

SITA



SITATEX v8
Message Daemon User Guide

SITATEX v8

Message Daemon User Guide

Document Title: **SITATEX v8**
 Message Daemon User Guide

Edition: **November 2010**

The information contained in this document is the property of SITA. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form, or by any means; electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of SITA. Legal action will be taken against any infringement.

The information contained in this document is subject to change without notice and does not carry any contractual obligation for SITA. SITA reserves the right to make changes to any products or services described in this document at any time without notice. SITA shall not be held responsible for the direct or indirect consequences of the use of the information contained in this document.

© SITA 2010

All rights reserved.

Preface

This book describes the basics of Message Daemon.

Audience

This document is intended for Message Daemon users.

Prerequisite knowledge

A basic knowledge of SITATEX is required.

Additional information

Online Help can be accessed from the application Help button or by pressing the F1 key.

Documentation

All of the documentation supplied with the product can be accessed from the **Start** menu > **Programs** > **SITATEX v8**.

Other information sources

Dial points of presence

The telephone numbers for all of the dial points of worldwide presence are available from the SITA Web site: www.sita.aero.

SITA Customer Help Desks

The telephone numbers for all of the worldwide SITA Customer Help Desks are available from the SITA Web site: www.sita.aero.

Type B messaging

A copy of the *Type B Service Reference Manual* by ordered by sending a request to Get.Sitatex.Software.Package@sit.aero.

Table of Contents

Preface.....	i
Chapter 1 Welcome to Message Daemon	1
Introduction.....	1
Terms used.....	1
Chapter 2 Architecture	2
Overview.....	2
SITATEX sending principles.....	3
SITATEX receiving principles.....	4
Chapter 3 Installation	5
Software requirements.....	5
Installation checklist.....	5
Installation process.....	6
Version checking.....	6
Chapter 4 Connecting to a Non-Windows System	7
UNIX systems.....	7
Macintosh systems.....	7
IBM AS/400 systems.....	7
Chapter 5 Configuration	8
Configuration prior to starting Message Daemon.....	8
Starting and initializing Message Daemon.....	11
Configuration parameters.....	13
How to use Message Daemon.....	15
Chapter 6 Message Daemon File Interface	18
File naming conventions.....	18
File processing.....	18
File structure.....	22
Fields.....	22
Appendix A Error Strings	31
Message server error strings.....	31
Message Daemon error strings.....	32
Appendix B Configuration File Contents	34
MessageDaemon.ini contents.....	34

Chapter 1 Welcome to Message Daemon

Introduction

Message Daemon allows developers of Type B messaging applications to interface with the SITATEX world.

This guide goes through the process of installing Message Daemon, configuring it with the other required components (including SITATEX) and interfacing Message Daemon with the user-developed messaging application.

Terms used

Configuration Tool	SITATEX program composed of the telecommunication and message server modules.
Control Center	SITATEX program that handles the communications (through a dialler application or your LAN connection) between SITATEX and the SITA network.
Telecommunication Module	SITATEX program in charge of exchanging formatted Type B segments and managing the Type B sessions (Open/Close...) with the SITATEX server.
Mail Manager	SITATEX program for managing mail: composing, sending, receiving, etc.
Message Server	SITATEX program in charge of interfacing with the telecommunication module, managing the reassembly/disassembly of Type B messages and the storing of messages.
Session Manager	SITATEX program where several users on the same Type B session address are configured.
Message Attachment Structure	SITATEX internal structure used in the communication queues to describe a sent or received message.
Messaging Application	The application Type B developers create to interface with the SITATEX world.

Chapter 2 Architecture

This chapter provides a basic description of the Message Daemon program along with an overview of SITATEX's sending and receiving principles.

Overview

The Message Daemon program runs in the background, and provides an interface between SITATEX message queues and a user-developed messaging application. It uses a simple file exchange mechanism and the SITATEX SDK facilities.

Message Daemon should run on the same PC as the messaging application where the Network Module is running.

The process relies on the detection of files located in the following folders:



These folders must be created before Message Daemon is run. Use Windows Explorer to create the folders anywhere on the PC.

When Message Daemon is launched the first time, the Configuration dialog box appears. In the IN/OUT Folder Path field, select the location where the "IN" and "Out" directories should be created. These folders are used for the following:

- Messages ready to be sent must be stored as files in a folder called **OUT**.
- Received messages must be stored in a folder called **IN**.

The **IN** folder also contains the **ATTCH'S** folder where Message Daemon stores document attached to received messages.

- All messages must be in ASCII format.

Note: *If the messaging application is not running on a PC, refer to Chapter 4, "Connecting a Non-Windows System."*

How it works

Using configurable timers, the Message Daemon program scans the **OUT** folder for messages to be sent and the SITATEX communication queues for received messages.

