FORTRA

Robot Network
13.05

User Guide

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Introduction

Robot Network Overview

Robot Network distribution operation functions to a network of IBM Power Systems (System i, iSeries, AS/400) servers running IBM i (OS/400, i5/OS) so they can communicate and run without attention. Using Robot Network, you configure networks of Power System servers and/or partitions, each consisting of hosts, nodes, and product masters.

Robot Network offers:

- Application monitoring
- Automatic management of networked systems
- Multi-host networks
- Single workstation network control
- Problem notification
- TCP/IP support
- Partition and server management
- Robot Browser Interface support

The Info tab of the About Robot Network window displays a list of information about the GUI and its connection to the IBM i. You can select one line or all of the information to be copied to the clipboard or to be saved on your system. Click on a line of information then right-click to display the menu options. Use this information when troubleshooting system errors.

About this Guide

This Guide is a reference for Robot Network, the network management and control software . This guide describes Robot Network and its major components:

- Robot Network Explorer
- Status Center
- Map Center
- Product Metrics Dashboard
- Performance Center

This User Guide is designed for both administrators and users of networked IBM i servers, who are responsible for managing and using these networks while ensuring that they run effectively. We assume that the audience is familiar with and knowledgeable about the technical details of IBM i servers and has the necessary security privileges to perform the tasks outlined in this guide (usually security officer clearance—QSECOFR).

Accessing this Guide From the Robot Network Explorer

The User Guide is meant to be used as a referece while you work. Therefore, the User Guide is organized so the sections match the options in the product. The topics within each section basically follow the order of the Robot Network options in the Explorer's Tree view. Press the **F1** key from most windows for topic-specific help.

How to Use This Guide

This User Guide is not meant to be read topic for topic. Instead, you should become familiar with the introductory material to get a feel for the product and to think about how you plan to use it. Afterwards, when you are setting up Robot Network (or for more detailed information anytime), refer to the appropriate section of the guide for reference.

Terms and Concepts

Host

The host system sends and receives information between itself and the node machines. Robot Network notifies the host's operator if a node needs assistance.

Node

A node receives information from the host and updates its libraries. The Robot products and user applications reside on the node. The products use the node to communicate with the host; the host to communicate with its nodes and other hosts. A node also sends event statuses to its host (or to its alternate host, if the host is unavailable).

See Example Networks for a diagram of how hosts and nodes interact.

Alternate Host

Another host can be configured as a node's alternate host. The alternate host can take over the host's role if the host is unavailable.

Packet

A group of product records that let you designate a date and time to install a change on a node.

Product Master

A product master is a software component that allows you to update instructions for the Robot products on a network. It's a centralized repository of product setup data that you can use to distribute and install the same operations automation instructions to one or more nodes.

For more information about Robot Network, visit the Robot website.

Monitor Jobs

The following table describes the Robot Network monitor jobs that run on the IBM i in the RBTSLEEPER subsystem using the RBTNETPT user profile.

Job	Description
NETHOST	The main job submitted by the RBNSTRHOST command. This job submits the NETHOST1 and NETHOST2 jobs, and starts the Java process which starts the NETHOST3 job.
NETHOST1	Processes packet request from Robot Reports.
NETHOST2	Handles compatibility between the Robot Network Host and Robot Network Node products.
NETHOST3	The main Java process for the Robot Network Host including Robot Schedule and Robot Console packets.
NETNODE	The main job submitted by the RBNSTRNODE command. This job submits the NETNODE1 job and starts the Java process which starts the NETNODE2 job.
NETNODE1	Installs packet requests for Robot Reports for Robot Network Node.
NETNODE2	The main Java process for the Robot Network Node including installing Robot Schedule and Robot Console packets.
NETNODE3	Collects Performance Metrics.
RBTNET	RBTNET is a job that is managed by IBM Collection Services when Robot Network is registered as a user category. In order to restart this job, Collection Services needs to be bounced. Job submission parameters may be managed by the user via the RBNPFRJOBD job description.

Product Libraries

The following table lists and describes the essential libraries for each Robot product used with Robot Network.

Product	Libraries
Robot Autotune	ATLIB • Resident on all systems that run Robot Autotune.
Robot Client	RBTRCLLIB • Resident on all systems that run Robot Client.
Robot Console	RBNRBCMST • Resident on a Host IBM i if you are networking Robot Console. • Accessed whenever you send Robot Console instructions to the Nodes. • Contains database files of the original Robot Console (the Status Center also uses these files). RBCMRGLIB • Used to import and export Robot Console message sets. Robot Console has options to let you put specific message sets in this library and import them into Robot Console on other systems. • Needed for the RBNSNDRBC and RBCMRG commands. • Allows the Robot Console Master to become aware of message sets on a Node. RBTCONLIB Resident on all systems that run Robot Console.
Robot LPAR	RBTLPRLIB • Resident on all systems that run Robot LPAR.

Robot Monitor	RBNMTRMST • Resident on the Host IBM i if you are networking Robot Monitor. • Contains database files. • Accessed whenever you look at the Status Center for Robot Monitor. RBTMTRLIB • Resident on all systems that run Robot Monitor.
Robot Network	RBTNETLIB • Resident only on a Host system. • Contains the data for the Status Center, packets, and system setup on the Host. RBTNETNODE • Resident on all systems configured during the Robot Network installation process, including Hosts. • Gathers information from a product and sends it to the Host library, RBTNETLIB. • Receives instruction and setup information from the Host and installs it into the product being networked. RBTSYSLIB • Resident on all systems. • Must be resident in the system library list. • Contains commonly-used programs, job descriptions, job queues, classes, subsystem descriptions, and library lists needed for the Robot product line. • Added during installation.

Robot Reports	RBNREPMST • Resident on the Host system if you are networking Robot Reports. • Contains the Robot Reports database files. • Accessed whenever you send Robot Reports instructions to the Nodes. RBTREPLIB • Resident on all systems that run Robot Reports. REPMRGLIB • Used when you are sending reports sets from a Node to a Host using the RBNSNDREP command.
Robot Save	RBNRBSMST • Resident on the Host system if you are networking Robot Save. • Contains database files. • Accessed whenever you look at the Status Center for Robot Save. RBSDTALIB • Contains Robot Save's database files. RBSPGMLIB • Resident on all systems that run Robot Save.

Robot Schedule	RBNRBTMST
	• Resident on a Host system if you network Robot Schedule.
	• Accessed whenever you send Robot Schedule instructions to the Nodes.
	• Contains database files of the original Robot Schedule jobs.
	RBTMRGLIB
	• Used to import and export Robot Schedule jobs. Robot Schedule has options to let you put specific jobs in this library and import them to Robot Schedule on other systems.
	• Needed for the RBNSNDRBT and the RBTMRG commands to work.
	• Allows the Robot Schedule Master to be aware of Node jobs.
	• Used to import and export Robot Schedule.
	ROBOTLIB
	• Resident on all systems that run Robot Schedule.
Robot Schedule Enterprise	RBTENTLIB
	• Resident on all systems that run Robot Schedule Enterprise.
Robot Space	RBTSPCLIB
	• Resident on all systems that run Robot Space.
Robot Transform	RBTTRNLIB
	• Resident on all systems that run Robot Transform.
Robot Trapper	RBTTRPLIB
	• Resident on all systems that run Robot Trapper.
Robot UPS	RBTUPSLIB
	• Resident on all systems that run Robot UPS.

Getting Connected

System Setup

For Robot Network to perform correctly, you need to configure the network using the Add Host Wizard and the Configure Node Wizard (or the appropriate commands).

You select options to define systems, node groups, product status notification values, user applications, system defaults, and system passwords. You also use these options to update and maintain your network when changes occur.

For nodes, you select options to further define the nodes, such as their primary host, their alternate host, and the product status filters.

Example Networks

You can configure both single-Host and multi-Host networks.

A single-Host network contains a single IBM i server (or partition) configured as a Host and one or more servers (or partitions) configured as its Nodes.

The Nodes—Georgia and Savannah—send statuses to their Host, Georgia.

Georgia
(Host)

Statuses

Georgia
(Node)

Savannah
(Node configured as Alternate Host)
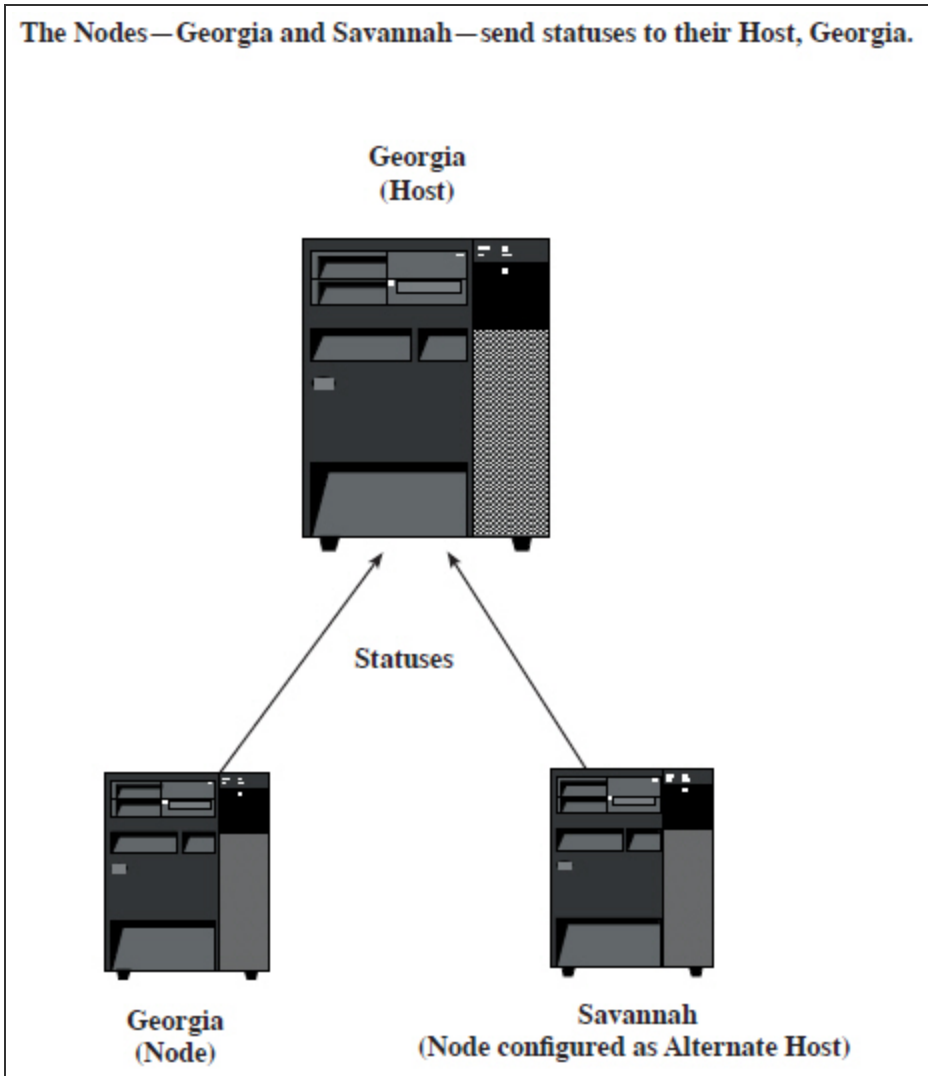
The Host is also a Node to itself. If the Host is unavailable, its Nodes can send their statuses to an Alternate Host:

**If the Robot Network Host becomes unavailable,
the Nodes can send their statuses to the Alternate Host.**

Georgia
(Host)
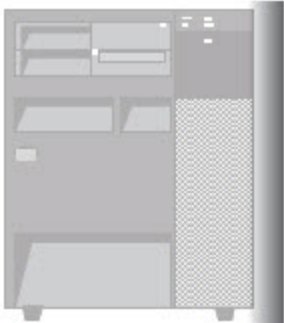
The Georgia Host is unavailable, so the Georgia Node
sends its statuses to its Alternate Host, Savannah.

Statuses

Georgia
(Node)

Savannah
(Alternate Host)
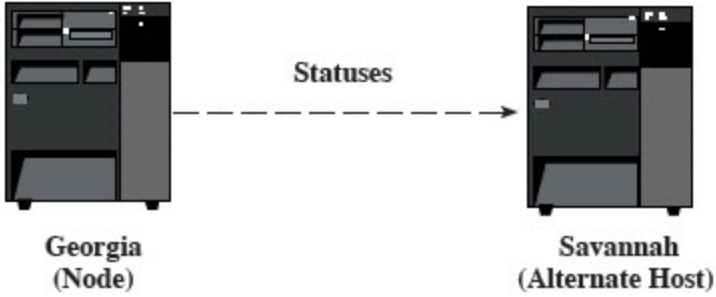
A multi-Host network contains multiple systems, some configured as Hosts; others as Nodes:

Each Host in the network receives statuses from its Nodes.

Georgia
(Host)

Florida
(Host)

**Florida is the Alternate
Host for the Georgia Nodes,
Georgia and Savannah.**

Statuses

Statuses

Georgia
(Node)

Savannah
(Node)

Florida
(Node)

Tampa
(Node)
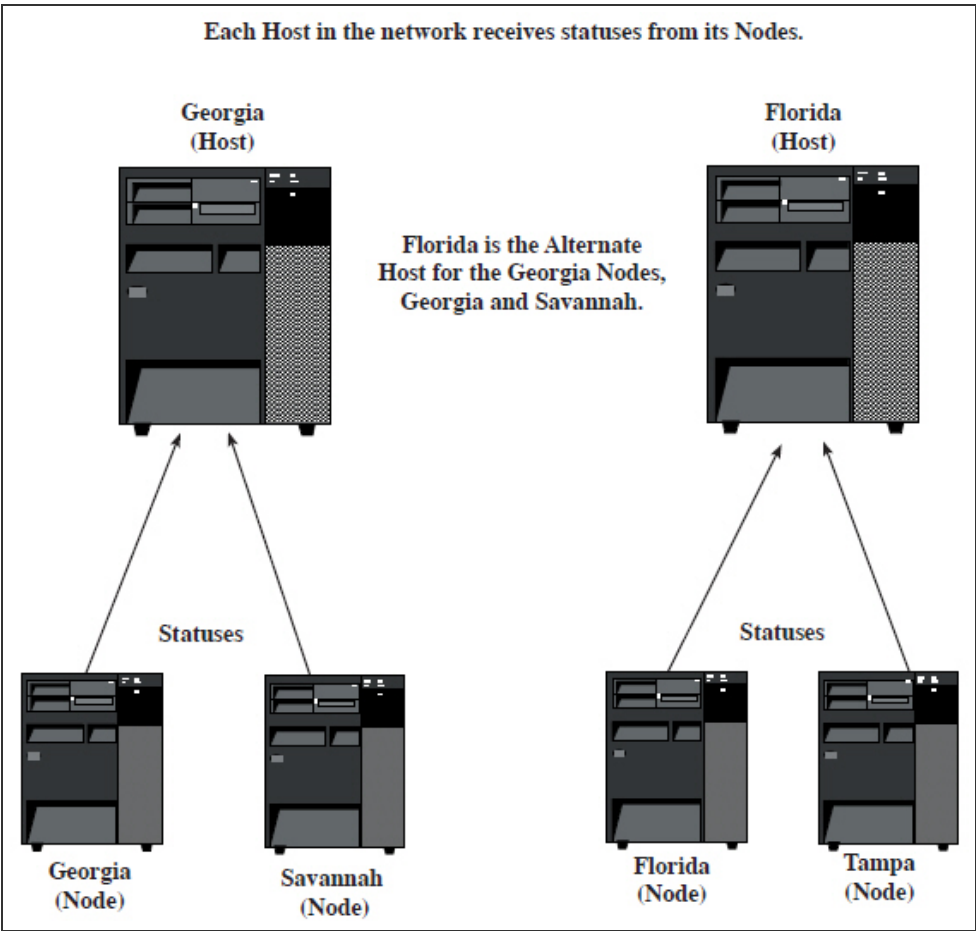
Each Host is configured with one or more Nodes (the Host is also a Node to itself). You also can configure Alternate Hosts within a multi-Host network:

If the Robot Network Host Georgia is unavailable, statuses from Georgia's
Nodes are redirected to Florida, their Alternate Host.

Georgia
(Host)

Florida
(Host)

Statuses

Statuses

Georgia
(Node)

Savannah
(Node)

Florida
(Node)

Tampa
(Node)
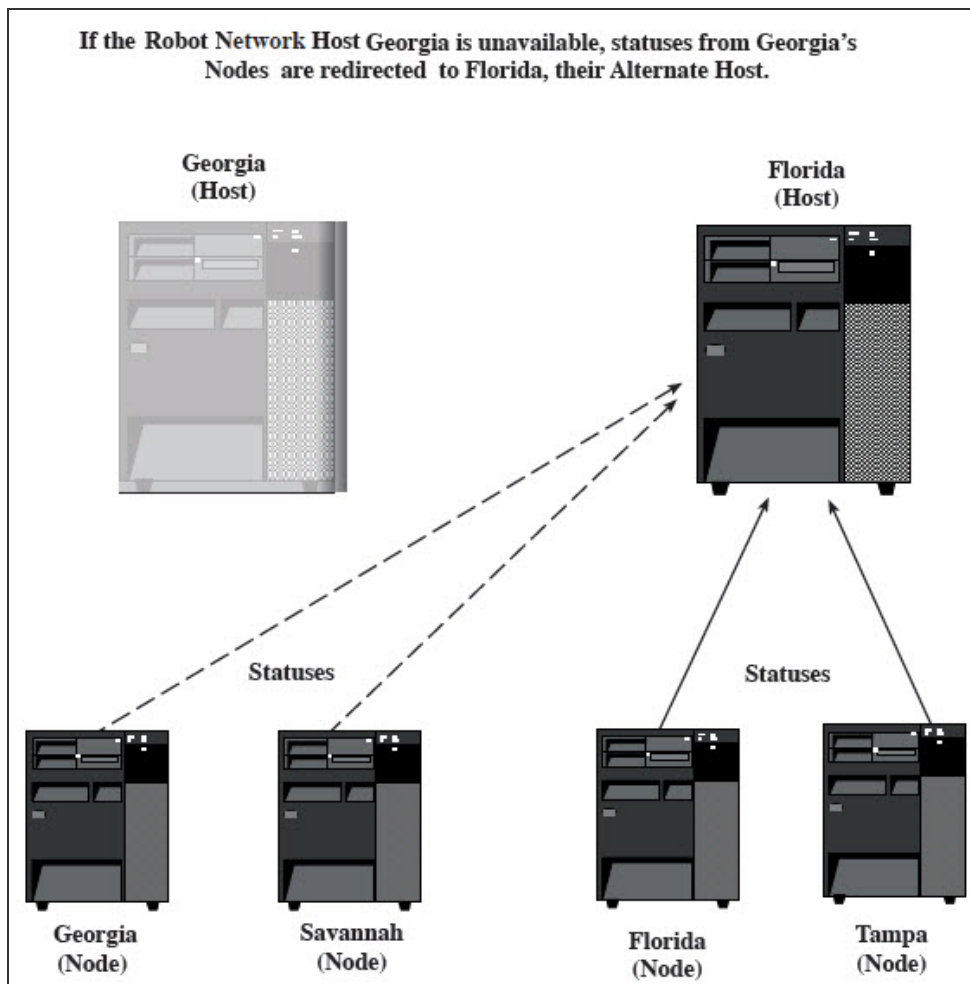
Defining Host Connections

Use the Connection Properties window (from the **System** menu select **Connection Properties**) to edit current and create new connections, remove connections, or change passwords for connections on the system.
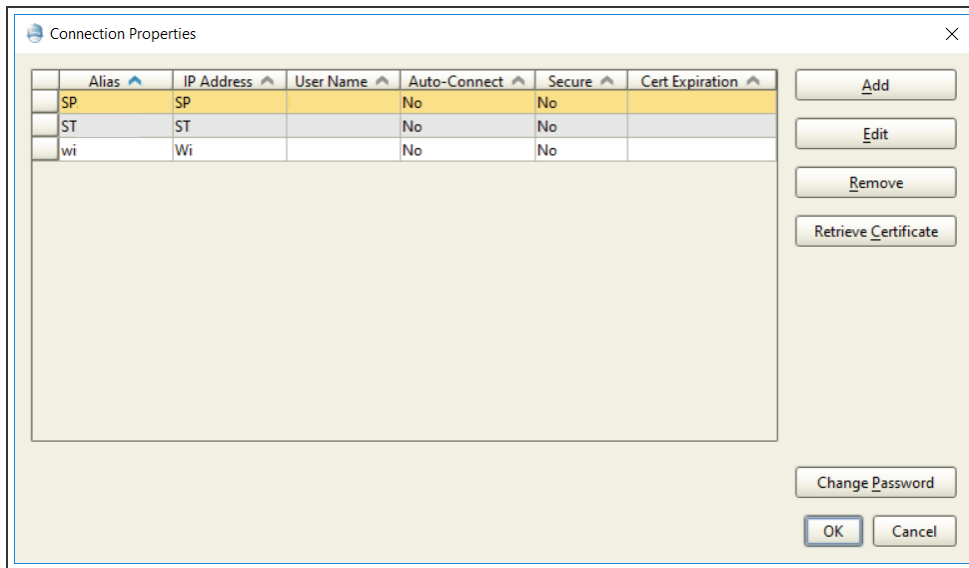
You can do the following:

- Click **Add** to add a new connection profile. The Connection Properties window opens.
- Select a connection profile and click **Edit** to modify it. The Connection Properties window opens.
- Select one or more connection profiles and click **Remove** to remove them. You're asked to confirm the removal.
- Click **Retrieve Certificate** to retrieve certificates for systems which may have had their certificates updated. Multiple systems can be selected at once. See Secure Connection for more information.
- Select a connection profile and click **Change Password** to change the current user's password on the IBM i system. The Change Password window opens. When you change the password, it's changed on the IBM i system and also in the Connection Properties for Robot Console.

Adding or Editing Connections

Use the Connection Properties dialog to add or edit a connection.

Complete the following fields:

- Alias: Enter the alias for the server.
- Host IP Address: Enter the IP address for the server. Or, enter the alias name if the IP address is unknown.
- Port: The default port number displays. You can enter a different port number for the connection.
- Automatically connect at startup: Select this option to have Robot Network automatically connect to this system when it starts up.
- Network GUI Connection Type: Check the 'Secure via IBMi Certificate' to create a secure GUI connection. See Secure Connection for more information.
- Login Confirmation: Enter the user name and password for the system; enter the password again to confirm it. Click the **Verify** button to verify that the user name and password are valid on the system. Click **OK** to save the connection profile.

When you save the connection profile it displays in the Connection Properties window. Click **OK** to return to the Connection Properties window.

Removing Connections
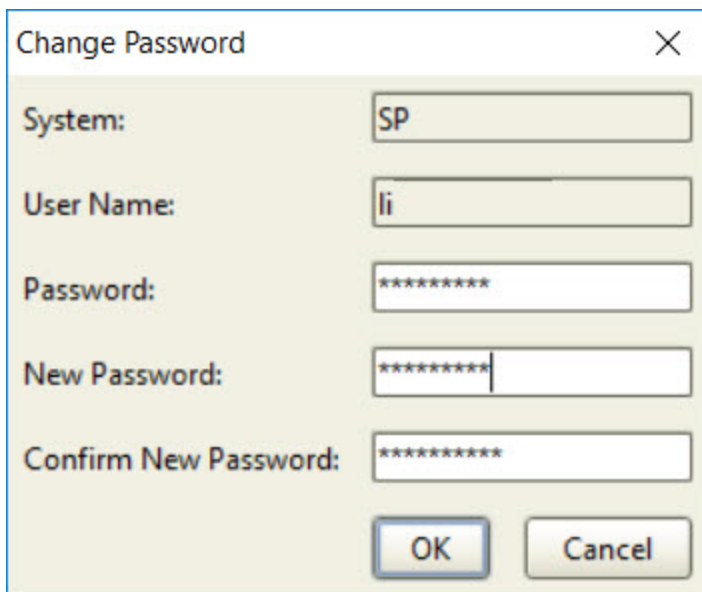
To remove a connection, select it and click **Remove**. A dialog displays to verify the removal.
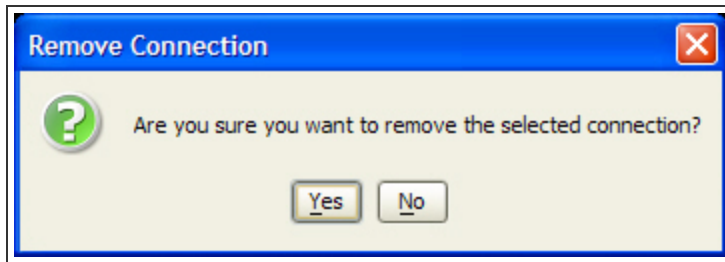
- Removing a connection only removes the connection from Robot Network Explorer. To restore the Host to the graphical network environment, you must re-create a connection for it (see Adding a Host)
- You cannot remove a connection for a Host to which you are currently connected.

Changing Passwords

Use the Change Password dialog to change the password for the currently logged in user.

This dialog has the following fields:

- System: The name of the system you are currently logged in to.
- User Name: The user name that is currently logged into Robot Network.
- Password: Enter your current password.
- New Password: Enter your new password.
- Confirm New Password: Re-enter your new password to verify.

Click **OK** to save your changes.

Identity Maps

Identity Maps display relationships among the systems in a network. The Identity Map window displays the Node systems of the Host to which you currently are connected. You can enter a user ID and password for each system listed in the identity map. This allows you to connect to the systems without having to enter login information.

If Host visibility is enabled in Robot Network, the identity map includes other Host systems and their Nodes. Host visibility defines the ability of a Host system to communicate with other Hosts and their Nodes. Host visibility must be defined in Robot Network.
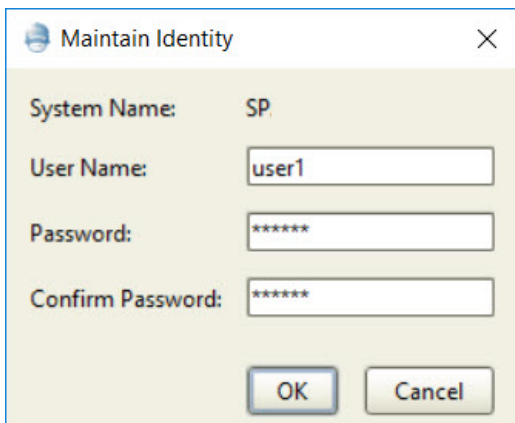
- The System column of the Identity Map window displays each system to which you are currently connected.
- The Profile column lists the user profile defined for that system.

Note: The user profile must be a valid user profile on the selected system.

Maintaining Identities

You can specify user profile information that is stored in the identity map.

1. Right-click an identity and select **Properties**. The Maintain Identity window displays.

2. Enter a user name and password for the system you selected.
3. Enter the password again to confirm it.
4. Click **OK** to save your changes, or **Cancel** to exit without making any changes. If you click OK, the Identity Map window displays with your user profile changed.

Note: You cannot edit the user profile information for the Host system to which you currently are connected.

Clearing Identity Maps

To remove user profile information for a system, select the system and click **Clear**.

Product Security Settings

Robot Network provides profile-based security based on i5/OS security that you can turn off and on. You can use the defined Robot Network roles of Administrator, Operator, and User, or you can define your own. When you create your own roles, you can specify their object access rights. All Robot Network security settings are enabled or disabled at the Host level and apply to the Host and its Nodes.
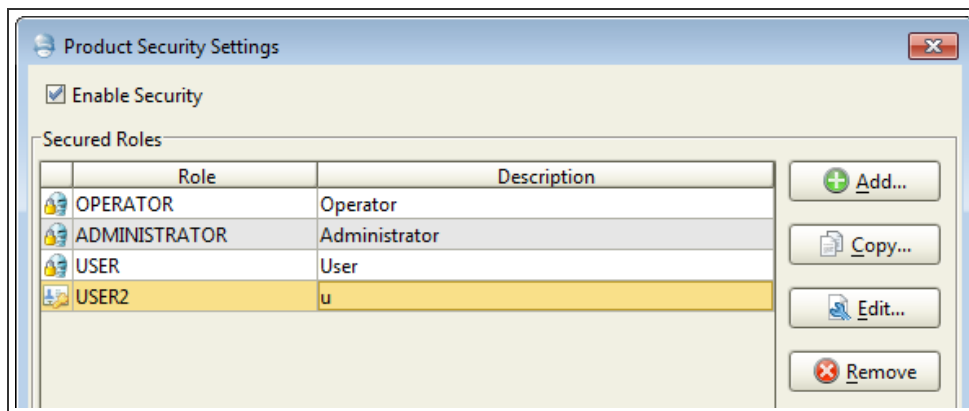
Option	Description
Enable Security	Select Enable Security to enable or disable Robot Network security. This setting controls Robot Network security only.
Secured Roles	This section lists and describes the roles currently defined. These include the Robot Network roles: Administrator, Operator, and User, as well as any user-defined roles that you have created.
Add	Use Add to create a new security role.
Copy	Use Copy to create a new security role using an existing role as a template.
Edit	Use Edit to edit an existing security role. You cannot edit the standard Robot Network security roles.
Remove	Use Remove to delete a security role. You cannot delete the standard Robot Network security roles.

Displaying Properties, Rights, and Assigning Users

Select a security role, right-click, and select **Properties** to display the properties of a security role. The Role Properties window lists all the user profiles available to be added to the role, as well as any users currently enrolled. You use this window to view and maintain the users currently enrolled in Robot Network security.

Defining User Roles

In Robot Network security, access rights apply to objects (such as Node Groups) or operations (such as responding to statuses), or both. Some rights (such as Change) apply to objects only. Other rights (such as Use) apply to operations only. The remaining rights (such as Exclude) apply to both. You can use product security setting information to review existing roles, or when you are defining new roles to determine what privileges the role should have.

The Role Properties window lists all the user profiles available to be added to the role, as well as any users currently enrolled. The Role Properties window contains the following fields and tabs:

Role - the current security role selected.

Description - a description of the security role.

Role Users Tab
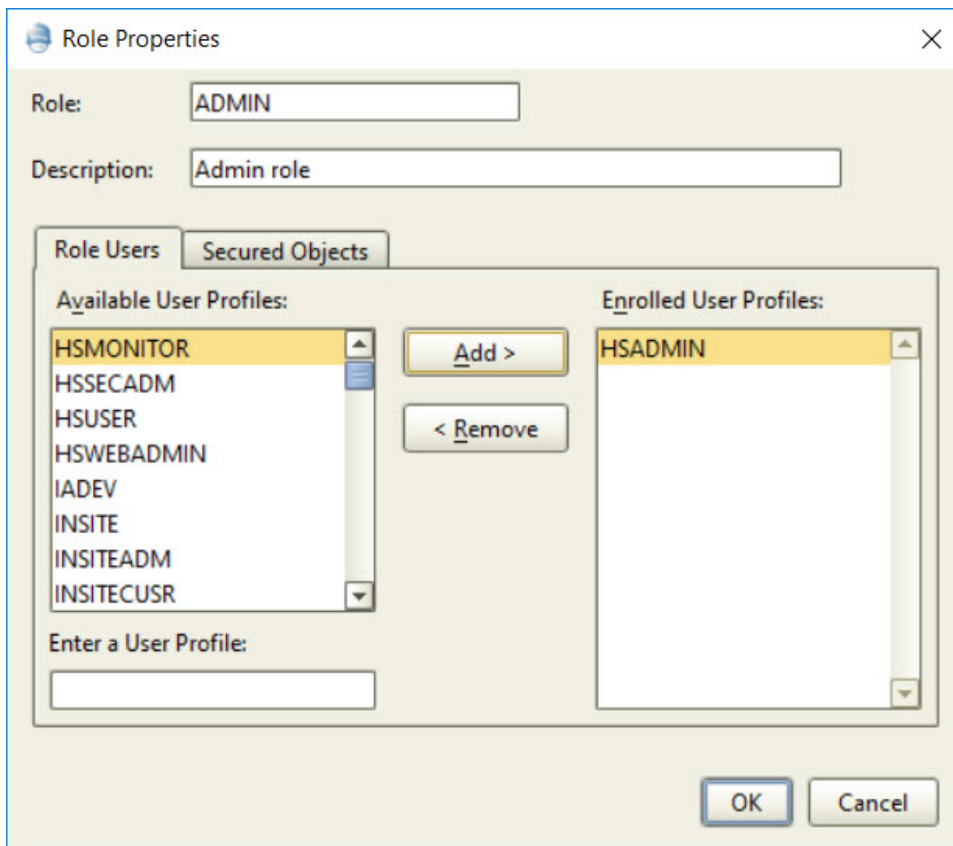
- Available User Profiles - displays the available user profiles, as determined by the security privileges of your IBM i signon for the Host. This list can vary from Host to Host.
- Enrolled User Profiles - displays the user profiles currently enrolled in the security role.
- Add - use the Add button to assign a user to a role.
- Remove - use the Remove button to remove a user from a role.

Secured Objects Tab

In Robot Network security, access rights apply to objects (such as node groups) or operations (such as responding to statuses), or both. Some rights (such as Change) apply to objects only. Other rights (such as Use) apply to operations only. The remaining rights (such as Exclude) apply to both. You can use object access information to review existing roles, or when you are defining new roles to determine what privileges the role should have.
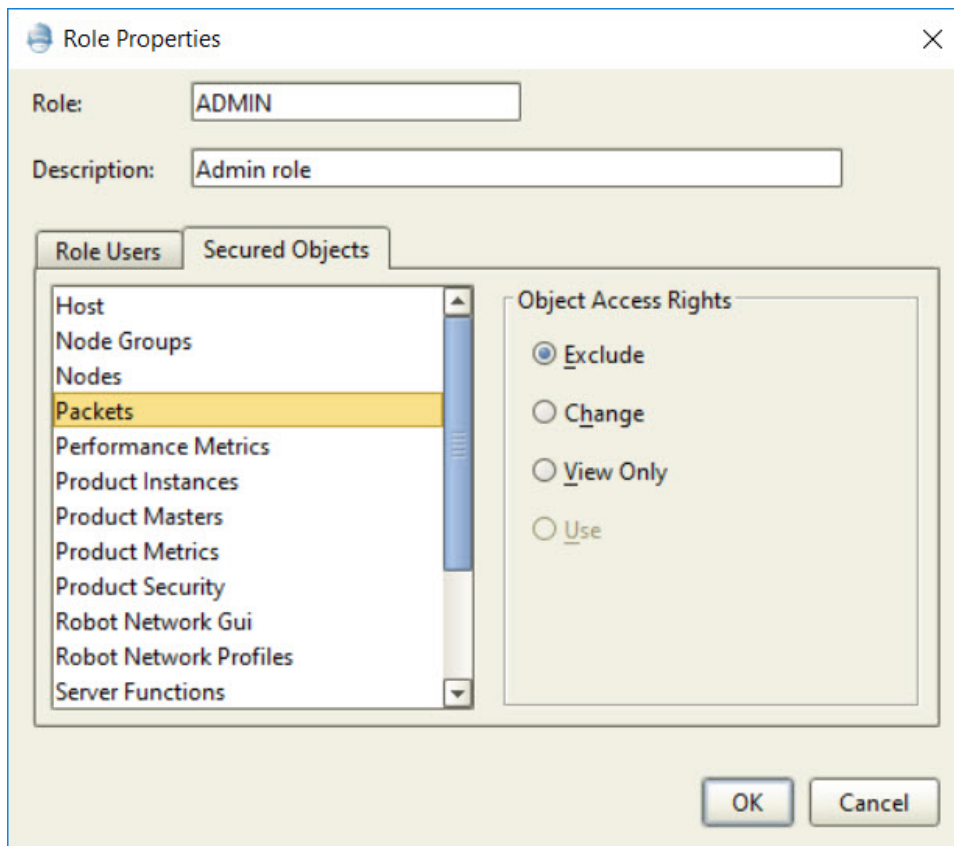
- The Secured Objects tab contains a list of Robot Network secured objects.
- Object Access Rights - Robot Network uses the following object access rights to define its security roles:
  - Exclude - the security role is excluded from any access to the object
  - Change - the security role is allowed to change the object
  - View Only - the security role is allowed to view the object, but is not allowed to use it or change it
  - Use - the security role can use the object, but is not allowed to change it

Assigning Users to Security Roles

From the Role Properties window you can assign a user to a role. The Role Properties window lists the users that can be assigned to this role and the user profiles currently enrolled.

