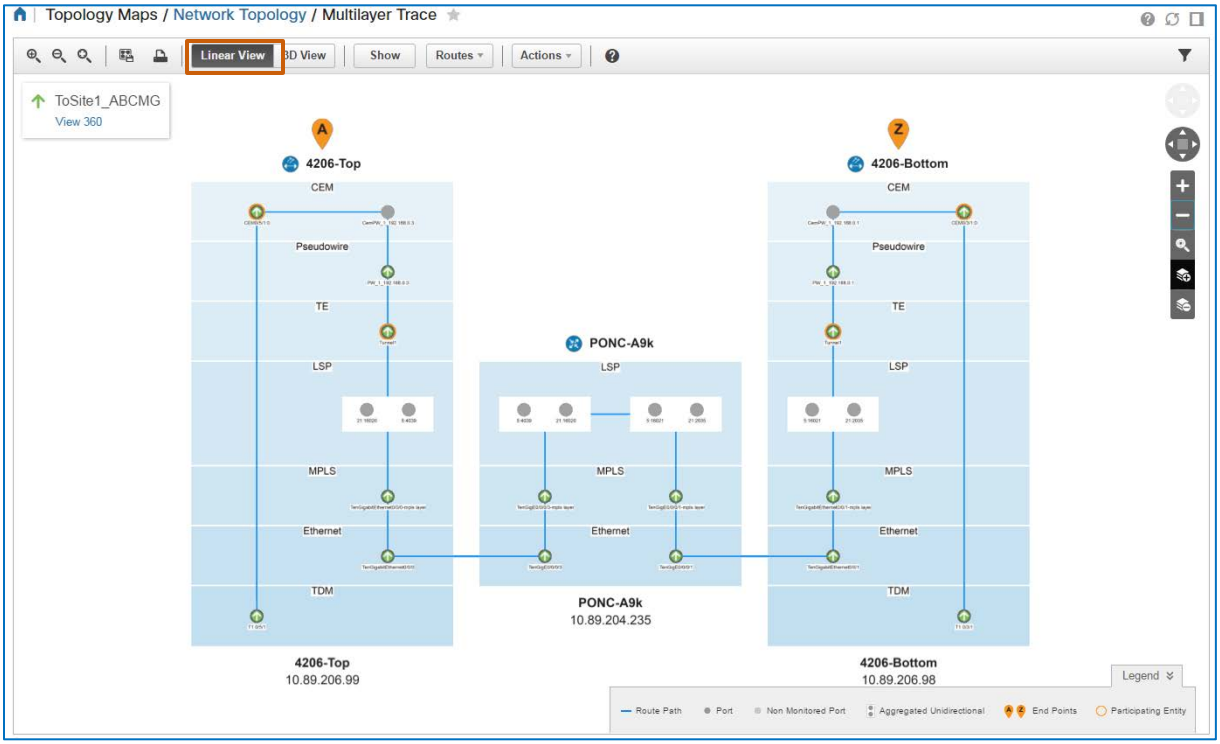


The **Multilayer Trace** page illustrates the service connectivity from the **A** endpoint device to the **Z** endpoint device on the physical endpoints and through the applicable intermediate points on the technology layers.

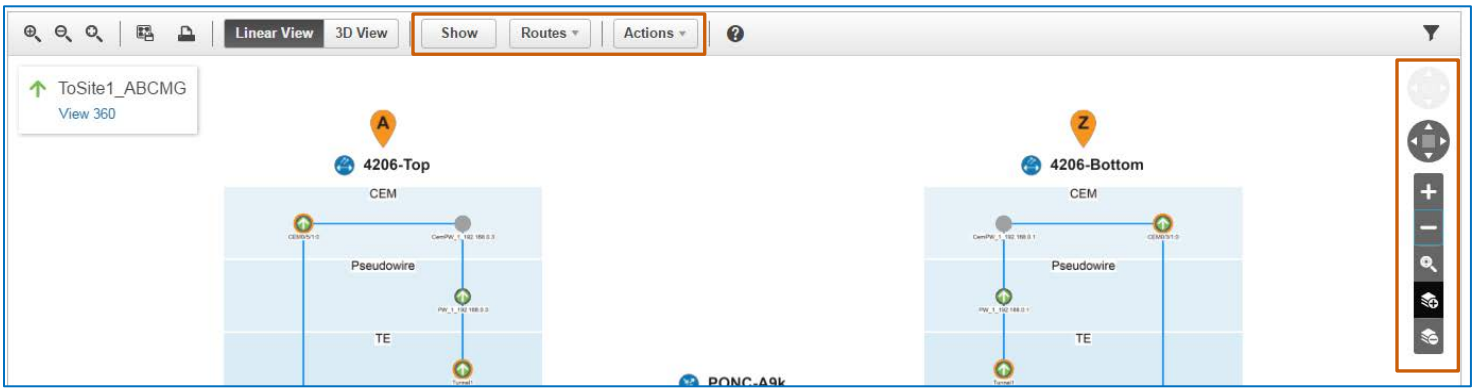
You can apply a three-dimensional layout…