Sending messages

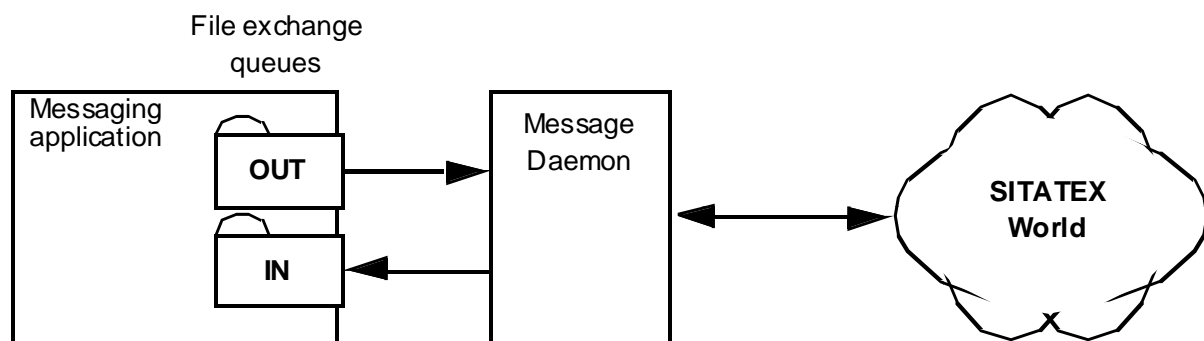
- Whenever a message is ready to be sent, the messaging application stores it in its **OUT** folder.
- When messages are detected by Message Daemon, it opens the message file, reads and checks its content.
- If the message content is correct, Message Daemon:

- Extracts the original message file elements and creates a reformatted message structure in a new file.
- Puts the new file in the SITATEX transmission queue.
- If the message content is not correct, a new file (with an **.ERR** extension) is created in the **IN** folder. A detailed error report is written in the header section of this new file, and the content of the original file is added at the end. This enables an operator or the messaging application to analyze the problem.

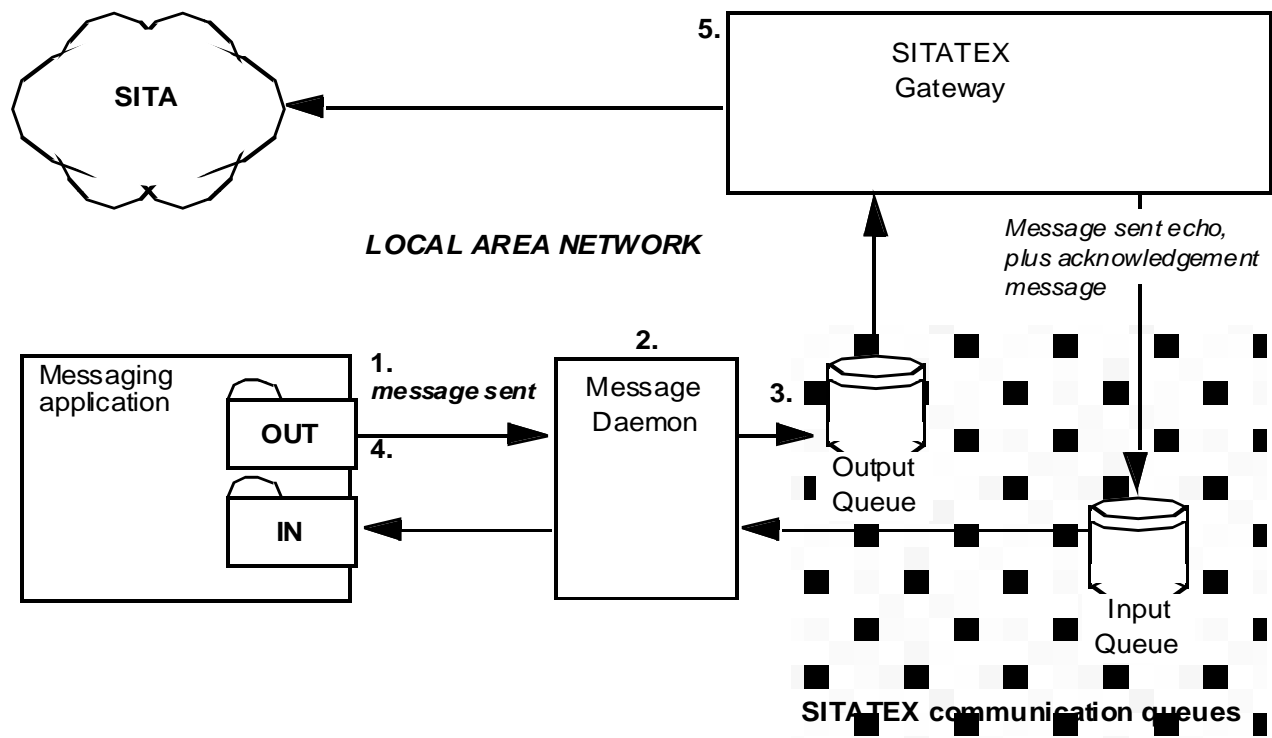
In either case above, Message Daemon removes the original file in the **OUT** folder.

Receiving messages

Whenever a message is present in the SITATEX reception queue, it is extracted, parsed and stored in a file (with a **.RCV** extension) in the **IN** folder.

