OpalisRobot User's Manual

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OPALISROBOT

Overview

OpalisRobot is a comprehensive system management and automation solution. It delivers real-time monitoring, notification, corrective action and event driven job scheduling to provide administrators with proactive management over Windows NT and Windows 2000 environments.

OpalisRobot provides in-depth monitoring of system resources such as applications, processes, services, Internet applications, SNMP Traps, event logs, disk space, performance counters, file systems and more. It acts as a 24/7-watch dog to detect and address system malfunctions, maximizing server availability and performance.

Advanced notification and alerting features via standard communication channels enable immediate response to system malfunctions. OpalisRobot delivers user-defined corrective actions and multiple methods of notification to detect and fix problems that can result in downtime.

The robust job-scheduling engine improves productivity by automating routine tasks and multi-step job sequences. It delivers the sophisticated parallel scheduling capabilities necessary to automate complex IT processes, saving administrators time while lowering Total Cost of Ownership.

OpalisRobot offers a single solution to automate virtually any network administrative task. The unique combination of jobscheduling, monitoring, notification and corrective action enables IT professionals to design custom automation solutions that address specific needs in their organization.

OpalisRobot provides today's IT professional with essential tools to simplify increasingly complex technologies, automate administrative tasks and manage the IT infrastructure which achieves greater alignment between IT management and business objectives.

System Requirements

Service

The Opalis Robot automation engine runs as a Windows NT Service and is generally referred to as ' Opalis Robot Service' .

- Windows 2000 or
- Windows NT 4.0 Service Pack 3
- 14 MB of free disk space

Optional

- TCP/IP if you plan to use SMTP E-mail functions
- ODBC 3.0 if you plan to use ODBC database functions
- Remote Access Service if you plan to use Dial-up Networking functions

ODBC files are available from www.microsoft.com

Client

The OpalisRobot graphical user interface (GUI) is used to view or modify an OpalisRobot Service configuration. It is generally referred to as ' OpalisRobot Client'.

- Windows 2000 or
- Windows NT 4.0 Service Pack 3 or
- Windows 98 or Windows 95

Windows 98 or 95: Microsoft Remote Registry Services must be installed. Installation files are located here:

- Windows 98 CD-ROM: ' tools\reskit\netadmin\remotereg'
- Windows 95 CD-ROM: ' Admin/Nettools/Remotereg'

<u>Differences between Windows 98 / 95 and Windows NT for the Client</u>: The executable is the same, but some functions are not available on Windows 98 and 95 because they are part of the advanced Windows NT API (such as restarting the Service remotely).

Installation

When inserting the Opalis CD-ROM, an HTML menu should be presented. From here, the software can be installed. Opalis products are installed by executing the self-extracting ZIP files. The default installation path is C:\Program Files\Opalis\OpalisRobot\.

Refer to the 'README.TXT' on the CD-ROM for more information on files and their locations.

You must have administrative rights on the computer on which you are installing Opalis Robot.

If you run the setup program from a Windows 98 or 95 computer, you can only install the Client program.

From a Windows NT system, you have three choices

- Client and Service
- Client only
- Remote Installation: choose this option to install the OpalisRobot Service on another Windows NT computer (it will also work locally if you wish to install just the Service). You must have administrative rights on the remote computer.

Note: the installation does not require a reboot, you can start to work with OpalisRobot immediately after the installation.

Account Used for the Service

The installation program allows customization of the account used by the OpalisRobot Services. It is possible to ignore this feature and run the Services under the local system account context. However, you must modify this account to a well known administrative account (for example, yours), if you plan to use ODBC functions. To do so, use the Startup button from the Services applet of the Control Panel (see the Online help or the full electronic manual on the CD).

Upgrading

You can install the latest version of OpalisRobot on the same system as your current OpalisRobot license; the configuration will be preserved, however you will require new serial numbers and product keys. Please contact Opalis for more details. As a safe guard, we recommend you back up your configurations before upgrading. Copy files from Program Files | Opalis | OpalisRobot3 and have a .DV3 extension (these files make up your configurations) into a temporary folder.

License Structure

Server License

OpalisRobot is licensed per Windows NT/2000 server. This means for each Windows NT/2000 computer where OpalisRobot functionality is required a license is also required. An OpalisRobot license is generally referred to as OpalisRobot Server License. OpalisRobot runs on both a Windows NT/2000 Workstation and Server.

An Opalis Robot Server License consists of serial number and a product key. They can be entered during installation or at a later stage by going to Options, Service, Licensing Tab (see the screen shot below).

Note If you are using the Internet Transfer option in the Advanced File Management Tab the local and destination computers require a server license.

Client License

Three client licenses are included by default. Additional client licenses are required if more than 3 ' entities' (applications or users) need to trigger OpalisRobot objects remotely (this includes coping or moving files to remote computers). A Client License is a paper license and consists of a serial number and product key. They are entered through the OpalisRobot user interface under Options | Service| Licensing Tab.

Note: if you are using the Advanced File Management features and require OpalisRobot to copy/move files to more than 3 computers you need to purchase additional client licenses. If you are using the Internet Transfer option both the local and destination computers require a server license. Please call Opalis for more information or to purchase licenses.

Service Options		×
General Add-ons Licensing Activity	Templates Closed Da	iys
OpaliSRobot3 Advanced File Management Build Add-on Internet Application Add-on Pager	3.60 1.00 3.60 3.60 3.60 3.60	License
Serial number 0		Discard
Product Key		<u>C</u> hange
License Type Evaluation Edition	1	
	Close	Help

If no serial number is entered the product will run in evaluation mode for 30-days

COMPONENTS

Concept

Tasks

Tasks are the actions OpalisRobot performs. Typically, OpalisRobot will execute tasks in response to events (to be introduced shortly). You can run any program or system command from OpalisRobot.

OpalisRobot also offers numerous other built-in tasks:

- file and directory operations: copy, move and print files from OpalisRobot;
- SQL and ODBC queries: send SQL and ODBC queries to databases or files from OpalisRobot;
- · remote access: connect to other computers from OpalisRobot;
- network messaging: send messages (alerts, etc.) from OpalisRobot;
- Service manipulation: start, stop or pause NT Services from OpalisRobot;

Here are some typical tasks:

- backup disk ' c:' ;
- transfer data from a flat text file to your relational database;
- process EDI messages;
- query a database;
- move files from a public directory to a protected one;
- etc.

Events

Events define the system condition that triggers a task(s). Events are linked to tasks (links are introduced shortly).

OpalisRobot supports numerous events, including:

- periodic: Opalis Robot generates events at certain date/time;
- file system: actions on files or folders (move, copy, etc.) generate events;
- Data queries: OpalisRobot can pool databases (whether SQL server or ODBC) until certain conditions are met;
- task-related: the end of a task is an event so that you can chain tasks.
- and more: it is also possible to interactively trigger events.

Here are some typical events:

- Friday, it' s 9:00 p.m.;
- a file has arrived in the ' \\opalis\public' folder;
- the ' \\opalis\working' folder contains more than 2Mb;
- the user wants to refresh the data, etc.

Links

Links associate tasks to events. A link enables OpalisRobot to run a task in response to one or more events. Events and tasks by themselves are not sufficient; it is the combination of one or more events linked to one or more tasks that will perform actual work.

Separating tasks, events and links maximizes flexibility; you are free to combine tasks and events at will. This means that you can reuse events or tasks in multiple links. For example, one event can trigger several tasks.

You can also combine two events to express a logical ' and.' For example, you can ' convert files' (a task) when there are ' enough files in the input folder' (an event) and ' the time is 10.00 a.m.' (another event).

OpalisRobot supports three forms of links:

- simple links: one event triggers one task, using one link;
- multiple links: two events trigger one task, using one link. This is equivalent to a conditional ' and.'
- To express a conditional ' or,' create two separate links between two events and the task.

Here are some typical links:

- backup disk ' c:' (task) on Friday at 9.00 p.m. (event);
- process EDI message (task) when a file arrives in the ' \\opalis\public' folder (first event) and when the ' \\opalis\public' folder contains more than 2Mb (second event);
- insert data in a SQL database (task) when the user wants to refresh it (event).

Folders

As an additional convenience, OpalisRobot lets you arrange events, tasks and links in folders. This serves no other purpose than to help you visually organize your configuration. Also, each folder has an associated log, which logs only the messages regarding the tasks of the folder.

The scheduler does not use the folders; you are free to organize your configuration to suit your tastes or working habits. Please note that the objects defined in one folder are available to objects in all folders.

An Example

Automate the backup (disk ' c:') every day of the week at 9:00 p.m.

Step 1 – determine what you want the system to do, this is your Task. In this case, you want to start backup, i.e., run the NTBackup program with 'c:' as a parameter.

OpalisRobot supports 'Program Execution' Tasks, which run arbitrary programs – including NTBackup, which would be appropriate in this example.

Step 2 - determine what will trigger the task, this is the Event. In our case, we want to backup everyday at 9:00 p.m.

OpalisRobot's built-in ' date/time' events are perfect for the job.

Step 3 - Associate the event and the task using a link. This creates a configuration that will launch the backup executable when it's 9:00 p.m. every day of the week.' Figure 1 illustrates this configuration



Creating a Configuration

The previous section explained how to create a configuration in conceptual terms, this section explains how to configure the same job using the OpalisRobot menu items.

First run the OpalisRobot Client program and connect to the OpalisRobot server you want to administer. You can use the Server | Connect To... menu item and enter the server name in the dialog box. This opens a window with a view of the configuration on your server (as in Figure 2).

If you cannot connect to the server, make sure that you have sufficient rights.



Figure 2

Step 1 - Right-click in the folder where you want to insert the event, or New in the Edit menu.

This opens the following New Object dialog (

Figure 3). This dialog lists the different objects you can create depending on what is installed on the server.

<u>N</u> ew	Ctrl+N
New Eolder	
Paste	Ctrl+V
Delete Selection	Del
Select All	Ctrl+A
✓ Show Properties	
✓ Show Folder Tree	

New Object				×
Internet App. Mo General	nitoring Pa Ad	ging Performa vanced	nce Monitoring Statistics Advanced File Manager	Zip nent
<u></u>	4 6	*		
Event	Task	Wizard		
		<u>N</u> ew	Cancel	<u>l</u> elp

Figure 3

Step 2 - Select Event and click New.

Fill in the event name (we suggest ' Backup time') and select the type of the event (' Date / time' in this case, which is actually the default value). Enter 9:00 p.m. in the Periodicity At field.

ame Date/Time	No 231000
na provinsi na/Tima Lauruau	
Periodicitu	opions
 At 	09:00pm
C Every	0 hours 0 minutes
- 1.00	Starting 0 minutes after the hour
	At time since within the hour.
	Starting Minutes after the hour At time slices within the hour

Figure 4

Step 3 - Create a task to backup the drive c:

Right-click in the folder where you want to insert the task, or select New in the Edit menu. This opens the New Object dialog (see

Figure 3).

Step 4 - Select Opalis Robot Task and click New. A window similar to Figure 5 now appears.

Step 5 - Name the task ('Backup' seems appropriate) and select the type of task you want ('Program execution' in this case). *Program* is 'NTBackup.exe' and *Parameters* is 'c:\'. Select Interactive in the Execution mode list. You may leave the other fields empty.

vent/Ta	sk properties
Name	Backup No
Туре	Program execution
Exec	Security Activity Options
Mode	
ΘE	rogram execution
0.0	ommand execution
Execu	tion
	Program C:\WINNT\system32WTBACKUP.EXE
Op	tional parameter(s) C:
	Working directory
Option	\$
	Execution mode Interactive
	Terminate after 0
	OK. Cancel <u>H</u> elp

Figure 5





Click on the square at the right of the origin event or task.



Drag the mouse pointer to the square at the left of the destination task. (Do not release the mouse button.)



When the square at the left of the destination task is highlighted, release the mouse button (i.e. drop).

Thať s it!

Step 7 - Refresh the Opalis Robot configuration (see Figure 6). To do so, use the 'Apply Changes' icon in the toolbar.



That's all, folks! Congratulations, Opalis Robot will backup your c: drive every day of the week at 9:00 p.m.

Chaining Tasks

In many instances, you will want to chain one or more Tasks. In the example above we automated the backup every night. You may want to associate a Send Email Task or Write to SQL Server Task to notify or log system activity.

This section explains how to modify the configuration we have created so far so that OpalisRobot emails the system administrator when the backup is finished.

This section assumes you know how to create tasks and links as explained in the previous section. Please refer to the ' Concept' section if you are unsure.

Step 1 - Create a task type of 'Send Email.' Let's call this task 'Backup completed email.'

Name	Backup completed email	No
Туре	Send e-mail	▼ Inactive
E-mail	Connect Activity Options	
Serve Se	r rvertype MAP1	Send mode C Service C ConsoleBunner
Recip To	ients admonistrator	Attachement
Messa	sge Subject Backup	completed
юм Сы	essa Message text Backup I	has completed successfully.

Figure 7

Step 2 - Create the link between the 'Out' square (at the right of the task icon) of the 'Backup' task and the Backup completed email' task you just created. This result should look like Figure 8.



Step 3 - Use the Apply Changes command to have your changes taken into account.

You may want to link this task to a different message when it fails. To do it, you will have to create a new link and then edit it (double-clicking on it) to change its characteristics.



Figure 9

The Edit Link dialog (Figure 9) lets you select which condition you want the link to test: an event occurs, a task completes or fails.

Depending on its type, a task can return a given value when it completes successfully; using this feature, a link can chain to another task if this value meets certain criteria.

Multiple Link Creation

When a task requires two or more objects to be triggered so that it can be launched, you need to create a multiple link.



In this example, the tasks 'First batch' and 'Second batch' are launched at the same time by the 'Batch time' event. Thanks to the multiple link, the 'Last batch' task will be launched only when both 'First batch' and 'Second batch' tasks have completed.



Create a simple link between one of the origin objects and the destination task.



Drag the cursor from the square at the right of the other origin object to the square in the middle of the simple link you just created.

Link Options

Timeout. the system must receive the two objects in at most Time-out seconds.

Example: A link is waiting for 'event1' and 'event2' to trigger ' task1' with a time-out of 30 seconds.



The order in which events occur is not important. The configuration on the left has the same behavior as the one on the right.

The link properties *Timeout* option allows you to specify the time-out in seconds:



When the system receives an event (e.g. ' event2'), it starts waiting for the other event (in this case ' event1').

If ' event2' occurs again, it is ignored.

If ' event1' is not triggered within 30 seconds, the system will wait again for the two events to occur. In other words, the two events will have to occur within a new 30 seconds period so that the task can be launched.

Links enable you to express any conditions between events and tasks. You can combine links to go beyond the simple ' If event1 And event2 Then task1' sequence.

OpalisRobot is a Service

The OpalisRobot automation engine runs as a Windows NT/2000 Service. Services are background processes that normally run without a console. Services do not necessarily run under the user logged in the system. In fact, Services can run even when no user is logged into the system. They can also be configured to be started automatically when the system boots (default configuration).

the Services applet of the Control Panel (see

Figure 10).

Like all other Windows NT Services, OpalisRobot can be started, stopped and configured from

Starting or stopping Windows NT Services requires administrative privileges.



Control Panel Services

Figure 10

Services				×
Service	Status	Startup		Close
Network DDE		Manual	•	
Network DDE DSDM		Manual		Start
NT LM Security Support Provider		Manual		
OpalisRendezVous		Manual		Stop
OpalisRobot	Started	Automatic		
OpalisRobot3		Manual		Farrac
OpalisRobotAdministrator	Started	Automatic		Continue
Plug and Play	Started	Automatic		Sources
Remote Access Autodial Manager		Manual		C Obstan
Remote Access Connection Manager	Started	Manual	-	
				HW Profiles
Startup Parameters:				
			-11	Help
1				

Figure 11

The 'Startup...' button brings up the Service dialog box (Figure 12). From the Service dialog box, you can control the behavior of your Service at system startup. A Windows NT Service can either:

- start automatically when the system boots;
- wait until you manually start it, either from the 'Start' button, with the 'net start' command or with an 'Action on NT ٠ Service' OpalisRobot task.

Service	×
Service: OpalisRobot3	
Startup Type	[
Automatic	
C Manual	Cancel
C Disabled	Help
C System Account	teract with Desktop
	strator
Password:	
Confirm Password:	261322

Figure 12

We recommend that you do not run OpalisRob ot under the system account but rather under an administrative account.

You can also change the user account of the Service from the same dialog. This allows you to fine-tune the security of the Service. The Service will never be able to bypass the rights of its user account.



Remote Administration

One of the most convenient features of OpalisRobot is that you can manage the OpalisRobot Service remotely. The OpalisRobot Client program and the OpalisRobot Service work in true client/server fashion.

OpalisRobot consists of two separate programs:

- the Opalis Robot Service, the core of Opalis Robot functionality;
- the Opalis Robot Client, used to view or modify the Opalis Robot Service configuration.

The Opalis Robot Service makes full use of Windows NT/2000 multitasking capabilities. Most objects are implemented in the form of threads of the Opalis Robot Service, allowing it to carry out many different actions simultaneously.

The OpalisRobot Service consumes practically no system resources for its internal operation. Threads are synchronized by means of special system objects that guarantee security, robustness and low consumption of resources.

The OpalisRobot Service runs regardless of whether the OpalisRobot Client program is running.

An additional benefit of separating the Service and the Client is that the Client can run remotely from another computer. This is especially convenient to manage a pool of Windows NT systems running the OpalisRobot Service.



Figure 13

Of course, the OpalisRobot Client and the OpalisRobot Service do not have to run on separate computers. You can administer the local computer. In this case, in the 'Connect To' dialog, simply input the local computer name.

Architecture

OpalisRobot is made up of two distinct programs, the OpalisRobot Service, the automation engine at the heart of OpalisRobot and the OpalisRobot Client, the graphical user interface to the OpalisRobot Service.

When you execute the Opalis Robot Client for the first time, it is not connected to any Service. The first window should be similar to Figure 14.

Service Edit 1	t3 Options Window Hel	1 1 1 1 1 1 1)		
From	a Date/Time	Туре	Status	X	
				~	
				N	

Figure 14

You are not connected to any Service but you can view OpalisRobot messages. See the section 'Messages Window' for more information on OpalisRobot messages.

If you cannot connect to a Service, check that you have sufficient rights on the Windows NT system where the OpalisRobot Service is running. You must connect to a Service before you can administer it. You can use:

- the Service | Connect To... menu item;
- the Connect To button in the toolbar;
- the most recently connected servers in the Service menu.

The Server View window displays the configuration of the server you are connected to. Please note that you can connect to several servers at the same time, each with its own server view.

The Server View window can be opened in user (low privileges) or administrator (full privileges) mode. See the security section in the Advanced chapter for more details.

Server View

The Server View is divided into three parts (Figure 15):

- on the left, the Folder Tree;
- in the center, the graph-view of objects;
- on the right, the Properties panel.

vice Edit Object Options Window Help	1-
:∰ \⊑ ")≅ ¶ ⊒• • •	
red_note	
asks & Events Log	
adv	Stopped
	,, , <u></u>

Figure 15

The Folder Tree is used to manage folders.

When you click on a folder, the graph-view displays the objects contained in this folder (if any). Using the right-click popup menu or Objects menu, you can create or rename folders. Using Drag'n Drop you can move folders to another location.

