

Monitoring Lotus Domino ResponseTime with AppManager

A NetIQ Work Smarter Guide



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About this guide

The NetIQ® AppManager® Suite (or AppManager) is a comprehensive solution for managing and monitoring the performance, availability, and server health for a broad spectrum of operating environments, applications, and server hardware.

AppManager enables system administrators to view all of their servers and workstations from a central, easy-to-use console, providing complete visibility of critical server and application resources across the enterprise. With AppManager, administrative staffs can monitor computer and application resources, check for potential problems, initiate responsive actions, and gather performance data for real-time and historical reporting and analysis.

Intended audience

This *Work Smarter Guide* is intended for administrators and users who are responsible for installing, configuring, and using AppManager to monitor Lotus Domino.

This guide assumes you have a working knowledge of, or access to, other documentation for performing basic Windows and AppManager activities (for example, you should be familiar with Lotus Domino terminology and functionality, AppManager components and terminology, and starting AppManager jobs).

Which version of the software do you have?

This version of NetIQ AppManager ResponseTime for Domino-RT is supported on AppManager 4.02 and higher. The AppManager Management Server and Repository are supported only on Windows NT and Windows 2000. The Managed Client is supported only on Windows NT, Windows 2000, and Windows XP Professional for AppManager 4.3 and higher (32-bit).

Using this guide

This guide is intended as a supplement to the main AppManager documentation set. It focuses specifically on monitoring Lotus Domino and does not provide general information about installing or using AppManager, or about Knowledge Scripts for monitoring other systems or server applications. Be sure you have access to a full AppManager documentation set for more comprehensive information.

Depending on your interests and environment, you may want to read portions of this guide selectively:

- [Chapter 1, “Introduction to Lotus Domino,”](#) provides an overview of how AppManager works in conjunction with Lotus Domino.
- [Chapter 2, “Installing AppManager ResponseTime for Lotus Domino,”](#) summarizes the steps for installing and configuring AppManager to monitor Lotus Domino.
- [Chapter 3, “Domino-RT Knowledge Script Reference,”](#) provides reference information for each Knowledge Script included with this module.
- [Chapter 4, “Troubleshooting Domino-RT,”](#) provides information to help troubleshoot problems with installation, discovery, and running Knowledge Scripts.

In addition to these chapters, an index is provided for your reference.

Conventions used in this guide

The following conventions are used in this guide:

- `Fixed-width` font is used to highlight source code, program names or output, file names, and commands that you enter.
- *An italicized fixed-width* font is used to indicate variables.
- **Bold text** is used to emphasize commands, buttons, or user interface text, and to introduce new terms.
- *Italics* are used for book titles.

Using online help

AppManager provides task-based, reference, and context-sensitive online help.

To access task-based online help or search for help topics, click **Help Topics** on the Help menu. To view context-sensitive help within dialog boxes, click the **Help** button or press **F1**. (Field-level or “What’s This” help is not provided for individual dialog box controls.)

You can get help on individual Knowledge Scripts while viewing the Values tab in the Properties dialog box by clicking **Help** or pressing **F1**, or by highlighting a Knowledge Script in the Knowledge Script pane and pressing **F1**. Online help is not provided for contributed, unsupported, or custom Knowledge Scripts.

All AppManager documentation, including this guide, is available online in searchable Acrobat PDF files.

Where to go for more information

The AppManager documentation set includes several sources of information. The AppManager documentation set is included on the AppManager CD in the `\documentation` folder. Additional resources are available on the NetIQ Extended Support Web site.

In addition to AppManager documentation, you may want to consult your Windows NT, Windows 2000, BackOffice, and other systems documentation for reference and conceptual information. This background information can help you get the most out of your AppManager installation.

Learning more about other NetIQ products

NetIQ Corporation is a leading provider of intelligent, e-business management software solutions for all components of your corporate infrastructure. These components include servers, networks, directories, Web servers, and various applications.

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To fill out an online Technical Support Request form, go to **www.netiq.com/Support/AppManager/SupportRequest.asp** or email Technical Support directly at **support@netiq.com**.

For comments or suggestions regarding the documentation and online help, send an email to **documentation@netiq.com**.

Introduction to Lotus Domino

This NetIQ AppManager ResponseTime for Lotus Domino module provides a set of transactions that can be run from client computers to a Lotus Domino server. These transactions monitor the availability and response time of typical Lotus Notes operations, such as checking mail. You can deploy them at any sites served by a Lotus Domino server.

Lotus Domino is an integrated, Web-like environment that lets users access and manage the following types of information: email, calendar for meetings, appointments, etc., personal contacts, to-do list, Web pages, newsgroups, and intranet applications.

This chapter provides a brief introduction to Domino-RT and an overview of important concepts and terminology. It also summarizes the key ways in which AppManager can help you monitor your Domino server.