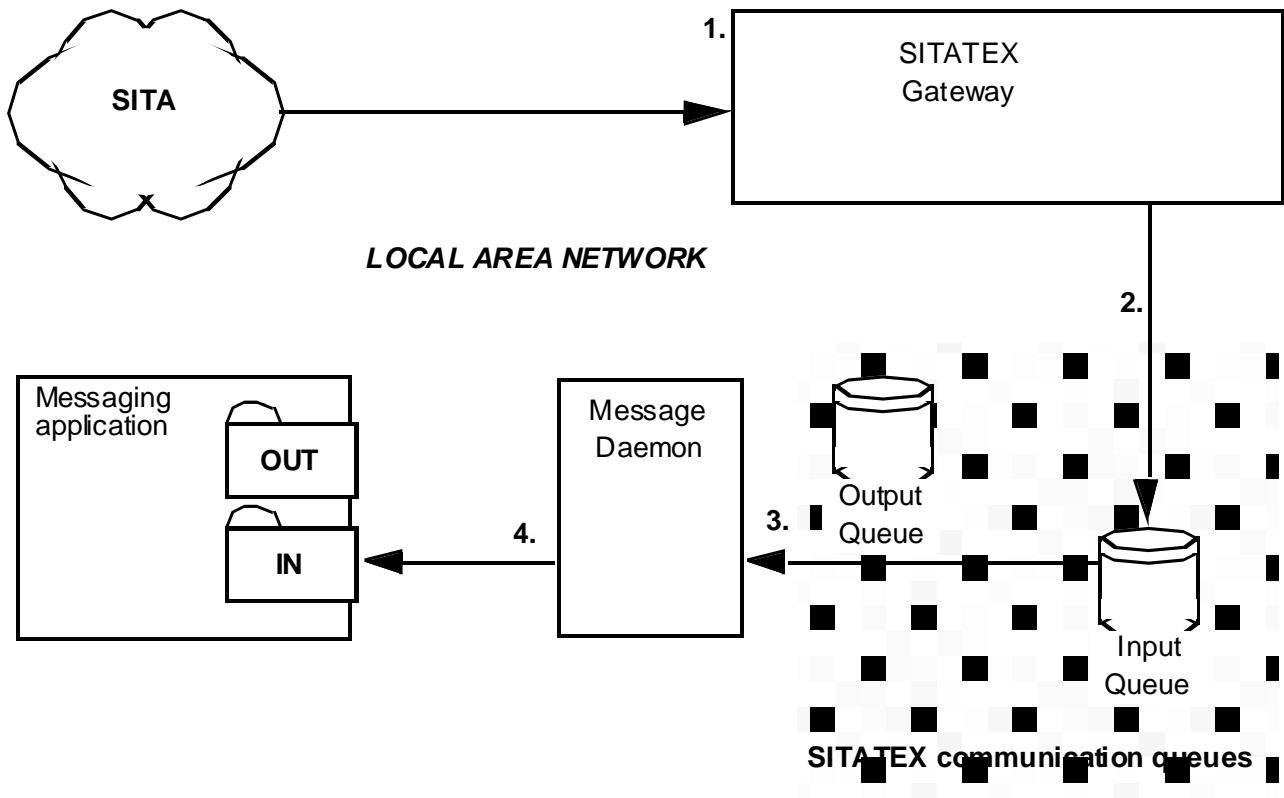


SITATEX sending principles



1. Message Daemon detects a message waiting to be sent in the messaging application's **OUT** folder.
2. Message Daemon verifies the message and creates a new file that contains a reformatted version of the original message.
3. Message Daemon stores the new message file in the gateway's output queue.
4. Message Daemon deletes the original message in the **OUT** folder.
5. The gateway reads and processes the original message to produce one Type B message and sends it on the SITA network.

SITATEX receiving principles



1. The incoming message is received from the SITA network. The gateway reassembles the message and/or attached documents if necessary.
2. The gateway puts the resulting message structure into the input queue.
3. Message Daemon extracts the message.
4. Message Daemon stores the message as a structured file in the messaging application's **IN** folder ready for processing.

Chapter 3 Installation

This chapter describes how to install Message Daemon. The demo and full versions of the application are installed the same way.

Hardware requirements

A PC with the following minimum hardware configuration is required:

- 1 GHz 32-bits (x86) or 64-bit (x64) processor
- 512 MB of RAM (1 GB is recommended)
- 1 GB of disk space
 - The total amount of disk space can be calculated as follows:
 - 15 MB x size of your message files x 100 MB = disk space required
 - SITATEX requires 15 MB for installation
 - The amount of disk space required to store your message files. (The size of your message files depends on how long the messages are to be stored and the number of messages that are received per day.)
- A monitor with a minimum resolution of 800 x 600 with 256 colors (1024 x 728 with high color is recommended)
- LAN connection
- A mouse or pointing device

Software requirements

Message Daemon does not include any telecommunication features. Therefore, the installation of SITATEX v8 is mandatory. If an earlier version of SITATEX is already installed, it is time to upgrade.

Message Daemon is compatible with SITATEX Multi-User and Single-User applications. For additional information about the software requirements, refer to the *SITATEX Multi-User Installation and Administration Guide* or the *Single-User Installation and Administration Guide*. To access these documents, SITATEX must be installed. Then from the **Start** menu, choose **Programs > SITATEX v8 > Documentation**.

