Oracle® Communications

Active Topology Automation and Service Impact Analysis User's Guide

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Oracle Communications Active Topology Automation and Service Impact Analysis User's Guide, Release 7.8

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Preface

This guide describes how to use Oracle Communications Active Topology Automation (ATA) to view and analyze network data that is collected from Unified Inventory Management (UIM). It also describes how to use Service Impact Analysis to view and analyze service and resource impacts data from Unified Assurance (UA), or from any assurance system supporting TMF688 Event Management API and TMF642 Alarm Management API.

Audience

This document is intended for the operations and planning personnel who use the ATA application to view and analyze the network data that is collected from UIM, along with event and impact data collected from the assurance system.

Before reading this guide, you should have a basic understanding of UIM. See *UIM Concepts* for more information.

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Part I
Active Topology Automation

This part describes how Oracle Communications Active Topology Automation (ATA) functions. It contains the following chapters:

1

About ATA

Oracle Communications Active Topology Automation (ATA) is a web application that collects network and service data from UIM and displays the data in the form of topology graphs.

Use ATA to:

- View networks, services, corresponding resources, and their inter-relationships in the form of topology graphs and geographical maps.
- Plan network capacity.
- Track networks.
- Identify problematic hotspots within networks.
- Filter topology graphs to retrieve the desired information using various search criteria.

2

Setting Up ATA

This chapter describes how to set up and configure ATA.

Prerequisites for Setting Up ATA

Before you set up ATA, you need to install all the prerequisite software. See "About Unified Inventory and Topology" in *Unified Inventory and Topology Deployment Guide* for installing the prerequisite software.

From Oracle E-delivery site, download the Common Cloud Native Toolkit (Common CNTK) and create an instance for ATA. See the "Unified Inventory and Topology Toolkit" chapter from *Unified Inventory and Topology Deployment Guide* for more information.

Setting Up ATA

To set up ATA:

1. Set up Graph DB by following the instructions mentioned in Oracle Database Graph Developer's Guide for Property Graph.
2. Install or upgrade UIM. See "Overview of the UIM Cloud Native Deployment" in *UIM Cloud Native Deployment Guide* for UIM cloud native deployment or "Unified Inventory Management Installation Overview " in *UIM Installation Guide* for UIM traditional deployment.
3. Configure the Unified Operations Message Bus microservice. See the "Unified Operations Message Bus" chapter in *Unified Inventory and Topology Deployment Guide* for more information.
4. Configure the Active Topology Automation microservice and create an instance. See the "Active Topology Automation Service" chapter in *Unified Inventory and Topology Deployment Guide* for more information.
   An ATA instance is created and a URL is generated. Use this URL to access the ATA application. Alternatively, you can open the ATA home page from UIM. See "Accessing ATA" for more information.

> **Note:**
>
> If you have deployed Service Impact Analysis, you will be navigated to a landing page and from that page, you click on ATA application link to open the application.

3

Getting Started with ATA

ATA helps you with a pictorial representation of the topology information that you collect from UIM. You can customize the layouts and other display settings according to your choice. You can customize your search, view and analyze each topology component, its associated resources, and its capacity consumed.

Accessing ATA

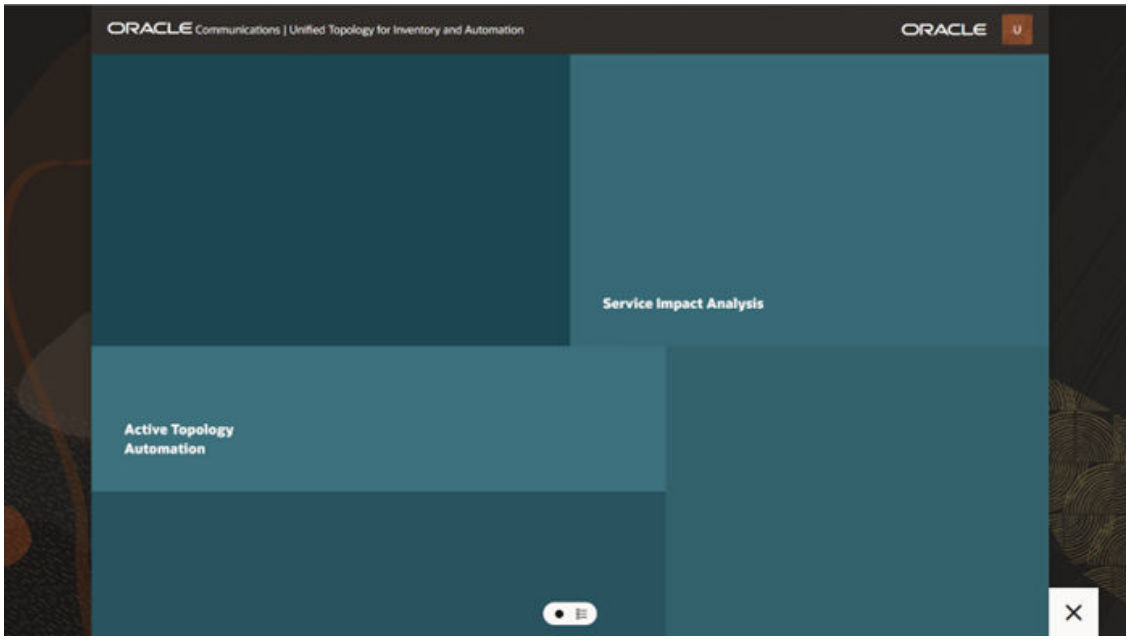
Access the ATA home page using any of the following options:

- Use the ATA application's URL that is generated after configuring the ATA microservice in a Kubernetes environment. See "About Unified Inventory and Topology" in *Unified Inventory and Topology Deployment Guide* for more information.

  > **Note:**
  >
  > You require SSO credentials to access ATA. If you have already logged into UIM using SSO credentials, you do not have to log in again to access ATA and vice versa.

- On the UIM home page, in the left navigation pane, click **Topology**. This opens the ATA application's home page in a new tab or browser window, as shown in . See "Getting Started with Unified Inventory Management" in *UIM Online Help* for more information.
- Within UIM, open the summary page of a network, and then navigate to the **Associated Resources** tab. Click **View Topology** for a resource. This opens the ATA application and displays the topology graph for the corresponding resource. See "Getting Started with Unified Inventory Management" in *UIM Online Help* for more information.
- Within UIM, click **Topology** on the corresponding summary page of any of the following entities:
  - Pipe
  - Connectivity
  - Equipment
  - Physical Device
  - Logical Device
  - Service
  - Property Location
  - Place

Figure 3-1 ATA Landing Page



About the ATA Home Page

On the top-right corner of the ATA home page, you can find a user profile drop-down list with some options. You can use these options for:

- Opening the ATA user's guide using **Help**.
- Logging out of ATA using **Sign Out**. This action logs you out of the application and displays the ATA login page. You can log out of the application from ATA and Service Impact Analysis Landing page.

You can also access UIM from the **General Information** tab of a topology component's summary page. See "Accessing UIM from ATA" for more information.

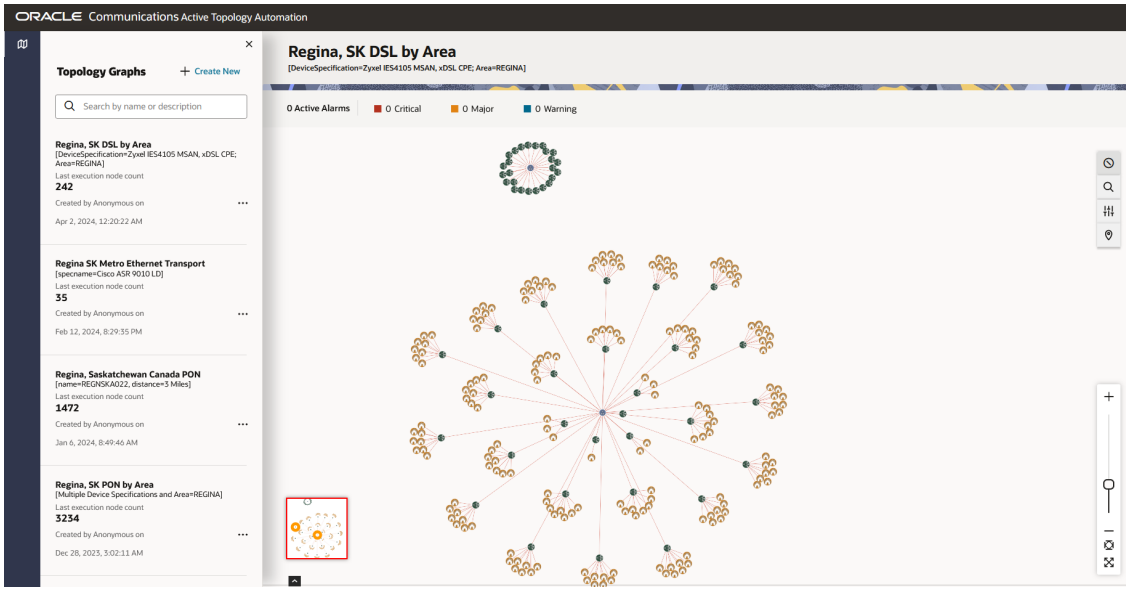
You can also localize ATA UI in a different language. To localize ATA UI, see "ATA Localization" in *Unified Inventory and Topology Deployment Guide*.

About the Topology Graph

On the home page, you can search for a topology graph and view it.

The following figure shows the ATA home page with the topology graph of a network.

Figure 3-2 Topology Graph View of a Network



The topology graph shows the following:

- A left navigation bar that shows the list of topology graphs you have created. You can search for a topology graph using the Search field or you can create a new topology graph using **Create New** option.
- The diagram canvas on which all the topology components are depicted.
- The **Alarm Details** pane that shows the number of active alarms. Click the  icon above the **Search** option at the right side of the screen toggles its visibility.

> **Note:**
>
> The alarm details show the number of devices displayed on the topology graph with alarms. The devices with alarms appear with an alarm icon. If a device has 10 alarms, the system counts it as 1 device with alarms.

- A minimap shows the overall view of the topology graph. If you select a network element, the minimap shows the selected network element highlighted and the location of the element within the topology graph.

> **Note:**
>
> The minimap shows the corresponding part of the graph when you zoom in or zoom out.

- Selecting a node shows the corresponding overview details within the Overview panel.
- A legend in the left-bottom corner (below the minimap) that opens when clicked. It describes the custom colors and icons that represent the corresponding specifications in the topology graph along with the corresponding device count. The default and custom

icon preferences are grouped as separate lists, as are specifications. Clicking on any of the specifications or icons or edges highlights all the respective nodes and edges on the graph.

- A zoom scroll bar on the right-end corner that helps you to change the zoom settings. You can change the zoom settings by scrolling the mouse or by using these controls.
- A **Settings** icon that opens the **Settings** pane to change the display and advanced settings to customize the graph as per your choice. See "Changing the Topology Graph Settings" for more information.
- A **Search** text box to search for a specific topology component within the topology graph. See "Searching within a Topology Graph" for more information.

On the topology graph, you can select a topology component, and view its details. A topology component can be a node or an edge. If the selected component is a node, you can isolate, expand, or collapse the node by right-clicking on the node and selecting the corresponding option. See "Viewing the Details of Topology Components" for more information.

4

Searching for Topology Graphs

This chapter describes how to search for topology graphs and customize the search.

Searching for a Topology Graph

To search for a topology graph:

1. On the ATA home page, click the  icon on the top-left corner.

   This opens the **Topology Graphs** search pane with a list of topology graphs that you have saved (if any). These topology graph records show the corresponding names, descriptions, and the number of nodes. See "Customizing a Topology Graph Search" for more information.

2. (Optional) Type the name or description of a topology graph in the Search field.

   A list of related search results appears.

3. Choose a topology graph and click on it or select **Render Map** in the ellipsis options.

4. (Optional) Select **Edit** or **Discard** to edit or discard the topology graph search.

5. (Optional) Click **Create New** to customize a new topology graph search.

   A **Create New** pane appears. See "Customizing a Topology Graph Search" for more information.

Customizing a Topology Graph Search

You can customize your topology graph search in the **Create New** search pane. You can use this customized topology graph search for quickly accessing and monitoring the topology graph without selecting the attributes every time.

To customize your topology graph search:

1. Enter a name and a description for the topology graph.

   > **Note:**
   >
   > **Name** is mandatory for **Save & Search**.

2. In the **Attributes** side pane, click the '**=**' icon of an entity to drag and drop the corresponding attributes to the topology graph. See "Selecting Attributes while Customizing a Topology Graph Search" for more information on the list of supported entities and the corresponding attributes.

3. You can add attributes using the following options:

   - To add a specific attribute within an entity, expand the entity and drag and drop the specific attribute to the list.

- To add a specific attribute to the list, click the '**+** ' icon of the required attribute. You can add all attributes within an entity to the list.

> **Note:**
>
> - If you add a specific attribute to the list, the corresponding entity gets added to the list.
> - You can add multiple attributes associated with the entity that is already added to the list.
> - If you have added an attribute of an entity, you cannot add another attribute from another entity.

4. (Optional) To add an attribute from another entity, remove the existing attribute or attributes from the list and then add the required attribute from another entity.
5. To remove an attribute or entity, click the Remove icon from the list of added attributes.

> **Note:**
>
> Removing an entity removes all corresponding attributes from the list.

