



# **iQ.Suite 12**

**For DOMINO 6 - 8**

**Installation manual**

**Document Version 1.0**

## **Editor's Note**

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MesseTurm, 60308 Frankfurt, Germany

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# 1 Preface

## 1.1 Quality Assurance

Thank you for choosing iQ.Suite from GROUP Technologies. This software provides you with the leading solution for e-mail lifecycle management.

iQ.Suite is a high-quality product that supports you through every task related to the management of e-mail. Using this modular program package, you will safeguard your software infrastructure against viruses, spam and unsolicited content as well as against the loss of confidential information. At the same time, you will benefit from the encryption, classification and secure archiving of e-mails in your company.

Our products stand for innovation and quality with the aim of providing our customers with the satisfaction they demand. All products undergo extensive final testing. No product leaves our enterprise before it has been thoroughly checked by our QA team.

Your GROUP Technologies Team

## 1.2 Hotline

Should you have any comments or questions, please contact our Support Team, which is available from 08:30 AM to 06:00 PM.

- Europe, Asia, other
  - Tel.: +49 721 49 01 112 or Tel.: 00 805 49 01 11
  - Fax: +49 721 49 01 1922
  - E-mail D: [hotline@group-technologies.com](mailto:hotline@group-technologies.com)
- USA & Canada:
  - Tel.: +1 877 476 8755 or Tel.: 00 805 49 01 11
  - Fax: +1 212 995 2206
  - E-Mail: [hotline@group-technologies.com](mailto:hotline@group-technologies.com)

For more information, please visit: [www.group-technologies.com](http://www.group-technologies.com).

## 1.3 What to do in the Event of a Fault

To give you the best possible support, we need the following information from you in the event of a fault:

- Product version
- Your license number
- Domino server version incl. service pack
- Operating system and version including any service pack
- Log Book entries generated at log level 8 (for runtime errors)
- Any RIP files or NSD files
- Configuration files
- Log files

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## 1.6 License Agreement

The GROUP license agreements are available on the product CD and the GROUP website. Any license agreements from third-party software manufacturers are included with the software product as a PDF file.

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In addition, the following applies:

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## 2 Introduction

### 2.1 Purpose of the Manual

As you will naturally want to make optimum and skilful use of your new application software, we wish to give you the help you need. We have therefore tried to make this guide as easy to use and as understandable as possible. We would be grateful for any suggestions you have on how we can make further improvements. Please send an e-mail to:

[manual@group-technologies.com](mailto:manual@group-technologies.com)

### 2.2 Structure of this Guide

This manual uses the following conventions concerning the information shown:

**Bold** Menu names and entries, window names, entry and list boxes, messages, file names and important information are shown in **bold** type.

*Italics* Entries to be made by the Administrator are written in *italics*.

Fixed width Program code and paths are written in fixed width font.

Links Underlined text is a [hyperlink](#) that refers to  
a) another section within the manual,  
b) an external source, or  
c) an entry in the glossary.

In addition, the following symbols are used to draw your attention to particular points:



The info symbol is used to indicate special points that must be observed for trouble-free use of your system



The eye means "Attention!" Be careful! It indicates important passages in the text that must be observed in order to avoid any loss of data, damage to your system or any other unpleasant occurrences. Read these passages with particular care and attention.



A little gift to help you! Here, we give you support on particular problems, we provide tips and tricks or alternative solutions and special points.



## 3 Quickstart Guide



This chapter contains important installation instructions!

**Please read this chapter without fail!**

This quickstart guide is designed for all those administrators, who studiously avoid reading manuals. Please at least read this chapter, which we have kept as short and concise as possible.

### 3.1 Preliminary Steps

For a detailed description of the necessary preliminaries, please refer to Section [“Installation Requirements” on page 9](#).

1. Shut down the Domino server.
2. Make a backup copy of the Domino server.

### 3.2 Installation

For a detailed description of the installation procedure and licensing information, please refer to Section [“Installation” on page 15](#).

1. Select the setup routine according to your operating system.
2. Run the entire installation.

### 3.3 Follow-up Steps

For a detailed description of the necessary follow-up steps, please refer to Section [“Follow-Up Steps” on page 39](#).

1. Start the Domino server.
2. Install and enable the external programs.
3. Configure and enable the jobs. For a detailed description of job configuration options, please refer to your Administration Guide.



## 4 Installation Requirements



Perform these steps **before** running the installation!

### 4.1 System Requirements

#### 4.1.1 For all Operating Systems

Make sure the following requirements are met:

- Domino server Version 6 or higher. Determine the path of your installation and the **notes.ini** file.
- One of the following operating systems:
  - Windows 2000/ Windows XP/ Windows 2003 (32-bit / 64-bit)/ Windows 2008 (32-bit / 64-bit)
  - AIX 5.1 or higher
  - SUN Solaris 8 or higher
  - (OS/400 5.1 or higher, zOS, zLinux - all with iQ.Clustering)

For Domino 7 and 8.x only:

- Red Hat Enterprise Linux (RHEL) 4 or higher
- SuSE Linux Enterprise Server (SLES) 9 or higher

For details on operating systems, Domino server versions and iQ.Suite versions refer to the table under [“Version Control” on page 13](#).

- CD-ROM drive or access to network.
- RAM: Notes/Domino plus additional 128 MB minimum, 256 MB recommended<sup>1</sup>.
- User Portal: Using the web front-end requires Java Runtime 1.5 or higher.

1. RAM requirements depend on the number of modules and the external applications used

- Hard Disk: Notes/Domino plus additional 250 MB minimum, 500 MB recommended. The disk space actually required cannot be determined accurately as it depends on the following factors:
  - a) Log level for Grabber and jobs: size of the iQ.Suite log (**log.nsf** or **g\_log.nsf**).
  - b) Frequency and size of alarm mails: size of the iQ.Suite Quarantine (default **g\_arch.nsf**).
  - c) Archival frequency when using iQ.Suite Safe and size of archived mails: size of archival databases.
  - d) Single logging when using iQ.Suite Budget: size of the iQ.Suite log (default: **g\_prot.nsf**). Please note that the size can easily reach 2-3 GB.



Please also observe the special requirements related to your operating system, which are described below.

#### 4.1.2 Requirements for Windows 2000/2003/2008

To install the modules you need write access to the Windows server **Registry**. Administrators usually have these rights.

As of Version 12.0, iQ.Suite can be run under Windows 2003 and Windows 2008 on a 64-bit Domino server. A separate 64-bit installation package is provided to this end.

#### 4.1.3 Requirements for Linux Platforms

Root rights are required to run the installation.

Installation under **Linux and Domino 7 or 8** requires:

- a) the C++ standard library **glibc-2.3.3** or higher, and
- b) the C++ standard library **libstdc++-3.3.1** or higher, but < 3.4.

### SASI Analyzer

If using the SASI Analyzer, the following packages are required on the Linux computer for an automatic update service (regardless of the Domino version used):

- **libstdc++4.1.1** or higher
- **glibc-2.4** or higher

### iQ.Suite Crypt with S/MIME

If using iQ.Suite Crypt with S/MIME under Linux and Domino 7 - 8, special system requirements apply:

- Domino 7 or 8 under Red Hat Enterprise Linux 4 (RHEL 4) requires at least **glibc-2.3.4-2.9**.
- Domino 7 or 8 under SuSE Linux Enterprise Server 9 (SLES 9) requires at least **glibc-2.3.3-98.61**.

## 4.1.4 Requirements for IBM AIX

Installation under Domino 6 - 8 requires the C Set ++ Runtime Version 6 or higher. To determine the version installed, use the command `lspp -l x/C.rte`. Package updates are available directly from IBM. If an older version is used, iQ.Suite may not start or some of the DLLs may not be loaded.

## 4.1.5 Requirements for SUN Solaris

For full iQ.Suite functionality, a **libstdc++-3.3** is required. This is available, for instance, from [www.sunfreeware.com](http://www.sunfreeware.com) in the **libgcc-3.3** package.

## 4.1.6 Requirements for iSeries (formerly AS/400)

To unpack the data files, you need a Windows computer as well as an opportunity to upload the Hook to the iSeries (FTP, Operations Navigator, Terminal, etc.). For detailed information on data file uploads to the iSeries, please refer to the installation description for iSeries in Section "[Installation under OS/400](#)" on page 56.

The installation requires 'SECOFR' rights or at least '\*ALLOBJ' rights.

### **4.1.7 Requirements for zLinux**

To unpack the data files, you need a Windows computer as well as an opportunity to upload the Hook to the host computer (FTP, Operations Navigator, Terminal, etc.). For a detailed installation description for zLinux please refer to Section [“Installation under zLinux as of Domino 6.5” on page 60](#).

### **4.1.8 Requirements for zOS**

To unpack the data files, you need a Windows computer as well as an opportunity to upload the Hook to the host computer (FTP, Operations Navigator, Terminal, etc.). For a detailed installation description for zOS please refer to Section [“Installation: zOS as of Domino 6.5” on page 62](#) and [“Installation under zOS up to Domino 6.5” on page 61](#).