Note: *Message Daemon v8 is only compatible with SITATEX v8.*

Installation checklist

Before launching Message Daemon for the first time, check the following:

- Message Daemon has been installed on your PC or LAN.
- The compatible version of SITATEX has been installed on your PC or LAN. Refer to the minimum software requirements identified earlier in this chapter.
- A SITATEX user has been configured for Message Daemon. A user consists of a:
 - Session identifier
 - User identifier
 - User password

Note: *If you are unsure of the SITATEX user configuration, refer to the "SITATEX configuration for Message Daemon" section in Chapter 3.*

- Set the shortcut to bypass the Log On dialog box. (Optional)
- The IN/OUT folders path has been created.

Installation process

It is important to note that when installing the 64 bit version of SITATEX, the default file path is different – "C:\Program Files (x86)\SITA\Message Daemon v8\." than the regular path "C:\Program Files (x86)\SITA\Message Daemon v8\".

Windows XP and Windows 2003 Server installation

1. Close all of the SITATEX modules.
2. Download the Message Daemon package.
3. Open *Windows Explorer*.
4. Open the directory where the package was downloaded.
5. Click on the **setup.exe** icon.
6. Click the **Next** button on the Welcome screen.
7. If the Destination Folder is not correct, click the **Browse** button and select a different drive.
8. Click the **Next** button in the Select Installation Folder.
9. Click the **Close** button to confirm the installation.

Windows Vista, Windows 2008 Server and Windows 7 installation

1. Close all of the SITATEX modules.
2. Download the Message Daemon package.
3. Open *Windows Explorer*.
4. Open the directory where the package was downloaded.
5. Right-click on the **setup.exe** icon, and then select **Run as Administrator from the menu**.
6. Click the **Next** button on the Welcome screen.
7. If the Destination Folder is not correct, click the **Browse** button and select a different drive.
8. Click the **Next** button in the Select Installation Folder.
9. Click the **Close** button to confirm the installation.

Version checking

Message Daemon is independent of the version of SITATEX installed on the user's PC. To check the version of Message Daemon, either look in the README file delivered in the package or click the About button in main window of Message Daemon.

Chapter 4 Connecting to a Non-Windows System

If the messaging application is running on a non-Windows system, the IN and OUT folder structure shared between Message Daemon and the messaging application must be located in one of the following areas:

- The PC disk where Message Daemon is installed.
- A common file server.
- The foreign system itself.

Message Daemon must see the common area as a mappable area. That does not mean that the storage space must be mapped on the PC. The IN/OUT folder path can be an URL such as:

\\TheForeignHost\UserApplic\SITA.Area\CommonFiles\MessageDaemon

or a mapped volume such as:

T:\MessageDaemon\XchangeArea

Note: *The tool required to share this storage space depends on the operating system.*

UNIX systems

GNU software called “Samba” is available for free from:

<http://www.samba.org>

An Apple OSX version of Samba should be available soon.

Macintosh systems

Thursby Software provides a solution called “DAVE”. Additional information is available from:

<http://www.thursby.com/default.html>

Note: *Samba is supposed to work, but a Macintosh version could not be found at this time.*

IBM AS/400 systems

Microsoft provides a solution for sharing disk space between AS/400 and PC systems. Additional information is available from:

<http://www.microsoft.com/hiserver/evaluation/previousversions/as400.asp>

TwinData provides a solution for the connection and exchange of files between the AS/400 and a PC called “Via BOSaNOVA”. This enables file transfer and handles EBCDIC/ASCII conversion in both directions. Additional information is available from:

<http://www.twindata.com/BOS/viabosanova.html>

Please note that versions of Samba exist for many other systems. For example, MVS.

Chapter 5 Configuration

This chapter describes how to configure Message Daemon. Configuration of the demo and full versions of Message Daemon are the same.

Configuration prior to starting Message Daemon

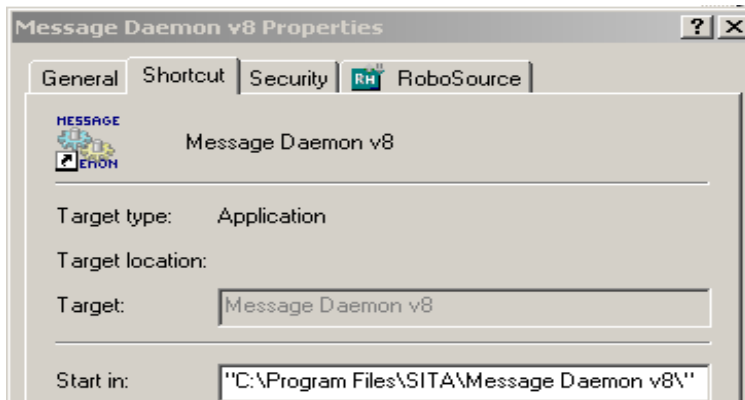
Once the Message Daemon is installed, do the following before opening the application:

- Set the shortcut to bypass the Log On dialog box.
- Create the IN/OUT folders path.
- Create SITATEX users

Setting the shortcut to bypass the Log On dialog box

Bypass the Message Daemon Log On dialog box by updating the logon parameters of the Message Daemon shortcut with the information identified in this section.

1. From the **Start** menu, choose **Programs > Message Daemon v8**.
2. Right-click on the **Message Daemon v8** shortcut.
3. Select **Properties**.