You can hide or show this panel using the popup menu.

<u>The graph-view of objects</u> is used to manage objects contained in the selected folder. You can move objects within or outside of the folder using Drag'n Drop. You can add or delete objects and folders using menus or shortcuts.

<u>The Properties panel</u> displays a summary of the selected object configuration. You can hide or show this panel using the popup menu.

Log and alerts

💑 red_note				_ 🗆 🗡
Tasks & Events Log				
Log of all folders				
☑ Log of all folders	Show alerts	Priority All		
Name	Start Time	Status		
A Program version alert	2/16/98 10:39:42 AM	Warning: (see detail)		
🗸 print	2/13/98 5:15:33 PM	Completed. 2 file(s) transferred, 0	file(s) renamed, 0 file(s) de	eleted, 0 file(s) failed.
✓ print	2/13/98 5:14:08 PM	Completed. 2 file(s) transferred, 0	file(s) renamed, 0 file(s) de	eleted, 0 file(s) failed.
🗸 print	2/13/98 4:53:26 PM	Completed. 1 file(s) transferred, 0	file(s) renamed, 0 file(s) de	eleted, 0 file(s) failed.
🗸 print	2/13/98 4:25:55 PM	Completed. 1 file(s) transferred, 0	file(s) renamed, 0 file(s) de	eleted, 0 file(s) failed.
✓ print	2/13/98 4:13:21 PM	Completed. 1 file(s) transferred, 0	file(s) renamed, 0 file(s) de	eleted, 0 file(s) failed.
🗸 print	2/13/98 4:10:21 PM	Completed. 1 file(s) transferred, 0	file(s) renamed, 0 file(s) de	eleted, 0 file(s) failed.
1				
Ready			Stopped	3.04

Figure 16

The log contains the history of task execution. Each time a task is launched (if its "No Log" option is not set) a new log entry is created.

You can sort log entries by clicking on the label of each column of the list. You can view the detail of a log entry by doubleclicking on it or pressing Enter when the entry is selected.

If the "Log of all folders" option is checked, the list contains all log entries of the server. Otherwise, the list contains the log entries of the task that are located in the currently selected folder of the Folder Tree.

If the "Show alerts" option is checked, the list will also contain alerts. Alerts keep you aware of general problems or incorrect execution of events.

In the Priority list, you can select what type of log entries you want to view. By default, all log entries are displayed. To set the log priority of a task, use the Log priority option of the Options tab of the task configuration.

Messages Window

Messages				
From	Date/Time	Туре	Status	•
\land мів	10/16/97 3:05:05	Warning	Unread	
\land мів	10/16/97 3:05:07	Warning	Unread	
🔍 MIB	10/16/97 3:06:05	Information	Unread	
🔍 мів	10/16/97 3:06:06	Information	Unread	
🔍 MIB	10/16/97 3:06:08	Information	Unread	
RED_NOTE	10/16/97 3:06:22	Information	Read	•
Service OpalisRobo	t has started			A
				X

Figure 17

This messaging system is based on mail-slots. Therefore, it will not go though routers unless you use a Virtual Private Network (VPN). OpalisRobot supports a proprietary network messaging system. The OpalisRobot Client must be running to receive OpalisRobot messages. In this respect, OpalisRobot messages work like Network messages (WinPopup).

Users can send messages using the 'Send Message' dialog. Please refer to the 'Send Message' dialog section for more information.

Unlike logs, messages are not archived, i.e. all messages are deleted when you close the client program.

You can also use OpalisRobot messages to exchange information between system administrators working from different sites. You can broadcast messages like: «*I'm configuring ' gateway' to process incoming messages*» to your colleagues (or: «*Let's go eat.*»).

Menus

Service Menu

Service	
Connect To	Ctrl+O
Reconnect	•
Apply Changes	s Ctrl+S
Start/Stop	
<u>R</u> estart	Ctrl+R
<u>P</u> rint	Ctrl+P
E <u>x</u> it	

Connect To... Connects to an OpalisRobot Service It opens a dialog box where you can type a computer name or choose it from a list box.

Reconnect- The Reconnect menu item lists the names of recently connected Services. Select one of them to quickly connect to the server without using the Connect To... dialog.

Apply Changes applies last modifications or creation of new objects to the running Service.

Start/Stop Starts or stops the OpalisRobot Service. The current status is displayed in the status bar. Please note that the status does not change immediately depending on the time the Service takes to start or stop. This function is not available on Windows 98 and 95.

If you stop the Service when tasks are being executed, they will be interrupted (except Program Execution tasks). If you attempt to do so, you will be prompted for confirmation.

Restart - Checks inside the Service that no task is running and that no replacement code is waiting to be used, and then, if possible, it stops and restarts the OpalisRobot Service. This command can be used to validate changes in Service Options.

This function is not available on Windows 98 and 95.

Print - Prints the content of the currently selected object. It opens a dialog box where you can choose the printer, number of copies, print to a file, change the printing font and choose precisely the object or list of objects you want to print.

Exit terminates the Opalis Robot Client. Please note that any connected Opalis Robot Service, if started, continues to operate. To stop the Service, use the Start/Stop command or the Windows NT Control Panel.

Edit Menu



Cut copies the selected object(s) to the clipboard and removes them from the current configuration.

Copy copies the selected object(s) to the clipboard without removing them from the current configuration.

Paste copies the object(s) stored in the clipboard to the current configuration.

Delete removes the selected object(s) from the current configuration.

Select All selects all objects and folder of the currently selected folder.

Purge log erases all entries of the log currently displayed.

Objects Menu

Object		
New.		Ctrl+N
New	Eolder	Shift+Ctrl+N
Modif	y	
✓ Active	в	
Trigg	Br	Ctrl+T
<u>S</u> how Show	Properties Eolder Tree	

New ... brings up the New Object dialog box used to create new objects.

New Folder creates a new folder in the current folder (or the root if no folder is selected in the Folder Tree).

Modify... brings up a dialog to modify the configuration of the selected object.

Active indicates whether or not the selected object is active or not.

Trigger asks the Service to launch the selected task or to simulate that the selected event has occurred.

Show Properties toggles on or off the display of the Properties panel.

Show Folder Tree toggles on or off the display of the Folder Tree.

Options Menu



Service... brings up a dialog box to edit the Service-side options of installed modules.

Log Filter sets filtering options for the log. Depending on which items are checked, Tasks that are Completed/Failed/Interrupted/Running are displayed in the log. *Client..* brings up a dialog box to edit the client-side options of installed modules.

Windows Menu

Window	
<u>R</u> efresh	F5
✓ <u>T</u> oolbar	
Send Message	
Clear Messages	
<u>C</u> ascade	
Tile <u>H</u> orizontal	
Tile ⊻ertical	
Arrange Icons	
<u>1</u> Messages	
✓ <u>2</u> OpalisRobot: red_note	

The *Refresh* command updates the content of the selected folder or log by requesting new data from the server.

Toolbar: if checked, the Toolbar is visible.

Send Message... brings up a dialog to type and send an OpalisRobot message.

Clear Messages empties the Messages window.

Cascade cascades windows.

Tile Horizontal tiles windows horizontally.

Tile Vertical tiles windows vertically.

Arrange lcons arranges window icons.

The last items in the menu list all opened windows. Selecting one of these items will bring the corresponding window to the front.

Help Menu



Under the *Index* menu item is listed the name of installed Add-ons. Select one of them to access the corresponding help.

About... displays version, copyright and other information about OpalisRobot and any installed Add-ons.

Popup Menus

Context sensitive popup menus are displayed on the Configuration Tree when you click on the right button of the mouse on objects.

Dialog Boxes

Send Message



Messages are only received on those computers that are running the client. The Send Message dialog box sends messages through OpalisRobot proprietary message protocol. The messages are prompted in the 'Messages' window of the OpalisRobot client.

You can send To a particular computer in the network or to all computers (including yourself).

You can send messages of different *types* (Information, Warning, Error and Administration). The Message type is informative only. Please refer to the 'Messages' Window section for a more complete discussion of OpalisRobot messages. Depending on Client settings, a sound can be played when Error or Administration messages are received (see the Client Options dialog).

Edit Event/Task

To create/modify tasks and events, you use the 'Edit Event/Task' dialog box (Figure 18).



Figure 18

The screen is divided into three parts: in the *Name* field, you enter the name of the task/event. Duplicate object names are allowed but not recommended.

The *Type* drop-down list allows you to select a type of event/task. All the available types are listed in the 'Events and Tasks' chapter with appropriate explanations.

Choose the Type of the event or task at creation time. Please note that you cannot change it when modifying an object.

Tabs

The last part of the screen is the configuration tabs. They will adapt dynamically to the object type.

The directory explains how to configure those parameters. The 'Properties' tab holds the most common configuration option for the task/event.

The other tabs hold specific or advanced options. These options default to a 'safe' value. If you are not sure of the meaning of these options, it is safer to leave the default settings.

You can see the internal number in the 'Properties' tab of the object or in the title bar of the 'Edit Event/Task' dialog in modification mode. This number is used in replacement codes, i.e., when you want to share data between tasks. See Using Replacement Codes in Tasks.

File names for files located on network drives must be expressed into UNC notation.

The UNC notation is independent of drive names and used for files located on network drives. UNC file names are in the following format:

\\computer_name\share_name\directory\file_name

When you input a password, you must confirm it in the field at the right.

Edit Link

Simple Links

You need to create the task(s) and/or the event(s) before creating the link.

To create a link, proceed as described in the Five-Minute Guide chapter. To modify the options of a link, simply double-click on it. This brings up the Edit Link dialog.

Link properties				
Properties	- -	Completes		Ţ
II Description	Value	0	Max 0	-73
And [None]	¥	Occurs		Ψ.
		0	Max 0	
Then Backup completed email	¥			
Options				
Inactive		0		
Wart before triggering to	isk (secs.)	10		
[OK	<u>C</u> ar	ncel	Help

If list:

- When the origin object of a link is an event, the only choice is that the event occurred.
- When the origin object of a link is a task, the *If* list can contains two different set of items:
- If the task returns a numeric value when it completes, the list has the following items:

Completes: select this item if you want to launch the resulting task when the origin task completes successfully. Fails: select this item if you want to launch the resulting task when the origin task fails.

Completes or fails: select this item if you want to launch the resulting task when the origin task completes or fails.

Returns: the resulting task is launched if the return value of the origin task equals the entered value.

Returns more than: the resulting task is launched if the return value of the origin task is greater than the entered value.

Returns less than: the resulting task is launched if the return value of the origin task is lower than the entered value. Returns a value between: the resulting task is launched if the return value of the origin task is between the entered values.

Task type	Return value
Program execution	Return value of the program
File management	See File Management Task in the Events and Tasks chapter
Database execution	First row of the first line returned by the query (if a numeric value)

Return values are not taken into account when a task fails.

 If the task does not return a numeric value, the list has the following items: Completes: select this item if you want to launch the resulting task when the origin task completes successfully.
 Fails: select this item if you want to launch the resulting task when the origin task failed.
 Completes or fails: select this item if you want to launch the resulting task when the origin task completes or fails.

And: see Link in the Advanced chapter.

Options for a link are:

- *Inactive:* if checked, the link is inactive and will not be evaluated at run-time. This means that the task selected in the Then field will not be launched if the event or task selected occurs or completes.
- Timeout see Link in the Advanced chapter.
- Wait before triggering task is a period of time (in seconds) that will be waited by the link before launching the resulting task.

Service Options

Logong C Log out of Activity Extended log
Extended log
l og bistori
Delete log older than days (0 = no purge)

General Options

Log out of activity: when checked, Opalis Robot sends a message to the Windows NT Event Viewer when a task is triggered but is outside of its activity range. See Activity Templates section later in this chapter.

Extended log: when checked, Opalis Robot logs extended information about its operation in a file named op_robot3.log. This file may be required for technical support.

Log History: OpalisRobot deletes log entries (and their associated detail file) older than the number specified. 0 means no purge.

Add-on Options

This tab lists the Service Add-ons installed and their respective version.

If the selected Add-on has Service-side options, the Configure button is enabled and you can use it to access the configuration dialog of the Add-on.

Licensing

This tab lists the Service Add-ons installed. An Add-on can implement the following licensing schemes:

- Serial number/product key (like the Opalis Robot Service): you directly edit the licensing values and view the edition name in the fields at the bottom of the Add-on list. When entering serial numbers and product keys, make sure you use the correct letter case (UPPER and lower case).
- A customized licensing scheme: you edit licensing options of the Add-on using the Licensing button at the right of the
- Add-on list.
 If the fields at the bottom of the Add-on list and the Licensing button are disabled, the Add-on has no licensing options.

Closed Days

The Closed Days tab lets you enter a list of calendar dates that can be used later on activity templates to enter numerous days in one operation.



To add a day on the list, select it using the calendar window that appears when you click on the drop-down arrow of the date field at the left, then click Add.

To remove a day from the list, select it in the list and click Remove.

Activity Templates

Activity templates are templates describing date and time settings that you want to assign to one or more events/tasks.

To create a template, click Create then fill the template settings as desired.



The Activity dialog is composed of three tabs:

- The Regular days tab, that lets you input a pattern describing when the regular days of the template should occur. Possibilities are:
- Every week on specific days of the week. For example: Monday and Tuesday.
- Every month, on days selected by week. For example: the first and second Monday of the month.
- Every month, on days selected by number. For example: every 1st, 2nd, 11th, 12th, 21st and 22nd of the month.
- Exceptional days (for example: the user can select not to run on December 24th but to run on January 1st). To add a day on the Exceptional days list, select it using the calendar window that appears when you click on the drop-down arrow of the date field at the left, select Active or Inactive, then click Add. An icon representing a red cross will appear at the left of an inactive day and a green check mark will appear at the left of an active day. To add the list of closed days in the Exceptional days in the list, click the Add closed button. To toggle a day from Active to Inactive, select it on the list and click Invert.
- Hour range (for example: from 8AM to 10AM and from 2PM to 6PM or from 8PM to 6AM).

How it works:

Depending on what you entered, there is a possible conflict between Regular and Exceptional days. Exceptional days will always be evaluated before the regular days.

If the day should be active thanks to the Regular days options, but is marked as Inactive in the Exceptional days list, then this day will be skipped. Example: A job that should run every Monday with the first of December 1st, 1997 (a Monday) marked as inactive: the job will not run during this day.

If the day should not be active thanks to the Regular days settings but is marked as Active in the Exceptional days list, then the job will run during this day. Example: A job that should run every Monday with the first of December 2nd, 1997 (a Tuesday) marked as active: the job will run during this day.

The hour range is evaluated at the end. No matter what time it is, a job will not run if the day is not activated by the Days settings.

Client Options

Startup Reconnect to previous	session servers		
Display		_	
Hide parent folder	I ^o	secs	
Only folders are allowe	f in the root fold	er	

General

Check '*Reconnect to Previous Session Servers*' if you want the client, at startup, to automatically reconnect to the servers that were opened at the end of the previous session.

If 'Refresh views every' is checked, the current folder or log is refreshed at the interval specified (in seconds).

If '*Hide parent folder*' is checked, the 'Parent' folder icon (that displays the parent folder when you double-click on it) is not displayed in folders.

If 'Only folders are allowed in the root folder' is checked, only new folders can be created in the root folder. You cannot add any new event, tasks or links in the root folder (only in other folders).

Notify

Confirmation Messages: When checked, Opalis Robot asks for a confirmation before executing major commands. You should leave it to Checked until you become familiar with Opalis Robot.

The *Play Sound* options control whether a sound is emitted or not when Error or Administration messages are received by the *M*essages window.

Sound allows you to change the sound from the default system beep to any WAV file.

Add-ons

This tab lists the client Add-ons installed and their respective version.

If the selected Add-on has client-side options, the Configure button is enabled and you can use it to access the configuration dialog of the Add-on.

Events & Tasks

The *Inactive* option is common to all tasks and events. It is used to deactivate the object without deleting it. When it is turned on, the object won't be used:

- Event: the event will not be triggered (in fact, the condition is not tested at all). When inactive, the event won't start any task;
- Task: the task won't start even if an event triggers it;

A simple ' event-link-task' chain won' t work unless all three objects are active.

The length of *names* is limited to 60 characters. You should use explicit names. For example, prefer ' cheap rate' and ' connection' to ' ev1' and ' tk1'.

Duplicate object names are allowed but not recommended. Object names are not case sensitive, i.e. 'Test' and 'test' are the same.

Activity tab

Name Backup		No 101000
Type Program executi	on	✓ Inactive
Exec Security Activity	Options	
Occurs		
C Every day		
 On days of template 	Regular days	
C On days defined by	Gustom	45
Range		
Occurs first date/time	10/15/97	▼ 06:27pm
Occurs last date/time	10/15/37	▼ 06:27pm

The Activity tab lets you assign an activity template to a task or event. This template can be one of the existing global templates (the ones listed in the Activity Templates tab of the Service Options dialog) or a custom one that will be attached to the current event or task.

If you need to apply the same activity template to several objects, it is better to create a global template. For more details about activity templates, read the Activity Templates section.

A first and last date/time can be set. The object will never run before the first date/time and never after the last date/time.

Tasks

Type Program es		
	recution	Inactive
Exec Security A	ctivity Options	
After		
If task su	coeed Send a message to the Event Log	-
	(none)	
lfter	Send a popup message	
ir tes	Send a message to the OpalisRobotA	dministrator
	iprent _	
Execution mode	-	
Mu	litask Parallel execution	<u> </u>

In the After block, you can set the task to send a message after it completes and/or fails.

The message can be sent to the Windows NT Event Log, to the screen (Popup message) or to the OpalisRobot client. The two latter options require a destination. Input a computer or a user name (Popup) or a computer name (OpalisRobot message). If you input '*', the message will be sent to all computers of the domain.

The Log Priority option controls the level of importance given to the task in the log. Please refer to the "Log and alerts" section for more details about how to view the Opalis Robot log.

If "No log" is selected, the execution of the task will not generate any trace in the Opalis Robot log.

The *Multitask mode* option controls the multitasking behavior of multiple instances of a task, i.e., how a task behaves if another task of the same name is running when it is started:

- when the option is set to 'Parallel execution' (default), several tasks with the same name can run concurrently.
- when the option is set to 'Queued execution,' only one instance of a given task can run at any time. If more than one instance of a given task is started, they are serialized. A task must wait for the completion of the running task before executing.
- when the option is set to 'Single execution,' only one instance of a given task can run at any time and, if more than one instance of a given task is started, newer tasks are simply not executed (i.e., they terminate **without** executing any work).

This choice may conflict with the use of dynamic data.

Events

r <u>x</u> ame Type	Monitor Windows NT service	No 0
Service	Activity Options	
After When	n event is triggered (none) Message recipient	×
Trigge	r option	
01	Take account of next change	

In the After block, you can set the event to send a message when it occurs.

The message can be sent to the Windows NT Event Log, to the screen (Popup message) or to the OpalisRobot client. The two latter options require a destination. Input a computer or a user name (Popup) or a computer name (OpalisRobot message). If you input '*', the message will be sent to all computers of the domain.

For many events, the *Trigger option* lets you decide how the event must act when the Service starts. If the *Take account of existing situation* option is selected, the event will be triggered if the monitored part of the system is in the tested state. Otherwise, the event will wait until the next state change to trigger.