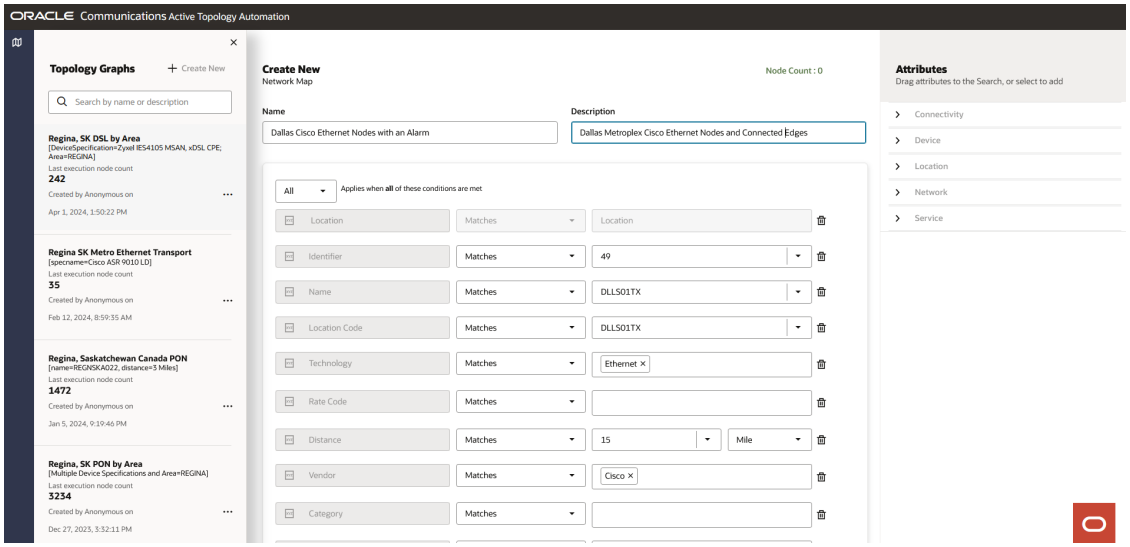
6. After you add all attributes, click **Save & Search**.

   The customized topology graph search is saved and the corresponding topology graph appears. All users can use this customized search from the list of saved searches for quickly accessing it.
7. (Optional) Click **Search** to open the topology graph without saving the search.

   The topology graph that contains all the selected attributes appears.
8. (Optional) Click **Cancel** to cancel the search.

The following image shows the **Create New** search pane.

Figure 4-1 Customizing Network Search



Selecting Attributes while Customizing a Topology Graph Search

You can select an entity and its corresponding attributes to customize a topology graph search. Select or enter the corresponding values of these attributes to customize your search. The search returns results with a topology graph that contains only the selected entity types.

You can add only one entity from the list of entities. Adding an entity adds all the corresponding attributes to the search.

The list of supported entities are:

- Connectivity
- Device
- Location
- Network
- Service

Each entity has a list of attributes. You can select all or a few of these attributes. By selecting a set of attributes, you can customize your topology graph to display only the corresponding information.

> **Note:**
>
> The customized topology graph search returns results of both devices and connectivities even when the entities selected are of a specific type (such as device, location or connectivity). For example, if you have selected a device entity and specified the device name, the results will still return all the connectivities linked to the device. You can also provide additional criteria such as Technology and RateCode to get the desired connectivities from the specified device.

Except for **Service**, all other entities have both generic and entity-specific attributes. The list of these specific attributes varies with the entity that you select. The **Service** entity has only two attributes, **Name** and **Version**.

Table 4-1 lists the generic attributes.

Table 4-1 Generic Attributes

Attribute	Description
Identifier	The identifier of the topology component. You can enter an identifier or select from the list of identifiers.
Name	The name of the topology component. You can enter a name or select from the list of names.
Technology	Enter the technology to search for the topology components operating under the technology. This is a connectivity filter.
Rate Code	Enter the rate code to view the topology components that are associated with it. This is a connectivity filter.
Hops	Enter the number of hops or select from the list, to search for the topology components within that number.
Vendor	Enter the name of the vendor to search for all the topology components of the vendor. This is a device filter.
Category	Enter a category for **Network** or a device category for **Connectivity**, **Device**, and **Location**. For **Network** category, this is a network filter. For other categories, it is a device filter. The values are defined by the customer. See "Dynamic Attribute Mapping between UIM and ATA" in *Unified Inventor and Topology Deployment Guide* for more information.

Table 4-2 lists the entity-specific attributes.

Table 4-2 Entity-Specific Attributes

Attribute	Description
Domain	Enter the domain or select from the dropdown. This attribute is a **Device** filter.
Specification	Enter the specification that is used to create the entity. This attribute is specific to **Connectivity** and **Device**.
Node Type	Enter the node type. This is a **Device** filter.
Distance	Enter the distance to search for all the topology components available within the given distance from the location or device. Select the distance unit from the list beside this field. You can select **Meter**, **Kilometer**, or **Mile** as distance unit. This attribute is specific to **Location** and **Device**.
Device Specification	Enter the device specification that is used to create the entity. This attribute is specific to **Location** and **Network**.
Area	Enter the location area to search for all topology components available within that area. This attribute is specific to **Location**.
Circle	Enter the circle to search for all topology components within the circle. This attribute is specific to **Location**.

Table 4-2 (Cont.) Entity-Specific Attributes

Attribute	Description
SubCategory	Enter the subcategory to search for all subnetworks with the specified types. See "Viewing Networks and Subnetworks" for more information. This attribute is specific to **Network**.
Topology Type	Enter the topology type. This attribute is specific to **Network**.
Sub Type	Enter the topology sub type. This attribute is specific to **Network**.

> **Note:**
>
> Category, Domain, Node Type, Area, Circle, SubCategory, Topology Type, Sub Type are defined by the customer through Topology Mappings.

Viewing Networks and Subnetworks

You can view multiple layers of a network by navigating up or down the network hierarchy.

An example of a network hierarchy is:

National > **Regional** > **CircleCore** > **Aggregate** > **Pre-Aggregate** > **Access**

You can have either of the following types of networks:

- Multiple layers within a single network that follows the network hierarchy. For example: A **Regional** network has few nodes and one **Aggregate** subnetwork. You can see the subnetworks within the **Aggregate** subnetwork by clicking on it.
- Different types of subnetworks within a single parent network. For example: You can have a **Regional** network that in turn has its own nodes along with **Aggregate** and the corresponding **Access** networks. The nodes within the **Access** network can connect to the nodes within the **Regional** network through the **Aggregate** network. Figure 4-2 shows a network having different types of subnetworks.
- All the devices and connectivities exist within a single network. Oracle does not recommend this approach.

> **Note:**
>
> Setting a device category attribute is supported on device or connectivity search.

You can open any network, whether a subnetwork or parent network, using the network name. The topological view for the selected network will automatically show both parent networks and their connections as well as subnetworks and their connections.

The subnetwork appears with a network badge. The number of internetworking nodes within the subnetwork appear as a number on the icon. The internetwork nodes of a subnetwork are

the nodes that have a connection (edge) with the nodes in the parent network. In most situations, the internetwork nodes show the ingress and egress paths into the network and simplify the expansion and viewing of the network.

However, in some situations, you may wish to drill down into the subnetwork and view all of the nodes and edges:

- Right-click on the subnetwork and select **Isolate** to view all the nodes and edges associated with the subnetwork. This option isolates the subnetwork alone into a new view and does not show all the nodes and edges of the parent network, but shows the node connecting it to the parent network.
- Use the **Expand Node** action to show the internetwork nodes.

Figure 4-2 Network with Subnetworks

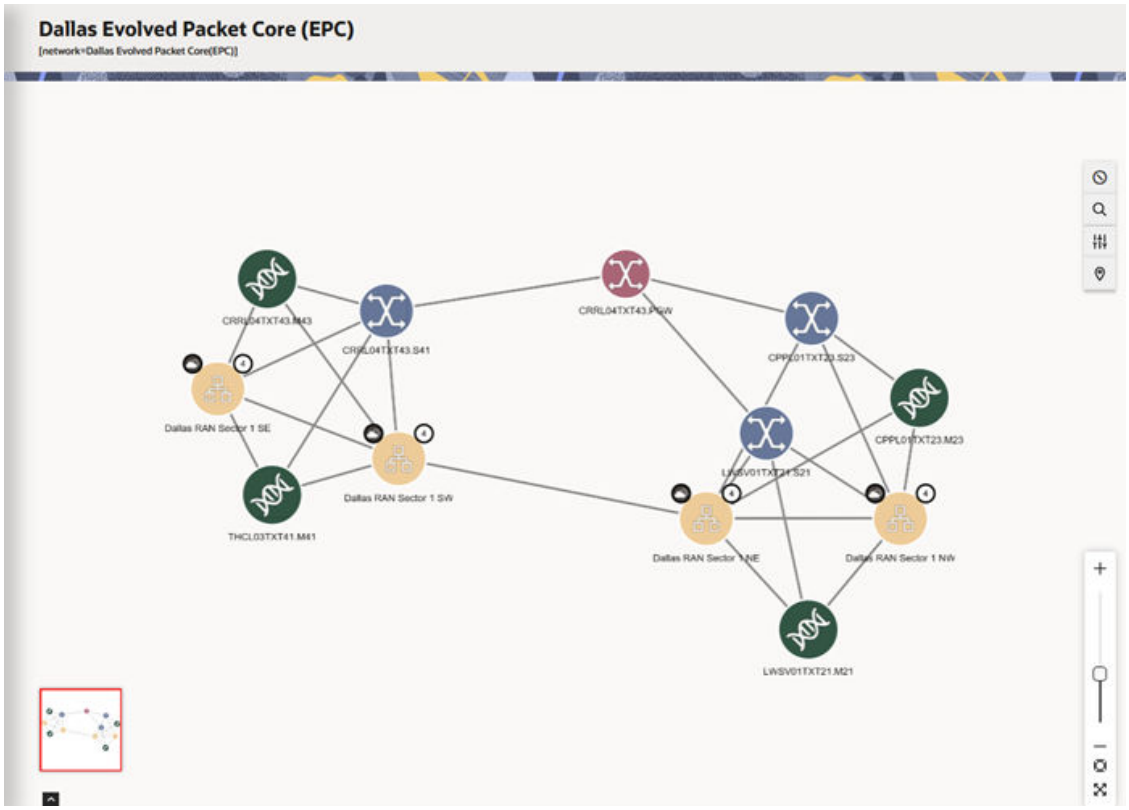


Figure 4-2 shows the Dallas EPC network with four subnetworks, where each subnetwork has four internetwork nodes.

Figure 4-3 Isolated view of Subnetwork

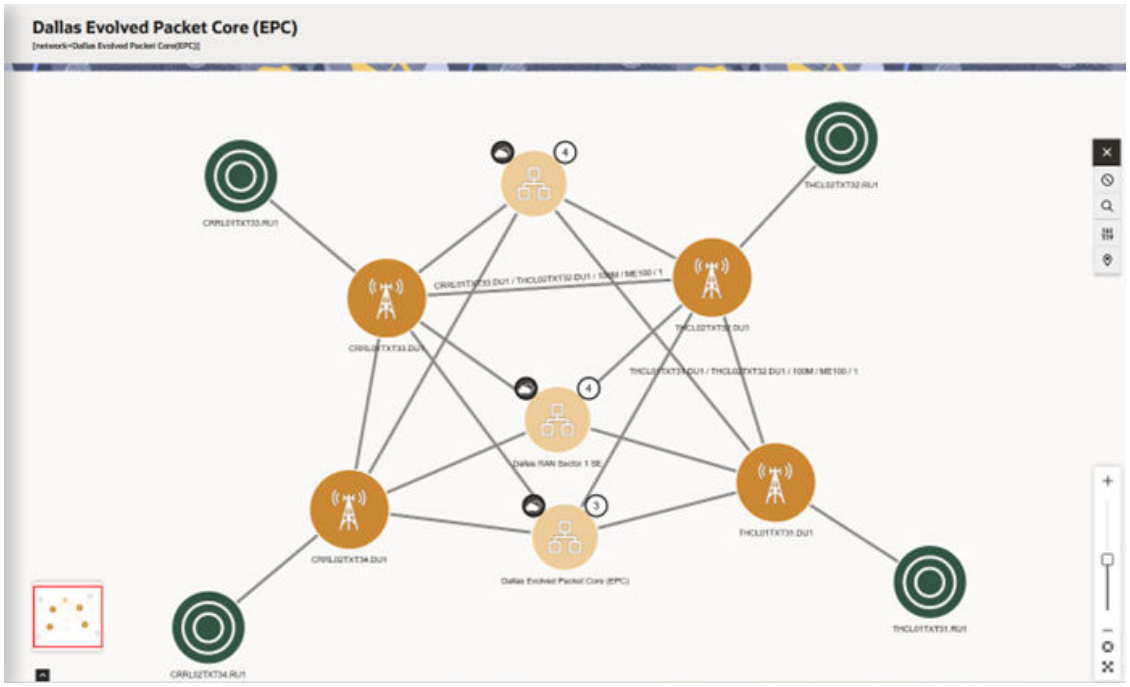


Figure 4-3 shows the **Isolate** view of the Dallas RAN Sector 1 SE subnetwork. It shows all the nodes in the subnetwork and all interconnections to that subnetwork.