- To add a user, select the user from the Available User Profiles list and click **Add**.
- To remove a user, select the user from the Enrolled User Profiles list and click **Remove**.
- When you are finished, click **Ok** to save your changes or **Cancel** to cancel them.

Maintaining Robot Network Profiles

Robot Network users with appropriate security privileges (such as administrators) can change the password used to access the Robot Network IBM i profile, RBTNETPT, which is used for pass-through processes on each Host system.

For example, if you changed these passwords from the default during, or after the installation of Robot Network, you can enter the new passwords in the Robot Network Explorer.

To change the password for RBTNETPT:

1. From the System Setup view, right-click **Network Profiles** and select **Properties**. The Robot Network Profiles window displays

2. Select a system and click **Edit**.

3. Enter the password on the Maintain Robot Network Profile window.

4. Enter the new password again to confirm it.

5. Click **OK** to make the change or **Cancel** to cancel it.

Connecting to Robot Network

Robot Network Web Interface

A web browser interface that allows you to monitor your IBM i systems and respond to messages from a web browser or mobile device. Learn more on the Robot website.

TELNET Across Systems

You can use TELNET to start a session for quick access to any host or node and its product. You can view or change the problem jobs directly on the Node—a big time saver.

Using Robot Network Explorer

Explorer Overview

Robot Network Explorer is the main navigation tool for Robot Network. It helps you quickly and easily perform network management functions directly from a PC.

Use Robot Network Explorer to perform the following tasks:

- Display your network
- Send information to, and receive it from, your Robot Network Hosts and Nodes
- Launch other parts of Robot Network (Status Center, Map Center, Performance Center, Product Metrics)
- Work with other Robot products on various systems through graphical interfaces, packets, and Product Masters.
- Start the Windows Notification Service.

Explorer Views

Robot Network Explorer uses a top-down hierarchical structure lets to display your network configuration graphically.

When you select an item in the Tree view, the List view displays details about that item. Similarly, when you select an item in the List view, the QuickView provides details.
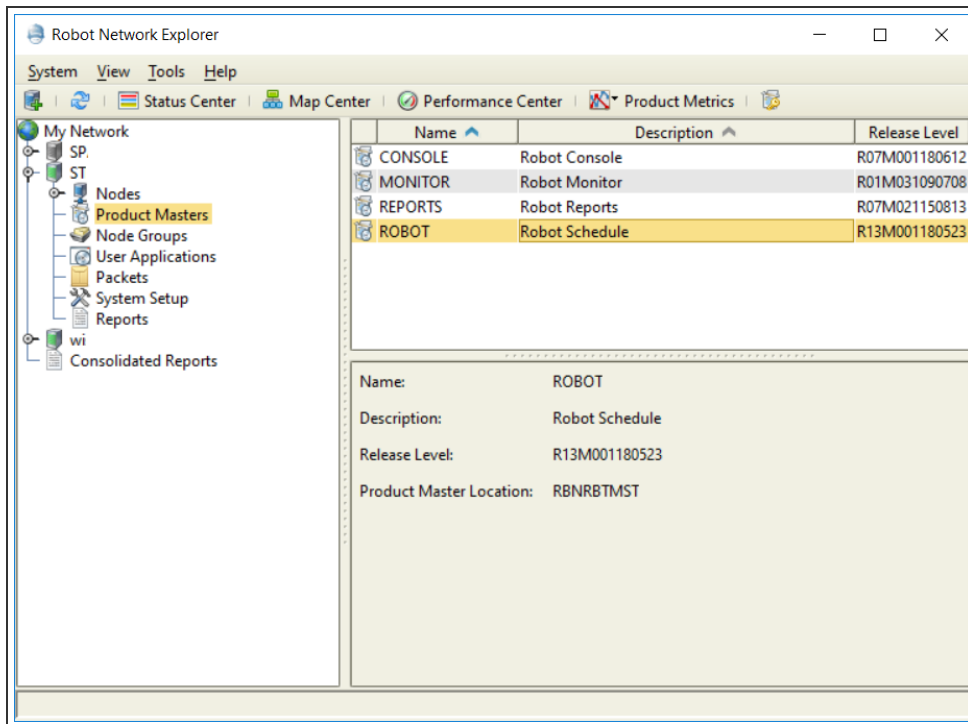
Explorer Menus

Menu Bar

The Robot Network Explorer menu bar contains four menus: System, View, Tools, and Help.

Menu	Function
System	Use the menu to display, add, edit, or remove Host connection profiles, add Hosts to Robot Network Explorer, and to exit Robot Network.
View	Use to change the appearance of the Robot Network Explorer and to refresh the display.
Tools	Use to launch the Status Center, launch the Map Center, launch the Performance Center, launch the Product Metrics Dashboard, manage licenses for Robot products from a central location, and set your Robot Network preferences.
Help	Use to display technical information about Robot Network, access Robot Network online help, specify your level of log detail, update your Robot products, and display diagnostic information about Robot Network.

Other Explorer Menus

Throughout Robot Network Explorer, you can display other menus. To determine whether there is a menu on a particular window, or tab, select an object and right-click. If a menu displays, the active menu options are black; inactive menu options are disabled (greyed out).

Explorer Toolbar

The Explorer Toolbar provides quick access to common areas or functions of Robot Network.

Click Add A Host Connection ( ) to display the Add Host Wizard. You can use this wizard to add a new Host to the Robot Network Explorer.

Click **Refresh** ( ) to update the Robot Network Explorer display with the most-recent configuration and system information from the Host and Nodes.

Click Status Center ( ) to display the Status Center. At this level, the Status Center will display statuses for all the connected Hosts in the network configuration.

Click Map Center ( )to display the Map Center. You can customize the Map Center background using maps, pictures, or other graphics that you select.

Click Performance Center ( ) to display the Performance Center. You can view performance metrics gathered from IBM i systems across your network.

Click Product Metrics Dashboard ( ) to display the Product Metrics Dashboard. You can view information gathered from other Robot products connected to Robot Network.

Click Maintain Product Licenses on Available Nodes ( ) to display the Product License Manager. This software displays the Robot product license information for each Node in the network and lets you select additional license files.

Managing Systems

Use the System menu to view, edit, or create connection profiles you use to connect to IBM i Hosts, add a Host connection from Robot Network Explorer to a Host, or exit Robot Network Explorer.
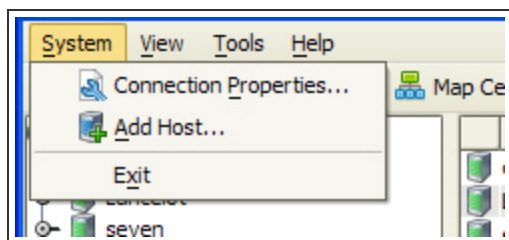
Select **Connection Properties** to create and maintain the connection profiles you use to connect to systems. You can add or remove a Host profile from the network interface, change its alias, IP address or domain name, connection port number, as well as the user name and password used to sign on to the Host.

Select **Add Hosts** to access the Add Host Wizard to add a new host to Robot Network.

Select **Exit** to close the Robot Network Explorer.
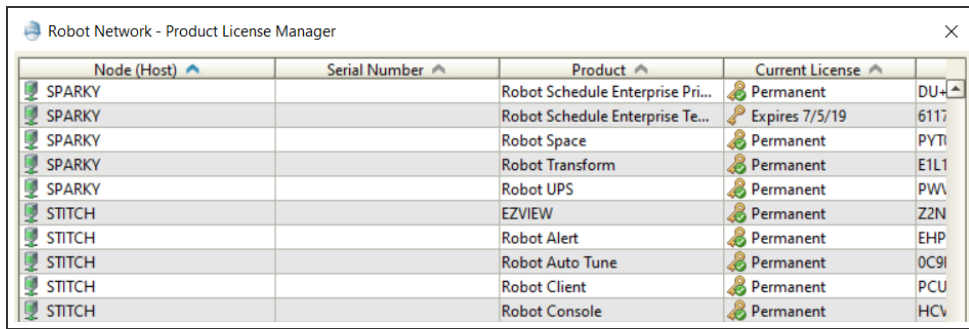
Managing Product Licenses

The Product License Manager allows you to manage the licensing of your Robot products from a central location. You can edit the license information, and save it to a file or the clipboard.
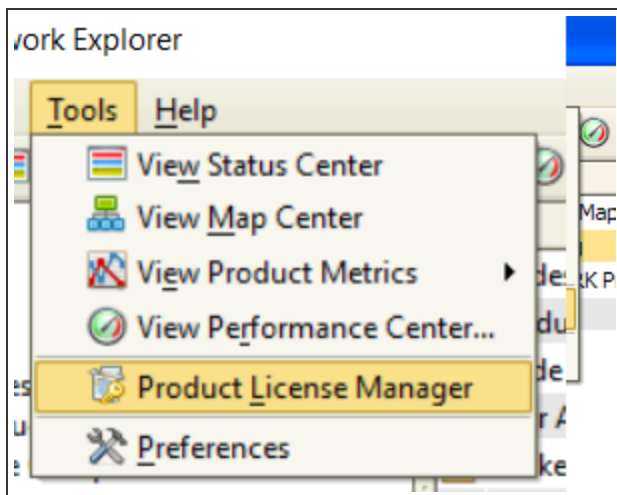
Notes:

- When you use the Product License Manager from the Tools menu, it displays the product licenses for all of the Robot products in the network for the systems that are currently active.

- When you use the Product License Manager from a Host, it displays the product licenses for all of the Robot products in the network for that Host and its Nodes.

- When you use the Product License Manager from a Node, it displays the product licenses for all of the Robot products on that Node.

Editing Licenses

You can display and edit the license codes for your Robot products, including the Robot Network Host and Robot Network Node software.

1. Right-click a product and select **Edit License** to display Robot license information. You can also double-click the product.

2. For most product license files, you can toggle between two views. Select **View 1** to display the License Code field in data entry mode. Select **View 2** to display the field in copy-and-paste mode, which allows you to paste your permanent security code into the field.

   Note: Click the **Display License Agreement** button to display detailed license agreement information, which you can copy to the clipboard.

Distributing Licenses

You can distribute licenses for your Robot products by selecting a license file saved on your PC or workstation.

1. To select a license file, click **Open New License File**, select your file from its location, and click **Open**.

2. Use the Open License File dialog to locate the new license file. Select it and click **Open** to open it.

3. After you accept the license terms agreement, the Connected Systems dialog displays indicating the licenses that are available for the Hosts and Nodes to which you are currently connected. Select the licenses you want to apply and click **Apply Licenses**. Then, click **Next** to continue.

4. The Connected Systems dialog indicates the licenses that were applied, click **Next** to continue.

5. The Direct Connect Systems dialog displays indicating each of the other systems, by serial number, for which license codes are available. Select the systems you want to update and click **Next** to continue.

6. The Direct Connect Systems dialog displays for each system you selected. Enter the system name or IP address, the user name and password to access the system (you can specify a default username and password), select which licenses to apply, and select **Apply Licenses**.

7. After all the systems have been updated, a dialog displays indicating which Node license updates are available for their Host. Select the updates you want to apply (or right-click and click Select All) and click **Apply Licenses**. After the process is complete, click **Next** to display a summary of the results.

8. A summary displays indicating the number of licenses available for both known (connected) and unknown (unconnected) systems, as well as the number of licenses applied, the number of products not found, the total number of licenses, and the number of licenses applied. Click **Finish** when you are done.

Changing the Explorer Appearance

Use the View menu to change the way Robot Network Explorer displays. Using this menu, you can reveal or hide the Toolbar, the Status Bar, and the QuickViews, change the look and feel of the Robot Network Explorer window, and refresh the display.
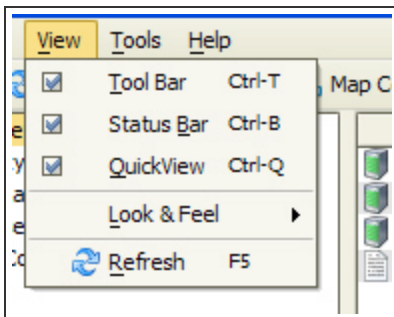
Select **Toolbar** to display or hide the toolbar.

Select **Status Bar** to display or hide the status bar.

Select **QuickView** to activate or deactivate the QuickView display.

Select **Look & Feel** to change how Robot Network Explorer looks. Selecting a new Look & Feel changes the color and font scheme, as well as how the buttons display on the window.

Note: The default look and feel for Robot Network Explorer is Alloy.

Select **Refresh** to update Robot Network Explorer with your changes.

Define Robot Network Settings

Use the Tools menu to specify what Robot Network does at startup time and while it is running. From the Tools menu, select **Preferences** to set Robot Network Preferences.
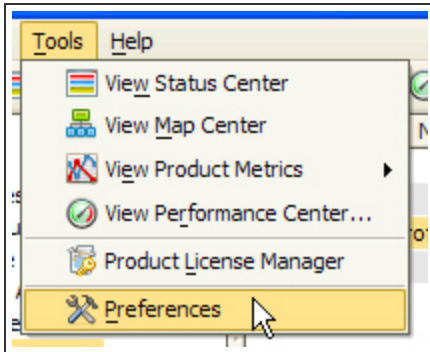
Select from the following tabs to change settings for that area of the product:

Tab	Description
Explorer	Use to specify your Robot Network startup and shutdown preferences.
Map Center	Use to specify the refresh interval for the Map Center display, whether or not to use dashed lines in the display, the thickness of the lines that connect the icons in the display, and the size and position of the icons. You also can reset your map display settings to their original values. When the Map Center is refreshed, the statuses that have arrived since the last time the display was refreshed display. For more information, see the Map Center.
Product Metrics Dashboard	Use to specify a default date range for each metric collected, specify the dashboard layout, select the products you want to view in the Product Metrics Dashboard, and specify default chart colors.
Performance Center	Use to toggle automatic refresh (Auto-Refresh) of the display on and off, to specify the rate at which the Performance Center automatically refreshes, set default date range for Performance Detail graphs, set default view, and to change the colors of the charts.
Status Center	Use to toggle automatic refresh (Auto-Refresh) of the display on and off, to specify the rate at which the Status Center display automatically refreshes, and to change the colors of statuses on the display based on their severity. When the Status Center is refreshed, the statuses display that have arrived since the last time the display was refreshed. You also can change the settings for automatic refresh and status colors for a single session only (see also Setting Session Preferences).

Status Notifier	Use to specify whether to use sounds to indicate that a status has arrived on a Host, and the type of sound for each type of status, warning, attention, and informational. Robot Network uses these status notification sounds in the Status Center and the Map Center.
Date/Time	Use to specify the type of separators to use for date stamps and time stamps in the Robot Network Explorer.

Accessing Product Information

Use the Help menu to display Robot Network online help. The Help menu also allows you to start GUI logging, check for GUI updates, and display the About Robot Network information.
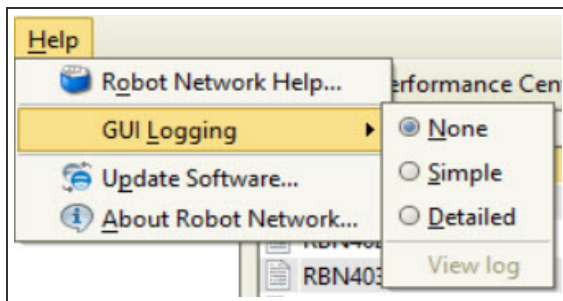
Select **Robot Network Help** to launch this help system. You can also press **F1** from most windows or dialogs for help.

Select **GUI Logging** to write troubleshooting information to a log file on your system and specify the level of detail—None, Simple, Detailed.

Note: You only need this information if requested by Robot Technical Support.

Select **Update Software** to have Robot Network check to see if there is a more current version of Robot Network Explorer software available. Robot Network compares the version currently on the Host to the one you are currently using.

Note: You can have Robot Network automatically check for later versions of Robot Network Explorer software at startup time. You select this automatic update option (the default) using the Robot Network Tools menu.

After Robot Network checks the Host, the Update available window displays if you do not have the latest version of the Robot Network Explorer software on your PC.

Before you can load the latest Robot Network Explorer software, you must close any other Robot products that are currently running on the PC.

- To load the latest version of Robot Network Explorer and update your PC software, click **Yes** and follow the prompts that display.
- To skip this process, click **No**.

Select **About Robot Network** to display technical details about Robot Network.
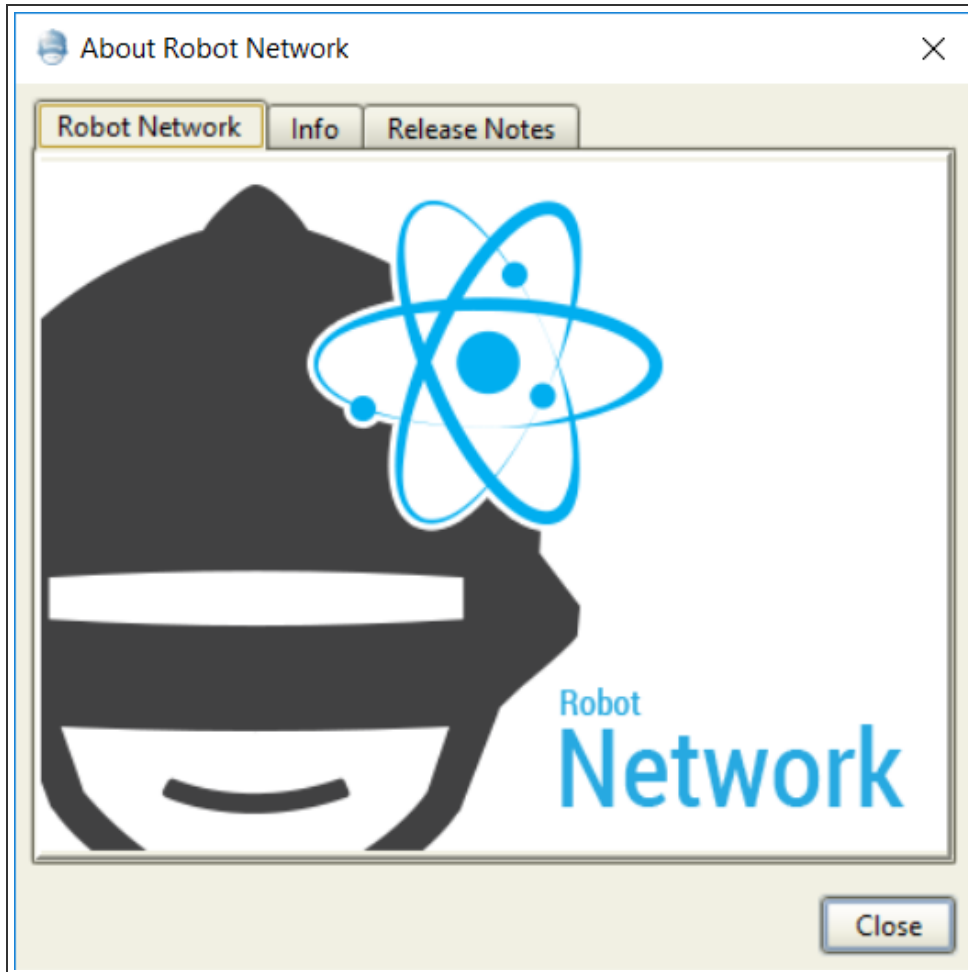
Click the Info tab on the About Robot Network window to see Robot Network and PC system information. You can copy and paste the information into a file or the clipboard for troubleshooting and product support.

Click the Release Notes tab on the About Robot Network window to display the Robot Network source software agreements, as well as any last-minute information about the product.

Explorer Settings

Use the Explorer tab of the Preferences window to specify your Robot Network startup and shutdown preferences:

- Select **Play Startup/shutdown sounds** to play sounds when you start and stop Robot Network.
- Select **Launch Status Center after automatically connecting at startup** to start the Status Center automatically when Robot Network connects to a Host.
- Select **Launch Map Center after automatically connecting at startup** to start the Map Center automatically when Robot Network connects to a Host.
- Select **Launch Performance Center after automatically connecting at startup** to start Performance Center automatically when Robot Network connects to a Host.
- Select **Launch Product Metrics Dashboard after automatically connecting at startup** to display the Product Metrics Dashboard automatically when Robot Network opens.
- Select **Check for software updates on the iSeries** to automatically check for new versions of Robot Network.

Date and Time Settings

Use the Date/Time tab of the Preferences window to specify how the date and time appear in Robot Network Explorer, Status Center, Map Center, and Product Metrics.

- **Current date and time format** - displays the date and time format currently being used. The default date format is Month/Day/Year using a slash (/) as a separator; the default time separator is a colon (:).
- Use **Select a date format** to specify the format to use for dates. You can select Month Day Year, Day Month Year, or Year Month Day.
- Use **Select a date separator** to select the separator to use between the month, day, and year. You can select a slash (/), dash (-), dot (.), comma (,), or space ( ).
- Use **Select a time separator** to select the separator to use between the hours, minutes, and seconds. You can select a colon (:), dot (.), comma (,), or space ( ).

Click **OK** when you are finished to apply your changes; or **Cancel** to cancel them.

Managing System Statuses

Status Center Overview

Events occur when products perform tasks within the system. Examples of events are Robot Console messages or Robot Schedule jobs ending. Most events are handled by the products involved. When an event cannot be handled at the product level, it is sent to Robot Network for handling. Robot Network creates a status for the event and begins the escalation process.
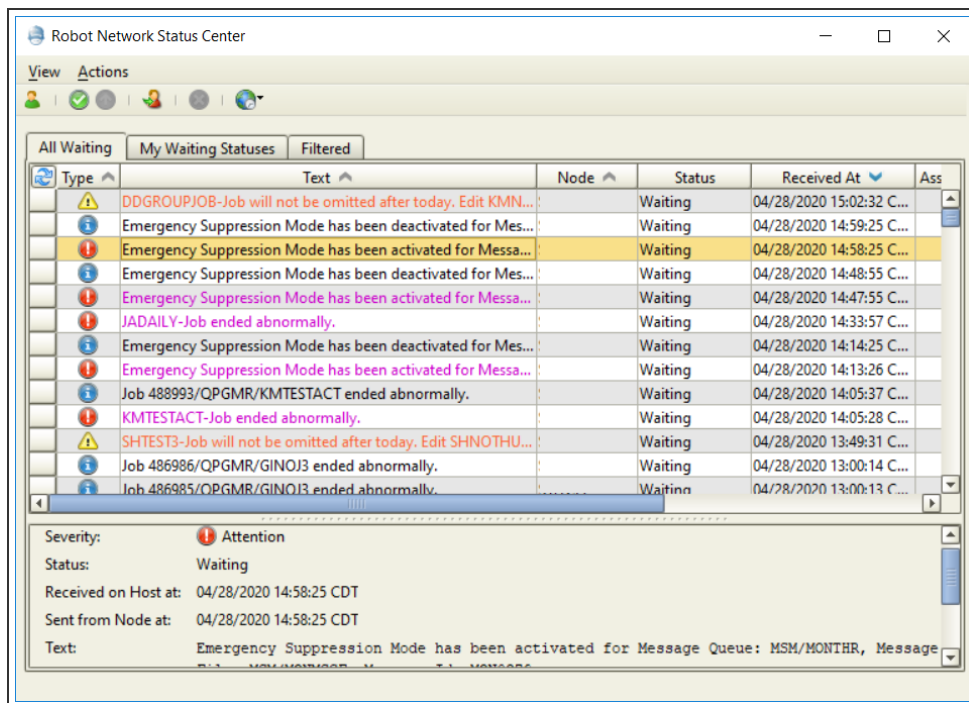
In the Status Center display, you can perform the following actions:

- Respond to a status, including replying, assigning, escalating, acknowledging, or deleting.

- Display the properties of a status, including when and where it originated, when and where it was acknowledged, and its severity.

- Filter the Status Center display using either the pre-defined Robot Network filters or a filter that you created using the Data Filter Manager (see Filtering the Status Center) for more information.

- Create notes to help keep track of information related to a specific status.

- View statuses coded by color that you can specify.

Viewing Statuses From Multiple Locations

Depending on where you select the View Statuses option in the Robot Network Explorer, you can display the statuses for Hosts, Nodes, Robot products, or applications:

- When you select View Statuses from the toolbar, you see the statuses for all of the Host systems in the network to which you are connected.
- When you select a Host or Node from the Tree view, you see the statuses specific to that Host or Node.
- When you select a Node in the Tree view and a product in the List view, you see the statuses specific to that product on that Node.
- When you select User Applications from the Tree view and select an application in the List view, you see the all of the statuses specific to the application for all Nodes of that Host.

Using the Status Center

The Robot Network Status Center contains a menu bar and toolbar you can use to quickly access and manage statuses. The details area displays information about the status that is currently selected.

Status Center Notifications
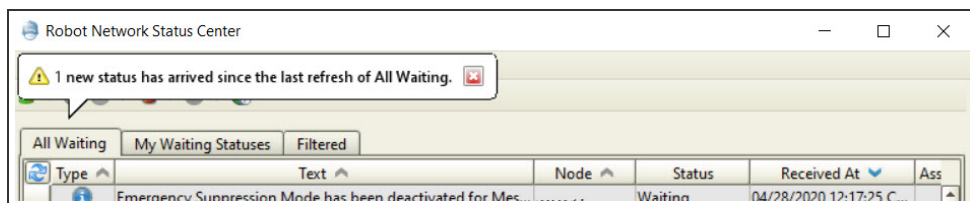
Status Bar
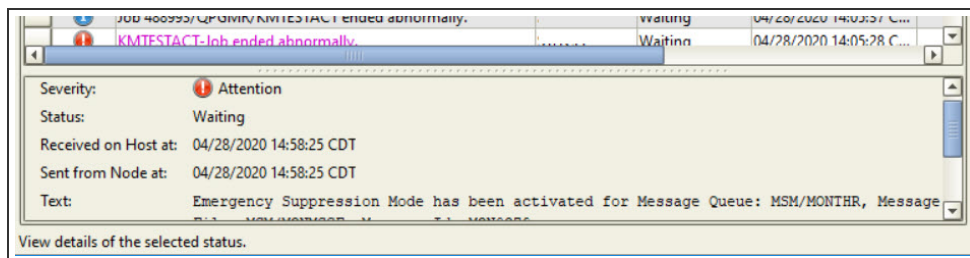
If you leave the Status Center and come back, a dialog appears letting you know how many new statuses have arrived since you last refreshed your view.

Menus

Use the View menu to change the Status Center appearance:

- Click **Show Details** from the View menu to toggle the status detail window on and off. The status detail window displays information about the selected status, such as its severity, when it was received and by which system, the system it was sent from, any text, status assignment, ticket information, and notes.
- Click **Show Status Bar** from the View menu to toggle the status bar on and off. The status bar displays information about the Status Center display. (For example, the number of statuses that were loaded to the Status Center.)
- Select Session Preferences to change colors and refresh rate for the current viewing session.
- Click **Refresh** to update the display.

Use the Actions menu to change the Status Center display:

- Change your color preferences for statuses for the current session
- Turn automatic referesh of the Status Center display on or off for the current session
- Specify the interval at which the Status Center display should refresh during the session
- Assign, acknowledge, escalate, delete, and reply to statuses

Status Center Icons

The Type field of the Status Center window displays a colored icon that indicates the type of status message: Attention, Warning, or Information. Each status is indicated by an icon in the Type field that indicates its severity.

Informational message only

Warning—a problem needs to be resolved soon

Attention—the IBM i server needs immediate help

Status Definitions

The following table describes some of the scenarios that generate statuses for Robot products and user applications defined to Robot Network.

Note: The RBNPOLL command creates Attention statuses for networked products by checking the status of the following conditions:

- Communication with the Node system
- The RBTSLEEPER subsystem
- The NETNODE monitor job

Product	Status Type		
	Attention	**Warning**	**Information**
Robot Autotune	Extra pool or missing pool Security code expires Abnormal end	ATMonitor ends normally	ATMonitor starts
Robot Client	Event defined to generate Attention status occurs	Event defined to generate Warning status occurs	Event defined to generate Information status occurs
Robot Console	Inquiry or Respond message goes to the HOSTCENTER Message Center	Product is inactive	Informational message goes to the HOSTCENTER Message Center
Robot Monitor	Threshold values set in product	Threshold values set in product	Threshold values set in product
Robot Network	Operational errors occur in Robot Network. A Node connects to, or disconnects from, a Host. Performance metrics data collection threshold messages.		
Robot Save	Incomplete save (objects are not saved)	Product is inactive	Save completes normally (all objects saved)
Robot Schedule	Job ends abnormally, or submit job fails	Product is inactive	Normal Robot Schedule job statuses
Robot Schedule Enterprise	Robot Schedule Enterprise provides status message indicating when the agent is unexpectedly disconnected (this is an optional configuration). The user determines the severity—Attention, Warning, or Information—of each type of message when they configure the agent.		
Robot Space	Robot Space provides status messages indicating when event thresholds are approaching or have been reached. Examples of these events include objects exceeding a certain size, or the total amount of disk space usage. The user determines the severity—Attention, Warning, or Information—of each type of message when they configure Robot Space.		

User Applications	Event defined to generate Attention status occurs	Event defined to generate Warning status occurs	Event defined to generate Information status occurs

Responding to Statuses

You can respond to a status in the Status Center in 3 ways:

- Select an action from the Actions menu on the Status Center menu bar.
- Select an action from the Status Center toolbar.
- Select a status and right-click on it to display a menu of actions.
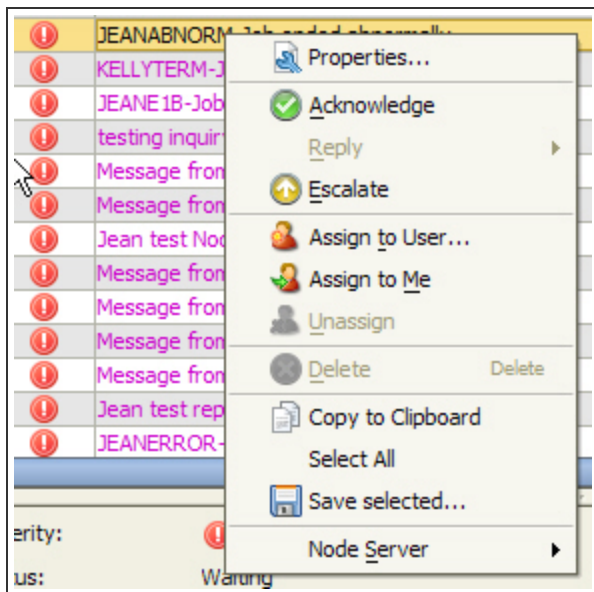
Depending on the type of status you select and your Robot Network security level, you can

- Acknowledge the status
- Escalate a status
- Assign a status
- Reply to the status
- Delete a status

Whenever you respond to a status, a confirmation dialog displays to verify your action.

Acknowledging Statuses

To acknowledge a status, right-click it and select **Acknowledge**.
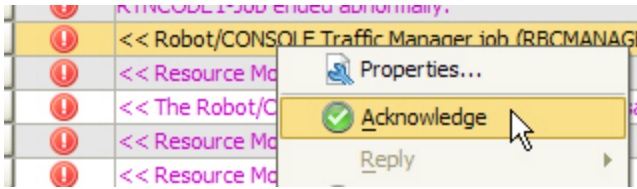
Escalating Statuses

Using Robot Network, you can escalate a status that is not acknowledged within a certain amount of time using a variety of options:

- With Robot Alert, Robot's messaging package, you can have Robot Network send text, pager, or e-mail messages, in reaction to a status. If an operator does not react to a status within a certain time, Robot Network uses Robot Alert to send a message to a specified device or list of devices: cell phone, pager, PC, laptop, or PDA.

  Using two-way paging you can respond to a status with a device. Robot Alert can send both a message and a list of responses to the device, as determined by your vendor. The device receives the message and responses, and the person can answer the message from the device. If there is no response, Robot Alert continues sending the message until it reaches the repeat limit.

  Robot Network also can work with Robot Alert to escalate and respond to statuses using two-way email messaging and SMTP.

- Robot Network allows you to escalate and respond to statuses using SNMP traps to provide monitoring capabilities across your enterprise. You can use Robot Network and the IBM i as the heart of your enterprise monitoring solution. Robot Network uses SNMP traps for one-way and two-way communication with enterprise monitoring solutions such as BMP, Remedy, NetCool, and HP OpenView.

- You also can use Robot Network to escalate unacknowledged statuses using your own programs and escalation strategy.

To escalate a status, right-click it and select **Escalate**.
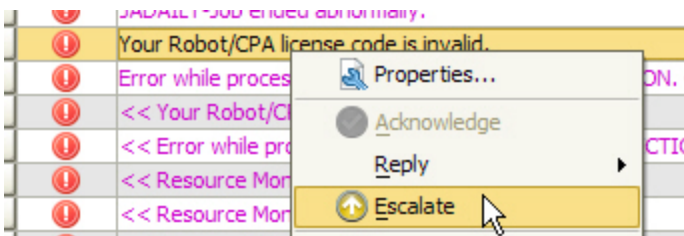
Assigning Statuses

On occasion, you may need to suspend the escalation process for statuses while determining a correct response (such as for Robot Console messages). You can assign statuses to Robot Network users to indicate this state so that more than one person is not trying to work on the same status. Marking a status as assigned suspends the escalation process and lets others know who is working on specific statuses.

To assign a status to a user, right-click the status and select **Assign to Me** or **Assign to User**.
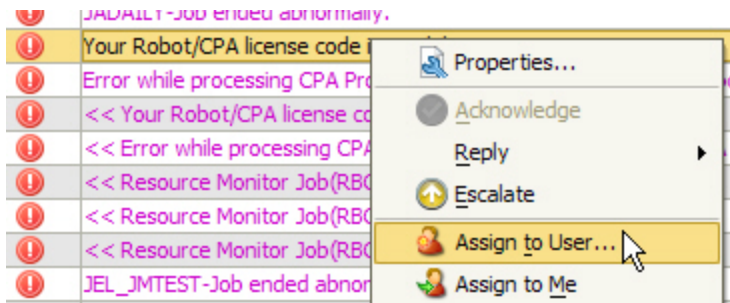
If you select Assign to User, the Assign to User dialog displays.

- Assign to User: Enter the user that you want to assign the status to. Click the search button to browse available users.
- Ticket: Enter a ticket number that this status is assigned to, if necessary.
- Notes: Enter useful information about the status.

To unassign a status from a user, right-click the status and select **Unassign**.

Reassigning Statuses

If a status has been assigned to you, it appears in the My Waiting Statuses tab. You can reassign the status by right-clicking it and selecting **Assign to User**. You do not need to unassign it first.

Replying to Statuses

Certain statuses have been set up so that you can reply to them, either with a pre-defined reply, or with a custom reply specific to that status.

1. To reply to a status, select the status, right-click to display the menu, and select **Reply** (if available).

2. Select from the list of options that display, which varies depending on the replies that have been defined.
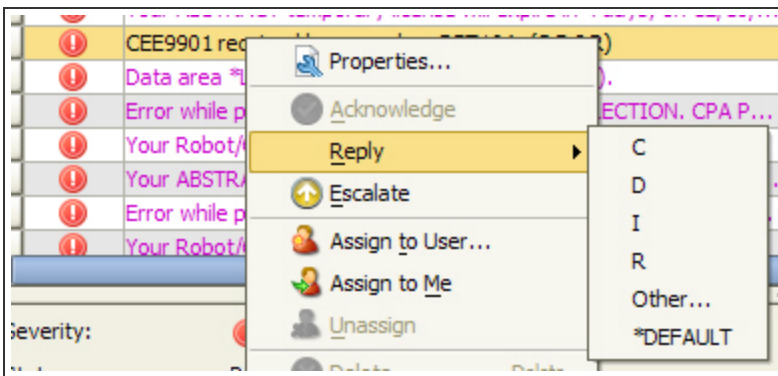
Notes:

- When you select Default, the default reply defined when you set up the replies issued.
- When you select Other, a dialog displays which you can use to enter a specific reply to the status.
- When you select a reply, a dialog displays to confirm that you want to acknowledge the status with your reply.