TASK OBJECTS

Program Execution Task

ask prop	erties			<u>></u>
<u>N</u> ame			No	0
Туре	Program execu	tion		Inactive
Exec]	Activity Options			
 Mode				
ΘE	ogram execution			
0.0	ommand execution			
Execut	on			
	Program			E
	Parameter(s)			
	Working folder			
Options				
	Execution mode	Background, normal pr	iority	•
	Terminate after	0 minutes		
		OK	Cancel	Help

Executes the *Program* with optional *Parameter(s)* on the command-line.

The program can be a batch file or any executable that Windows NT can launch (DOS, Windows 16-bit, Windows 32-bit, etc.) If the file is a batch or command file, you can edit it by clicking on the 'E' button at the right of the field.

You can use the Command mode to run programs. However, it is not recommended since it uses more system resources. If the *Command execution* mode is chosen, the command-line is passed to the Windows NT command interpreter (CMD.EXE). We recommend using this option for executing .bat or .cmd files.

Working directory starts the program in a different working directory. By default, the working directory is the program directory.

After *Terminate after* minutes, the program is terminated. In this case, the task is considered as Failed. We recommend that you use this option carefully because a clean exit is not performed and DLLs loaded by the program are not unloaded, which can lead graphical programs to hazardous graphical behavior on the console.

Program execution mode:

- Background, normal priority: if the program does not need any user input or if the program runs in character mode.
- Background, low priority: if the program does not need any user input or if the program runs in character mode. The program is started at a lower priority.
- Interactive: only if the program interacts with the user; this option is not recommended because it is possible to interfere with the execution of the program on the system console.
- Launched by ConsoleRunner: this option is for programs that cannot be launched by a Service (such as some MS Office, VB programs or 16-bit applications that require shared memory). When the task has been triggered, OpalisRobot passes information about it to the ConsoleRunner utility that launches the program. In order to launch the task, it is mandatory for ConsoleRunner to be running on the system console when the task is triggered. ConsoleRunner must be launched manually or at logon time using the Startup folder.

Example: Return Values

When the Program Execution task completes, it produces a return value. Return values can be used to make decisions. To find out if a file is available or not, you could use the return values of the ' dir' command.

Create a Program Execution task, set 'Mode' to 'Command execution' and type 'dir c:\test.txt' as the command (You can change 'c:\test.txt' to something else of course).

Mode		
C Program execution		
Command execution		
Execution		
	Command dir c:\test.txt	

Trigger this task and switch to the 'Log view'. The log entry detail (double click the log entry) for this task will look similar to this:

Output File	D:\Program Files\Opalis\OpalisF
Return Value	2
Parameters	
Volume in drive C ł Volume Serial Num	nas no label. ber is 787C-4D3F

Directory of c:\

File Not Found

Note that the 'Return Value' is 2, which means the file does not exist.

Create the file ' test.txt' (or rename an existing file) and trigger the task again. The log entry detail will show you:

output ne	D. VETOgram Elles Volpails Volpails
Return Value	0
Parameters	
Volume in drive C H Volume Serial Num	nas no label. ber is 787C-4D3F
Directory of c:\	
04/21/99 04:55p 1 File(s) 24	2,675 test.txt 2,675 bytes 43,975,680 bytes free

Now the 'Return Value' is 0, which means the file exists.

OpalisRobot can make decisions based on these return values by evaluating the links originating from a task.

Create two Send Message tasks, which send a message to your computer or user name. One task should have a message such as ' file found', the other should have a message such as ' file not found'. Link the Program Execution task to both Send Message tasks:



Double click the link between the Program Execution task and the Send Message task which sends the 'file found' message. The 'Link properties' window will open:

Link properties	
Properties	
If dirtest	Completes 💌
Value	Completes Fails Completes or fails
And (None)	Returns
	Returns more than 1/5
Vaue	Returns a value between
Then file found	Does not return
Options	
Inactive	
Timeout (secs.)	0
Wait before triggering task (secs.)	0
<u>Mak before diggening (dak (sees.)</u>	
OK	Cancel <u>H</u> elp

Select ' Returns' from the drop-down list:

If dirtest	Returns	•
	Value 0 Max	0
And (None)	Occurs	7
	Value 0 Max	0
Then file found	7	

The 'Link properties' window now reads "If dirtest returns 0, then file found".

Modify the link between the Program Execution task and the Send Message task which sends the 'file not found' message. This time select 'Returns' and change the value from 0 (default) to 2.

Retu	rns 0 - 🗗 -
- -	file found
dirtest Retu	ims 2
	file not found

Apply changes. If the Program Execution task is triggered and the file is available, you' II get a message ' file found' . If not, a message ' file not found' will display.

To automate this process, we could add a Date/Time event, which is triggered every 5 seconds:

Type Date/Tin	ne
Date/Time Activity	Options
Periodicity	
⊖ <u>A</u> t	12:00am
○ Every	0 hours 1 minute
	☐ Starting 0 minute
	At time slices within the ho
E⊻ery	5 seconds

If we link the Date/Time event to the program execution task we have automated this process:



Every 5 seconds the Program Execution task will be triggered. Depending on the result, a Send Message task will be triggered.

Use of mapped drives is not recommended, as they cannot be guaranteed to be available to the OpalisRobot Service. A process like this could be used to determine the existence of a specific file on a remote computer connected to the Windows NT network (in this case a path in UNC format would be entered instead of a local path).

Hints and tips

Not all programs or command produce return values.

Test for return values by creating a situation where you know the result will be ' good'. Launch the program or command using the Program Execution task and check the return value in the OpalisRobot log.

Then create a situation where you know the result is ' bad'. Again, launch the program or command using the Program Execution task and check the return value in the OpalisRobot log.

If the return values are different, then OpalisRobot can use them to make decisions.

If a task fails, return values are not taken into account. However, you can make decisions if a task fails.

A batch file will only produce a return value for the last program or command executed. Split your batch file into different Program Execution tasks to evaluate other return values.

Some programs or commands wait for user input.

If such programs or commands are launched by OpalisRobot, they will never terminate. Some commands have optional 'switches' to override waiting for user input. Be aware of the fact that OpalisRobot cannot simulate keystrokes directly. However, it could ' drive' a 3rd party application to do so.

NTBackup and automatic mode.

Make sure that a cartridge is loaded in the tape drive before running the program. Otherwise NTBACKUP may be blocked, and you may have to reboot the system.

We recommend that you set the Execution mode to Interactive for NTBACKUP tasks.

File Management Task

Name				No
Type File m	anagement		•	Inactive
File Advances	طأ مصفيتك أ 0	ntional		
Advances		puons		
Action				
File copy		-		
1				
Eeldere				
roideis	luinin faldar			
-	(ingin rolder j	1	4	
C Mask or file r	ame	Include sub-fol	ders	
Eilter	unic	0		
Destin	ation folder			
Destin				

Copy, move, delete, rename or print the files in the Origin folder that correspond to the Mask or filename or Filter.

The Origin folder and Destination folder entry fields accept local paths or path in UNC format. Use of mapped drives is not recommended, as they cannot be guaranteed to be available to the Opalis Robot Service.

For the *Print* option, the printer name must be entered in UNC format ('\server_name\printer_name'). Otherwise, the UNC format is required only when the destination folder resides on a remote computer.

Printing copies the file to the printer. Therefore, the file must have been preformatted for the printer, or must be in ASCII format.

For ASCII files:

- the font name and font size can be selected;
- a line wrapping value can be set: after the specified number of characters, a new line is created for the remaining characters of the line.

About filters:

- Filters can include wildcards (the '*' or '?' character) but not folder names.
- Order of filters is important: the filters are evaluated from the top to the bottom. As soon as a matching filter is encountered, the file is taken or not depending on the *Include/Exclude* value.

When the file already exists in the destination directory, Opalis Robot can:

- overwrite it and the old file is deleted;
- create a new file with a different file name (OpalisRobot appends date/time at the end of the file to create new unique filenames);
- fail.

Destination file date can be modified to the transfer date or keep its origin date (default). You can add a global filter based on *file age* expressed in days.

Because OpalisRobot appends date/time at the end of filename to create new unique filenames, the file system on the target machine must support long filenames.

This task has following return values:

Situation	Status in Log	Return value
File(s) successfully copied, moved,	✓ (completed)	Number of file(s) successfully copied, moved, deleted, renamed
deleted, renamed of printed		or printed, i.e. a value greater than 0.
No file(s) to copy, move, delete, rename	✓ (completed)	0
or print		
Unable to copy, move, delete, rename or print file(s)	⊁ (failed)	The task will fail if destination folder is not accessible, i.e. network problem, insufficient rights or share not available. <i>Please note that return values are not taken into account</i> <i>when a task fails.</i>

Hints and Tips

Every task executed by the OpalisRobot Service, is executed under the user account under which the OpalisRobot Service runs. The File management task is no exception: if a File management task keeps failing with 'Access Denied' messages, check if the user account used by the OpalisRobot Service has sufficient rights on the destination.

You should always use UNC format when specifying a shared drive or folder. Mapped drives cannot be guaranteed to be available to the Opalis Robot Service.

Send E-mail Task

ask prop	erties	
<u>N</u> ame		No
Туре	Send e-mail	▼ Inactive
E-mail Server	Connect Activity Option	Send mode
To	ents	Attachment
Messag	ge	
	Subject	
© <u>M</u> e O <u>F</u> ile	name	
		OK Cancel <u>H</u> elp

Sends e-mail using:

• SMTP (any SMTP compliant mail server: UNIX based, Lotus cc:Mail, Novell GroupWise, Microsoft Exchange, etc.)

- MAPI (Microsoft Mail)
- Exchange (Microsoft Exchange servers)

The message can be text that you type in the *Message text* box (limited to 256 characters) or a text file.

Use the *File name* option to specify a (plain) text file. The benefit of having a text file as message text is that the message can be formatted.

Subject is not mandatory but recommended.

SMTP:

The Connect tab is where you enter the *SMTP relay address* (the name or IP address of your SMTP mail server) and the *Sender address* (the name that will identify you as the sender of the mail and at which you will receive the reply).

Use the '...' button to setup the list of recipients. To add a recipient, enter an e-mail address, select a recipient type: To:, Cc: and Bcc: (blind carbon copy, addresses in this field are not seen by the recipients), then click Add. At least one recipient must be entered.

You can attach as many files as you want to the mail by adding them on the Attachment list.

SMTP (simple):

Configuration is the same as SMTP, except that only one recipient can be set and one file can be attached. This allows you to use dynamic data in these fields (see Advanced Topics, Dynamic Data for more information on dynamic data).

MAPI:

You can send messages to one destination user or to a group. You can attach one file using the Attachment field.

The Connect tab is where you enter the *user name* for the account of the user who sends the mail. If the account is password-protected, enter the password in the *Password/confirm* field.

Conver	Canada and an a da
a ei vei	sena mode
Server type MAPI	 Service Console<u>B</u>unner

Send mode:

- ConsoleRunner (default). To be used when messages cannot be sent from the Service (especially when MS Mail tasks fail with logon errors). When the task has been triggered, OpalisRobot informs the ConsoleRunner utility, which then sends the message. In order to launch the task, it is mandatory for ConsoleRunner to be running on the system console when the task is triggered.
- Service. In general, sending messages through a Windows NT Service is not supported by MAPI. However, in some situations it can work. We recommend using the default option.

Note that to send MS Mail messages when MS Exchange is installed, you must create a special profile for MS Mail connection and enter this profile name in the *user/profile name* field. When used with ConsoleRunner, this profile must exist in the configuration of the currently logged-on account.

Destination can only include one MS Mail User name, or a group name.

Exchange:

To send messages directly via Microsoft Exchange use this option.

Make sure the *user/profile name* field on the Connect tab contains a valid profile name. This profile must exist in the configuration of the account assigned to the OpalisRobot Service.

Send Message Task

	5 end Message		▼ [nactive
fessage Type ● 0 ● 0	Activity Dptions n screen gopup palisRobot Client /indows NT Event Log	Severity © Igformat ○ Warning ○ Error	ion J
L	Jser or computer name Message		

Send a message to a user, computer or the Windows NT Event Log.

Message type:

- On screen popup: The transport type is WinPopup. The WinPopup program (for Windows computers) or the Messenger Service (for Windows NT) must be running in order to receive messages. Type '*' in the User/Computer name field to send the message to all users in the work group. You can enter a computer or a user name.
- OpalisRobot. Sends Message as an OpalisRobot message to all or one computer on the network. The message is displayed on the Messages window of the OpalisRobot Client. You can choose the Message type on the list. Error and Administration messages can generate a sound on the OpalisRobot Client. The message type is for information only. Type '*' in the User field to send the message to all computers in the work group.
- Windows NT Event Log: Sends Message to the Windows NT Application Log.
- You can choose the severity of the message (Information, Warning or Error).

Note: depending on the application, it can be easier to use the After option of the previous task in the job instead of this task.

Action on Windows NT Service Task

<u>N</u> ame Tvoe	Action on Windows NT Service	
Service	Activity Octions	
Action	Activity options	
€ S	tart service	
ΟE	ause service	
0 S.	top service	
Execut	ion	
	Service name	
	Parameter(s)	
Time al	lowed for completion	
т	ime allowed (min.) 2	

Starts, stops or pauses the Windows NT Service identified by *Service name*. Use the '…' button to display the list of installed Services and select the Service name required (not supported on Windows 98 or Windows 95).

Parameters passed to the program are sent to the Service when it starts. (Unlike the Windows NT Service manager, the parameters are retained after execution of the task.)

If the action is not performed during the *Time allowed*, then the task is considered as failed.

Hints and Tips

If a Service cannot start within 2 minutes (default value), OpalisRobot considers the Service not started. If a Service has many dependencies (it needs to start other Services before it can be started), the *Time allowed* should be incremented. Of course, the same rule applies to stopping a Service as well.

Starting or stopping a Service requires Administrative privileges. Make sure the OpalisRobot Service runs under an Administrative account.

RAS Action Task

<u>N</u> ame	1		No	0
Туре	RAS action			Inactive
RAS	Connect Activity Op	otions		
	onnection			
OD	isconnection			
Connec	tion			
	Phonebook Entry Nar	me		
-If conn	ection busy or failed Number of retries 1			
Interv	al between retries ⁶⁰	_		

Establishes or releases a connection with a remote site using the Remote Access Service. (This Service must have been configured beforehand.)

Connect to the Phonebook entry name (as it appears in the Remote Access Service or Dial-up Networking program).

The *Domain* is used for user authentication. You can enter the *User name* and *Password/Confirm* in the connect information if they are required by the phonebook entry.

You can specify what happens if the line is busy (or the modem is not available):

- Fail
- Retry: Number of tries

You can test your connection parameters using the Remote Access Service program.

OpalisRobot checks the state of the connections before attempting to establish a new connection or disconnect. The task will immediately terminate successfully if the connection is already set up when the task is started.

We recommend that you always link the failure of a Connection task with a Disconnection task. Otherwise, it may temporarily leave the port in an unusable state if the connection is unexpectedly interrupted.
Database Execution Task

ask prope	ties	2
<u>N</u> ame	No	_
Туре	Database execution	
Database	Connect Activity Options	
Mode		
● <u>Q</u> u	ary	
O <u>F</u> ile		
	Database type ODBC	
Executio	n Query	
Options	If error Continue	
	OK Cancel <u>H</u> elp	

Executes a query or a file containing queries (SQL Server only) in an ODBC or SQL Server database.

The Database type can be any ODBC compliant source or SQL Server.

When using ODBC sources it is the OpalisRobot Service account that is actually making the ODBC connection. In other words if you define a User Data Source Name then the user is in fact the user account you have defined to run the Service. The best way to check the connectivity in this situation is to log on to the local Windows NT system (where the OpalisRobot Service is running) as the account you assigned to the Service and define the DSN from here. Using a System or File DSN does not require a user specific context for the connection, in other words any user or Service can access the DSN even if you created it from your own log-on account.

Enter a SQL statement directly in the Query field or you can select a file if the database you are connecting to is a SQL Server.

Execution		
Query	SELECT CustomerName FROM tblSales WH	
Database name	SALES	

When using the query field, be aware this is limited to 255 characters. The use of Dynamic Data is supported in this field so you can substitute values from other Opalis objects such as date or file names. As Dynamic Data is substituted when the task is ran it is possible to run out of space in this field as the Dynamic Data expands the query over the 255-character limit.

With a data source that supports stored procedures, use parameterized queries instead of full SQL statements so that the query uses as few characters as possible.

Execution Query	Exec CountSales @Var1={299000.param}	
Database name	SALES	

An example Stored Procedure is:

CREATE PROCEDURE CountSales @Var1 INT AS Select Count(*) From tblSales Where SaleType = @Var1

On the Connect tab enter the server name or DSN for the database to be connected to. With SQL Server, leaving the User Name field blank causes the connection to run in integrated security mode.

Name	GetSalesQuantity	No
— Туре	Database execution	
Database	Connect Activity Options	
Connec	t information	
	Source name SQLSRVR1	
	User name	

By using multiple Database Execution tasks it is possible to link the creation and deletion of stored queries/procedures together in the design.



With the combination of Database Execution tasks running SQL scripts from files and parameterized queries it is possible to extend the functionality of the Dynamic Data in this task.

OpalisRobot does not check the syntax of the query at the time the query is entered, it simply passes it on to the SQL database or ODBC driver. On execution of the query the status from the server or driver is passed back to the OpalisRobot log. It is helpful to check your queries with a tool from your data provider before you execute them from within OpalisRobot, e.g. the Access query builder (the Queries tab) for Access tables or the SQL Query Window/Analyzer for SQL Server. Just copy and paste the query into a file or the query text box.

The Database Execution task generates Dynamic Data of its own that can be used within other objects in your design. A common technique is to cascade tasks that can be configured to derive lookup values that can be inserted into later queries using Dynamic Data codes.



The 'Populate ReportTable' task in this example refers to Dynamic Data supplied by the preceding two Database Execution tasks.

Using the OpalisRobot Counter objects or by designing loops all rows of a table can be processed in this way.

Hints and Tips

SQL Server. If database is left empty, queries will be executed in the default database for the SQL user.

' Go' is not a Transact-SQL order. It is a query separator used in many	SQL Server File: the queries contained in the query file must be separated by the 'go' order (which must be located at the beginning of a new line, do not put 'go' in comments).
interrogation programs (such as ISQL).	In <i>If an error occurs in query</i> , choose the required behavior if an error occurs in the query - either stop or continue.
Warning: stopping due to an error will not rollback previously executed transactions in the same file.	An SQL execution error or a RAISERROR call may stop a query. If you choose ' Continue,' the number of failed queries will be written into the task execution log. Furthermore, SQL errors that occur during execution are written into the Windows NT Event Viewer.
	Note: If you would like output to be returned, use ISQL with a 'Program execution' type task. The output file created by OpalisRobot will contain all the lines returned by file queries.