Figure 4-4 Expand Node view of a Subnetwork

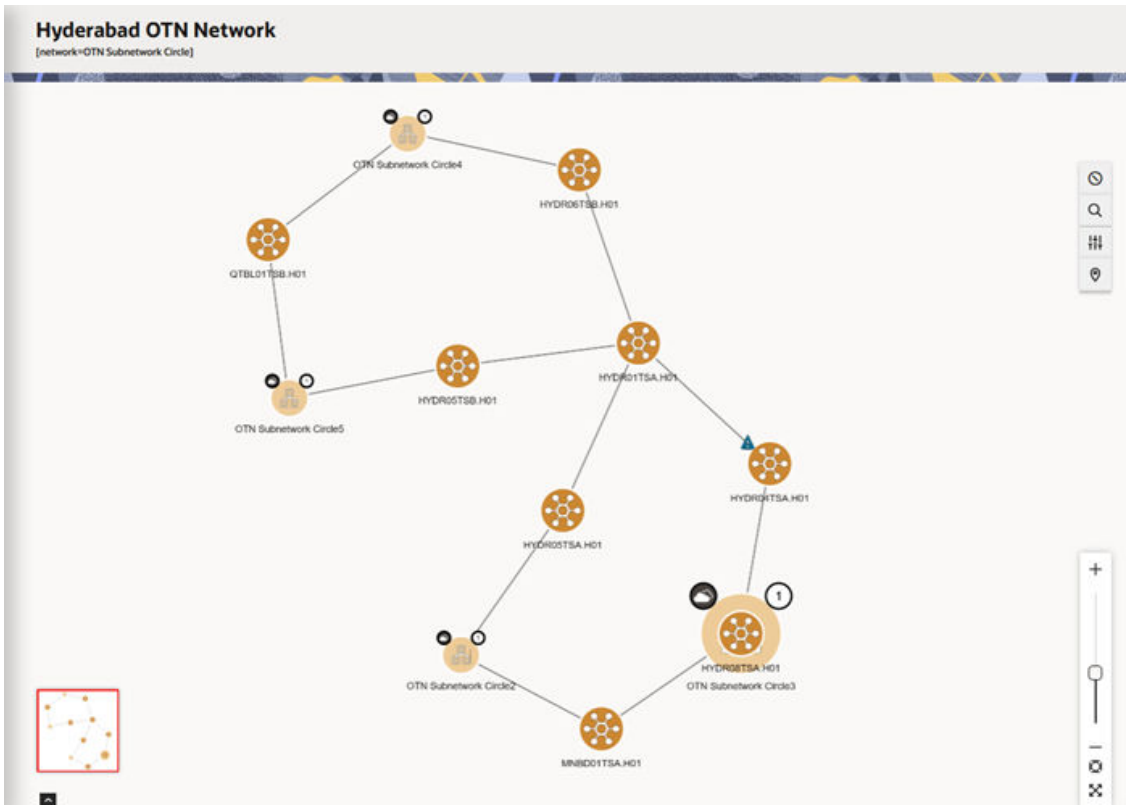
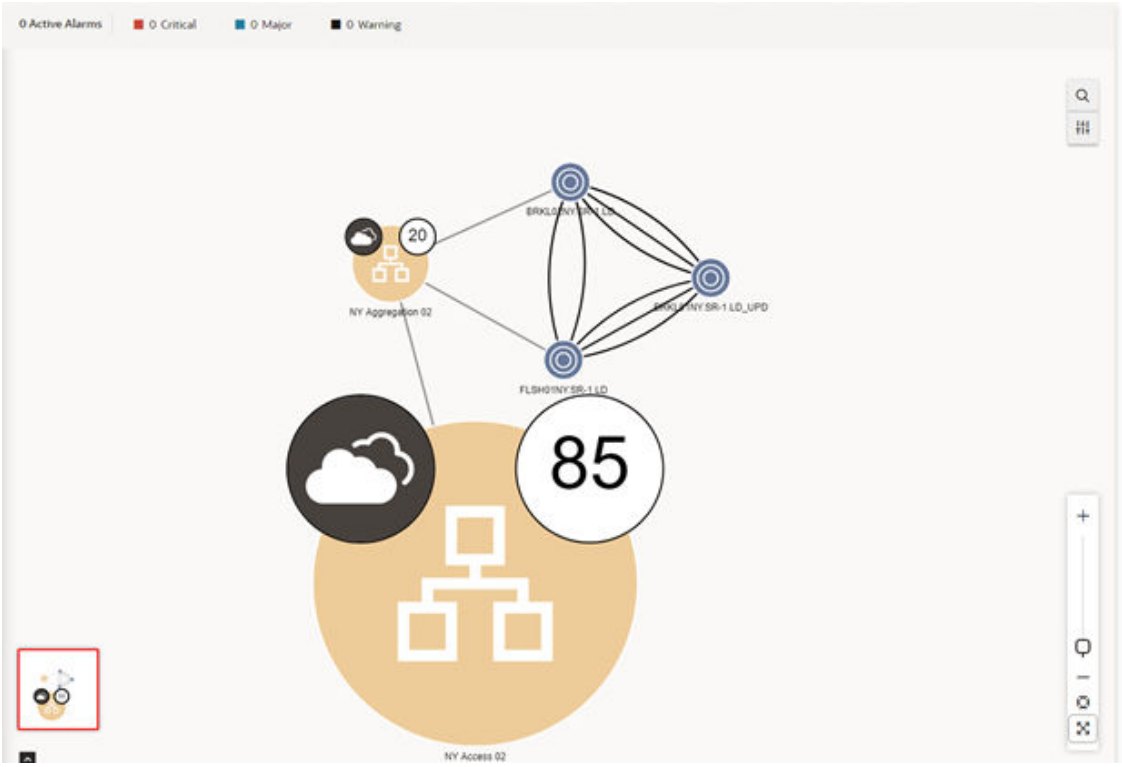


Figure 4-4 shows the **Expand Node** feature with one internetwork node.

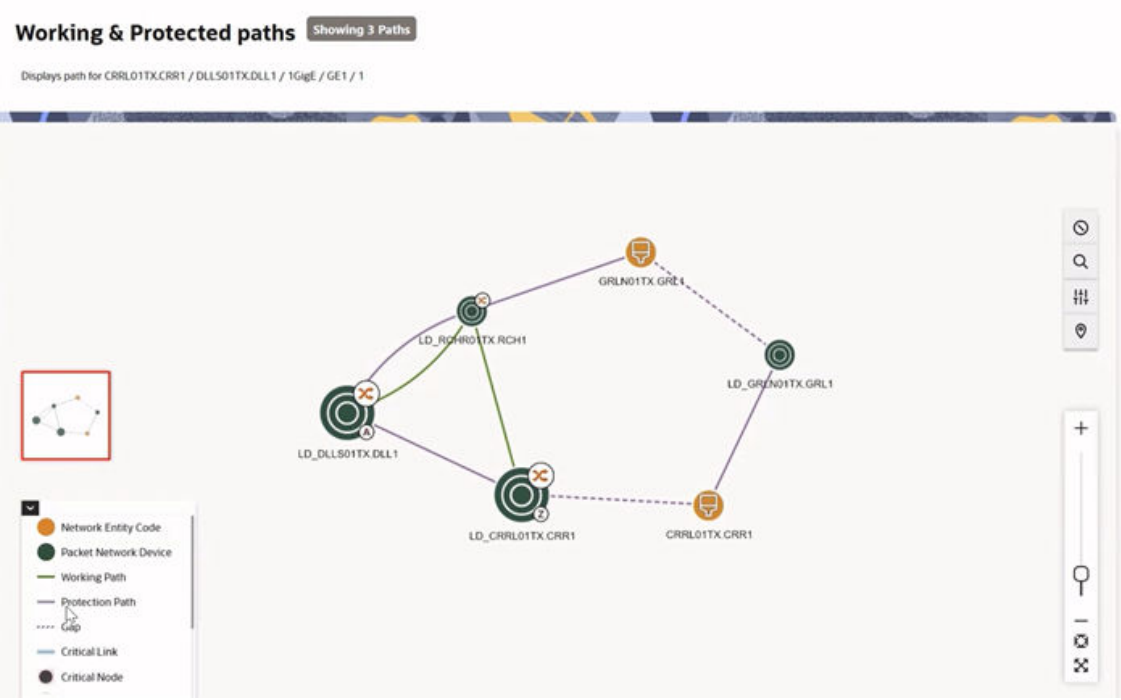
Figure 4-5 Subnetworks within a Single Network



Working and Protected Paths

You can view the available paths for any connectivity on the canvas by right clicking on the edge and selecting **Show Paths**. The **Show Paths** action opens the **Working and Protected Paths** page. As shown in Figure 4-6, the page displays that three paths are available for the selected connectivity 1GigE connectivity from CRRL01TX to DLLS01TX.

Figure 4-6 Working and Protected Paths

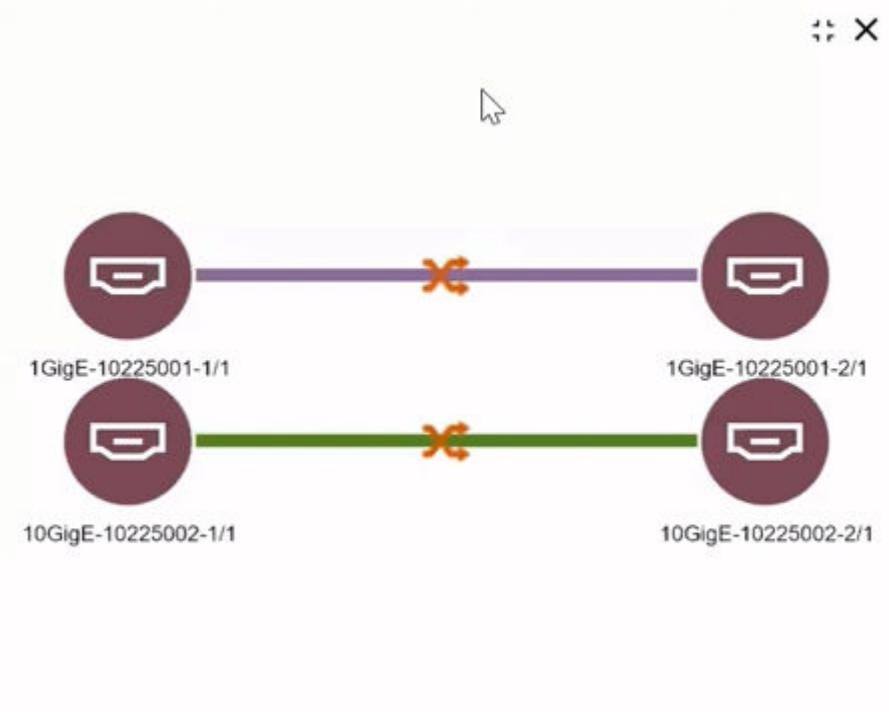


The legend in Figure 4-6 displays the following:

- The green path represents working paths. There is one working path in the above figure.
- The purple path represents protection paths. There are two protection paths in the figure.
- The **A** and **Z** icons represent the termination points for the connectivity trail.
- The  icon represents a cross-connection on the device.
- The  icon represents a jumper on the device.

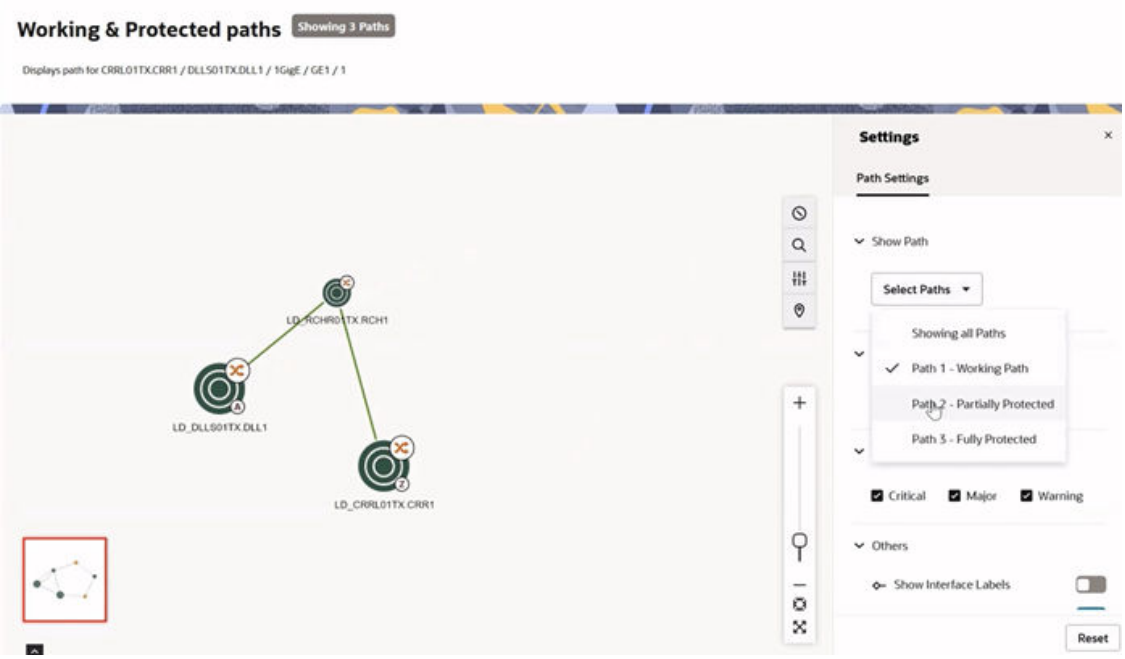
If you click on either the cross-connect or jumper icons, the device interface or port details are displayed, as shown in Figure 4-7.