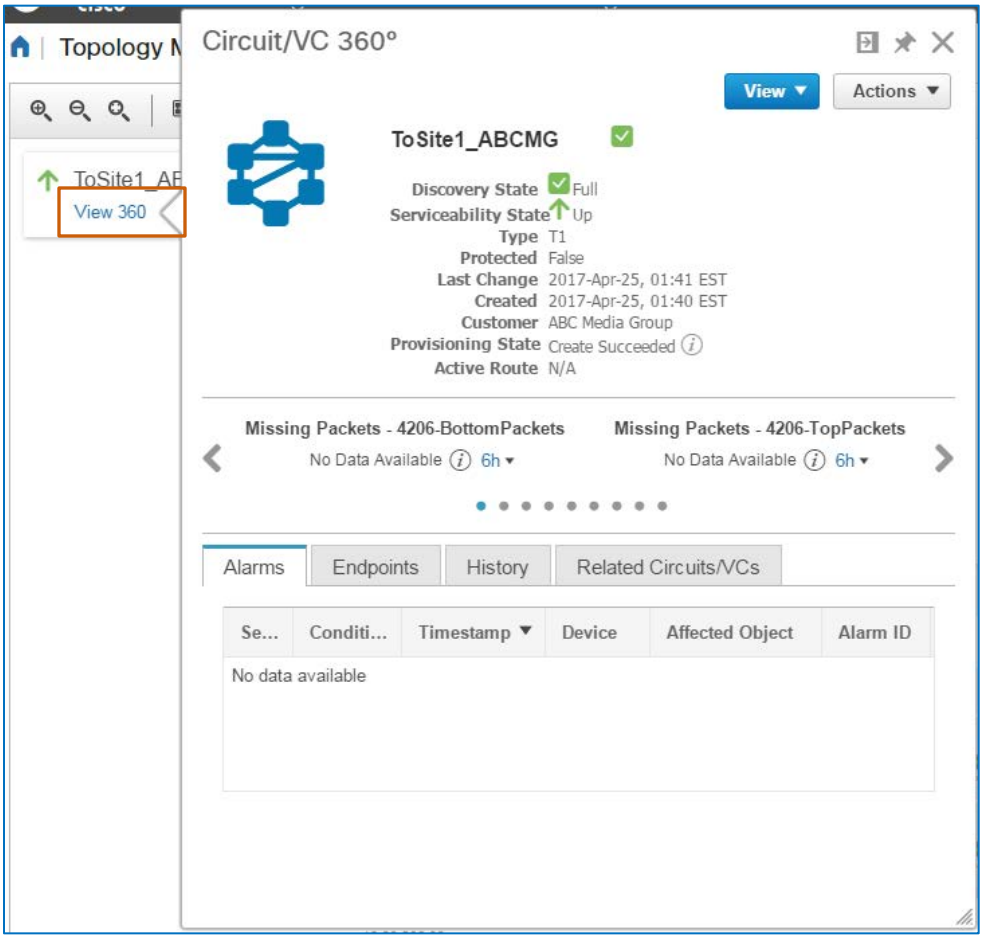
…or linear layout to the graphical view.