Understanding Lotus Domino

Lotus Domino server includes many features and services that AppManager can help you monitor:

- The **Notes and Address Book** (NAB) holds certificates to authenticate all users, as well as public keys for signatures and encryption.
- It handles **email** and **databases**, acts as an HTTP server, and allows SQL queries.

Understanding the Address Book

The **Notes and Address Book** (NAB) holds certificates to authenticate all users, as well as public keys for signatures and encryption. Each Domino domain requires a single NAB. Any changes made within the Address Book are propagated throughout the organization, synchronizing all copies of the NAB. The NAB maintains users, groups, connection records, and more, that allow the entire network structure to be managed.

Understanding Internet messaging and directories

Lotus Domino provides the latest Internet messaging capabilities; it supports the traditional Notes client, but also many others. Messaging features are available for Web browsers and Internet mail clients, such as IMAPv4 and POP3. Directory features are available to browsers and LDAP clients. Discussion features are available to browsers and NNTP newsreader clients.

Messaging features can be used by any size organization. It provides native MIME and SMTP support. Lotus Domino R5 uses a new *Directory Catalog* to save space and offer quick lookup of names. The LDAP features authenticate users in external directories, and customize the directory.

Viewing Lotus Domino in AppManager

AppManager provides a comprehensive solution for monitoring Lotus Domino server response time from a client perspective. Using AppManager, you can perform the following procedures and find out the response time for each:

- Look up an entry in a public Address Book.
- Open any document in the database, e.g., a Word document.
- Send and receive email using the generic Lotus Notes transport protocol.

After you install the necessary program elements and discover your Lotus Domino clients, the ResponseTime modules are visible in the TreeView pane of the AppManager Operator Console.

Installing AppManager ResponseTime for Lotus Domino

This chapter describes the system requirements and what is included with the AppManager ResponseTime for Lotus Domino. This ResponseTime module can be installed from the AppManager CD as part of the general installation process.

We highly recommend running the pre-installation check program before proceeding with installation. This program verifies that the computer on which you are about to install the ResponseTime components passes most system requirements. The program writes a report (in HTML format) that summarizes each component's requirements and indicates whether your system passed or failed. You view this report in a Web browser.

Be sure to run the pre-installation check on each computer on which you plan to install the ResponseTime component.

See the *Installation Guide* for detailed installation instructions. An online version of the guide, in Adobe Acrobat format, is included on the AppManager CD in the \documentation folder.

System requirements

Here is a summary of the requirements for running AppManager ResponseTime for Lotus Domino. The client requires:

- AppManager Windows agent.
- Windows NT 4.0, Service Pack 5 or higher, Windows 2000, Windows Server 2003, or Windows XP Professional. Windows XP Home is not supported.
- Microsoft Internet Explorer 5.0 or later.

- Lotus Notes R5 or later. The notes id file must be stored locally.

Notes NetIQ has tested Lotus Notes 5.0.8 on XP, although Lotus does not officially support Lotus Notes on XP until 5.0.10.

For system requirements and instructions on installing the AppManager agent, repository, and management server, see the *Installation Guide*. An online version of the guide, in Adobe Acrobat format, is included on the AppManager CD in the \documentation folder.

What this module includes

This module includes a new managed object for Domino-RT, Knowledge Scripts to monitor Domino-RT, and a Discovery script to discover Domino-RT configuration and resources. Online help provides complete reference information on the Knowledge Scripts included with this module.

Domino-RT Knowledge Script Reference

This Domino-RT module provides Knowledge Scripts for monitoring Lotus Domino response time.

These scripts perform typical Lotus Notes operations, such as email send/receive or other database operations that can be repeatedly executed to check for adverse trends, such as an increase in the time needed to perform the operation.

From within the Domino-RT view of the Operator Console, you can select a Knowledge Script in the **Domino-RT** tab of the Knowledge Script pane and press **F1** for complete details.

Lotus Notes release 5 or later is required to run these scripts.

Note IMPORTANT: Lotus Notes should not be started or running on the computer on which the tests will run, or the tests may fail.

From within the Domino-RT view of the Operator Console, you can select a Knowledge Script or report by clicking the **DOMINO-RT** tab of the Knowledge Script pane.

Note If you choose to collect data, each Knowledge Script generates the following data streams:

- **Availability**

This data stream returns one of two values:

1=the test was successful

0=the test was not successful

- **Response Time**

The information returned by this data stream is also saved with the data point, and can be viewed by double-clicking on the datapoint in the Graph Pane or Chart Console.

Use these scripts as bases to tailor your own, renamed scripts.

Knowledge Script	What it does
CheckAddressBookEntry	Checks for an entry in the public Address Book.
OpenDocument	Opens a document in the Domino database.
SendAndReceiveMessage	Sends and receives an email message.
Report_Domino-RT	Reports availability and response time for Domino-RT
Discovery_Domino-RT	Discovers Lotus Domino clients.
AMAdmin_MaintenanceInstall	Remotely installs an AppManager maintenance release and optionally, new AppManager components as part of a maintenance release on managed client computers in your network.

