



Network Model Configuration—WAE UI

This section contains the following topics:

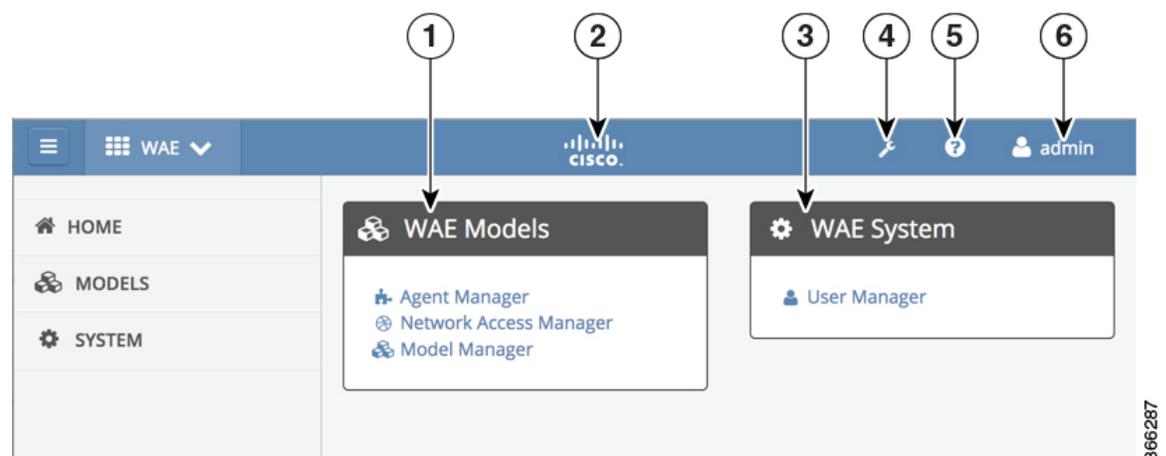
- [WAE UI Overview, on page 1](#)
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WAE UI Overview

The WAE UI provides an easy-to-use configuration tool for device and network access, network collection, user management, and XTC agents. The Model Manager hides the complexity of configuring network models with a wizard. The wizard takes you through the configuration of basic topology collection, advanced collection, and other NIMO capabilities against a single network.

For basic network model configuration we recommend starting with the Model Manager. There are certain operations (configuration of telemetry, parsing agent, some scheduler jobs, and LSP changes) that cannot be performed using the WAE UI. For these tasks, you can switch to the Expert Mode or the WAE CLI. Regardless of the interface you use, the last committed configuration is saved.

Figure 1: WAE UI



Callout No.	Name	Description
1	WAE Models	Contains network model configuration information: <ul style="list-style-type: none"> • Agent Manager—Configuration of XTC agents. • Network Access Manager—Configuration of device and network credentials. • Model Manager—Configuration of network models using NIMOs.
2	WAE Home (Cisco icon)	Takes you to the WAE Home page.
3	WAE System	Includes system and administrative tasks.
4	Expert Mode	Launches the Expert Mode in another window.
5	Help	Opens www.cisco.com/go/wae . You can find WAE documentation under the Support area.
6	User	Displays the current user logged into WAE. When clicked, allows the user to log out.

Important Notes

When using the WAE UI, note the following:

- If a network model or was created using the Expert Mode or CLI:
 - Do not add or remove NIMOs within that network model using the Model Manager.
 - Only edit existing NIMOs within that network model using the Model Manager.
- Model Manager splits the configuration of building network models into two phases. The first phase collects and consolidates different network topology sources (nodes, interfaces, LSP, VPN, BGP). This phase automatically produces a consolidated network model (aggregator NIMO) with the following naming convention: `<network_model_name>_topology` (for example, NetworkABC_topology). The second phase augments `<network_model_name>_topology` with additional data (traffic statistics, traffic demands, and visual layout). This phase automatically produces a final consolidated model (aggregator NIMO) with the following naming convention: `<network_model_name>` (for example, NetworkABC).
- If scheduling or archive is configured using the WAE UI, Model Manager automatically creates tasks in the Scheduler for each network model. The tasks have the following naming convention in the WAE CLI or Expert Mode:
 - `_WAE_PLAN_ARCHIVE_<network_model_name>`
 - `_WAE_SCHEDULER_<network_model_name>`
- Scheduler configuration done using the WAE Expert Mode or CLI will not appear in the WAE UI.