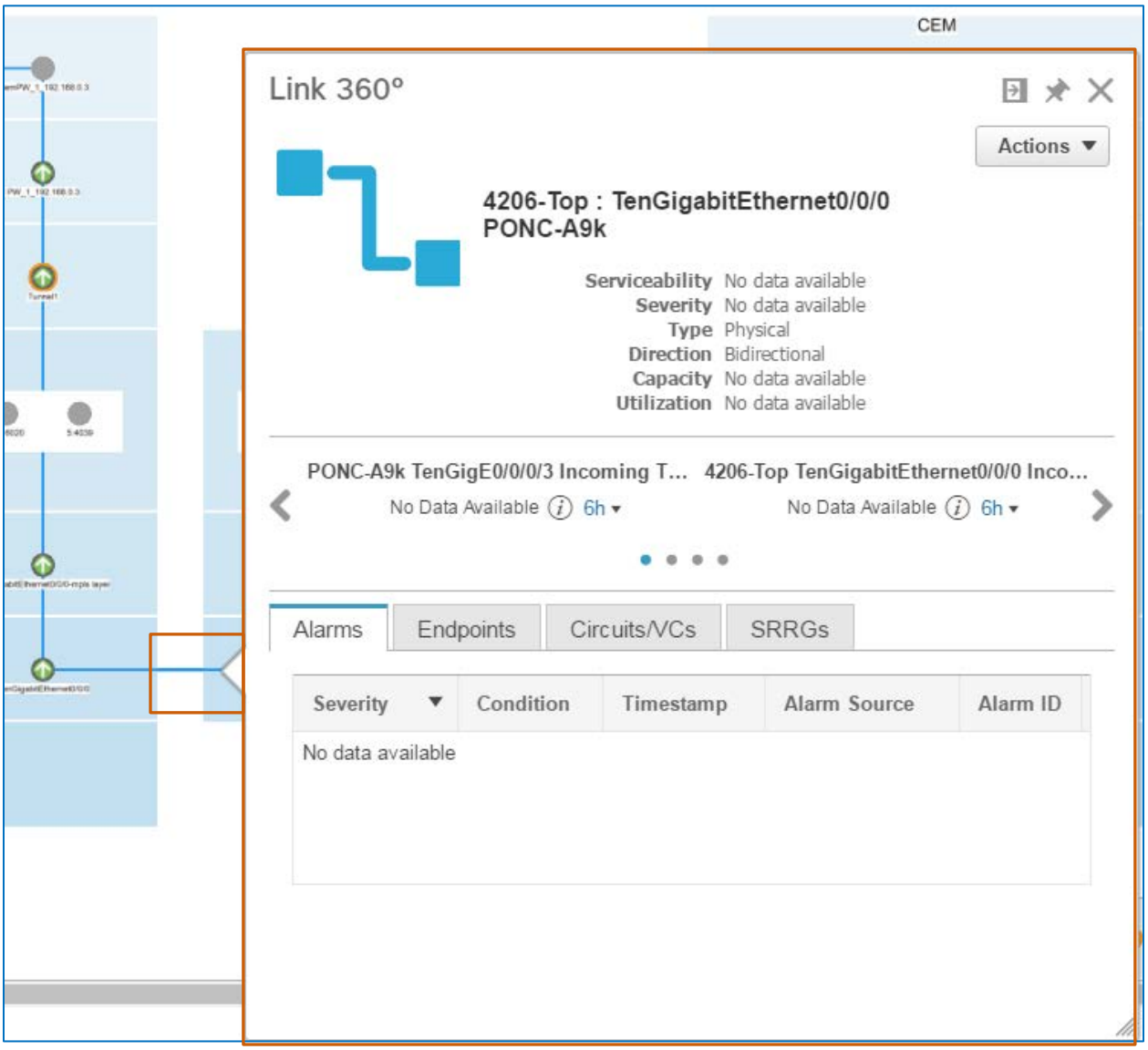
The view provides tools to manage the layout and the data that appears, and to review service details or take actions.



You also can open the **Circuit/VC 360°** pop-up window that reports information on the end-to-end service.



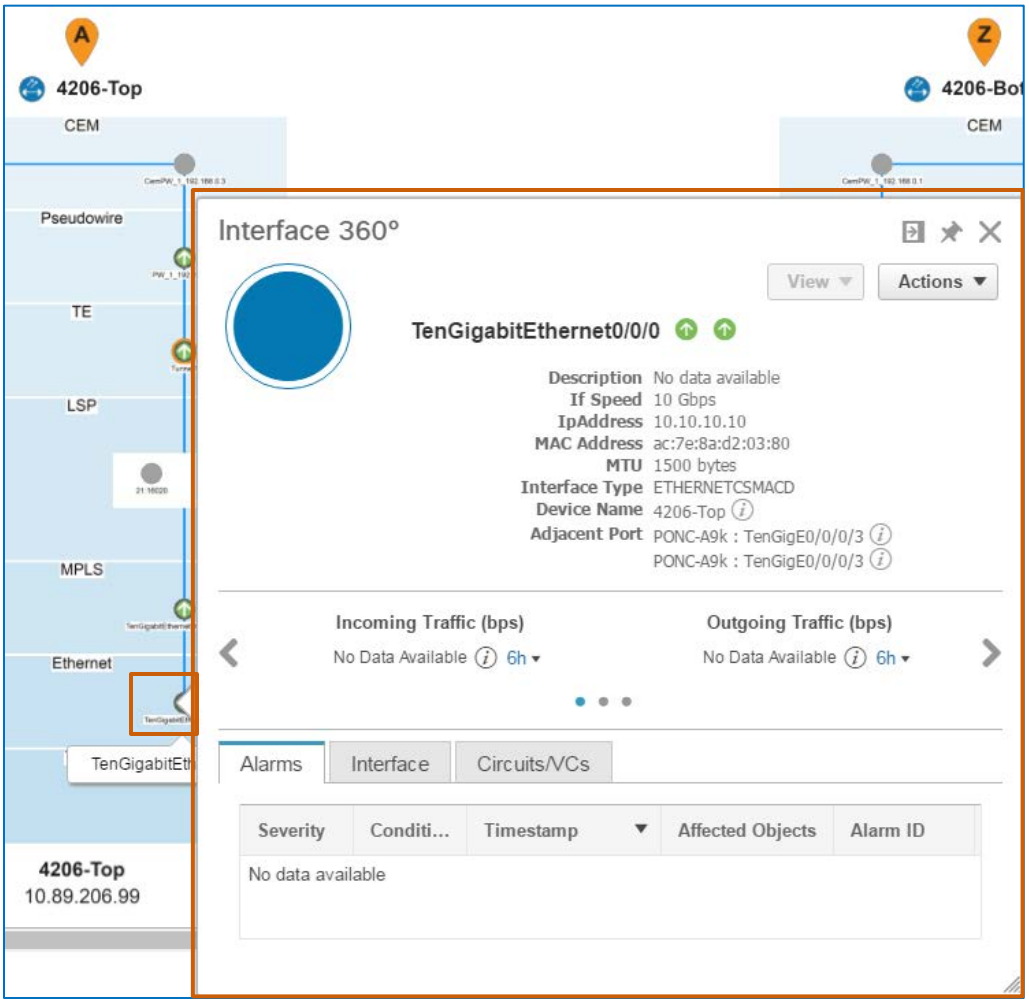
You also can open details about intermediate links by clicking a link between intermediate interfaces carrying the service.