CheckAddressBookEntry

Use this Knowledge Script to open a public Address book and check an entry in it. If the entry does not exist, the test will still run successfully, because it looks through the entire Address Book for the name.

Note To use this script, you must first discover the Lotus Domino clients.

Helpful hints

To properly run this script:

- **IMPORTANT:** Do not start or run Lotus Notes while performing tests.
- Lotus Notes must be installed on the client.
- The id files must be stored locally on a client machine.

If you choose to collect data, this Knowledge Script generates the following data streams:

- Response time
- Availability - This returns one of two values: 1 - the test was successful; 0 - the test was not successful.

An event is generated whenever one of the following occurs:

- A threshold that you have specified as an event parameter is exceeded.
- A test fails because of a service availability failure.
- Any other error.

Resource object

The Domino response time client

Default schedule

The default interval for this script is every 15 minutes.

Setting parameter values

Set the following parameters as needed.

Description	How to set it
Collect data?	Set to y to collect data for graphs and reports. The default is y. Required.
Event when server can't be contacted? [y/n]	Set to y to raise an event when the server cannot be contacted. The default is y.
Event when threshold is exceeded? [y/n]	Set to y to raise an event when the threshold is exceeded. The default is y.
Response time threshold	Specify a floating point number in seconds. When response time exceeds this value, an event will be generated. On threshold events, the event message contains a breakdown of the total response time. Required, unless "Event when threshold is exceeded" is set to n.
Mail server	Enter the name of the Lotus Domino mail server.
Address book entry	Enter the name of a person in the Domino public Address Book. Required.
Transaction timeout	Enter the number of seconds. The default is 300.
Lotus Notes user ID filename	Enter the Lotus Notes user ID filename on the client on which the script is to run. Required.
Lotus Notes password	Enter the Lotus Notes password for the associated Lotus Notes user ID. Required.
"Run as" user name	Enter the userid associated with a specific user who has the required permissions to run this application. Required.
"Run as" password	Enter the password associated with this user that is required to log on to the network and run the application.
"Run as" domain	Enter the domain associated with this user that the domain name you are logging onto. Required.

Description	How to set it
Administrators group on managed client	Enter the name of the Administrators Group on the managed client. Typically, this name is "Administrators", except on some foreign language operating systems. The default is "Administrators".
Event severity when server can't be contacted	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5. If you specify that availability failure events are not to be generated, this value is ignored.
Event severity when threshold is exceeded	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 15. If you specify that Response time events are not to be generated, this value is ignored.

Example

This sample script verifies that checking the Public Address Book for Joe Smith on mail server NOTES01 using the Lotus Notes user Notes Admin1 (Admin1.id) takes less than 1.5 seconds. ITUser1 is a domain account.

Set the parameters as follows (parameters not specified assume the default):

Response time threshold	1.5
Mail server	NOTES01
Address book entry	Joe Smith
Lotus Notes user ID filename	Admin1
Lotus Notes password	[password for Admin1]
"Run as" user name	ITUser1
"Run as" password	ITUser1's password
"Run as" domain	ITUser1's domain

OpenDocument

Use this Knowledge Script to open a document stored in the Domino database. If it is an attachment, the script measures the document size and the download time.

Notes OLE attachments are not supported.

Note To use this script, you must first discover the Lotus Domino clients.

Helpful hints

To properly run this script:

- **IMPORTANT:** Do not start or run Lotus Notes while performing tests.
- Lotus Notes must be installed on the client.
- The id files must be stored locally on a client machine.

If you choose to collect data, this Knowledge Script generates the following data streams:

- Response time
- Availability - This returns one of two values: 1 - the test was successful; 0 - the test was not successful.

An event is generated whenever one of the following occurs:

- A threshold that you have specified as an event parameter is exceeded.
- A test fails because of a service availability failure.
- Any other error.

Resource object

The Domino response time client

Default schedule

The default interval for this script is every 15 minutes.

Setting parameter values

Set the following parameters as needed.

Description	How to set it
Collect data?	Set to y to collect data for graphs and reports. The default is y. Required.
Event when server can't be contacted? [y/n]	Set to y to raise an event when the server cannot be contacted. The default is y.
Event when threshold is exceeded? [y/n]	Set to y to raise an event when the threshold is exceeded. The default is y.
Response time threshold	Specify a floating point number in seconds. When response time exceeds this value, an event will be generated. On threshold events, the event message contains a breakdown of the total response time. Required, unless "Event when threshold is exceeded" is set to n.
Server name	Enter the Domino server name on which the document resides. Required.
Document name	Enter the name of the document to be opened. Required.
Document selector	Enter the column header where Document Name is identified in the view. Required.
Database name	Enter the logical database name (not the database file name; i.e. not the NSF name). Required.
Database view	Enter the view name that displays the document name (a database has several views). Using "All" (the default) causes the engine to look into the "All" view.
Transaction timeout	Enter the number of seconds. The default is 300. Required.
Lotus Notes user ID filename	Enter the Lotus Notes user ID filename on the client on which the script is to run. Required.
Lotus Notes password	Enter the Lotus Notes password for the associated Lotus Notes user ID. Required.