System Restart Task

Name			No	0
Гуре	System restart		•	Inactive
Restart	Activity Options			
- Display				
	Message text			
Options				
~				
💿 Wit	n <u>d</u> elay, force applicati	ons to close	Delay (s	ac 1 30
			a oral (o.	
O Wit	n d <u>e</u> lay, do not force aj	pplications to close	5 oldy (o.	
C Wit	n d <u>e</u> lay, do not force aj	pplications to close		
€ Wit	n d <u>e</u> lay, do not force aj	pplications to close		,
O Wit	n d <u>e</u> lay, do not force aj	pplications to close		
O Wit	n d <u>e</u> lay, do not force aj	pplications to close		

Shuts down the system with automatic reboot.

Message to be displayed will be displayed on the Windows NT systems' screen when the system shuts down.

Restart options are:

- Delay, force applications to close (after the delay).
- Delay, do not force application to close (after the delay).

Delay is expressed in seconds, with a minimum of 30 seconds.

You can send a general message to inform users that a system shutdown is imminent with a "Send Message" type task.

For safety reasons, if the task is started less than ten minutes after a reboot, it will wait one additional minute before initiating the system shutdown.

Hints and Tips

You can abort the system shutdown by running the StopShut.exe utility, which can be found in the folder where Opalis Robot was installed.

Ping Computer Task

ask properties Name Type Ping Computer		No O	>
Ping Activity Options Ping <u>H</u> ost <u>N</u> umber of packets			
	ОК	Cancel Helr	n

Sends Ping packets to a remote TCP/IP host to check its availability.

Input in the Number of packets field, the number of times you want the task to send a Ping packet.

Note that the task completes as soon as an incoming packet is received from the remote computer and the task fails if no incoming packets were received after sending the packets.

Trigger Opalis Object Task

ask prop <u>N</u> ame	erties		No	0
Туре	Trigger Opalis object			Inactive
Opalis),	Activity Options]			
C 0	palisRobot v2			
	palisRobot v3			
00	palisRobot v3 on <u>s</u> ame :	erver		
0.0	palisRendez <u>V</u> ous			
Trigger	Server name Event/Task Parameter			

Triggers events, tasks or flows on local or remote OpalisRobot or OpalisRendezVous Services.

Type (or use the '...' button to browse the network and select) the Windows NT computer that runs the OpalisRobot Service in the Server name field.

Type the name of the Event or Task you wish to trigger.

If the OpalisRobot v3 on same server option is selected you can use a drop down list to select the event or task.

A parameter can be passed on by entering one in the *Parameter* field. This is only possible if the object specified is an Interactive event (see the Interactive Event paragraph in the OpalisRobot's Events Explained chapter).

Hints and Tips

Triggering OpalisRobot objects on a remote computer running the OpalisRobot Service requires a Client License on the remote computer. Refer to the chapter ' OpalisRobot Licensing Structure'.

The Trigger Opalis Object task is ideal for cascading jobs on multiple Windows NT systems running the Opalis Robot Service.

When used to trigger an object on a local OpalisRobot Service (using the *OpalisRobot v3 on same server* option) the Trigger Opalis Object task can be used as a 'GOTO' statement.

For more details on OpalisRendezVous, visit our Web site (www.opalis.com) or contact us.

EVENT OBJECTS

Date/Time Event

ype Date/Time Income I minutes effect the hour Activity S seconds		Nojo
Security Options Periodicity 12:00am C Activity C Every O Incare Image: Second Se	уре	Date/Time 🔽 🗖 Inactive
Periodicity	ate/Time	Activity Options
At 1200em Every 0 houre foure foure foure foure foure foure Attime closes within the hour Feyeny S seconds	Periodicity	
Every	⊛ <u>A</u> t	12:00am
Starting Initial Starting At time slices within the Hour At time slices within the Hour Every S seconds	○ Every	0 hours 1 minutes
Every Every		Starting 0 minutes after the hour
C Exery 5 seconds		At time slices within the hour
	C Every	5 seconds

Triggers the event depending on time or interval.

Select At to trigger the event at a specific time of the day or Every to enter a time interval expressed in hours, minutes or seconds.

Previous version users: This event has been simplified. Use it in conjunction with Activity templates to implement sophisticated scheduling sequences.

Trigger Options (for interval expressed in minutes or hours):

At time slices within the hour (interval expressed in minutes only) allows the event to be triggered regularly within the hour. For example, if the interval is 5 minutes, the event will trigger at 0, 5, 10, 15, 20, etc. (instead of immediately after the Service startup and then every 5 minutes).

Starting x Minutes after the hour (interval expressed in hours only) allows triggering of the first event using the *minutes* entered. For example, if the interval is 2 hours, the *Minutes* field is '45' and the Service is started at 8:20 a.m., the event will trigger at 8:45 a.m., 10:45 a.m., etc. (instead of immediately after the Service startup and then every two hours).

Monitor FileSystem Event

<u>N</u> ame				No	0
Туре	Monitor FileSyster	n			Inactive
Filesystem	Activity Options	1			
File(s)					
	Origin folder				
		Include sub-	folders		
		0 1	_	No History	
	Filter	0		NO HISTORY	
Trigger	option				
File	is <u>m</u> odified				
O Size	e overpasses (bytes)				_
O Nur	mber of files = or >				
Ingger	when		Wait delay		
🕑 Date	e/Time has changed		Wait b	efore triager (s	ecs) 3
C Date	e/Time is more <u>r</u> ecen				

Triggers an event when files from the *Origin folder* and described by the filter are new or modified, when their size exceeds a given threshold or when the number of files matching the filter exceeds a given value. The Origin folder **must** be located on a local drive, OpalisRobot cannot monitor the Filesystem of a remote computer.

About filters:

• Filters can include wildcards (the '*' or '?' character) but not folder names.

• Order of filters is important: the filters are evaluated from the top to the bottom. As soon as a matching filter is encountered, the file is taken or not depending on the *Include/Exclude* value.

A history is kept, i.e. the event is only triggered when the file is created or modified. It will not be triggered for the same file again.

Each Monitor FileSystem event's history is stored in RAM and on the harddrive. This means the history is kept even if the OpalisRobot Service has stopped. These files are created in the folder where the OpalisRobot Service was installed and have following format: 'number.oprimg', where 'number' is the object number for Monitor FileSystem event

Trigger options:

- File is modified: Each time a file is modified (name change, size change, date/time change) the event will be triggered.
- Size overpasses (bytes): Each time the total size of files exceeds the threshold the event will be triggered. It is not triggered again until the size lowers and passes under the threshold.
- Number of files = or >: Each time the total amount of files equals or exceeds the threshold the event will be triggered. It is not triggered again until the total number of files lowers and passes under the threshold.

Trigger when options:

- Date/Time has changed: Each time a file is modified the event will be triggered.
- Date/Time is more recent: Only if the date/time properties of a file change to something more recent (or later) than the original date/time properties, the event will be triggered. This option is useful if you want to make sure only the latest files can trigger the event.

All trigger options apply to files within the filter configuration.

No history: By default, the event keeps a record of the files that triggered it, in order not to trigger a second time for the same file. If the event is set to trigger each time a file is modified and if no filter is set, the *No history* option can be checked to prevent this behavior. If the *No history* option is set, the event will not record what files triggered it, thus any activity in the folder will trigger it.

Wait delay: This event is triggered *Wait delay* seconds after OpalisRobot detects the last creation/copy on this file, unless a new update occurs. When it receives a notification from the file system, OpalisRobot waits *Wait delay* seconds before triggering the event. If OpalisRobot receives another notification during that delay, it will wait again for *Wait delay* seconds before triggering the event.

This is very handy for large files/folders or for those applications (like FTP) which first create an empty file and later copy data to it. If the *Wait delay* value is set to 0, those applications would trigger two or more events per file.

Do not use very large wait delays in folders that are frequently accessed. Typically 5 seconds is enough for files smaller than 1 MB.

To find the correct value, carry tests on a loaded machine. Start with a small delay (0 or 1 second) and increase the delay until there's only one event triggered per file copy.

Monitor Windows NT Service Event

<u>N</u> ame	No
Гуре	Monitor Windows NT Service
Service)	Activity Options
Trigger	when
O Se	arvice is <u>s</u> tarted
⊙ Se	rvice is stopped or paused
Service	
	Service name
Test inte	erval
Test serv	vice every (secs.) 90



This event is triggered when the watched Service is started, stopped or paused. Use the '...' button to display the list of installed Services and select the Service name required (not supported on Windows 98 or Windows 95). It is not possible to test a Service state on a remote Windows NT system.

The Service state is checked every *Test Interval* seconds. The minimum test interval is 5 seconds.

Example: Mission Critical Applications

The Monitor Windows NT Service event does not use any system resources, making it ideal to monitor mission critical applications.

If a Service fails, OpalisRobot would detect this immediately and could take any action necessary: such as restarting the Service or even restart the Windows NT system! Such a process could look like this:

The 'Watch Service' object, which is a Monitor Windows NT Service event, monitors an application to see whether it is stopped or not. If the Service stops, the 'Watch Service' object is triggered. If this occurs, the 'Start Service' object is triggered. This is an Action on Windows NT Service task, which tries to start the offending Service. If this fails (the offending Service could not be restarted) the 'Restart Windows NT' object is triggered. This object is a System restart task.

Here's the link properties for the link between 'Start Service' and 'Restart Windows NT':



It reads "If Start Service fails then Restart Windows NT". Be sure to change the 'completes' (default) value to 'fails' otherwise the Windows NT system will restart every time the Service starts!

The process could be extended even further by adding task to notify the Administrator using on screen pop-up messages, e-mail or even a make a phone-call and ask for a confirmation before restarting the Windows NT system! (the last option requires the OpalisRobot Call Add-on):



Hints and Tips

If a Monitor Windows NT Service event is linked to an Action on Windows NT Service task it is recommended to enter a small delay in the link. As OpalisRobot relies on Windows NT notifications, it will get a notification the moment a Service is stopping. If OpalisRobot then tries to restart the same Service it could produce an error, because the Service might not be stopped at that moment.

To add a delay simply open a link's properties by double clicking the link:

Inactive	
Immeout (secs.)	0
🔽 🔟 ait before triggering task (secs.)	3

Select Wait before triggering task (secs.) and enter a value.

Monitor Windows NT Service Event

The Monitor Windows NT Service event has two trigger options. Select ' Options' tab from the object properties:

Type Monitor Windows NT Service Monitor Windows NT Service Monitor Windows NT Service Monitor Windows NT Service Message recipitent	Inactive	Monitor Windows NT Service Activity Options en event is triggered [none] Message recipient	Fype Mon Service Activity After When ever Messa
Service Activity Options After	V	Activity Options	Service Activity After When ever Messa
After When event is triggered [hone] Message recipient		en event is triggered (none) Message recipient	After When ever Messa
When event is triggered (none) Message recipient	•	en event is triggered (none) Message recipient	When ever Messa
Message recipient		Message recipient	Mess
Trigger option		option	Trigger option
I ake account of initial situation		ake account of initial <u>s</u> ituation	 Iake acc
C Take account of <u>n</u> ext change		ake account of <u>n</u> ext change	🔿 Take acc
 Take account of initial situation Take account of <u>n</u>ext change 		ike account of initial <u>s</u> ituation ike account of <u>n</u> ext change	 Take acc Take acc

Trigger option:

- *Take account of initial situation:* the Service state is compared to the *Trigger when* option the moment the event becomes active (after an apply changes or when the OpalisRobot Service starts). If they match the event is triggered.
- Take account of next change: the Service state is compared to the Trigger when option the moment the event becomes active (after an Apply Changes or when the OpalisRobot Service starts). The event will not trigger until the Service state changes at least once and matches the Trigger when option.

Monitor Windows NT Event Log Event

<u>N</u> ame					No	
Туре	Monitor Windo	ws NT E	vent log	•	🗌 🗖 Inactive	
Event Lo	J Activity Opti	ons				
Criteria						
₩ <u>E</u> v	ent ID is	1				
<u>□</u> <u>S</u> o	urce is					
<u>П</u> <u>D</u> е	scription contains					ļ
□ Lyr)e	Error			Y	
Log						
	Log name	Applica	tion		-	I

Triggered when a particular message is sent to the Windows NT Event Log by an application, driver or the operating system.

Log name is the Windows NT Event Log to monitor (Application, Security, or System).

You can define the filter Criteria with at least one of the following:

- Event ID is: ID of the message.
- Source is: the application that sends the message to the Event Log.
- Description contains: string sent with the message that contains information specific to the event that occurred (see below).
- Type: Type of the message (Error, Warning, Information, Success Audit, Failure Audit).

To trigger the Monitor Windows NT Event Log event on a particular message, fill in the *Event ID is* field. The message and event ID are available in the Event Detail screen of the Event Viewer:

E٧	Event Detail				×	
0 1 <u>1</u> 0	Date: Fime: Jser: Co <u>m</u> puter:	5/18/99 7:55:17 PM N/A SERVER		Event ID: Source: Type: Category:	5711 NETLOGON Information None	
<u>[</u>	<u>)</u> escriptior	n:				
	The partia successfu	I synchronizati Illy. 1 changes	ion request fr (s) has(have)	om the serv been returr	er ALPHA completed ned to the caller.	<u></u>

To look for this particular message, enter 5711 in the Event ID is field, rather than "The partial synchronization request from the server ALPHA completed successfully. 1 changes(s) has(have) been returned to the caller.".

To trigger the event on a specific part of the message, enter a string in the Description contains field.

- To trigger the event when a message comes from SQL Server, input "SQLServer" in the Source is field.
- To trigger the event when message number 17555 comes from SQL Server, input "SQLServer" on the Source is field and 17555 in the Event ID is field.
- To trigger the event when message number 17555 comes from SQL Server and is about NT_SERVER computer, input "SQLServer" on the Source is field, 17555 in the Event ID is field and "NT_SERVER" in the Description contains field.

Example: Automated Event Log Notification

Wouldn't it be great if your Windows NT systems would notify you automatically when certain messages appear in the Event Log?

OpalisRobot can easily be configured to automate such processes. Imagine you' re interested in errors from the Windows NT Operating system. If such errors occur, you' d like to receive the error messages via e-mail, automatically of course.

Create a Monitor Windows NT Event Log event:

vent prop	erties					×
<u>N</u> ame Type	Monitor Window	vs NT Eve	ent log		No	0 Inactive
Event Log Criteria Even Sour Desu	Activity Dption nt ID is cellis cription contains	ns				
Log	Log name	System		k		
			OK		Cancel	<u>H</u> elp

Select Type Error and Log name system. Now the event will trigger when new errors appear in the Windows NT System Log.

Now, create a Send e-mail task to send an e-mail to your e-mail address:

ask proper	ties	X
<u>N</u> ame		No
Туре	Send e-mail	💌 🔲 Inactive
E-mail Co	nnect Activity Options	
Server	er type SMTP	Send mode © Service © Console <u>E</u> unner
To T	s o admin@myco	Attachment
Message	Subject server me	ssage
	age text I	×
		OK Cancel <u>H</u> elp

Instead of typing a message in the *M*essage text field, insert a dynamic data code by clicking the right mouse button:

Task proper	ties			×
<u>N</u> ame Type	Send e-mail		No No	0 Inactive
E-mail Co Server Serv	nnect Activity O	otions Sen	d mode Service Console <u>ff</u> unner	
To T	s o admin@myco		ent i attachment is m	issing
Message	_			
	Subject ser	ver message		
	age text ame	Insert code		A V
		Си <u>і</u> Дору	Cancel	<u>H</u> elp

The Insert code window will open. Select the event you' ve just created. This will produce a list with available dynamic data:

nsert code Active Objects			×
Iook for system errors			
Computer name Drigin user account Message that triggered the ex Message event ID Message source name Trigger date is chost format	rent		<u> </u>
Trigger date in long format	OK	Cancel	▼ <u>H</u> elp

Select ' Message that triggered the event' and select ' OK' :

Insert code
Active Objects
Events
look for system errors
Tasks
Computer name
Origin user account
Message that triggered the event
Message event ID
Message source name
Trigger date in short format
Trigger date in long format
OK Cancel Help

The Send e-mail task message field will now contain a dynamic data code:

Task proper	ties		×
<u>N</u> ame Type	Send e-mail		No
E-mail Co Server Serv	nnect Activity Options	Send mode O Service O Consolefity	inner
To	:s 	Attachment	 at is missing
Message	Subject		
⊙ <u>M</u> ess C <u>F</u> ile n	age text {251000.e	imsgy I	×
		OK Cance	el <u>H</u> elp

Link the objects and the process will look similar to this:



If a new error occurs in the Event Log, the Monitor Windows NT Event Log event is triggered. The Send e-mail task will then send you an e-mail containing the actual message as it appears in the Event Log.

For more information on dynamic data codes, refer to the Dynamic Data part of the Advanced Topics chapter.

Monitor Database Event

vent prop	erties					×
<u>N</u> ame Type	Monitor Databa	ise		_	No 🛛	ve
Database	Security Activ	ity Opti	ons			
1650	Query Database type Database name	ODBC			•	-
Result	Test type Value	Equals O]		ľ	.
Test inte Test qu	erval Jery every (secs.)	180]			
			OK	Cance		<u>H</u> elp

The monitor database event can simplify designs where you need to periodically check static structures in your database for changes. The principle of this event is that it polls the database with the query entered in the query field. By structuring the query so that a numeric value is returned from the SELECT statement, allows a test to be generated.

The Connect tab is where you specify the Server/Source, User and Password for the SQL Server connection.

SQL Server: If you leave Database empty, queries will be executed in the default database of the specified SQL User.

The time interval between two successive tests is defined in the Test Interval field.

Results. The return value from the query can be evaluated against a test value. For instance if you wish to look for 'NewSales' and trigger a processing job when this value is greater than 1 create a SELECT statement to check for new records as in the following example:

SELECT COUNT(*) FROM tblSales WHERE tblSales.lsNewSale=1

Effectively when a new sale is generated a record is created in the sales table tblSales.

Each new record gets a flag on a field called IsNewSale set to True or 1 (by the software that creates the record). Simply count the number of records that have this flag set.

By then selecting a test type of 'Is More Than' with a value of 0, means when new records are created this event will trigger.

For each record that is processed set the flag to 0 so that the event will not re-trigger.

Hints and Tips

This is a polled event.

It is worth indexing the fields you will be declaring in the WHERE clause or declare the indexes in the SQL statement with hints if your database supports this feature. This will prevent a table scan on your database and will reduce database server load. Be aware of the trade off's with polled events. The higher the polling frequency the more accurately in time you receive a result but the more load there is on the database. A balance is always needed in this situation to match solution performance with system performance.

The query may be an SQL The value tested is the first column of the first line returned by the query. command, or a call to a stored procedure.

Monitor Process Event

<u>N</u> ame					No
Туре	Monitor Process			•	Inactive
Process	Activity Options				
	when				
O Pr	ocess is <u>r</u> unning				
@ Pr	ocess does <u>n</u> ot exist				
Process	-				
	Process name	_			
Test int	erval _		_		
<u>I</u> est p	rocess every (secs.)	30			

Triggers the event when a *process* is running or does not exist. The event is triggered when a modification of the state is detected.

The process state is checked every Test process every seconds. The minimum test interval is 5 seconds.

The process name should be entered in the *Process name* entry field as it appears in the Windows NT Task Manager. However, when specifying an executable name, do not enter the dot and extension ('.exe').