4. After the name of the program in the Target field, enter the following information in this format:
 - sss uuu password /K
 - sss is the session identifier, for example 000 for session 0.
 - uuu is the user identifier, for example 001 for user 1.
 - password is the user's password, for example PASSWORD.
 - drive is the drive letter where SITATEX is installed (e.g., S)

When starting Message Daemon from this shortcut, if the drive parameter is not specified or is incorrect, an error prompt is displayed and the program exits. If the session and/or the user identifiers are not correct, then the Message Daemon Log On dialog box is displayed.

Creating the IN/OUT folders path

Message Daemon can be run on the same PC as the messaging application or on separate PCs connected to a LAN file server (provided that the two PCs share a folder on the file server).

The process relies on the detection of files located in the following folders. They can be located anywhere on the PC.



Note: For additional information about the IN/OUT folders path, refer to the "Overview" section in Chapter 2.

Creating/Configuring Users

What kind of user?

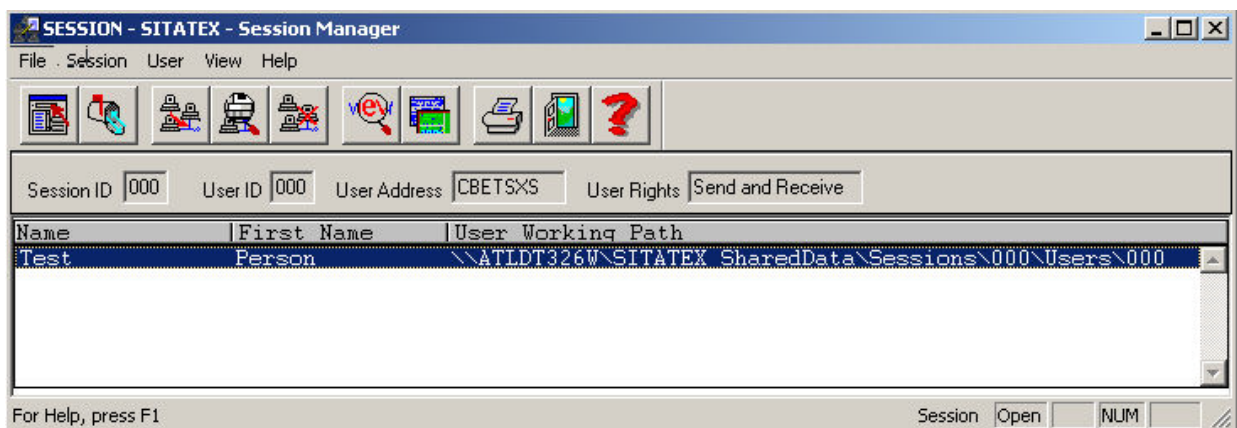
You must create a separate user for Message Daemon if you are already using the SITATEX Mail Manager. If you are using SITATEX only for its communication features to enable Message Daemon, the creation of a separate user is not necessary. However, it is helpful when testing the application.

Creating users in the Multi-User application

The SITATEX Session Manager is where users are created for Message Daemon.

To create a user:

- From the **Start** menu, choose **Programs > SITATEX v8 > Configuration > Session Manager**.
or
Right-click on the SITATEX icon in the taskbar, and then click on **Session Manager**.
- Log in to the Session Manager by supplying the correct session number and session password. (The picture below shows the Message Daemon user that has already been created.)



If you do not intend to use the SITATEX Mail Manager, only one user needs to be defined and configured.

Note: *This description assumes that one session and user has already been configured for the SITATEX installation. If this is not the case, create a session and user as described in the SITATEX documentation.*

In the Session Manager:

1. Either create a new user or edit an existing one.
 - To create a new user, choose the **User > New** menu option.
 - To edit an existing user, double-click on an existing user.

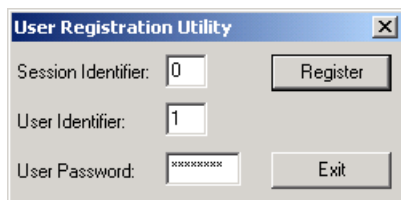
2. In the User Address field, make sure the user has a proper Type B address.
3. If necessary, change the Name and First Name fields.
4. Be sure that **Do not Allow Attached File Sending** is not checked.
5. In the User Rights group, select **Send and Receive**.
6. The user's default password is PASSWORD. If you want to change this, click the **Password** button and change the password.
7. Click the **Filters** button to open the Filters dialog box.
8. Ensure that the **No Forums** option is selected to disable forums. Message Daemon does not support forums
9. Click the **OK** button in the Filters dialog boxes.

The Message Daemon user is configured. Before you close the Session Manager, be sure to note the Session ID, the User ID and the password.

Registering the new user:

If you created a new user (rather than using an existing one), you must register the individual. On the user's PC, start the User Registration utility:

1. From the Start menu, choose **Programs > SITATEX v8 > Configuration > User Registration**.



2. Enter the correct session number and user identifier.
3. Click the **Register** button to create the configuration file.

The PC is now ready to use the Message Daemon application.

Creating users in the Single-User application

Configure the user in the Configuration Tool. For additional information, refer to the *Single-User Installation and Administration Guide*.