## 4.2 Important Actions and Measures

### 4.2.1 Version Control

Use the following table to check whether you are about to install the correct iQ.Suite version for your Domino server:

Operating System	Domino 6.x	Domino 7	Domino 8.x	
			32-bit	64-bit
Windows 2000/ 2003 (32-bit)	iQ.Suite 11 + 12	iQ.Suite 11 + 12	iQ.Suite 11 + 12	-
Windows 2000/ 2003 (64-bit)	-	iQ.Suite 11 + 12	iQ.Suite 11 + 12	iQ.Suite 12
Windows 2008 (32-bit / 64-bit)	-	-	iQ.Suite 12	iQ.Suite 12
Red Hat as of 7.2 (now 2.1)	iQ.Suite 11	-	-	-
SuSE Linux as of 8	iQ.Suite 11	-	-	-
Red Hat Enter- prise Linux 4	-	iQ.Suite 11 + 12	iQ.Suite 11 + 12	-
SuSE Linux Enter- prise Server 9	-	iQ.Suite 11 + 12	iQ.Suite 11 + 12	-
SUN Solaris as of 9	iQ.Suite 11 + 12	iQ.Suite 11 + 12	iQ.Suite 11 + 12	-
IBM AIX as of 5.1	iQ.Suite 11 + 12	-	-	-
IBM AIX as of 5.2	iQ.Suite 11 + 12	iQ.Suite 11 + 12	iQ.Suite 11 + 12	-
OS/400 5.1	iQ.Clustering Version 8	iQ.Clustering Version 8	iQ.Clustering Version 8	-
zOS	iQ.Clustering Version 8	iQ.Clustering Version 8	iQ.Clustering Version 8	-
zLinux	iQ.Clustering Version 8	iQ.Clustering Version 8	iQ.Clustering Version 8	-

## 4.2.2 Rights and Data Backups

1. Be sure to read the **Release Notes** file, which may contain important additional information.
2. Log on to your system as Administrator.
3. Create a **multi-purpose** group in the NAB (Notes Name and Address Book) with Manager access rights to the iQ.Suite databases. Members of this group will receive all automatic notifications issued by iQ.Suite (default: *iQSuite-Admin*). For further information please refer to your Notes/Domino documentation.
4. Shut down the Domino server.
5. Before starting the installation, make a backup copy of the **log.ntf**, **mail-box.ntf** and **statrp.ntf/statrp5.ntf** files.

Your own templates will be preserved during the installation. iQ.Suite will add the necessary extensions to any existing templates.



## 5 Installation

### 5.1 Preliminary Steps

Before running the installation, perform the settings specified in Section [“Installation Requirements” on page 9](#): otherwise an error-free installation cannot be guaranteed.

Close all unnecessary applications, in particular Domino and Notes. Otherwise, some files may not be installed properly if they are being used by other programs.



Be sure to disable any real-time or on-access scan functions of the virus scanner used for the iQ.Suite working directory (also refer to "Check Default Paths" below).

#### 5.1.1 Check Default Paths

**iQ.Suite default paths under Windows:**

- Domino directory: `c:\lotus\domino`
- iQ.Suite program directory: `c:\lotus\domino\iqsuite`
- iQ.Suite data directory: `c:\lotus\domino\data\iqsuite`
- iQ.Suite working directory (Temp): as set in the `notes.ini`

`toolkit_tempdir=<path\directory>` parameter, otherwise the directory set in the TEMP, TMP or TMPDIR environment variables. The first environment variable set (and not empty) applies.

- ▷ If neither an environment variable nor `toolkit_tempdir` is set, "`c:\TEMP`" is used. Check upper/lower case spelling.

If you do not wish to install the databases included in the installation package but your own ones (with the same name), copy these databases to the installation directory before starting the installation. The installation directory also contains the installation file named **setup\_iQSuite<version>.exe**.

**iQ.Suite default paths under Unix:**

- Domino directory:

/opt/lotus/notes/latest/linux--> Linux

/opt/lotus/notes/latest/ibmpow--> IBM/AIX

/opt/lotus/notes/latest/sunspa--> Sun/Solaris

- iQ.Suite program directory:

/home/lotus/notesdata/grptools

- iQ.Suite program directory (shared):

/opt/iQ.Suite-<version>

- iQ.Suite data directory:

/home/lotus/notesdata/grptools

- iQ.Suite working directory (Temp): as set in the

`toolkit_tempdir=<path\directory>` parameter, otherwise the directory set in the TEMP, TMP or TMPDIR environment variables. The first environment variable set (and not empty) applies.

- ▶ If neither an environment variable nor `toolkit_tempdir` is set, `"/tmp"` is used. Check upper/lower case spelling.

If you do not wish to install the databases included in the installation package but your ones (with the same name), copy these databases to the installation directory before starting the installation.

## 5.1.2 Using External Programs

iQ.Suite is able to use external programs, which have to be installed and licensed separately. Standard configurations are provided for the most currently used external programs. These configurations can be adapted to your specific needs.



If you wish to use external programs not pre-configured in iQ.Suite, please contact your supplier's Support Service.

### 5.1.2.1 Virus Scanners

The iQ.Suite for Windows, Linux and SUN Solaris installation includes the installation of the **AntiVir Engine powered by Avira** virus scanner. Thus, if your license includes an integrated virus scanner, the AntiVir scanner will be configured, enabled and ready-to-use immediately. To scan mails for viruses, simply enable the default AntiVir virus scan job supplied.



Other virus scanners are not supplied by us. If you want to use a virus scanner other than AntiVir, it has to be installed on your server before running iQ.Suite for the first time. For virus scanners supported by iQ.Suite, the installation includes configuration documents with standard default settings, which simply need to be enabled. For further information, please contact our Support

For details on the virus scanner configuration please refer to your Administration Manual. Also refer to ["iQ.Mastering \(Generic Mastering\)" on page 42](#), if you plan to use Symantec AVF/Mail Security or McAfee Groupshield for Domino.

### 5.1.2.2 Decompression Tools

iQ.Suite includes an integrated decompression tool (unpacker) in form of a DLL (exception: AIX). It is automatically enabled and can be used immediately after installation.

If you plan further (external) unpackers, these have to separately licensed, installed and enabled in the configuration documents.



If you plan to switch from `tk_unpack.dll` to `tk_unpack2.dll`, you need to adjust the unpacker's configuration documents accordingly. A description of the parameters is provided on the Comments tab.

For further information on configuration documents for unpackers and supported archive formats, please refer to the Administration Manual.

### 5.1.2.3 Analyzer

iQ.Suite includes the spam analyzer SASI (Sophos Anti Spam Interface). Under Windows and Linux, it can be enabled and used as soon as the installation is complete. The only requirement is a licensed iQ.Suite Wall module.

During setup, you can configure a proxy server for the SASI update. Then set whether or not you wish to be notified by the SASI update service on the success or failure of an update.



Currently, the automatic SASI update service is available under Windows and Linux only.

For further information on SASI please refer to the separate document "SASI Antispam Integration & Configuration", available for download in the GROUP documentation area under [www.group-technologies.com](http://www.group-technologies.com). For details on the configuration documents in iQ.Suite please refer to the Administration Manual.

If you wish to use additional (external) analyzers, these must be licensed, installed and enabled in the configuration documents separately.

### 5.1.3 Selecting the Language

The installation routine can be run in either German or English. Under Windows, the language is selected at the beginning of the installation routine. Under Unix this election is only available if the \$LANG environment variable has not been set. For all other operating systems supported, the installation is performed in English.



The installation language setting selected here is independent of the language later used in iQ.Suite for administration purposes. The language can be set through the **Language selection** button or directly in the **notes.ini** file (set `notes.ini` parameter `ToolKit_ServerLanguage` to the appropriate value (*en*, *de*)).

## 5.2 Installation Routine under Windows

### 5.2.1 Start Installation Routine

Run the following installation package file:

1. **setup\_iQSuite<version number>Windows Domino<version number>-<>.exe**

In the window displayed next, agree with the license terms.

AntiVir Engine powered by Avira is always installed as a whole, i.e. including all modules. However, in the window displayed next (custom setup), you can exclude the integrated virus scanner from installation.



The installation has to be started from a local directory or from a connected network directory.

Starting the installation from a UNC path (`\\computer\directory`) is not possible.

### 5.2.2 Select Setup Type

Select the installation mode: **Standard** or **Advanced**.

- In **Standard** mode, only default settings are used and basic information (e.g. paths) is prompted for. Before iQ.Suite is actually installed, a configuration summary (list of installation settings) selected is displayed. Check an your entries and then confirm the summary.
- The **Advanced** mode provides a number of additional settings and thus allows to change the iQ.Suite default settings.

### 5.2.3 Set Path

The installation program first prompts for the path for the Domino server and iQ.Suite executable files. It then prompts for the **notes.ini** path and the subdirectory for the iQ.Suite configuration databases.

If, in the **Set Path** screen, you have selected the **Installation on partitioned servers** option (in **Advanced** mode only), a window is displayed in which you can enter a list of **notes-ini** paths. These will usually be the data directories of the partitioned server.

For a detailed description of the installation procedure on partitioned servers, please refer to [“Installation on Partitioned Servers” on page 31](#).

### 5.2.4 Install Configuration Databases as Replicas

(in **Advanced** mode only)

If you wish to install the configuration databases as replicas of existing databases, select the option **Database installation in replicated environment** in this screen. In the dialog box displayed next, enter the name of the server and the subdirectory where the databases are located.

The iQ.Suite installation also modifies the design of various standard databases (refer to [“Design Changes for the Installation” on page 68](#)). To leave the database design unchanged, deselect this option in this screen.

For a detailed description of the installation procedure in replicated environments, please refer to [“Installation in Replicated Environments: Windows and Unix” on page 29](#).

## 5.2.5 Update/Install New Configuration Databases

(in **Advanced** mode only)

If a previous iQ.Suite installation already exists on your computer, you can choose between updating your configuration databases to the new version (Update) and running a new installation including the standard database configuration. While a new installation implies that the old databases are deleted, an update provides the possibility to keep the existing configuration for the time being and import the standard configuration at a later stage.

## 5.2.6 Set Administrator Group for iQ.Suite

(in **Advanced** mode only)

In the **Database Administrator** dialog box (also refer to [“Check notes.ini” on page 40](#)) enter the name of the group as specified under [“Rights and Data Backups” on page 14](#) (also refer to [“Access Rights in Configuration Databases” on page 65](#)). The name of the administrator group is entered in the **notes.ini** file. Additionally, this name is also stored as Administrator in the [ACL](#) of the iQ.Suite configuration databases.

## 5.2.7 Set up SASI Analyzer / Update Service

(in **Advanced** mode only)

The iQ.Suite setup packages include a pre-configured SASI version, which can be used as soon as the installation is complete.

To efficiently use the SASI analyzer for spam protection, it needs to be periodically updated. For this SASI update, the installation program prompts for the required configuration settings, such as the URL, port, user and password of the proxy server. Various notification options are available if you wish to be notified of the success or failure of a SASI update. To receive a notification in both cases, keep the default option **<all>** in the **E-mail options** field.