Hints and Tips

The Monitor Process event has two trigger options. Select ' Options' tab from the object properties:

			No	0
Гуре	Monitor Process		• □	Inactive
rocess	Activity Options			
After				
W	en event is triggered Inone)		-
	Message recipient			
т				
= i ridaer	option ake account of initial situatio			
G T	ake account of milial situatio	n		
• T				

Trigger option:

- *Take account of initial situation:* the Process state is compared to the *Trigger when* option the moment the event becomes active (after an apply changes or when the OpalisRobot Service starts). If they match the event is triggered.
- *Take account of next change:* the Process state is compared to the *Trigger when* option the moment the event becomes active (after an apply changes or when the OpalisRobot Service starts). The event will not trigger until the Process state changes at least once and matches the *Trigger when* option.

To monitor multiple instances of identical programs or commands, they (the executables) should be copied and renamed so OpalisRobot can monitor them based on their name.

Monitor Computer Event

<u>N</u> ame	ļ		No	0
Туре	Monitor Computer		•	Inactive
Computer	Activity Options			
Trigger v	vhen			
- Co Co	mputer is <u>s</u> tarted			
⊙ Co	mputer is s <u>t</u> opped			
Compute	er			
	Computer <u>n</u> ar	ne		
Test inte	rval			
	Test <u>c</u> omputer every (sec	s.) 30		
Test usir	ng			
	ndows Network			
O TO	P/IP Ping			

Triggers the event when a computer is reachable or not. The event is triggered when a modification of the state is detected.

The computer is tested for availability every Test computer every seconds. The minimum test interval is 5 seconds.

When testing using TCP/IP Ping, input the TCP/IP name or IP address of the computer. When testing using Windows Network layers, input the Windows (or NetBIOS) name of the computer.

Hints and Tips

The Monitor Computer event has two trigger options. Select ' Options' tab from the object properties:

Name		N	lo 0
Туре	Monitor Computer	• [Inactive
Computer	Activity Options		
After			
Wh	en event is triggered (none)		•
	Message recipient		
Trigger	option		
• Ia	ike account of initial situation		
O Ta	ke account of <u>n</u> ext change		

Trigger option:

- Take account of initial situation (default): the network state of the computer is compared to the *Trigger when* option the moment the event becomes active (after an apply changes or when the Opalis Robot Service starts). If they match the event is triggered.
- Take account of next change: the network state of the computer is compared to the Trigger when option the moment the event becomes active (after an apply changes or when the OpalisRobot Service starts). The event will not trigger until the network state of the computer changes at least once and matches the Trigger when option.

Monitor Disk Space Event

rent pro	perties					<u>.</u>
<u>N</u> ame					No	0
Туре	Monitor Disk	Space				Inactive
Disk Spa	ice Activity 0	ptions				
Drive	Drive	c:\				
Test		F .		lor		·
	Free space is	less	📕 th	an 25		× •
	Test every	60	seconds			

Triggers the event when the disk space test meets the entered criteria.

When the event is triggered once, it is not triggered until the free space returns to a value that does not meet the criteria.

For example, if the tested value is 25% of free disk space:

- Disk is 60% full, nothing happens.
- Disk is 74% full, nothing happens.
- Disk is 80% full, the event is triggered.
- Disk is 85% full, nothing happens because the level has not gone under the threshold.
- Disk is 60% full, nothing happens.
- Disk is 85% full, the event is triggered because the level has gone under then over the threshold.

Hints and Tips

The Monitor Disk Space event can be replaced by a Monitor Performance Counter event. This event provides access to all Windows NT performance counters, including Free Space. For more information on the Monitor Performance Counter event refer to the Advanced Topics chapter.

For more mormation on the womtor Ferrormance Counter event fele to the Advanced Topics chapter.

The Monitor Disk Space event has two trigger options. Select ' Options' tab from the object properties:

lame	No
уре	Monitor Disk Space
isk Spa	ce Activity Options
After	
Wł	en event is triggered (inone)
	Message recipient
Triager	ontion
Trigger • T	option ake account of initial situation
Trigger • T • T	option ake account of initial gituation ake account of next change

Trigger option:

- Take account of initial situation (default): if the disk space test meets the entered criteria the moment the event becomes active (after an apply changes or when the OpalisRobot Service starts), the event is triggered.
- Take account of next change: if the disk space test meets the entered criteria the moment the event becomes active (after an apply changes or when the OpalisRobot Service starts), the event will not trigger until the state changes at least once and then matches the entered criteria.

Interactive Event

Activity	Options]		
Occurs			
	ery day		
O On			V
O On	days <u>d</u> efined by	Eustom	
Range			
Occ	urs <u>f</u> irst date/time	8/11/98	▼ 11:45am
Occ	urs jast date/time	5/11/39	▼ 11:45am

Interactive events are entry points that can be used to pass on information (referred to as parameter) from external triggers:

- Any Opalis Robot client, running in user or administrator mode;
- The WinEvt3 and GenEvt3 utilities;
- A remote Opalis Robot or Opalis Rendez Vous server.

An Interactive event has no configuration other than Activity and Options, which are available for all Opalis Robot objects.

Interactive events are useful when integrating with existing applications.

Most applications have a way of executing a command or program including a parameter: MS Office applications through Visual Basic, Databases (Oracle, SQL, etc.) or network management applications. By making use of the WinEvt3 or GenEvt3 utilities and Interactive events, these applications can be made to communicate with automated processes running on OpalisRobot.

Example

Information from an Interactive event can be passed on to another task using dynamic data.

Create an Interactive event and link this to a Send Message task.

Instead of typing a message in the Message text field, insert a dynamic data code by clicking the right mouse button:

ask properties	X
Name Type Send Message	No Decive
Message Activity Options Type On screen gopup OpalisRobot Client OWindows NT Event Log	Seventy © Iglomation © ⊻aming © Error
User or computer name Message	nycomputer
	Undo Caty Doby Baste Delete
	Select <u>A</u> ll Cancel <u>H</u> elp

The Insert code window will open. Select the Interactive event you' ve just created. This will produce a list with available dynamic data:

Insert code			×
Active Objects			
Events			
interactive			
Tasks 45			
Parameter			
Trigger date in short format			
Trigger date in long format			
Day of trigger			
Year of trigger			
Hour of trigger			-
	ОК	Cancel	Help

Select ' Parameter' and select ' OK' :

Active Objects		
······Events······	-	
interactive		
Tasks		
Parameter		_
Parameter Trigger date in short format		
Parameter Trigger date in short format Trigger date in long format		*
Parameter Trigger date in short format Trigger date in long format Day of trigger		•
Parameter Trigger date in short format Trigger date in long format Day of trigger Month of trigger		•
Parameter Trigger date in short format Trigger date in long format Day of trigger Month of trigger Year of trigger		
Parameter Trigger date in short format Trigger date in long format Day of trigger Month of trigger Year of trigger Hour of trigger		×
Parameter Trigger date in short format Trigger date in long format Day of trigger Month of trigger Year of trigger Hour of trigger		×

The Send message task message field will now contain a dynamic data code:

Task properties	X
Name Type Send Message	No D
Message Activity Options Type C On screen gopup C OpalisRobot Client C Windows NT Event Log	Severity
User or computer name mycomp Message (299000	uter
	OK Cancel <u>H</u> elp

Link the objects and the process will look similar to this:

If the Interactive event is triggered, the Send message task will display a message containing the actual parameter as it was send to the Interactive event.

For more information on how to trigger an Interactive event and send a parameter, refer to the Opalis Robot Utilities chapter.

UTILITIES

SNMP TrapRedirector

The Opalis TrapRedirector service is a Windows NT service that automatically redirects SNMP traps received on the computer to the Event Log. This allows OpalisRobot, through its Monitor Event Log event, to monitor SNMP traps.

To enable this feature, go to Control Panel | Services, select 'Opalis TrapRedirector' and click Startup. Set it to Automatic so that it starts automatically when the system starts. When done, click Start to launch the TrapRedirector service.

This feature requires the SNMP service to be installed on the computer running the Opalis Robot service.

ConsoleRunner



ConsoleRunner is a graphical application that communicates with OpalisRobot Service and launches tasks from the system console when the Service requests it.

It is useful for programs that do not run properly when launched by a Windows NT Service (such as some VB programs, MS Office or 16-bit applications that need to access shared memory).

When the task has been triggered, OpalisRobot Service informs the ConsoleRunner utility, which then executes the task. In order to launch the task, it is mandatory for ConsoleRunner to be running on the system console when the task is triggered.

To be sure that ConsoleRunner is always running, you may want to add its shortcut in the Startup group of the user usually logged on the system console.

You can also use the Auto Logon function of Windows NT.

For more details about the Auto Logon feature, consult Microsoft Knowledge Base, article No Q97597 ("How to Enable Automatic Logon in Windows NT") and Q114615 ("Bypassing Automatic Logon in Windows NT").

To protect the logged session against unwanted manipulation, it is possible to lock the console (pressing Ctrl-Alt-Del then Enter) or to use a password protected screen saver.

NOTE When a program is running in ConsoleRunner mode is not possible to use Dynamic Data.

WinEvt3

🤨 Opalis WinEvt v3.0	
OpalisRobot Server	
Event name	•
Parameter	
Opalis WinEvt v3.0	OK Close

WinEvt3 is a graphical remote activation utility.

It lets you remotely trigger Interactive events from a Windows 95, Windows 98 or Windows NT computer. It can be found in the folder where OpalisRobot was installed, a shortcut in the Windows taskbar is provided as well.

This utility returns 1 if execution was successful, or 0 if an error occurred. WinEvt3 can run in automatic mode (it takes its parameters from the command line), or in interactive mode (where you type the event in a dialog box).

WinEvt3 also allows you to pass a parameter (maximum length of 255) to an Interactive event.

Please note that you cannot trigger more than 333 events interactively with the evaluation version of Opalis Robot. After triggering 333 events, you must restart the Service to enable remote activation again.

Security

To create a Windows NT	Access to remote activation of events by WinEvt3 is reserved to users of the 'OpalisRobot
group, use the 'User Manager' program from	Users' Windows NT group, if the latter exists on the server.
'Administrative Tools' or click on the 'User Manager' button of the	If the group does not exist, any network user can trigger events with WinEvt3. Therefore, we recommend that you define the 'OpalisRobot Users' group. See the Security section.
toolbar.	When a user that does not belong to the ' OpalisRobot Users' group triggers an event, he receives an ' Access denied' message

Using WinEvt3 in Interactive Mode

Type the *OpalisRobot Server* and the *Event name* and click on the 'OK' button. Alternatively, you can select the *Event name* in the list of events. Note: The list contains only Interactive events configured on the OpalisRobot server. You can use the optional Parameter field to transfer an additional parameter (that will be transferred to other tasks as a replacement code).

Using WinEvt3 in Automatic Mode

All information for activation is passed from the command line. When using WinEvt3 in Automatic Mode, any object can be triggered (any event or task) based on their name. WinEvt3 executes the activation and returns 1 if the execution was successful, or 0 if an error occurred.

Syntax of WinEvt3 command line is:

- WINEVT3 Runs WinEvt3 in interactive mode.
- WINEVT3 /S=server_name Runs WinEvt3 in interactive mode, with server_name in the OpalisRobot Server field.
- WINEVT3 /S=server_name/E=event_name Runs WinEvt3 in automatic mode to activate event event_name on server server_name.
- WINEVT3 /S=server_name/E=event_name/P=parameter Runs WinEvt3 in automatic mode to activate event event_name on server server_name, with parameter as the event parameter.

Note: the order of the qualifiers must be respected, and no spaces should be added between tokens.

Hints and Tips

Triggering OpalisRobot objects on a remote computer running the OpalisRobot Service requires a Client License on the remote computer. Refer to the chapter ' OpalisRobot Licensing Structure'.

GenEvt3

GenEvt3 is a command line remote activation utility.

It lets you remotely trigger events or tasks from a Windows 95, Windows 98 or Windows NT computer. OpalisRobot objects can be triggered based on their name or object number. GenEvt3 can be found in the folder where OpalisRobot was installed.

Syntax of the GenEvt3 command line utility is:

GenEvt3 [\ComputerName] Event_or_task_name_or_number [Parameter]

Examples:

- GenEvt3 101033
- triggers task No. 101033 on the local computer
- GenEvt3 Job_1 "1 2 3"
- triggers Job_1 on the local computer with parameter 1 2 3
- GenEvt3 \\TheServer Job_1
- triggers Job_1 on computer: TheServer
- GenEvt3 \\TheServer "First Job"
- triggers First Job on computer: TheServer
- GenEvt3 \\TheServer Job_1 c:\Output
- triggers Job_1 on computer: TheServer with parameter c:\Output

Hints and Tips

Triggering OpalisRobot objects on a remote computer running the OpalisRobot Service requires a Client License on the remote computer. Refer to the chapter ' OpalisRobot Licensing Structure' .

StopShut

StopShut is a utility that interrupts the system shutdown during the countdown preceding it. A minimum countdown of 30 seconds always occurs when the System Restart is used.



To stop the current system shutdown, run StopShut.exe from the folder where OpalisRobot was installed.

This can be done only on the computer that is performing the shutdown.

Wait

Wait is a command line utility that simply waits a given time. It can be found in the folder where OpalisRobot was installed.

Syntax of the wait utility is:

Wait <number of seconds to wait>

Example: 'Wait 30' will wait for 30 seconds. The wait utility can be used to delay execution of commands within batch files.

ADVANCED OBJECTS

Link Adder

To combine more than two events or tasks, you can use a 'Link Adder' object. The 'Link Adder' can be found under 'Advanced' in the 'New Object' window:



Below are two example uses of Link Adders:



The resulting task ('Last task') will be started when the three tasks ('Backup', 'A batch program' and 'Another batch program') will be completed.



The resulting task ('Last task') will be started when 'Backup' completes and one of 'Abatch program' or 'Another batch program' also completes.

This example shows how to add an 'emergency' procedure to a job. Let's say that the 'Backup' task can only be run once a day. If the 'Abatch program' fails, the 'Last batch' task can still be launched if the administrator or a user triggers the 'Another batch program' using the 'User request' interactive event.

Build Task



The Build task allows you to automate the build of your development projects.

The first thing to do is to reference your compiler(s) on the Service Options. To do so, go to Options | Service | Add-ons tab. Select Build Add-on and click Configure. Then add the name of your compiler and its path in the list (use the right button of your mouse and the Tab key).

Then, create a Build task. Click on the right button of your mouse where you want to create the task and select New. Click the Advanced tab, select Build task and press New.

Use the right button of your mouse and the Tab key to add entries to the list of the builds that will be performed.

Selected:

Only the lines with the Selected column set to 'Yes' will be run. This allows you to run the task for just the build(s) that failed.

Name:

This is the name that you want to give to the build. It will usually be the name of the project you're compiling.

Once the line has been entered, double-click it to edit its properties (this opens the Edit Build dialog). In this dialog, you have to select the compiler that you want to use (which is defined in the Service Options, see the previous point). This is also where you select the project to be compiled and additional parameters.

Hints for Microsoft Visual C++ users:

In the Project Path, enter or select the project you want to compile (the .dsw file).

In the Parameters box, enter '/make "MyProject - Win32 Release" to compile the "Win32 Release" target of MyProject. If you want the build task to perform a "Rebuild AII", add "/REBUILD" to the parameters.

The program to add in the Service Options is "C:\Program Files\Microsoft Visual Studio\Common\MSDev98\Bin\MSDEV.EXE" (in this example, "C:\Program Files\Microsoft Visual Studio" is the folder where Microsoft Visual C++ is installed).

Text File Task

s w Object Internet App. M	lonitoring Pr	aina Í Berfa	rmance Monitor	Statistics	Zip
General	Ad	anced	Advanced F	ile Manageme	nt
-			res and a second se		-
Link Adder	Build task	Text File Task	nable or A	Apply Changes	
		\sim		eBa	- 11
1	abc?	<u> </u>		8	- 11
Create report	Compare strings	Notes	Trigger Object	Service	
N				010100	×
		New	[Cance		In [
		How		Що	Ψ

The Text File task provides simple yet powerful functions to work with text files from OpalisRobot.

Text File								×
Name :	[_	No 🛛		
<u>Type</u> :	Append line				-		Inactive	
Properties Properti File na	Append line Insert line Read line Delete line Find first line me				▲ ▼		- 1	
 Line Regla	× [_			_	_		
	mber							
			0	к	Ca	ncel	Help	

The task has 5 functions:

- Insert line: Inserts the entered line at the beginning of the file.
- Append line: Appends the entered line at the end of the file.
- Read line: Reads the line whose number is entered in the 'Line Number' field.
- Delete line: Deletes the line whose number is entered in the 'Line Number' field.
- Find first line: Returns the first line where the 'String to Find' string is found.
- Find all lines: Returns the number of lines where the 'String to Find' string is found. This information is also exported as dynamic data.
- Find and replace: Finds and replaces a string by another one.

Line feeds: Both <CR><LF> and <LF> are processed as ending characters for a line.

Dynamic data: Dynamic data published by other tasks can be inserted into all fields. If you insert a code inside a numeric field, make sure the published data is numeric.

The task exports the following data:

- 'text file name': The full path of the text file.
- 'line': The full line (without carriage return and line feed characters).
- 'line number': Number of the line read, deleted or found (always 0 for Insert and Append line tasks).

Enable or Disable



With this Task objects (Events or Tasks), on a local or remote OpalisRobot Service, can be set to Active (*Type: Enable Object(s)*).



Use the '...' button to browse the network for systems running the Opalis Robot Service or just enter the computer name in the *Computer name* field.

Use the 🖻 button to connect to the selected computer, it will display all available objects including the hierarchy (folder structure).

Use your mouse to select any of the checkboxes left of the object names.

Click ' OK' when finished.

Upon execution of this Task, all selected objects on the specified computer will be set to Active.

The other type (*Disable Object(s)*) sets objects (Events or Tasks) to Inactive on a local or remote OpalisRobot Service.

Use the '...' button to browse the network for systems running the Opalis Robot Service or just enter the computer name in the *Computer name* field.

Use the 🔊 button to connect to the selected computer, it will display all available objects including the hierarchy (folder structure).

Use your mouse to select any of the checkboxes left of the object names. Click ' OK' when finished.

Upon execution of this Task, all selected objects on the specified computer will be set to Inactive.

Apply Change



This object will execute the 'Apply Changes' function on a local or remote Opalis Robot Service.

Apply Changes	×
Name	No 0
	Inactive
Properties Activity Options	
Apply Changes Computer name	.
ОК	Cancel <u>H</u> elp

Any changes made (active / inactive settings for example) to one or more objects will be saved once ' Apply Changes' is performed.

Use the '...' button to browse the network for systems running the OpalisRobot Service or just enter the computer name in the *Computer name* field.

Hints and Tips

Applying changes to an OpalisRobot Service on a remote computer requires a Client License on the remote computer. Refer to the chapter ' OpalisRobot Licensing Structure'.

Create Report



With the Create report Task extensive reports in various text formats can be created. Reports can be made for single or multiple objects, folders or entire OpalisRobot configurations.

Create report	×
Name	No 🗍
Properties Advanced Dutput Activity Options Objects	
OK	Cancel <u>H</u> elp

Use the '...' button to browse the network for systems running the Opalis Robot Service or just enter the computer name in the *Computer name* field.

Use the 🖻 button to connect to the selected computer, it will display all available objects including the hierarchy (folder structure).

Use your mouse to select any of the checkboxes left of the object names.