Note: *If the Message Daemon and the Mail Manager applications are opened together, all of the traffic may not be received in Message Daemon.*

Starting and initializing Message Daemon

Start the application

1. From the Start menu, choose **Programs > Message Daemon v8 > Message Daemon v8**.



2. Enter the parameters for the SITATEX Message Daemon user.

For the Single-User application, the login information is as follows:

- a. Session ID: 0
 - b. User ID = 0
 - c. Password = password
3. Click the **OK** button.

Message Daemon checks to make sure the parameters are valid. If are not valid, an error is displayed asking you to enter the parameters again.

Note: *When Message Daemon is run for the first time, a configuration file must be created. The Configuration dialog box displays immediately. See the "Configuration Parameters" section in this chapter.*

Message Daemon checks to make sure the parameters are valid. If are not valid, an error is displayed asking you to enter the parameters again.

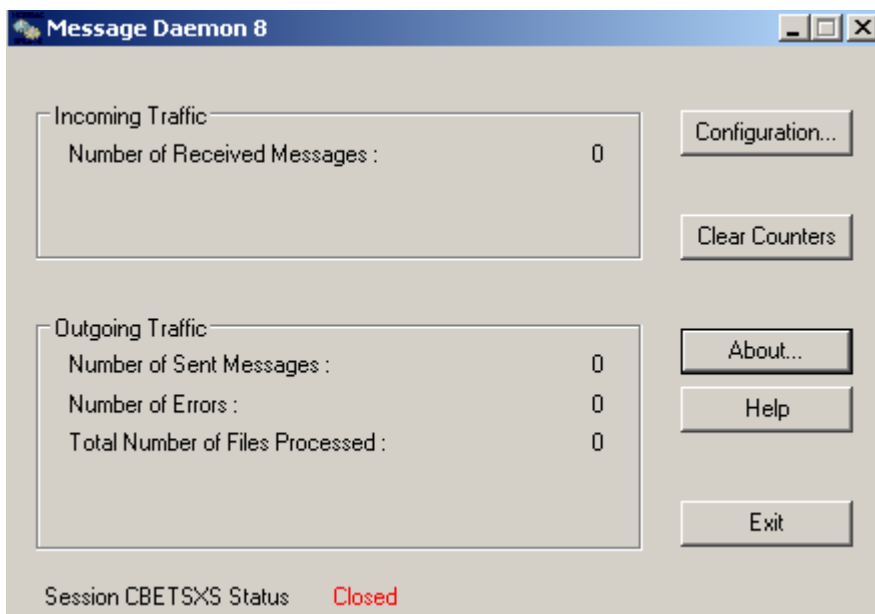
Initialization process

Message Daemon checks for the presence of a valid SITATEX installation and compatibility with the existing SITATEX configuration files.

- If Message Daemon encounters a problem, it displays a message that indicates what is wrong.
- If everything is fine, Message Daemon reads a configuration file.
- If something wrong is detected in the configuration file, Message Daemon displays an error and uses default values when possible.

Note: *When Message Daemon is run for the first time, a configuration file must be created. The Configuration dialog box displays immediately. See the "Configuration Parameters" section in this chapter.*

Once the configuration file is created and no errors occur when a user logs in, Message Daemon's main window is displayed:



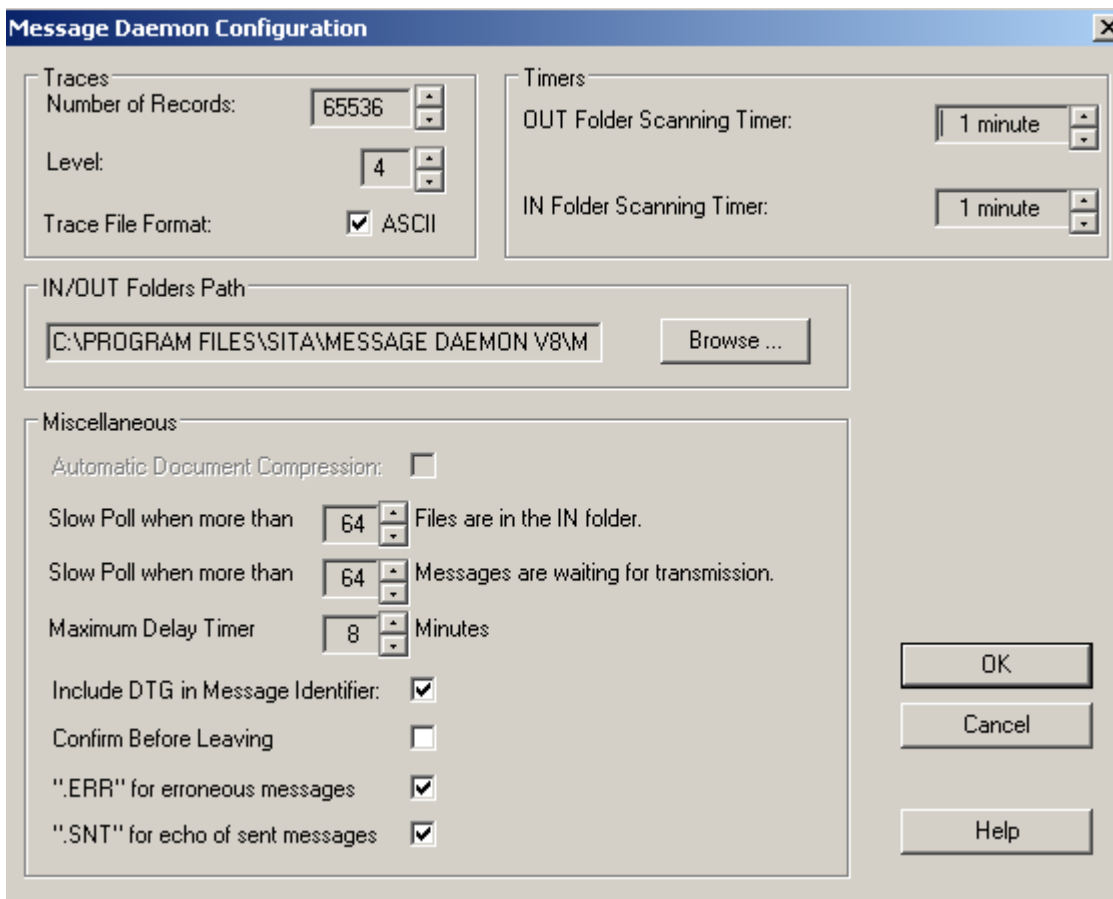
- If everything is fine, Message Daemon checks its ability to send and receive messages. This is configured in the SITATEX Session Manager:
- If the application is not allowed to send messages, the transmission process is not started. In this case, any message files stored in the OUT folder will be not processed. A level two information record is generated in the log file.
- If the application is not allowed to receive messages, the receive process is not started. In this case, Message Daemon cannot create files in the IN folder. In addition, any echoes of sent messages cannot be created. A level two information record is generated in the log file.