Deleting Statuses

To delete a status, right-click it and select **Delete**. A confirmation dialog asks if you're sure. Click **Yes** to continue.
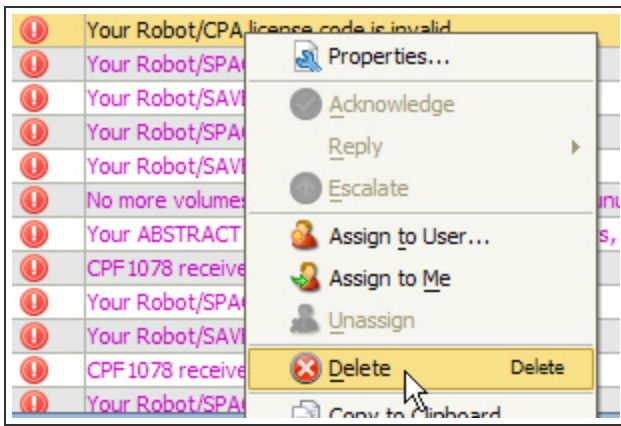
Viewing Status Properties

All Status Properties windows contain three tabs of information about the status: Status Details, Notes, and History. If a status has reply options, a fourth tab, Message Details, appears.
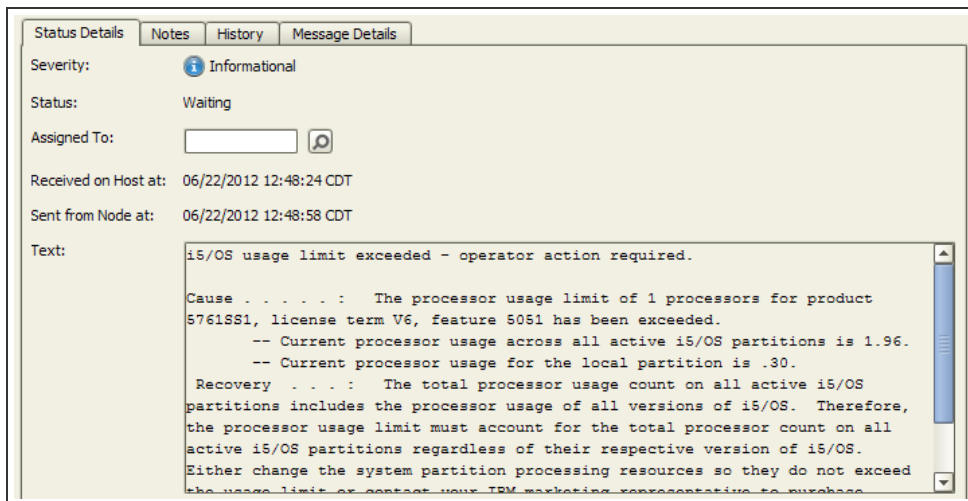
Tab Descriptions

- The Status Details tab indicates the severity of the status, where it originated, the Host that received it, and any text associated with the status.
    - Use this tab to assign the status to a Robot Network user, acknowledge the status, or escalate it.
- The Notes tab provides a way to track information that is relevant to a status, such as an assigned ticket or a status update.

- The History tab lists all of the actions related to the status and the date and time they occurred. You can select a history action and right-click to save it to the clipboard or a text file.

- The Message Details tab displays information for messages with reply options, such as Robot Console messages. If you specified escalation options for this type of status, you can click **Escalate** to escalate the status.

Filtering the Status Center

You can filter the status display to display a certain category of statuses. You can use either the filters supplied with Robot Network, or create your own filter using the Data Filter Manager. You also can specify the default filter that Robot Network should use when you launch the Status Center.
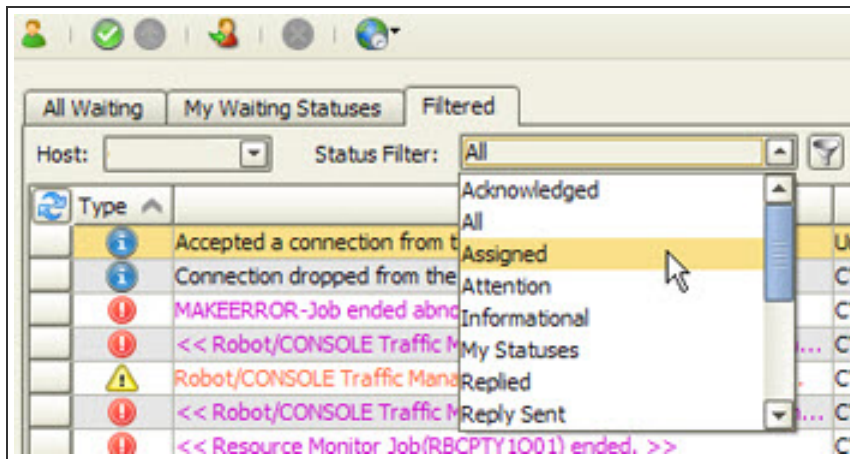
You can select from the following filters:

- Acknowledged
- All
- Assigned
- Attention
- Informational
- My Statuses
- Replied
- Reply Sent

- Reply Waiting
- Today's Statuses
- Unassigned
- Waiting Attention
- Waiting Informational
- Waiting Warning
- Warning

To filter the display, click on the Filter tab, click the Data Filter field to display the drop-down menu and select the filter you want to use. The Filter tab display refreshes using the filter you selected.

Note: If there are more than 10,000 statuses to display, the data filter will truncate the listing at 10,000 and display a message indicating that there are more messages to display.

Sorting Information

If a column heading contains up and down arrowheads, you can use them to sort the information in the column based on the type of information.

When you click on an arrowhead, the column re-displays with the information re-sorted based on the information and the type of arrowhead:

- The up arrowhead sorts from oldest to newest, least to greatest, or in alphabetical order (A-Z).
- The down arrowhead sorts from newest to oldest, greatest to least, or in reverse alphabetical order (Z-A).

Note: The column with the highlighted arrowhead is the column sorted.

Data Filter Manager

The Data Filter Manager allows you to work with data filters for the Status Center. You can use the Data Filter Manager to copy existing filters, to rename and edit filters, to create new filters from scratch, to set a particular filter as the default for a display, and to export/import filters to/from other locations.

To display the Data Filter Manager, click the data filter button from the Filter tab of the Status Center.

When you select a filter from the list, the options you can use with that filter become active. You can edit or delete only the filters that you have created.
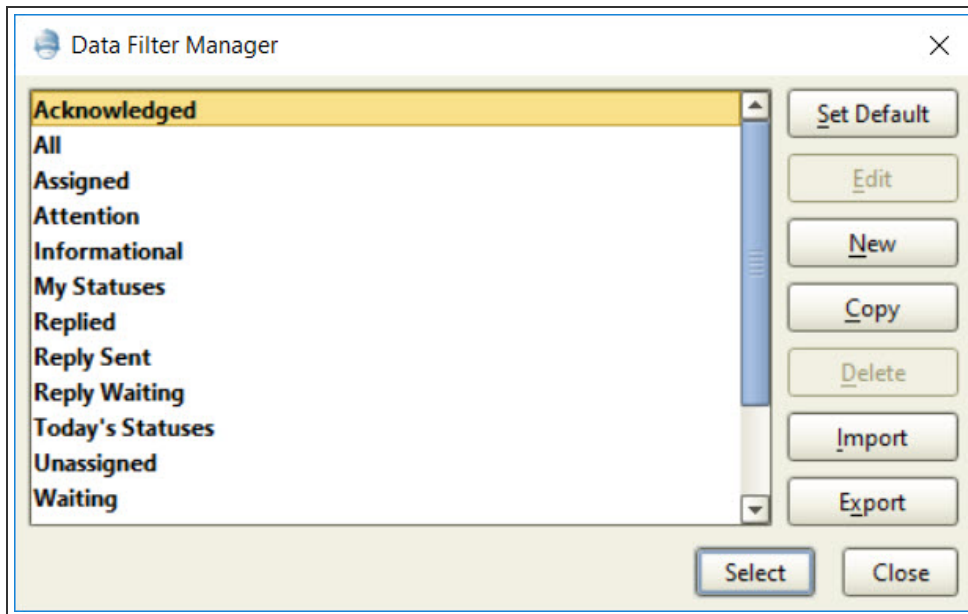
- Select a filter and click **Set Default** to make that filter the default filter.

- Select a filter and click **Edit** to change it using the List Filter window. You can only edit filters that you created.

- Click **New** to create a new filter using the List Filter window.

- Select a filter and click **Copy** to create a filter based on the selected filter. The List Filter window displays.

- Select a filter and click **Delete** to remove it. You can only delete filters that you created.

- Click **Import** to import a filter that you exported from another system.

- Click **Export** to export a filter to use on another system.

Importing and Exporting Data Filters

You can use the Data Filter Manager to import and export your data filters as XML files. This can be useful when you want to store a filter, or copy a filter to use on a different PC. You can export the filter to a location on your PC (or a network drive) and then use the Robot Network Explorer on a different PC to import the filter from the location where you exported it.

Note: You only can import and export filters that you created using the same Data Filter Manager—Status Center or Packet.

You can use the Data Filter Manager dialog to export and import filters.

- To export a filter, select the filter, click **Export**, and specify the location using the Select export file dialog that displays.

- To import a filter, click **Import** and select the file to import using the Select Import file dialog that displays.

Creating Status Center Data Filters

You can use the menu options in the Data Filter Manager to create data filters to include or exclude items from the display. When you use a filter to filter a display, Robot Network compares the value from the first condition column against the value from the second condition column using the two operators that you selected. If the result of the comparison matches the conditions, the filter includes the item in the display; If the result of the comparison does not match the condition, the filter excludes the item from the display.

There are two ways to create a new data filter from the Data Filter Manager:

- Select a filter and click **Copy** to display a copy of the filter in the List Filter dialog that you can use as a template to create a new filter.
- Select **New** to display a blank List Filter dialog.

Using the List Filter window:

1. Name the filter.
2. Select whether all or any of the conditions must be met.
3. Specify which conditions the new filter should match using the menu options (see table below for filter options).
4. Click a minus (-) button to remove a conditional row; click a plus button (+) to add a conditional row.
5. Click **OK** when you are finished.

Note: Not every attribute and condition can be matched.

Example Filters

The following are examples of Status Center data filter statements.

If the filter specifies:	The following displays:
Any Node Is Node1	All statuses from Node1 only
All Product Is Client Severity Is Warning	All Warning statuses from Robot Client

The table below lists the data filter menu options for the Status Center.

First Operator	First Condition	Second Operator	Second Condition
Any (any of the conditions exist; an "or" condition) All (all of the conditions exist; and "and" condition"	Node	is (the condition is true) is not (the condition is not true)	Node name
	Product		Robot product name
	Acknowledge Waiting		Yes No
	Severity		Informational Warning Attention
	Host Date & Time	is is not is equal or greater than is equal or less than is greater than is less than	User-specified date and time
	Node Date & Time		User-specified date and time
	Text	is is not is equal or greater than is equal or less than is greater than is less than starts with does not start with contains does not contain	User-specified text string
	Reply Status	is is not	No Reply Reply Waiting Reply Sent Replied
	Assigned To	is is not is equal or greater than is equal or less than is greater than is less than starts with does not start with contains does not contain	User-specified text string
	Ticket	is is not is equal or greater than is equal or less than is greater than is less than starts with does not start with contains does not contain	User-specified text string
	Notes	is is not is equal or greater than is equal or less than is greater than is less than starts with	User-specified text string

Changing the Time Zone for Status Timestamps

You can change the orientation of the timestamp for your statuses. The Servers Time Zone/Local GUI option allows you to change the time zone offset for the Status Center display. You can change the timestamp of the statuses displayed using the time zone of the server that issued the status, or the time zone of the PC that is displaying the status. When you make a selection, the status timestamps affected are re-calculated based on your selection.

For example, if the timestamps for the statuses displayed are based on Central Standard Time (their server's time zone setting) and you change to Pacific Standard Time (the PC's time zone setting), all of the server's timestamps will be re-calculated (decremented by two hours) to display in Pacific Standard Time.

Note: This setting has no effect on the actual time zone setting on your IBM i servers or your PC.

1. To change the time zone setting, click the time zone icon and select either **Local GUI** time to use the time zone of the Robot Network Explorer PC (indicated in parentheses), or Servers Time Zone to use the time zone of the server that sent that status as the time stamp for the statuses displayed.
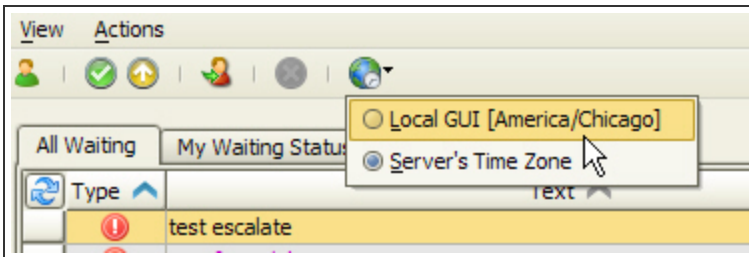
2. All of the timestamps displayed are updated to reflect the time zone change that you specify.

Status Notification Options
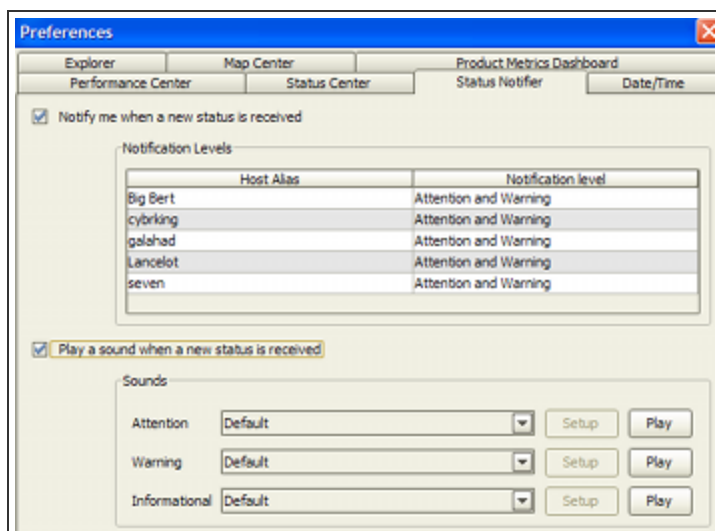
Select **Notify me when a new Status is received** to turn visual notification on or off.

Select a Host and click below **Notification level** to specify the types of statuses for which you should receive notification:

- None - No statuses
- Attention only - Attention statuses
- Attention and Warning - Attention and warning statuses
- All severity levels - All statuses

Select **Play a sound when a new status is received** to turn notification sounds on or off. You can use the default sound or a custom sound that you select for each severity of status received at the Host.

You can customize the sounds used to notify you of a status:

1. Select **Custom** to make the Setup option active.
2. Use Setup to enter a file name or browse the PC for a sound file (.wav) to use for the status.
3. After you select a file, click **Play** to listen to it.

Windows Notification Service

The Windows notification service lets you know when a status has arrived in Robot Network by providing a pop-up notice from the Windows system tray.
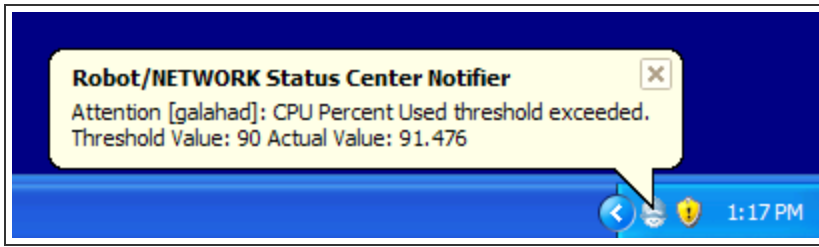
Right-click the Robot Network system tray to change notification preferences, launch the Status Center, or to stop the notification service.
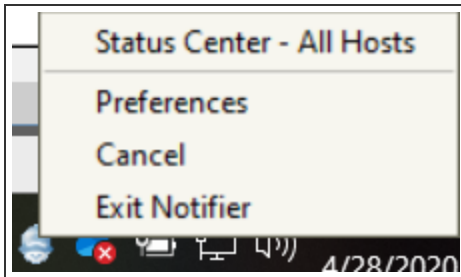
To restart the service, right-click **My Network** from the Robot Network Explorer and select **Start Notification**.
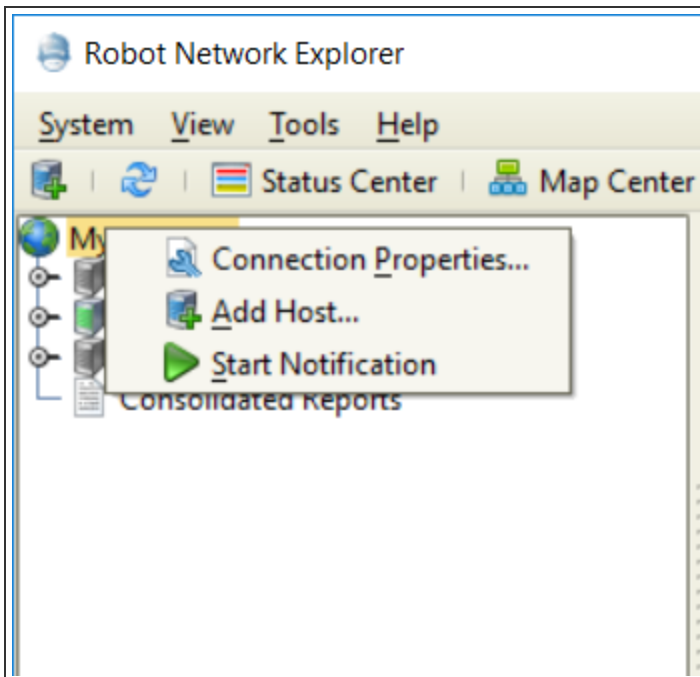
Status Center Toolbar

The Status Center toolbar contains six icons you can use to turn automatic refresh (Auto-Refresh) of the Status Center display off or on for the current session; set the interval at which the display refreshes for the current session; change the display color of statuses, by type, for the current session; respond to statuses; and change the time zone setting for the Host server.

Click the Session Preferences icon ( ) to display the Session Preferences window.

Click the Checkmark icon ( ) to acknowledge one or more statuses. A confirmation window displays to verify the acknowledgement.

Click the Arrow icon ( ) to escalate one or more statuses. A confirmation window displays to verify the escalation.

Click the Assign icon ( ) to assign one or more statuses to yourself (logged in user).

Click the X-mark icon ( ) to delete one or more statuses. A confirmation window displays to verify the deletion.

Click the Time Zone ( ) icon to set the time zone offset for the Status Center display.

View System Status

The View System Status window displays the following information about the IBM i:

CPU Status

- CPU Utilization %: Percent of processor currently being used

Auxiliary Storage Status

- System ASP (MB): Amount of auxiliary storage, in MB, dedicated to memory pools
- % System ASP Used: Percentage of total auxiliary storage being used
- Total Auxiliary Storage (MB): Total amount of auxiliary storage in MB

Jobs Status

- Jobs in System: Total number of jobs currently on the server
- Batch Jobs Running: Number of batch jobs currently active

Users Status

- Currently Active Users: Interactive users currently active

Storage Pools

- System pool: System memory pool number

- Pool size (MB): Size of memory pool in MB

- Reserved size (KB): Amount of space reserved for the memory pool in KB

- Pool name: Name of memory pool

- Pool description: Description of the memory pool

Changing the Status Center Appearance

Use the Status Center tab of the Preferences window to toggle automatic refresh (Auto-Refresh) of the display on and off, to specify the rate at which the Status Center display will refresh, and to change the colors of statuses on the display based on their severity. When the Status Center is refreshed, the statuses display that have arrived since the last time the display was refreshed.
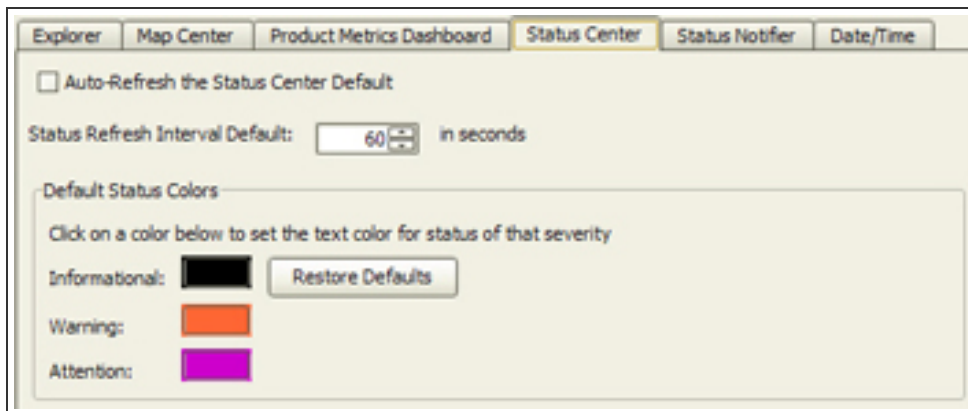
You also can change the settings for automatic refresh and status colors for a single session only. For more information, see Setting Session Preferences.

Automatically Refreshing the Status Center

Check the **Auto-Refresh the Status Center Default** box to have the Status Center display refresh automatically at the interval that you specify. This will become the default setting for all of your Robot Network sessions. You also can turn automatic refresh off or on for the current session only (see the topic Setting Session Preferences).

1. Check the Auto-Refresh the Status Center box.

2. In the Status Refresh Interval field, specify the interval (in seconds) at which the Status Center display should be refreshed. You can specify any interval from 30 seconds to 3600 seconds (60 minutes, or 1 hour).

The Status Center display will refresh automatically at the interval that you specify. This will become the default setting for Robot Network.

Note: When the Status Center is refreshed automatically, the new status notification bubble does not display.

Setting Default Status Refresh Interval

Use the **Status Refresh Interval Default** field to specify the interval (in seconds) at which the Status Center display should be refreshed. You can specify any interval from 30 seconds to 3600 seconds (60 minutes, or 1 hour). For better system response, we recommend not refreshing the display more often than once a minute. You also can change the refresh rate for the current session only (also see the topic Setting Session Preferences).

Setting Colors for Statuses

Click on a color to specify a new color for statuses, by severity, when they display in the Status Center. Changing a color on this tab makes that color the default setting for all Robot Network sessions.

You also can change status color for the duration of a single session (see Setting Session Preferences).

1. Double-click the color of the status type you want to change.

2. Use the Informational Status Color window to select a color for the status type, or choose a different color palette. You can choose colors from three color palettes:

    - Swatches (the default) - on the Swatches palette you can see any of the recent colors chosen, select them from the Recent grid, and preview your selection in the Preview window.

    - HSB and Red-Green-Blue (RGB) - the HSB and RGB palettes allow you create your own colors and gradients by moving the selection bar or by adjusting the numbers manually.

3. After you have changed a status color, the Preferences window re-displays with your new color. You can change another color by double-clicking on the color, or click **OK** to re-display the Status Center with the new colors.

Setting Session Preferences

From the Status Center View menu, select **Session Preferences** (or click the Session Preferences icon) to display the Session Preferences window. Changing these settings will only affect your current Status Center session. You also can change the default settings for automatic refresh and status colors (see Robot Network Preferences).
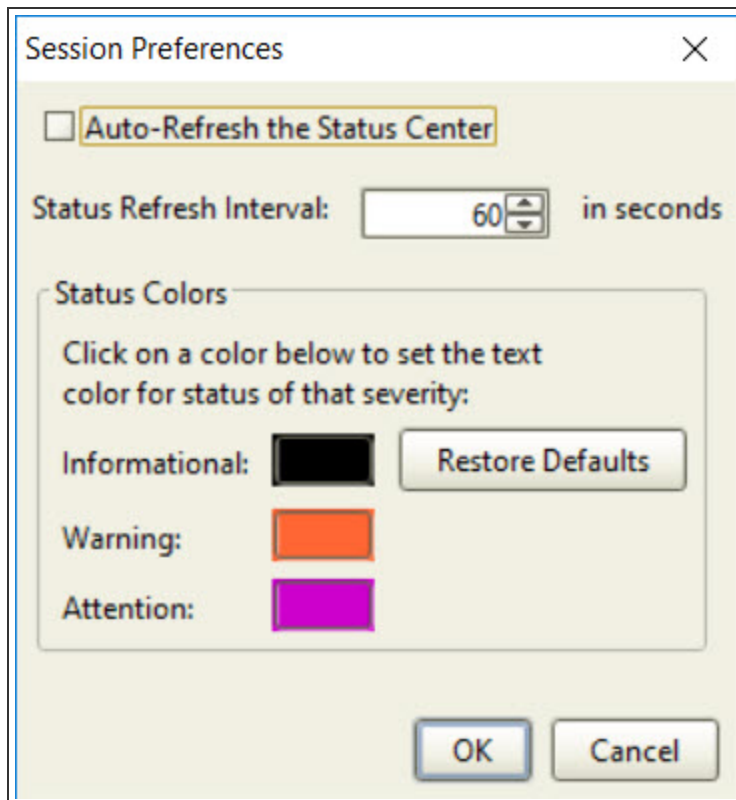
Setting Automatic Refresh

Use the Session Preferences window to specify whether to refresh the Status Center display automatically for the current session and set the refresh interval for the Status Center display for the current session.

1. Check the Auto-Refresh the Status Center box.

2. In the Status Refresh Interval field, specify the interval (in seconds) at which the Status Center display should be refreshed. You can specify any interval from 30 seconds to 3600 seconds (60 minutes, or 1 hour).

The Status Center display will refresh automatically at the interval that you specify. This will become the setting for your current Robot Network session only.

Note: When the Status Center is refreshed automatically, the new status notification bubble does not display.

Setting Colors for Statuses

Use the following procedure to change colors for the current session.

1. Double-click on the color of the status type you want to change.
2. Use the Status Color window to select a color for the status type, or choose a different color palette. You can choose colors from three color palettes:
    - Swatches (the default) - on the Swatches palette you can see any of the recent colors chosen, select them from the Recent grid, and preview your selection in the Preview window.
    - HSB and Red-Green-Blue (RGB) - the HSB and RGB palettes allow you create your own colors and gradients by moving the selection bar or by adjusting the numbers manually.
3. After you have changed a status color, the Session Preferences window re-displays with your new color. You can change another color by double-clicking on the color, or click **OK** to re-display the Status Center with the new colors.

Viewing Your Network

Map Center

The Robot Network Map Center is a graphical display that you can customize to represent and access your Robot Network IBM i servers. Each server in your network is represented by an icon on the Entire Network Map Center tab. Each separate host system is also represented, with its nodes, on its own tab. The Map Center supports TCP/IP and gives you point-and-click access to help with network problem resolution.
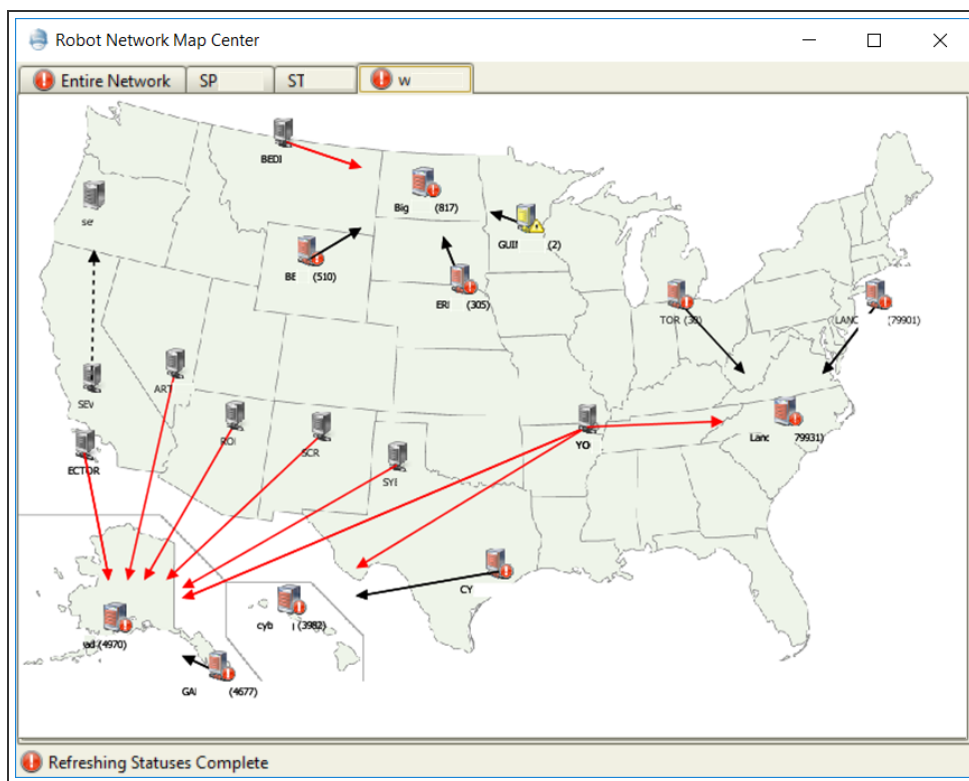
Status Notification

You are notified of statuses in the Map Center while you are connected to a host. When status notification is on, a status counter on the icons representing the host and nodes indicates the number of statuses waiting. The color of the icon indicates the highest severity status received using the following scheme:

Color	Status
None	No status messages

Red	Attention
Yellow	Warning
Blue	Informational

For example, a blue icon displaying a number 2 indicates that two statuses are waiting and that the highest severity status is Informational. A yellow icon displaying a number 4 indicates that four statuses are waiting and that the highest severity is Warning, and so on.

The red and black arrows between the systems in the Map Center indicate the current status of the communication between the hosts and their nodes. Dashed lines (if enabled in the Preferences) indicate systems that aren't currently connected (including alternate hosts when the node is connected to its primary host).

Monitor Networks Anywhere

You don't need to have an operator always monitoring your network. You can use Robot Alert with Robot Network to send a text, pager, or email message if an operator doesn't respond within a specified amount of time. Add two-way messaging, and a person can respond to a message using their pager, cell phone, PDA, or email device.

You can use also use sound to notify you when a status has arrived. When you activate status notifier sounds (see Preferences), an audible alert sounds whenever a new status arrives.

Customized View

You can select from a list of maps supplied with Robot Network, or use your own maps or other graphics to customize your Map Center display. After you select a background, you can position your IBM i hosts and nodes exactly where you want them to best represent your network. You can even save the display as a PDF file that you can email or print for a template, or for troubleshooting.

Starting the Map Center

You can start the Robot Network Map Center two different ways. Click the **Map Center** icon on the toolbar. Or, click the **Tools** menu and select **View Map Center**. The Map Center shows all host and node systems currently configured in the Robot Network Explorer. Systems not currently connected are indicated by a dashed arrow (if enabled in Preferences); systems currently connected are indicated by a solid line.

Notes:

- You can have only one instance of the Map Center active at a time.
- The Map Center displays one tab for each host and its nodes (Host name), and one tab (Entire Network) for the whole network, plus a tab for each map that you create, sorted alphabetically.
- When you first start the Map Center, the host and node system that was currently active in the Robot Network Explorer display. Afterwards, when you start the Map Center, the most recently-viewed map displays.

Using the Map Center

The Map Center can alert you visually and audibly to the arrival of new statuses and other network activity. If you have notification turned on, when a new status arrives on a host system, a icon is displayed on the node that originated the status and the host that received it. The tab label indicates the type of status by color (Blue = Informational; Red = Attention; Yellow = Warning) and the icon color indicates the most severe status received to date from any node to which the host is connected.

Statuses Waiting for Responses

The number in parentheses () by the host or node name indicates the number of unacknowledged statuses waiting for responses. This counter is reset whenever the Map Center display is refreshed or you acknowledge or respond to a status from a host or node.

The numbers on the nodes may not equal the number on their host because the host may have statuses from other sources. The number of statuses shown on the node indicate the statuses from products; the number shown on the host include statuses from the host software.

Menus

There are two menus in the Map Center that you can use to perform various network actions. The tab menu displays when you right-click on a tab head or in a blank area in the display. The icon menu displays when you right-click a host or node icon in the display.

- Use the tab menu to display map properties, create a new map, delete a map, save a map as a PDF file, zoom the display in and out, refresh the status counters, and refresh the display.
- Use the icon menu to view the Status Center, view the Product Metrics dashboard (hosts only), view the properties of the host or node, start or stop the host or node, and

perform various server-related functions.
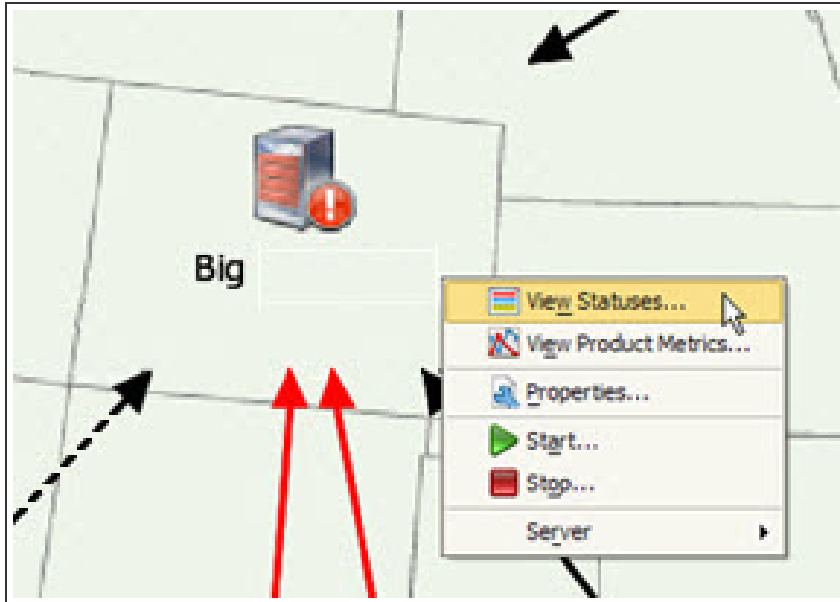
Connector Lines

The arrows on the Map Center display indicate the current state of the connections to the node.

- A black arrow indicates that the connection is active.
- A red arrow indicates that the connection is not active—the node is not communicating with the host. One reason for this would be if the node is offline.
- A dashed arrow indicates the status of the connection is currently unknown. For example, the host might not be connected in the Robot Network Explorer. Or, a node might be connected to its primary host instead of its alternate host (the arrow to the alternate host would be dashed). **Note:** Dashed lines are only visible if enabled in the

Preferences.
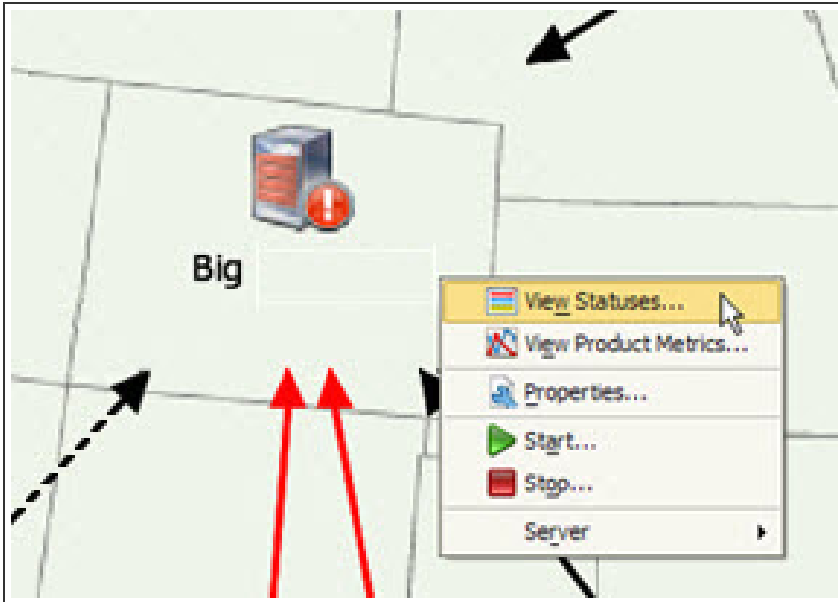
If you specified no lines as your Map Center preference (see Map Center Settings), use the system icon to determine the current state of the connections to the Node:

- Gray - Connection is not active.

- Green, Blue, Yellow, or Red - Connection is active.

- ? - The status of the connection is currently unknown.

Rearranging Icons in the Display

You can drag and place the Host and Node icons to their appropriate locations in the display. Just click an icon and drag it to a new location. You can move your icons to create a geographic depiction of your network (or a portion of it).