The report will be generated for the selected objects only.

The *Advanced* tab is used to select the time frame for which the report needs to be created and which types of information to include in the report.



Report tasks options

- Executed during the last: here a period in days, hours, minutes or even seconds can be set.
- Executed between: here you can set a period between calendar dates and 24 hour time periods.

Insert in this report options

- The name of the object(s): will output the name of the object as it appears in the Opalis Robot Client Interface.
- The number of the object(s): will output the object number as it appears in Object properties' top right-hand corner.
- The log status: will output the log status (running, completed or failed).
- The log detail: will output the detailed log information.
- The start date: will output the date & time on which the object was triggered.
- The end date: will output the date & time on which the object execution completed.

The Output tab is used to specify the output file name and format.

ate report	×
Name	No 🗍
	🗖 Inactive
Properties Advanced	Dutput Activity Options
Destination	
Report file name	
If the report file already	exists
 Overwrite 	C Fail
C Append	C Create a file with a unique name
File format	
Format CS	V Delimited
Definiter	
Denniar	
	Insert a line with column titles
	OK Cancel Help
	Tob Constant

Use the '...' to bring up a file browser or enter the path and name in the *Report file name* field.

If the report file already exists options

- Overwrite: will replace an existing output file.
- Append: will append the new output file to an existing output file.
- Fail: will not create a new output file if one with the same name exists.
- Create a file with a unique name: will create a new output file with a unique name using following format: nameYearMonthDayHourMinuteSecondMillisecond.extension (where name & extension are the same as entered in Report file name).

File format options

CSV Delimited: the report will be stored as plain text with all values separated by a comma.

TAB Delimited: the report will be stored as plain text with all values separated by a tab.

Custom Delimited: the report will be stored as plain text with all values separated by a user definable separator. Use the ' delimiter' field to enter any character as separator.

Insert a line with column titles option: this option inserts column titles as first line of the output file.

Compare Strings



The Compare strings task is a logical operator that can be used to compare strings. Strings can be Dynamic Data produced as a result of a database query or file management task.

ompare Strings task	×
No 0	
Inactive	
Properties Activity Options	
Test that	
is equal to	
Task return value	
If test is true, the task returns 1	
If test is false, the task returns	
OK Cancel Help	

Enter the string to be tested in the 'Test that' entry field. Use the right mouse-button to enter Dynamic Data. The available logical operators are:

- is equal to
- is different than
- matches the following pattern
- does not match the following pattern

Enter the string to be compared to in the bottom text entry field. Again, you can insert Dynamic Data instead of typing a string.

The 'matches the following pattern' and 'does not match the following pattern' operators accept '*' and '?' as wildcards. The 'Case sensitive test' option can be enabled to make each string comparison case sensitive.

By default the Compare strings object returns 1 if true, and 0 if false. This may be customized by using the 'Task return value' option.

Notes Object



The Notes object is neither a Task nor an Event. It acts as a convenient way to add notes (comments, remarks, etc.) to OpalisRobot automated solutions.

The Notes objects has no configuration, other than a text entry field:



The text that has been entered becomes visible when:

- modifying the notes object
- enabling the Properties panel

Trigger Object

Internet App. M General	lonitoring F Ac	Paging Perform	nance Monito Advance	d File Manager	Zip ient
+	**		s:		-
Link Adder	Build task	Text File Task	Enable or Disable	Apply Change	8
,	abc?		Ç	-	- 1
Create report	Compare strings	Notes	Trigger Objec	t Service Started	
Ņ					-
		<u>N</u> ew	Car	cel <u>F</u>	lelp

The Trigger Object Task allows you to trigger objects on a local or remote OpalisRobot Service.

Trigger ob	ect		×
Name	I		No 0
			I Inactive
Properties	Activity Options	1	
Objects			
C	omputer name		▼ <u>∲</u> …
<u> </u>	_		
	Parameter		
		ΟΚ	Cancel Help
		UK	Дор

With this Task objects (Events or Tasks), on a local or remote OpalisRobot Service, can be set to Active (*Type: Enable Object(s)*).

Use the '...' button to browse the network for systems running the OpalisRobot Service or just enter the computer name in the *Computer name* field.

Use the 🖻 button to connect to the selected computer, it will display all available objects including the hierarchy (folder structure).

Use your mouse to select any of the checkboxes left of the object names.

Click ' OK' when finished.

Upon execution of this Task, all selected objects on the specified computer will be set to Active.

The other type (Disable Object(s)) sets objects (Events or Tasks) to Inactive on a local or remote OpalisRobot Service.

Use the '...' button to browse the network for systems running the Opalis Robot Service or just enter the computer name in the *Computer name* field.

Use the 🖻 button to connect to the selected computer, it will display all available objects including the hierarchy (folder structure).

Use your mouse to select any of the checkboxes left of the object names.

Click 'OK' when finished.

Upon execution of this Task, all selected objects on the specified computer will be set to Inactive.

Service Started

nternet App. Mi General	onitoring F Ac	Paging Perfor Ivanced	nance Monitor Advanced	Statistics File Manager	Zip vent
+	**		s:		-
Link Adder	Build task	Text File Task	Enable or Disable	Apply Change	88
1	abc ?	<u></u>	Ç	*	
Create report	Compare strings	Notes	Trigger Object	Service Started	
Ņ				\bigcirc	•
**		New	Cano		lelo

The 'Service Started' event is triggered when the OpalisRobot Service is started. You can use this event to start or continue an automation sequence as soon as the OpalisRobot Service starts.



Use the '...' button to browse the network for systems running the Opalis Robot Service or just enter the computer name in the *Computer name* field.

Use the 🖻 button to connect to the selected computer, it will display all available objects including the hierarchy (folder structure).

Use your mouse to select any of the checkboxes left of the object names.

Click ' OK' when finished.

Upon execution of this Task, all selected objects on the specified computer will be triggered.

Hints and Tips

Triggering OpalisRobot objects on a remote computer running the OpalisRobot Service requires a Client License on the remote computer. Refer to the chapter ' OpalisRobot Licensing Structure' .

Service Started After Reboot



The 'Service Started after Reboot' event is triggered when the OpalisRobot Service is started within 10 minutes after a system reboot.

You can use this event to continue or start an automation sequence after a system reboot.

PAGING TAB

Send to Pager



The send to Pager task requires a modem supported by Windows NT to be installed on the system running the Opalis Robot service.

Vene No Originative Connection Activity Options Recipient Country Phone number No Password Message	Vene No Originative escage Connection Activity Options Recipient Country Phone number PIN Password Message	81	
		Name	No D
tersage Connection Activity Options Peopient County Phone number Phone number Massage Massage	essage Connection Activity Options Recipient County Phone number PIN Password Message		☐ Inactive
Recipient County Phone number Pitone number	Recipient Country Phone number PN Password Message	fessage Connection Activity Option	8
Mercane	Message	Recipient Country PIN	Phone number Password
novago		Message	
			OK Cancel <u>H</u> elp

The Send to Pager task provides paging capabilities to OpalisRobot. It can send alphanumeric messages to paging services supporting the TAP protocol (they almost all do) and numeric messages to paging services supporting DTMF sequences only.

To configure the task:

- In the Message tab, enter the information necessary to connect to the paging service as well as the message you want to send.
- In the Connection tab, you may change the protocol settings and select which modem you want to use for the connection to the service.

Hints:

- When using the DTMF protocol, you can add one or two commas (the "," without the quotes) to add a delay between the pick up of the line by the paging service and the sending of the Message. You add these commas at the beginning of the Message field.
- Depending on the DTMF service you are using, you may need to add a '#' sign (without the quotes) at the end of the Message field.

PERFORMANCE MONITORING TAB

Monitor Performance Counter

General	Advanced	Ac	vanced File Ma	anagement
nternet App. Monito	ring Paging	Performance M	fonitor Stat	istics Zip
23				
Monitor				
Performance				
Counter ;				

With this event you have the tools for measuring the performance of a local computer (the computer running the OpalisRobot Service).

On a Windows NT system you can view the behavior of objects, such as processors, memory, cache, threads, and processes. Each of these objects has an associated set of counters that provide information about device usage, queue lengths, delays, and information used to measure throughput and internal congestion.

For more information on Windows NT Performance Monitor refer to the Windows NT documentation or the Windows NT Resource Kit.

Performance Counters are ideal to monitor a mission-critical system's or application's condition at regular intervals. By integrating performance monitoring functions with OpalisRobot's rich messaging features, powerful alerting processes can be created with ease.

Name:	No D
sourier Test Advanced Activity Options Test that Object Counter Inst is different than I 0	Add ance

Object

Use the '...' button to select an object to monitor on the local computer. The 'Counter from' window appears.



From this window (which is very similar to the Windows NT Performance Monitor, 'Add to 'window) you can select the Object, Name (name of the counter) and Instances. The *Definition* text field shows the definition of the selected counter. Once an Object and Counter have been selected click 'OK'.

The main window will now show the selected Object, Counter and Instance.

ame :		No	0
			🗖 Inactive
unter Test Advanced Activity 0)ptions]		
Test that			Add
Processor			Bemove
Counter	Instance		Tougo
% Processor Time	0		
is different than	0		
is different than			
is lower than is lower than or equals to is more than			
is more than or equals to			

Use the drop-down list to define a threshold rule. Following rules are available:

- Is different then
- Is equal to
- Is lower than
- Is lower than or equals to
- Is more than
- Is more than or equals to

Enter a value in the numeric entry field on the right side of the drop-down list. The value entered relates to the counter selected (i.e. % Processor Time can have a value between 0 and 100). Click 'Add' to enable the rule.

Name :		No	0	
			🗖 Inactive	
cunter Test Advanced Activity Test that Object Server Work Queues Counter Bytes Sent/sec	Options		Add Emove	
is more than or equals to If "% Processor Time' is more than If "Bytes Sent/sec' is more than or	90 equals to 75000)		1
<u> </u>				

It is possible to create multiple rules. Just select another Object or Counter, select a rule, set a threshold value and click 'Add':

'AND' logic applies for multiple rules entered. This means all rules have to be true (meet the rule's requirements) at the same time for the Event to trigger.

Under the 'Advanced' tab the Trigger option and Interval can be configured.

Mane. 1		No	
		Γ	Inactive
Counter Test Advanced	Activity Options		
Trigger			
☑ Irigger only whe	en the threshold is pa	ssed	
- Periodicity			
Test counter every	5 Seco	nda	
	10		

The Trigger only when the threshold is passed option's behavior is as followed:

Selected (Default): each time that the conditions on counters are tested: if the rule's new state is TRUE while previously FALSE, the event is triggered.

Example: imagine you measure your server's performance using the % Processor Time counter. You've created a threshold rule ' if more than or equals to 80'. If the counter's value changes to 80% the Event is triggered. If the counter's value then changes to 90%, the Event not triggered. If the counter's value changes back to 20% nothing will happen (it does not meet the threshold rule's requirements). If the counter's value changes back to 80% or more, the Event is triggered.
Not selected: each time that the conditions on counters are tested: if the rule's requirements are met, the event is triggered.

Example: imagine you measure your server's performance using the % Processor Time counter. You've created a threshold rule ' if more than or equals to 80'. If the counter's value changes to 80% the Event is triggered. If the counter's value then changes to 90%, <u>the Event is triggered again</u>. If the counter's value changes back to 20% nothing will happen (it does not meet the threshold rule's requirements). If the counter's value changes back to 80% or more, the Event is triggered.

The *Periodicity* option sets the interval each time the selected performance counter(s) are tested.

Please note that testing rules for multiple performance counters at short intervals produces extra CPU load.

STATISTICS TAB

Monitor Counter



With statistics functions you can analyze the occurrence of a certain Event or Task (or even groups of Events or Tasks). You can use counters to store any numeric data that you want and manipulate it during the execution of the automated jobs. A counter can be used to allow or block access to a certain resource. If the counter value is 1, then access is granted and the counter is set to 0. When the resource is released by the job, it sets the counter back to 1.

Access to statistical information makes it possible to create very powerful automated processes. Examples:

" If this error occurs more than 3 times per day, warn the Network Administrator on his mobile telephone"

" If this product is out of stock more than 2 times per month, inform the Purchase Department via e-mail"

The Statistics Add-on also provides features to modify collected statistical data (see). Obviously this enables you to create even more powerful automated processes.

Example:

" If this product is out of stock more than 2 times per month, increase the amount of products ordered from the manufacturer by 10 and inform the Purchase Department of the fact that they should negotiate a better price!"

Configuration

Counters are defined globally for the Opalis Robot Service. To configure the Statistics Add-on go to: *Options*, *Service*, *Add-ons*.

OpalisRobot References Manites Add an	3.50 rc5	Configure
Statistics Add-on	1.00 rc4	100
Utilities Add-on	3.50 rc4	HoR.
Description		
Let you create, manipulate an counters.	d do statistical tests on counters	and groups of

Select the Statistics Add-on and click ' Configure ... '.

Statistics AddOn service options	X
Counters Groups	
Counters Counter definition Default value	
	-
OK Cance	

Name: Enter the name of your counter here.

Default value: a numeric value can be entered here. It will be used as initial value.

The Save counter values when the Service is stopped option can be set for each counter individually. It will store all counter values so they will not be lost the next time the Opalis Robot Service restarts.

The *Counters* field will display the counter name, default value and the fact that the counter value is saved or not if the OpalisRobot Service stops.

Use the 'Add' button to add a counter to the Counters list.

Use the 'Remove' button to remove a selected counter from the Counters list.

Statistics AddOn service options	×
Counters Groups	
Counters Counter definition Name Default value Default value Save counter values when the service is stopped Counters	
System Reutet Court, 0, Saved	
OKCancel	

By double clicking a counter from the list, its options can be changed. Select 'Set' to accept the changes, select 'Cancel' to cancel the operation.

Note that counter values must be integers ranging from -2147483647 to 2147483647. Entering an invalid value will warn you about this fact.

With the Statistics Add-on you can also define groups of counters. Select the *Groups* tab to open the Groups window:

Statistics AddOn service options	
Name	∆dd
Groups Server Health	<u>R</u> emove
Member(s) of Server Health	
Available counter(s)	Member(s)
System Restart Count	Contemporation Errors Count Contemporation Errors Count
	Calicer

Define a group name and use the '-->' and ' <--' symbols to add or remove any of the available counters to the *Member(s)* list. Use the 'Add' and 'Remove' buttons to add or remove groups.

Monitor Counter



The Monitor Counter Event can be used to test the value of one or multiple counters using threshold rules.

Counter Test

The default window (Type: Counter Test) looks like this:

Lype : Counter Test iounter Test Advanced Activity Test that	/ Options]	•	Г	Inactive
ounter Test Advanced Activity Test that) Options]			
Test that				
				A.H.
Counter System Re	start Counter	ľ	- 1	800
is different than	• 0			Hemove
is different than				
is equal to is lower than				
is lower than or equals				
is more than				
is more than or equals				
,				

Use the drop-down list to define a threshold rule. Following rules are available:

- Is different then
- Is equal to
- Is lower than
- Is lower than or equals to
- Is more than
- Is more than or equals to

Enter a value in the numeric entry field on the right side of the drop-down list. Click 'Add' to enable the rule.

It is possible to create multiple rules. Just select another Counter, select a rule, set a threshold value and click 'Add'.

'AND' logic applies for multiple rules entered. This means all rules have to be true (meet the rule's requirements) at the same time for the Event to trigger.

The behavior of the Counter Test can be altered using the Advanced tab:

istics AddUn - Event		
Name:		No 0
Lype : Counter Test	•	🗖 Inactive
ounter Test Advanced Activity	Options	
Trigger		
☑ Irigger only when the thre	shold is passed	
		a . 1

The Trigger only when the threshold is passed option's behavior is as followed:

Selected (Default): if the counter's rule state is changed, the Event is triggered.

Example: imagine a counter with a value of 9 and the threshold rule ' if more than or equals 10'. If the counter's value changes to 10 the Event is triggered. If the counter's value then changes to 11, the Event is not triggered (the threshold is not passed, has not gone under 10). If the counter's value changes back to 9 nothing will happen (it does not meet the threshold rule's requirements). If the counter's value changes back to 10 or more, the Event is triggered.

Not selected: if the counter meets the rule's requirements, the Event is triggered.

Example: imagine a counter with a value of 9 and the threshold rule ' if more than or equals 10'. If the counter's value changes to 10 the Event is triggered. If the counter's value then changes to 11, the Event is triggered again. If the counter's value changes back to 9 nothing will happen (it does not meet the threshold rule's requirements). If the counter's value changes back to 10 or more, the Event is triggered.

Statistical Test

The other Monitor Counter Event type (*Statistical Test*) can be used to perform a statistical test on the value of all the counters belonging to a group. It is a very handy way to check a set of conditions on multiple counters and to build a new kind of logic in OpalisRobot3.

For instance, you can check if the percentage of counters in a group that have a value between 10 and 100 is more, less or equal to 50%.

onitor co	unter E	K
<u>N</u> ame: <u>Type</u> :	Statistical test on group Counters No 326551 Statistical Test Inactive	
Counter T Test th	ert Statutical Test Advanced Activity Options sa Counter Sectors of group' rent than 0 0 0 0 0 0 0 0 0 0 0 0 0	
If 'men If 'men	ber of group' is lower than 100 ber of group' is more than 10	
	Cancel Help	

In the Counter Test tab, create rules to be checked on counters from the group that will be selected in the Statistical Test tab. The following rules are available:

- Is different then
- Is equal to
- Is lower than
- Is lower than or equals to
- Is more than
- Is more than or equals to

onitor coun	ter
<u>Name:</u>	tatistical test on group Counters No 326551
Counter Test	Statistical Test Advanced Activity Options
is differen	Group Counters
If Percen	tage of counters verifying Counter Tests' is more than 50%
	Cancel Help

In the Statistical Test tab, use the drop-down list to choose the group of counters you want to perform a statistical test on. Then, create rules on the statistic threshold. Available rules are identical to ones above.

A practical application could be : " Check if the number of unexpected returned values of a set of task is acceptable or not". Say you make a lot of queries in a database. You want to verify that they don't return an unexpected value more than an average 10 times per day.

Define a counter to count the number of unexpected values returned by a task. Make a link from a database execution task to a counter task incrementing your counter. Condition on the link is « return < 0 ».

Create one counter for each of your database execution tasks.

Define a group called "UnexpectedValues" and make all those counters member of this group.

Now define your statistical test event as « If more than 10% of counter from group "UnexpectedValues" have values more than 10, send an e-mail to the administrator » by:

- Adding rule "more than 10" in Counter Test tab" that will be applied to every counter of the group,
- Selecting "UnexpectedValues" group in the statistic Test tab and adding rule: "If more than 10%".

Modify Counter



The Modify Counter Task can be used to Increment, Decrement and Set the value of a Counter. The default window (*Type: Modify Counter*) looks like this:

tatistics /	AddOn - Task				2
<u>N</u> ame :				No 0	
Lype :	Modify counter		•	∏ įn	active
Modify /	Activity Options				
Modify	counter				
	Counter	System Restart Co	unter	¥	
	Action	Increment value		-	
	Step value	Decrement value			
		Set value			
		OK	C.	ancel	Help

Use the Counter drop down list to select a counter.

Use the *Action* drop down list to select the action you like to perform. Use the *Step value* field to enter the desired value.