If you do not install the iQ.Suite package in the default "iQSuite" directory, you need to adjust the paths accordingly in the following file:

```
<iQSuite>\SASI\Update\ntk_sasi_update.cmd
```

Once the iQ.Suite installation is complete, a synchronized download page of the GROUP server is used to obtain the most recent updates for all SASI files involved. Under Windows it is possible to set up an update service for this SASI engine (**pmx\_engine.dll**) and the SASI data (**asdb.antispam** and **db.summary**). To do so, a scheduled task needs to be set up that periodically calls the program "sasi\_update.cmd".

For more detailed information on the SASI configuration please refer to the separate document "SASI Integration & Configuration" in the whitepapers download area under [www.group-technologies.com](http://www.group-technologies.com).

## 5.2.8 Configuring Virus Scanners

(in **Advanced** mode only)

iQ.Suite supports various virus scanners, which, except for the Avira scanner, need to be purchased and installed separately.

These virus scanners are listed in this screen. If you select one or more of these virus scanners, you will be able to enter configuration settings for each selected scanner. The corresponding iQ.Suite configuration documents will then be set to Active.



Integrating and enabling the virus scanners is also possible at any time after the installation.

## 5.2.9 Installation Sequence

If they do not exist yet, the installation routine first creates the directories specified in the installation dialog. The program then copies all files to the corresponding directories, modifies various standard databases (mail.box(es), log.ntf/log.nsf, statrep?.ntf/statrep?.nsf), changes various entries in the **notes.ini** file and creates three log files. For additional information refer to:

- a) [“Check notes.ini” on page 40](#)
- b) [“List of Files” on page 72](#)
- c) [“Design Changes for the Installation” on page 68](#)

## 5.3 Installation Under IBM AIX, Linux and SUN Solaris

This section describes how to install iQ.Suite under Domino 6 - 8 on IBM AIX, Linux and SUN Solaris 8 platforms.

### 5.3.1 Before Starting the Installation Script

Before starting the installation script, perform the following steps:

Extract the iQ.Suite installation package to a directory to which the Domino User (i.e. the user under whom the Domino server is started) has Read access. Recommended: the directory `/opt`.

The Domino User does not require Write rights to this directory. However, please note that you have to log on as root or as user with Read/Write rights to this directory.

1. Copy files to server.  
Copy the tar file (e.g. **iQ.Suite-<version number>-<operating system>-Domino<version number>-<32/64>bit.tar.gz**) to `/opt` (using FTP)

2. Call `gzip -cd iQ.Suite-<version number>.tar.gz | tar -xvf -`  
The extracted files are now located under  
`/opt/iQ.Suite-<version number>`

Check that the Domino user has Read rights to this directory.

3. Make sure that all Domino servers have been shut down and that you are logged on as *root*.

### 5.3.2 Starting the Installation Script

Start the installation script `./install.sh <dominoexecdir> <notesdatadir>`,  
where

- `<dominoexecdir>` Notes program directory; contains **libnotes.so**  
e.g.: `/opt/lotus/notes/latest/linux`
- `<notesdatadir>` Notes data directory  
e.g.: `/home/domino/notesdata`

If these parameters are omitted when the script is called, they will be prompted for at a later stage.

#### Language and root

The installation is run in English or German (depending on the value assigned to the environment variable `$LANG`). If `$LANG` has not been set, the language is selected on screen.

Next, you will be asked whether you are logged on as *root* and the Domino server(s) have been shut down.

#### Users and Administrators

Then, you will be prompted to enter the name and the group of the user under whom the Domino server will be started. This information is required in order to assign the appropriate owner rights to the files installed afterwards.

Then, you will be asked if *iQSuite-Admin* is or is to be the GROUP *iQ.Suite Administrator*. Answer *no* if you want to enter another administrator name.

### 5.3.3 Select Setup Type

Now select the installation type for the configuration databases:

1. **Standard installation**

This means that the installation package databases will be installed.

After having selected the database installation mode, the actual installation begins. If it does not exist yet, the iQ.Suite directory<sup>1</sup> is created under the Notes data directory. Most of the files are copied to this directory.

Then a program is started that installs the databases and sets the **notes-*ini*** parameters as required.

2. **Installation in replicated environments**

This means that the installed databases are created as replicas on another server than the master server.

You will be prompted to specify both the name of the master server and the directory (under the Notes data directory) where the databases are located.

You now have the possibility to check whether the master server is running and to start it if required (important for an installation in a partitioned servers environment).

For an installation in replicated environments, the following requirements have to be met:

- The target server (on which the software is to be installed) must have read rights to the master server.
- A network connection must exist between both servers.
- The target server (on which the software is to be installed) must have read rights (as user) to the master server databases (to be replicated).
- Both the master server and the other ("local") server must be started.

1. Refer to ["Preliminary Steps" on page 15](#)

### 5.3.4 Set up SASI Analyzer / Update Service (Linux Only)

The iQ.Suite setup packages include a pre-configured SASI version, which can be used as soon as the installation is complete.

To efficiently use the SASI analyzer for spam protection, it needs to be periodically updated. This SASI update requires the following packages on the Linux computer (irrespective of the Domino version used):

- **gcc-4.1.1**
- **glibc-2.3.6**

During the setup, you will be prompted to enter the required configuration settings (URL, port, user and password of the proxy server). Various notification options are available if you wish to be notified of the success or failure of a SASI update. To receive a notification in both cases, keep the recommended option **<all>** in the **E-mail options** field.



If you do not install the iQ.Suite package in the default "iQSuite" directory, you need to adjust the paths accordingly in the following file:

<iQSuite>\SASI\Update\ntk\_sasi\_update.cmd

Once the iQ.Suite installation is complete, a synchronized download page of the GROUP server is used to obtain the most recent updates for all SASI files involved. Under Linux it is possible to set up an update service for this SASI engine (**pmx\_engine.dll**) and the SASI data (**asdb.antispam** and **db.summary**). To do so, a scheduled task (Cron job) needs to be set up that periodically calls the program "sasi\_update.cmd".

For more detailed information on the SASI configuration please refer to the separate document "SASI Integration & Configuration" in the whitepapers download area under [www.group-technologies.com](http://www.group-technologies.com).

### 5.3.5 Configuring Virus Scanners

iQ.Suite supports the AntiVir virus scanner for Unix, which, however, needs to be installed separately. The default installation path of the necessary files is '/usr/lib/AntiVir'.

To systematically use the most recent version of the virus scanner, you can trigger the updates manually or use the AntiVir Daemon 'Automatic Internet Updater' for automatic updates. If you decide to use the latter, start the AntiVirDaemon installation and then set the desired notification options and update intervals.

If using an HTTP proxy server, enter the appropriate settings as well.



If you are using the virus scanner from Sophos, be sure that the *sav.conf* file is available and the correct path to the scan engine has been specified.

### 5.3.6 Verify File Access Rights

For all files in the iQ.Suite program directory (shared) (/opt/iQ.Suite-<version>) root should be entered as "Owner". The Domino User only requires Read rights to the files in this directory.

Both the owner and the group of the copied files in the iQ.Suite data directory (e.g. /home/domino/notesdata/grptools) must match those of the Domino User. The Domino User must have the following file access rights:

- <iQ.Suite directory> (rwx):

```
*.nsf rw
*.dll rwx
res*.txt rw
toolkit.lic rw
```

- <iQ.Suite directory>/infozip (rwx):

```
unzip rwx
(under AIX only)
```

- Notes program directory (rx):

```
tm_grab rwx
td_grab rwx
libte_hook.so rwx
libte_hook.a rwx
libtk_shared.so rwx
libtk_shared.a rwx
```



Owner rights are set automatically during installation.

### 5.3.7 Verify Database Access Rights

1. The server must have Manager rights and document deletion rights.
2. The user type entry has to be *unspecified*.
3. The *iQSuite-Admin* group (also refer to ["Access Rights in Configuration Databases" on page 65](#)) must exist in the Domino directory of the server.

This must be a **mail** or **multi-purpose** group.

iQ.Suite is now completely installed. Start your Domino server and the Notes administration client. In order to administrate iQ.Suite, you need to create the *iQSuite-Admin* group and specify its members. The next step is to set up the iQ.Suite jobs.

## 5.4 Silent Installation

**Silent Installation** is an installation routine without user interaction at command line level, which is designed for identical installation on different computers. Typically, it is used if you wish to install iQ.Suite on several servers and to distribute a customized configuration (different from the installation package) without replicating the databases.

This not only reduces the installation time, it also ensures that no errors occur due to wrong dialog entries.

### Silent Installation: Windows

The Silent Installation option is available on both Windows and Unix systems. However, the procedure under Windows differs from the one under Unix and is therefore described in a separate document, which is available on our [Documentation Website](#).

### Silent Installation: Unix

For a silent installation under Unix proceed as follows:

1. Open a command line program.
2. Record the desired installation sequence using the `./install.sh rec` parameter.
3. During the installation, all dialog entries are stored in the `silent_rec_dat` file in the current directory.
4. To run additional installations with the parameters recorded, simply call the command `./install.sh <silent_rec_dat`.

## 5.5 Installation in Replicated Environments: Windows and Unix

The installation routine supports replicated environments under Windows and Unix, i.e. the configuration databases are replicated.

The installation routine asks whether the installation is to be run in a replicated multi-server environment (under Windows in the [Install Configuration Databases as Replicas](#) dialog). If that is the case, the installation routine prompts for the “iQ.Suite Master Server” and the data directory of the databases to be replicated. Then enter the server. The server specified here is entered in the `notes.ini` file.

The installation routine also prompts for the data directory of the databases to be replicated.

Rather than installing the databases from the installation directory, the system now creates replicas of the configuration databases from the specified Master Server.



Any errors occurring during the replication of a database are logged in the installation log file. This log file can be viewed at the end of the installation or opened in the ...\



The server must be available, known and started. In case the database on the Master Server cannot be opened (because the server or the database does not exist), the installation is aborted.