Figure 4-7 View of Device Interface Details



You can filter specific paths in the **Settings** panel. For example, Figure 4-8 illustrates a scenario where only Working Paths are selected to be shown. It is also possible to view all paths, or any desired combination of paths. In this example, Path 2 provides Partial Protection and Path 3 provides full protection.

Figure 4-8 Customizing Paths to be Displayed on Working and Protected paths page



You can also choose the **Show Interface Labels**, **Show Connectivity Labels** and **Show Node Labels** options in the settings panel as in Figure 4-9. By default, **Show Connectivity Labels** and **Show Node Labels** are enabled and **Show Interface Labels** is disabled. Enabling the **Show Interface Labels** option will display the device interface ID/Name, or the Port ID/Name.

Figure 4-9 Interface Labels Enabled on Working and Protected Paths

Searching within a Topology Graph

You can search for the required network elements within a selected topology graph. You use the **Search** icon at the right corner of your topology canvas.

Click on the **Search** icon opens a search panel on the left. You can select the following options while searching:

- Select **Search and Filter Topology** to search, filter, and view the topology based on a search criterion. See "Using Search and Filter Topology" for more information.
- Select **Ring Search** to search the naturally occurring rings in the topology graph displayed on the canvas. See "Using Ring Search" for more information.

Using Search and Filter Topology

The **Search and Filter Topology** panel has a search bar with filter options under it. Each filter option represents one filter type, such as **Location**, **Network Type**, and so on. Each option has a value chosen by default. Below the search bar is a list of all the nodes and edges in a topology graph. The nodes are grouped into categories by **Location**, while the edges are grouped separately.

The following filters and child filters are available in ATA:

1. Location

- Location Code
- Alarm (Yes, No)
- Device Type

2. Network Type
   - Alarm (Yes, No)
   - Device Type
3. Device Type
   - Alarm (Yes, No)
4. Technology
   - Rate Code
   - Connectivity Specification

When a user selects any filter, the corresponding child filter (the second-level filter) appears, and it's corresponding values can be selected.

Use **Search and Filter Topology** as follows:

1. Search for a network element or multiple network elements within the topology graph.

> **Note:**
>
> You can use a global search by entering a required value to search for the network element.
>
> The search is case sensitive.

2. View all nodes and edges in a tree view.
3. Select the required nodes or edges from the tree view to the selected elements highlighted within the topology graph and an overview panel appears on the right-side that shows the details of the selected node or edge.
4. Use the filter chip options to filter and search for the required network elements. You get the filter chip options based on the network elements you select.
5. Use the filter chip options as follows:
   a. Select an option to view the corresponding list of network elements.

   > **Note:**
   >
   > You may select any number of filter chip options.

   b. Click on the selected option within the **Search** bar to view a list of values you can select.
   c. Select the required value to view the list of network elements for the selected value.

> **Note:**
>
> The highlighted nodes appear along with their associated edges in the canvas. When filters are removed, the entire topology appears.

d. Select **Node** or **Edge** to toggle between the list of nodes or edges.

> **Note:**
>
> For edge search, the terminal nodes of the matching edges appear on the canvas.

e. Click on a filter chip to change the value of the corresponding filter chip.

f. Select a filter chip to view only the corresponding part of the topology graph in the canvas.

g. Close the filter option to deselect the filter.

Figure 4-10 Example of Network Type Filter Applied to a Network

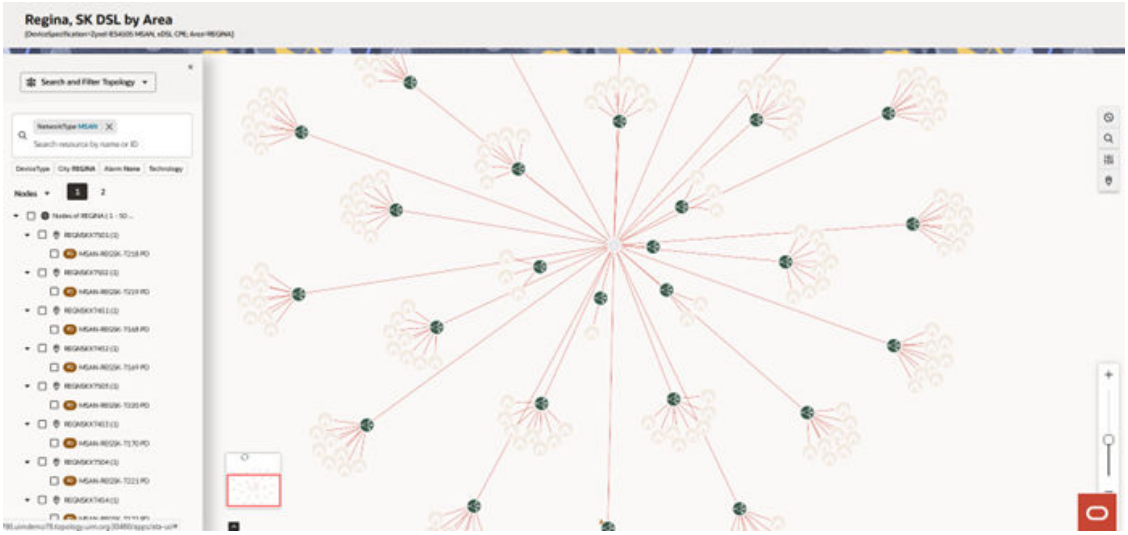


Figure 4-10 shows an example where the Network Type filter with value "MSAN" has been applied. The nodes are filtered in the tree-view on the left panel as per the value, and highlighted in the canvas.

Using Ring Search

A network ring is a closed loop of nodes and edges that starts from a node, connects other nodes and ends at the starting node.

Ring Search allows the user to find all the naturally occurring rings in a searched network displayed on the canvas. Using the **Ring Search**, you can search for all rings based on nodes and edges. The **Ring Search** can be customized by creating a custom graph based on the criteria you wish to use in identifying the rings. For example, you can build a search querying

all devices with a specific technology and connectivity with a specific rate code for a specific area.

When you switch to the **Ring Search**, the list of rings in the graph appears on the left side of the screen.

> **Note:**
>
> For very large graphs the calculation of rings is limited, but you can choose to calculate all rings for a moderate graph.

You can view ring information by selecting a ring from the list. The chosen ring is highlighted on the canvas, and the **Ring Capacity** panel appears on the right side of the canvas.

The **Ring Capacity** panel provides the following details:

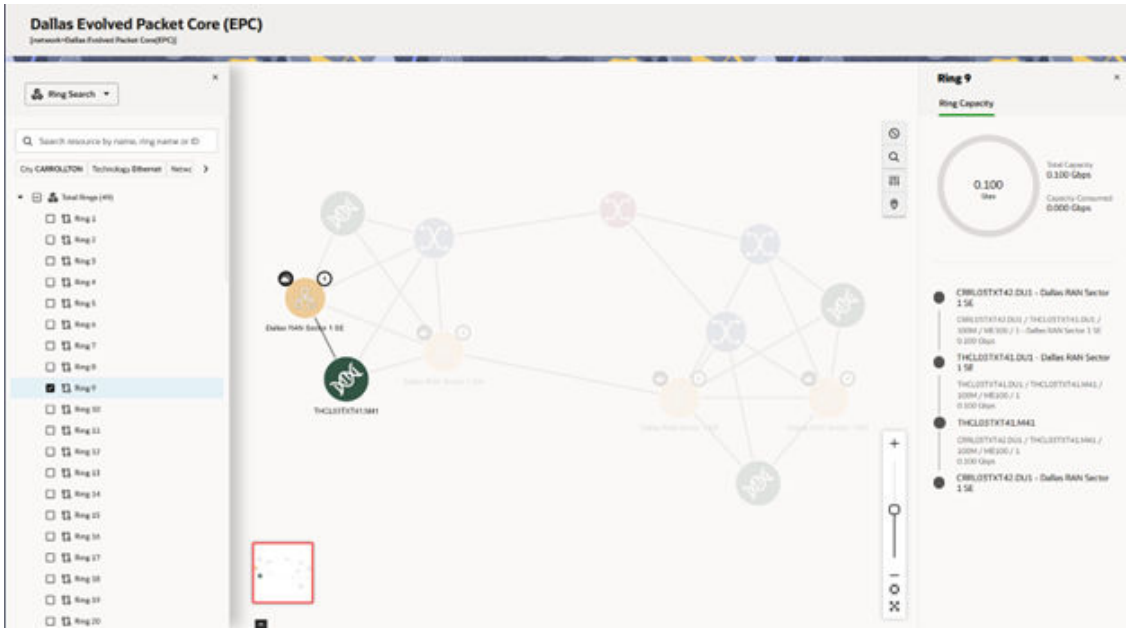
- **Total Capacity**: The total capacity of all edges within the ring.
- **Capacity Consumed**: The sum of the capacity values of all edges within the ring.
- A linear visualization of the ring with all nodes and the corresponding edges within the ring.

You can choose to view any number of rings or all rings available on the topology. When you select a ring, the associated nodes and edges appear in a tree view in the Ring Search panel. If the list of nodes/edges/rings is too long, then it is divided into different pages that can be viewed by clicking the page numbers listed next to the dropdown menu.

You can also filter rings using the filter chip options below the search bar. For example, if you select a filter chip for a specific location, all rings that are available within the filtered location in the rendered network appear. See "Viewing and Filtering Rings within a Searched Network" for more information.

The following image shows the ring search within a searched network:

Figure 4-11 Search for a Ring within a Network



Viewing and Filtering Rings within a Searched Network

To view rings within a searched network:

1. From the topology graph, click on the Search icon.
   The search panel appears.
2. Select **Ring Search** from the dropdown list.
   The list of all rings available within the network appears.
3. Select the required ring from the list.
   The selected ring gets highlighted within the network along with **Ring Capacity** panel on the right side. You can see the list of nodes and edges associated with the selected ring in a tree view.

> **Note:**
>
> You can select multiple rings from the list of rings.

To filter rings:

1. Use the filter chip options available under search to view the rings available for that filtered criteria within the searched network.

> **Note:**
>
> You can use multiple filter chips to view the rings that meet the filtered criteria.

2. Click on the selected filter chip to change the value of the filter.
3. Search for any ring by its name or ID using the global search option.
4. Search for any node or edge within the ring using the global search option.

5

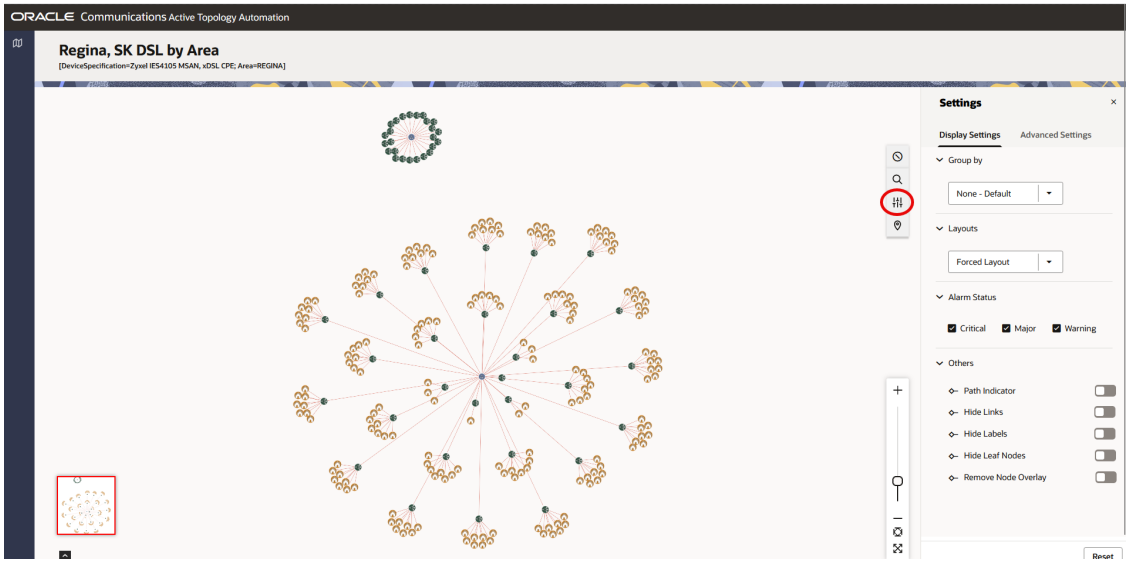
Changing the Topology Graph Settings

This chapter describes how to change topology graph settings.

Opening the Settings Pane

Use the **Settings** icon from the quick navigation bar to open the Settings pane.

Figure 5-1 Opening Settings Pane



The **Settings** pane helps you to change the display and advanced settings.

Changing the Display Settings

You can change the display settings of the topology graph using the options under the Display Settings tab.

The following table provides the list of options you can use to change the display settings.