Note that counter values must be integers ranging from -2147483647 to 2147483647. Entering an invalid value will warn you about this fact.

The other Modify Counter or Get Value Task type (*Get counter value*) can be used to retrieve the value of a specified counter. Executing this Task will produce a return value (which will be the value of the specified counter).



ADVANCED FILE MANAGEMENT TAB

Advanced File Management Objects



The Advanced File Management add-on offers advanced ways to transfer files. Each task performs one of three basic functions managing file lists, transferring files or manipulating files. Each object offers scheduling, logging and the ability to trigger another object based on the return value (or completion status) of the object.

The add-on includes 7 tasks:

- File List Management (create, load, save, merge, compare file lists)
- File Transfer (copy or move the files contained in a list)
- Delete File List (delete files or folders contained in a list)
- Folder Management (create or delete folders)
- Internet Transfer (transfer files contained in a list using the RDV protocol)
- Compress (compress files from a list into a zip archive file)
- Test if File Exists (checks if a file exists)

File List Management

e Lists ta	sk					
<u>N</u> ame					No 🛛	
<u>T</u> ype	Create File List			-	Г	Inactive
Create List List Prop Folder	Create File List Load File List Save File List Compare Lists Merge File Lists path	Include	sub-folder(s	• • • • • • • • • • • • • • • • • • •		_
File list	name	Create a	i list with rel	ative pat	าร	
			OK	1 c	ancel	Help

In order to use the file transfer tasks provided with the add-on, it is important to understand what a file list is and how it works. A file list is a named list of files.

Note A file list does not contain the actual files (i.e. the data) but their name and path as well as information like their size, timestamp, attributes, a security checksum.

File lists are <u>memory</u> objects existing during the context of a specific OpalisRobot job. When the job (a sequence of tasks linked together) ends, the file lists information is removed from memory. To make file lists persistent and reuse them across jobs, you can use the File List Management task to save a file list.

Each job usually holds several lists. It is important to clearly name the lists in order to select the one that contains the exact files you are interested in manipulating.

The File List Object has 6 Types of Tasks:

Create List

This task creates a list of the files and sub-folders contained in a specified folder. It creates a snapshot of the specified folder on the hard drive. You have to name the list, this name is used to reference and access the files in the list. **Note** Two lists cannot have the same name. If you use the name for two lists when using the Create List task, the second list will be merged to the first.

Save List

This task saves a file list to a disk. The file is saved in a binary format. If the 'Save As Tex' box is checked, the file will be in text format with a file name per line. Additional options let you add a header, footer and prefix or append a string to each line.

Load List

This task loads a list in memory from a file. The file has to be saved by a previous Save List task (not using the Save As Text option).

Merge Lists

This task merges two selected lists. A file name already present in the resulting list is not added a second time (no duplicates).

Compare Lists

This task compares two lists. Typically, you will choose to compare different snapshots of a folder in order to know what files to transfer or to delete. The task can create the list of new or modified files, of deleted files, of files with modified attributes or security, or the list of unchanged files. The timestamp is used to determine differences in a file.

Add File to List

This task adds a single file to a list.. The actual file is not added to the list but its name, timestamp, size, attributes, etc.

Publish List

This task publishes the contents of the selected list through dynamic data. For more information on dynamic data, please read the Dynamic Data section.

Subtract List

This task removes content from a list into another. It outputs a list with the entries that were removed and a list of entries that were not found.

Compare 2 Sites

This task compares two similar folders on two different locations (different folders or different computers) and generates all the necessary "to do" file lists in order to replicate changes that occurred in the folders. The 'Conflicts' Tab inside this object provides optional lists that will receive the name of conflicting files. Possible conflicts are: Files updates on both sites or Files updated on one site and deleted on the other one. The resolution of conflicts depends on the intended application, it can be saving the files from one site and updating it with the ones of the other, alerting the administrator for a manual update, etc.

File Transfer Objects

Name		No 0	
<u>Lype</u>	Copy File(s)	Inactive	
Transfer	roperties Advanced Logging	Activity Options	
From	ist named		
Desti	ation folder		
Cutp	x		
	Vrite the list of completed files		
	Vrite the list of failed files to	7	
	Сору	File(s)	
	Copy I	rile(s)	
	Moun	E BOLOI	
	Move Copy S	File(s) Security	
	Move Copy S Copy A	rile(s) Security Attributes :o multiple recipients	

NOTE The Copy and Move functions require client licenses. To determine the number of client license you require count the number of destination computers you are transferring files to. Once a client license has been allocated to a destination computer you cannot reuse that client license in another file flow.

Copy File(s)

Copy files from a specified list to another destination.

Move File(s)

Move files from a specified list to another destination.

Note both Copy File(s) and Move File(s) items have unique name, fail and overwrite options as well as the ability to copy attributes and security information.

Copy Security

Copy the security of specified files only.

Copy Attributes

Copy the attributes of specified files only.

Copy to Multiple Recipients

Copy files to several destinations. The destination folders (whether local or remote) must be listed (one per line) in a text file. Remote folders must use the UNC notation (' \\server\shared-folder\sub-folders\').

Note OpalisRobot comes with 3 client licenses. This means it will only copy to 3 destinations (assuming the client licenses are not being used by another function such as remote administration). If you wish to open distribution privileges to more computers you will need more client licenses. Please contact your Opalis dealer for more information.

Folder Management

Advanced	File Management Add-on	×
Name		No 🖸
Type	Create folder	Inactive
Properties	Logging Activity Options	
Create	a folder	
	Create folder	
	Create folder	
	Replicate tree	
	OK	Cancel <u>H</u> elp

Create Folder

Allows you to create new folders or to delete a folder and/or its contents.

Delete Folder

The Delete Folder task has 3 delete options: delete if empty, delete empty sub-folders and delete files and sub-folders. Use caution when using the third option as there is no undelete option.

Replicate Tree

Replicates an entire file list to a specified location.

Examples

Periodically transfer new or modified files:

To set up this solution, use a Date/time event or a Monitor File-system event to trigger the job. If you use a Monitor File-system event, make sure you enter no filter and select the No History option. This will avoid the history to be kept in memory.

After this starting point, create the following task:

- a Create List task, that will create a snapshot of the folder that contains the file to transfer inside a list named 'current state'.
- a Load List task, that will load a file named 'previous.bin' inside a list named 'previous state'.
- a Compare List task, that will compare the 'current state' and 'previous state' lists and generate a list of the new and modified files (called 'new/modified files').
- a File Management task, that will transfer the files of the 'new/modified files' list to the destination folder. In order to implement a retry mechanism, the failed files will be sent to a list called 'failed files'
- a Save List task, that will save the 'current state' list to the file 'previous.bin'. This way, next time the job is launched the current state will be taken as the previous situation and only the new/modified files will be transferred.

Note: to prevent the job to transfer all the files the first time it is launched, you can create a Create List task directly linked to a Save List task. These two tasks would list the files and save them inside the previous bin file so that the file be present the first time the job is launched and only transfers the files that have been created or modified since the execution of this two-task job.

Internet Transfer

amet fransfer	IGSK			
Name			No 0	
			Г	Inactive
Properties Trans	fer options Loggin	g Activity Optic	ons	
Source				
Copy the files	from this			-
Destination				_
	Eolder			_
		_		
Incoming p	assivora j			
	Transfer	mode		
	• Use	RDV protocol		
		RDV ID		_
	C Esta	blish direct connec	tion	
	Hostin	ame or IP address		
		Destauration	í —	_
		r ok number	1	

ervice Options General Add-ons Licensing Activity	Templates Closed Days
DpaisBob03 Advanced File Management Build Add-on Internet Application Add-on Pager Performance Monitor	3.60 ▲ Configure 3.60 ↓ Jog 3.60 ↓ 3.60 ↓ 10g
Advanced File Management with file I transfers	ists processing and RDV protocol
	Close <u>H</u> elp

Internet Transfer Configuration	×
Access Connect System RDV Identification RDV Validation RDV Servers Primary Server Port Port	
Secondary Server Port Misc. Options KBytes Packet Options KBytes C Low C High	
OK Cancel	_
Internet Transfer task	< l
No D	

Interview Transfer options Logging Activity Op Output lists	
If destination file exists C Uverwrite S Skip file C Create file with a unique name Destination date C Same as original C Tane of transfer	
Retries Attempt to connect for 100 minutes	

NOTE The Internet Transfer Object requires the OpalisRobot service to be installed on the originating and destination computer.

The Internet Transfer Object enables you to transfer files from a file list using the RDV protocol (file transfers between dial-up computers through the Internet) or via a direct connection (through the LAN, the Internet or dial-up connection through RAS).

In the 'Source' section select the file list name (one that you have already created).

In the 'Destination' section enter the folder name and select whether you want to allow incoming transfers. If allowed, incoming transfers can be restricted to specific hours and days of the week. If an incoming password is set, this password will be required to set up the RDV Transfer task on the remote computer that will send files to the local computer.

In the ' $\mbox{Transfer Mode'}$ section select the RDV protocol mode or Direct Connection option.

Note If you choose the RDV protocol you need to configure the protocol settings in the service options prior to use the RDV Transfer task.

To configure these options, go to Options | Service, click the Add-ons tab and select Advanced File Management in the list. Press the Configure button and input the settings in the tabs.

The RDV ID is a unique string that identifies computers exchanging files through the RDV protocol. The primary and secondary RDV servers can also be entered in this tab, only the primary server is mandatory.

Please note that this task does not allow transfers to or from OpalisRendezVous. To use the RDV protocol the destination computer must also have the OpalisRobot v3.6 service running with a unique serial number and product key.

The RDV ID is the OpalisRobot serial number. During the evaluation process, unique RDV IDs can be requested by sending an e-mail to info@opalis.com.

Compress

Name			No 0	
Lype Compre	ss files	•	🗖 Ina	active
roperties Activity	Options			
Compress files	· ·			
From this list				-
To archive				
Compression leve	None	•		
Write the arch name to this li	ive dit	 		-

The Compress object compresses files from a selected file list. It uses a PkZipcompatible algorithm so you' II be able to view and extract files generated with this task using tools like PKZip or WinZip.

The Compress object is ideal for archiving files, minimizing size for file transfer and adds more security to replicated files.

Test if File Exists



The Test If File Exists task simply checks whether a file exists. If the file does not exist, it fails. If the file exists, it completes successfully. Modify the link properties to select which condition you want to test.

Delete File List Entries

<u>N</u> ame				No	0	
<u>T</u> ype	Delete File L	ist Entries		E	🗌 Inactiv	8
Transfer p	roperties Lo	gging Activi	ty Options			
From li	st named				-	
ΠÞ	elete same na	, med files from	the destination	n directory or	nly	
De	stination folde				·	
_ Outpu	ıt					
ΠV	Vrite the list of	completed file	es 🗌			
ΠV	√rite the list of	failed files to				

The Delete File List Entries task deletes entries (files or folders) from the selected file list. It does not delete the list from the memory, just the files or folders contained in that list.

INTERNET APPLICATION MONITORING TAB

Monitor/Test Internet Application Objects



The Monitor Internet Application and the Test Internet Application objects work the same way. The only difference is that the Monitor Object has an additional Frequency field that allows you to select how frequently the test will be done. The other difference is that the Test object features a Custom application type that lets you test any Internet application, even if it's not included in the predefined tests.

When you create a Monitor Internet Application event or a Test Internet Application task, you first select the type of application you wish to test. There is 5 predefined Internet applications you can monitor using the add-on:



Web (HTTP protocol)

The test is done by requesting the default page of the Web server. Enter the server name or IP address, and the IP port if it's not the default one (80 for the HTTP protocol).

Outgoing Mail (SMTP protocol)

The test is done by connecting to the IP port of the mail server. Enter the server name or IP address, and the IP port if it's not the default one (25 for the SMTP protocol). Additionally a message can be sent to verify that the SMTP relay works. This test doesn't check that the mail goes through to the destination e-mail address (this can be done using the OpalisRobot E-mail Add-on, visit www.opalis.com for more information).

Incoming Mail (POP protocol)

The test is done by connecting to the IP port of the mail server. Enter the server name or IP address, and the IP port if it's not the default one (110 for the POP protocol). Additionally a connection can be done to verify that a specific mailbox can be accessed. This test doesn't read messages waiting in the mailbox (this can be done using the OpalisRobot E-mail Add-on, visit www.opalis.com for more information).

FTP

The test is done by connecting to the IP port of the mail server. Enter the server name or IP address, and the IP port if it's not the default one (21 for the FTP protocol). Additionally a connection can be done to verify that a specific account can be logged on. This test doesn't exchange any file.

DNS

There two possible tests: Either checking a specific server and the accuracy of its results (by checking that a specific name query returns a specific IP address), or checking that the default DNS is accessible on a port different than the default one (53 for the DNS protocol).

Custom test

A custom test is a set of actions that allow you to test any Internet protocol or application. You add actions to the list by clicking the Add or the Insert buttons. Actions are:

- Open Port opens a connection to the specified server on the specified IP port.
- Send Data sends the specified data. If the data is not a text or if it's too big, save it inside the file and click the Send data from file option.
- Receive Data receives data from the other end of the connection. If the data has to be tested or used on a subsequent OpalisRobot task, check the Publish as dynamic data option and select the generic slot that will be used for the data. You can also save the data inside a file and decide on what the task should do if the file already exists.
- Close Port: closes the IP connection. This is usually the last step of the test.

Hints on how to implement a test:

- Start by creating a Date/time event that you link to the first task implementing your test.
- The Date/time event will contain the frequency of your test (e.g. every 5 minutes).
- When you have added the action that is receiving the data that you want to test, make sure the received data is published as dynamic data and save the task. Then link the task to a
- Compare strings task (from the Advanced tab) and select the proper dynamic data code to be compared to the value that you want. Based on the result of this test, you can link to different tasks.
- Make sure the Send data and Receive data are executed at thre right moment. The application can be temporarily blocked and data can be lost if the both ends are trying to send or receive data at the same time.

Note: You can have actions on several tasks. For example, you can have an Open Port and a Send Data in one task. Then a Receive Data in another task linked to the processing of the received data, then a Close port action on a third task. Just link the task together and the connection will be carried from one task to another.

Zip Task

rkernet App. Monitoring Paging Performance Monitor Statistics Zip Que	General	Advanced	Advanced File Mana	gement
Zp Task	Internet App. Monito	aring Paging Perfi	ormance Monitor Statisti	os Zip
Zp Task	()			
	Zin Task			
	Zip Task			

The Zip task gives you all the basic functionality of the well-known PKZip or WinZip utilities. However, instead of calling an external program, all Zip related functions are now available directly from within OpalisRobot.

Using the Zip task, you can Compress files into an archive, Decompress archives and Test archives using the 'Type:' drop-down menu.

Compress Files

With this function you can compress one or more files into an archive.

ask properties	
Name:	No 0
Type : Compress files	Inactive
Compress Activity Options	
Action	
Add	
Folder	
<u>O</u> rigin Folder	
<u>Mask or file name </u>	
• Eilter(s)	
Archive name	
Compression options	
Lompression level None	
ОК С	ancel <u>H</u> elp

Action:

- 'Add'. Adds files to the given archive name. If the archive contains a file with identical filename it will be overwritten (updated).
- 'Move'. Adds files to the given archive name. Since this function moves files, all existing files will be deleted from the origin folder. If the archive contains a file with identical filename it will be overwritten (updated).
- *'Update*': Replaces (updates) an existing entry in the Zip archive only if it has been modified more recently than the version already in the Zip archive. Please note: this function will only work on existing Zip archives.
- *Creatives of the construction of the constr*

Folder:

- 'Origin Folder': Enter the path that contains the files you wish to add to the Zip archive. The '...' button will bring up a file browser.
- *'Include sub-folders'*: Select this option if you want sub-folders to be scanned for files as well. The Zip Add-on will include the sub-folder information in the archive.
- *Mask or file name*¹: Use this field to enter a mask (* and ? are supported) or file name. Example: *.xls will only add files with the .xls extension to the archive.

- *Filter(s)*: Use the filter option to create more complex filter rules. Example: in cases you wish to include all files with the .xls extension except *97.xls.
- *'Archive name'*: Enter the path and name of the Zip archive. The '...' button will bring up a file browser. If no path is given (i.e. only a filename) the Zip Add-on cannot create the archive.

Compression options:

The Zip Add-on supports 4 compression levels: ' None' , ' Low' , ' Medium' (default value), ' High' .

If you only need to create an archive without compression select the 'None' option. Because the files are not compressed this is also the fastest option.

If you need maximum level of compression select the 'High' option. This is the slowest method of compression, but achieves the smallest possible Zip archive.

For general use the 'Medium' option will give the best speed/compression ratio.

Decompress archive

With this function you can Decompress one or more Zip archives to a specified folder.

Name :	No 🛛
Type : Uncompress archi	ive
Jncompress Activity Optic	ns
Folder	
<u>A</u> rchive name	
 Mask or file name ● <u>F</u>ilter(s) 	0
Destination folder	
	Lreate folders if does not exist
If destination file exists	
• Overwrite	
U F <u>a</u> ll	
C <u>U</u> nique name	
O <u>U</u> nique name	
O <u>U</u> nique name	

.

.

Folder:

- *'Archive name'*: Enter the path and name of the Zip archive. The '...' button will bring up a file browser.
- *Mask or file name*? Use this field to enter a mask (* and ? are supported) or file name.
- *Filter(s)*¹: Use the filter option to setup more complex filter rules.
- *Destination folder*: Enter the path where the Zip archive(s) should be extracted. The '...' button will bring up a file browser.
- 'Create folders if does not exist'. Select this option if you want the Zip Add-on to create subfolders in the folder specified in 'Destination folder'.

If destination file exists:

- 'Overwrite'. This option will overwrite existing files when Decompressing the Zip archive.
- ' Fail': This option will skip files that already exist in the 'Destination folder'.
- *'Unique name'*. This option will give a unique name to a file, if the file name already exists in the *'Destination folder'*.

Test archive

With this function, Zip archives can be tested. The Test archive function provides information about compression type, level and possible errors. All information will be entered in the OpalisRobot log.

Task properties		x
Name :		No 0
<u>I</u> ype : Test archive	▼	Inactive
Test Activity Options		
Archive		
<u>A</u> rchive name		
		Cancel <u>H</u> elp

Enter the path and name of the archive you wish to test in the 'Archive name' field. Use the '...' button to bring up a file browser.

DYNAMIC DATA

Dynamic data

Dynamic data lets you create dynamic jobs, i.e. jobs that have a generic configuration and can adapt to the context dynamically.

Let's take an example. Say you have a file-processing program that requires the name of the file to process as a parameter in its command-line and you want to launch it each time a file is new or modified in a monitored folder.

Unless the file name is always the same (which is a big limitation in functionality in nowadays-powerful platforms), you would need to create a job for each possible file name. This is OK if there's only 3 different possibilities but what if the file name changes ten times a day?

Thanks to the dynamic data feature, you do not need to know the name of the files when you create the job. You just have to insert a special code (using the Insert dynamic data dialog) and the code will be replaced at run-time by the actual name of the new or modified file.

How it works:

Don't worry, there is no waste. The dynamic data information is saved internally only if a task is using it.

You can use dynamic data codes only in tasks.