The target server (on which the software is to be installed) must have sufficient rights to read the Master Server databases. Otherwise, the databases from the installation package will be installed.

Proceed as follows:

1. Start the installation program for your operating system.
2. In the **Configuration Databases** window, click on the **Install replicated environment** button.
3. In the next window, enter the name of the Master Server and the data directory of the databases to be replicated.

The installation program now creates the iQ.Suite databases to be installed as replicas of the databases of the server previously specified.

## 5.6 Installation on Partitioned Servers

### 5.6.1 Installation Under Windows



In most cases, databases on a partitioned server will be replicated. But a replicated environment is not necessarily required for an installation on partitioned servers.

The installation in replicated environments automatically creates replicas of the existing iQ.Suite configuration databases. These replicas can only be created if a running master server is specified at the time of installation. However, for the installation on a partitioned server, all servers have to be stopped on all partitions, as the basic iQ.Suite program files are written to the Domino program directory (which exists only once on a partitioned server). The files in this program directory must not be accessed during the installation.

Under Windows, the installation on partitioned servers is an option within the standard installation that can be selected in the [Set Path](#) window. If selected, three further options are provided:

1. **Install databases without replication**
2. **Install databases as replicas**
3. **Install databases as replicas of databases located on another server:** Again, the databases are replicas of each other.

After having selected one of these options, the installation is resumed as described under ["Set Path" on page 20](#).

### 5.6.2 Installation Under Unix



In most cases, databases on a partitioned server will be replicated. But a replicated environment is not necessarily required for an installation on partitioned servers.

The installation in replicated environments automatically creates replicas of the existing iQ.Suite configuration databases. These replicas can only be created if a running master server is specified at the time of installation. However, for the installation on a partitioned server, all servers have to be stopped on all partitions, as the basic iQ.Suite program files are written to the Domino program directory (which exists only once on a partitioned server). The files in this program directory must not be accessed during the installation.

For a **partitioned installation** or an installation **with the same program directory** proceed as follows:

1. Install iQ.Suite on the first Domino server according to the installation instructions for your operating system (do not start yet!).
2. Install iQ.Suite on the second Domino server and select the replication mode ("Installation in replicated environments").
3. You will be prompted for the master server and the associated iQ.Suite installation directory (**grptools**), for instance "myServer/myOrganization", "grptools".
4. Then you will be prompted to start both Domino servers (master server **and** the server on which the software is installed).
5. Confirm that the installation is to be continued.



On a partitioned server, the same version has to be installed on all partitions.

If you wish to install an **additional server**, proceed as follows:

1. First shutdown all Domino servers.
2. Install iQ.Suite on the next (third) Domino server and select the replication mode ("Installation in replicated environments").
3. You will be prompted to start the master server and the server on which the software is installed.
4. Confirm that the installation is to be continued.
5. After installation is complete on all servers, start the servers that have not been started yet.

For a **non-partitioned installation** or an installation **with different program directories** proceed as follows:

1. Install iQ.Suite on the first Domino server according to the installation instructions for your operating system.
2. Start this server.
3. Install iQ.Suite on the second Domino server and select the replication mode ("Installation in replicated environments").
4. You will be prompted for the master server and the associated iQ.Suite installation directory (**grptools**), for instance "myServer/myOrganization", "grptools".
5. Then you will be prompted to start the Domino server (server on which the software is installed).
6. Confirm that the installation is to be continued.
7. Repeat steps 3 through 6 for all remaining servers.

### 5.6.3 Sample Installation on Partitioned Servers

Assumption: You have a partitioned server with four Domino servers and want to install iQ.Suite on three of these four servers.

The iQ.Suite directory is:

□ `/home/domino1/notesdata/grptools`

The Domino program directory is:

- `/opt/lotus/notes/latest/ibmpow` (for AIX),
- `/opt/lotus/notes/latest/sunspa` (for Sun/Solaris),
- `/opt/lotus/notes/latest/linux` (for Linux).

The Domino data directories are:

- `*/home/domino1/notesdata`
- `*/home/domino2/notesdata`
- `*/home/domino3/notesdata`
- `*/home/domino4/notesdata`

The iQ.Suite program directory (shared) is:

□ `/opt/iQ.Suite-<version>`

The corresponding Unix user names are domino1, domino2, domino3, domino4.

You want to install the program on the first, second, and fourth server. The

iQ.Suite data directories are:

- `*/home/domino1/notesdata/grptools`
- `*/home/domino2/notesdata/grptools`
- `*/home/domino4/notesdata/grptools`

To do so, proceed as follows:

1. Log on as root: `su`
2. Navigate to the iQ.Suite program directory (shared):  
`cd /opt/iQ.Suite-<version>`
3. Install iQ.Suite on the first server by starting the installation script:  
`./install.sh /opt/lotus/notes/latest/ibmpow /home/domino1/notesdata`
4. Set domino1 as Domino User if prompted to do so by the installation script.



If you want to specify another group in the Domino directory as iQ.Suite Administrator (default: *iQSuite-Admin*), you can do so within the installation dialog.

The group must exist in the Domino directory. If it doesn't, please create it after completing the installation. Be sure to create the group in the Domino directory as **multi-purpose** group.



If you want use another directory than the default iQ.Suite directory (not recommended!), change the following line in the installation script:

```
GRP_FOLDER='grptools'
```

5. Check the installation settings on the system.

To do so, refer to the instructions under [“Check notes.ini” on page 40](#), [“Verify File Access Rights” on page 27](#) and [“Verify Database Access Rights” on page 28](#).

6. Repeat all steps from Step 3 to install iQ.Suite on the second and the fourth server. To do so, first replace *domino1* with *domino2*, then with *domino4*.
7. Start the Domino servers. The installation is now complete. For the correct iQ.Suite configuration, please refer to the Administration Manual.

## 5.7 Uninstalling iQ.Suite



If you wish to uninstall iQ.Suite and then install an older iQ.Suite version (from Version 8 to Version 10.1), you first need to manually delete the 'ntk\_check\_install.exe' file in the Domino program directory.

### 5.7.1 Uninstall: Windows

To uninstall iQ.Suite under Windows proceed as follows:

1. Under **Start** → **Control Panel** → **Software** select the iQ.Suite program and click **Add/Remove**.
2. Follow the instructions to remove software.
3. Then use the **Refresh Design** command to reset the productive databases **log.nsf** and **mail.box** to their original state.
4. Where required, delete the iQ.Suite databases and database templates in the iQ.Suite data directory, as they are not removed by the uninstall program.

### 5.7.2 Uninstall: Unix

To uninstall iQ.Suite under Unix proceed as follows:

1. Stop the Domino servers.
2. Log on as root and navigate to the iQ.Suite program directory (shared).

**Example:**

```
su
cd /opt/iQ.Suite-<version>
```

3. Start the **uninstall.sh** shell script in the command line with the arguments:

- Domino program directory
- Domino data directory

**Example:**

```
./uninstall.sh /opt/lotus/notes/latest/ibmpow /home/
domino
```

During the execution of the **uninstall.sh** shell script you will be prompted for the last Domino server partition with an iQ.Suite installation. Please answer with "y" if it is the last partition or a non-partitioned server. Answer with "n" if there are more server partitions with an iQ.Suite installation. If the latter, the iQ.Suite files in the Domino program directory will still be needed and are therefore not deleted by the **uninstall.sh** script.

4. If it is the last partition with an iQ.Suite installation, you can delete the iQ.Suite program directory (shared).

### 5.7.3 Uninstall: iSeries (formerly AS/400) in iQ.Clustering

To uninstall iQ.Suite in iQ.Clustering proceed as follows:

1. Stop the server.
2. Delete the **grptools** directory from the Notes data directory (using either the Operation Navigator or the qsh or the wrklnk command).
3. Delete the Hook link from the Notes data directory: *libte\_hook.srvpgm*
4. Remove all Hook-specific entries from the **notes.ini** file:
5. Under *EXTMGR\_ADDINS*: the entry *libte\_hook.srvpgm*. If there are no more entries left, delete the entire line, including the key word.
6. All lines with key words beginning with *ToolKit*.
7. Delete the GROUPTOOLS library if there is no Domino server left for which the Hook was installed.





## 6 Follow-Up Steps

### 6.1 Summary

1. Check **notes.ini** file  
(refer to ["Check notes.ini" on page 40](#))
2. Start the server.
3. Install and configure the external programs you want to use, e.g. virus scanners, decompression tools and analysis tools. Check their versions to make sure that the anti-virus tools are compatible with iQ.Suite. The configuration of each of these programs is described in the corresponding **Comment** tab under **Utilities** → **Virus scanner** (unpacker ... etc.).
4. Enter your license. To do so, copy the **Toolkit.lic** file to the iQ.Suite program directory<sup>1</sup>.
5. Enter the following database as bookmark on the Desktop: *Entry for iQ.Suite (<iQ.Suite data directory>/nav.nsf)*. This databases controls the mail and database configuration and is located in the data directory of the Domino servers in the iQ.Suite data directory.
6. The installation routine modifies the statistics database (**statrep.nsf**). Enable the Statistics Reporter Task after having installed iQ.Suite. Otherwise, you will not receive any statistics logs.
7. Gradually configure and enable the individual jobs. To take full advantage of Watchdog, you must have installed and enabled an anti-virus program. For detailed information on the configuration of jobs, please refer to your Administration Manual.
8. If you don't have assigned database access rights yet: Read Section ["Access Rights in Configuration Databases" on page 65](#) where assigning rights is described in detail.



When updating from an older version, the user rights related to the old databases are preserved. Only the database design is updated. **Attention:** Due to the introduction of "critical jobs", iQ.Suite initialization errors may occur, in particular when using Crypt. **Check your configuration before going productive!**

1. Refer to ["Preliminary Steps" on page 15](#)



If you have updated from a previous iQ.Suite version:

1. Make a backup copy of your Quarantine.
2. Based on the **iQ.Suite Quarantine <version number> Template**, create a new Quarantine database.
3. Then, and then only, go productive with iQ.Suite!