Note: *Echoes are sent messages that are returned by the gateway and put back in the IN\ directory. The message has been sent time stamped and is proof that the message was processed by the gateway. It is the equivalent of the sent message in the SITATEX IN/OUT folder.*

- If sending and receiving are permitted, the Message Daemon starts the two relevant processes. If there are not any messages to process, the related slow timers start; otherwise, the waiting messages are processed as described in the next chapter.

Configuration parameters

1. From the **Start** menu, choose **Programs > Message Daemon v8 > Message Daemon v8**.
2. Log on to the system.
3. When the Configuration dialog box appears, update the settings.



Traces

Message Daemon can generate ASCII trace files, which are stored in the SITATEX User Working Path. These files contain some or all of Message Daemon's events and actions according to the trace level parameter.

Trace file levels include the following information:

- Level 1: Displays critical errors, and includes the following:
 - ! 1 ! 08/22 11:02:57 ! MessageDaemon Vers. 8.0.11.0 Build 224 / 22-AUG-2010 Starts
 - ! 1 ! 08/22 11:02:57 ! Loaded DLL: XsCom32.DLL: 8.0.11.15; Working on SITATEX Vers.: 8.0.11.0
 - ! 1 ! 08/22 11:02:57 ! Addr: Session: QNJAJXS ; User: QNJAJXS ; Idx: Session: 003 ; User: 000
 - ! 1 ! 08/22 11:02:57 ! Telco: WS Multi-Session: STX_WIN_GW_WS____
 - ! 1 ! 07/13 16:18:55 ! MessageDaemon Stops

The following warnings were added about the regulation flag system for clarity:

```
! 1 ! 07/13 14:49:39 ! Regulation flag OUT: ACTIVE
! 1 ! 07/13 14:49:39 ! Regulation flag OUT: INACTIVE
! 1 ! 07/13 14:49:39 ! Regulation flag IN: ACTIVE
! 1 ! 07/13 14:49:39 ! Regulation flag IN: INACTIVE
```

- Level 2: Displays errors
- Level 3: Displays warnings
- Level 4: Displays information

Options

Trace File Format

Check ASCII to generate trace files in ASCII format.

- Trace file is saved with the extension .LOG.
- Configuration file: AsciiLogFile parameter is set to Yes.
- Trace file can be displayed with any ASCII text viewer.
- ASCII trace is the default setting.

If you do not want to generate trace files, leave ASCII unchecked.

Number of Records

Select the maximum number of records the trace file can hold. When this number is reached, the current log file is renamed and a new one is created. The ASCII log file is renamed from MESSAGEDAEMON.LOG to MESSAGEDAEMON.OTX.

Level

Select the level of information you want recorded in the log file. The higher the number, the more information is recorded.

IN/OUT folders path

Click the Browse button to navigate to the messaging application path where the IN and OUT folders are located.

The complete path name of the interface folder is a mandatory parameter.

If the IN and OUT folder structure does not already exist, Message Daemon creates the IN and OUT folders as well as the ATTCH'S folder (within the IN folder). This parameter is saved in the .INI file (see "Configuration file contents" in Appendix B.).

This path is retrieved when you open Message Daemon. If it is invalid, the Configuration dialog box is displayed until you enter a valid path.

Timers

When traffic is detected either in the OUT folder or in the SITATEX communication queue, Message Daemon processes this traffic as fast as possible until no more traffic is detected.

So that Message Daemon does not scan the disk too frequently when there is no traffic, a slow poll timer mechanism is set up using two different values. One is to tune access frequency to the OUT folder while the other tunes access frequency to the SITATEX communication queue.