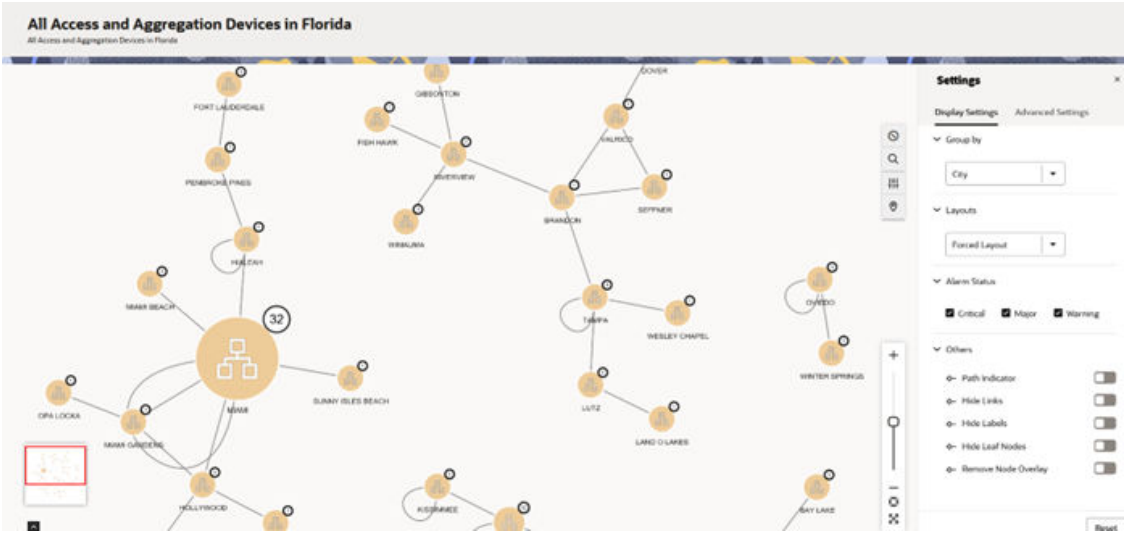
Table 5-1 Display Settings

Setting Name	Description
Group by	Select an option to group the topology components. You can group the components by state, city, postal code, district, province, location code, and circle. The **Group by** dropdown list shows only the options that have corresponding data populated in the graph. For example, if province is not populated in a graph, the province option does not appear in the dropdown list. Figure 5-2 depicts an example where the topology components are grouped by **City**. This mechanism builds containers showing the cities with the highest concentration of devices.
Layouts	Select an option to change the layout of the topology graph. Forced Layout is the default layout. See "Changing the Topology Graph Layout" for more information.
Alarm Status	Select the required alarm status types to view the corresponding details in the topology graph. You can select one or more alarm status types. The available alarm status types are **Critical**, **Major**, and **Warning**.
Others	Enable an option to change the corresponding setting. You can hide the links, labels, and leaf nodes and remove the node overlaps by enabling the corresponding option.
Reset	Click **Reset** to change the display settings back to the default options.

Table 5-2 Options under Others Section

Option	Description
Path Indicator	The edges displayed on the topology graph represent trail paths between two nodes. When you turn on **Path Indicator** (under display settings) you will see the number of paths available, and you can drill down to see the working and protect paths by selecting the **Show Paths** action on the edge.
Hide Links	You can hide links between the nodes by turning on this option.
Hide Labels	You can hide labels between the nodes by turning on this option. The labels do no appear even if you hover over the node.
Hide Leaf Nodes	You can hide all leaf nodes in the topology graph by turning on this option. This option displays the number of leaf nodes that each of the parent nodes have.
Remove Node Overlay	You can remove node overlay in the topology graph by turning on this option. This option is not available for **Geo Map Layout**.

Figure 5-2 Example of Group By Applied on a Network



Changing the Topology Graph Layout

You can change the layout of a topology graph into any of the layouts listed in the following table:

Table 5-3 Topology Graph Layouts

Layout	Description
Forced Layout	Displays the topology components in an aesthetically pleasing way. This is the default layout.
Geo Map Layout	Displays the topology graph in a geographical map view. See "Working with the Geo Map Layout" for more information. **Note:** Geo Map Layout can be toggled by selecting the location pin on the topology graph.
Circular Layout	Displays the topology components in a circle.
Grid Layout	Displays the topology components in the form of a grid.
Hierarchical Layout	Displays the topology components according to the hierarchy and without any overlaps.

> **Note:**
>
> If you isolate a node or open its summary, the layout resets to the default option.

Working with the Geo Map Layout

You can view the topology graph in a geographic map layout. In a Geo Map layout, all the topology components appear according to their geographic locations.

You can view Geo Map layout using the following ways:

- Select **Geo Map Layout** from the **Layouts** field of the display settings.
- Navigate to the **Advanced Settings** tab and select a map background under the **Geo Map** section.

> **Note:**
>
> Selecting a geo map background changes the map layout (under **Display Settings** > **Layouts**) to **Geo Map Layout**.

You use the Geo Map layout as follows:

1. Open the topology graph in the Geo Map layout.
2. Under the **Advanced Settings** tab, select a map background under **Geomap**.
3. Use the following zoom options:
   - Zoom in to a specific network element to view the exact location of it within the geo map.
   - Zoom out of the map to view all network elements or all graphs within the specific geographic location.
   - Click the **Fit to Zoom** icon in the zoom settings bar to fit to the standard view of the geographic location.
   - Click the **Full Screen** icon in the zoom settings bar to view the map in full screen.
4. Enter a value between **0** and **100** in **Opacity in Percentage** to set the opacity percentage of the map.

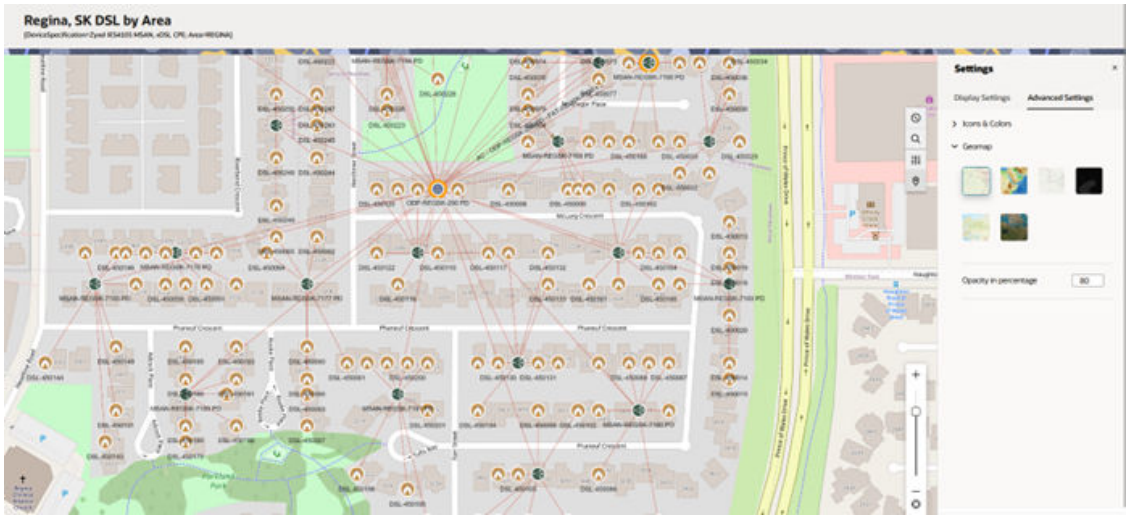
> **Note:**
>
> You use this option to minimize the map background.

5. Use  to toggle between the Geo Map layout and the canvas layout.

You can view the details of a topology component by clicking on it. This action opens an **Overview** tab that includes the alarm details associated with the component. See "Viewing the Details of Topology Components" for more information.

You can change the geographical map type on the **Advanced Settings** tab. See "Adding Advanced Settings" for more information.

Figure 5-3 Example of Map Layout



Adding Advanced Settings

You can further customize the topology graph by adding the following advanced settings:

- Using the **Icons & Colors** option, you can enable or disable icons for topology components.
- You can change the type of geographical map using the **Geo Maps** option.
- You can change the opacity percentage for the selected geographical map.

Customizing Node Icons in the Topology

You can customize node icons in the topology graph by choosing from a predetermined or uploaded range of icons. You can add multiple customizations by filtering nodes according to specification and network type.

To customize node icons:

1. Select **Customize Icons** from **Advanced Settings**.

   The **Custom Icons** pop-up window opens.
2. Select the specification and network type of the nodes you want to customize. Then click the **Select Icon** menu to select an icon.
3. Click **Add** to add your customization as a preference. You can edit or delete this customized entry anytime.
4. Click **Apply**.

   The customization is applied to the topology.

> **Note:**
>
> You can upload a custom icon by clicking on **Upload From Computer**. You can also delete each uploaded icon or all of them by using the **Delete** or **Delete All** buttons. Deletion operation is only applicable for uploaded custom icons, and only when it is not being used to represent any devices on the graph.

You must follow these style guidelines for uploading custom icons:

- The icon should be of SVG format.
- The icon should have a transparent background.
- The icon should be white.
- The icon should be of similar size to the ones provided by Oracle.

Customizing Edge Colors in the Topology

You can customize edge colors in the topology graph.

To customize edge colors:

1. Select **Customize Colors** from **Advanced Settings**.

   The **Custom Colors** pop-up window opens.

2. Select the technology and rate code of the edges you want to customize. Then click the **Select Style** menu.

   In the pop-up window, you can select any color from the gradient palette or input a specific RGBA value. You can also adjust **Line Styling** according to your preferences.

3. Click **Add** to add your customization as a preference. You can edit or delete this customized entry anytime.

4. Click **Apply**.

   The customization is applied to the topology.

6

Viewing the Details of Topology Components

This chapter describes how to view the details of topology components.

Viewing the Details of a Topology Component

In a topology graph, you can view the details of a topology component by clicking on it. The details appear in a side pane that contains the **Overview** and **Alarm Details** tabs. To view more information about the topology component, click **More Info** on the details side pane. See "Viewing Additional Information About a Topology Component" for more information.

The **Overview** tab displays the corresponding details of the topology component such as ID, Inventory Status, location details, entity category, subnet type, Created Date, and so on. These details vary from component to component.

The **Alarm Details** tab displays the list of active alarms present in the topology graph. You can see the corresponding severities of the alarms, such as **Critical**, **Major**, and **Warning**. You can expand each alarm to view the details.

Viewing Additional Information About a Topology Component

You can view the additional information about a selected topology component by clicking **More Info** on the overview details side bar that opens a summary page.

The topology component's summary page has the following:

- **General Information** tab: This tab shows details such as ID, name, specification, location, and so on. It also shows the total capacity available, the capacity consumed, and the percentage of the capacity consumed. You can view the characteristics of the component (if any) in the **Characteristics** side pane.

  > **Note:**
  >
  > For device, pipe and connectivity, clicking on the ID field will take you to the corresponding summary page within UIM.

- **Device Interfaces** tab: This tab's label shows the number of device interfaces that the logical device is associated with. After you open the tab, a list of all the device interfaces (if any) appears. From the list, you can view the name, specification, inventory status, assigned status, and alarm status of the device interfaces. You can select a device interface and view its summary in the **Summary for DI <ID>** side pane. If a device interface has sub-interfaces in a channelized connectivity, you can view the hierarchy of the device interface by expanding it.

> **Note:**
>
> Physical device and equipment do not have Device Interfaces associated with them and therefore, the **Device Interfaces** tab does not appear for either of these entities.

- **Associated Resources** tab: The label of this tab shows the number of associated resources that the topology component has.

  For example: If a Logical Device and Equipment are associated with a Physical Device, the **Associated Resources** tab of the Physical Device shows the Logical Device and Equipment associated with it.

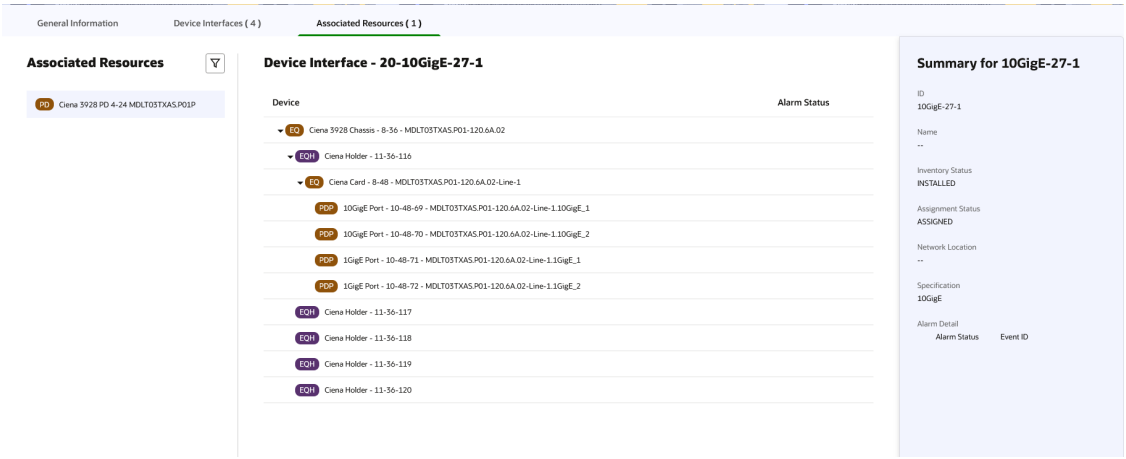
  After you open the tab, a list of all the associated resources (if any) appears. You can filter this list with the entity type. From the list, select a resource to view the details in the side pane. You can also view the summary of the resource from the **Summary for <resource ID>** side pane.