These steps are necessary because otherwise the new functionality of the user-specific Quarantine would give users in the **iQ.Suite Portal** the possibility to access all old documents in the Quarantine!

## 6.2 Check notes.ini

Check that the following entry exists:

```
ServerKeyFileName=server.id
```

**Note:** If the `ServerKeyFileName` entry is missing in the **notes.ini** file, add the above line to the **notes.ini** file (where "**server.id**" stands for the appropriate server ID file). Make sure this ID file exists in the Notes data directory.

After the installation, the following entries must exist in the **notes.ini** file:

- `extmgr_addins=te_hook`  
This entry ensures the integration of the Hook, which identifies new incoming mails and also monitors the control databases MailGrabber DB (**gm\_grab.nsf**), DatabaseGrabber DB (**gd\_grab.nsf**).
- `ServerTasks=..., tm_grab, td_grab`  
This entry ensures the automatic start of the Grabbers.  
`tm_grab` = MailGrabber (processing e-mails).  
`td_grab` = DatabaseGrabber (processing databases)
- `Toolkit_DataDir=iQ.Suite directory`  
GROUP path, relative to Notes data directory
- `Toolkit_ExecDir=<Notesdatadir>/<iQ.Suite directory>`  
Absolute path to the iQ.Suite directory
- `Toolkit_Admin=iQSuite-Admin` (or any other value specified during the installation)

iQ.Suite Administrator. A valid mail address from the name and address book must be specified here. Only **one** entry is possible. This may be a group or an individual.

■ `Toolkit_Loglevel=6`

Global log level for entries in the **log.nsf** Notes log (1 - 9, 1 = few details, 9 = every detail logged).

The log level can be set separately for each job in the Mail database and the DatabaseGrabber database. Default setting: "Loglevel 0 (value from **notes.ini**)".

■ `Toolkit_MailIntercept=YES`

If mails are to be processed, set this parameter to *Yes*. For pure database servers, it should be set to *No*.

■ `Toolkit_MgrabThreads=5`

Sets number of working threads (2-20) started by the MailGrabber, meaning how many mails can be handled simultaneously .

■ `Toolkit_DgrabThreads=5`

Sets number of working threads (2-20) started by the DatabaseGrabber, meaning how many DatabaseGrabber jobs (not databases) can be handled simultaneously.

## 6.3 iQ.Mastering (Generic Mastering)

iQ.Mastering allows to use third-party products along with iQ.Suite, e.g. an existing third-party solution for spam protection. Besides Symantec AntiVirus Filtering for Domino and Symantec Mail Security for Domino (Windows) as well as McAfee Groupshield 5.2.1 or 5.3 for Domino, a wide range of additional products can be integrated in iQ.Suite as of Version 10.1.

To this end, iQ.Suite uses the **tk\_hook**, a utility that processes documents placed into the Mail.box by the third-party product. As a general rule, the documents are first processed by the third-party product and then by iQ.Suite.

The only possible processing order is third-party product → GROUP, not vice-versa. In other words, attachments are first checked for viruses and then processed by iQ.Suite. More specifically, this means that PGP-encrypted mails are first scanned by the third-party product and then decrypted by iQ.Suite Crypt. To perform a virus scan after decrypting, it is recommended to use iQ.Suite Watchdog along with a virus scanner supported by Watchdog.



iQ.Mastering requires a separate license and cannot be run along with iQ.Clustering. Any changes made to the third-party product may result in the existing installation becoming inoperable.

### Procedure:

To configure iQ.Mastering after the installation of iQ.Suite please adjust the following parameters in the **notes.ini** file.

- NSF\_HOOKS=...,tk\_hook
- EXTMGR\_ADDINS=...,te\_hook
- Toolkit\_Mastering\_Tasks=<server task of third-party product>  
Enter the name of the tasks used by the third-party product for e-mail processing, with multiple entries separated by comma (,).

As a general rule, enter the hooks *after* the hooks of the third-party product.

### Sample configuration for Trendmicro Scanmail (Windows)

- NSF\_HOOKS=...,tk\_hook

- EXTMGR\_ADDINS=...,te\_hook
- Toolkit\_Mastering\_Tasks=tmmscan

#### Sample configuration for Trendmicro Scanmail (Unix)

- NSF\_HOOKS=...,tk\_hook
- EXTMGR\_ADDINS=...,te\_hook
- Toolkit\_Mastering\_Tasks=smdreal

#### Sample configuration for Kaspersky Antivirus 5.5

- NSF\_HOOKS=nKavMailHook,tk\_hook
- EXTMGR\_ADDINS=te\_hook
- Toolkit\_Mastering\_Tasks=KavMailMonitor, KavDbScanner

### 6.3.1 Symantec AVF / Mail Security for Domino (Parallel Use)

Symantec AntiVirus Filtering for Domino or Symantec Mail Security for Domino (Windows) can be used simultaneously with iQ.Suite.

To ensure correct interaction with iQ.Suite, please observe the following:

1. In the notes.ini file enter the following parameters:
  - Windows (new creation): NSF\_HOOKS= tk\_hook
  - Sun Solaris: NSF\_HOOKS= tk\_savhook, tk\_hook
  - Linux, AIX: NSF\_HOOKS= savhook, tk\_hook
2. Use a license file that contains the entry GRPNAV. This stands for "GROUP Symantec AVF-Assistant".
3. In the Symantec configuration under the **Auto-Protect** tab, enter the two Grabber tasks - *tm\_grab* and *td\_grab* - under **Ignore the following server processes**:



<b>Glossary:</b>	
SAV:	Symantec Antivirus
NTASK:	Server add-in task of the SAV for Domino
NNHOOK:	Hook of the SAV for Domino
ExtensionmanagerAddin:	"Hook" entered under EXTMGR_ADDIN=.. in the <b>notes.ini</b> file → see <b>te_hook</b>
Database Hook:	"Hook" entered under NSF_HOOKS= in the <b>notes.ini</b> file

### 6.3.2 McAfee Groupshield for Domino (Parallel Use Under Windows)

Under Windows, McAfee Groupshield 5.2.1 or 5.3 for Domino can be used simultaneously with iQ.Suite.

To ensure correct interaction with iQ.Suite, please observe the following:

1. In the **notes.ini** file, enter the following parameters:  
`NSF_HOOKS= tk_hook`
2. Check the "ExtMgr\_Addins" entry:  
 For Version 5.2.1: *ExtMgr\_Addins=GSDEm, te\_hook*.  
 For Version 5.3: *ExtMgr\_Addins=McAfeeEm, te\_hook*.
3. Under **Exclude specified applications** in the McAfee Groupshield "Server settings" enter *NTM\_GRAB* and *NTD\_GRAB*.
4. Use a license file that contains the entry "GRPGSD". This stands for "iQ.Mastering for McAfee Groupshield".

<b>Glossary:</b>	
GSD:	McAfee Groupshield
GSDConfig, GSDOAScan, GSDODScan, GSDUpdate, GSDReport:	Server add-in tasks of the GSD for Domino
GSDEm:	Hook of the GSD for Domino
ExtensionmanagerAddin:	"Hook" entered under <code>EXTMGR_ADDIN=.</code> in the <b>notes.ini</b> → refer to <b>te_hook</b>
Database Hook:	"Hook" entered under <code>NSF_HOOKS=</code> in the <b>notes.ini</b> file





## 7 iQ.Clustering

### 7.1 Benefits and Fields of Application

iQ.Clustering is an iQ.Suite feature that is activated on a Domino server after having been installed and licensed.

iQ.Clustering provides:

1. high availability,
2. fail-safety,
3. load balancing, and
4. distributed computing.

All of these features are described in detail in this chapter.

A cluster managed by iQ.Clustering comprises several Domino servers (reasonably not more than 4 to 6) with iQ.Suite installed. iQ.Clustering is an application cluster; it does **not** replace but complements the function of a Domino cluster.



To work correctly, iQ.Clustering requires a replicated configuration on all servers involved. The network connection between clustered servers must provide sufficiently high data transfer rates, e.g. such as provided by LAN connections.



If running [iQ.Mastering \(Generic Mastering\)](#), iQ.Clustering is not possible!

#### 7.1.1 High-Availability and Fail-Safety

iQ.Clustering can be used to optimize the iQ.Suite system availability according to the requirements of major installations or specific applications.

The servers involved under monitor each other, in particular the e-mail traffic in each **mail.box**, as well as the processing actions taken by iQ.Clustering. Should iQ.Suite be unavailable on one server (e.g. for maintenance reasons), the other servers in the iQ.Suite cluster take over the tasks of that server.

### **High-availability example**

If running a backup computing center for your Domino servers, iQ.Clustering can be used to ensure that the cluster computer in the backup computer center immediately takes over whenever the main server becomes unavailable. This would be a typical scenario for using a Domino cluster in combination with iQ.Clustering.

### **Fail-safety example**

If running multiple Domino servers, iQ.Clustering can be used to ensure that whenever there is an iQ.Suite failure on one server, the other servers in the cluster take over that server's tasks.

## **7.1.2 Load Balancing**

iQ.Clustering allows to react to dynamic system load requirements by distributing tasks between systems according to their current load. The iQ.Suite system on the less loaded server checks and processes the e-mails on the heavily loaded server.

### **Load balancing example**

At your main site, multiple Domino servers are operated as Internet gateways. If, for instance, the gateway for incoming e-mails is more heavily loaded than the outgoing mail gateway, the iQ.Clustering load balancing function will shift some of the processing tasks from the more loaded server to the less loaded one.

## **7.1.3 Distributed Computing**

This iQ.Clustering function allows to process e-mails on a separate computer regardless of the e-mail host. In combination with high-availability and load balancing, this ensures highest system safety and ease-of-use in enterprise environments.

It is thus possible, for instance, to check e-mails on a remote Domino server (e.g. for viruses) via the network whenever this Domino server is run under an operating system for which iQ.Suite or any required third-party products such as virus scanners or PGP are not available.



This requires a Domino server installed on the separate computer running iQ.Suite.