Description	How to set it
“Run as” user name	Enter the password associated with this user that is required to log on to the network and run the application.
“Run as” domain	Enter the domain associated with this user that the domain name you are logging onto. Required.
“Run as” domain	Enter the application domain associated with this application. Required.
Administrators group on managed client	Enter the name of the Administrators Group on the managed client. Typically, this name is “Administrators”, except on some foreign language operating systems. The default is “Administrators”.
Event severity when server can’t be contacted	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5. If you specify that availability failure events are not to be generated, this value is ignored.
Event severity when threshold is exceeded	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 15. If you specify that Response time events are not to be generated, this value is ignored.

Example

This sample script verifies that opening the document Vacation from the view Topics (which shows "Vacation" in the Title column) using the Lotus Notes user Notes Admin1 (Admin1.id) takes less than 2 seconds. This document is in the Department Info database (deptinfo.nsf) on server NOTES02. ITUser1 is a domain account.

Set the parameters as follows (parameters not specified assume the defaults):

Response time threshold	2
Server name	NOTES02
Document name	Vacation
Document selector	Title
Database name	Department Info

Database view	Topics
Lotus Notes user ID filename	Admin1
Lotus Notes password	[password for Admin1]
“Run as” user name	ITUser1
“Run as” password	ITUser1’s password
“Run as” domain	ITUser1’s domain

SendAndReceiveMessage

Use this Knowledge Script to send and receive an email message using the generic Lotus Notes transport protocol.

Note To use this script, you must first discover the Lotus Domino clients.

Helpful hints

To properly run these scripts:

- **IMPORTANT:** Do not start or run Lotus Notes while performing tests.
- Lotus Notes must be installed on the client.
- The id files must be stored locally on a client machine.

Note

If you choose to collect data, this Knowledge Script generates the following data streams:

- Response time
- Availability - This returns one of two values: 1 - the test was successful; 0 - the test was not successful.

An event is generated whenever one of the following occurs:

- A threshold that you have specified as an event parameter is exceeded.
- A test fails because of a service availability failure.
- Any other error.

Resource object

The Domino response time client

Default schedule

The default interval for this script is every 15 minutes.

Setting parameter values

Set the following parameters as needed.

Description	How to set it
Collect data?	Set to y to collect data for graphs and reports. The default is y. Required.
Event when server can't be contacted? [y/n]	Set to y to raise an event when the server cannot be contacted. The default is y.
Event when threshold is exceeded? [y/n]	Set to y to raise an event when the threshold is exceeded. The default is y.
Response time threshold	Specify a floating point number in seconds. When response time exceeds this value, an event will be generated. On threshold events, the event message contains a breakdown of the total response time. Required, unless "Event when threshold is exceeded" is set to n.
Mail server	Enter the name of the Lotus Domino mail server.
Mailbox	Enter the name of the person(s) associated with the mailbox. Required.
Message size	Enter the number of bytes to include as text in the message body. The default is 100. Required.
Transaction timeout	Enter the number of seconds. The default is 300. Required.
Lotus Notes user ID filename	Enter the user ID filename on the client on which the script is to run. Required.
Lotus Notes password	Enter the Lotus Notes password for the associated Lotus Notes user ID. Required.
"Run as" user name	Enter the userid associated with a specific user who has the required permissions to run this application. Required.
"Run as" password	Enter the password associated with this user that is required to log on to the network and run the application.
"Run as" domain	Enter the domain associated with this user that the domain name you are logging onto. Required.

Description	How to set it
Administrators group on managed client	Enter the name of the Administrators Group on the managed client. Typically, this name is "Administrators", except on some foreign language operating systems. The default is "Administrators".
Event severity when server can't be contacted	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 5. If you specify that availability failure events are not to be generated, this value is ignored.
Event severity when threshold is exceeded	Set the event severity level, from 1 to 40, to indicate the importance of the event. The default is 15. If you specify that Response time events are not to be generated, this value is ignored.

Example

This sample script verifies that sending and receiving an email message using Tom Smith's (tsmith.id) account on server NOTES01 takes less than .5 seconds. ITUser1 is a domain account.

Set the parameters as follows (parameters not specified assume the defaults):

Response time threshold	.5
Mail server	NOTES01
Mailbox	Tom Smith
Lotus Notes user ID filename	TSmith
Lotus Notes password	[password for TSmith]
"Run as" user name	ITUser1
"Run as" password	ITUser1's password
"Run as" domain	ITUser1's domain

Report_Domino-RT

Use this Report Script to generate a report detailing availability and response time for the following Domino-RT scripts:

- CheckAddressBookEntry
- OpenDocument
- SendAndReceiveMessage

Resource object

AppManager repository

Default schedule

The default schedule is Run once.