You can evaluate and manage the components at an interface level by opening the **Interface 360⁰** pop-up window.

To open the pop-up window:

- Click the interface icon.



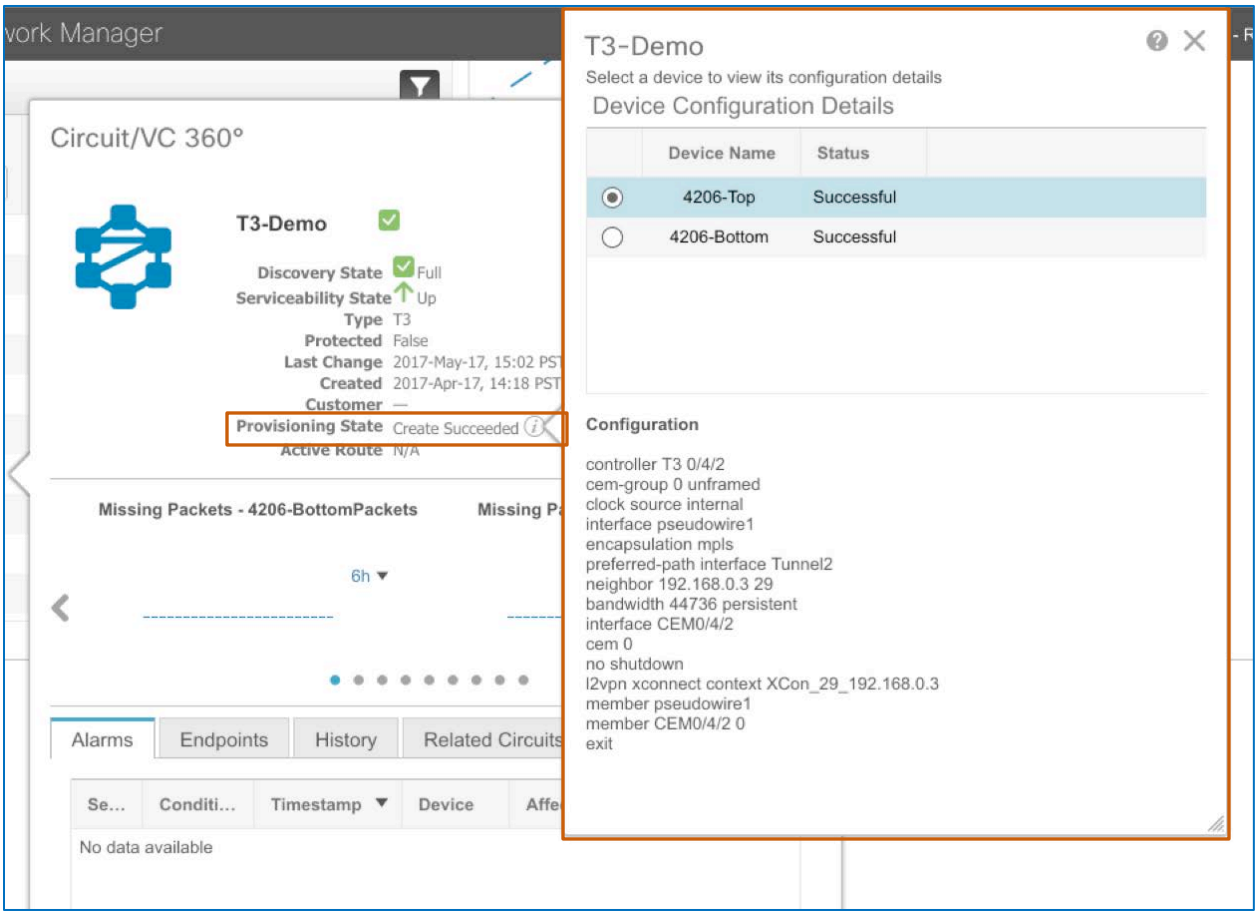
Evaluating Changes Affecting Optical Services

Reviewing Provisioning State Details

In cases in which a user has provisioned an optical circuit by using EPN Manager, the system indicates the provisioning state and provides details about the provisioning statuses of the devices and about their configurations in the circuit's **Circuit/VC 360°** pop-up window.

In those cases, the **Circuit/VC 360°** pop-up window provides an information button beside the **Provisioning State** indicator field.

To see the provisioning state information, you click the information button.



The Optical Service Circuit History

When provisioning of optical services is complete, the system begins building an audit trail of device and system changes that affect the service, referred to as the circuit history.