### **Distributed computing example**

is to be installed on an existing mail host (with Domino server) in a non-Windows environment in order to check e-mail attachments for viruses. The virus iQ.Suite-scanner to be used is not available on the operating system platform. To solve this problem, the virus scanning function can be shifted to a Windows computer. To do so, iQ.Suite and the corresponding function modules (in this case Watchdog) are installed along with the virus scanner on this Windows computer. On the mail host, only the EXTMGR\_ADDIN te\_hook utility is installed. The e-mail is simply marked for processing by the Hook and the MailGrabber installed on the computer running then processes the e-mail as required.

In addition to virus scanning, this also allows to run any other module in any environment, as it is always possible to run e-mail checking functions from a platform where the module is available.

## 7.2 Requirements for iQ.Clustering

To use iQ.Clustering most efficiently and with all functions, observe the following:

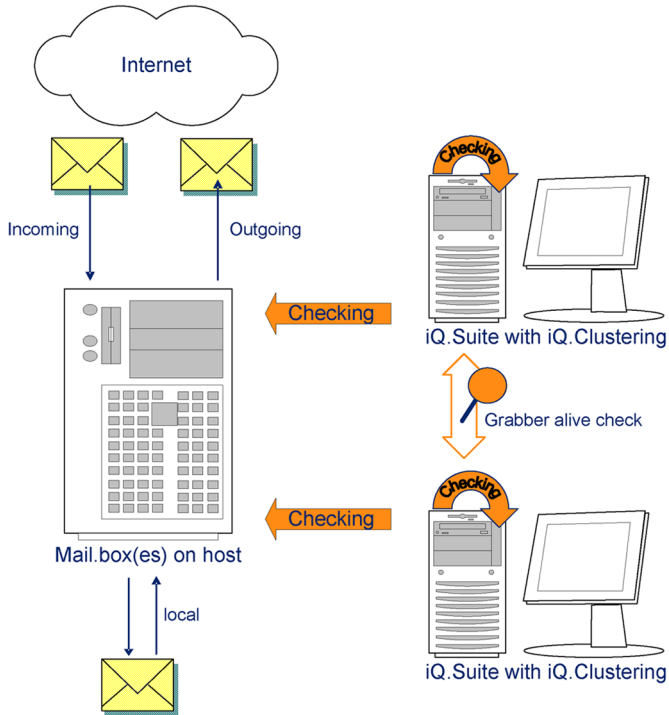
- iQ.Clustering requires a separate license.
- Under normal circumstances, two servers will be sufficient to cover standard tasks (fail-safety and load balancing).
- The new "Reserve" and "Process" method is always used, even if checking the own mail.box only.
- requires appropriate access rights to the mail.box(es). The servers need Manager rights (including deletion) to access each other's mailbox.
- The system time settings on the servers must not differ significantly.

### 7.2.1 E-mail Checking Sequence

The description below explains the working principle:

1. The MailGrabber checks the mail.box(es) to be monitored for new documents.
2. The MailGrabber attempts to reserve any documents found → new status in the: **Dispatched for <server name>** view.
3. The working threads only process documents that have been successfully reserved by the server (`$TKCheckServer` field).
4. If a reserved document is not processed within 15 minutes, it is reset.
5. If there are any reserved documents when the MailGrabber is shut down or started, the reservation is removed.

The following figure illustrates the working principle for checking the mailboxes on an OS/390 computer by two NT PCs, with simultaneous mutual monitoring of the MailGrabbers:

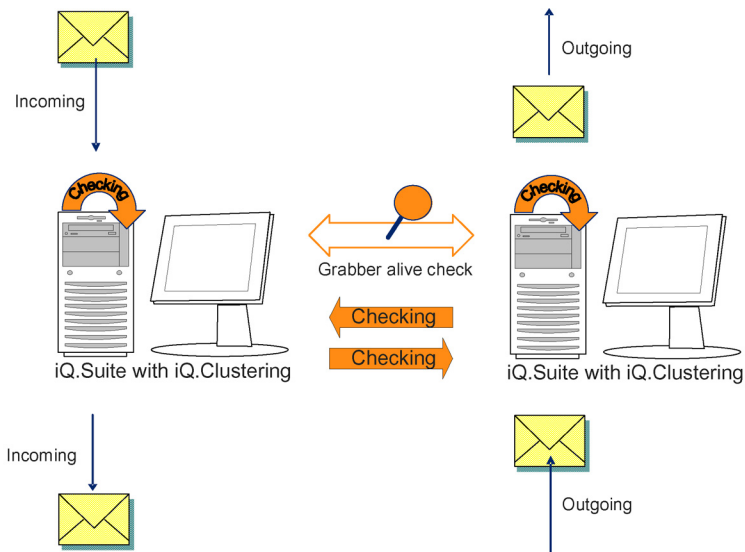


## 7.2.2 Grabber Checking

The description below explains the working principle:

1. On the servers to be monitored, the MailGrabber checks the mail.box / mail1.box for a profile document.
2. This profile document contains the last action (with date/time) performed by the Grabber on the monitored server.
3. This profile document is written by the Grabber to be monitored (at least once per minute) and it is read and deleted by the monitoring servers (approx. every 5 minutes).
4. With no profile document found, the last status read is the current status.
5. If several Grabbers monitor the same server, there is a risk of false alarms when the cycles interfere with each other.

The figure below illustrates the working principle for mutual monitoring of mailboxes on an Internet gateway by two NT PCs. The MailGrabbers monitor each other:



### 7.2.3 Installation Requirements

The basic installation requirements for iQ.Clustering are the same as described under [“System Requirements” on page 9](#).

In addition, the following requirements must be met:

- Windows 2000/2003/2008 installed on one computer
- A fast network connection is available
- A virus scanner is available (for iQ.Suite Watchdog)

## 7.3 Installation

### 7.3.1 Installation Principle

#### 7.3.1.1 Example I: zOS and Windows 2003

In this example **zOS** represents the monitored server and **Windows 2003** the monitoring server. The installation is performed in the following way:

1. Run a standard installation on the monitoring server (Windows 2003).
2. On the monitored server (zOS), copy the appropriate **te\_hook.dll** to the Domino program directory.
3. On the monitored server, adjust the **notes.ini** file as follows:  
`Extmgr_Addins=te_hook and toolkit_MailIntercept=yes`
4. On the monitoring server (Windows 2003), create an **iQ.Clustering** configuration document under **iQ.Suite** → **Global Parameters** that contains the entries below or change the existing **iQ.Clustering** documents as required for your purposes.
  - Server =<monitoring server>
  - Server for e-mail checking [= toolkit\_WatchServer] =<monitored server>

Proceed as follows to install an additional monitoring server:

1. Run a normal iQ.Suite installation on this server.
2. On the monitoring server, create an **iQ.Clustering** configuration document under **Global Parameters** that contains the following:
  - Server =<monitoring server>
  - Server for e-mail checking [= toolkit\_WatchServer] =<monitored server>

The **te\_hook** will now stop the e-mails on the monitored server and the MailGrabber on the monitoring server will fetch them in order to process them.



The monitoring servers must replicate the address book of the monitored server.

### 7.3.1.2 Example II: Windows 2003 and Windows 2003

This example features two Windows 2003 servers mutually monitoring each other. The installation is performed in the following way:

1. Run a standard installation on both servers (both Windows 2003), whether replicated or not.
2. On both servers, create the configuration documents under **iQ.Suite** → **Global Parameters** (see example above) with the following settings:

□ **On Server 1:**

Server = <Server1>

Server for e-mail checking [= toolkit\_WatchServer] = <Server2>

**If MailGrabber is to be monitored:**

Server for Grabber checking [= toolkit\_MonitorServer] = <Server2>

□ **On Server 2:**

Server = <Server2>

Server for e-mail checking [= toolkit\_WatchServer] = <Server1>

**If MailGrabber is to be monitored:**

Server for Grabber checking [= toolkit\_MonitorServer] = <Server1>

Server 1 will now periodically check the mailbox on server 2 for mails that have not yet been processed by server 2 - and vice versa.

Proceed as follows to install an additional Server3:

1. Run a standard iQ.Suite installation on that server.
2. On **Server3** under **Global Parameters**, create an **iQ.Clustering** configuration document that contains the following:

□ **On Server 3:**

Server =<Server3>

Server for e-mail checking [= toolkit\_WatchServer] = <Server1>

**If MailGrabber is to be monitored:**

Server for Grabber checking [= toolkit\_MonitorServer] = <Server1>

3. On **Server3** under **Global Parameters**, create an additional **iQ.Clustering** configuration document that contains the following:

□ **On Server 3:**

Server =<Server3>

Server for e-mail checking [= toolkit\_WatchServer] = <Server2>

**If MailGrabber is to be monitored:**

Server for Grabber checking [= toolkit\_MonitorServer] = <Server2>

4. On **Server2** under **Global Parameters**, create an additional **iQ.Clustering** configuration document that contains the following:

 **On Server 2:**

Server =<Server2>

Server for e-mail checking [= toolkit\_WatchServer] = <Server3>

**If MailGrabber is to be monitored:**

Server for Grabber checking [= toolkit\_MonitorServer] = <Server3>

5. On **Server1** under **Global Parameters**, create an additional **iQ.Clustering** configuration document that contains the following:

 **On Server 1:**

Server =<Server1>

Server for e-mail checking [= toolkit\_WatchServer] = <Server3>

**If MailGrabber is to be monitored:**

Server for Grabber checking [= toolkit\_MonitorServer] = <Server3>



Both the iQ.Suite Quarantine and the iQ.Suite configuration should be replicated.

If the grabbers are not supposed to mutually monitor each other, the corresponding **iQ.Clustering** configuration documents (**toolkit\_MonitorServer**) are not needed.



**With mutual Grabber monitoring, enter an asterisk (\*) in the "Server" field under the "Misc." tab of the job configuration documents.**

Reason: The Server field in the job configuration documents relates to the execution of a job by a Grabber and not to the processing of mails/documents on a server. This means, for instance, that Job A on Server X also processes the mails in the mail.box(es) on Server Y, but the same job on Server Y no mails at all because only Server X is specified in the Job A configuration document (replicated configuration). Therefore, the Grabber on Server B will not start this job at all, since the job is not valid for Server Y.