As you drag the icon, the previous spot still appears until you release the mouse (see image).
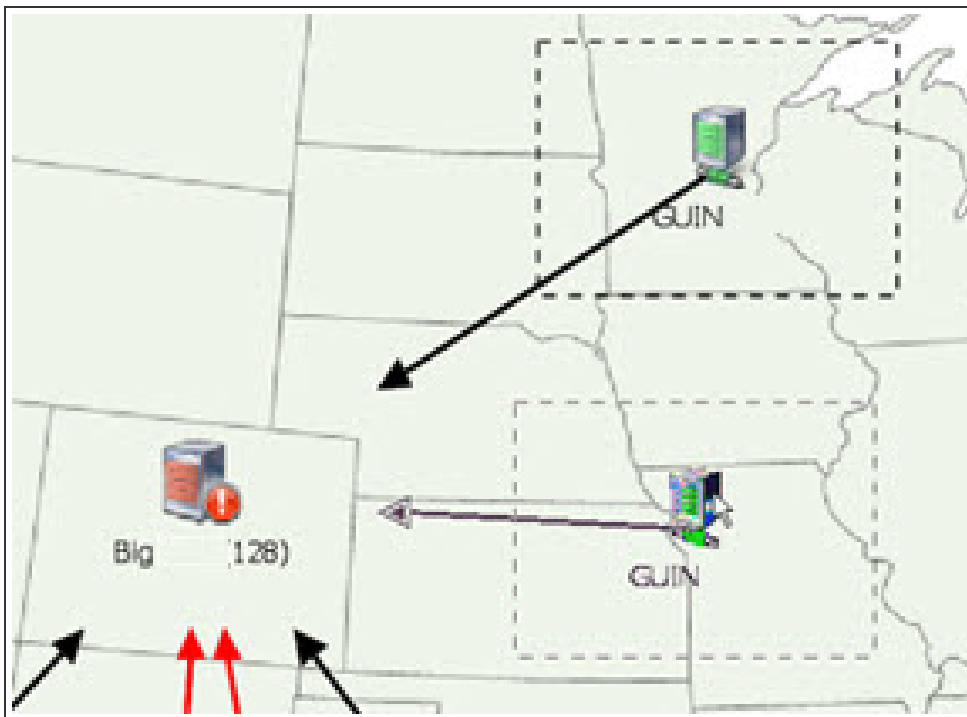
Notes:

- If you exit the Map Center and restart it, the Robot Network Explorer retains your latest configuration changes.
- You can use the maps shipped with Robot Network, any standard graphics file (such as .png, .jpg, or .gif), or your own image, such as a computer room floor plan or a building layout.

Creating Maps

When you create a map, Robot Network automatically builds a tab for it using the name you specified, and sorts it alphabetically among your other maps.

1. To create a map, right-click on the current tab and select **New Map**.
2. Enter a name for the map. This name displays on a tab when you create the map.
3. Select each system that you want to display in your map.
4. Specify an image for your map. Click the search button to browse for images.
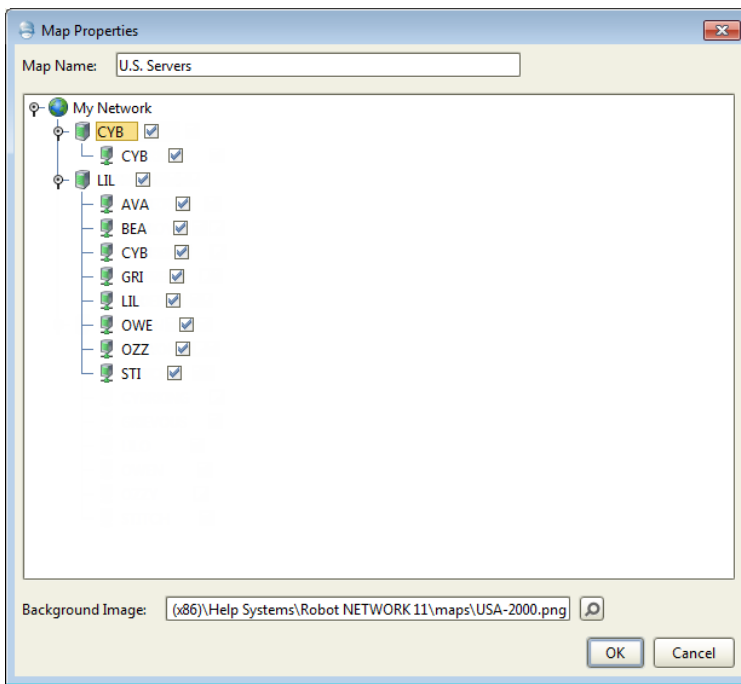
5. Click **OK** to display the new map, or **Cancel** to cancel the process. When you click **OK**, the new map displays.

Note: You can create multiple maps.

Deleting Maps

You can easily delete any map you have created; you cannot delete the standard maps that Robot Network creates.

1. To delete a map, right-click on the current tab and select **Delete Map**.
2. When the Delete window displays to confirm the deletion, click **Yes** to delete the map, or **No** to cancel the deletion.

Displaying System Properties

You can view a Host's or Node's properties from the Map Center. Select the Host or Node, right-click, and select **Properties**. The Properties dialog for that Host or Node displays.

The Properties dialog contains a group of tabs you can use to display or change the properties of that Host or Node.

Map Center Host/Node Properties
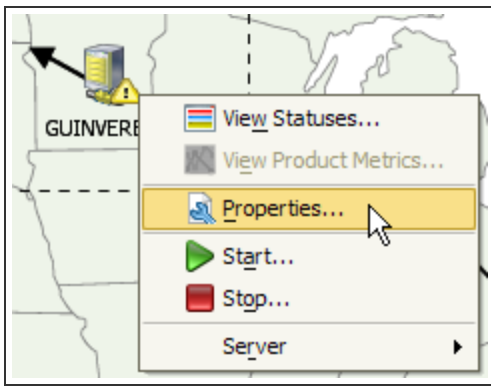
- For a Host you can use the Properties dialog to view the Host properties, change the listening port, notification port, and time zone offset, set escalation options for product status messages from the Nodes, and set visibility with other Hosts.

- For a Node, you can use the dialog to view the Nodes properties and change the escalation options for the product status messages from the Node.

For more information, refer to the Host Properties and Node Properties topics.

Displaying Server Options

From the Map Center you can access a group of Host-or Node-level options. To display these options, right-click a Host or Node.

Viewing Server Options from Map Center
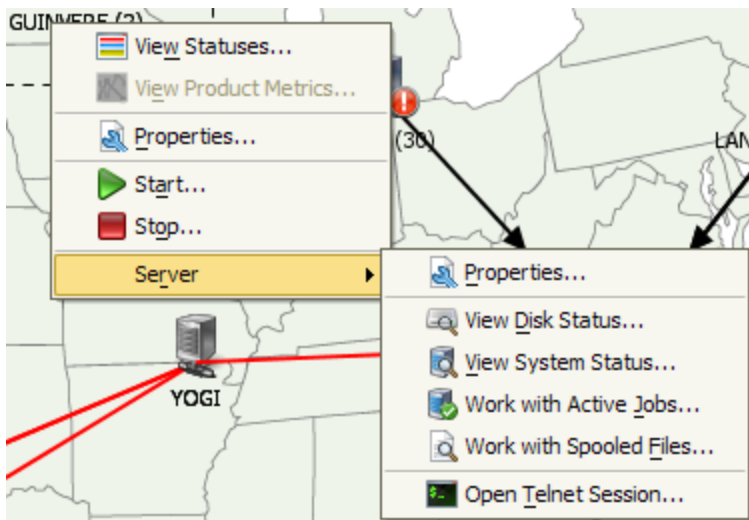
Using the Server options you can perform the following tasks:

- [Locate specific information](#) about your IBM i Host hardware and software
- [View status of disks](#) on the selected system
- [View system status](#)
- [Work with the active jobs](#) on the server
- [Work with the spooled files](#) on the server
- Start a TELNET session to access different servers (Host or Node) in the network

Refreshing Maps and Statuses

When you setup Robot Network, you can specify how often to refresh the Map Center display (see [Preferences](#)). In addition, you can refresh the Map Center display and the status counters manually at any time.

- To refresh the Map Center display to display any new or removed Host and Nodes, right-click on the tab you want to refresh and select **Refresh**.
- To refresh the Map Center status counters, right-click on the tab and select **Refresh Statuses F5** (or press **F5**). When you refresh the Map Center statuses, the status counters for each Host and Node are updated to reflect the current status counts.

Saving Maps as PDF Files

You can save any Map Center map as a Portable Document Format (PDF) file that you can e-mail or print.

1. To create a PDF, right-click on the tab and select **Save As PDF**. The Save as a PDF file window displays that you can use to specify where to save the map display as a PDF file.
2. Use the Files of Type option to filter the Save dialog to display only PDF files (*.pdf) or all files.
3. Click **Save** to save the file, or **Cancel** to cancel the process.

Selecting a Background Image

You can select a background image for each tab in the Map Center. After you select an image, you can position your Host and Node icons strategically on the new background.

1. To select an image, right-click anywhere on the current tab and select **Map Properties**. The Map Properties window displays your entire network in a tree format.

2. Enter a name, or click the search button to browse for a file. If you want to use your own image file, select the directory where the file is stored.

3. After you select a file, click **OK** to use it, or **Cancel** to cancel the operation. The map you selected becomes the background for the tab that was active when you made your selection.

Starting and Stopping Systems

You can start and stop the Robot Network Hosts or Nodes from the Map Center. When you stop a system, it still exists in the network configuration, but it does not perform any network processes such as receiving or sending statuses or packets.

1. To start or stop a system from the Map Center, select the system, right-click, and select **Start** or **Stop**.

2. A confirmation dialog displays to verify that you want to start or stop the system. Click **Yes** to continue the process; **No** to stop the process.

Viewing Statuses

You can quickly view the statuses for any Host or Node from the Robot Network Explorer. If you view statuses from a Node, the Status Center displays only the statuses from that Node. If you view statuses from a Host, the Status Center displays all the statuses for that Host and its Nodes. This can vary depending on the filter you are using for the display.

1. To display statuses, select a Host or Node. When you mouse over a Map Center system, a summary of the statuses for that system displays. A dashed rectangular line outlines a Host or Node when it is selected.
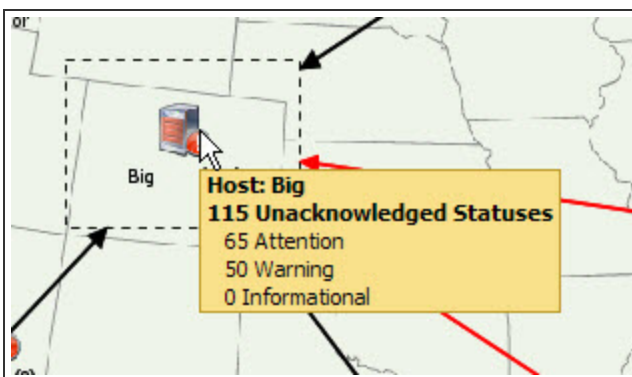
2. Double-click to display the Status Center and view the statuses for the Host or Node. You can also select the Host or Node, right-click, and select **View Statuses** to display the Status Center.

From the Status Center, you can view statuses, respond to them, and filter the display to exclude certain statuses (for more information, see Status Center).

Zooming the Map In and Out

You can change the magnification of the Map Center display by zooming in or out. You can zoom incrementally, zoom by 50, 100, or 200 percent, zoom to fit the screen size, or specify a specific zoom amount.

- To change the magnification of the display incrementally, right-click on the tab and select **Zoom In** or **Zoom Out**. You can also use the keypad keys. Use the plus (+) key to zoom in; the minus (-) key to zoom out.
- To change the magnification of the display by percentages, right-click on the current tab, select **Zoom**, and select **Zoom 200%**, **Zoom 100%**, **Zoom 50%**, **Fit Screen**, or **Zoom Custom**

When you select Zoom Custom, a dialog display that you can use to specify the percentage to enlarge or reduce the display, proportionally.

- If you specify a number less than 100, the display zooms by that percentage (for example, specifying 50 reduces the display fifty percent).
- If you specify a number greater than 100, the display zooms out by that percentage (for example, specifying 150 enlarges the display to one hundred and fifty percent).
- If you specify 100, the display returns to its normal size.

Changing the Map Center Appearance

Use the Map Center tab of the Preferences window to specify the refresh rate for the Map Center display, the thickness of the lines that connect the icons in the display, and the size and position of the icons. You also can reset your map display settings to their original values. When the Map Center is refreshed, the statuses display that have arrived since the last time the display was refreshed. For more information, see Map Center, later in this User Guide.

Status Refresh Interval

Specify the interval (in seconds) at which the Map Center display should be refreshed. You can specify any interval from 5 second to 3,600 seconds. For better system response, we recommend not refreshing the display more often than once a minute (the default value).

Show Dashed Lines

Check the box to allow dashed lines on the Map Center display. If enabled, you'll see dashed lines in two instances:

- To indicate that a host is an alternate when a node is connected to its primary host.
- To indicate that a host is not connected in the Robot Network Explorer. When that happens, all the nodes connected to that host display dashed lines.

Map Connector Line Size

Use the slider bar to specify the thickness of the lines that connect Hosts and Nodes in the Map Center display. You can specify thick lines (the default value), thin lines, or no lines (None).
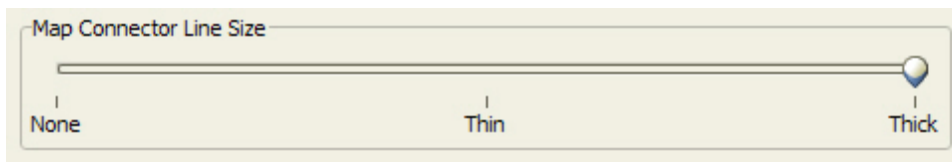
If you specify no lines, you can use the system icon to determine whether the system is connected and the highest priority status that is waiting:

- Green - System is connected; no statuses are waiting
- Red - System is connected; Attention status waiting
- Yellow - System is connected; Warning status waiting
- Blue - System is connected; Informational status waiting
- Gray - System is not connected
- ? - Robot Network does not know the status of the system

See Also:

Adding a new host connection

Viewing the statuses for a node

Icon Size

Use the slider bar to specify the size of the icons in the Map Center display.
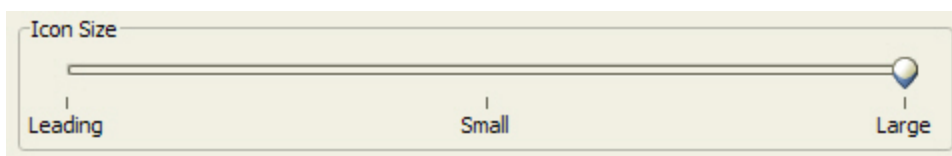
You can choose from the following options:

- Large - Large icons with the text label underneath the icon (this is the default value)
- Small - Small icons with the text label underneath the icon
- Leading - Small icons with the text label to the right of the icon

Reset all maps

Click **Reset all maps** to remove any maps you have created for the Map Center and to return the Map Center display to its default setting. A confirmation dialog displays.

Caution: If you reset your map display values, any maps you have created are deleted.

Monitoring System Performance

Performance Center Overview
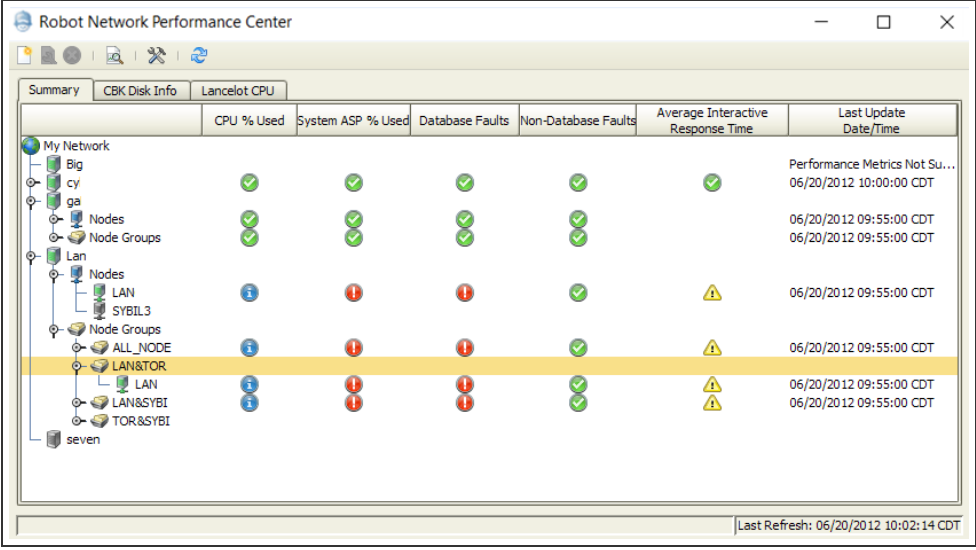
The Performance Center collects and displays performance metrics from IBM i servers in your network. Use the Performance Center to quickly identify performance issues on IBM i servers across your network. The Performance Center includes a summary tab that provides a high level overview of your Node's statuses, and customizable dashboards with graphs and gauges that display current metrics.

To change the Performance Center appearance, click the Preferences button (⚒).

To refresh the Performance Center display, click the refresh button (🔄).

Summary Tab

Use the Summary Tab to quickly see if any Nodes need attention. See Using the Summary Tab for more information.

Performance Center Dashboard

The Performance Center provides customizable dashboards to display graphs and gauges of collected performance metrics across your network.

If you have thresholds defined for a metric, the colors appear in the gauges. You can set thresholds on the Node Properties window.
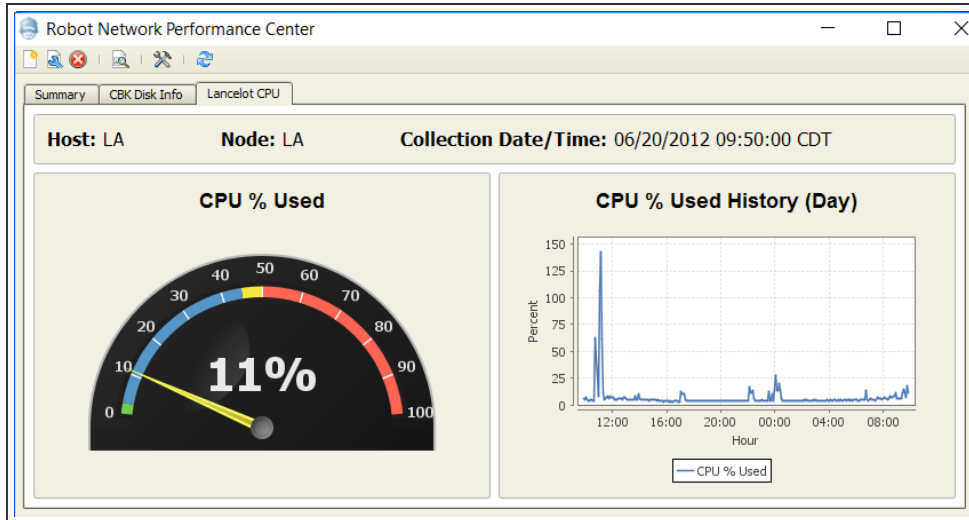
See Creating and Editing Dashboards for more information about working with dashboards.

Performance Metrics Collected

You can collect and view current and historical values for the following metrics:

- System ASP percentage used
- CPU percentage used
- Database Faults
- Non-database Faults
- Disk percentage busy
- Disk percentage usage
- Interactive response time
- Jobs in system

See how performance metrics are calculated.

Starting Performance Metric Collection

By default, performance metrics are not collected on Nodes. See Managing Performance Metrics Collection for information on enabling metric collection, setting collection interval settings, and threshold options for a Node.

Using the Summary Tab

Use the Summary Tab to quickly see if any thresholds are in attention or warning status.

Summary Tab Notes

- The Summary tab displays all Hosts, but only connected Hosts and Nodes display with data.

- You can expand the Host tree to view Nodes and Node Groups associated with that Host.

- Nodes that belong to a Node Group are listed individually and as a member of their group(s).

- To view Performance Details, select a Node and click the Performance Details button (
) or right-click the Node and select **Performance Details**.

- The icons represent the threshold status on a Node. In the example above, the System ASP % Used threshold on the Node named Lancelot has reached a Attention status as set in the Performance Metrics tab of Node Properties. You can quickly access the Node properties by right-clicking it and selecting **Properties**.

  Icon Descriptions

   Warning: A problem needs to be resolved soon

   Attention: The Node needs immediate help

Information: No action is required. **Note:** The informational icon only appears if you have opted to have Robot Network Nodes send Informational statuses to the host. See Specifying Types of Statuses to Send to Host for more information.

Normal: No thresholds are currently exceeded

Note: When a Host or Node Group tree is not expanded, and a Warning or Attention status is present, this means at least one Node in that Host or group has that status.

- You cannot delete the Summary tab.

Creating and Editing Dashboards

Use the Performance Center toolbar to create new or edit existing dashboards.

- To add a new dashboard, click the New Dashboard button (   ), or right-click in the tab area and select **New**.

- To edit an existing dashboard, select the tab and click the Properties button (   ), or right-click the click the desired tab and select **Properties**.

Performance Center Dashboard Properties Window

Use the Performance Center Dashboard Properties window to create new or edit existing dashboards. The window is divided into two parts: Host and Node information, and items to include.

Host and Node Information

- Name: Enter the name of the dashboard. This name appears on the tab in the Performance Center main window.
- Host: Select the Host that contains the Node you want to monitor.
- Node: Select the Node you want to monitor.
- Node Group: Select the Node Group you want to monitor.

Items to Include

- Select which metrics you want to monitor and display on the dashboard.
  - Current Values display the last detail collection interval data. This lets you see the latest data using gauges, and include colors for thresholds, if they are set. You can set thresholds on the Node Properties window. The Collection Date/Time is displayed on the top of dashboard.
  - History Values display summarized data for the period specified. You can select to view data by day, week, month, or year. This data displays in graphs on the dashboard.

Click **OK** to save changes and return to the Performance Center main window. If you selected "New" from the main page, a new tab appears with the name you defined above.

Removing Dashboards

To remove an existing dashboard, select the tab and click the Delete button (❌). Or, right-click a tab and select **Delete**. A confirmation dialog appears.

Viewing Detailed Performance Statistics

The Performance Details window shows detailed performance statistics for the selected Node. To access the Performance Details window, right-click a Node and select **View Performance Details**.

> **NOTE:** You can access the Performance Details window from multiple areas of a product, including right-clicking a Node from the Explorer Tree view, right-clicking a Node in the Performance Center, click the Performance Details icon on the Performance Center toolbar.

Performance Details Options
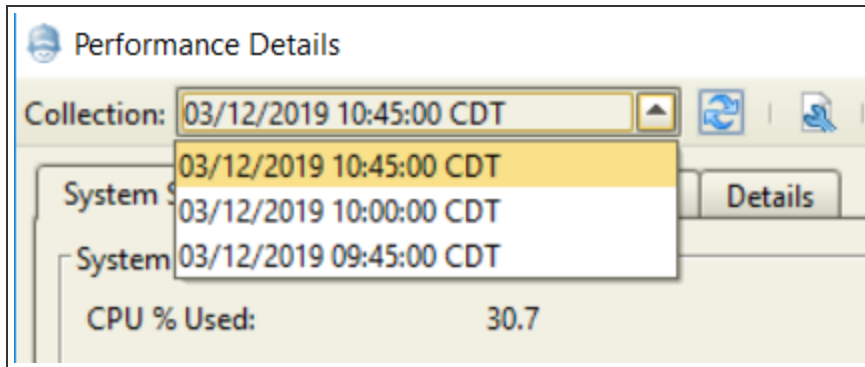
Toolbar

The Performance Details toolbar provides quick access to information about your Node:

- Select a collection from the drop-down to view statistics from a specific collection time. The latest collection is displayed by default.

- Click the refresh button ( ) to update the information in the window.

- Click the properties button ( ) to view the server properties for the Node.

- Click the view disk status button ( ) to view performance and status information about the disk units on the Node.

- Click the view system status button ( ) to view general status information about the Node.

- Click the work with active jobs button ( ) to work with active jobs on the Node.

- Click the view spooled files button ( ) to work with spooled files on the Node.

- Click the Telnet button ( ) to start a Telnet session with the Node.

Tabs

Each tab of the Performance Details window provides detailed metrics about your Node. The following table describes what each tab has to offer.

Tab	Description

System Status	The System Status tab displays information about system usage, auxiliary storage, jobs in system, job response time, seize and wait times, and lock conflicts. Click the to launch the Performance Details summary window.
Memory Pools	The Memory Pools tab displays information about memory pools that the selected Node is using.
Disks	The Disks tab displays information about disk drives that the selected Node is using.
Details	The Details tab summarizes all statistics from the other tabs. The Status column displays symbols for any values that have reached a informational, warning, or attention threshold. You can set thresholds in the Node Properties window.

Status Icons

Status icons appear in all 4 tabs of the Performance Details window. The icons represent the threshold status on a Node. In the example above, the System ASP % Used threshold on the Node named Lancelot has reached a Attention status as set in the Performance Metrics tab of Node Properties. You can quickly access the Node properties by right-clicking it and selecting **Properties**.

⚠ Warning: A problem needs to be resolved soon

🔴 Attention: The Node needs immediate help

ℹ Information: No action is required. **Note:** The informational icon only appears if you have opted to have Robot Network Nodes send Informational statuses to the host. See Specifying Types of Statuses to Send to Host for more information.

✅ Normal: No thresholds are currently exceeded

Sorting Information

You can easily use your details outside of Robot Network. In the table, you can:

- Select a line or multiple lines (using the Control key), right-click, and select **Copy** to your system clipboard and paste into an Excel spreadsheet, e-mail message, or other word-processing program. You can choose to include the table headers with this option.

- Right-click the table and click **Select All**, then right-click and click **Copy** or **Save Selected**. This copies the entire table to your clipboard or to a text file that you can save. A confirmation dialog asks if you want to include the table headers when the

program creates the new text file. Click **Yes** to include the headers or **No** to exclude them. If you clicked Save Selected, a window appears that lets you choose where to save the file.

- Select a line or multiple lines (using the Control key), right-click, and select **Save** to save the selected cells to your your PC or connected drive as a text file. A confirmation dialog asks if you want to include the table headers when the program creates the new text file. Click **Yes** to include the headers or **No** to exclude them. A window appears that lets you choose where to save the file.

Memory Pool Details

The Memory Pools tab displays a group of statistics that depicts the status of a Node at a collected interval.

Working with the Table

You can easily use your metrics outside of Robot Network. In the table, you can:

- Select a line or multiple lines (using the Control key), right-click, and select **Copy** to your system clipboard and paste into an Excel spreadsheet, e-mail message, or other word-processing program. You can choose to include the table headers with this option.
- Right-click the table and click **Select All**, then right-click and click **Copy** or **Save Selected**. This copies the entire table to your clipboard or to a text file that you can save. A confirmation dialog asks if you want to include the table headers when the program creates the new text file. Click **Yes** to include the headers or **No** to exclude them. If you clicked Save Selected, a window appears that lets you choose where to save the file.
- Select a line or multiple lines (using the Control key), right-click, and select **Save** to save the selected cells to your your PC or connected drive as a text file. A confirmation dialog asks if you want to include the table headers when the program creates the new text file. Click **Yes** to include the headers or **No** to exclude them. A window appears that lets you choose where to save the file.

You also can access the Performance Details Graph for memory pools by right-clicking a row and selecting **Details**.

Column Descriptions

- Pool ID: The system-related pool identifier for each of the system storage pools that currently has main storage allocated to it.

- Name: The name of this storage pool. The name may be a number, in which case it is a private pool associated with a subsystem.

- Pool Size (MB): The amount of main storage, in megabytes, in the pool.

- Reserved Size (MB): The amount of storage, in megabytes, in the pool reserved for system use (for example, for save/restore operations or for initiating secondary threads).

- Max Active: The maximum number of threads that can use the processor concurrently.

- DB Faults: The rate, shown in page faults per second, of database page faults against pages containing either database data or access paths. A page fault is a program notification that occurs when a page that is marked as not in main storage is referred to by an active program.

  An access path is the means by which the system provides a logical organization to the data in a database file.

  The rate, pages per second, at which database pages are brought into the storage pool. A page is a 4096-byte block of information that is transferable between auxiliary storage and main storage.

- DB Pages: The rate, shown in page faults per second, of database page faults against pages containing either database data or access paths. A page fault is a program notification that occurs when a page that is marked as not in main storage is referred to by an active program.

  An access path is the means by which the system provides a logical organization to the data in a database file.

  The rate, pages per second, at which database pages are brought into the storage pool. A page is a 4096-byte block of information that is transferable between auxiliary storage and main storage.

- Non DB Faults: The rate, in page faults per second, of non-database page faults against pages other than those designated as database pages.

  The rate, in pages per second, at which non-database pages are brought into the storage pool.
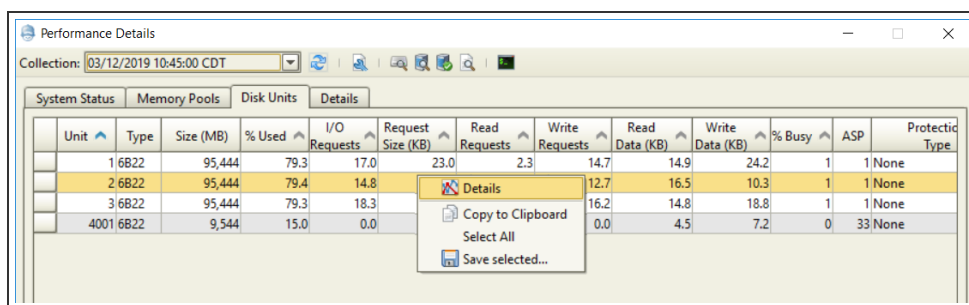
- Non DB Pages: The rate, in page faults per second, of non-database page faults against pages other than those designated as database pages.

The rate, in pages per second, at which non-database pages are brought into the storage pool.

- Active to Wait: The rate, in transitions per minute, of transitions of threads from an active condition to a waiting condition.

- Wait to Ineligible: The rate, in transitions per minute, of transitions of threads from a waiting condition to an ineligible condition.

- Active to Ineligible: The rate, in transitions per minute, of transitions of threads from an active condition to an ineligible condition.

- Paging Option: The paging option associated with the pool. The paging option determines whether the system should dynamically adjust the paging characteristics of the storage pool for optimum performance. The following are the possible paging option values:

    - Fixed: The system does not dynamically adjust the paging characteristics of the storage pool; it uses system-default values.

    - *CALC: The system dynamically adjusts the paging characteristics of the storage pool for optimum performance.

    - USRDFN: The system does not dynamically adjust the paging characteristics of the storage pool. It uses values that have been defined through an application programming interface (API).

- Subsystem: The name of the subsystem that was specified on the STRSBS (Start Subsystem) command.

Disk Unit Details

The Disks tab displays information about disk drives that the selected Node is using.

Working with the Table

You can easily use your metrics outside of Robot Network. In the table, you can:
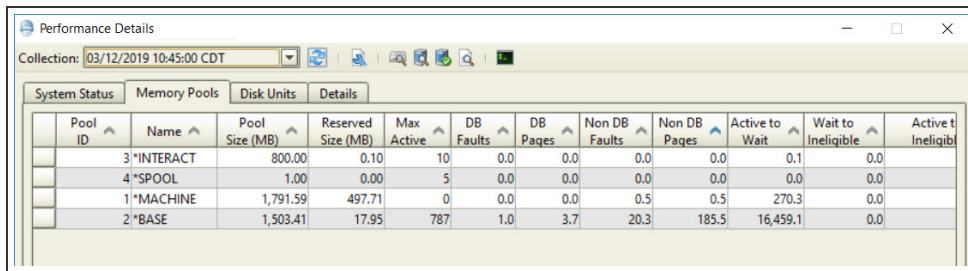
- Select a line or multiple lines (using the Control key), right-click, and select **Copy** to your system clipboard and paste into an Excel spreadsheet, e-mail message, or other word-processing program. You can choose to include the table headers with this option.

- Right-click the table and click **Select All**, then right-click and click **Copy** or **Save Selected**. This copies the entire table to your clipboard or to a text file that you can save. A confirmation dialog asks if you want to include the table headers when the program creates the new text file. Click **Yes** to include the headers or **No** to exclude them. If you clicked Save Selected, a window appears that lets you choose where to save the file.

- Select a line or multiple lines (using the Control key), right-click, and select **Save** to save the selected cells to your your PC or connected drive as a text file. A confirmation dialog asks if you want to include the table headers when the program creates the new text file. Click **Yes** to include the headers or **No** to exclude them. A window appears that lets you choose where to save the file.

You also can access the Performance Details Graph for disks by right-clicking a row and selecting **Details**.

Column Descriptions

- Unit: This is the same number used by the display disk configuration function of system service tools. If the disk unit identifier is 0, the disk unit is not configured.

- Type: The type of disk unit.

- Size (MB): The total amount of storage (in MB) that the unit can contain.

- % Used: The percentage of the disk that is currently allocated. If the unit is an independent ASP which is currently in a varied off state, this field may be blank.

- I/O requests: The average number of I/O requests for read and write operations that occurred per second during the elapsed time.

- Request size (KB): The average size of an I/O request in KB during the elapsed time.

- Read requests: The average number of requests per second to transfer data from the disk unit during the elapsed time.

- Write requests: The average number of requests per second to transfer data to the disk unit during the elapsed time.

- Read Data (KB): The average amount of data, in KB, transferred from the disk unit, per request, during the elapsed time.

- Write Data (KB): The average amount of data, in KB, transferred to the disk unit, per request, during the elapsed time.

- %Busy: The estimated percentage of time the disk unit is being used during the elapsed time. This estimate is based on the number of I/O requests, the amount of data transferred, and the performance characteristics of the type of disk unit. This field is blank if the performance characteristics of the disk unit are not available.
- ASP: The auxiliary storage pool identifier for the unit.
- Protection Type: This field shows whether the unit is under mirrored protection provided by the system software, and the type of protection.
- Protection Status: The protection status of the individual unit.

Viewing Performance Graphs

The Performance Details graph window provides additional information about performance metrics collected from your Nodes. The page for each type of collection is generally the same.

- Collection Range: Select the date range. You can choose from Day, Week, Month, Year, All, or Custom. If you select Day or Custom, additional drop-down menus appear, letting you select the date(s) to view. Once you select your collection range, click **Refresh** to update the chart.
- Series to Graph: This option varies, depending on which type of collection you are viewing. The series that you select appear in the graph below.

The details in the Graph and Data tabs differ based on which collection you are viewing:

- System Usage
- Auxiliary Storage
- Jobs in System
- Interactive Response Time
- Seize & Wait Times
- Locks
- Memory pools
- Disk units

Graph Tab

The Graph tab displays each series you choose to graph. When you select a different series to graph, click the Refresh button to update the graph.

Performance Details Graph Tab
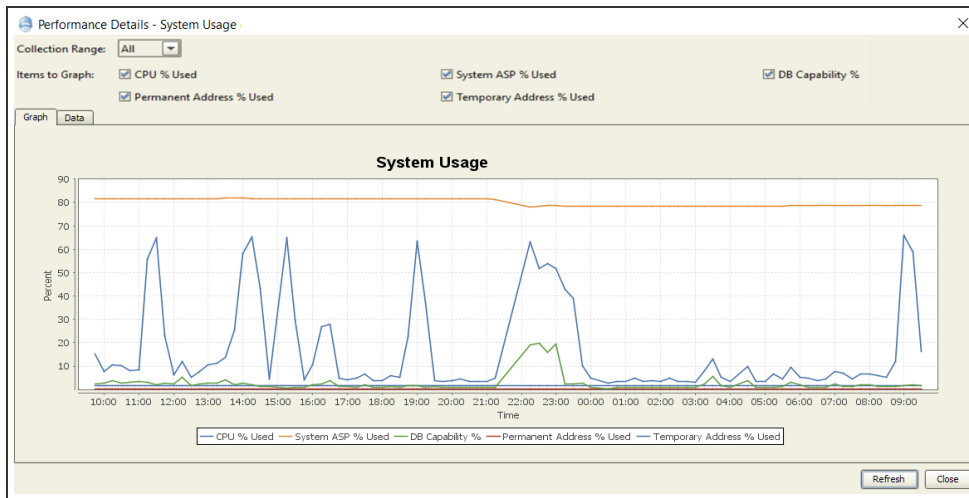
Working with the Graph Image

You can easily use your graphs outside of Robot Network. By right-clicking the image, you can:

- Copy: Copies the graph to your system clipboard and paste into an email message, PowerPoint, or a photo editing program.
- Save as: Saves the image directly to your PC or a connected drive.
- Print: Sends the image to your printer.