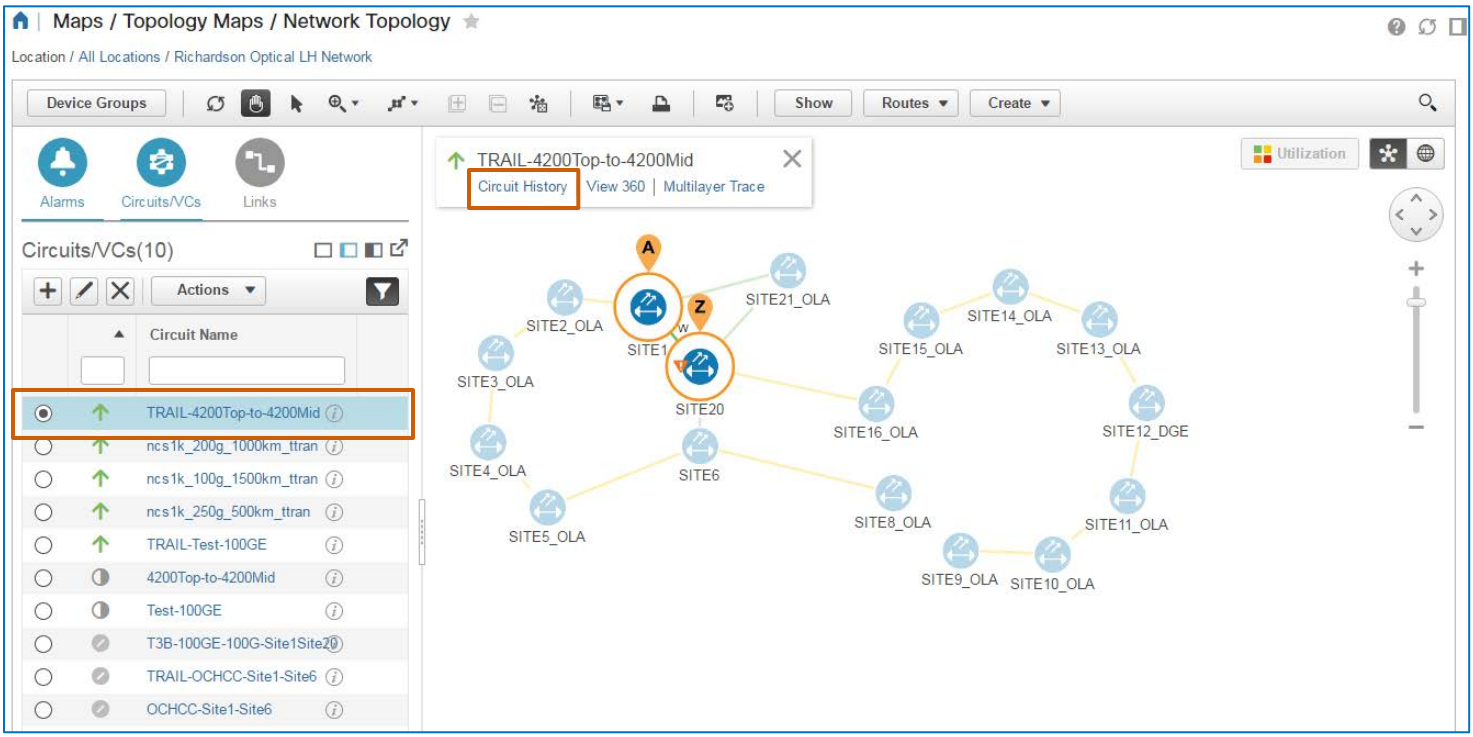
When you initially provision an optical service, you can refer to the history to:

- Validate that the system has discovered the service.

- Determine whether any other changes have occurred immediately after provisioning the service that might affect it.

To open the circuit history:

- In the **Circuits/VCs** list, select the service entry, and then, in the pop-up window, click **Circuit History**.