### 7.3.2 Installation under OS/400

The package contains a Hook for the Domino server. The Hook is responsible for intercepting incoming mails on the server so that they can be checked. Checking the mails can now be performed by a remote engine running iQ.Suite for a Domino server with **iQ.Clustering** set up and enabled.

With iQ.Clustering, you can take full advantage of the entire functionality of iQ.Suite for Windows 2000/2003/2008, for instance iQ.Suite Crypt. All you need is a Windows workstation running a Domino server and iQ.Suite for Windows 2000/2003/2008 which uses iQ.Clustering to check the **mail.box** on your iSeries (formerly AS/400). For further information refer to [“iQ.Clustering” on page 47](#).

#### 7.3.2.1 Additional Installation Requirements

First observe the installation requirements described under [“Installation Requirements” on page 9](#) and [page 52](#).

While IBM uses EBCDIC, the Domino server and the Hook both use ASCII. For the iSeries (formerly AS/400), the Hook therefore requires the IBM LIBASCII package for EBCDIC→ASCII conversion.

However, this package is no longer available as it was replaced with the product 5799-AAS.

The package consists of the following files:

<b>grptools.sav</b>	An OS/400 backup file containing the iQ.Suite data (and executable files).
---------------------	--

<b>libascii.htm</b>	An HTML file containing the license terms and the installation instructions for the IBM LIBASCII package. <b>Please read the IBM license terms!</b>
<b>libasc10.sav</b>	An OS/400 backup file containing the LIBASCII package (in the Installation Guide from IBM, this file is named <b>libasc10.exe</b> ).

### 7.3.2.2 Installation Steps

To install the Hook, please observe the following points. This guide assumes that you have stored the **grptools.sav** file under `c:\grptools.sav` on your PC workstation.

1. Log on to your iSeries (formerly AS/400) with a user profile that will enable you to use a command line.
2. Create a backup file in a library to which you have access using the `crtsavf` command. You may for instance enter `crtsavf file(qgpl/grouptools)` in order to create the backup file named **grouptools** in the library named **QGPL**. Please note that there should be no existing backup file with the same name. (In this case, use the `dltf` command to delete the existing backup file or select another name for your backup file.)
3. Using FTP, create a binary copy of the backup file on your iSeries. In this example, open an MS-DOS prompt and enter the following command:  
*ftp [Your iSeries system name or IP address]*
4. When prompted to do so, enter your iSeries user name and your iSeries password.
5. Once logged in, enter the following commands:  
*binary*  
*put c:\grptools.sav qgpl/grouptools,*  
in order to enable binary data transfer and to copy the backup file.
6. Enter the following to exit the FTP program:  
*bye*

The Hook backup file is now on your iSeries. In the next step, the data saved in the backup file has to be restored.

7. To do so, enter the following command on the OS/400 command line:  
*rstlib savlib(grouptools) dev(\*savf) savf(qgpl/grouptools)*
8. Once the GROUPTOOLS library has been successfully restored, the backup file is no longer needed and can be deleted. The Hook files are now on the iSeries and have to be installed for each Domino server. Repeat the following step for each Domino server on which the Hook is to be installed.
9. Enter the command  
*grouptools/hookinst datapath('/notes/data/server1') owner('qnotes')*  
to execute all installation steps for a Domino server with its data directory under */notes/data/server1*. Replace this path with the data directory of your Domino server.



In case data transfer is not possible via FTP, you can use the Operations Navigator to transfer the file to the iSeries root file system.

On the OS/400 console, enter the following commands to transfer the data to the backup file created before:

```
CPYFRMSTMF FROMSTMF('/grptools.sav') TOMBR
('/qsys.lib/qgpl.lib/grouptools.file') MBROPT(*ADD)
```

You may then delete the copy in the root file system.

**You can proceed in the same way to transfer the libasc10.sav file.**



The Operations Navigator may not be available on all systems. A data transfer via FTP, as described above, is the standard method and should be used where possible.

### 7.3.2.3 Setting up the Hook for a Domino Server

To be used by the Domino server, the Hook must be made known to the server. This can be done while the Domino server is running or down. However, the changes will take effect having restarted the server. Repeat the following steps for each Domino server that is to use the Hook.

1. Using any editor, edit the **notes.ini** file on your Domino server. Look for a line that begins with **EXTMGR\_ADDINS**. If it exists, add a comma fol-

lowed by *libte\_hook.srvpgm*. If the line does not exist yet, add the following line:

```
extmgr_addins=libte_hook.srvpgm
```

Then add the following line to the **notes.ini** file:

```
ToolKit_Mailintercept=YES
```

2. If required, you can adapt the design of the mail database, e.g. to monitor the status of mails currently processed. To do so, you can use the standard Notes design update mechanisms and, as template, the **mail-box.ntf** of a Domino server with a complete installation.

The installation is now complete. After having restarted the server, all incoming mails will be intercepted in the **mail.box** database. The next step is to set up the iQ.Suite jobs as described in your Administration Manual.

### 7.3.3 Installation under zLinux as of Domino 6.5

First observe the installation requirements described under [“Installation Requirements” on page 9](#) and [page 52](#).

Installing the iQ.Clustering components for zLinux is very simple: A file is copied to the Domino program directory and an entry is added to the **notes.ini** file. The rest of the installation is performed on the Windows computer (refer to [“Installation Routine under Windows” on page 19](#)).

Procedure:

1. Copy the **libte\_mailhook.so.gz** file to the host computer.
2. Log on with root rights.
3. Unpack the file and copy the **libte\_mailhook.so** file to the Domino program directory (e.g. `/opt/lotus/notes/latest/zlinux`).
4. Set the owner and the execution rights as for **libnotes.so**.
5. Stop the Domino server.
6. Open the Domino server **notes.ini** file and add `te_mailhook` to the `extmgr_addins` line (`extmgr_addins=te_mailhook`). If there already are entries, add `te_mailhook` at the end of the line.
7. Start the Domino server.

As of now, no mails will be delivered without having been checked by iQ.Suite.

### 7.3.4 Installation under zOS up to Domino 6.5

First observe the installation requirements described under ["Installation Requirements" on page 9](#) and [page 52](#).

Installing the iQ.Clustering components for zOS up to Domino 6.5 is very simple: A file is copied to the Domino program directory and an entry is added to the **notes.ini** file. The rest of the installation is performed on the Windows computer (refer to ["Installation Routine under Windows" on page 19](#)).

Procedure:

1. Copy the **libte\_mailhook.so.gz** file to the host computer.
2. Log on with root rights.
3. Unpack the file and copy the **libte\_hook.so** to the Domino program directory (e.g. `/usr/lpp/lotus/notes/latest/os390` )
4. Set the owner and the execution rights as for **libnotes.so**.
5. Stop the Domino server.
6. Open the Domino server **notes.ini** file and add *te\_mailhook* to the *extmgr\_addins* line (*extmgr\_addins=te\_mailhook*). If there already are entries, add *te\_mailhook* at the end of the line.
7. Then add the following line to the `notes.ini` file:  
**Toolkit\_MailIntercept=YES.**
8. In the **.profile** file of zOS user under whom's name the Domino server is started, add the following:

```
LD_LIBRARY_PATH=<existing entries>:/usr/lpp/lotus/
notes/latest/os390
Toolkit_Dir=/tmp
```

If the `LD_LIBRARY_PATH=` entry does not exist yet, please enter

```
LD_LIBRARY_PATH=/usr/lpp/lotus/notes/latest/os390.
```

9. Start the Domino server.

As of now, no mails will be delivered without having been checked by iQ.Suite.

### 7.3.5 Installation: zOS as of Domino 6.5

First observe the installation requirements described under [“Installation Requirements” on page 9](#) and [page 52](#).

Installing the iQ.Clustering for zOS as of Domino 6.5 is very simple: A file is copied to the Domino program directory and an entry is added to the **notes.ini** file. The rest of the installation is performed on the Windows computer (refer to [“Installation Routine under Windows” on page 19](#)).

Procedure:

1. Copy the **libte\_mailhook.so.gz** file to the host computer.
2. Log on with root rights.
3. Unpack the file and copy the **libte\_mailhook.so** to the Domino program directory (e.g. `/usr/lpp/lotus/notes/latest/os390`).
4. Set the owner and the execution rights as for **libnotes.so**.
5. Stop the Domino server.
6. Open the Domino server **notes.ini** file and add *te\_mailhook* to the *extmgr\_addins* line (*extmgr\_addins=te\_mailhook*). If there already are entries, add *te\_mailhook* at the end of the line.
7. In the **.profile** file of zOS user under whom's name the Domino server is started, add the following:

```
LD_LIBRARY_PATH=<existing entries>:/usr/lpp/lotus/
notes/latest/os390
```

If the **LD\_LIBRARY\_PATH=** entry does not exist yet, please enter

```
LD_LIBRARY_PATH=/usr/lpp/lotus/notes/latest/os390.
```


8. Start the Domino server.

As of now, no mails will be delivered without having been checked by iQ.Suite.

## 7.4 iQ.Clustering Configuration

The configuration of the servers to be checked is carried out via **notes.ini** parameters or the new global parameters that allow to set up mutual monitoring of mailboxes and Grabbers. If configured as cluster, the servers mutually take over each other's tasks in the event of a server failure.

Basics	Comments
<b>Basics</b>	
Name	iQ.Clustering
Status	<input type="radio"/> Aktiv <input checked="" type="radio"/> Nicht aktiv
Server	WMP_CO02/SRV/WMP/GROUP/De
Server für E-Mail-Prüfung	WMP_CO01/SRV/WMP/GROUP/De
Server für Grabber-Prüfung	WMP_CO01/SRV/WMP/GROUP/De

1. In the **Basics** tab of the configuration document (**Global Parameters**  **iQ.Clustering**), enter the name of your Domino server in the **Server** field the name of the server for which this iQ.Clustering configuration is valid. **Do not enter an asterisk (\*)!**
2. In the **Server for mailbox checking field**, enter the name of the server whose mailboxes are to be additionally monitored. The own mailboxes are monitored automatically. **Do not enter an asterisk (\*)!**
3. In the **Server for grabber checking** field, enter the name of the server whose MailGrabber is to be monitored. **Do not enter an asterisk (\*)!**
4. Repeat this procedure for each server to be monitored.