Setting parameter values

Set the following parameters as needed.

Description	How to set it
Data source	Use the following parameters to select the data for your report.
KS for report	Select the Knowledge Script to report on. Click the ... button to show the Select a Knowledge Script dialog. Highlight a Domino-RT script from the Knowledge Script Name list and click Finish to select it.

Description	How to set it
Domino-RT client(s)	<p>Select the Domino-RT client(s). Click the ... button to show the Select View(s) and a filter dialog. From the View(s) list, select from one to twenty-five views.</p> <p>Your subsequent selections are limited to computers or server groups that are visible in the selected views.</p> <p>Select one of the Filters options:</p> <ul style="list-style-type: none"> • View: Includes all computers in the views you selected. • Computer: Select from individual computers in the views you selected. • Server Group: Select from server groups in the views you selected. <p>Selecting a server group includes all computers in that group.</p>
Domino Server or "All"	<p>Type the name of the Domino server or type "All" to designate all computers as Domino servers.</p> <p>The default is the default Domino server.</p>
Select time range	<p>In the Select Date/Time Range dialog box, set specific start and end report information dates (good for historical or ad hoc reports), or a sliding range (the default) that sets the time range of data to include in the report. This option is useful for reports running on a regular schedule and is the default.</p>
Select peak weekday(s)	<p>In the Select Peak Weekday(s) dialog box, press Shift to select a contiguous day range, or Ctrl to select non-contiguous days.</p>
Aggregation by	<p>Select the time unit by which to aggregate data. The default is Hour. This works in conjunction with the next field (Aggregation interval), which determines the number of units for one interval of data aggregation.</p>
Aggregation interval	<p>Select the interval units in which to aggregate data. The default is 1. For example, if you aggregate by the Hour and select 1 here, data is aggregated once every hour.</p>
Report settings	<p>Use the following parameters to define the graphical presentation of data, the folder where the report is generated, and properties that identify the report.</p>
Include parameter card?	<p>Specify whether to display a parameter card in the report.</p>
Include Availability detail table?	<p>Specify whether to display the Availability detail table as part of the report. The default is y.</p>

Description	How to set it
Include Availability chart?	Specify whether to display the Availability chart as part of the report. The default is y.
Threshold on Availability chart	Enter an integer for the percent. The default is 0 (no threshold is displayed).
Include Response Time detail table?	Specify whether to display the Response Time detail table as part of the report. The default is y.
Include Response Time chart? (y/n)?	Specify whether to display the Response Time chart as part of the report. The default is y.
Units for Response Time report	Select the response time unit of msec (the default) or sec.
Threshold on Response Time chart (selected units)	Enter the units in seconds > 0, or use the default of 0.0. (Zero suppresses the threshold indicator in the chart.)
Select chart style	Options in the Chart Settings dialog box set the appearance of the chart . The same parameters are used in both the availability and response time charts, if both are produced. The default is Ribbon.
Select output folder	In the Specify report folder/filename dialog box, enter an output filename and fill in the remote folder fields.
Add job ID to output folder name?	Specify whether to add a job ID to the output folder name.
Index-Report Title	In the Report Properties dialog box, configure report title settings.
Add time stamp to title	Specify whether to add a time stamp to the report title.
Event notification	Use the following parameters to raise events associated with generating the report, and to set severity levels for those events.
Generate event on success?	Specify whether an event is raised when a report is generated. The default is y.
Severity level for report success	Set the severity level for a successful report. The default is 35.
Severity level for report with no data	Set the severity level for a report with no data. The default is 25.
Severity level for report failure	Set the severity level for a report with no data. The default is 5.

Discovery_Domino-RT

Use this Knowledge Script to discover if the Domino-RT module is available on a specific Managed Client. At the Operator Console, drag this script to the Managed Client on which you are performing discovery.

After successful discovery, a new thumbnail appears in the TreeView pane with a list of machines that support it. Also, a new Domino-RT Knowledge Script pane will appear.

Resource objects

Windows XP, Windows 2000, Windows NT, or Windows Server 2003.

Default schedule

By default, this script is only run once for each computer.

Setting parameter values

Set the following parameters as needed.

Description	How to set it
Event for successful discovery? [y/n]	This Knowledge Script always raises an event when the job fails for any reason. In addition, you can set this parameter to y to raise an event when the job succeeds. The default is n.
Event severity when Discovery...	Set the event severity level, from 1 to 40, to reflect the importance when the job: <ul style="list-style-type: none">• ... succeeds. If you set this Knowledge Script to raise an event when the job succeeds, set the event severity level for a successful discovery. The default is 25 (blue event indicator).• ... fails. The default is 5 (red event indicator).• ... is partially done. This type of failure usually occurs when the target computer does not have all the prerequisites installed. The default is 10 (yellow event indicator).