Note: Detail data is used when you are viewing a daily collection. Summary data is used for graphs spanning more than one day (week, month, year, custom, all).

Data Tab

If you have Day selected, the Data tab displays each collection interval statistic. If you have Week, Month, Year, All, or Custom selected, it displays a Summary record for each day in that time period.

Working with the Table

You can easily use your collection information outside of Robot Network. In the table, you can:

- Select a line or multiple lines (using the Control key), right-click, and select **Copy** to your system clipboard and paste into an Excel spreadsheet, e-mail message, or other word-processing program. You can choose to include the table headers with this option.

- Right-click the table and click **Select All**, then right-click and click **Copy** or **Save Selected**. This copies the entire table to your clipboard or to a text file that you can save. A confirmation dialog asks if you want to include the table headers when the program creates the new text file. Click **Yes** to include the headers or **No** to exclude them. If you clicked Save Selected, a window appears that lets you choose where to save the file.

- Select a line or multiple lines (using the Control key), right-click, and select **Save** to save the selected cells to your your PC or connected drive as a text file. A confirmation dialog asks if you want to include the table headers when the program creates the new text file. Click **Yes** to include the headers or **No** to exclude them. A window appears that lets you choose where to save the file

How Metrics are Calculated

The following table displays the formulas used to calculate performance metrics.

Metric	Formula
CPU percentage used	Scaled CPU time used * 100 ------------------------------------ Uncapped CPU time configured for the partition

Database CPU Percentage used	Database CPU time * 100 ---------------------------------- Uncapped CPU time configured for the partition
Average Interactive Response Time	SUM(Job response time of all interactive jobs) --- SUM(number of transactions of all interactive jobs)
Maximum Interactive Response Time	Highest Job response time ----------------------------------- Number of transactions for that job
Disk Unit Percent Used	Disk Unit Capacity - Disk Unit Space Available * 100 --- Disk Unit Capacity
Disk Unit I/O Requests per second	Number of Disk Unit Reads + Number of Disk Unit writes --- Collection Interval Elapsed Time
Average Request Size	(Number of blocks read + Number of blocks written) * sector size -- (Number of blocks read + Number of blocks written)/1024
Number of reads per second	Number of blocks read ------------------------------- Collection Interval Elapsed Time
Number of writes per second	Number of blocks written ------------------------------- Collection Interval Elapsed Time
Average amount of data per read	(Number of blocks read * sector size/Number of disk unit reads) --------------------------------- 2^{10} (1,024)
Average amount of data per write	(Number of blocks written * sector size/Number of disk unit writes) --------------------------------- 2^{10} (1,024)
Disk unit percent busy	Number of samples taken - Number of times arm not busy * 100 -------------------------------------- Number of samples taken
Disk unit average response time	Disk service time + Disk wait time --- Number of disk unit writes + Number of disk unit reads

Changing the Performance Center Appearance

Use the Performance Center tab of the Preferences window to set automatic refreshing options, which dashboard to show by default, and what colors to use for charts in the Performance Center.

Performance Center Settings
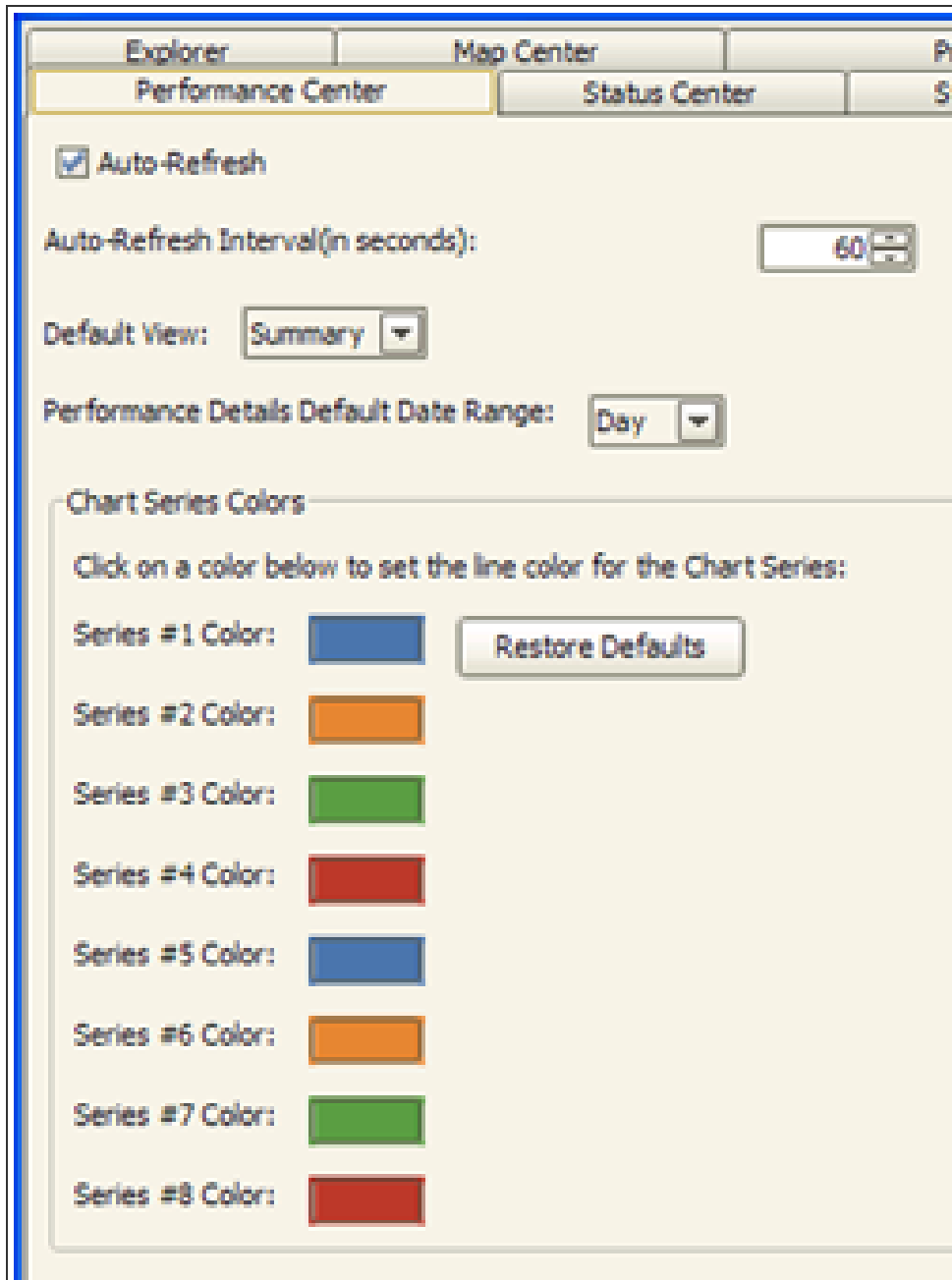
- Auto-refresh: Click this option to automatically refresh the dashboard gauges and graphs. Then, set how often (in seconds) you want the dashboard to refresh.

- Default View: Select which dashboard you want to appear first when you launch the Performance Center.
- Performance Details Default Date Range: Select which date range you want to display by default (day, week, month, year, all).

Setting Colors for Charts

Use the following procedure to change colors for the Performance Center charts.

1. Click the color of the status type you want to change.
2. You can choose colors from three color palettes:
   - Swatches (the default) - on the Swatches palette you can see any of the recent colors chosen, select them from the Recent grid, and preview your selection in the Preview window.
   - HSB and Red-Green-Blue (RGB) - the HSB and RGB palettes allow you create your own colors and gradients by moving the selection bar or by adjusting the numbers manually.
3. After you have changed a status color, the Preferences window re-displays with your new color. You can change another color by clicking on the color.

Click **OK** to return to the Explorer.

Viewing Robot Product Metrics

Product Metrics Dashboard Overview

The Robot Network Product Metrics Dashboard collects and displays information from Robot products on your connected systems. Use the Product Metrics Dashboard for viewing and analyzing Robot products across your network on one screen. You can quickly see what percentage of your batch jobs are automated, what percentage of your messages are being answered automatically by Robot Console, and more.
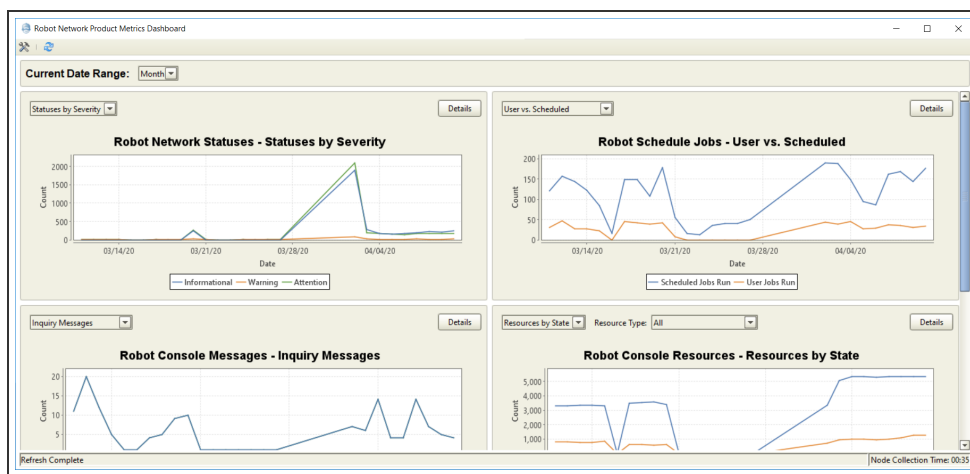
If you are connected to multiple Hosts, you can select which Host or Node you want to view product metrics for from the Explorer Toolbar.

Types of Metrics Collected

You can collect and view the following metrics:

- Robot Network Status Messages
- Robot Schedule Batch Jobs
- Robot Console Messages
- Robot Console Resources
- Robot Save Media
- Robot Reports Report Sets

Accessing the Product Metrics Dashboard

There are four ways to access the Product Metrics Dashboard:

- Tool bar icon
- Tools menu: Click **Tools**, **View Product Metrics**
- Right-clicking a Host and selecting **View Product Metrics**
- Selecting a Node, and right-clicking on a product

Using the Product Metrics Dashboard

The Product Metrics Dashboard contains a menu bar and toolbar you can use to quickly refresh metric graphs or change preferences. The Product Metrics Dashboard is made up of individual portlets, each displaying a different collection of product metrics.

- Click the preferences icon ⚒ to open the Product Metrics Dashboard tab of the Preferences window.
- Click the refresh icon 🔄 to update all metrics on the dashboard.
- Click the Current Date Range drop-down menu and select **Week**, **Month**, **Year**, or **All** to change the current date range, The charts on all portlets adjust automatically.
- Click the Details button on any portlet to display additional details about the collected metrics that you are viewing. You can select a different node to view, change the date range, or view additional details.

Product Metric Portlets

- Robot Network Status Messages
- Robot Schedule Batch Jobs
- Robot Console Messages
- Robot Console Resources
- Robot Save Media
- Robot Reports Report Sets

Product Metrics Details

The Product Metrics Details window provides additional information about metrics collected from your Robot products. The details page for each type of collected metric is generally the same, with one difference mentioned in the Graph section below.

- Node: Choose which Node you want to view metrics for. When you launch the dashboard from the tool bar or menu, Robot Network shows all Nodes by default. To change the system, select the Node you want and then click **Refresh** to update the graph or data charts below.

- Start and End Date: Use the Start Date and End Date options to set the time range you want to view. When you change the dates, click **Refresh** to update the graph or data charts below.

The details in the Graph, Data, and Summary tabs differ based on which metric you are viewing:

- Robot Network Status Messages
- Robot Schedule Batch Jobs
- Robot Console Messages
- Robot Console Resources
- Robot Save Media
- Robot Reports Report Sets

Graph Tab

The Graph tab displays your collected metrics in a line chart format. Each type of metric you collect includes a drop-down menu to change what you are viewing. For example, on the Robot Schedule Batch Jobs details page, you can view Manual vs. Scheduled jobs, Jobs by End Code, Jobs with Warnings, or Job Monitors. When you select a different metric type to view from the drop-down menu, the graph refreshes automatically.
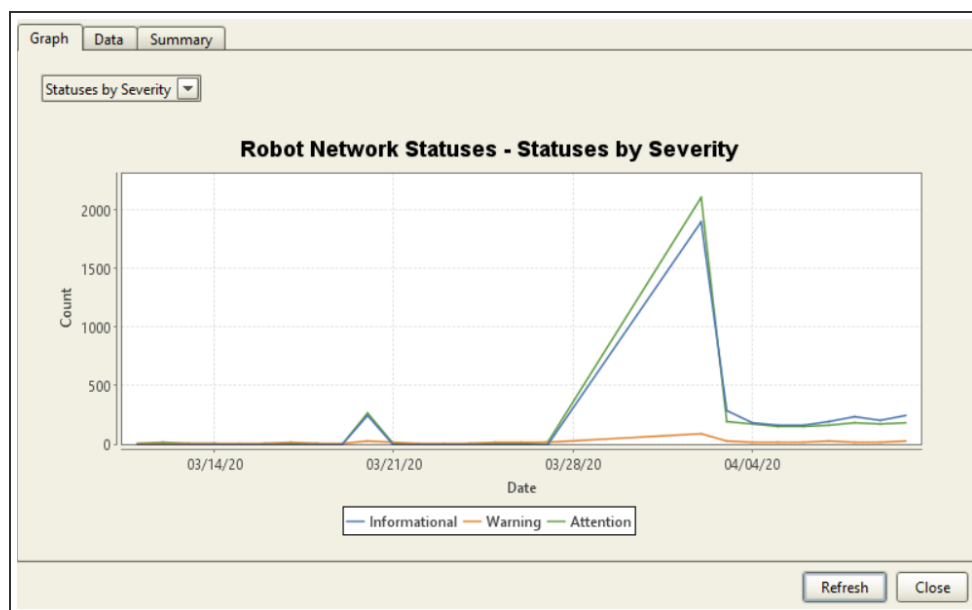
Working with the Graph Image

You can easily use your graphs outside of Robot Network. By right-clicking the image, you can:

- Copy: Copies the graph to your system clipboard and paste into an email message, PowerPoint, or a photo editing program.
- Save as: Saves the image directly to your PC or a connected drive.
- Print: Sends the image to your printer.

Data Tab

The Data tab displays daily information about each of your collected metrics in a tab-delimited table. This tab displays the same information, regardless of which graph you are currently viewing.

Node	Node Date/Time	Host Date/Time	Description	Value
ST	04/10/2020 00:35:05 GMT-...	04/10/2020 00:35:07 GMT-...	Attention	176
ST	04/10/2020 00:35:05 GMT-...	04/10/2020 00:35:10 GMT-...	Warning	3
ST	04/10/2020 00:35:05 GMT-...	04/10/2020 00:35:10 GMT-...	Informational	241
SP	04/10/2020 00:35:01 GMT-...	04/10/2020 00:32:16 GMT-...	Attention	5
SP	04/10/2020 00:35:01 GMT-...	04/10/2020 00:32:16 GMT-...	Warning	25
SP	04/10/2020 00:35:01 GMT-...	04/10/2020 00:32:16 GMT-...	Informational	0
SP	04/09/2020 01:35:04 GMT-...	04/09/2020 01:32:17 GMT-...	Attention	4
SP	04/09/2020 01:35:04 GMT-...	04/09/2020 01:32:20 GMT-...	Warning	14
SP	04/09/2020 01:35:04 GMT-...	04/09/2020 01:32:20 GMT-...	Informational	0
ST	04/09/2020 00:35:03 GMT-...	04/09/2020 00:35:05 GMT-...	Attention	173
ST	04/09/2020 00:35:03 GMT-...	04/09/2020 00:35:05 GMT-...	Warning	5
ST	04/09/2020 00:35:03 GMT-...	04/09/2020 00:35:05 GMT-...	Informational	203
SP	04/08/2020 01:35:05 GMT-...	04/08/2020 01:32:19 GMT-...	Attention	3
SP	04/08/2020 01:35:05 GMT-...	04/08/2020 01:32:21 GMT-...	Warning	15
SP	04/08/2020 01:35:05 GMT-...	04/08/2020 01:32:21 GMT-...	Informational	0
ST	04/08/2020 00:35:03 GMT-...	04/08/2020 00:35:04 GMT-...	Attention	180
ST	04/08/2020 00:35:03 GMT-...	04/08/2020 00:35:06 GMT-...	Warning	2
ST	04/08/2020 00:35:03 GMT-...	04/08/2020 00:35:06 GMT-...	Informational	234
SP	04/07/2020 01:35:00 GMT-...	04/07/2020 01:32:18 GMT-...	Attention	7
SP	04/07/2020 01:35:00 GMT-...	04/07/2020 01:32:18 GMT-...	Warning	25

Refresh   Close

Working with the Table

You can easily use your metrics outside of Robot Network. In the table, you can:

- Select a line or multiple lines (using the Control key), right-click, and select **Copy** to your system clipboard and paste into an Excel spreadsheet, e-mail message, or other word-processing program. You can choose to include the table headers with this option.

- Right-click the table and click **Select All**, then right-click and click **Copy** or **Save Selected**. This copies the entire table to your clipboard or to a text file that you can save. A confirmation dialog asks if you want to include the table headers when the program creates the new text file. Click **Yes** to include the headers or **No** to exclude them. If you clicked Save Selected, a window appears that lets you choose where to save the file.

- Select a line or multiple lines (using the Control key), right-click, and select **Save** to save the selected cells to your your PC or connected drive as a text file. A confirmation dialog asks if you want to include the table headers when the program creates the new text file. Click **Yes** to include the headers or **No** to exclude them. A window appears that lets you choose where to save the file.

Summary Tab

Where the Data tab list each day's collection information, the Summary tab displays the total value for each metric in a tab-delimited table. This tab gives you the total value for each metric for the date range listed at the top of the portlet.

Note: Since some metrics being collected are simply counters, not all products have a Summary tab.

Working with the Table

You can easily use your metrics outside of Robot Network. By right-clicking the image, you can:

- Select a line or multiple lines (using the Control key), right-click, and select **Copy** to your system clipboard and paste into an Excel spreadsheet, e-mail message, or other word-processing program. You can choose to include the table headers with this option.

- Right-click the table and click **Select All**, then right-click and click **Copy** or **Save Selected**. This copies the entire table to your clipboard or to a text file that you can save. A confirmation dialog asks if you want to include the table headers when the

program creates the new text file. Click **Yes** to include the headers or **No** to exclude them. If you clicked Save Selected, a window appears that lets you choose where to save the file.

- Select a line or multiple lines (using the Control key), right-click, and select **Save** to save the selected cells to your your PC or connected drive as a text file. A confirmation dialog asks if you want to include the table headers when the program creates the new text file. Click **Yes** to include the headers or **No** to exclude them. A window appears that lets you choose where to save the file.

Robot Network Status Messages

The Robot Network Status Message portlet displays statuses collected by Robot Network over a given time.

Statuses by Severity

By default, the graph displays statuses broken down by severity, with separate lines for Attention, Warning, and Informational statuses.

Total Statuses

Displays all Robot Network statuses reported over a given time. This view combines the total number of Attention, Warning, and Informational statuses sent to Robot Network.

Robot Schedule Jobs

If no product metrics are collected for the product, the portlet still displays, but with a message stating that no metrics exist. This can occur if the product is not installed on any Nodes or if product metrics collection is turned off.

User vs. Schedule

By default, the graph shows total number of jobs completed and the number of jobs that were manually submitted outside of Robot Schedule compared to the number of jobs that were submitted by Robot Schedule over a given time.

Jobs by Completion Status

Select **Jobs by Completion Status** to view the number of jobs that completed normally, abnormally, and the number of jobs that have a status of **E** in Robot Schedule, over a given time. Error status is usually an error on submit as the result of the job setup.

Jobs with Warnings

Select **Jobs with Warnings** to see how many jobs are reported as having warnings over a given time.

Job Monitors

Select **Job Monitors** to see the number of jobs that started late, ran too long, or ended too early over a given time.

Robot Console Messages

The Robot Console Messages portlet displays messages that generated on a system over a given time. See the Robot Console User Guide for more information about messages.

Inquiry Messages

By default, the graph shows all inquiry message metrics, with separate lines for messages answered manually and messages answer by a Message Set.

Informational Messages

Select **Informational Messages** to view informational message metrics, with separate line for informational messages that were suppressed.

Messages by Type

Select **Messages by Type** to view metrics showing messages sorted by type, with separate lines for total number of informational messages, inquiry messages, and other messages.

Average Response Time

Select **Average Response Time** to view the average length of time to manually respond to messages.

Message Set Usage

Select **Message Set Usage** to see how many Message Sets were used, with separate lines for OPAL Message Sets used, Message Sets without OPAL used, and messages not handled by any Message Set.

Total Messages

Select **Total Messages** to view a graph that shows the total number of all messages over a given time.

Robot Console Resources

The Robot Console Resources portlet displays the number of different types of resources reporting to Robot Console.

Resources by State

By default, the graph shows all resources separated by their status, with separate lines for unexpected status and expected status over a given time.

Number Defined

Select **Number Defined** to view the total number of defined resources being reported over a given time.

Resource Types

You can view specific resources or all of the resources and their reported statuses for the following resources:

- Controller
- CPU Usage
- Device
- Domino Server
- FTP Server
- HTTP Server
- Job Name
- Job Queue
- Line
- Network Interface
- Network Server
- Object Existence
- Output Queue
- Server
- Subsystem

- TCP/IP Port
- TCP/IP Server

Robot Save Media

The Robot Save Media portlet displays the number of media volumes reported by Robot Save over a given time.

Volumes by Type

By default, the graph displays the number of volumes by type, with separate lines for volumes used for Adhoc, volumes assigned to rotations, and volumes in the scratch pool.

Volumes with Errors

Select **Volumes with Errors** to display the number of volumes reporting errors during a given time.

Volumes Over Usage Limit

Select **Volumes Over Usage Limit** to display the number of volumes that have gone over the usage limit during a given time.

Total Volumes

Select **Total Volumes** to display the total number of volumes being used during a given time.

Robot Reports Report Sets

The Robot Reports Report Sets portlet displays the report history, if any reports need to be bundled, and if there are any reports waiting to be deleted.

Access History

By default, the graph displays the number of reports being accessed over a given time, with separate lines for printed, viewed, and restored reports.

Processing History

Select **Processing History** to display the number of reports processed each day, with separate lines for processed and any reports that are still in a processing status.

Archive Status

Select **Archive Status** to display the number of reports that are archived, with separate lines for online, archived to short term storage, and archived to long term storage.

Ready to be Bundled

Select **Ready to be Bundled** to display the number of reports that are ready to be bundled.

Waiting to be Deleted

Select **Ready to be Deleted** to display the number of reports that are ready to be deleted.

Changing the Dashboard Appearance

Use the Product Metrics Dashboard tab from the [Preferences](#) to specify display settings for the Product Metrics Dashboard.

Default Date Range

Select the default date range to display in the Product Metrics Dashboard charts. You also can change this from the top of the main Product Metrics Dashboard window. Choose to display metrics from the last week, month, year, or all.

Dashboard Layout

Select the layout of the Product Metrics Dashboard. The vertical layout is best viewed on taller monitors; The horizontal layout is best viewed on widescreen monitors.

Products to Display

Click a product and drag it to the right column to setup the products you want to display in the Product Metrics Dashboard Portlets appear on the dashboard based on the order you assign them in the right column.

Note: All options are available, even if you don't have a specific product installed.

Chart Series Colors

Select a color for each series used in the charts. Click a color to change it using the color picker.

Managing Hosts

Use the Explorer to perform general maintenance and setup on your Hosts, and to quickly access other parts of the product related to the Host you select.
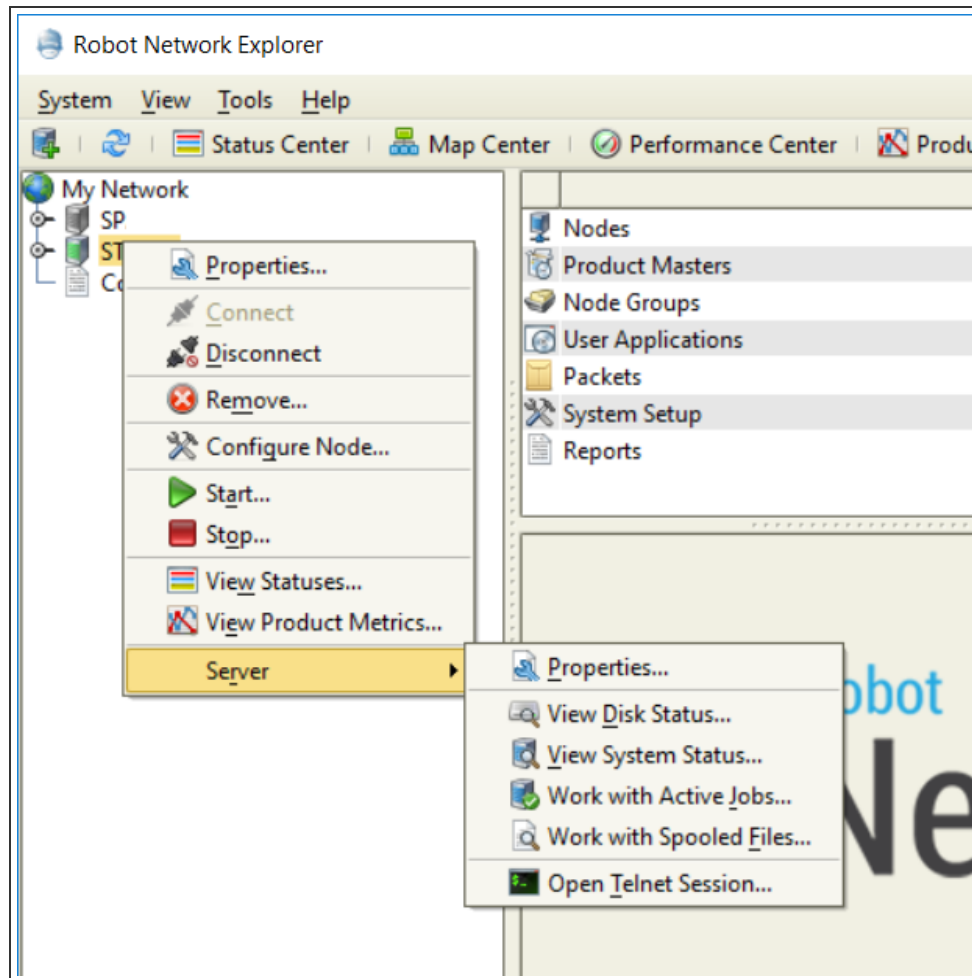
Right-click a Host to perform the following actions:

- Display the properties of the Host system
- Connect to or disconnect from the Host system
- Remove an existing network connection
- Start the Configure Node Wizard to configure a new Node system for the Host
- Start or stop the Host
- View statuses for the Host
- View product metrics for the Host
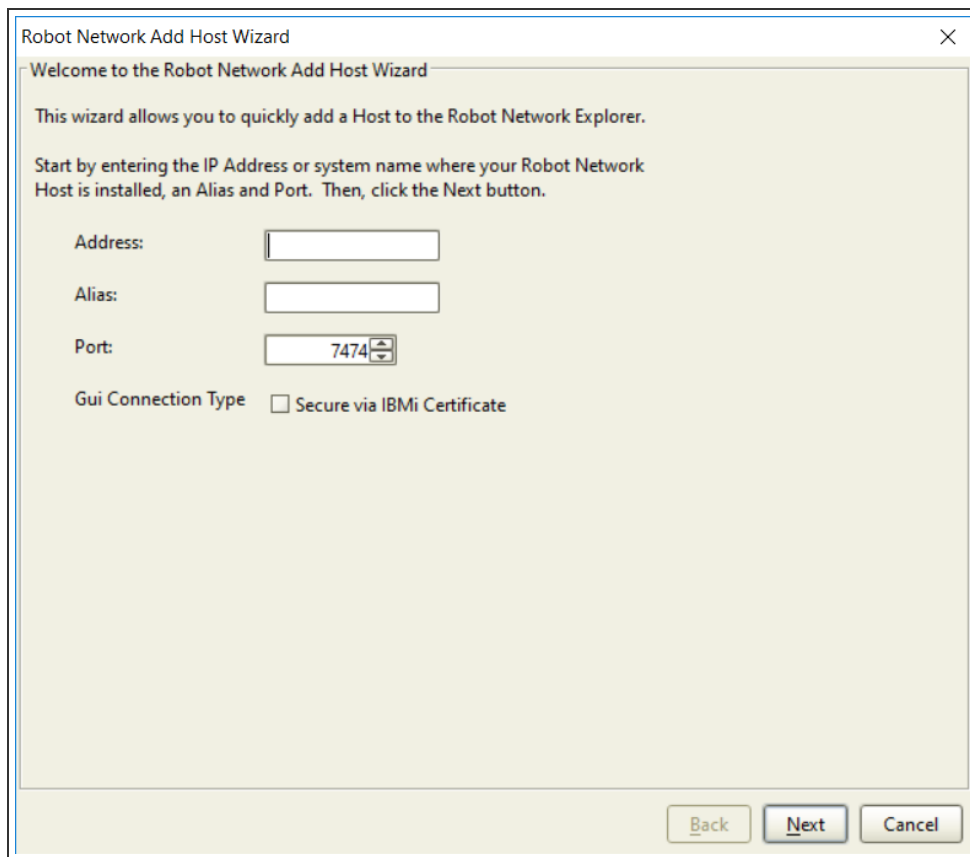
- Perform the following server-related functions:
  - [Display the properties of a server](#)
  - [View disk status](#)
  - [View system status](#)
  - [Work with spooled files](#)
  - [Work with active jobs](#)
  - Start a TELNET session

Expand the Host tree to see additional options:

- Display Nodes connected to the Host. See [Node Level Options](#) for more information.
- Access [Product Masters](#)
- Define and manage [Node Groups](#).
- Manage [User Applications](#)
- Work with [Packets](#), including [creating](#), [deleting](#), and [distribution](#)
- Work with System Setup options:
  - Display an [identity map](#) detailing the relationship between the current user and the various network systems configured
  - Manage the Robot product licenses across the Host and its Nodes using the [Product License Manager](#)
  - Maintain [Robot Network network profiles](#) for the Host and its Nodes, as well as their properties
  - View or edit the [Robot Network security](#) settings for the Host
- View [reports](#)

Configuring Hosts

The Robot Network Add Host Wizard contains various dialogs requesting connection information for the new Host, including its TCP/IP address, alias, and the username and password used to connect. You can verify the connection and connect to the Host when you are finished.

Robot Network Add Host Wizard ✕

Welcome to the Robot Network Add Host Wizard

This wizard allows you to quickly add a Host to the Robot Network Explorer.

Start by entering the IP Address or system name where your Robot Network Host is installed, an Alias and Port. Then, click the Next button.

Address:

Alias:

Port: 7474

Gui Connection Type ☐ Secure via IBMi Certificate

Back   Next   Cancel

Adding a Host

To add a Host to the Robot Network Explorer:

1. Click **System** and select **Add Host**. The Add Host Wizard displays.

2. Enter the IP address, domain name, or alias. Select a port, and click **Next**.

3. Enter the user profile and password; then re-enter the password to confirm it. Check Save user and password information if you do not want to be prompted for this information when you connect to the Host. Check Auto-Connect to this Host when I start the Robot Network Explorer if you want Robot Network to attempt to connect to the Host whenever you start Robot Network.

4. Click **Next** when you are finished.

5. Review the information you have supplied. If it is incorrect, use the Back button to return to a previous dialog to re-enter information. If it is correct, press Verify to verify the connection to the Host.

6. When you are finished, press **Save** to save the connection profile, or **Cancel** to cancel the process.

7. If you check Connect to my newly added Host, Robot Network will use the information you supplied to attempt to connect to the Host when you finish.

8. When you click Finish, the Network tree re-displays with your new Host added.

Note: If you wish to create a secure GUI connection, check the 'Secure via IBMi Certificate' box when presented.

Secure Connection

When you add or edit a Host connection, you have the option of making the GUI connection secure. This type of connection requires that there is a valid certificate on the connected Host and that the USESECURE parameter is set within the RBNCFGHOST command. (see IBM i Commands)

To add a new secure connection:

1. Set the USESECURE parameter to *YES on the Host. See Setting the USESECURE parameter for Secure Connections.

2. Click **Add** from the Connection Properties window or start the Add Host Wizard from the System Menu.

3. Fill out the fields as shown in the Adding a Host section or in the Connection Properties page.

4. Click **OK**. If the retrieval is successful, the newly added or edited connection will display in the Connection Properties list and the connected host will display with a padlock icon in the My Network tree.

🔒 DALE
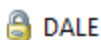
Setting the USESECURE parameter for Secure Connections

Before you can create a secure GUI connection, you must set the USESECURE parameter to *YES on both the Host System and the Nodes.

On the Host:

1. Enter the command 'RBTNETLIB/RBNCFGHOST' and prompt with **F4**.
2. Change the 'Use Secure Connection' parameter to *YES. Press Enter.

On the Nodes:

1. Enter the command 'RBTNETLIB/RBNCFGNODE' and prompt with**F4**
2. Change the 'Use Secure Connection' parameter to *YES. Press Enter.

Host Properties

From the host level of the Robot Network Explorer, you can display the properties for any host in the network and edit some of the properties. The following table summarizes the properties contained on each tab of the Host Properties dialog box. Click the name of the tab to see detailed information.

Tab	Description
Host Information	This tab indicates the IP address or alias name for the host, its release level, the listening port (used for communication with other servers), the notification port (used to receive statuses), the time zone offset the host is using, the SNMP agent address of the host, and the type of SNMP trap event to send to your enterprise monitor.
Attached Nodes	Use this tab to view the nodes attached to the host and their current communication status.
Product Statuses	Use this tab to view the products that Robot Network works with, view and edit the types of statuses the host escalates, and specify the method by which these statuses are escalated.
Performance Metrics	Use this tab to set purging options for the metrics in the Performance Center summaries and details.
Product Metrics	Use this tab to set the daily metric collection time and to set purging options for the host.
Host Visibility	Use this tab to add new host/node visibility relationships, or to edit or delete existing ones. You indicate which other hosts in the network can see the host, and whether a host has the authority to see the nodes of another host.
Diagnostics	Use this tab to troubleshoot network problems with the host. You use this tab to set the logging level for the host, from Informational (least detailed) to Trace (extremely detailed). Use this option when you are asked to do so by Robot Technical Support.

General Host Settings

Use the Host Information tab to view or change the fields the host uses to communicate, and the time zone offset for the host.

The Host Information tab contains the following fields:

- Address: IP address or alias name for the host.

- Release Level: The level Robot Network that is currently installed. You cannot edit either of these fields.

- Listening Port: Indicates the TCP/IP Network port through which the host communicates with other servers. You can reset that number here.

- Notification Port: The TCP/IP Network port through which the host receives processing requests, such as statuses or to a request to shutdown. You can enter a new port number if necessary.

- Time Zone: Indicates the time zone offset the host is using. This offset is a positive or negative number indicating the distance east or west the time zone is from Greenwich Meridian Time (GMT).

  For example, a positive one (1) indicates that the host is using the first time zone to the east of the GMT; a negative one (-1) indicates the host is using the first time zone to the west, and so forth.

  You can change the offset value as needed.

  Note: Changing the value here does not affect the system value—it sets the value in Robot Network only. See the IBM documentation for information about changing the time zone offset.

- SNMP Agent Address: Enter the IP address if you use a specific outgoing TCP/IP interface to communicate with the SNMP agent.

- SNMP Trap Event Type to Send: The type of SNMP trap that this host should send to your enterprise SNMP monitor. You can choose between "Standard Event Data" and "Enhanced Event Data." The enhanced event data has additional parameters.