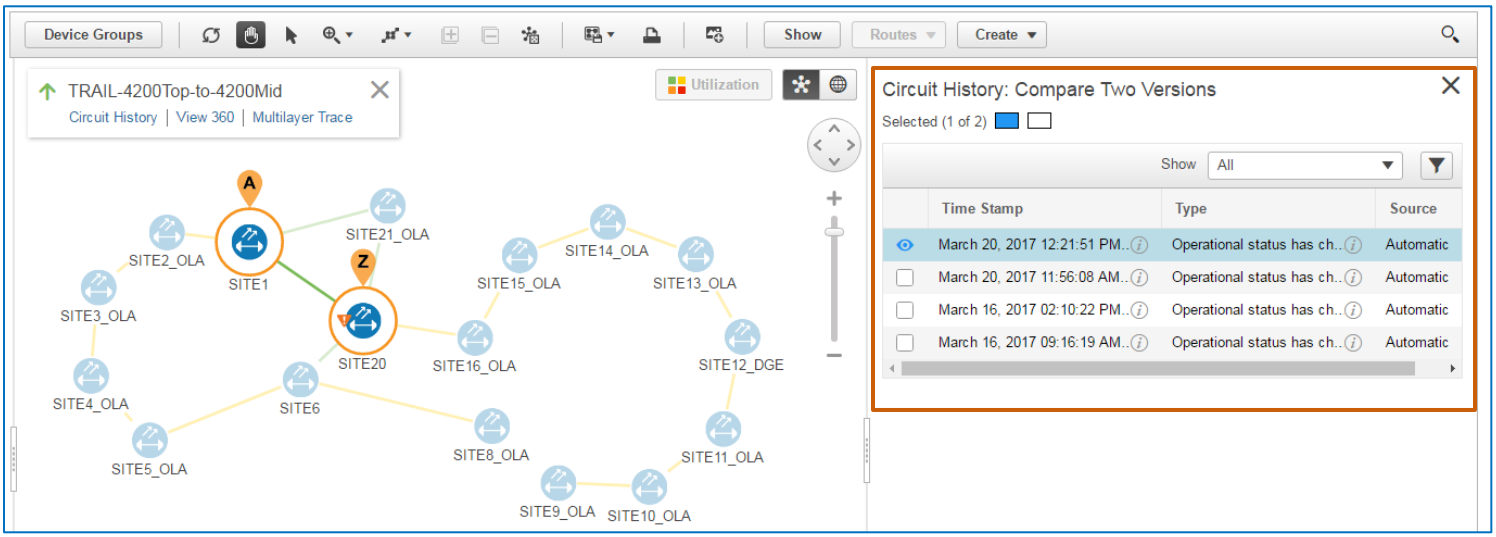


The **Circuit History** opens on the right side of the map and lists the network activity that affects the optical service.

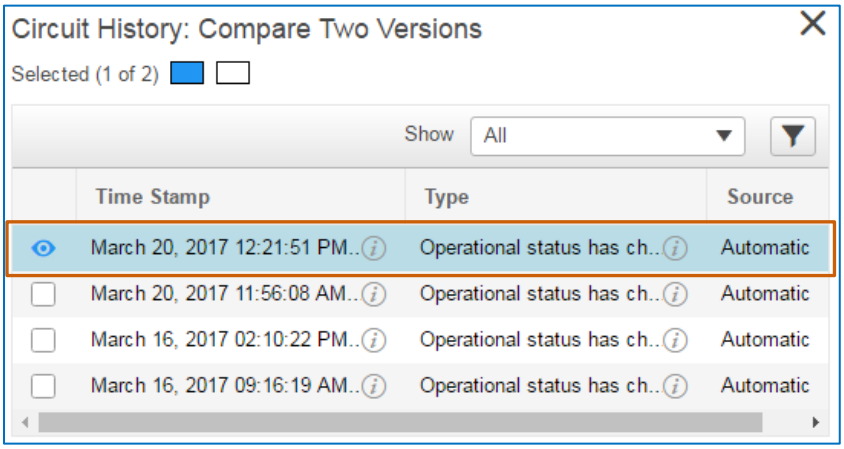
In new (greenfield) deployments, the history of a newly provisioned optical service reports two actions:

- The first entry reports that the commands that you configured in EPN Manager have been deployed to the network, which then follows those commands to execute the provisioning process.
- When provisioning is complete, the circuit history reports that EPN Manager has discovered the provisioned circuit, which means it is available for use.

In previously existing (brownfield) deployments, the circuit history reports only whether EPN Manager has discovered the circuit.



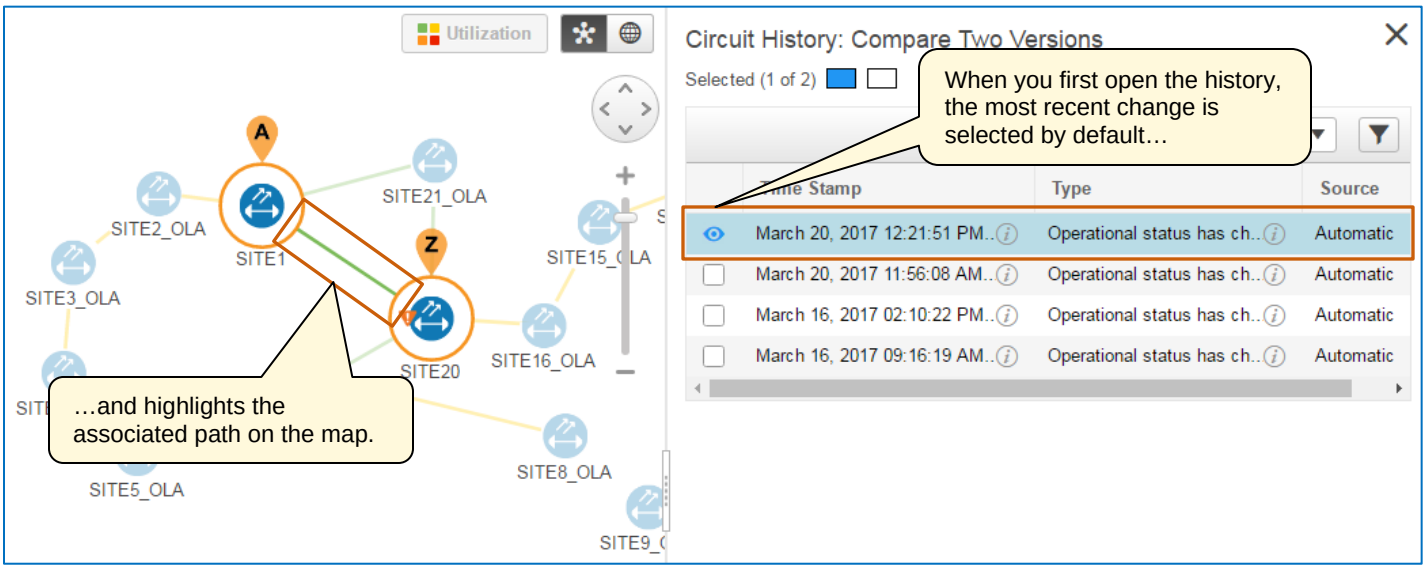
When network or device changes occur that can affect the service, the circuit history reports the change.