AMAdmin_MaintenanceInstall

Use this Knowledge Script to remotely install an AppManager maintenance release and optionally, new AppManager components as part of a maintenance release on managed client computers in your network. This Knowledge Script is not part of the core AppManager product, but is included with new AppManager modules and maintenance releases of AppManager.

You can configure this Knowledge Script to install all applicable components on a managed client computer or only update existing components.

Understanding how the installation works

Before using the MaintenanceInstall Knowledge Script, it is helpful to know a little about how it works and how it differs from other Knowledge Scripts. Most Knowledge Scripts run on a managed client by the AppManager agent that is installed on that computer. The AMAdmin_MaintenanceInstall Knowledge Script is run by the AppManager agent *that is on the same computer as the AppManager management server*. (When you installed the AppManager management server, the AppManager setup program installed an AppManager agent on that computer.)

Here are the basic steps this script performs:

- From the Operator Console or Operator Web Console, you run the MaintenanceInstall Knowledge Script on a remote managed client computer.
- The AppManager agent on the management server runs the MaintenanceInstall Knowledge Script. Using the user account under which the agent is currently running on the management server computer, the script creates a temporary directory and a Windows NT service named NQEXECD on the managed client. It then copies the maintenance release setup program from a shared directory or network drive on a distribution computer to the temporary directory on the managed client.

- Once the maintenance release setup program is finished copying, the NQEXECD service on the managed client takes over. Using the user name and password that you specified in the MaintenanceInstall Knowledge Script, the NQEXECD service runs the maintenance release setup program.
- The setup program makes backup copies of all the files that will be modified. These files are saved to the `\AppManager\Backup` directory before any changes are made. If you run the setup program on the same computer a second time, the files in the `\Backup` folder are overwritten.
- When the maintenance release setup program finishes, the agent on the management server takes over again. It removes the maintenance release setup program, the temporary directory, and the NQEXECD service from the managed client. A record of changes made and problems encountered is written into a file named `MAINT.ERR`, which can be found in the `\NetIQ\Temp\NetIQ_Debug` folder. A list of all entries for this update is written to the `MAINT.LOG` file, which can also be found in the `\NetIQ\Temp\NetIQ_Debug` folder.

Preparing user accounts to run this script

To run this Knowledge Script, the following user accounts must be configured:

- The agent services (both NetIQmc and NetIQccm) on the management server must run under a Windows NT user account (such as **Domain Admin**) that has permission to create a directory on and copy files to a remote computer. By default, the agent services are installed with a LocalSystem account that doesn't have this permission. (After you run the Knowledge Script, you can if you want change the Windows NT account for the agent services back to a LocalSystem account.)

- Each remote managed client must be set up with a Windows NT user account configured with **Administrator** privileges so that it can run the maintenance release setup program.
- The MaintenanceInstall Knowledge Script allows you to specify only one user name, password, and domain of that user name for the remote computer. Therefore, if you run the Knowledge Script on multiple computers or a group of computers, each computer must have the same user name and password, and all computers must be in the same domain as the management server or in domains that have a trust relationship with the management server domain.

Establishing a distribution computer

When you run this Knowledge Script, you specify as a parameter the path to the maintenance release setup program on a distribution computer. The distribution directory where the maintenance release setup program is stored needs to be shared and accessible to the managed client. The directory name must conform to UNC (Universal Naming Convention) format as a shared directory or network drive. For example, `\\mis\appmgr\maint` or `\\mis\D$`.

The directory must be readable to the Windows NT or Windows 2000 user account for the AppManager agent on the managed client. The distribution computer and any remote computer being updated must be in the same domain or in domains that have a trust relationship.

Planning your centralized installation

Keep these guidelines in mind:

- You must run a separate instance of the MaintenanceInstall Knowledge Script if you want to set different Knowledge Script properties for a computer or a group of computers.
- If you don't want to disturb your production environment while you install a managed object (for example, you don't want to change any domain trust relationships), you can set up a different

AppManager management server, repository, and agent for running the MaintenanceInstall Knowledge Script (on a computer in the same domain as the computers on which you want to install the managed object). After the managed objects are installed, your production environment can resume managing the agents.

Note It's not necessary to stop any running jobs in your production environment. When the installation is complete, the jobs will automatically continue.

- When the maintenance release setup program runs on the remote client computer, it automatically identifies all applications and existing AppManager components. The maintenance release determines which AppManager components to update and adds monitoring support for new applications. This Knowledge Script provides an option to only update existing AppManager components.
- If you run the MaintenanceInstall Knowledge Script on a computer that already has a managed object, the Knowledge Script checks the version of the existing managed object. The Knowledge Script replaces older versions of the managed object and leaves current or newer versions untouched.
- You can't run the MaintenanceInstall Knowledge Script on a computer where the AppManager management server is running. To install a maintenance release on the server where the management server resides, run the maintenance release setup program locally on that computer.
- If you run the MaintenanceInstall Knowledge Script on the Master directory in the TreeView pane, the maintenance release is installed on all computers in the Master directory that have the AppManager agent, but it won't be installed on the computer where the management server resides.