- Use SNMPv3 processing: Check this box to use SNMPv3.

Note: If you are connected securely, the expiration date of the certificate will display on the top left of the Host Properties window.

Managing Attached Nodes
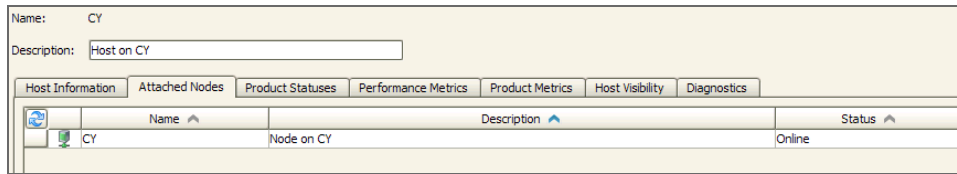
The Attached Nodes tab contains the following fields:

Name - The names of each Node system attached to the Host.

Description - A description of the system.

Status - The current status of the Node. The possible status values are:

- **Offline** - The Node is not available to communicate with the Host
- **Online** - The Node is actively communicating with the Host
- **Unknown** - There is no communication with the Node and its status is unknown

Managing Product Statuses

Use the Product Statuses tab to view the products that Robot Network works with; to view and edit the types of statuses the Host will escalate; and to specify the method by which these statuses will be escalated.
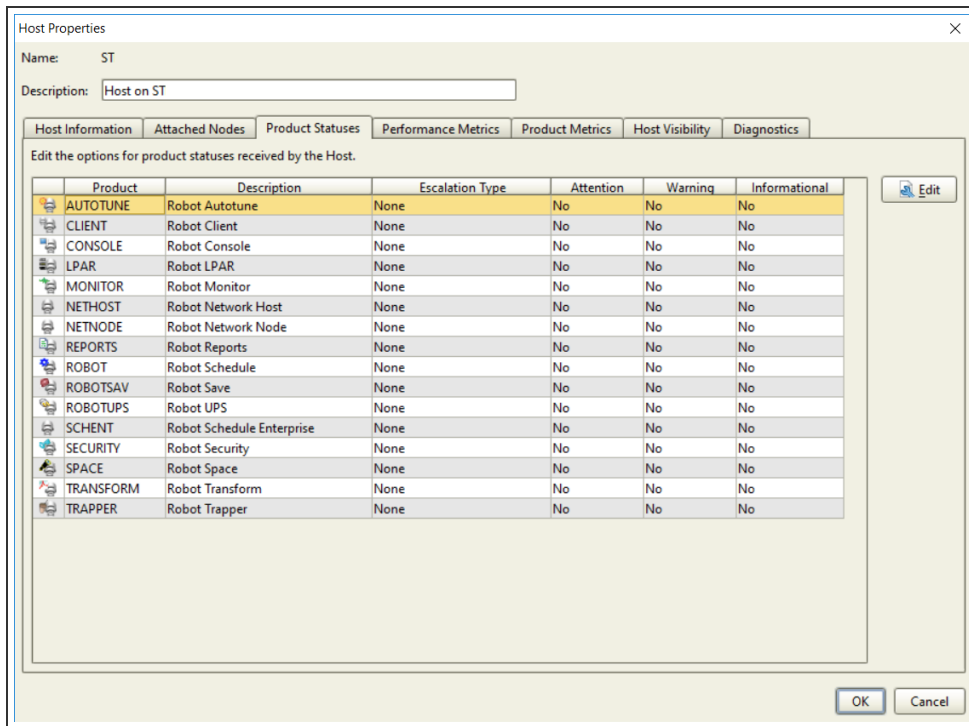
The Product Statuses tab contains the following fields:

Product - The names of each product on the Host system.

Description - A description of the product name.

Escalation Type - The type of escalation method currently specified for statuses from this product. Select a product and click the Edit button to specify escalation options for the statuses related to the product.The escalation choices are:

- None - no escalation is specified.
- Send a Robot Alert message - use Robot Alert to send a message; you must specify a device and the amount of time to wait (HH:MM:SS)
- Send an SNMP trap - send an SNMP trap to a trap manager. Specify the amount of time to wait (HH:MM:SS)
- Call a user-defined program - execute a program that a user created. You must specify the location of the program and the amount of time to wait (HH:MM:SS)

Attention, Warning, Informational - indicates whether this type of status should be escalated for the product. The possible values are Yes (escalate) or No (do not escalate).

Setting Escalation Options

Select a product and click the **Edit** button to specify escalation options. The Product Status Properties dialog displays.

Managing Product Metrics

You can use this tab to set the daily metric collection time and to set purging options for the Host.

The Product Metrics tab contains the following fields:

- Collection Time: Set the time you want to collect product metrics. This is the time that the NODE sends its gathered statistics to the host.
- Purge Product Metrics: Select this option to automatically purge product metricss.
- Days to Retain Product Metrics: Use this field to set how long you want to retain product metrics before automatically purging them.

Note: When a collection executes on the node, the data from the prior 24 hours is collected and sent to the host. This is the same as running a good morning report on the node for the past day.

Purging Performance Metrics

Use the Performance Metrics tab to set purging options for Performance Center summaries and details.

Note: Detail data is used when you are viewing daily graphs. Summary data is used for graphs spanning more than one day (week, month, year, all).

Summary vs. Detail Metrics

- Detail metrics show each collection interval statistic.
- Summary metrics display a summary record for each day in the time period you select.

Host Visibility Overview

Visibility describes the ability of a Host to "see" (communicate with) other Hosts and their Nodes to perform dependent job processing across systems (cross-system reactivity) using Robot Schedule, and cross-system message redirection using Robot Console.

When a Host and its Nodes are visible to another Host, that Host has the authority to perform cross-system reactivity and redirection function between itself, the other Host, and its Nodes. You use Robot Network to specify visibility between systems.

- Cross-system reactivity allows job processing to proceed across multiple systems when the starting of a Robot Schedule job on one system is dependent on the successful completion of another Robot Schedule job on another system.

  When you use Robot Schedule with Robot Network, if a Host is not visible to another Host, a job completing on the first Host cannot start a job on the second Host because the second Host is unaware of (cannot "see") the first Host.

- Cross-system redirection allows message processing to proceed across multiple systems. For example, Robot Console can send a message generated on a Node to a message center on another Node. In addition, Robot Console can redirect the message to the Robot Network Status Center on its Host.

  When you use Robot Console with Robot Network, if a Host is not visible to another Host, you cannot redirect a message on the first Host to the second Host for response because the second Host is unaware of (cannot "see") the first Host.

For more information about setting up cross-system reactivity and redirection, see the Robot Schedule and Robot Console User Guides.

Specifying Visibility

The Robot Network Explorer lets you specify whether the Host to which you are connected (and optionally its Nodes) is visible to another Host or Hosts. For example, from Host Alabama you can specify whether Alabama and its Nodes are visible to Host Georgia.

Similarly, from Host Georgia you can specify whether Georgia and its Nodes are visible to Host Alabama. See Host Visibility Tab for complete information on setting up Host visibility.

Notes:

- Hosts and their Nodes are not visible to other Hosts until you have specified all of the visibility relationships.
- To send packets from the Robot Console or Robot Schedule product masters to a Robot Network host, you must have "Include Nodes" selected in the Host Visibility Setup.

Example of Host Visibility

The following diagram shows the change in functionality when Host Alabama is visible to Host Georgia.

- Figure 1a shows Host Alabama and its Nodes visible to Georgia. Georgia can perform cross-system functions with Alabama and its Nodes.
- Figure 1b shows Host Alabama and its Nodes not visible to Georgia. Georgia cannot perform cross-system functions with Alabama and its Nodes.
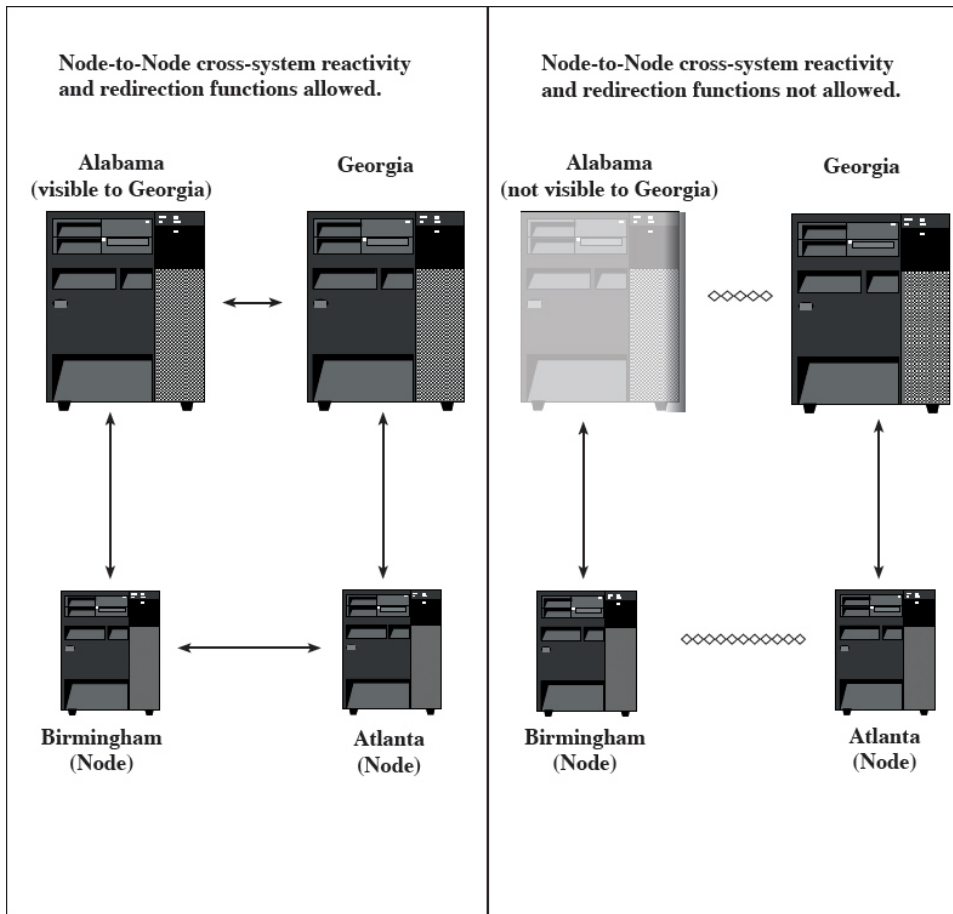
Figure 1a: Alabama visible to Georgia   Figure 1b: Alabama not visible to Georgia

Adding and Removing Host Visibility Relationships

Use the Host Visibility tab to add new Host/ Node visibility relationships, or to edit or delete existing ones. You indicate which other Hosts in the network can see the Host, and whether a Host has the authority to see the Nodes of another Host.
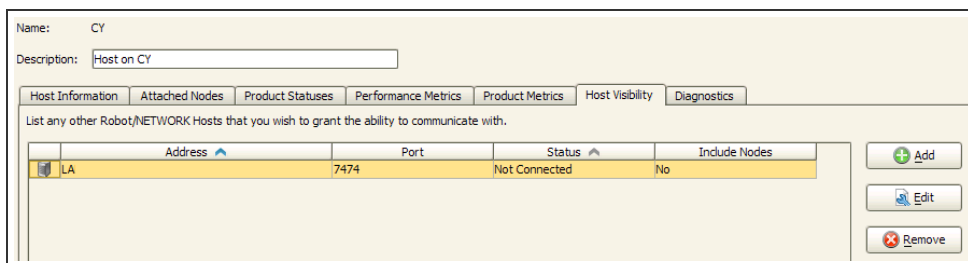
The Host Visibility tab contains the following fields:

- Address: The address of the Host that is visible to this Host.
- Port: The port number to use to communicate with the Host.

- Status: The current status of the connection between the Hosts. The possible values are:
    - Connected: The Host is connected to the network
    - Not Connected: The Host is not connected to the network
    - Unknown: The connection status of the Host is unknown
- Include Nodes: Indicates whether the Nodes are included in the visibility.
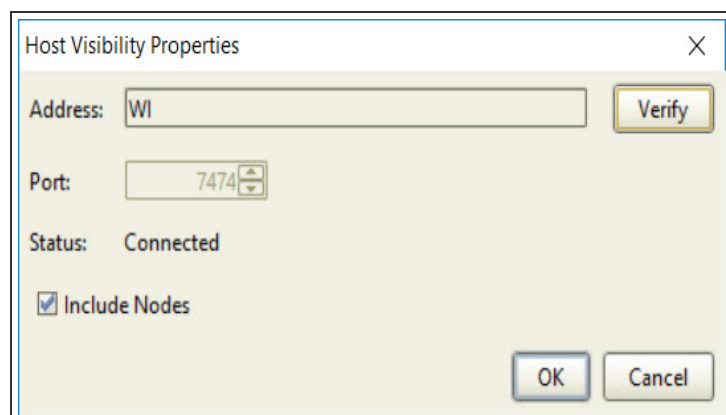
When you select **Add**, or select a relationship and click **Edit**, the Host Visibility Properties window displays. You can use this window to create a new Host relationship or edit an existing one.

To remove a Host relationship, select the relationship and click **Remove**.

Read more about Host Visibility.

Host Visibility Settings

When you select **Add** on the Host Visibility tab, or select a relationship and click **Edit**, the Host Visibility Properties window displays. You can use this window to create a new Host relationship or edit an existing one.

This window contains the following fields:

- Address: Specify the address of the Host (you can use its alias if the Host address is in your Hosts file). Click Verify to verify that the connection to this Host is working.
- Port: Specify the port to use for status communication.

    Note: This should be the same value you used for the remote Host's listening port in the Host Properties dialog.

- Include Nodes: Indicate whether to include the Host's Nodes in the visibility relationship. If you select this option, the Host will be able to perform cross-system redirection and reactivity functions with the other Hosts' Nodes.

Setting Logging Levels

Use the Host Diagnostics tab to troubleshoot network problems with the Host. You use this tab to set the logging level for the Host, from Informational (least detailed) to Trace (extremely detailed). Use this option when you are asked to do so by Robot Technical Support.

The Diagnostics tab contains the following fields:

- Informational: Least detailed logging; logs INFO and higher level severity messages.
- Debug: Logging level usually used for troubleshooting; logs DEBUG and higher level severity messages.
- Trace: Most detailed logging; logs TRACE and higher level severity messages.

Click **View Diagnostics Page** to display diagnostic information about the Host and its Nodes.

Escalation Options for Products

The Product Status Properties window displays the escalation options currently specified for a status for this product. You can specify the types of statuses to escalate, the method of escalation, and the length of time to retain statuses on the Host. You can specify a combination of escalation methods.

Sending a Robot Alert Message

You can use Robot Alert to escalate statuses if no one responds after a certain amount of time. You must have Robot Alert installed and active on the Host system and you must define one or more devices such as pagers, cell phones, PDAs, laptops, or broadcast lists, for Robot Alert to use.

1. Select **Send Robot Alert Message** to escalate a status using Robot Alert.

2. Click the search button to display a finder listing the Robot Alert devices and broadcast lists defined on the Host system.

3. Select a device or broadcast list and click the **Select** button. The Product Status Properties dialog re-displays with the device field filled in with the device or broadcast list you selected. You can click **Cancel** to skip the selection.

4. Specify the amount of time to wait before escalating the status. Specify the number of seconds to wait before escalating the status. You can specify a wait time from zero (0) seconds (immediate escalation), 23 hours, 59 minutes, 59 seconds (23:59:59).

5. Specify the types of statuses to escalate: Attention, Warning, or Informational. You can specify any combination of statuses.

6. Click **OK** to save your changes, or **Cancel** to cancel them.

Using an SNMP Trap

You can escalate statuses using Robot Network and SNMP traps. To use Robot Network with SNMP traps you must specify the IP address of the trap manager and its name. For information about setting up SNMP traps, see How Robot Network Supports SNMP Traps.

1. Select **Send SNMP Trap** to escalate a status by sending an SNMP trap.

2. Click the search button to display the SNMP Trap Manager Properties dialog which lists the SNMP trap receivers available for the product selected.

3. Use the SNMP Trap Manager Properties dialog to add or remove SNMP trap descriptions.

4. To create an SNMP trap, click the **Add** button and fill in the manager address and community of the SNMP trap. When you are finished, select the trap and click **OK** to return to the Product Status Properties dialog. To remove an SNMP trap, select the trap and click **Remove**.

5. Click **OK** to save your changes, or **Cancel** to return to the previous dialog without making any changes.

6. Specify the amount of time to wait before escalating the status. Specify the number of seconds to wait before escalating the status. You can specify a wait time from zero (0) seconds (immediate escalation), 23 hours, 59 minutes, 59 seconds (23:59:59).

7. Click **OK** to save your changes, or **Cancel** to cancel them.

Calling a User Program

You can escalate statuses using a user program that you created and stored on a Host library. When a status needs to be escalated, Robot Network will execute the program to perform the escalation actions that you have specified.

1. Select **Call a User Defined Program**, to escalate a status by using a user program.

2. Use the Program Name and Library fields to specify the name of the program that will perform the status escalation and the library where it is located on the Host.

3. Specify the number of seconds to wait before escalating the status. You can specify a wait time from zero (0) seconds (immediate escalation), to 23 hours, 59 minutes, and 59 seconds.

4. Specify the types of statuses to escalate: Attention, Warning, or Informational. You can specify any combination of statuses.

5. Click **OK** to save your changes, or **Cancel** to cancel them.

User Program Escalation Parameters

To escalate statuses using a user program that you created, you must pass the parameters listed in the following table to Robot Network at the time the program executes.

Parameter Description	Length	Type
Status Object ID	10	Integer (0 decimal positions)
System Name	8	Char
Product Name	20	Char
Revd on Host Date	10	Integer (0 decimal positions) CYMD format
Revd on Host Time	10	Integer (0 decimal positions) HMS format
Status Text	132	Char

Job Number	10	Integer (0 decimal positions)
Job User	10	Char
Job Name	10	Char
Status Severity	2	Char
Message Key	4	Char
Message Date	10	Integer
Message Time	10	Integer
Message ID	7	Char
Message Type	20	Char
Message Severity	2	Integer
Message First-Level Text	256	Char
Message Second-Level Text	1024	Char
Message Reply Values	256	Char

User Program Reply Parameters

To reply to, or acknowledge, a status from a user program that you created, you must pass the parameters listed in the following table to the Robot Network program RBN628.

Parameter Description	Length	Type
Status Object ID	10	Integer (0 decimal positions)
Acknowledged By	10	Char (defaults to RBN628 if blank)
Reply Value	50	

Retaining Acknowledged Statuses

You can set how many days to retain acknowledged statuses before they're automatically deleted. Statuses that still need a reply or acknowledgment won't be deleted.

Days to retain acknowledged statuses: 7

1. Specify how many days acknowledged statuses should be retained. You can specify to retain statuses from 1 day to 9,999 days.

2. Click **OK** to save your changes, or **Cancel** to cancel them.

Licensing Hosts

You can display the Robot Network license for a Host to verify or change it. When you display a license code for a Host, the Robot Network Host - Product License window displays it in its default format (View 1), with the license divided into five-character blocks. You also can display the license in a continuous character-string format (View 2), which is easier to use to cut-and-paste a new license code.

1. Select a Host, select **System Setup** from the Tree view, select **Licensing** from the List view, right-click, and select **Host Licenses** to view or edit the Robot Network license code for a Host. The Robot Network Host Licenses window displays.

2. Click **Display License Agreement** to display the Robot license agreement. You can copy this information and save it to your PC.

3. Enter the Robot Network license code in the License Code field. Select **View 1** to display the license code field in data entry mode. Select **View 2** to display the field in copy-and-paste mode, which allows you to paste your security code into the field.

4. The status field indicates whether the Robot Network license code on this Host is permanent, expired, or temporary with the date it expires.

Starting and Stopping Hosts

You can start and stop a Robot Network Host using the Explorer. When you stop a Host, it still exists in the network configuration, but it does not perform any network processes such as sending statuses.

1. Right-click the Node you want to start or stop.

2. Select **Start** to start a Host; select **Stop** to stop the Host.
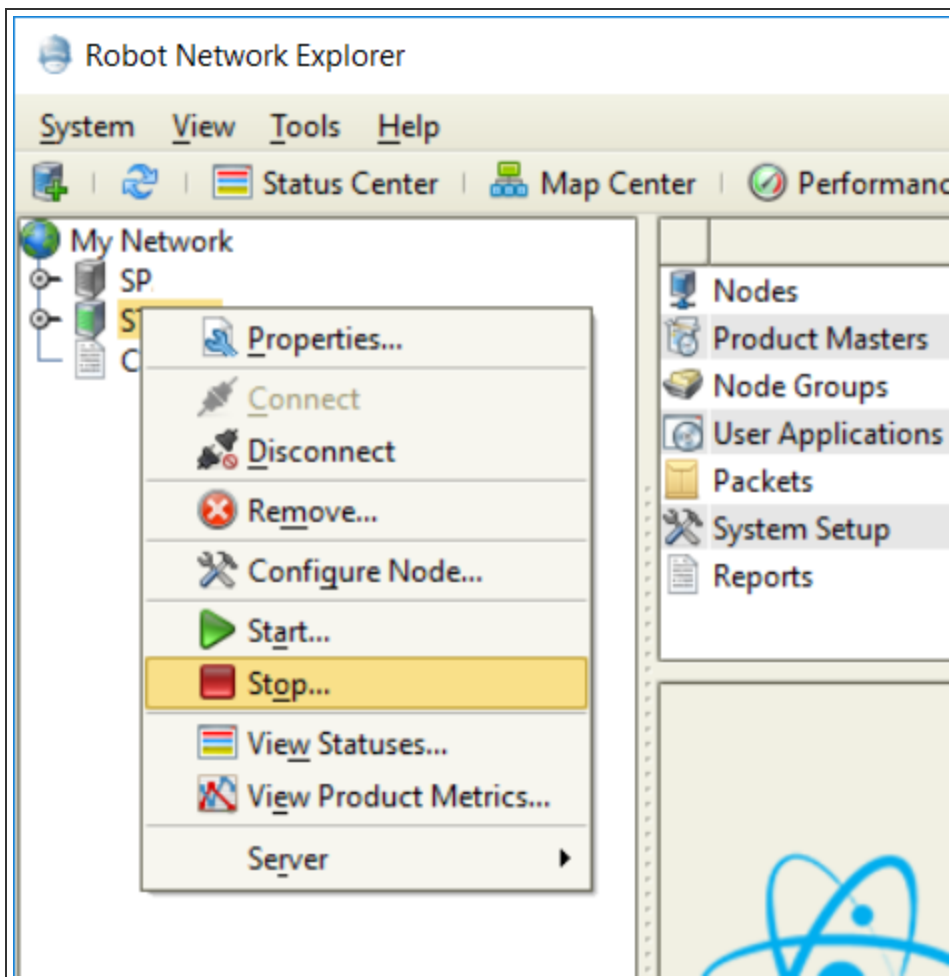
3. A confirmation dialog displays to verify your choice. Select **Yes** to continue; **No** to cancel.

Removing Hosts

You can remove a Host from the Robot Network Explorer. To remove a Host, select the Host, right-click, and select **Remove**. A confirmation dialog displays to verify that you want to remove the Host.

Note: Removing a Host removes it from the Robot Network Explorer and deletes the network connection profile you created for the Host. You must use the Add Host menu option to re-create a connection profile and add the Host back into the Explorer (for more information see Add Host Wizard).

Host Server Properties

The Host level Server options allow you to locate specific information about your IBM i Host hardware and software, perform tasks, and use TELNET to access different servers. To display the properties of a Host IBM i server, select the Host, right-click to display the menu, select **Server**, and select **Properties**.

The OS400 Server Properties window displays the following information Host system information:

- Operating System
- Operating System Level
- Total Auxiliary Storage
- Processor Type
- Number of Processors
- Serial Number
- Model
- Processor
- Feature Code
- PTF Level

Managing Nodes

Robot Network offers Node-level options you can perform using the Robot Network Explorer.
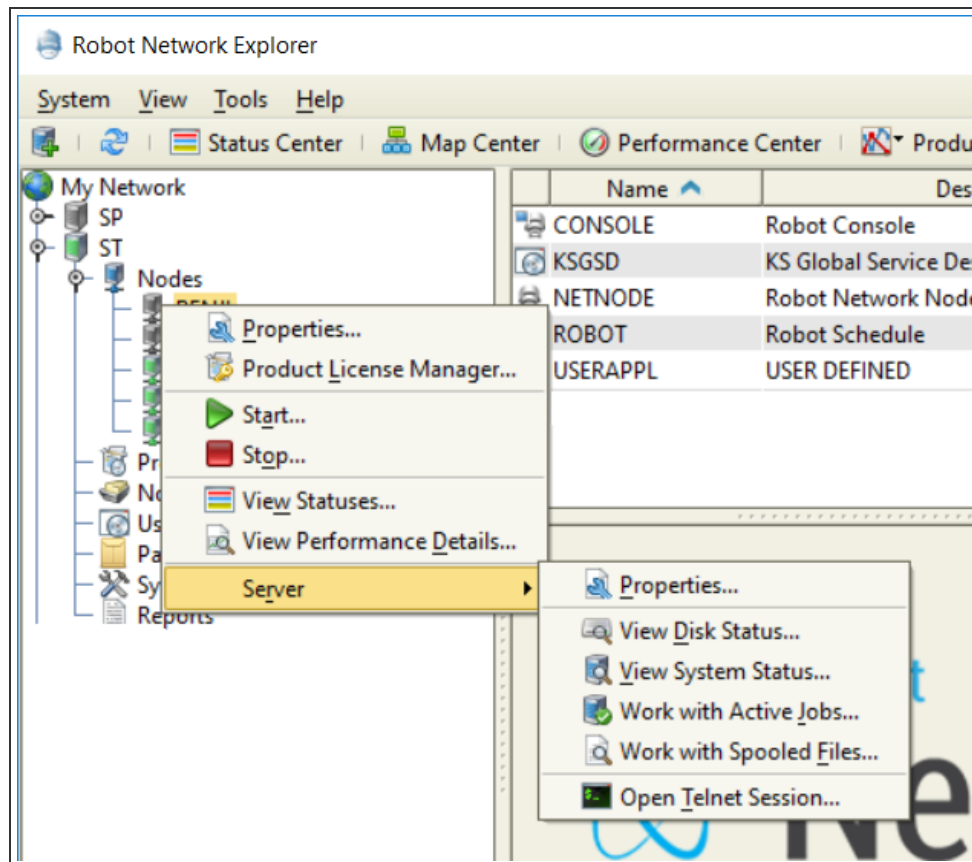
From this level of the Robot Network Explorer you can:

- Display the properties of a Node system
- Manage the Robot product licenses on the Node using the Product License Manager
- Start or stop the Node
- View statuses for the Node
- View performance details
- Perform the following server-related functions:
    - Display the properties of the server the Node is connected to
    - View system status
    - View disk status
    - Work with active jobs

- [Work with spooled files](#)
- Start a TELNET session
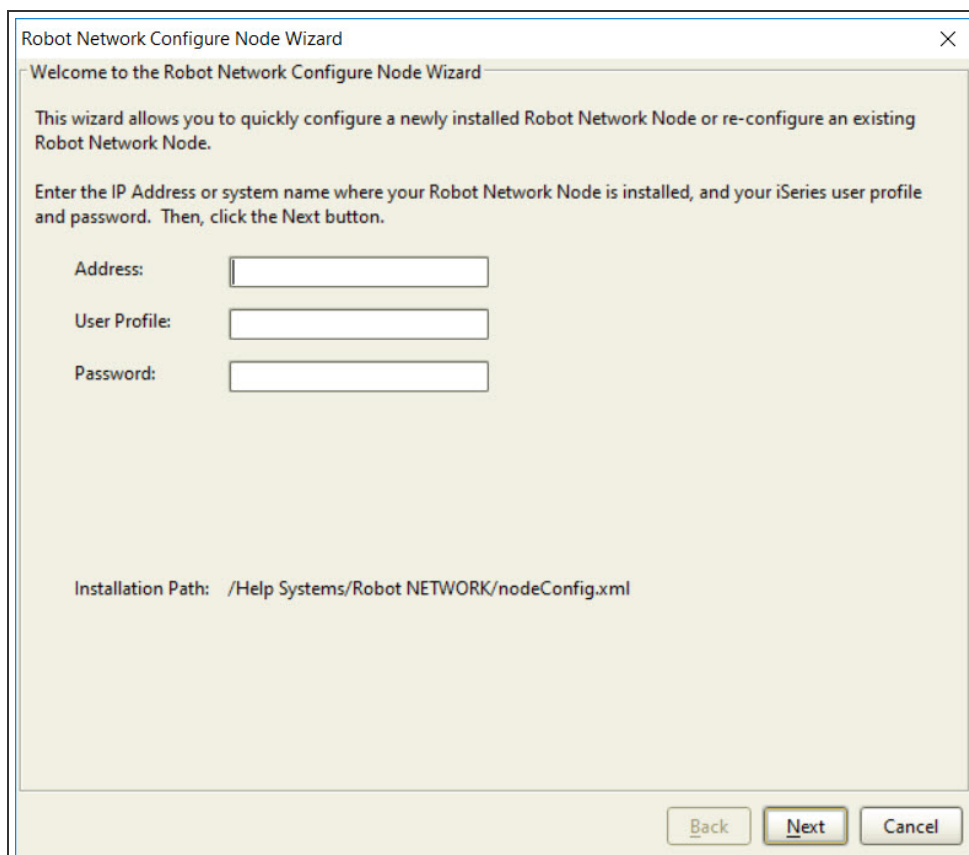
When you select a Node in the Tree View, the [product instance properties](#) appear in the List view.

Configuring Nodes

Use the Configure Node Wizard to help you through the process of configuring a Robot Network Node. The Wizard requests connection information for the new Node, including its TCP/IP address, and the username and password used to connect. You can verify the connection and connect the Node when you are finished.

Note: The Host will need more memory as you add more remote Nodes and use more features and functions in Robot Network.

Add Node Wizard

To configure a Node using the Wizard:

1. Right-click the Host you want to configure a Node for and select **Configure Node**.

2. Enter the IP address of the Node, and the username and password to use to access the Node. Click **Next** to continue.

3. Specify the Node's communication port (the port the Node will use to send messages to the Host) and the Node's notification port (the port the Node will use to receive messages from the Host). Click **Next** to continue.

4. Enter the IP address of the Node's Host. Specify the number of the port the Host will use to receive messages from this Node. Click **Next** to continue.

5. Enter the IP address of the Nodes alternate Host (if one is configured) and specify the number of the port the alternate Host will use to receive messages from this Node. Click **Next** to continue.

6. Verify that the information for the Node configuration is correct.

   - Click **Save** if the information is correct. You must refresh the display to display the Node in the network configuration.

   - Click **Back** to return to a previous dialog to change incorrect information.

   - Click **Cancel** to cancel the configuration process the Node will not be configured.

7. Select **Reset my recently configured Node** if you are changing the configuration of an existing Node. When you are ready, click **Finish**.

Secure Connection

When you configure a Node, you have the option of making the GUI connection secure. This type of connection requires that there is a valid certificate and that the USESECURE parameter is set within the RBNCFGNODE command. (see IBM i Commands)

To configure a secure connection:

1. Set the USESECURE parameter to *YES on the Nodes. See Setting the USESECURE parameter for Secure Connections.

2. Right-click the Host you want to configure a Node for and select **Configure Node**.

3. Fill out the fields as shown in the above Configuring Nodes section.

4. Click **Finish**.

Viewing Statuses

When you right-click a node and select **View Statuses**, the Robot Network Explorer displays the Status Center with only the statuses for that node selected. You can view these statuses,

filter the display, and respond to the statuses (based on your security profile). For more information about using the Status Center, refer to the Status Center topic.

Node Properties

You can use the Node Properties window to display and edit the properties for any Node in the network. These properties include the description, the communication port number, the notification port number, and the time zone offset setting.

To display the properties for a Node, select a Node, right-click, and select **Properties**.

Click a tab to display the information on that tab.

Tab	Description
Node Information	Use this tab to indicate the IP address or alias name for the Node, the release level of Robot Network currently installed, the listening port (used for communication with other servers), the notification port (used to receive statuses), the current status of the Node, the type of license, and the time zone offset the Node is using.
Host Information	Use this tab to view or change the fields the Node uses to communicate with its Host and alternate Host (if configured). You can edit the information and verify the connection using this tab.
Product Statuses	Use this tab to view or change the current status settings that indicate which types of statuses (Attention, Warning, and Informational) the Node should send to the Host for each of the Robot products installed on the Node. You can specify any combination of status types.
Performance Metrics	Use this tab to enable metric collection and threshold options for a Node.
Product Metrics	Use this tab to select which products you want to collect metrics for on a Node.
Diagnostics	Use this tab to troubleshoot network problems with the Node. You use this tab to set the logging level for the Node, from Informational (least detailed) to Trace (extremely detailed). You only use this option when you are asked to do so by Robot Technical Support.

Updating Node Information

Use the Node Information tab to view or change the fields the Node uses to communicate, and the time zone offset for the Node.

The Node Information tab contains the following fields:

- Address: Indicates the IP address or alias name for the Node,

- Release Level: Indicates the level of Robot Network that is currently installed. You cannot edit either of these fields.

- Listening Port: Indicates the hardware port through which the Node communicates with other servers. You can reset that number here.

- Notification Port: The TCP/IP network port through which the Node receives processing requests, such as statuses, or to a request to shutdown. You can enter a new port number if necessary.

- Status: Indicates the current status of the Node.

- License: Indicates the type of license for this Node.

- Time Zone: Indicates the time zone offset the Node is using. This offset is a positive or negative number indicating the distance east or west the time zone is from Greenwich Meridian Time (GMT).

  For example, a positive one (1) indicates that the Node is using the first time zone to the east of the GMT; a negative one (-1) indicates the Node is using the first time zone to the west, and so forth.

  You can change the offset value as needed. See the IBM documentation for information about changing the time zone offset.

  Note: Changing the value here does not affect the system value, it sets the value in Robot Network only. See the IBM documentation for information about changing the time zone offset.

Note: If you are connected securely, the expiration date of the certificate will display on the top left of the Node Properties window.

Updating a Node's Host Information

Use the Host Information tab to view or change the fields the Node uses to communicate with its Host and alternate Host (if configured). You can edit the information and verify the connection using this tab.

The Host Information tab contains the following fields:

- Address: Indicates the IP address or alias for the Nodes Host and the Nodes alternate Host. Enter a new IP address if necessary.
- Port: Indicate the hardware ports the Node uses to communicate with its Host and its alternate Host. Enter a new port number if necessary. See Displaying Host Properties for more information.

Click the Verify button to test the connection between the Node and its Host, and between the Node and its alternate Host.