Each event or task publishes data that can be of use for the following tasks.

For example: all events and tasks publish information about the time at which they were triggered. File management events and tasks publish information about the file they manage (name, folder, size). Service management tasks publish information about the Service they manage (name, status), and so on.

To insert a dynamic data code, use the right button of the mouse when the cursor is in a character field of the configuration of a task and select ' Insert code': This opens the Insert code dialog:

Event/Task properties	Dynamic data codes 🛛 🗙
Name Done No 191000 Type Send Message I Inactive	Active objectsEvents Interactive event Monitor Incoming folder
Message (Active) [Dokons] Type G Dn screen gopup G Dn screen gopup G DopaleRoot gitminister G Windows NT Event Log G Enr	Tasks Calc Charmap Clock Done Notepad test CS
User/Computer name Insert code Ctri-1 Message Don Undo Vo Cut; Coty Partice Defets	file size folder file extension file name (no path) file name (InDx format) file name (InDx format) Trigger date in short format v
Greet Ar	QK Lancel Help

In this upper list of the Insert code dialog, click on the event or task from which you want to use dynamic data. Then, select in the lower list of the dialog, the type of dynamic data that you want to use and click OK.

A special code is then inserted in the configuration field of the task. This code will be replaced where it is by the run-time value of the given data.

The code is composed of the event or task number and a variable-length code that identifies the type of the data.

Unless you are familiar

code dialog to add a code

with OpalisRobot, it is better to use the Insert

to a field.

You can use dynamic data codes in all character fields of the configuration of tasks.

If there are several instances of the same code (say several new files), the given task will be launched once for each instance of the data.

If a task uses several dynamic data codes from different events or tasks and if any one particular piece of information is missing, the task is not launched.

Viewing the result of the ' Process files automatically' Wizard is a good way to learn how to use dynamic data.

OpalisRobot's string manipulation functions can be used to extract parts of a dynamic data code. You can use these functions in all <u>character</u> fields.

Instr

Instr() function and arguments are replaced by the position of the first occurrence of one string within another.

Syntax: Instr(string1, string2)

String1	String expression being searched.
String2	String expression sought.
-	If string2 is not found, the function and arguments are replaced by 0.
	If string2 is found within string1, the function and arguments are replaced by the position at which
	match is found.

Right

Right() function and arguments are replaced by a specified number of characters from the right side of a string.

Syntax: Right(string, length)

String	String expression from which the rightmost characters are returned.
	in suning is empty, the function and alguments are replaced by an empty suning.
Length	Numeric expression indicating how many characters to return.
	If 0, function and arguments are replaced by an empty string.
	If greater than or equal to the number of characters in string, the function and arguments are
	replaced by the entire string.

Left

The Left() function and arguments are replaced by a specified number of characters from the left side of a string.

Syntax: Left(string, length)

String	String expression from which the leftmost characters are returned. If string is empty, the function and arguments are replaced by an empty string.
Length	Numeric expression indicating how many characters to return. If 0, function and arguments are replaced by an empty string. If greater than or equal to the number of characters in string, the function and arguments are replaced by the entire string.

Trim functions

The trim functions and arguments are replaced by a copy of a string without leading spaces (LTrim), trailing spaces (RTrim), or both leading and trailing spaces (Trim).

Syntax:

LTrim(string)	
RTrim(string)	
Trim(string)	

The string argument is any valid string expression. If string is empty, the trim function and arguments are replaced by an empty string.

Mid

The Mid() function and arguments are replaced by a specified number of characters from a string.

String expression from which characters are returned.
If string is empty, the function and arguments are replaced by an empty string.
Character position in string at which the part to be taken begins.
If start is greater than the number of characters in string, the function and arguments are replaced by an empty string.
Number of characters to return. If there are fewer than length characters in the text, the function and arguments are replaced by all characters from the start position to the end of the string.

Syntax: Mid(string, start, length)

Len

The Len() function return the number of characters in a supplied string.

Syntax: Len(string)

String String expression for which the length is sought. If string is empty, the function returns zero.

Example

A good example of a string manipulation function in use, can be found in the 'Execute commands received by e-mail' wizard.

Select a wizard 🛛 🛛 🗙		
E-mail ever or modified files E-mail rewr or modified files E-mail rewr or modified files E-mail rewr ondified files E-mail rewr ondified files E-mail rewr of the mail reminder E-mail rewr of the mail reminder E-mail rewr of the mail reminder Files Pograms Pograms Services Files E-mail Vicend	Execute commands received by e-mail Description: Execute commands received by e-mail and reply with the output of the execution. Add-on required: E-mail Opalis Copyright Opalis, 1393 Version; 1.00 (EMS)	
${\overline{\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!$	<u>S</u> tart Cancel	

This wizard builds a job that allows you to send e-mails containing commands to your NT system. OpalisRobot will read the e-mail, execute the command and even reply with the output!

By sending an e-mail with a subject starting with 'execute' followed by the command, Opalis Robot will try and execute the text after 'execute ':



To take ' execute' out of the dynamic data, a string manipulation function is used in the Program Execution task:

Command mid('{356667.popsub}', 8, 200)

Install the E-mail Add-on and run this wizard to see how it works. The E-mail Add-on can be found on the Opalis CD-ROM or downloaded from www.opalis.com.

Triggering Events or Tasks from External Programs

Thanks to OpalisRobot's WinEvt3 and GenEvt3 utilities, it is possible to trigger OpalisRobot objects from many applications. Most applications have a way of executing a command or program including a parameter: MS Office applications through Visual Basic, Databases (Oracle, SQL, etc.) or network management applications.

By making use of the WinEvt3 or GenEvt3 utilities and Interactive events, these applications can be made to communicate with automated processes running on OpalisRobot.

Hints and Tips

Triggering OpalisRobot objects on a remote computer running the OpalisRobot Service requires a Client License on the remote computer. Refer to the OpalisRobot Licensing Structure chapter.

Security Information

Service

Windows NT provides the security for actions performed by the OpalisRobot automation engine. File access rights and other permissions (system shutdown, etc.) depend on the account assigned to the OpalisRobot Service.

If you do not enter a valid user name or press Cancel in the Service account dialog at install-time, the account assigned to the Service is the 'System' account. It is recommended that you change this user because it has rights on the local machine only.

Client

The Opalis Robot Client can run in administrator mode (where everything is possible) or in user mode (only "read" operations are accessible: the user can read the log, view objects' properties, trigger interactive events; it is not possible to create, modify or delete objects or log entries).

By default, the security is not activated and anyone running the OpalisRobot Client will have administrator access to a freshly installed OpalisRobot Service.

By creating a registry key on the server (called "OpalisRobot Security key") and managing security of this key, the system administrator manages accesses allowed to the OpalisRobot Clients. The access can be denied, in user mode or in administrator mode.

To create and modify the rights of the OpalisRobot Security key, use the REGEDT32.EXE program (warning: be cautious when editing the registry) and create a key (not a value) called "Security" under HKEY_LOCAL_MACHINE\Software\Opalis\Robot3. To manage security once the key is created, select the key and use the Security | Permissions command.

How it works:

When the key does not exist, the user has access in administrator mode.

If the key exists, the access depends on how the user can open the key. If the access assigned to the user account is:

- Full control: the server window of the OpalisRobot Client is opened in administrator mode
- Read: the server window of the OpalisRobot Client is opened in user mode.
- If the user is not listed or not a member of any authorized Windows NT group, the access is denied.

Summary

To access Opalis Robot in administrator mode, a user must have:

- Access to the OpalisRobot Security key with Full control access (if it exists).
- Either a Read/Write access to the hidden " \$" share of the drive on which the OpalisRobot Service is installed or to the OpalisRobot3 folder using a share named " OpalisRobot".
- To remotely trigger events and tasks, the user must also have the right to use the remote activation, see next section.

To access OpalisRobot in user mode, a user must have:

- Access to the Security registry key (the key MUST exist).
- Either a Read access to the hidden "\$" share of the drive on which the OpalisRobot Service is installed or to the OpalisRobot3 folder using a share named "OpalisRobot".
- To remotely trigger interactive events, the user must also have the right to use the remote activation, see next section.

Remote Activation

The remote activation is the ability to:

- trigger events and tasks from the OpalisRobot Client in administrator mode;
- or to trigger interactive events from the OpalisRobot Client in user mode or from the WinEvt3 program.

The 'OpalisRobot Users' Windows NT group controls the access to the remote activation. Beware! If the 'OpalisRobot Users' group does not exist (as a local group on the computer on which the OpalisRobot Service is installed), any user can use WinEvt3, GenEvt3 or the OpalisRobot Client to trigger interactive events.

Also note that the 'OpalisRobot Users' group is first checked for as a local group, if it does not exist and one is present on the domain then this is used instead.

Remember that the OpalisRobot Client, WinEvt3 and GenEvt3 are very powerful tools because a user can indirectly perform many actions on the server.

Remote Access Service

To install Remote Access Service, use the Network icon in the Control Panel (Add Software command, select ' Remote Access Service'). For more information on installing Remote Access Service, see Windows NT documentation.

Input names used in the configuration of RAS tasks are the names that you input in the Windows NT "Remote Access Service" (also called Dial-up Networking) program.

ODBC

The latest ODBC drivers can be obtained from http://www.microsoft.com/data/odbc/

SQL Server

The SQL Server pack
contains a client kit.An SQL Server for Windows NT client must be installed before you can use OpalisRobot ' SQL
Server' functions. The Microsoft Windows NT SQL Client can connect to Microsoft or Sybase
databases.Please call your Microsoft
or Sybase dealer if you
would like more
information about SQL
Server licenses.An SQL Server for Windows NT SQL Client can connect to Microsoft or Sybase
databases.The purchase of OpalisRobot does not include any SQL Server client licenses.The purchase of OpalisRobot does not include any SQL Server client licenses.If you use TCP/IP sockets to connect to the SQL Server, the name to input in the ' Server' field
in the ' Edit event / task' screen is the name set up in the ' SQL Client configuration utility'

program in the 'SQL Server for Windows NT' group.

MS Mail

The MS Mail user input in the task configuration must exist when the task is executed. The 'Opalis Robot Interface' program does not check that this user exists at the time of the input.

Because of MS Mail for Windows NT development kit availability, the 'Simple MAPI' interface is used to send MS Mail letters. Experience shows that sending several mails simultaneously can cause errors.

The use of ConsoleRunner is recommended when you want to send E-mails using MAPI. When setting up an MS Exchange task, input the profile name in the user name field. The profile must exist in the configuration of the account assigned to the Service.

ADD-ONS

Types

An Opalis Robot Add-on is a file that resides in the Opalis Robot folder and that extends the Opalis Robot Service and/or Client. An Add-on can add new events and tasks to Opalis Robot, it can add wizards to the New Object dialog, modify the Opalis Robot Client program by adding menus, buttons and dialogs, etc.

Visit www.opalis.com for information about the Add-ons available for OpalisRobot.

You can also develop your own Add-on using the OpalisRobot Add-on SDK. See Add-on SDK section later in this chapter. You can view the name and properties of the Add-on installed in several places depending on what they do.

Installed Add-ons

Service Add-ons

If the Add-on adds functionality to the Opalis Robot Service (for example new events and tasks) it is listed in the 'Add-ons' and 'Licensing' tabs of the Options | Service dialog.

If the Add-on has Service-side options, you can view or modify them using the Configure button. If the Add-on does not have such options, the button is disabled. To view a short description of what the Add-on is doing, click on its name in the list.

Service Options	Service Options
General Add-on: Licensing Activity Templates Closed Days OpairRobot3 3.60 Addrenced File Management 100 Build Add-on 3.60 Log	General Addons Licensing Activity Templates Closed Days Opersticated File 360 4 Advanced File Magement 1.00 Build Addon 3.60 Ideamed Application Addon 3.60
Internet Application Add on 3.60 Pager 3.60 Performance Monitor 3.60 Description Description Advanced File Management with file lists processing and RDV protocol transfers	Poget 2 Application Red bit 3 360 ▼ Setial number 0 Discard Product Key Evaluation Edition
Close Help	Close Help

If the Add-on has licensing options, you can view or modify these options using the Licensing tab:

Client Add-ons

If the Add-on adds functionality to the Opalis Robot client (for example, dialogs to edit new events or tasks, or wizards), it is listed in the 'Add-ons' tab of the Options | Client dialog. To view a short description of what the Add-on is doing, click on its name in the list.

If the Add-on has client-side options, you can view or modify them using the Configure button. If the Add-on does not have such options, the button is disabled.

Client options		х		
General Notify Add-ons				
			1	
Internet Application Add-on	3.60		<u>Configure</u>	
Performance Monitor	3.60			
Statistics	3.60			
Text File	3.60	-		
Disable automatic Add-on ins	tallation			
	OK)	Canc	el <u>H</u> elp	

Automatic installation of Client side

An Add-on can require some specific program extensions to be installed in order to run. It is usually the job of an installation program to make sure that every needed part of the program will be there when you want to run it.

To free you from running the setup program 10 times if you have 10 workstations, this installation process has been added to the OpalisRobot Client.

Please note that this	The OpalisRobot Client can automatically install
function is not available in	(i.e. retrieve necessary program extensions) the Client-side of an
all Add-ons	Add-on when the user connects to a server.
	This process takes place when the OpalisRobot Client detects new
	or upgraded Add-ons.

Checking the status of installed and required program extensions is done when the 'Connecting...' window is displayed, right after you pressed the Connect button in the Connect To dialog.



If you do not want this auto-installation to be done, check the 'Disable Add-on auto-installation' option. If you do so, please note that you will not be able to use the Client-side functionality offered by Add-ons unless you install the required program extensions in the client computer.

The auto-installation frees the network administrator from installing the Client portion of an Add-on in all the computers where the OpalisRobot Client is installed. For example, if there is one server and 25 client computers, the Add-on has to be installed once on the server and that's all. If this function is disabled, the network administrator will have to install 25 times the Client portion of the Add-on.

SDK (Software Development Kit) Add-on

The Add-on SDK lets you develop your own OpalisRobot Add-ons. This is a powerful way to write server-based applications or simply to extend the functionality of OpalisRobot.

An evaluation version of the Add-on SDK is available on our web site at http://www.opalis.com.

For more information about the Add-on SDK, please contact your Opalis reseller. For more information about OEM options available, please email to info@opalis.com.

TROUBLESHOOTING

Common Questions

If OpalisRobot Fails to Start

Please check the following points:

- Check recent error messages on the Windows NT Event Viewer. See Messages.
- The server is running Windows NT version 3.5 or later.
- Contact us. See Technical Support.

If OpalisRobot Runs in Evaluation Mode instead of Retail

To be sure that the OpalisRobot license information is properly enter:

- In the Client, connect to the server (in administrator mode). Select Options | Service | Licensing, click on the OpalisRobot line and input the serial number and key. If the key is correct, there is no message when you click OK. If the key is incorrect, you get an error message.
- Restart the Service.

If You Cannot Connect to a Server

Please check the following points:

- If you' re using Windows 95, check that Microsoft Remote Registry Services is installed on the system. It is available on Windows 95 CD-ROM: folder ' Admin/Nettools/Remotereg'.
- If you' re using Windows 98, check that Microsoft Remote Registry Services is installed on the system. It is available on Windows 98 CD-ROM: folder tools/reskit/netadmin/remotereg'

You have sufficient rights to connect: see the

- Security section.
- Contact us. See Technical Services.

If a Task Does Not Start or Fails

Please check the following points:

- OpalisRobot Services can be configured to execute under the LocalSystem account. This account is not a regular one and has limitations (for example, it cannot connect to remote computer).
- Change the account used by the Service with an Administrator's account or one of your accounts. To do so, use the Services applet of the Control Panel (Startup button, select Log On As, This Account).
- Check that the required software for this task is installed on the server (RAS for RAS functions, TCP/IP for SMTP email and ODBC for ODBC functions). If required software is not installed, the log will display an alert log entry for each object that failed to start.
- The "Active / Inactive" option for objects in the automation sequence.
- Incorrect dynamic data codes can prevent the task from being started when they are not replaced. Make sure that the codes used in the task configuration actually correspond to the events or tasks that triggers it.
- If you are using the OpalisRobot evaluation version, the program will only run the first three active tasks in the "Events, tasks and links" list. Use the "Active / Inactive" option to enable the tasks that you want to test.

If You Have Orphaned Nodes



An orphaned node is an event or task that cannot be modified because the Add-on that created it is not installed anymore. You can view the name of the Add-on that created it in the Properties panel.

If it is not useful anymore because the Add-on was permanently removed you can safely delete it.

If you want to keep it, you can leave it where it is. As soon as the Add-on is re-installed again, the object will be displayed again as an Add-on event or task. However, take care not to keep it in a middle of a job, because the Service will not run it and all tasks located after it in the job chain will also not be run.

If You Cannot Obtain the Results You Want

Please contact us! We will be pleased to help you set up whatever you want to do.

We have all the experience and knowledge that you need. Please do not hesitate to let us know about your problems, regardless of whether you are a novice, an experienced user or in the process of evaluating OpalisRobot.

See Technical Services.

Messages

The messages described in this section may occur in the OpalisRobot Client or in the Event Viewer.

OpalisRobot Client Messages

The message number is located in the title of the message window.

OpalisRobot Service Messages

The Event Viewer is
located in theOpalisRobot Service messages are sent to the Application section of the Windows NT Event
Viewer."Administrative Tools"
group. You can also click
on its toolbar button.The message number is displayed between square brackets at the beginning of the text
message, for example: [173].

Task Log Messages

When a task fails to execute, an explanation of the failure is added in parenthesis in the task execution status.

Messages Beginning with INT

Messages that have a name beginning with INT should not occur during normal use of OpalisRobot.

If you see such a message, please write down all the steps that preceded it and then contact Technical Services.

Messages From SQL Server

Messages from SQL Server are identified by the "SQL_error" code. These messages contain a severity number and a message explaining the error.

For more information about SQL Server error messages, please refer to the Microsoft SQL Server for Windows NT documentation, and especially the "SQL Server Troubleshooting Guide."

Messages From ODBC

Messages from ODBC are displayed on the Task Log. The message is usually preceded by the ODBC driver name.

Technical Services

The OpalisRobot free Technical Assistance Service is available in several ways. We will strive to answer your question as quickly as possible in all cases.

Please note that Technical Support is accessible to users of the OpalisRobot evaluation version. We are happy to help you evaluate OpalisRobot.

Electronic Mail

Contact Opalis engineers directly by sending electronic mail to the following address:

support@opalis.com

World Wide Web

Browse updated technical and marketing information, get the latest files and goodies from our Web site at:

www.opalis.com

Phone

See contact details on the first page of this manual.

Evaluation Version

The evaluation version allows you to test all OpalisRobot functions and determine if OpalisRobot satisfies your needs.

Please check our Web site at www.opalis.com or call us to obtain the most recent version.

The evaluation version is limited in the number of objects that you can use simultaneously and the maximum time during which the Service can be run:

- When it starts, the evaluation version of the OpalisRobot Service will only take into account a limited number of objects, namely the first 33 active events, the first 33 active tasks and the first 33 active links;
- The Opalis Robot Service will stop after 30 days of operation. After these 30 days, the Service cannot be restarted;
- You can remotely trigger 333 events with the Client, WinEvt3 or GenEvt3 utility.

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