 **8 Appendix****8.1 Access Rights in Configuration Databases**

Lotus Notes/Domino controls the access to databases by means of Access Control Lists (ACLs). These lists are used to assign database access rights to users or user groups. For further information refer to the Lotus Notes/Domino documentation.

**8.1.1 Using Predefined Groups**

We recommend to use predefined groups to control the access to individual databases:

IQSUITE-ADMIN and the administrator group specified during installation, if applicable (formerly GROUP-TOOLS-ADMIN)	Changing configuration documents, database design modifications, and rights management; also refer notes.ini
IQSUITE-SRV (formerly GROUP-TOOLS-SRV)	Your server(s)
IQSUITE-USER (formerly GROUP-TOOLS-USER)	Your Notes users (for iQ.Suite Clerk only)
IQSUITE-POWUSER (formerly GROUP-TOOLS-POWUSER)	Your experienced Notes users (for iQ.Suite Clerk only)

These groups are already included in the ACL with appropriate access rights. All you have to do is to create the corresponding groups in the Name and Address Book.

For further information on the roles for the User Portal, please refer to your Administration Manual under "List of Roles in iQ.Suite Portal".



During installation, the server running iQ.Suite is entered with manager access rights in all ACLs of the relevant databases.

## 8.1.2 Using Your Own Groups

Observe the following if you decide to use your own groups:

### 8.1.2.1 For the server

Servers must have at least editor rights to the iQ.Suite databases and must be included in all database roles.



For iQ.Clustering the servers need manager rights to the mail.box(es).

### 8.1.2.2 For the Administrator/Manager

Administrators should have author or manager rights. Individual databases have additional admin roles to enable a finer structure of the rights. Assign the appropriate roles to the administrators.

### 8.1.2.3 For the end user

As, in the iQ.Suite Portal, some roles allow to view and process other users' mails without their knowledge and permission, be sure to restrict access to trusted persons only (data protection).

To make efficient use of the iQ.Suite Portal, the users need appropriate rights to the user database (**g\_user.nsf**).



As the iQ.Suite Portal takes the views from different databases, the rights have to be assigned individually for each database (for **g\_del.nsf**, **g\_connect.nsf** and **g\_arch.nsf**) and must match the roles assigned in the **g\_user.nsf** database.

For a list of roles, please refer to the iQ.Suite Portal section in your Administration Manual.

#### 8.1.2.4 For the Administrator notifications

The recipients of Administrator notifications are set in the **notes.ini** file under `Toolkit_Admin`, the default setting being the group specified during the installation. You may also create a specific group for these notifications, in which case it has to be entered in the **notes.ini** file.



The `%admin%` placeholder in the configuration documents is replaced with the entry under `Toolkit_Admin`.

## 8.2 Design Changes for the Installation

### 8.2.1 Design Elements: Log Database

By default, the sequence of operations of each module is logged (default) in the Notes Log database (**g\_log.nsf**) of the server. To be able to use this information, the **toolkit\_logdb** parameter in the **notes.ini** file is set automatically to the path of the log database.



If not set, the **log.nsf** Notes Log is used for logging. We recommend to use the **g\_log.nsf** supplied for logging and not to change this parameter.

To visualize this information, the design of the Domino Log or the design template is extended during the installation. The following **g\_log.ntf** design elements are added to the **g\_log.nsf** during installation:

Element	Name	Purpose
Screen	Toolkit LogPage	Displays the entries
View	Grabber Log\by Date	Sorts the entries by date
View	Grabber Log\by Task	Sorts the entries by process
Frameset	Entry	Required for own database only.
View	Grabber Log\ Error by Date	As before, but for documents with ErrCount > 0 only
Agent	(Export Grabber Log)	File dialog for export to Excel spreadsheets
Agent	(Server)	Used in Frameset Entry for server change

In iQ.Suite, you can also create a new **Flags for Log Database** document for the buffer delay under **Global Parameters** → **New** → **General Global Parameters**.

Alternatively, you can also set this parameter directly in the **notes.ini** file through the entry `toolkit_logdb_flags=[max. seconds],[max. lines]`. Set the maximum waiting period in seconds or the maximum number of lines in the buffer. Whenever one of these values is reached, the external log database is updated. Without the "toolkit\_logdb" setting, this entry is ignored. Both flags support values higher than 1. A "0" value is considered an error and replaced with the default configuration ("60.30").

It is also possible to set one flag only, e.g.:

```
toolkit_logdb_flags=123 (max. 123 seconds) or
```

```
toolkit_logdb_flags=,234 (max. 234 lines)
```

### 8.2.2 Design Elements: Statrp.nsf

During the installation of iQ.Suite, your **Statrp.nsf** database is extended by a number of design elements from **Statrp5.nsf** database. These changes do not have any effect on the Lotus Domino server and are primarily for display purposes.

The following design elements are added during installation:

Element	Name	Purpose
Screen (Form)	GROUP Tools Report (GTSTAT)	Displays the mail statistics as well as the elements of the two subforms.
Subform	GROUP Tools Statistics (Mail)	Elements written by the MailGrabber.
Subform	GROUP Tools Statistics (Database)	Elements written by the DatabaseGrabber.
View	1. Statistics Reports \ 99. Grabber	Collection of elements created during the installation of iQ.Suite.

### 8.2.3 Design Elements: Mail.box

To simplify using the MailGrabber, a few changes to the **mail.box** and the corresponding template (**mailbox.ntf**) of the server are made during the iQ.Suite installation. These changes do not have any effect on the Lotus Domino server and are primarily for display purposes.

The following design elements are added during installation:

Element	Name	Purpose
View	MailGrabber\ Mail Status	Displays the scanning and routing status.
Frames et	Entry	Required for own database only.
Macro	Reprocess Mails	Changes the status of an undeliverable mail so that it is reprocessed by the MailGrabber.
Macro	Release "Undeliverable" Mails	Changes the status of an undeliverable mail so that it is passed on by the router without further processing by the MailGrabber.
Macro	Release Mails	Changes the status of any mail so that it is passed on by the router without further processing by the MailGrabber.
Screen	TkMemo	Displays the mail and additional status information; no storage option.

### 8.2.4 Support for Multiple Mail.Boxes

It is possible to define multiple Mail.boxes to be used by the router.



This means iQ.Suite may have to monitor several databases for new messages, and not just one. That is the reason why support for multiple Mail.boxes was implemented.

In order for iQ.Suite to work correctly after having changed the number of Mail.boxes, it must be ensured that only **those** Mail.boxes are located in the server directory that are also processed by the router.



After having performed the changes, the server has to be restarted.

The following Mail.boxes may exist if

-  one mailbox is used: **mail.box**
-  multiple mailboxes are used: **mail1.box, mail2.box, ...**

Any other Mail.boxes must be removed from the data directory.



If you decide to set the number of Mail.boxes differently, we recommend changing the server configuration as follows:

1. Select the **Configuration** tab.
2. Select **Server** and click on **Configurations** to display the name of the server.
3. Double-click on the server name to open the configuration settings for the server.
4. Select the **Router/SMTP** tab and enter the number of boxes you wish to use in the **Number of mail.boxes** field.
5. Shut down the Domino server.
6. Switch to the directory of your **mail.box** file. This will normally be  
`c:\lotus\domino\data.`
7. Delete the **mail.box** file or the **mail1.box, mail2.box**, etc. files so that new ones can be created when the server is restarted.

This ensures that the correct mail.boxes are used.

## 8.3 List of Files

During the iQ.Suite installation, various files are copied to different directories:

### 8.3.1 Log Files

The log files created contain detailed information on the installation sequence. All of these files are located in the %TEMP% directory.

These files are:

- **iqsuite<version>\_setup\_installer.log**  
(or, for silent installation. the specified Installer log file)
- **iqsuite<version>\_setup\_data.log**  
(formerly tk\_setup\_data.log in the iQ.Suite Data Directory)
- **iqsuite<version>\_setup\_script.log**  
(formerly iqsuite<version>\_setup\_debug.log)

### 8.3.2 iQ.Suite Data Directory

File	Description
*.nsf	Help / Configuration database
*.ntf	Templates for configuration databases

### 8.3.3 iQ.Suite Program Directory

File	Description
toolkit.lic	License file
de\res*.txt en\res*.txt	Message texts (English: en\res*.txt)
ntk_*.dll <sup>a</sup>	Interfaces for calling third-party applications
ndoscall.exe <sup>a</sup>	NTI/NTA <sup>a</sup> : Enables calling DOS programs and changing database access rights

- a. Under Unix, there is no "n" at the beginning of the name

### 8.3.4 Lotus Domino Program Directory

File	Description
n <sup>te</sup> _hook.dll <sup>a</sup>	Extension Manager Add-Ins for database monitoring
lib <sup>te</sup> _hook.a	The same for AIX
lib <sup>te</sup> _hook.so	and for Linux and Sun Solaris
tk_hook.dll	NSF Hooks for iQ.Mastering
lib <sup>tk</sup> _hook.a	The same for AIX
lib <sup>tk</sup> _hook.so	and for Linux and Sun Solaris
lib <sup>tk</sup> _shared.so	Library shared by Extension Manager Add-Ins, NSF Hooks and Grabbers
lib <sup>tk</sup> _shared.a	
n <sup>tm</sup> _grab.exe <sup>b</sup>	MailGrabber base module
n <sup>td</sup> _grab.exe <sup>b</sup>	DatabaseGrabber base module
nt_setup.exe	Installation module (for Windows only)

- a. The "n" at the beginning of the name is used under Windows only. Under Unix, there is no "n".  
 b. The "n" at the beginning of the name is used under Windows only. Under Unix, there is no "n" nor the extension .exe.



 **Notes**