Specifying Types of Statuses to Send to Host

By default, Attention and Warning statuses are automatically sent to the Host. Use the Product Statuses tab to change which types of statuses the Node should send to the Host for each of the products listed. You can select any combination of statuses for each product.
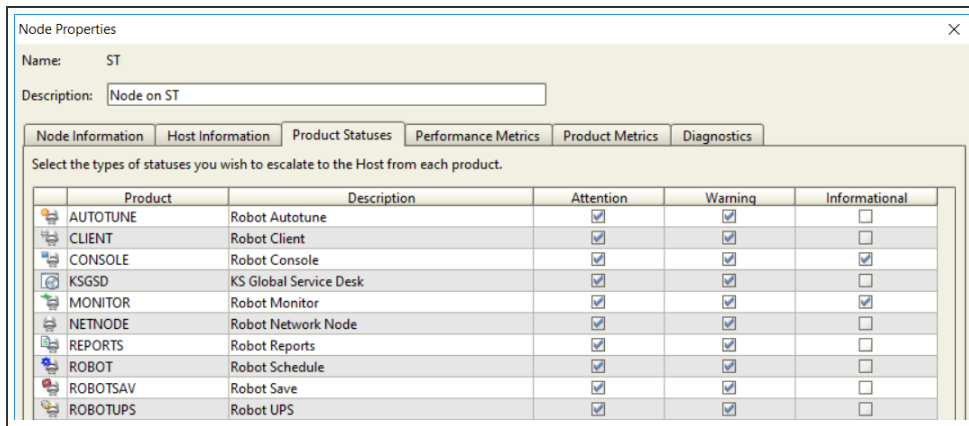
Managing Performance Metrics Collection

You can use the Performance Metrics tab to enable metric collection, set collection intervals, determine which metric categories to collect, and enable threshold options for a Node.
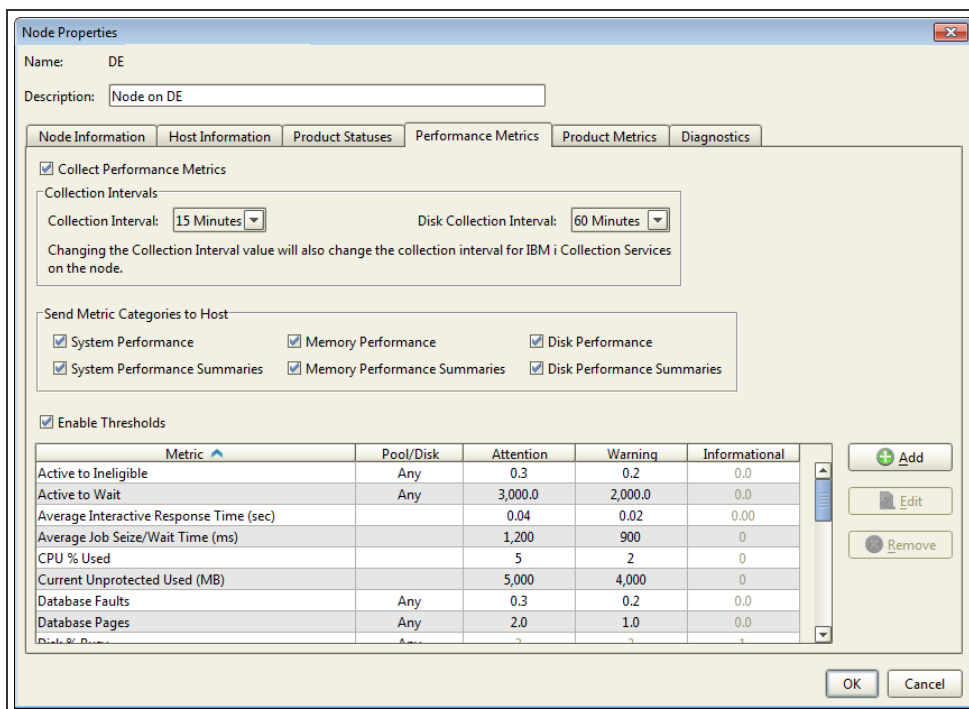
- Collect Performance Metrics: Select this option to collect performance metrics for this Node. If IBM's Collection Services is not running, selecting this option starts it.
- Collection Interval: This option is available when the above option is enabled. There are two things you can do:

- Set how often you want to collect performance metrics. **Note:** Changing the collection interval values also changes the interval for IBM's Collection Services on the Node.

- Set how often you want the disk unit collection for this Node to be sent to the Host. **Note:** This is only available if you've selected Disk Performance under Send Metric Categories to Host.

- Send Metric Categories to Host: Select the types of metrics you want collected for this Node.

  - The regular metrics (System Performance, Memory Performance, and Disk Performance) are collected on the collection interval.

  - The summaries (System Performance Summaries, Memory Performance Summaries, and Disk Performance Summaries) are collected once a day and summarize the performance over the course of the entire day.

  - If you've defined a threshold for a category that you don't select in this section, Robot Network still monitors to see if the threshold has been met. If it has, a status is sent to the Status Center and that Collection Interval is sent to the Host.

- Enable Thresholds: Select this option to set status severities for performance metrics when thresholds are met.

  Click **Add** to add a new threshold, or **Edit** to change an existing threshold. The Threshold Properties dialog appears. The options in the Threshold Properties dialog vary depending on the type of metric you are collecting (two examples below).

Threshold Properties

Metric: Disk Protection Status ▼

Disk Unit

◉ Any Disk Unit

○ 1 ⬍

☑ Enable

Status: ACTIVE ▼

Status Severity: ○ Attention

○ Warning

◉ Informational

OK   Cancel

Threshold Properties

Metric: CPU % Used ▼

Collected Statistics

Maximum: 23.47%

Average: 8.16%

Status Severities

☑ Attention   90 ⬍

☑ Warning   75 ⬍

☑ Informational   50 ⬍

(0 - 9,999%)

OK   Cancel

Note: Most of the thresholds include a Collected Statistics section to help you decide what threshold values to use. You must enable Collect Performance Metrics for a period of time before the Maximum and Average data populates. Once started, it shows the Maximum and Average statistics for the metric based on the data that has been collected.

Threshold settings appear in the graphs and gauges in the Performance Center Dashboards, the Summary Tab, and the Performance Details windows. You must enable the Robot Network Node statuses for the statuses to appear in the Status Center and Performance Center. See Specifying Types of Statuses to Send to Host for more information.

Note: You do not need to set thresholds to see statistics in the Performance Center.

Specifying Which Product Metrics to Collect

You can use this tab to specify which products you want to collect metrics for on this Node. Click the checkbox in the Metrics Collection column next to each product you want to collect metrics from.
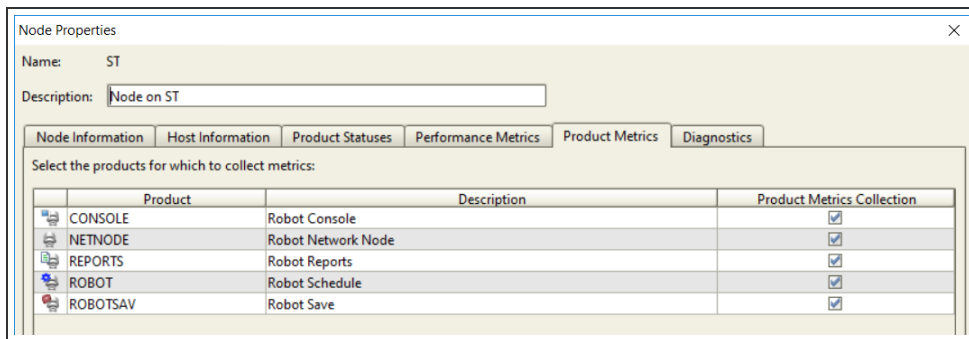
Setting Logging Levels

Use the Diagnostics tab to set the amount of detail for the Node logging level.
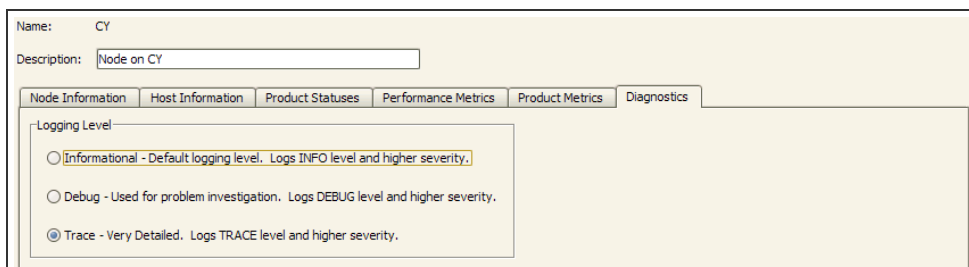
You can specify three levels of detail:

- **Informational** - least detailed logging; logs INFO and higher level severity messages.
- **Debug** - logging level usually used for troubleshooting; logs DEBUG and higher level severity messages.
- **Trace** - most detailed logging; logs TRACE and higher level severity messages.

Click **View Diagnostics Page** to display diagnostics information about the Node.

Node Groups Overview

Robot Network provides a directory for all of the Product Masters of all the IBM i servers in the network. You can use Node Groups with Product Masters to refer to a group of IBM i servers. For example, you can set up a network Node Groups for all of the Nodes that have the same applications, or all Nodes with common running patterns.

By using a Node Group, you save the time and effort required to select or send to multiple Nodes individually. You can set up as many Node Groups as you need, and even filter by Node Group in the Status Center and view them in the Performance Center.

Creating and Editing Node Groups

Use the Node Group Properties window to name and describe a Node Group, and specify the Nodes where it will be distributed. You also can edit an existing list.

- To create a Node Group, select **Node Group**, right-click, and select **New** to display the Node Group Properties window.
- To edit an existing Node Group, select the group from the List view, right-click, and select **Properties**. The Node Group Properties window appears.
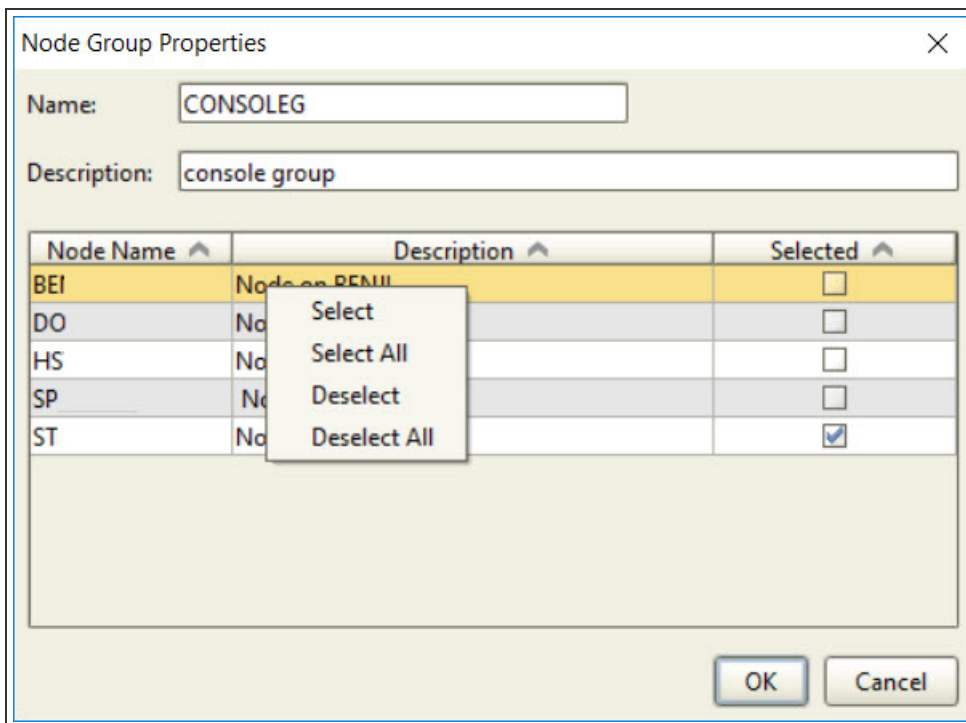
- Use the right-click menu or Ctrl key to select or deselect multiple Nodes at the same time.

Name and Describe a Node Group

1. Enter a name for your Node Group, or rename an existing one.
2. Enter a meaningful description for your Node Group.
3. All of the Host's Nodes are listed. Check the **Selected** checkbox to include a Node in the Node Group.
4. When you are done, click **OK** to save your changes or **Cancel** to cancel them.

Licensing Nodes

You can display and edit licenses for all of a Host's Nodes in the Robot Network Node Licenses window. This window contains the following fields:

- Node Name: The name of the Node
- Hardware Key: The hardware key for the Node
- License: The current status of the license, such as: permanent, invalid, unlicensed, expired, or an expiration date
- License Code: The license code, displayed as a continuous string of characters

You can view and edit a single Node license using the Robot Network - Node Licenses window. The status field indicates whether the Robot Network license code on this Host is permanent, expired, or temporary with the date it expires.

1. Select the Host.

2. Select **System Setup** in the Tree view

3. Right-click **Licensing** in the List view, and select **Node Licensing** to view or edit the Robot Network license codes for a Node. The Robot Network Node Licenses window displays.

4. From the Robot Network - Node Licenses Window, select a Node.

5. Right-click to display the menu and select **Properties** (or double-click). The Robot Network Node - Product License window displays the license for the Node.

6. You can click **Display License Agreement** to display the Robot license agreement. You can copy this information and save it to your PC.

7. Enter the Robot Network license code in the License Code field. Select **View 1** to display the license code field in data entry mode. Select **View 2** to display the field in copy-and-paste mode, which allows you to paste your security code into the field.

8. Click **OK** to make your changes; **Cancel** to cancel them.

Starting and Stopping Nodes

You can start and stop a Robot Network Node using the Explorer. When you stop a Node, it still exists in the network configuration, but it does not perform any network processes such as sending statuses.

1. Right-click the Node you want to start or stop.

2. Select **Start** to start a Node; select **Stop** to stop the Node.

3. A confirmation dialog displays to verify your choice. Select **Yes** to continue; **No** to cancel.

Product Instance Properties

When you have a Node selected in the Tree view of the Robot Network Explorer, you can display the properties for any Robot product installed on that Node from the List view. To display the properties, select a Node, a product in the List view, right-click, and select **Properties**.
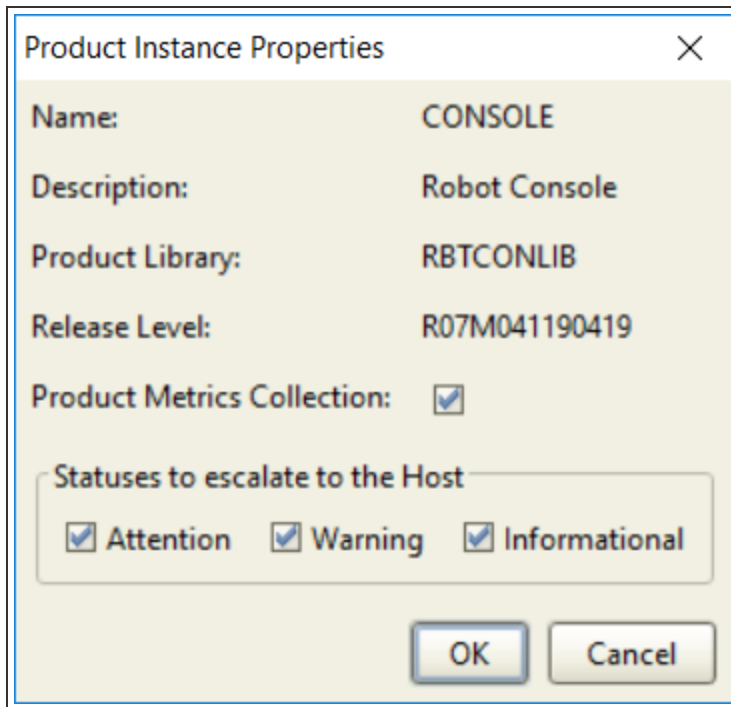
The Product Instance Properties window contains the following fields and options:

- Name: The name of the product
- Description: A Robot Network-supplied description of the product
- Product Library: The product library on the Node
- Release Level: The level of the software installed on the Node
- Product Metrics Collection: Select this option if you want to collect metrics for this product.
- Statuses to escalate to the Host: Indicates which types of statuses are currently being escalated to the Host system.

You can specify which types of statuses should be sent from this Robot product to the Host: Attention, Warning, or Informational. You can specify any combination of statuses.

User Applications

You can track the status of your user application programs using Robot Network. Robot Network lets you define additional applications that can send status information to a Host system. You can add as many of these user-defined applications as you want.

Note: When you add a user application to Robot Network, the Node software on all Nodes is updated automatically,

Using the Robot Network Explorer you can perform the following tasks with applications:

- You can display, define, and edit the properties of an application interface to Robot Network.
- You can display statuses from user applications and respond to them.
- You can specify escalation options for user application statuses including: paging, text messages, and e-mail using Robot Alert; sending SNMP traps to a trap manager (such as Robot Trapper); or initiating a user-defined application program.

  Note: For an application to send statuses to Robot Network, you must code the RBNSNDSTS command into your application program. For information about using this command, see RBNSNDSTS Command in IBM i Commands.

Defining User Applications

Use the User Applications Properties window to define a new or edit an existing application to Robot Network.

This window contains the following fields and options:

Name - enter the name of the application

Description - enter a brief description of the application.

Library - specify the library containing the application. Click the search button to display a list of libraries.

Escalation Options - specify whether to escalate statuses and the type of method to use.

Statuses to Escalate from the Host - specify the types of statuses Robot Network should escalate: Attention, Warning, or Informational. You can specify any combination of statuses.
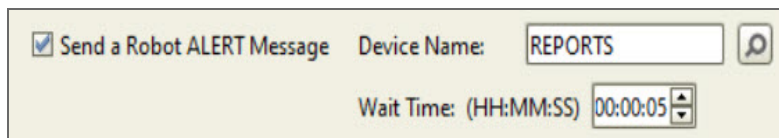
Days to retain acknowledged statuses - specify the number of days to retain statuses. You can specify any value from 1 to 9,999.

Escalation Options for User Applications

The User Application Properties window displays the escalation options currently specified for a status for this user application. You can specify the types of statuses to escalate, the method of escalation, and the length of time to retain statuses on the Host. You can specify a combination of escalation methods.

Sending a Robot Alert Message

You can use Robot Alert to escalate statuses if no one responds after a certain amount of time. You must have Robot Alert installed and active on the Host system and you must define one or more devices such as pagers, cell phones, PDAs, laptops, or broadcast lists, for Robot Alert to use.

1. Select **Send Robot Alert Message** to escalate a status using Robot Alert.

2. Click the search button to display a finder listing the Robot Alert devices and broadcast lists defined on the Host system.

3. Select a device or broadcast list and click the **Select** button. The Product Status Properties dialog re-displays with the device field filled in with the device or broadcast list you selected. You can click **Cancel** to skip the selection.

4. Specify the amount of time to wait before escalating the status. Specify the number of seconds to wait before escalating the status. You can specify a wait time from zero (0) seconds (immediate escalation), 23 hours, 59 minutes, 59 seconds (23:59:59).

5. Specify the types of statuses to escalate: Attention, Warning, or Informational. You can specify any combination of statuses.

6. Click **OK** to save your changes, or **Cancel** to cancel them.

Using an SNMP Trap

You can escalate statuses using Robot Network and SNMP traps. To use Robot Network with SNMP traps you must specify the IP address of the trap manager and its name. For information about setting up SNMP traps, see "How Robot Network Supports SNMP Traps" under the Robot Support Self-Service tab on our website.

1. Select **Send SNMP Trap** to escalate a status by sending an SNMP trap.

2. Click the search button to display the SNMP Trap Manager Properties dialog which lists the SNMP trap receivers available for the product selected.

3. Use the SNMP Trap Manager Properties dialog to add or remove SNMP trap descriptions.

4. To create an SNMP trap, click the **Add** button and fill in the manager address and community of the SNMP trap. When you are finished, select the trap and click **OK** to return to the Product Status Properties dialog. To remove an SNMP trap, select the trap and click **Remove**.

5. Click **OK** to save your changes, or **Cancel** to return to the previous dialog without making any changes.

6. Specify the amount of time to wait before escalating the status. Specify the number of seconds to wait before escalating the status. You can specify a wait time from zero (0) seconds (immediate escalation), 23 hours, 59 minutes, 59 seconds (23:59:59).

7. Click **OK** to save your changes, or **Cancel** to cancel them.

Calling a User Program

You can escalate statuses using a user program that you created and stored on a Host library. When a status needs to be escalated, Robot Network will execute the program to perform the escalation actions that you have specified.

1. Select **Call a User Defined Program**, to escalate a status by using a user program.

2. Use the Program Name and Library fields to specify the name of the program that will perform the status escalation and the library where it is located on the Host.

3. Specify the number of seconds to wait before escalating the status. You can specify a wait time from zero (0) seconds (immediate escalation), to 23 hours, 59 minutes, and 59 seconds.

4. Specify the types of statuses to escalate: Attention, Warning, or Informational. You can

specify any combination of statuses.

5. Click **OK** to save your changes, or **Cancel** to cancel them.

User Program Escalation Parameters

To escalate statuses using a user program that you created, you must pass the parameters listed in the following table to Robot Network at the time the program executes.

Parameter Description	Length	Type
Status Object ID	10	Integer (0 decimal positions)
System Name	8	Char
Product Name	20	Char
Revd on Host Date	10	Integer (0 decimal positions) CYMD format
Revd on Host Time	10	Integer (0 decimal positions) HMS format
Status Text	132	Char
Job Number	10	Integer (0 decimal positions)
Job User	10	Char
Job Name	10	Char
Status Severity	2	Char
Message Key	4	Char
Message Date	10	Integer
Message Time	10	Integer
Message ID	7	Char
Message Type	20	Char
Message Severity	2	Integer
Message First-Level Text	256	Char
Message Second-Level Text	1024	Char
Message Reply Values	256	Char

User Program Reply Parameters

To reply to, or acknowledge, a status from a user program that you created, you must pass the parameters listed in the following table to the Robot Network program RBN628.

Parameter Description	Length	Type
Status Object ID	10	Integer (0 decimal positions)
Acknowledged By	10	Char (defaults to RBN628 if blank)
Reply Value	50	

Retaining Acknowledged Statuses

You can set how many days to retain acknowledged statuses before they're automatically deleted. Statuses that still need a reply or acknowledgment won't be deleted.

Days to retain acknowledged statuses: 7

1. Specify how many days acknowledged statuses should be retained. You can specify to retain statuses from 1 day to 9,999 days.

2. Click **OK** to save your changes, or **Cancel** to cancel them.

Viewing Statuses

To view the statuses for an application, select the application in the List view, right-click to display the menu, and select View Statuses. The Robot Network Status Center displays the latest statuses for the application.

Note: You also can view these statuses by displaying the Status Center from the Explorer toolbar or menus.

Updating Robot Products

Product Masters

The Robot Network Product Masters are software components that allow you to distribute and install operator automation instructions to Robot products on multiple Nodes throughout your network. A Product Master is required on the IBM i Host to network a Robot automated operations product, and many of these products have their own Product Master.

The Product Master stores product status records for escalation and automation instructions to be distributed using packets. You can use the Product Master to:

- Create and send a packet of instructions for Robot Network to install on the Node, or Nodes, of your choice.
- Change, reverse, or resend a packet of instructions and have Robot Network make the same changes on the Node(s) of your choice.

Each Robot Network Host receives status records and objects from the Product Masters and prepares them for transmission. The Host transmits the records or objects to the networked Node systems as instructed by the Product Masters. Then, the Nodes confirm that the objects were properly installed (or that the installation failed).

When a Robot Network Host receives event status notifications from a Robot Network Node, the Host updates the Product Masters with the data it receives. The Product Master keeps a record of the date/time of each change and a confirmation that the Robot Network Node made the change as instructed. The Product Master also keeps a copy of the record set that was sent to each Node.

Displaying Product Information

You can display the product information displayed in the QuickView by double-clicking on a product name. Or, select a product, right-click, and select **Properties**.

When you select a product, the following product summary information displays in the Product Master dialog.
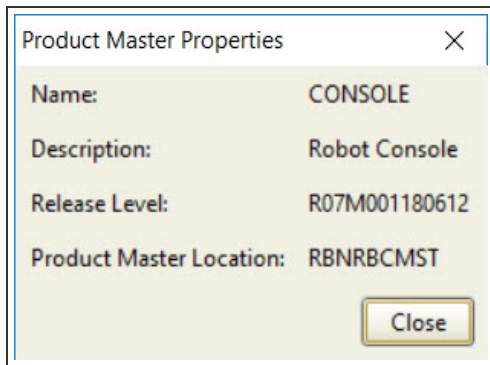
- Name: The Product name

- Description: The product description

- Release Level: The product release and modification level currently installed

- Product Masters Location: The library where the Product Master is located

Packets

You can use Robot Network to send packets, a group of product records, to your networked IBM i Nodes from your Host. (A Product record is any record or job created within a Robot Operations Automation Product.) Packets let you designate a date and time to install a change on a Node. Each packet is automatically assigned a number to keep track of all packet activity.

A Robot Network Node receives the packets of automation instructions from the Host and uses them to update the products on the Node. First, the Node makes the changes to its products at the time and date designated in the packet. When the update is complete, the Node notifies the Host.

Packets and Product Masters

Each networked Robot product has a Product Master component. The Product Master is a duplicate copy of the product that contains operating instructions and some setup entry portions of the product. You use the Product Master to create product instructions and setup information to distribute to Nodes. For example, you can transmit changes to run times in Robot Schedule to your remote systems.

Note: A Product Master is for data entry only and does not operate like the actual product. Robot Network provides Product Masters for the following products: Robot Console, Robot Monitor, Robot Reports, and Robot Schedule. (The Product Masters for Robot Monitor handle status information instead of packets.)

Creating Packets

To create packets for Robot Schedule, you use the Robot Schedule Product Master (ROBOT) and the Robot Schedule Explorer graphical interface. To create packets for Robot Console, use the Robot Console Product Master (Console) and the Robot Console Explorer graphical interface.

For all other Robot products, you use the product's green screen interface to Robot Network. For example, to create a packet to distribute instructions for Robot Reports, you use its Product Master Menu options.

When you create packets, you select the product records to be sent to the Node system(s). These product records are grouped together and numbered. The packet control record contains instructions about the date/time of installation and whether the records should be deleted on the remote Node.

Creating Packet Data Filters

You can use the menu options in the Data Filter Manager to create data filters to include or exclude items from the display. When you use a filter to filter a display, Robot Network compares the value from the first condition column against the value from the second condition column using the two operators that you selected. If the result of the comparison matches the conditions, the filter includes the item in the display; If the result of the comparison does not match the condition, the filter excludes the item from the display.

Examples

The following are examples of packet data filter statements.

If the filter specifies:	The following displays:
Any Install Date & Time Is 10/03/06	All packets installed on October 3, 2006
Any Status Is Failed	All packets that failed to install

Deleting Packets

You can delete an entire packet if it has not been installed. When you delete a packet, it is deleted on all of the Host's Nodes. The Delete option creates a packet instruction record that is sent to each Node to be deleted. After all of the Nodes delete the packet, the packet is deleted from the Host.

Note: When you delete a packet, the packets Product Master record is not deleted.

1. To delete a packet, select the packet, right-click, and select Delete.

2. When you select to delete a packet, a confirmation dialog displays to verify your decision. To delete the packet click Yes; click No to cancel the process.

Packet Properties

The Packet Properties window displays the packet data type and description:
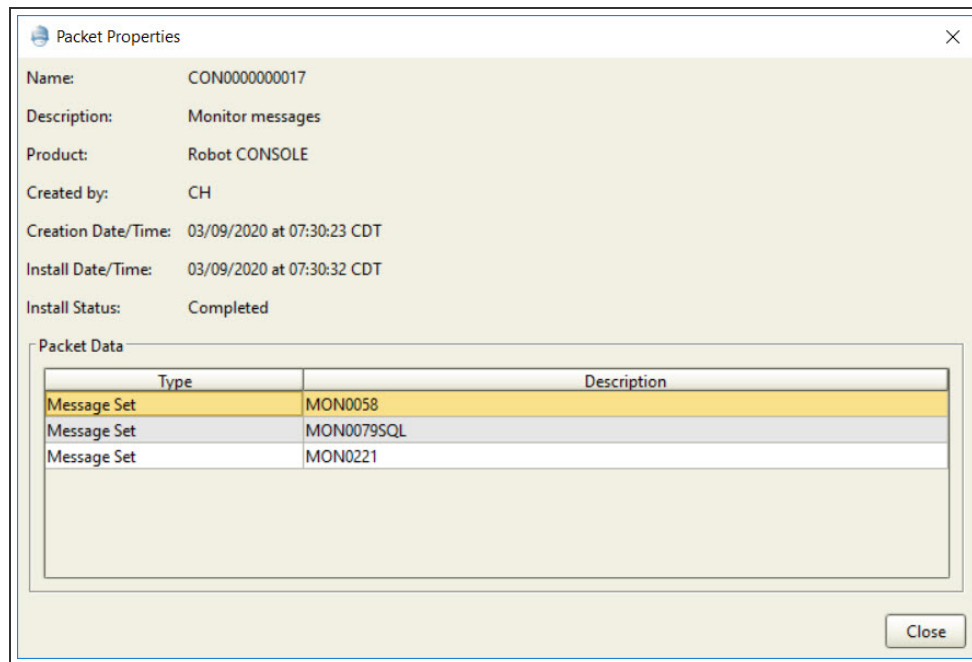
Type

The actual properties displayed varies depending on the contents of the packet.

For Robot Schedule and Robot Console packets, the packet type is a text description supplied by the product.

For Robot Reports, the packet type is five characters: a three-character product descriptor followed by a two-character description such as the following:

- RS - Report Sets
- RD - Report Distribution
- SG - Report Segments

Description

The description describes the packet data type.

Displaying Packet Data Properties

You can display the data properties of Robot Schedule packets from the Robot Network Explorer. The actual properties displayed varies depending on the contents of the packet. For a Robot Schedule job packet you will see items such as its Robot Schedule name, number, and description, as well as its environment, calendar name, and associated application.

Packet Data Properties

The Packet Data Properties window displays information about the contents of the packet. This information varies depending on the type of packet you selected, such as a secured object, calendar, or Robot Schedule job.

You can display the contents of a Robot Schedule packet descriptor by selecting a packet, right-clicking, and selecting **Properties** (or by double-clicking). You cannot edit the contents.
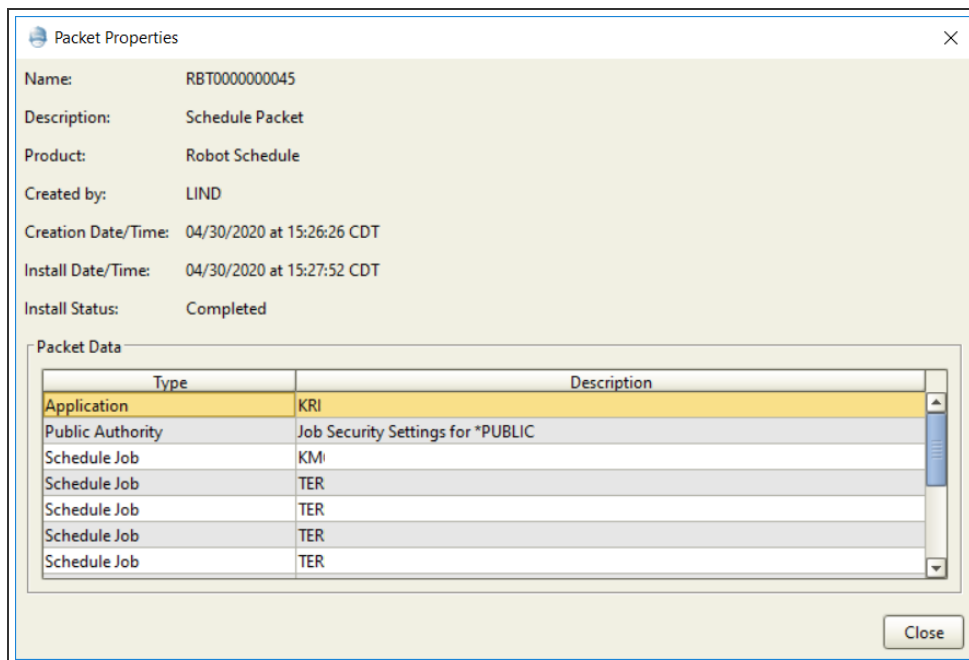
Packet Distribution History

The Packet Distribution History window displays all instances of a packet's distribution.

Packet Name - the name of the packet, which is generated automatically when the packet is created.

Product - the product for which the packet was created.

Description - the description of the packet supplied by the user when they created the packet.

Host Date/Time - the date and time the packet was distributed from the Host.

Status - The status of the distribution. The possible statuses are:

- Completed - Packet has been distributed
- In Process - Packet is currently being distributed
- Not Processed - Packet has not been distributed
- Reversed - Packet distribution was reversed (undone)
- Failed - Packet distribution failed for some reason

Destination - the target system for the packet.

When you select a packet from the top part of the window, details are displayed in the bottom part. Details include:

- Host Date/Time - Displays the date and time on the Host when the packet was sent.
- User - Displays the user that was logged in when the packet was sent.
- Distribution Details - Displays additional information about the packet that was sent.

Filtering the Display

You can [filter the display](#) to limit the packets shown and change how the list is sorted. You can use the filters supplied with Robot Network, or create your own filter by clicking on the filter icon and displaying the Data Filter Manager. You can also specify a default packet filter for the Robot Network Explorer to use.

Purging Packet History

You can purge the history for an entire packet if the packet has been installed. You may want to purge records after you are confident that the product records that were distributed are working as you intended, or if the packet was replaced by another packet. Purging packet history reduces your disk usage and has no effect on the records installed in the product.

When you select the Purge Packet History option, it creates a packet instruction record that is sent to each Node. The Nodes use this record to delete the following items:

- The Host packet control record
- The Node packet installation records on the Host and Node
- The Host packet history file, which contains a copy of the records distributed
- The Node packet history file, which contains a copy of the records received on each Node
- The Node packet before image file, which contains a copy of the records before the packet was installed on each Node

Purging a Packet's History

1. To purge a packet's history, select the packet, right-click, and select **Purge History**.
2. When you select to purge the history for a packet, a confirmation dialog displays to verify your decision. To purge the history click **Yes**; click **No** to cancel the process.

Resending Packets

You can resend a packet to some or all of the Nodes that were supposed to receive it. Each Node uses the latest copy of the packet and updates the original packet installation record. You then receive confirmation from each Node that the packet record was resent successfully.

1. Select the packet, right-click, and select **Resend** to resend a packet.
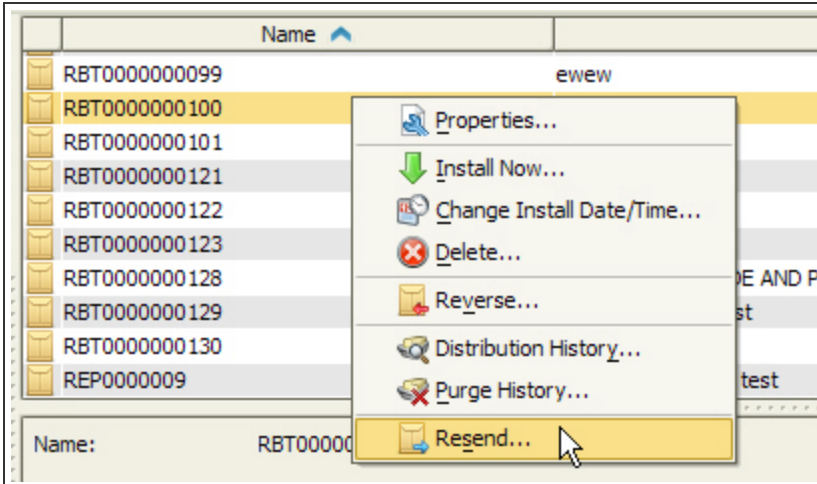
2. When you attempt to resend a packet, a confirmation dialog displays to verify your decision. To resend the packet click **Yes**; to cancel the process, click **No**.

Reversing Packets

By reversing an installed packet, you can revert the product to its state before the packet was installed. You can reverse the packet on all or just some of the Nodes that received it. This creates a packet instruction record that is sent to each Node. Each Node reverses the packet and updates the original packet installation record. You receive confirmation from each Node that the packet record was reversed successfully.

Note: You cannot reverse a packet after you have purged its history.

1. To reverse a packet, select the packet, right-click, and select **Reverse**.
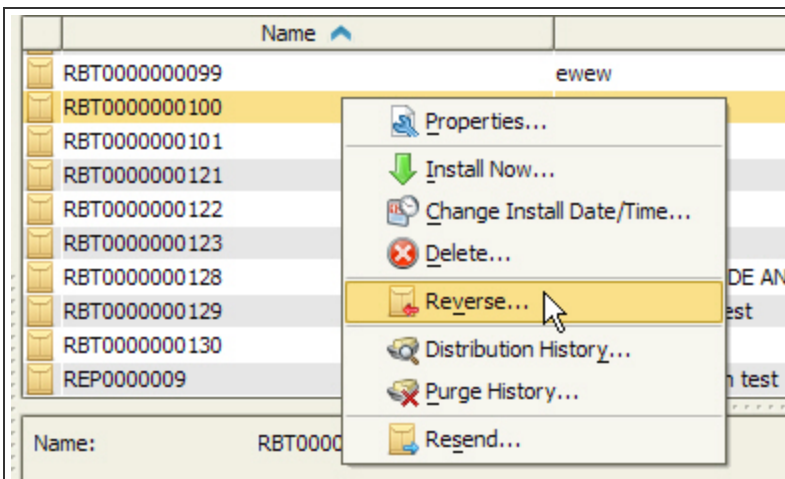
2. When you select to reverse a packet, a confirmation dialog displays to verify your decision. To reverse the packet click Yes; click No to cancel the process.