Configure a Network Model Using the WAE UI

This workflow describes the high-level steps to create a network model using the WAE UI.

If you are collecting information for a network using XTC, you must configure an XTC agent before configuring a network model.

Step	For more information, see...
1. Configure device credentials (network authgroups and SNMP groups).	Configure Network Access, on page 3
2. Create a network model name and configure plan archive settings.	Create a Network, on page 4
3. Configure basic topology collection.	Configure Basic Topology Collection, on page 4
4. Configure additional data collections.	Configure Additional NIMOs
5. Run collection and view network details.	View Network Model Details, on page 6
6. (Optional) Schedule when to run collections.	Schedule Network Collections, on page 6
7. (Optional) Configure and view plan archives.	Configure the Archive and View Plan Files, on page 6

Configure Network Access

In this task, you are defining global device credentials by creating a network access profile.

Before you begin

Know the global network device credentials.

Step 1 From WAE Models, click **Network Access Manager**.

Step 2 Click + **Add Network Access**.

Step 3 Enter the global device credentials:

- **Name**—Enter a name for the network access profile.
- **Login Type**—Choose which login protocol to use: SSH or Telnet. The SSH protocol is more secure. The Telnet protocol does not encrypt the username and password.
- **Username**
- **Password**
- **Enable Password**
- **SNMP Access Options**—Select either SNMPv2c or SNMPv3.

If SNMPv2c, enter the SNMP RO community string that acts as a password. It is used to authenticate messages sent between the node and the seed router.

If SNMPv3, enter the following default credentials:

- **Security Level**—Select one of the following:

- **noAuthNoPriv**—Security level that does not provide authentication or encryption. This level is not supported for SNMPv3.
 - **authNoPriv**—Security level that provides authentication but does not provide encryption.
 - **authPriv**—Security level that provides both authentication and encryption.
- **Authentication Protocol and Password**—Select one of the following:
 - **md5**—HMAC-MD5-96 authentication protocol
 - **sha**—HMAC-SHA-96 authentication protocol
 - **Encryption Protocol and Password**—The priv option offers a choice of DES or 128-bit AES encryption for SNMP security encryption. The priv option and the aes-128 token indicates that this privacy password is for generating a 128-bit AES key #. The AES priv password can have a minimum of eight characters. If the passphrases are specified in clear text, you can specify a maximum of 64 characters. If you use the localized key, you can specify a maximum of 130 characters.

Step 4 Click **Save**.

What to do next

Use the Model Manager to create a network model.

Create a Network

The initial step in configuring a complete network model is to create a new network with topology collection using the topo-igp-nimo or the topo-bgpls-xtc-nimo.

- Step 1** From the Model Manager, click **Add New Network** and enter the following:
- a) Network model name—This name cannot be changed after it is saved.
 - b) (Optional) Directory where you want WAE to store the plan files.
 - c) (Optional) How often to archive the plan files. We recommend starting with 15 minutes.

Step 2 Click **Save**.

What to do next

Configure global device credentials. See [Configure Network Access, on page 3](#).

Configure Basic Topology Collection

In this task, you are configuring a topology collection that will be the source network for additional network collections. After the initial collection, the node IP address table is populated and you can add management IP addresses. For more information on basic topology collections, see [Basic Topology Collection](#).

Before you begin

- You must be in the **Model Manager > Network Discovery** tab for a particular network.
- If you are configuring topology collection on a network running XTC (topo-bgpls-xtc-nimo), an XTC agent must be configured and running before creating a network model using the Model Manager. See [Configure an XTC Agent, on page 7](#).

Step 1 Click **Add Discovery**.

Step 2 Click one of the following NIMOs:

- **topo-igp-nimo**—To collect topology information using the IGP database. See [IGP Topology Collection](#).
- **topo-bgpls-xtc-nimo**—To collect topology information from a network running XTC. See [BGP-LS Topology Collection Using XTC](#).