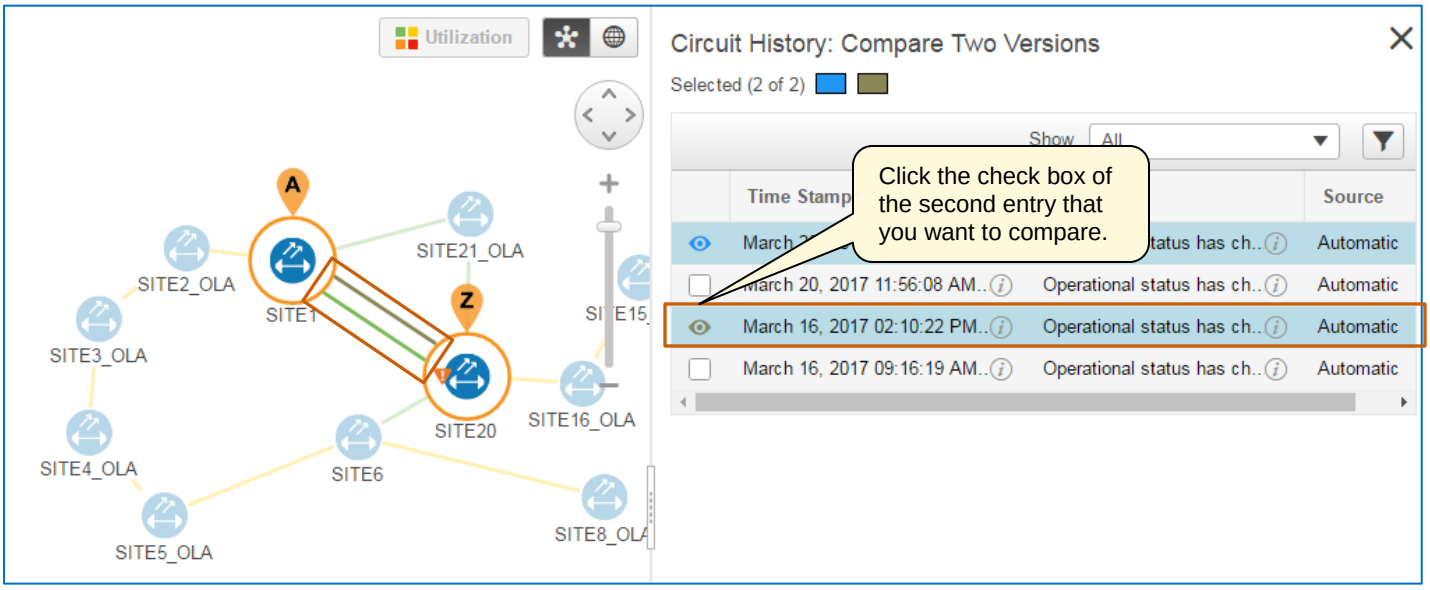


Information in the circuit history can be helpful when you are evaluating issues or alarms that the system is reporting on the circuit.