  You can view the alarms associated with the entities in a tree view. Clicking on the alarm shows the alarm details in the Summary panel on the right. These alarms are always shown on the highest-level devices. For example, if there is an alarm on a Port in an Equipment, and the Equipment has association to a Physical Device which is associated to a Logical Device, the alarm appears on the highest-level device, which is Logical Device.

- **Back** button: Click this button to go back to the topology graph.

The following image shows the **Associated Resources** tab:

Figure 6-1 View of Associated Resources tab

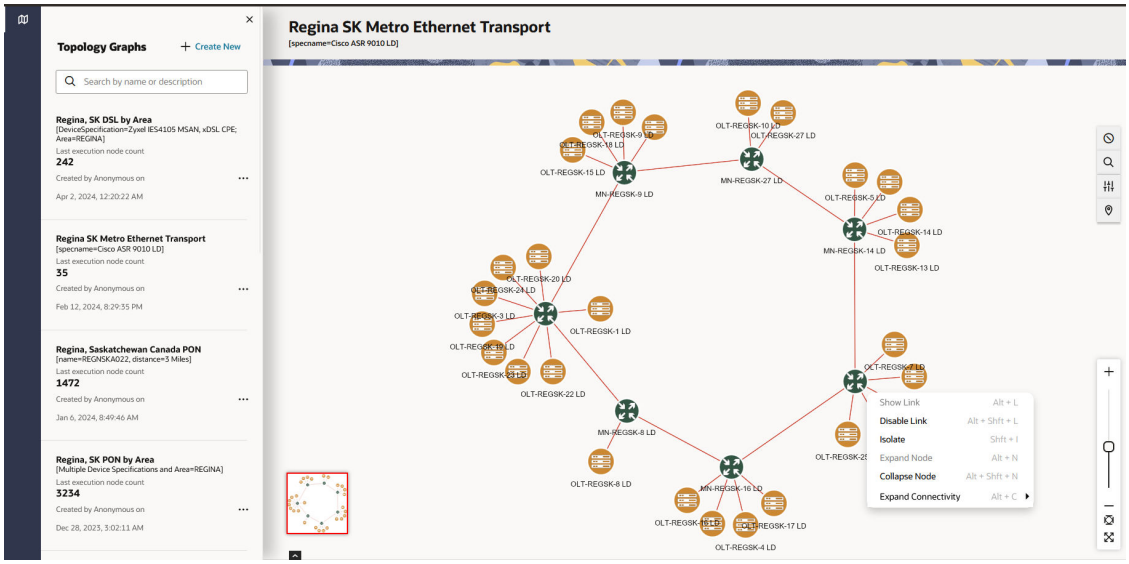


Adding Settings from a Context Menu

You can select a topology component and add settings using the context menu, which opens when you right-click on the component. You can also use the keyboard shortcuts for adding these settings.

The following image shows the context menu options and the corresponding keyboard shortcuts.

Figure 6-2 Context Menu for Adding Settings to topology Components



The following context menu options appear based on the entity/node you have selected:

- **Show Link**: Displays the links that are connected to the selected component.
- **Disable Link**: Disables all the links that are connected to the selected component.
- **Isolate**: Isolates the selected component from the rest of the topology graph. You can go back to the original topology graph by clicking  .
- **Expand Node**: Displays all the internetwork nodes within the network.
- **Collapse Node**: Collapses all the expanded subnetworks.
- **Expand Connectivity**: Expands the connectivity by the number of hops that you select. For example, you can view the connectivity for an additional 3 hops even though the original query does not include these nodes.

Accessing UIM from ATA

To access UIM from ATA:

1. Open the required topology graph and select a topology component.

   The overview pane of the component appears.

2. Click **More Info**.

   The summary page of the component appears.

3. Under the **General Information** tab, click on the **ID** link.

   The corresponding component's summary page in UIM appears.

Part II
Service Impact Analysis

This part describes how Oracle Communications Service Impact Analysis functions. It contains the following chapters:

7

About Service Impact Analysis

Oracle Communications Service Impact Analysis receives the alarm events from an assurance system and visualizes the data in the form of charts and reports. SIA analyzes the events and provides a list of all the impacted services using an event lifecycle and finalizes the lifecycle with a report. These reports help you to analyze the data for impact on the services on your network.

This module helps the operations team to perform the following activities:

- Faster Root Cause Analysis (RCA)
- Faster Mean Time to Repair (MTTR)
- Faster Mean Time to Provision (MTTP)
- Enrich the Trouble Ticket with the impacted services

You use Service Impact Analysis to:

- View the summary of the Alarm Events passed from the Assurance system.

> **Note:**
>
> The assurance system filters the alarm events to send only the critical events.

- View the analysis of the alarm types.
- View the list of the 10 most recent events.
- Search, filter, and sort events, impacts, and reports.
- Customize impact reports and export them to XLS format for further analysis.
- View the insights for events, impacts, and reports.
- View impacted resources in ATA.

8

Setting Up Service Impact Analysis

This section describes how to set up and configure Service Impact Analysis.

Prerequisites for Setting Up Service Impact Analysis

Before you set up Service Impact Analysis, you need to install all the prerequisite software. See "About Unified Inventory and Topology" in Unified Inventory and Topology Deployment Guide for installing the prerequisite software.

From the Oracle edelivery website, download the Common Cloud Native Toolkit (Common CNTK) and deploy Service Impact Analysis. See the "Unified Inventory and Topology Toolkit" chapter in Unified Inventory and Topology Deployment Guide for more information.

Setting Up Service Impact Analysis

To set up Service Impact Analysis:

1. Install or upgrade ATA. See "Upgrading ATA" in *Unified Inventory and Topology Deployment Guide* for upgrading AIA.
2. Install or upgrade UIM. See "Overview of the UIM Cloud Native Deployment" in *UIM Cloud Native Deployment Guide* for UIM cloud native deployment.
3. Configure the Unified Operations Message Bus microservice. See the "Unified Operations Message Bus" chapter in *Unified Inventory and Topology Deployment Guide* for more information.
4. Configure the Service Impact Analysis microservice. See the "Deploying Service Impact Analysis" chapter in *Unified Inventory and Topology Deployment Guide* for more information.
   Service Impact Analysis instance is created and a URL is generated. Use this URL to access the Service Impact Analysis application. See "Deploying Service Impact Analysis Instance" in *Unified Inventory and Topology Deployment Guide* for more information.

9

Getting Started with Service Impact Analysis

Service Impact Analysis enables network operators to visualize and analyze the services, resources, locations, networks, and other impacts affected by events occurring on physical, logical, or virtual infrastructure. These events, such as faults at the node or sub-node level (for example: shelf, card, port, or device interface), are received from the Assurance systems that monitor and collect the real-time network events.

Service Impact Analysis correlates these events to assess the impacts and displays the analysis in the form of interactive charts and reports. It allows operators to view, sort, and analyze the effects of these events, enabling faster identification of root causes and affected areas. Operators can also generate customized reports and apply advanced filters that help in refining their analysis and enabling faster and better resolutions.

> **Note:**
>
> Service Impact Analysis supports an Assurance system using TMF 688 Event Management API and TMF 642 Alarm Management API.

The supported resource types are:

- Physical Port
- Device Interface
- Equipment
- Physical Device
- Logical Device

The supported resource sub types are:

- Shelf
- Card

Accessing Service Impact Analysis

To access Service Impact Analysis:

- Use the Service Impact Analysis application's URL that is generated after configuring the Service Impact Analysis microservice. See "About Unified Inventory and Topology" in *Unified Inventory and Topology Deployment Guide* for more information.

> **Note:**
>
> You require SSO credentials to access Service Impact Analysis. If you have already logged into UIM or ATA using SSO, you do not have to log in again to access Service Impact Analysis.

- On the landing page, click **Service Impact Analysis**.
  The **Overview** page appears.

About the Service Impact Analysis User Interface

Data in Service Impact Analysis can be viewed and analyzed using tabs that provide various features.

The tabs provide the following functionality:

- **Overview**: Use this tab to view the service impacts summary, alarm events, alarm severity distribution, and the 10 most recent events.
- **Events**: Use this tab to view, filter, sort, and generate reports of the list of all alarm events that occurred.
- **Impact Reports**: Use this tab to customize reports using filters and to export the reports to XLS format.
- **Topology**: This tab opens ATA. For more information on ATA, see "About ATA".

The following figure shows the home page of Service Impact Analysis.

Figure 9-1 Service Impact Analysis Home Page

About Alarm Types

The impacts data is grouped into the following alarm types based on their severity:

- Operation Violation
- Environmental Alarm
- Mechanism Violation
- Communications Alarm

- Integrity Violation
- Processing Error Alarm
- Quality of Service Alarm
- Equipment Alarm
- Physical Violation
- Security Service
- Time Domain Violation

About Event Statuses

The events have the following statuses that originate from the assurance system:

Table 9-1 Event Status

Event Status	Description
RAISED	The alarm is detected.
UPDATED	The alarm status is successfully updated.
CLEARED	The alarm is resolved and is no longer active.
REJECTED	The alarm status change is rejected due to an error or other reasons.

About Analysis Status

Service Impact Analysis has the following lifecycle statuses:

Table 9-2 Analysis Status

Analysis Status	Description
PENDING	The event is received but not assigned to anyone to analyze.
ASSIGNED	A user (or Owner) is assigned to analyze the impact.
INITIATED	The system has started analyzing the impacts in UIM.
COLLECTED	The system has completed the analysis of impacts in UIM. Analysis status value is changed to **COLLECTED** if the analysis is completed successfully.
FAILED	The system has failed in analyzing the impacts in UIM. If the initiate analysis is not completed successfully, the analysis status is changed to **FAILED**.
ANALYZING	The user (or Owner) has started analyzing the impact.
COMPLETED	The analysis of the impact is completed by the user (or Owner) and the system.

Note:

The Analysis Status can be **COMPLETED** only if all the impacted items are **QUALIFIED** or **DISQUALIFIED**.

10

Using the Overview Tab

The Overview tab of Service Impact Analysis provides a summary of all service impact events.

The service impacts summary is categorized into the following sections:

- Total Events
- Alarm Types
- Recent Events

Viewing the Events Summary

You can view the events summary in the form of a pie chart using the **Total Events** section.

The pie chart shows the grouping of events based on their alarm severity. It shows the percentage of each group of events.

To view the events summary:

1. In the **Overview** tab, navigate to the **Total Events** section.
   The **Total Events** section shows the total number of all events that occurred.
2. On the pie chart, hover over the corresponding sector to view the following details:
   - **Severity**: Provides the alarm severity.
   - **Count**: Provides the number of events that occurred with the corresponding alarm severity.
3. Use the alarm type legend to understand the alarm severity and the corresponding color marked on the pie chart.

Viewing the Types of Alarms Occurred

You can view the types of alarms that occurred using the **Alarm Types** section.

The bar graph shows the types of alarms grouped against the number of alarms that occurred. Each type of alarm can be further distributed based on the alarm severity.

To view the alarm types:

1. In the **Overview** tab, navigate to the **Alarm Types** section.
2. On the bar graph, hover over the required alarm type for a specific severity to view the following details:
   - **Severity**: Provides the alarm severity.
   - **Alarm Type**: Provides the alarm type.
   - **Count**: Provides the number of events that occurred with the corresponding alarm type and severity.
3. Use the alarm type legend in the **Total Events** section to understand the alarm severity and the corresponding color.

Analyzing Recent Events

You can view the 10 most recent events in the **Recent Events** section.

To analyze the recent events occurred:

1. In the **Overview** tab, navigate to the **Recent Events** section.
   The section shows a list of recent 10 events occurred.
2. Click on any required event ID link in the **Event ID** column.
   The **Event Details** panel appears. The panel shows the corresponding event details. See "Viewing the Events Summary" for more information.
3. Click on any required resource link in the **Resource** column.
   The corresponding resource summary page within UIM opens in a different browser tab (for ports and device interfaces) or in Service Impact Analysis UI (for physical devices or equipment).
4. (Optional) Click **See All** on the top-right corner of the **Recent Events** section to view the list of events that occurred.

The **Events** tab shows the list of all events that occurred. See "Using the Events Tab" for more information.