Step 3 Click **Save**.

Step 4 Click **Run NIMO**. Note that the status is shown in the top-right corner of the window. Collection is complete when the status changes from "Running" to "Not Running."

Step 5 Click the table icon next to the NIMO you just configured. A table populated with node IP addresses appears.

Step 6 Add management IP addresses directly in the table and click **Save**.

Note You can click on the table anytime to see an updated node list.

What to do next

Configure additional collections.

Configure Additional Network Collections

This topic describes the general procedure to configure additional NIMOs. For NIMO descriptions, see [NIMO Descriptions](#).

Before you begin

- Confirm that a basic topology collection has been configured and collection is complete.
- You must be in the **Model Manager > Collection** tab for a particular network.

Step 1 From the Model Manager, click **Collection**.

Step 2 Click **Add NIMO**. All available NIMOs appear.

Step 3 Click a NIMO and enter the appropriate options. To view configuration options for a particular NIMO, see [Network Interface Modules \(NIMOs\)](#).

Step 4 Click **Save**.

What to do next

You can configure more collections and add capabilities (continuous polling, demand mesh creation, and so on) using other NIMOs to create a complete network model.

View Network Model Details

To view node details, interfaces, and LSPs (if applicable) for a network, navigate to **Model Manager > View Model**. Consolidated NIMO collection data appears on this page.

Schedule Network Collections

This procedure describes how to schedule different network collections to run, and if applicable, at different times.

Before you begin

You must be in the **Model Manager > Schedule Collection** tab for a particular network.

Step 1 To schedule multiple network collections to run at different times, do the following:

- a) Click **Add Task**.
- b) Enter a task name and time interval to run the collection.
- c) From the **Select Configured NIMOs** drop-down list, choose the collection to run.

Note Each collection is done in the order it is listed and configured.

Step 2 Click **Save**.

What to do next

View network model details and view plan files.

Configure the Archive and View Plan Files

After creating a network model and running collection, you have the option to retrieve and view plan files. Plan files capture all relevant information about a network at a given time, and can include topology, traffic, routing, and related information.

The Archive is a repository for plan files. See also [Configure the Archive](#), which describes how to configure the Archive using the WAE CLI.

Step 1 From the Model Manager, click the network model for which you want to view plan files.

Step 2 Click the **Archive** tab.

Step 3 The Archive path and interval fields might be populated if they were configured when the network was initially created. If not, or if you want to change them, enter new values.

Step 4 The Date/Time Range field displays the time range for which plan files are available. Click the link.

- Step 5** Choose the time zone for the plan files you want to retrieve.
- Step 6** Enter the beginning and end dates (including time) for the plan files and click **List Plan Files**. A list of plan files appears.
- Step 7** Click the appropriate plan file, choose the plan file format to download, and click **Download**.
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Configure XTC Agents Using the WAE UI

Agents perform information-gathering tasks and must be configured before certain network collection operations. This section describes how to configure XTC agents using the WAE UI. To configure the configuration parsing agent, see [Configuring the Configuration Parsing Agent](#).

Configure an XTC Agent

The XR Transport Controller (XTC) agent periodically collects information from XTC and keeps it as raw and normalized data. This data is consumed by different NIMOs to extract topology, LSPs, and so on. An agent must be configured for every XTC node in the network. XTC agents must be configured for any networks that use XTC before you can perform a network collection.

Before you begin

You must be in the **WAE UI > Agent Manager** window.

- Step 1** Click **XTC**.
- Step 2** Click **Add New Agent**.
- Step 3** Enter the following information:
- XTC agent name.
 - Host IP address of the XTC router.
 - Port number to use for REST calls to the XTC host. The default is 8080.
 - If you want to use HTTP basic authentication with defined credentials, choose **true** from the drop-down list.
 - XTC credentials: username, password, and enable password.
- Step 4** Click **Save**.
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What to do next

Configure collections for networks that use XTC. For more information, see [NIMO Descriptions](#).