Resource objects

Windows XP, Windows 2000, or Windows NT

Default schedule

By default, this script is only run once for each computer.

Setting parameter values

Set the following parameters as needed.

Description	How to set it
Raise an event when installation completes successfully?	This Knowledge Script always raises an event when installation fails. In addition, you can set this parameter to y to generate an event when installation completes successfully. The default is y.
Event severity when installation is successful	If you set the previous parameter to y, use this parameter to set the severity level for events raised when installation is successful. The default severity for successful completion is 15 (yellow event indicator). Note If the installation fails for any reason, a severity 5 event is raised (red event indicator).
User name for remote install	Enter the user account name that will run the maintenance release setup program on the remote computers. The default is netiq. For more information, see “Understanding how the installation works” on page 35 .
Password for remote install user	Enter the password for the remote user account you specified in the previous parameter. The default is netiq.
Domain of remote install user	Enter the name of the domain for the remote user account specified in “User name for remote install” on page 39 . For more information, see “Understanding how the installation works” on page 35 .
Path and filename of the setup program	Enter the full path to the maintenance release setup program in the distribution directory. Although you can type an explicit path, such as: f:\appmgr\maint\nc40nfd.exe it is best to type the path in UNC (Universal Naming Convention) format, such as: \\mis\appmgr\maint\nc40nfd.exe For information on where to place the maintenance release setup program, see “Establishing a distribution computer” on page 37 .
Install all applicable new components on the target machine?	Set to y to install all applicable components on the computer. If you set to n, only existing components are updated. The default is y.

Troubleshooting Domino-RT

This chapter describes how to troubleshoot AppManager ResponseTime for Lotus Domino.

See the following sections for specific information:

- [“Problems with Install” on page 41](#)
- [“Problems with Discovery” on page 42](#)
- [“Problems running Knowledge Scripts” on page 44](#)

Problems with Install

Problem 1:

Pop-up during install: **WARNING: The pre-install check failed for the MO component. This component will not be installed.**

Solution:

The prerequisites are not met for the ResponseTime Module to be installed.

If this occurs on a computer that is the QDB (Repository) or Console then some files will be installed, but not the Managed Object. This is fine unless you want to run a ResponseTime Managed Object on this computer too.

On the Repository the ResponseTime Knowledge Scripts will be checked in and on the Console the Help files are installed (and if Web-RT, the WebRecorder).

Problem 2:

AppManager Maintenance Installer KS installation was partially completed.

The event details say: **WARNING: The pre-install check failed for the MO component. This component will not be installed.**

Solution:

This can occur when installing on a computer that has the AppManager UI options installed (Console). This means that the Help files were installed (and if Web-RT, the WebRecorder), but the MO was not installed because it did not meet the prerequisites.

Refer to the Installation Chapter to see what the system pre-requisites are for installation of the specific ResponseTime Managed Object.

Problems with Discovery

Problem 1:

These errors are returned from running Discovery:

The Lotus Domino ResponseTime Managed Object returned Lotus Domino-RT is not supported

or:

The Lotus Domino ResponseTime Managed Object is not installed or not registered. ActiveX component can't create object

Solution:

The Lotus Domino ResponseTime managed object is not installed on the computer. Make sure that the prerequisites were met, and try installing again.

Problem 2:

Discovery failed:

Lotus Domino-RT is not installed.

Solution:

The Lotus Domino ResponseTime module is not installed. Make sure that the prerequisites were met, and try installing again.

Problem 3:

Discovery failed:

Lotus Domino-RT cannot work properly. Class not registered.

Solution:

Some ResponseTime shared components are installed but the Lotus Domino ResponseTime module is not installed. Make sure that the pre-requisites were met, and try installing again.

Problem 4:

Discovery failed:

Lotus Domino-RT cannot work properly. The parameter is incorrect.

Solution:

NetIQmc is running as a specific user on the computer, and a different user is logged on to the computer. Change NetIQMC to run a Local User, which is a requirement for ResponseTime MOs.

Problem 5:

When you run Discovery the following error is returned:

Discovery failed: Cannot load dependent object : "Lotus Notes 5".

Domino-RT is not supported.

Solution:

Make sure Domino-RT is installed on the computer as well as Lotus Notes R5 or higher.

Problems running Knowledge Scripts

Problem 1:

Invalid or misspelled Authentication parameter.

The following section applies to Domino-RT, Exchange-RT, Oracle-RT, SQL-RT and Web-RT Internet Mail Knowledge Scripts.

The Response Time Managed Objects validate the Run As Userid/ Domain, and starts the Response Time Managed Object process as that User. If the client cannot access the Domain Controller for the domain listed as the Run As Domain, the process cannot be started and the transaction fails.