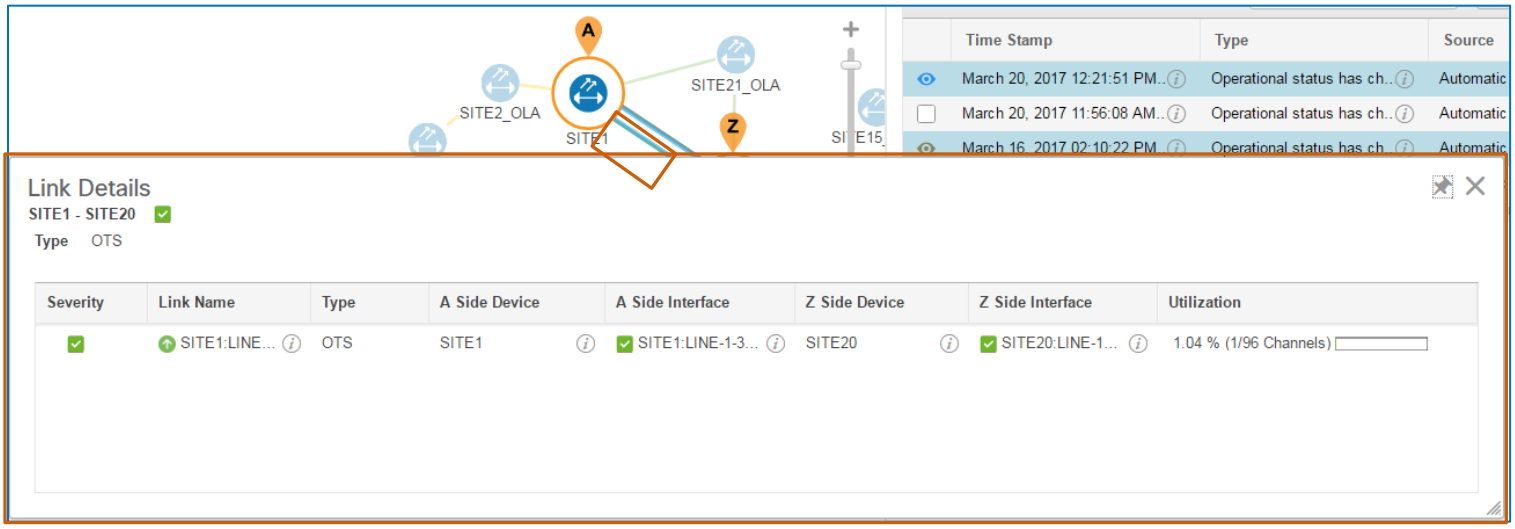
You can review actions that the system or system users have taken that might be affecting the circuit's behavior or connectivity. For example, changes might occur that cause the service to switch from the working route to the protected route.

You also can compare any two entries in the history to help determine changes.





You can click either link to review details about its state.

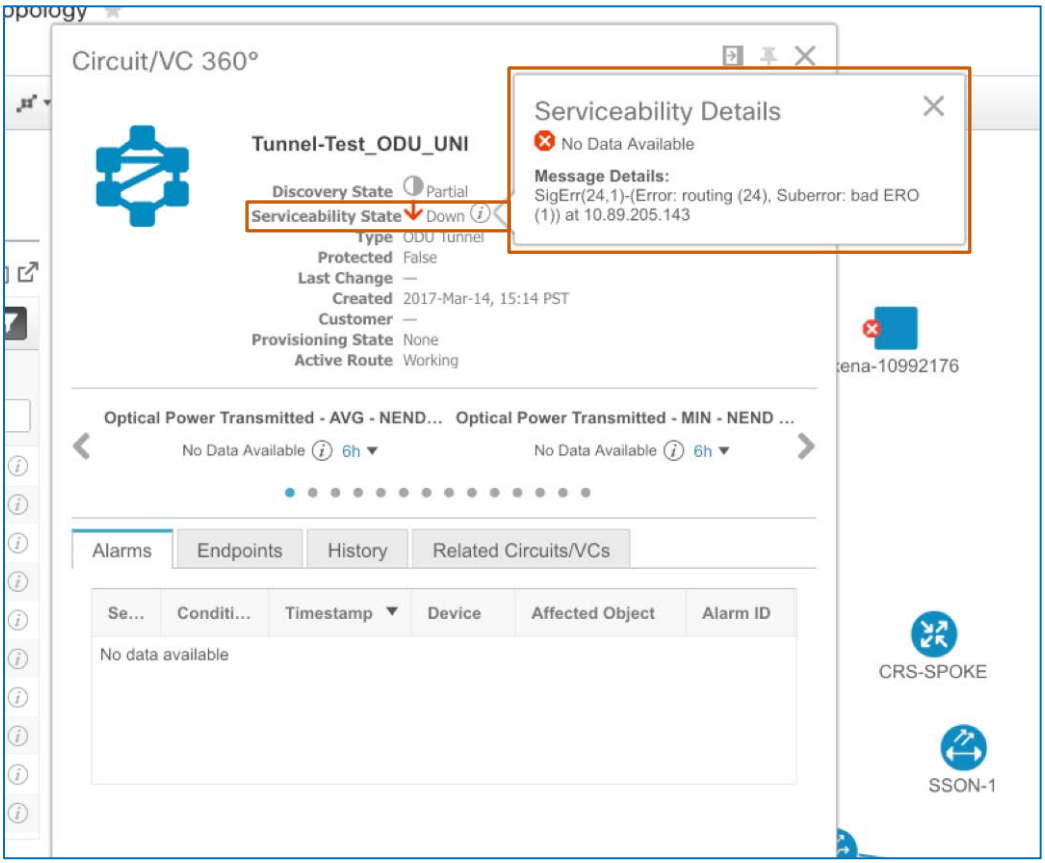


Serviceability Down State Details

When a circuit indicates a serviceability down state, in some cases, the system can capture details about the situation.

In cases in which details about the down state are available, the **Circuit/VC 360°** pop-up window for the circuit provides an information button beside the **Serviceability State** indicator field.

To see the serviceability down state information, you click the information button.



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