Filtering the Packet Distribution History Display

You can filter the Packet Distribution History display to display a certain category of packets. You can use either the filters supplied with Robot Network, or create your own filter using the Data Filter Manager. You also can specify the default filter that Robot Network should use when you display packet distribution history.
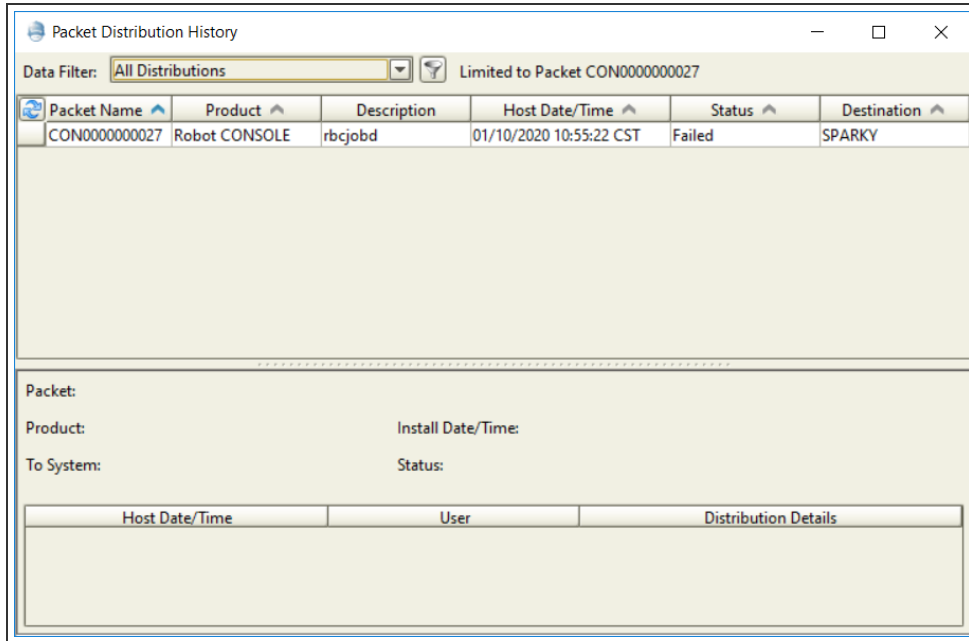
You can select from the following filters:

- All Distributions
- Completed Distributions
- Failed Distributions
- In-Process Distributions
- Not Completed Distributions
- Today's Installations

To filter the display, click on the Filter tab, click the Data Filter field to display the drop-down menu and select the filter you want to use. The Filter tab display refreshes using the filter you selected.

Sending a Packet from Robot Schedule and Robot Console

You create and send Robot Schedule and Robot Console packets using the Product Masters portion of the Robot Schedule Explorer or the Robot Network Explorer.

Notes:

- You create and send packets using the Product Master portion of each product (available if Robot Network is installed on the IBM i).
- To send packets from the Robot Console or Robot Schedule product masters to a Robot Network host, you must have "Include Nodes" selected in the Host Visibility Setup.

Sending a Packet from Robot Schedule

1. To start the Robot Schedule Explorer, select **Product Masters** from the Tree view and select **ROBOT** from the List view.

2. Right-click and click **Explore**. The Robot Schedule Explorer opens.

3. To create a new packet from the Robot Schedule Explorer, open the Product Masters key and select **Jobs** from the Tree view. Then, select **All Jobs** from the List view, right-click, and select **New**.

4. When the Robot Schedule Job Properties window displays, use its tabs to enter information about the job (see the Robot Schedule User Guide for complete information about using this window to define a job).

5. When you are finished with your specifications, click **OK**. The Robot Schedule Explorer displays your job in the List view.

6. From the Job List view, right-click and select **Send To**. The Robot Schedule Send To Wizard displays. Follow the wizard instructions to create the packet. See the Robot Schedule User Guide for more information about the Send To Wizard.

After a packet is created in Robot Schedule and before it is sent to another system, the packet is displayed in the List view of the Product Masters portion of the Robot Schedule Explorer.

Sending a Packet from Robot Console

1. To start the Robot Console Explorer, select **Product Masters** from the Tree view and select **Console** from the List view.

2. Right-click and click **Explore**. The Robot Console Explorer opens.

3. To create a new packet from the Robot Console Explorer, open the Product Masters key and expand **Message Sets**, then select **All Message Sets**.

4. Right-click a Message Set and select **Send To**. The Robot Console Send To Wizard displays. Follow the wizard instructions to create the packet. See the Robot Console User Guide for more information about the Send To Wizard.

Changing Packet Install Date and Time

You can change the install date and time if the packet has not yet been installed. You can change the date and time to install on the entire packet, or just some of the Nodes that received the packet. This creates a packet instruction record that is sent to each Node. The Nodes receive the change and then update the original packet installation record. You will receive confirmation from each Node that the packet record was successfully changed.

1. Select a packet, right-click to display the menu, and select **Change Install Date/Time**.
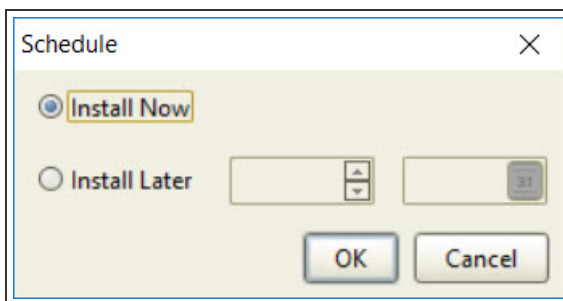
2. Select **Install Now** to install the packet immediately.

3. Select **Install Later** to specify a date and time at which to install the packet. After you specify the time and date and click **OK**, a confirmation dialog displays to verify the date and time you have selected.

Launching Robot GUI Products From the Explorer

You can launch the Robot Schedule Explorer and Robot Console Explorer from the Robot Network Product Master.
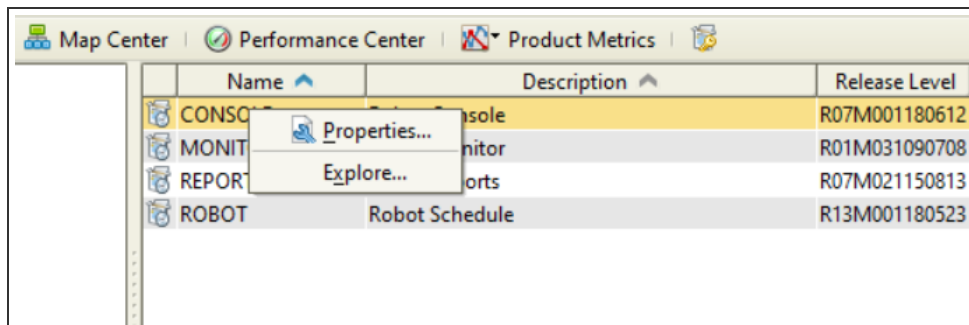
- To display the Robot Schedule Explorer, right-click ROBOT from the product list and select **Explore**.

- To display the Robot Console Explorer, right-click Console from the product list and select **Explore**.

Note: You must have Robot Schedule and Robot Console installed on the PC and the Host to connect to them. For more information, see the Robot Schedule User Guide or the Robot Console User Guide.

Server Options
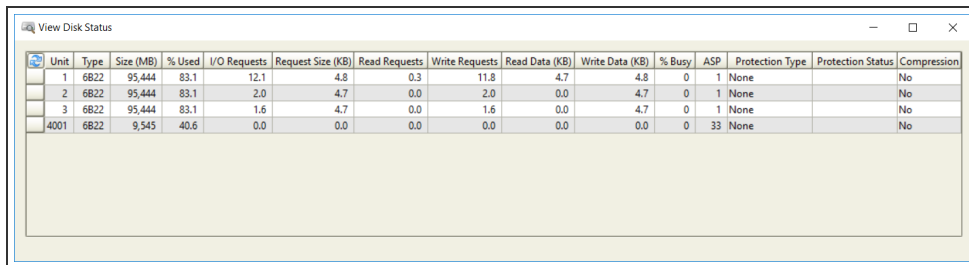
Viewing Server Properties

The OS400 Server Properties window displays the following Host system information:

- Operating System
- Operating System Level
- Total Auxiliary Storage
- Processor Type
- Number of Processors
- Serial Number
- Model
- Processor Feature Code
- PTF Level

View Disk Status

The View Disk Status window shows performance and status information about the disk units on the system you select. This is the same entering **WRKDSKSTS** from a command line in the green screen.

Unit	Type	Size (MB)	% Used	I/O Requests	Request Size (KB)	Read Requests	Write Requests	Read Data (KB)	Write Data (KB)	% Busy	ASP	Protection Type	Protection Status	Compression
1	6B22	95,444	83.1	12.1	4.8	0.3	11.8	4.7	4.8	0	1	None		No
2	6B22	95,444	83.1	2.0	4.7	0.0	2.0	0.0	4.7	0	1	None		No
3	6B22	95,444	83.1	1.6	4.7	0.0	1.6	0.0	4.7	0	1	None		No
4001	6B22	9,545	40.6	0.0	0.0	0.0	0.0	0.0	0.0	0	33	None		No

- Unit: This is the same number used by the display disk configuration function of system service tools. If the disk unit identifier is 0, the disk unit is not configured.
- Type: The type of disk unit.
- Size (MB): The total amount of storage (in MB) that the unit can contain.
- % Used: The percentage of the disk that is currently allocated. If the unit is an independent ASP which is currently in a varied off state, this field may be blank.

- I/O requests: The average number of I/O requests for read and write operations that occurred per second during the elapsed time.
- Request size (KB): The average size of an I/O request in KB during the elapsed time.
- Read requests: The average number of requests per second to transfer data from the disk unit during the elapsed time.
- Write requests: The average number of requests per second to transfer data to the disk unit during the elapsed time.
- Read Data (KB): The average amount of data, in KB, transferred from the disk unit, per request, during the elapsed time.
- Write Data (KB): The average amount of data, in KB, transferred to the disk unit, per request, during the elapsed time.
- % Busy: The estimated percentage of time the disk unit is being used during the elapsed time. This estimate is based on the number of I/O requests, the amount of data transferred, and the performance characteristics of the type of disk unit. This field is blank if the performance characteristics of the disk unit are not available.
- ASP: The auxiliary storage pool identifier for the unit.
- Protection Type: This field shows whether the unit is under mirrored protection provided by the system software, and the type of protection.
- Protection Status: The protection status of the individual unit.

Viewing System Status

The View System Status window displays the following information about the IBM i:

Server Date/Time

- Displays the current date and time on the server

CPU Status

- CPU Utilization %: Percent of processor currently being used

Auxiliary Storage Status

- System ASP (MB): Amount of auxiliary storage, in MB, dedicated to memory pools
- % System ASP Used: Percentage of total auxiliary storage being used
- Total Auxiliary Storage (MB): Total amount of auxiliary storage in MB

Jobs Status

- Jobs in System: Total number of jobs currently on the server
- Batch Jobs Running: Number of batch jobs currently active

Users Status

- Currently Active Users: Interactive users currently active

Storage Pools

- System pool: System memory pool number
- Pool size (MB): Size of memory pool in MB
- Reserved size (KB): Amount of space reserved for the memory pool in KB
- Pool name: Name of memory pool
- Pool description: Description of the memory pool

Working With Active Jobs

The Work with Active Jobs window contains information about all of the jobs currently active in your IBM i server. To display the Work with Active Jobs window, select a system, right-click, select **Server**, and select **Work with Active Jobs**.

Use the Data Filter to view all jobs, jobs in the RBTSLEEPER Subsystem, or jobs for the current user.
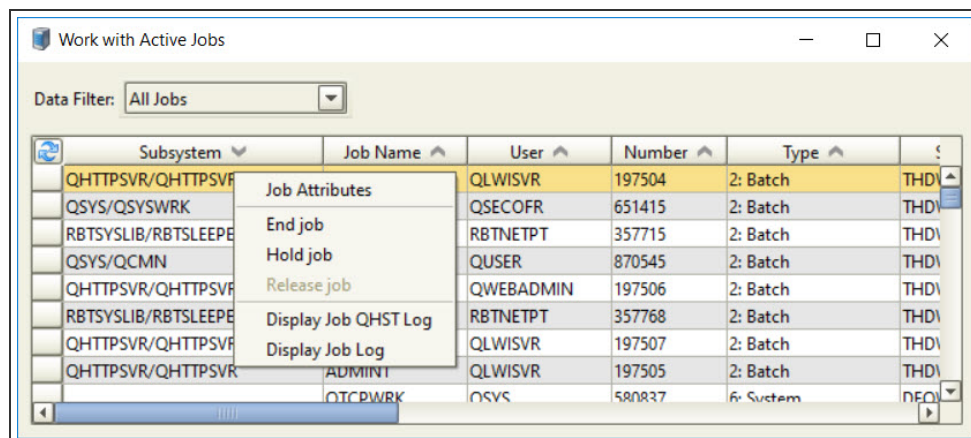
Job Attributes

Use the Job Attributes window to display detailed Status Attribute, Definition Attribute, Run Attribute, and Library List information for a job. Use this information for troubleshooting when job problems occur.

To display a job's attributes, select a job, right-click and select **Job Attributes**. The Display Job Attributes window displays information about the job's attributes organized by status, definition, run, and library list. (For specific information about the information displayed, refer to the appropriate IBM documentation.)

Ending Jobs

If you have the proper authority, you can end any job from the Work with Active Jobs window. To end a job, right-click and select **End Job**. The End Job dialog appears.

Select **Yes** when the confirmation dialog displays. Check the Use *IMMED when ending checkbox to end the job immediately (this is the default setting). If you do not select Use IMMED when ending, the job is ended in a controlled manner (*CNTRLD).

Note: Your IBM i user profile authority determines which functions you can perform on the system. The Robot Network Explorer does not override this authority.

Holding and Releasing Jobs

You can hold or release jobs and their associated spooled files using the Work with Active Jobs window. When you hold or release a job, the window refreshes and the job's new status displays.

Note: If the job is currently held, the Hold Job option is unavailable (greyed out); conversely, if the job is active, the Release Job option is unavailable (greyed out).

1. Select **Hold Job** to hold the job or Release Job to release it. If you select to hold a job, a confirmation dialog displays to verify your choice.
2. Select **Yes** on the confirmation dialog to hold the selected job. You also can select to hold all of the spooled files associated with the job (this is the default setting).

Job QHST Log

Use the Display Job QHST Log option to display the contents of the message history queue (QHST) log for the selected job.

1. Select **Display Job QHST Log** from the menu to display the History Log window. The log shows the contents of the job log associated with the job message history.
2. You can save some or all of the messages displayed to a file or the clipboard.
3. You can display details about a message in the QHST message history log. Select a message, right-click to display the menu, and select **Message details** (this option is

unavailable if you have selected multiple messages).

4. You can save some or all of the message detail to a file or the clipboard.

Job Log

Use the Display Job Log option to display the contents of the job log for the job you have selected.

1. Select **Display Job Log** from the menu to display the contents of the job log associated with the job.

2. You can save some or all of the job log to a file or the clipboard.

3. Select a message, right-click to display the menu, and select **Message details** to display details.

4. You can save some or all of the message detail to a file or the clipboard.

Working With Spooled Files

You can use the Robot Network Explorer spooled file viewer to view, print, and delete spooled files on your system. You can work with all of the spooled files on the system, just the ones belonging to the user profile that is using the viewer, or create a custom filter to display certain spooled files.

To display the spooled file viewer, select a Host, right-click, select **Server** and select **Work With Spooled Files**. The View Spooled File window displays.
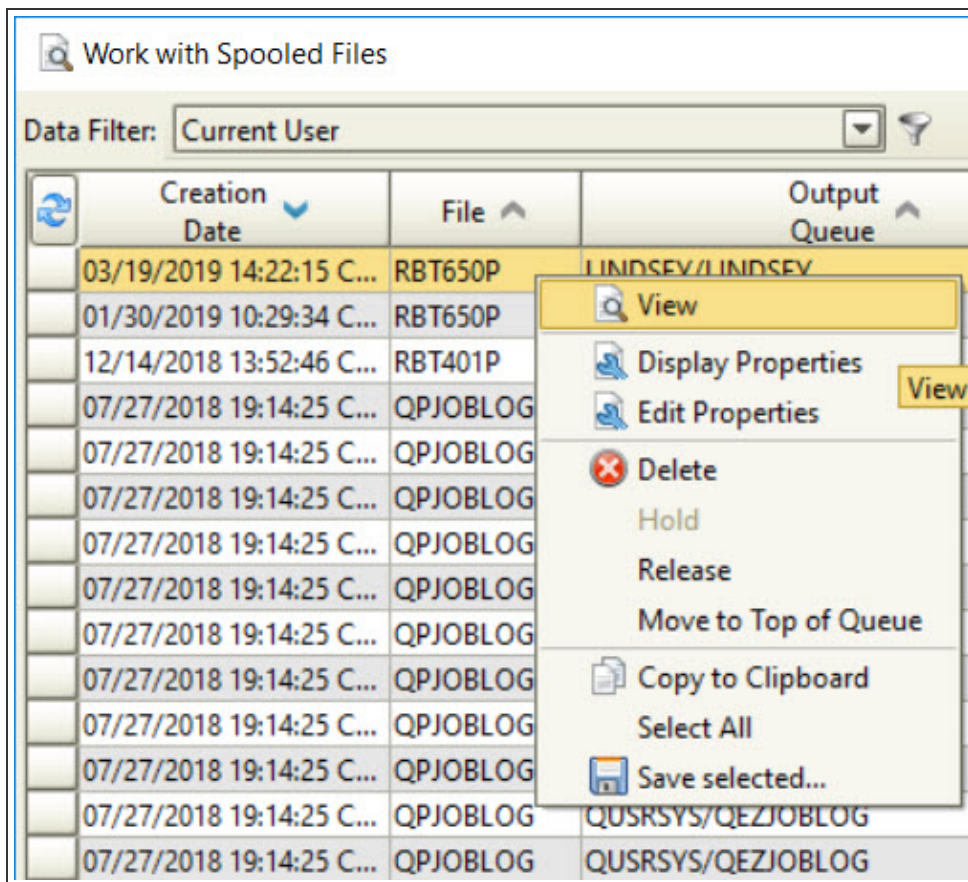
Initially, you can filter the display using the following options:

- All Spooled Files
- Current User (the default setting)

Click the Filter (funnel) button to view or create your own data filters using the Data Filter Manager (for more information, see Filtering Data and Displays in the Standard Explorer Features section of this User Guide).

Right-click on a file and select View to view the file and search for text strings. This option is not available if you select multiple files.

Displaying and Editing Spooled File Properties

You can display and edit the properties of the spooled file you selected.

1. Select **Display Properties** to view the spooled file's properties. For details about these properties, refer to the appropriate IBM documentation. You can save the displayed property information to a file or the clipboard.

2. Select **Edit Properties** to edit the file's properties. Use the Spooled File Edit Properties dialog to change some of the properties of the spooled file you have selected.

3. After you have made your changes, click **OK**.

Deleting Spooled Files

Use the Delete option to delete one or more spooled files from the system.

1. Select the file or files you want to delete and click **Delete**. A confirmation dialog displays asking you to verify the deletion.

2. Click **Yes** to delete; **No** to cancel the deletion.

View Spooled Files

Use the View Spooled File window to display the spooled file. The View window allows you to modify the spooled file display using the following:

Page:

Enter a page number and click the Jump button to change the page displayed.

Search For:

Enter a text string to search for and click the Find Text button. Or, click the Search For drop-down and select a previously entered text string. The results of the search appear highlighted in the viewer. To repeat the search, click the Find Next Text button. Select the Match Case option to perform a case-sensitive text search.

Font Size:

Click the Font Size drop-down to change the size of the font used in the display.

Bar Color:

Click the Bar Color button to change the color of the bars that display in the spooled file. Changing the color can make it easier to locate items in a spooled file. The Bar Color window allows you to select a color for the spooled file from three palettes:

- The Swatches palette allows you to select a color from a color palette. It also displays the recent colors selected.

- The HSB and RGB palettes allow you to create your own colors and gradients manually.

Reporting

Reports

There are multiple reporting options in Robot Network, which you can output as spooled files or HTML for fast access and distribution.

Three Robot Network reports—the Good Morning Report, Status History Report, and Performance Metrics Report—are available in a consolidated version that contains information from all of the Host and Node systems in the network. You can output consolidated reports as HTML for previewing and distribution. See Consolidated Reports for more information.

Good Morning Report

The Good Morning report displays status and packet information for the Host, using the date/time range indicated at the beginning of the report. The report lists statuses by type and by severity. We recommend that you print the report each morning to track your Host and/or network status and packet information. If you have Robot Schedule, you can schedule the report to run each morning at the same time.

Report Selection

The Report Selection section indicates the criteria used to filter and create the report. For this report, the criteria is the date specification.

Statuses

The Statuses section lists the number of statuses received on the Host by:

- Status: The number of statuses waiting to be acknowledged, the number acknowledged, and the total number
- Severity: The number of attention statuses, warning statuses, informational statuses, and total statuses
- Node: The number of statuses from each Node

Packets

The Packets section lists the number of packets distributed by:

- Packet by status: The total number of packets, the total number of packet distributions, as well as the distributions pending, processing, installed, reversed, and failed.
- User: The number of packets created by each user
- Node: The number of packets distributed to each Node

Host Setup Report

The Host Setup report lists the properties of the Host, its Nodes, the Product Master release levels for the Robot products that are installed, information about product statuses (including escalation methods and the number of days to retain statuses), information about user application statuses (including escalation methods and the number of days to retain statuses), and information about Host visibility.

Properties

The Properties section lists the properties of the Host, including a description, the IP address, the listening port, the notification port, and the time zone offset.

Attached Nodes

The Attached Nodes section lists all the Nodes attached to the Host.

Product Master Release Levels

The Product Master Release Levels section lists the release and modification levels for each Robot Product Master on the Host.

Product Statuses and User Applications

The Product Statuses and the User Applications sections list information describing product and application statuses on the Host. These include the product or application name, the number of days to retain statuses, whether to escalate statuses, the types of statuses to escalate, the time to wait before escalation, and the method of escalation.

Host Visibility

The Host Visibility section lists the IP address and port for any Host to which this Host is visible. (Visibility is used in Robot Network for cross-system job schedule reactivity with Robot Schedule and cross-system message redirection with Robot Console. For more information on visibility, refer to Host-Level Options, earlier in this User Guide.)

Node Setup Report

The Node Setup report displays properties, product and status information for each Node defined to the Host at the date and time indicated at the beginning of the report.

Selection Criteria

The Selection Criteria section indicates the criteria used to filter and create the report. For this report, the criteria is the Node's Host.

Node Properties

The Node Properties section lists the Node's Host, network address, listening port, notification port, time zone offset, address and notification port of its primary Host, and the address and notification port of its alternate Host.

Product Release Levels

The Product Release Levels section lists the release and modification level of each Robot product installed on the Node, as well as any user applications defined to Robot Network on this Node.

Product Statuses

The Product Statuses section lists the products on the Node, a description of each, and which types of statuses to escalate to the Host—attention, warning, and informational.

Product Metrics

The Product Metrics section lists products on the Node, and if metrics are being collected for those products.

Performance Metrics

The Performance Metrics section lists if performance metrics are being collected, the interval they are being collected at, and if thresholds are enabled.

Performance Metrics Thresholds

The Performance Metrics Thresholds section lists details about set thresholds for the various metrics being collected. You can see if a metric has a threshold set, and what the threshold setting is for Attention, Warning, and Informational statuses.

Packet History Report

The Packet History Report lists all the packets created in Robot Network (you can limit the list by product or date range). This report provides general packet creation information, such as creator and date.

Selection Criteria

The Selection Criteria section indicates the criteria used to filter and create the report. For this report, the criteria are the product (or all products) and a date specification.

Host

The Host section indicates the Node where the packet was sent, a description, the product associated with the packet, and the date the packet installation was attempted.

The Host section also indicates the status of the packet installation. Possible statuses are In Process, Not Processed, Completed, and Failed.

Security Setup Report

The Security Setup Report details the Robot Network Explorer security setup. It indicates whether security is turned on, each secured user and their role, and each secured object with its associated security roles, rights, and restrictions.

Security Setup

The Security Setup section indicates whether Robot Network security is enabled.

Secured Users by Role

The Secured Users by Role section indicates each user assigned to a Robot Network security role—Administrator, Operator, and User, as well as users assigned to user-defined security roles.

Secured Object by Role

The Secured Object by Role section indicates each Robot Network secured object and the privileges—Change, View, and Use—granted to each security role, including user-defined roles.

Server Setup Report

The Server Setup Report displays basic software and hardware information about the Host IBM i server and each of its Nodes, including the type of operating system the operating system level, and the hardware key.

The report indicates the operating system and hardware key for the Host and each Node.

Status History Report

The Status History Report displays the history of statuses sent by a Node (or Nodes) for a specific product, date range, and severity. The report lists the product, the Node, the Host, severity, the current status, who it's assigned to, the date and time (on the Host) the Host received the status, and the node's date and time. The consolidated version of this report lists the status history for all of the Hosts and Nodes currently connected in the Robot Network Explorer.

Selection Criteria

The Selection Criteria section indicates the criteria used to filter and create the report. For this report, the criteria are the system, the product (or all products), severity, include history, the date specification.

Host

The Host section lists all of the statuses received on the Host according the specifications at the time the report was requested.

Product Metrics Report

The Product Metrics Report displays the product metrics for a specific product and date range. The report lists the Host date and time, the Node date and time, and the product metrics description and value.

Report Selection

The Selection Criteria section indicates the criteria used to filter and create the report. For this report, the criteria are the system, the product (or all products), and the date specification.

Performance Metrics Report

The Performance Metrics Report displays the performance metrics for a specific Node and date range. The report lists the Host date and time, the Node date and time and the performance metrics description and value.

Report Selection

The Selection Criteria section indicates the criteria used to filter and create the report. For this report, the criteria are the system, the metrics to include, and the date specification.

Consolidated Reports

The Robot Network Explorer allows you to create consolidated versions of the Good Morning Report, Status History Report, and Performance Metrics Report. A consolidated report spans all of the Hosts in the network. The consolidated reports are identical to their single-Host counterparts, with a separate section of information for each Host in the network.

- The consolidated version of the Good Morning Report displays status and packet information for all of the Hosts currently active in the network, using the date range you specify.
- The consolidated version of the Status History Report displays the history of statuses sent by the Nodes for a specific product, date range, and severity for each Host currently active in the network.
- The consolidated version of the Performance Metrics Report displays the of performance metrics sent by the Nodes for a specific date range, for each Host currently active in the network

For more information about these reports, see the Good Morning Report, Status History Report, or the Performance Metrics Report topics.

Follow these steps to run a consolidated report:

1. Select **Consolidated Reports** from the Tree view of the Robot Network Explorer and double-click on a report in the List view. The Report Setup window displays.
2. Consolidated reports include all Hosts and Nodes for the date range specified; you cannot change this value.
3. Specify which **Product** defined to Robot Network to include in the report. (Status History Report only.)

   Note: "All" includes all products and user-defined applications.
4. Specify the type of status **Severity** to include in the report. You can choose from All, Attention, Warning, and Informational. (Status History Report only.)
5. Specify whether to include the status history in the report. (Status History Report only.)
6. Specify the **Metrics to Include** in the report. You can choose from All Metrics, System Status, Memory Pools, or Disk Units. (Performance Metrics Report only.)

7. Click **Date Selection** and choose one of the options. Depending on what you choose, you may have to enter a **Start Date**, and **End Date**, or both.

8. Click **HTML Preview** to generate the report.

Setting Up Reports

Use the Report Setup dialog to make your report specifications and preview, print, or schedule reports.

Report Setup Example

The window contains the following fields and options:

Name - the Robot Network name of the report

Description - the Robot Network description of the report

Output Options - select spooled file or HTML output for your report output. If you select spooled file, you can specify an output queue using the Object Finder. If you select HTML, you can specify a file location on the IFS.

Report Selection - Choose various options to control the report content and output. These options vary by report type and can include a date and time range, types of statuses, types of products, which systems (Nodes) to include, and either an IBM i spooled file or an HTML file as output.

Schedule - you can schedule reports using Robot Schedule if you have it installed on the Host or Node from which you are creating the report. When you click on Schedule a dialog displays that you can use to schedule your report.

Submit - use this option to submit the report to a queue to be processed as an IBM i spooled file.

HTML Preview - use this option to generate an HTML file that you can view in any Web browser. See Previewing Reports in HTML.

Cancel - click **Cancel** to cancel the setup process.

Displaying Reports

You can generate reports using Robot Network to summarize your network setup and activity history. Generally, these reports fall into two categories, history reports and setup reports. There is also a Good Morning Report that summarizes recent system or network activity. The Good Morning Report summarizes a specific Host's status and packet traffic during a specified date/time range. The report lists statuses by type and by severity.

To setup a report to display, select Reports from the Tree view, and double-click on a report from the List view to set up your report specifications. Or, right-click and select Setup Report. The Report Setup dialog displays.

Scheduling Reports in Robot Schedule

You can schedule reports using Robot Schedule if you have it installed on the Host or Node from which you are creating the report.

1. To schedule a report, select the report, right-click to display the menu, select **Report Setup.**
2. Enter your report specifications, and click **Schedule**. Use the dialog that displays to specify the name of the report job, as well as the times and days the report should be created. For more information, see the Robot Schedule User Guide.

Previewing Reports in HTML

You can preview any of the Robot Network reports in HTML format.

Note: Depending on the scope of your specifications, the HTML preview can take some time to generate. In most cases, it is better to use your report specifications (such as a date range) to limit the amount of information you want to preview.

1. To preview a report, select the report, right-click, select **Report Setup**. The Report Setup window displays.

2. To preview your report in HTML, enter your report specifications, and click on **HTML Preview**.

3. The Report Preview Progress window indicates the progress of the report preview creation process. Click **Show Report** when the report is ready to preview (the window displays Finished).

4. The report preview is generated as an HTML file that you can view in any Web browser. In a Windows environment, you can right-click the preview to display standard Windows options you can use to manipulate the file.

IBM i Commands

Robot Network includes a number of IBM i commands that you can use. You can enter these commands from a command line prompt, place them in a CL program, or enter some of them using the Robot Schedule or Robot Network Explorer.

Command	Description
RBNACK	Use the Robot Network Acknowledge Events command to acknowledge statuses from a command line. The command lets you acknowledge all statuses, for all products, on all systems, at once.
RBNCFGNODE	Use the Robot Network Configure Node command to configure a new Node in your network. Use the command to specify the IP address for the Node's Host and alternate Host (optional), as well as listening and notification ports for the Host, alternate Host, and Node, and whether the node will use secure connection.
RBNCFGHOST	Use the Robot Network Configure Host command to configure a new Host in your network. Use the command to specify the IP address for the Host, as well as its listening and notification ports, and whether the host will use secure connection.
RBNCHGESC	Use the Robot Network Change Status Escalation command to specify escalation methods for status notification. You can specify the following: • A software application, user, or device (pager), or SNMP trap to notify • The amount of time to wait before paging • The types of statuses to escalate • The amount of time to wait before escalating the status
RBNDLTNODE	Use the Robot Network Delete Node command to remove a Node from your network. Use the command to specify the Node's name.
RBNDLTSTS	Use the Robot Network Delete Status command on a command entry line to delete status records.
RBNENDHOST	Use the Robot Network End Host command to end the Robot Network monitor jobs, which does not affect the Node monitor job on the Host (see the RBNSTRHOST command).
RBNENDNODE	Use the Robot Network End Node command to shut down the Robot Network monitor job. The Robot Network monitor starts each time there is a system IPL. You must shut it down by putting the command RBTNETNODE/RBNENDNODE in your power down or save program procedures (see the RBNSTRNODE command).
RBNENDPFR	Use the End Performance Metrics command to stop collection services for the Performance Center. You can use this command in a Robot Schedule job to stop collection services at a scheduled time.
RBNOVRHOST	Use the Robot Network Override Host command to force a Node to start or stop using a specific Host as an alternate Host.

RBNNCLEAN	The RBNNCLEAN command is used to clean up Robot Network Node files for configuring this Node to a new Host.
RBNPOLL	Use the Robot Network Polling command to check the connection status of each system.
RBNPOLLSYS	Use the Poll System(s) command in Network to poll one or more systems in the network to determine whether everything is operating correctly on the remote IBM i servers.
RBNPURGE	Use the Robot Network Purge command in Robot Schedule to purge packet history by the number of days from installation date.
RBNSNDRBC	Use the Robot Network Send Robot Console Set command if you have Robot Console message sets that you have been using on a Node (including the Host's Node) that you want to distribute to the other systems in your network. This command uses the Robot Console Merge function to send Robot Console message sets to the Host's Robot Console Product Master. You can make changes to the message sets and distribute them to the Nodes, including the Host's Node. For more information, see the Robot Console User Guide.
RBNSNDRBT	Use the Robot Network Send Robot Schedule Job command to distribute Robot Schedule production jobs on a Node (including the Host's Node) to the other systems in your network. This command uses the Robot Schedule merge function and you must perform it one Node at a time. It lets you send Robot Schedule production jobs to the Host's Robot Schedule Product Master. Then, you can make changes to the jobs and distribute them to the Nodes (including the Host's Node). For more information, see the Robot Schedule User Guide.
RBNSNDREP	Use the Robot Network Send Robot Reports Sets command to distribute Robot Reports report sets that you have been using on a Node (including the Host's Node) to other IBM i servers in your network. This command uses the Robot Reports merge function and can send one set or application at a time. It lets you send Robot Reports report sets to the Host's Robot Reports Product Master. You c an make changes to the report sets and distribute them to the Nodes (including the Host's Node). For more information, see the Robot Reports User Guide.
RBNSNDSTS	Use the Robot Network Send User Status command to place status records in the Status Center for your user-defined applications (non-Robot). You must code the command into your application program. See below for more information on the RBNSNDSTS command.
RBNSTRHOST	Use the Robot Network Start Host command to start the Robot Network monitor jobs, which does not affect the Node monitor job on the Host (see the RBNENDHOST command).

RBNSTRNODE	Use the Robot Network Start Node command to start the Robot Network monitor. The Robot Network monitor starts each time there is a system IPL. You also can start the monitor by entering the RBTNETNODE/RBNSTRNODE command. The monitor starts every time the RBTSLEEPER subsystem—the subsystem used by all of the Robot Automated Operations Products—starts (see the RBNENDNODE command).
RBNSTRPFR	Use the Start Performance Metrics command to start collection services for the Performance Center. You can use this command in a Robot Schedule job to start collection services at a scheduled time.
RBNSTS	The Hold or Release Statuses (RBNSTS) command lets you hold or release Robot Network statuses. When you use the command, all statuses are held or released.

RBNSNDSTS Command

User-defined applications (non-Robot) use the RBNSNDSTS command to place status records in the Status Center. You must enter the RBNSNDSTS command from an ibm i command prompt. You code the command into your application program.

1. Enter the command **RBTNETNODE/RBNSNDSTS** on a command line and press **function key 4** to display the command prompt.

2. Enter the name of the application for which the status will be sent. Press **function key 4** to display a list of all user-defined applications installed on the network.

3. Specify the severity level of the status records you want sent to the Status Center:
   - **AT** Attention
   - **WR** Warning
   - **IN** Information

4. Enter a text description of the status event of up to 208 characters. This description appears when you display the status from the Status Center.

RBNSNDSTS Command

User-defined applications (non-Robot) use the RBNSNDSTS command to place status records in the Status Center. You must enter the RBNSNDSTS command from an i5/OS command prompt. You code the command into your application program.

1. Enter the command **RBTNETNODE/RBNSNDSTS** on a command line and press **function key 4** to display the command prompt.

2. Enter the name of the application for which the status will be sent. Press **function key 4** to display a list of all user-defined applications installed on the network.

3. Specify the severity level of the status records you want sent to the Status Center:

- **AT** Attention
- **WR** Warning
- **IN** Information

4. Enter a text description of the status event of up to 208 characters. This description appears when you display the status from the Status Center.