11

Using the Events Tab

You use the Events tab to view the list of all events occurred in a table with the following columns:

Table 11-1 Events Columns

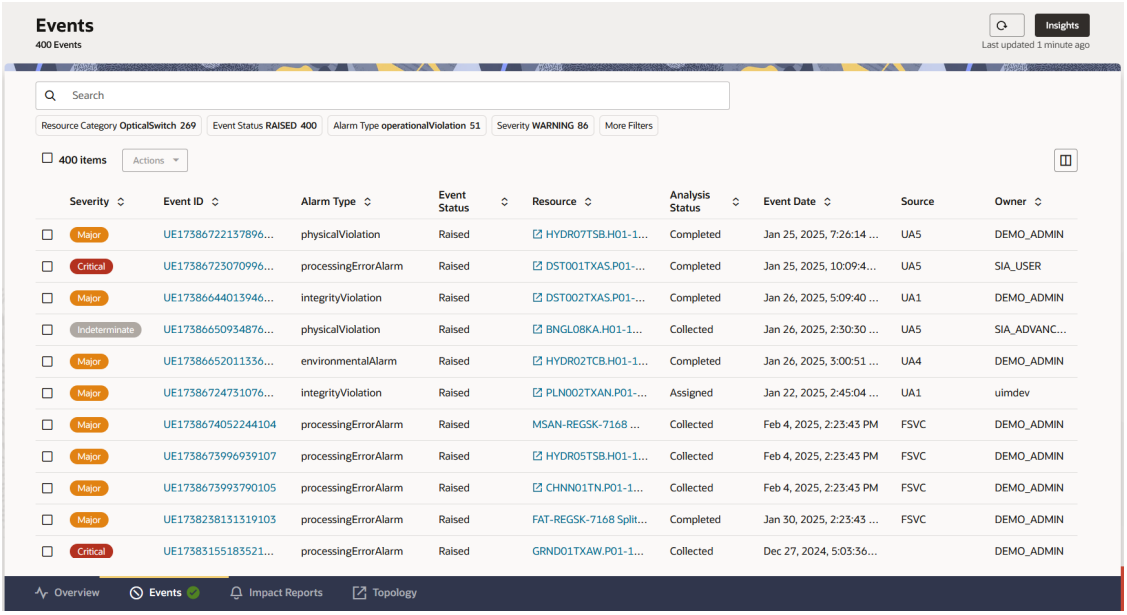
Column	Description
Severity	The severity of the alarms. The alarm severities are: • Critical • Major • Warning • Indeterminate • Minor
Event ID	A unique ID for the event.
Alarm Type	The alarm type of the event. See "About Alarm Types" for the list of alarm types.
Event Status	The event status that you get from the assurance system. See "About Event Statuses" for more information.
Resource	The resource that on which the event has occurred. This is a hyperlink, clicking on which you can view the summary of the corresponding resource in UIM.
Analysis Status	The lifecycle status of the impact data analysis. See "About Analysis Status" for more information.
Created On	The date when the event was created.
Source	The source of the event, which is the unique identifier of the assurance system from which the event is collected.
Owner	The person who is assigned to work on the alarm event.

Using the Events tab, you can perform the following:

- Viewing the list of events.
- Searching and filtering the events using customizable filter chips.
- Customizing the columns.
- Viewing insights of the events.
- Performing actions on the selected events.

The following figure shows the Events tab of Service Impact Analysis.

Figure 11-1 Events tab of Service Impact Analysis



Viewing the List of Events

The **Events** tab provides the details of all events that have occurred. You can scroll down to view the list of all events.

To view the list of events:

1. Navigate to the **Events** tab.
   The list of events appears in a table.
2. Search the events using the filter options. See "Searching and Filtering the Events" for more information.
3. Sort the columns using the corresponding sort options.
4. Click on the required event ID link to view the event details.
   The **Event Details** panel appears that shows the event summary. See "Working with Event Details" for more information.
5. Click on the required resource link to open the corresponding resource summary.
6. Select a row using the corresponding checkbox.
7. (Optional) Select all rows in the table using the total count checkbox.
8. Select an option from the **Actions** list. See "Performing Actions on the Selected Events" for more information.
9. Click **Insights** on the top-right corner of the **Events** page to view the insights. See "Viewing Insights of the Events" for more information.
10. Click the **Refresh** icon beside the **Insights** button to refresh the events list.

Working with Event Details

You can use the **Event Details** panel to view and edit an event and initiate the analysis.

To do so:

1. From the list of events, click on the required event ID.
   The **Event Details** panel appears.
2. Click on the links for **Alarm Details** to view the alarm details.
   The **Alarm Details** pop-up window appears that shows the alarm details.

> **Note:**
>
> The **Alarm Details** link provides the entire message sent from the assurance system for additional information.

3. Click **Edit Event** to edit the event description and owner.
   a. Enter the change description in **Description**.
   b. Select the owner of the change from **Owner**.
   c. Click **Save**.
      The changes are saved.
4. On the top-right corner of the **Event Details** panel, click on the ellipses option and select either of the following:
   a. **View Resource in Topology** to view the resource in ATA.
   b. **View Resource in Inventory** to view the resource summary in UIM.
5. Click **Initiate Analysis** to start a new analysis.
   The system performs an analysis, and you will get a notification after the analysis completes. See "About Analysis Status" for more information on analysis lifecycle statuses.

> **Note:**
>
> When you initiate an analysis, the analysis status is changed to **INITIATED** and then will be changed to **COLLECTED** after the analysis is successfully completed.
>
> The analysis status changes to **FAILED** if there is a system failure during the impact gathering phase.

6. Click **View Impact Summary** to view the impact summary. See "Viewing Impact Summary" for more information.

Viewing Impact Summary

You can view the summary of the impact analysis you perform.

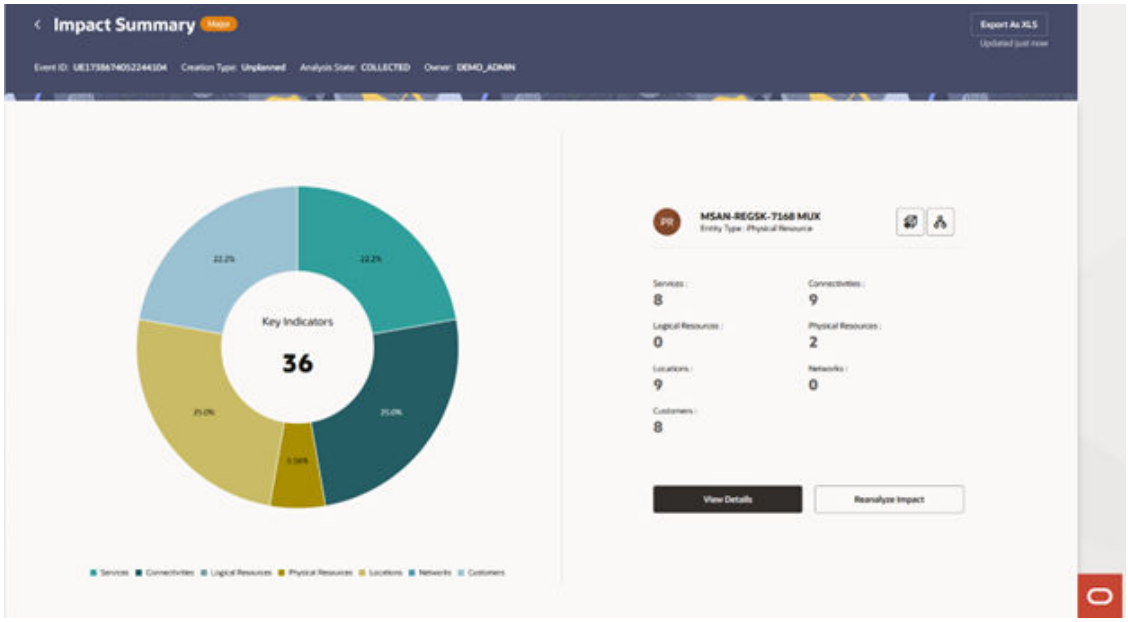
To do so:

1. From the **Event Details** panel of a selected event, click **View Impact Summary** after you perform a new impact analysis.
   The **Impact Summary** page appears with further analysis of the event. The impact analysis details include Event ID, Creating Type, Analysis State, and Owner.
2. Use the pie chart to understand the impact analysis.
3. Hover over the pie chart for more details on the event.

4. Hover over the resources legend to highlight the corresponding resource details in the pie chart.
5. Click on the **View Resource in Inventory** icon to open the resource summary in UIM.
6. Click on the **View Resource in Topology** icon to open the resource details in ATA.
7. Click **View Details** at the bottom of the page to view further details on the impact analysis details.
   The **Impact Analysis Details** page appears. See "Working with Impact Analysis Details" for more information.
8. Click **Reanalyze Impact** to delete the current impact and run the impact analysis again.
9. On the top-right corner of the page, click **Export As XLS** to export the analysis into a spreadsheet.
   The spreadsheet is downloaded to your system.
10. On the top-left corner of the page, click on the **Back** icon to go back to the **Events** tab.

The following figure shows the impact summary of a selected event:

Figure 11-2 Impact Summary View of a Selected Event



Working with Impact Analysis Details

You use the **Impact Analysis Details** page to understand more about the generated impact analysis. The Impact Analysis Details page shows the following details of the analysis:

- Event ID
- Creation Type
- Analysis State
- Owner

The Impact Analysis Details page shows the following details of entities impacted because of the analysis:

Table 11-2 Impact Analysis Details

Impact Analysis Details Column	Description
Entity Type	The entity or resource type from UIM. The valid values are: • CONNECTIVITY • CUSTOMER • LOCATION • LOGICAL RESOURCE • NETWORK • PHYSICAL RESOURCE • RING • SERVICE
Entity Name	The name or ID of the entity or resource from UIM. This is a hyperlink and displays the entity details in a side panel.
Impact Severity	The severity level of the impact. The valid values are: • HIGH • LOW • MEDIUM • NO_IMPACT
Specification	The resource or entity specification from UIM.
Impact Type	The impact type. The valid values are: • DIRECT • INDIRECT • HORIZONTAL
Analysis Status	The analysis status. The valid values are: • PENDING: The impacts have been identified by the system and are available to review. • ASSIGNED: A user is assigned to analyze the event. • QUALIFIED: The user has qualified the impacted item. • DISQUALIFIED: The user has disqualified the impacted item.
Last Updated	The date when the impact was last updated.
Owner	Name of the owner who is assigned with the impact to resolve.

To work on the Impact Analysis Details:

1. Open the **Impact Analysis Details** page.
2. Enter a name or a value in **Search** to view the corresponding search results.
3. Use the filter tags available and select the corresponding values to choose the filter values.
4. Click **More Filters** to customize the filters.
5. From the results table, select the required analysis record.
   a. Select **Assign Owner** from the **Mark as** list to assign the owner.
   b. Select **Change Impact Severity** to select a severity value from the list in the **Change Impact Severity** panel and then click **Save**.
   c. Click **Analyze Result**, select the required value from the **Analyze Result** panel, and then click **Mark**.
6. From the **Actions** list on the top-right corner, select either of the following:
   a. **Export As XLS** to export the analysis to a spreadsheet.

> **Note:**
>
> The **Export As XLS** is disabled by default. It is enabled after you select the entities that you want to export.

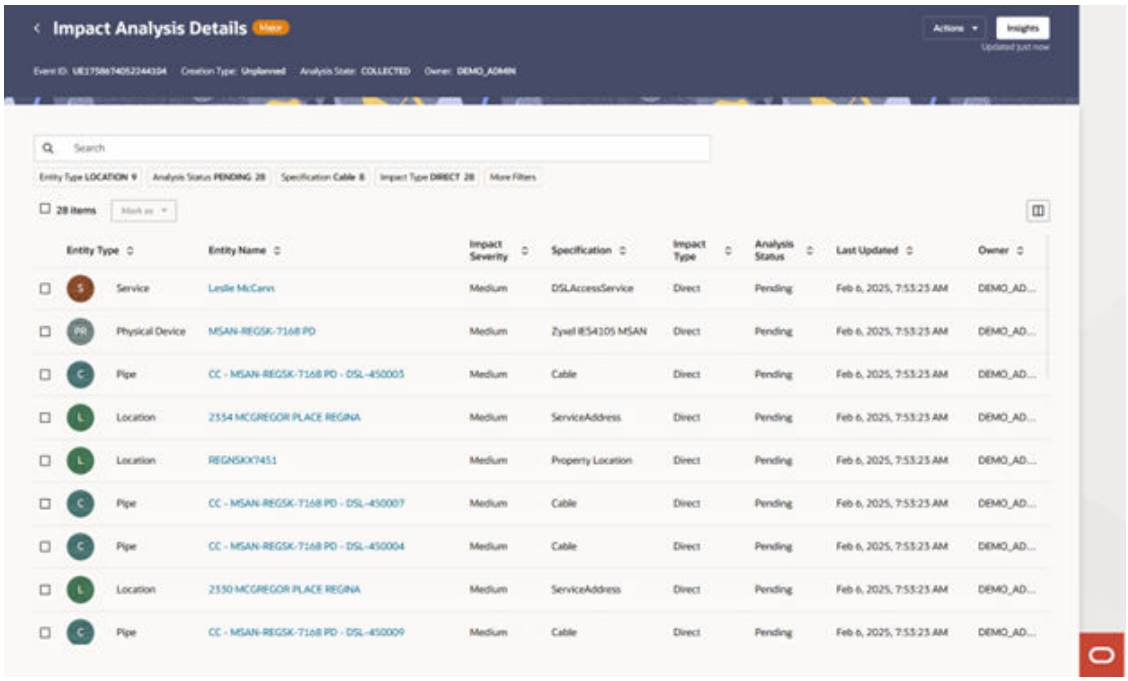
b. **Generate Report** to generate a report.
The **Analysis Status** value gets changed to **COMPLETED** after the report is generated.

> **Note:**
>
> You can no longer modify the analysis details after the Analysis Status value becomes **COMPLETED**.
>
> All impacted items of the event should be analyzed to either **Qualified** or **Disqualified** to generate the report.

7. Click **Insights** on the top-right corner.
The **Insights** panel appears that helps you understand further details about the analysis. See "Viewing Insights of the Events" for more information.
8. (Optional) Hover over the corresponding insights details to view more details.
9. On the top-left corner, click on the **Back** icon to go back to the **Impact Summary** page.

The following figure shows the **Impact Analysis Details** page that opens from the **Impact Summary** page.

Figure 11-3 Impact Analysis Details Page



Searching and Filtering the Events

You can search by entering the required value of the event or by using filter options. The filter options can be used to view the list of events according to the selected filter criteria. Each of the filter options displays the number of records or events exist for the corresponding filter option.