Review the following error message table.

NT4 (Error message)	2000/XP/.NET (Error message)	Cause
Unable to validate Domain User. The UserName is not a valid user on the domain.	Unable to validate Domain User. This is often caused by an Invalid UserName. It may also be caused by trust relationship failure between the primary domain and the trusted domain.	Invalid "Run as User" or "Logon User"
Server execution failed	The server process could not be started because the configured identity is incorrect. Check the username and password.	Invalid "Run as password" or "Logon password"

<p>The xxx ResponseTime Managed Object's RunTransaction method returned -2147024809</p> <p>Could not find the domain controller for the domain.</p>	<p>The xxx ResponseTime Managed Object's RunTransaction method returned -2147024809</p> <p>Could not find the domain controller for the domain.</p>	<p>Invalid "Run as domain" or "Logon Domain"</p>
<p>The specified local group does not exist.</p>	<p>The specified local group does not exist.</p>	<p>Invalid "Administrators group on managed client"</p>

Problem 2:

The Lotus Domino ResponseTime Managed Object's RunTransaction method returned the following message:

The "NetIQ AppManager Client Resource Monitor" service (netiqmc.exe) user account is currently set as "xyz". It must run as "Local System" account in order to use this ResponseTime module.

Solution:

Set the "NetIQ AppManager Client Resource Monitor" service as Local System. This is required for all ResponseTime modules. To do so, follow the instructions below.

- 1 Open the **Services** console and open the "NetIQ AppManager Client Resource Monitor".
- 2 Select the **Log On** tab.
- 3 Check the **Local System account** radio button.
- 4 Click **Apply**.
- 5 Restart the service.
- 6 Try again.

Problem 3:

The Lotus Domino ResponseTime Managed Object's RunTransaction method returned the following message:

Could not find the domain controller for the domain.

Solution:

One potential cause of this problem is that the “Run as Domain “ is misspelled or doesn't exist.

The Response Time Managed Objects validate the Run As Userid/ Domain, and starts the Response Time Managed Object process as that User. If the client cannot access the Domain Controller for the domain listed as the Run As Domain, the process cannot be started and the transaction fails.

Make sure the “Run as Domain” is valid and is typed properly. Verify that the Domain Controller is active and there are no networking problems between the client and the Domain Controller. If the problem persists, contact the domain administrator.

Problem 4:

Unable to validate the local group member. Problems with operating system.

Note It is normal to see this error during network maintenance.

Solution:

The operation system cannot provide information about a local group at that moment. This may occur once in a while during network outage or system maintenance.

If the problem persists, contact your network administrator.

Problem 5:

Unable to validate Domain User. Problems contacting the domain controller while validating domain name and user account.

Note It is normal to see this error during network maintenance.

Solution:

This may occur once in a while during network outage or system maintenance. It may also occur if the domain controller is shut down or reboots during a Domino-RT operation.

If the problem persists, contact your network administrator.

Problem 6:

The Lotus Domino ResponseTime Managed Object's RunTransaction method returned the following message:

A member could not be added to or removed from the local group because the member does not exist.

Solution:

The computer is not part of a domain (It cannot be in a Workgroup) or it is not part of the domain (or a trusted domain) of the Domain specified in the Run As Domain field in the KS.

Problem 7:

The XXX ResponseTime Managed Object's RunTransaction method returned -2146959355 **server execution failed**

Solution:

The transaction failed due to possible network problems or Application Server problems. Verify that there are no networking

problem between the client and Application Server, and that the Application Server is up and working. The Application Server would depend on the type of Response Time MO you are running:

- AD-RT – Domain Controller or DNS Server
- Domain-RT – Lotus Domino Server
- Exchange-RT – Exchange Server
- Oracle-RT – Oracle Server
- SQL-RT – SQL Server
- Web-RT – Web Server

Problem 8:

The Lotus Domino ResponseTime Managed Object's RunTransaction method returned -2147024809, The RPC server is unavailable.

Solution:

Increase the schedule time of the jobs, and reduce the number of jobs running on the computer.

Problem 9:

If you get the error event: "Database not found"

Solution:

Make sure that the correct values are set for Server Name, Document Name, Document Selector, Database Name, and Database View

Problem 10:

If you get the error event: "Lotus Notes Session time-out. Service Monitor failed to instantiate Domino Object"

Solution:

Check to see if the process nnotesmm.exe is running on the computer. If so, kill that process. This is the Notes memory management process that causes problems with our engines. Also make sure that Lotus Notes is not up and running on the computer at the same time transactions are being run.

Problem 11:

unable to execute the transaction. The component uses synchronization and the method has timed out waiting to lock mutually exclusive resource

Solution:

The Domino-RT transactions run serially since you can only run one instance of Lotus Notes at a time. This error usually occurs if multiple jobs are running, and one transaction has hung. Try decreasing the time-out value of the jobs or run the jobs on longer schedules.

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