To search and filter the events:

1. In the **Events** tab, enter the required value in the **Search** field.
   The list of events appears as per the searched criteria.
2. To filter the list of events, use the following filter chips or options:
   - Resource Category
   - Event Status
   - Alarm Type
   - Severity
3. (Optional) Use **More Filters** to customize the filter tags.
   The corresponding filter criteria is added to the search criteria.
4. Select the corresponding values within the filtered criteria to filter the list further.
   The corresponding filtered list appears.

Customizing the Events

You can customize the events table columns that can help you in viewing only the required event details. You can hide the other details.

To customize the columns:

1. In the **Events** tab, click on the **Columns** icon on the top-right corner of the events table.
   The **Columns** panel appears.
2. Select the required columns and deselect the columns that you do not need.
3. (Optional) Type the column name in the **Search** field to search and choose it.
4. Click **Restore Defaults** to restore the default columns.
5. Close the **Columns** panel to reflect the changes.

Viewing Insights of the Events

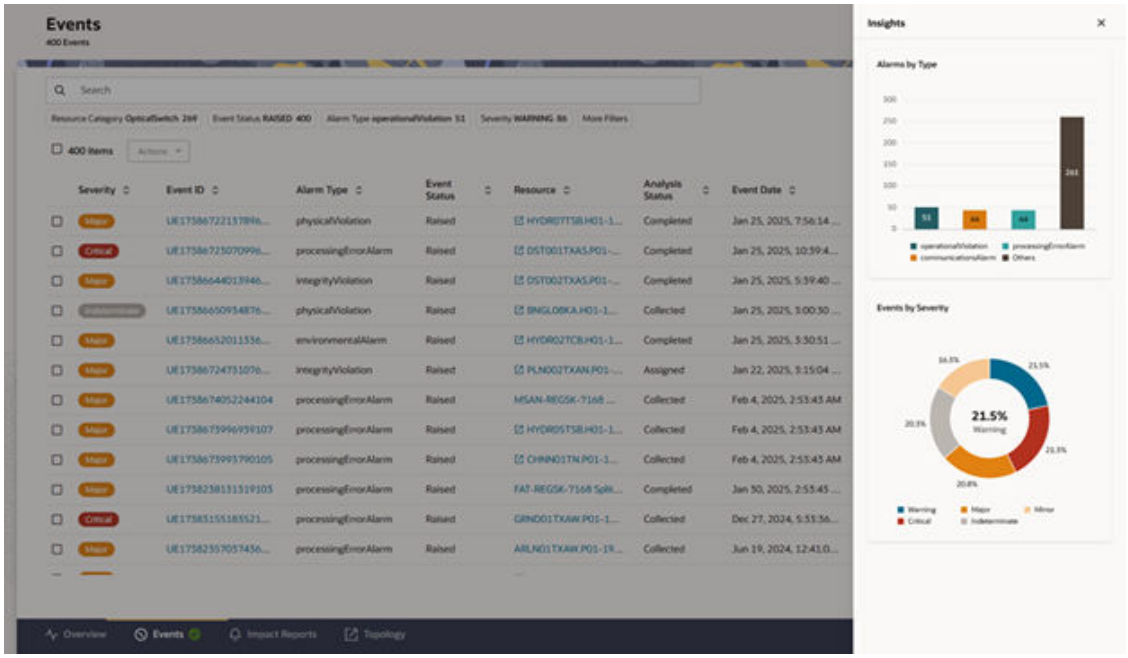
You can view additional analysis on the events using the **Insights** panel.

To view insights of the events:

1. In the **Events** tab, click **Insights** on the top-right corner of the page.
   The **Insights** panel appears with additional analysis on the list of events.
2. In the **Alarm by Type** section of the insights, hover over the corresponding alarm type to view the details.
3. In the **Events by Severity** section of the insights, hover over the pie chart to view the details.

4. Use the severity legend at the bottom of the **Insights** panel to understand the colors used for alarm severities.

Figure 11-4 Insights Panel on Events Page



Performing Actions on the Selected Events

You can perform actions on events depending on the role you are assigned with. You can select multiple events and perform an action on the selected events.

See "About Authentication" in *Unified Inventory and Topology Deployment Guide* for more information on the Service Impact Analysis roles.

You can perform the following actions using the **Actions** menu from the **Events** tab:

- **Assign owner**: You can assign an owner to resolve the event. You need necessary permissions to perform this action.
- **Reject event**: You can remove the event from the list without deleting the event record. You reject an event when the assurance system has sent an improper event. The status changes to **REJECTED** and this enables you to track the invalid events. These events are stored seperately in case analysis needs to be done on the reason behind the assurance system sending invalid events. You need necessary permissions to perform this action.
- **Delete events**: You can purge the event so that the event is no longer available. You need necessary permissions to perform this action.
- **Generate report**: You can generate reports. All impacted items in the event should be analyzed to either **Qualified** or **Disqualified** to generate a report.

To perform actions on the selected events:

1. In the **Events** tab, select the required event or events.
2. Select an option from the **Actions** menu to perform the following:

a. Select **Assign Owner** to assign an owner to the event or events. See "Assigning an Owner to the Events" for more information.

b. Select **Reject Event** and then click **Reject** from the dialog box to reject the selected event or events.

c. Select **Delete Event** and then click **Delete** to delete the selected event or events.

d. Select **Generate Report** and then click **Confirm** to generate reports for the selected event or events.

Assigning an Owner to the Events

You can assign an owner if you have the necessary permission to perform this action.

See "About Authentication" in *Unified Inventory and Topology Deployment Guide* for more information on the Service Impact Analysis roles.

You can assign an owner to the selected events.

To do so:

1. In the events table, select the required events.
2. Select **Assign Owner** from the **Actions** menu.
   The **Assign Owner** popup appears.
3. Enter a name in **Search** and select it.
4. (Optional) Use the dropdown arrow in the **Search** field to select a name.
5. Click **Assign** to assign the owner.
6. (Optional) Click **Cancel** to cancel it.

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Using the Impacts Report

After all impacted items are **Qualified** or **Disqualified**, the event is completed, and the report ID is generated. The report is sent to the supporting systems such as ticket management. Each impacted item is stamped with a time that provides details about the items that take a long time to resolve. This provides a mechanism for streamlining their process.

You use the **Impact Reports** tab to view the list of all impact reports generated in a table with the following columns:

- Report ID
- Event ID
- Resource
- Entity Type
- Event Created On
- Report Created On
- Source
- Owner
- Description

Using the **Impact Reports** tab, you can perform the following:

- Viewing the list of impact reports
- Searching and filtering the reports
- Customizing the columns
- Viewing insights of the reports

Viewing the List of Impact Reports

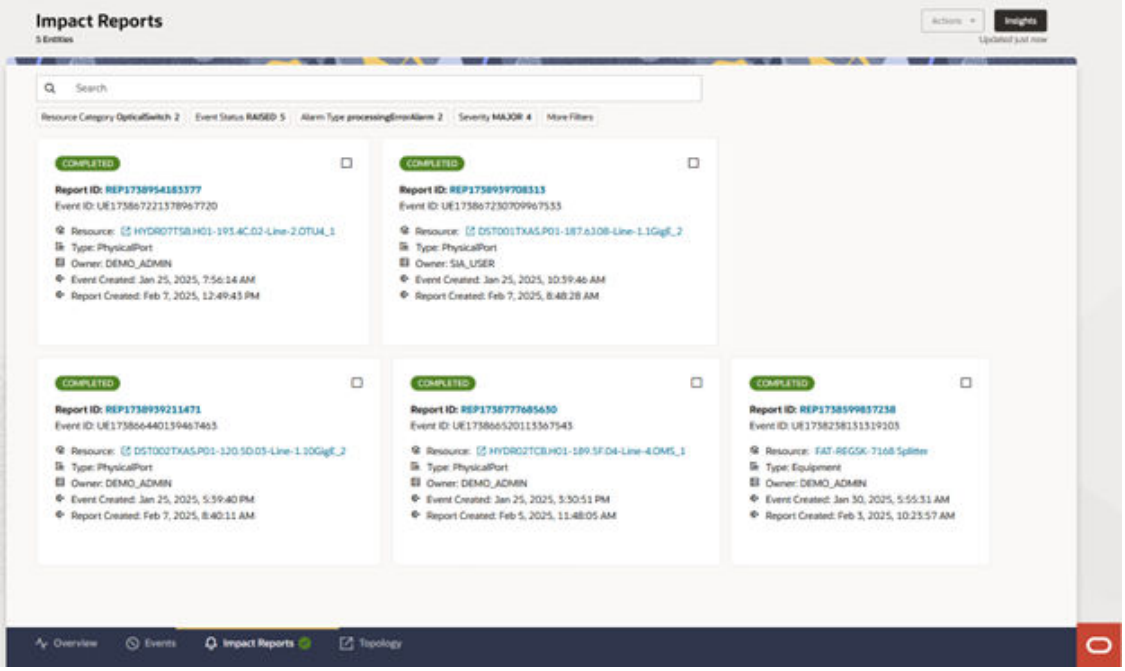
The **Impact Reports** tab provides the details of all impact reports that are generated. You can scroll down to view the list of all reports.

To view the list of reports:

1. Navigate to the **Impact Reports** tab.
   The list of reports appears in a table.
2. Sort the columns using the corresponding sort options.
3. Click on the required report ID link to view the report details.
   The **Impact Report Summary** page appears that shows the report summary. See "Working with Impact Report Details" for more information.
4. Click on the required resource link to open the corresponding summary as follows:
   - For ports and device interfaces, the corresponding resource summary in UIM opens.
   - For physical devices and equipment, the corresponding device summary from ATA opens in Service Impact Analysis.

5. Select a row using the corresponding checkbox.
6. (Optional) Select all rows in the table using the select all checkbox.
7. Select an option from the **Actions** list to:
   a. Export the selected reports into a spreadsheet using **Export As XLS**.
   b. Delete the selected reports using **Delete**.
8. Click **Insights** on the top-right corner of the **Impact Reports** page to view the insights. See "Viewing Insights of the Impact Reports" for more information.

Figure 12-1 Impact Reports Page



Searching and Filtering the Events

To search and filter the impact reports:

1. In the **Impact Reports** tab, enter the required value in the **Search** field.
   The list of reports appears as per the searched criteria.
2. To filter the list of reports, use the following filter tags:
   - Event Status
   - Alarm Type
   - Severity
   - Owner
3. (Optional) Use **More Filters** to customize the filter tags.
   The corresponding filter criteria is added to the search criteria.
4. Select the corresponding values within the filtered criteria to filter the list further.
   The corresponding filtered list appear.

Customizing the Impact Report Columns

The impact reports appear in a table if there are more than 6 reports. If there are less than 6 reports, the reports appear in a card layout.

You can customize the impact reports table columns that can help you in viewing only the required report details. You can hide the other details.

To customize the columns:

1. In the **Impact Reports** tab, click on the **Columns** icon on the top-right corner of the reports table.
   The **Columns** panel appears.
2. Select the required columns and deselect the columns that you do not need.
3. (Optional) Type the column name in the **Search** field to search and choose it.
4. Click **Restore Defaults** to restore the default columns.
5. Close the **Columns** panel to reflect the changes.

Viewing Insights of the Impact Reports

You can view additional analysis on the impact reports using the **Insights** panel.

To view insights of the impact reports:

1. In the **Impact Reports** tab, click **Insights** on the top-right corner of the page.
   The **Insights** panel appears with additional analysis on the list of impact reports.
2. In the **Reports by Type** section of the insights, hover over the corresponding entity type to view the details.
3. In the **Events by Severity** section of the insights, hover over the pie chart to view the details.
4. Use the severity legend at the bottom of the **Insights** panel to understand the colors used for alarm severities.

Viewing Impact Report Summary

The **Impact Report Summary** page provides the following details:

- Event ID
- Creation Type
- Analysis status
- Owner
- Severity of the event

To view the impact summary report:

1. In the **Impact Reports** tab, select the required report and click on the **Report ID** link.
   The **Impact Reports Summary** page appears with further analysis on the impact report you selected.
2. Use the pie chart to understand the impact report analysis, which shows the grouping of entities based on the entity types.

3. Hover over the pie chart for more details on the report.
4. Hover over the entities legend to highlight the corresponding entities details in the pie chart.
5. Click on the **View Resource in Inventory** icon to open the resource summary in UIM.
6. Click on the **View Resource in Topology** icon to open the resource details in ATA.
7. Click **View Details** at the bottom of the page to view further details on the impact report analysis details.
   The **Impact Report Details** page appears. See "Working with Impact Report Details" for more information.
8. On the top-right corner of the page, click **Export As XLS** to export the analysis into a spreadsheet.
   The spreadsheet is downloaded to your system.
9. On the top-left corner of the page, click on the **Back** icon to go back to the **Impact Reports** tab.

Working with Impact Report Details

You use the **Impact Report Details** page to understand more about the generated impact reports. The page shows the following details:

- Event ID
- Creation Type
- Analysis status
- Owner
- Severity of the event

To view the Impact Details:

1. Open the **Impact Reports Details** page.
2. Enter a name or a value in **Search** to view the corresponding search results.
3. Use the filter tags available and select the corresponding values to choose the filter values.
4. Click **More Filters** to customize the filters.
5. On the top-right corner, click **Export As XLS** to export the analysis to a spreadsheet.
6. On the top-left corner, click on the **Back** icon to go back to the **Impact Report Summary** page.