- **OUT Folder Scanning Timer:** Select the interval that Message Daemon should wait before checking the OUT folder for new messages to be sent. The default setting is for one minute. If there are no messages, the timer resets to zero and starts again.
- **IN Folder Scanning Timer:** Select the interval that Message Daemon should wait before checking the SITATEX communication queues for received messages. The default setting is for one minute. If there are no messages, the timer resets to zero and starts again.

Miscellaneous

- **Maximum Delay Timer**
 - Set the maximum delay allowed between two successive polls.
 - When the traffic flag is raised, the delay between two successive polls is doubled each time the restart condition fails.
 - The default setting is eight minutes.

Note: See the "Traffic Regulation" section in Chapter 6 for more details.

- **Include DTG in Message Identifier**

Check this option if you want to include the DTG.

The DTG (Date Time Group) is a time stamp automatically added to the origin address line in the Message Identifier field of Type B messages. This field is not mandatory. The absence of the DTG allows seven extra characters for the Message Identifier text.

- **Confirm Before Leaving**

Check this option to display a confirmation dialog box when closing Message Daemon.

- **"ERR" for erroneous messages**

Check this option to store error messages with the file extension .ERR. If this is not checked, these files are stored with the extension .RCV.

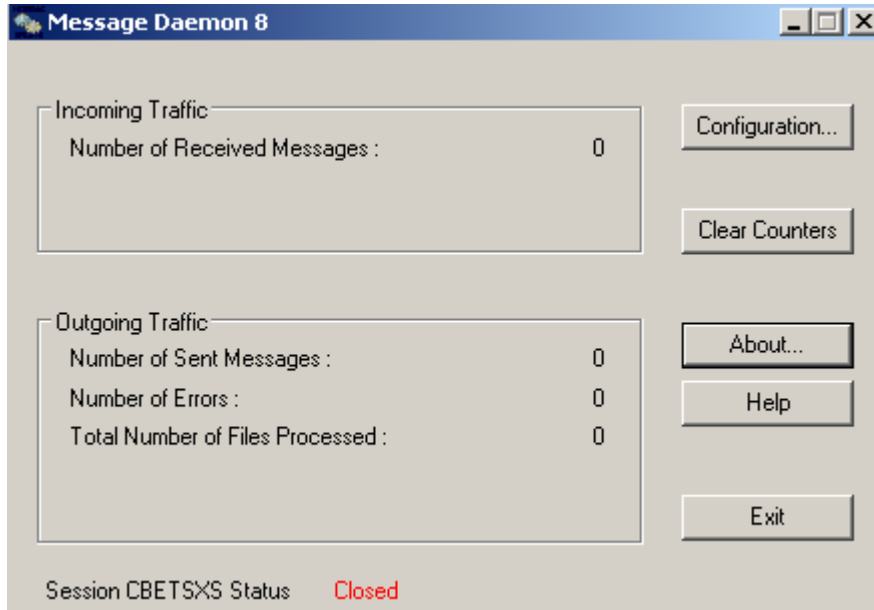
- **"SNT" for echo of sent messages**

Check this option to store the echo of sent messages with the file extension .SNT. If this is not checked, these files are stored with the extension .RCV.

How to use Message Daemon

In a LAN environment, Message Daemon's user interface can be accessed remotely.

Message Daemon's main window



Incoming traffic group

The main window displays activity statistic figures collected by Message Daemon in real time. The statistics are saved in a file periodically or when Message Daemon is closed. They are reloaded when Message Daemon is reopened

Outgoing traffic group

- **Number of Sent Messages:** Displays the number of messages generated from the files located in the interface OUT folder.
- **Number of Errors:** Displays the number of files that have not been processed. A failure report has been generated for them. This is especially useful during the debugging phase of the messaging application because it shows that there is something wrong immediately.
- **Total Number of Files Pocessed:** Displays the number of outgoing message files processed by Message Daemon (Number of Sent Messages + Number of Errors).

Buttons

- **Configuration:** Opens the Configuration dialog box where you can view and change all of the configuration parameters: the trace, interface root folder location, timers, etc.
- **Clear Counters:** Resets the contents of the statistics on the screen and in the .INI file.
- **About:** Displays version details for the Message Daemon components:
- **Support:** Sends a message to SITA Support. This message contains information about your PC and SITATEX configuration. An example of the support message can be seen in the next section. (The button is only available in the About dialog box.)
- **Help:** Displays Message Daemon's online Help.
- **Exit:** Closes Message Daemon.

Support message example

Message Subject: Support Report for QNJAAXS
QNJAAXS is the customer's Type B address.

Contents of the support msg:

START of REPORT - 2010/11/09 10:46:36

----- SITATEX Information -----

MessageDaemon vers.	8.0.11.0
XSCOM32.DLL vers.	8.0.11.15
User Address	QNJAAXS
Session Address	QNJAAXS
User Working Path	\\PC-SEVEN\SITATEX SharedData\Sessions\000\Users \000\
MessageDaemon Itfc Path	E:\MESSAGEDAEMONDATA\
SITATEX System Path	C:\Program Files\SITA\SITATEX v8\SharedData\Config
TimeShift:	00h00
Windows TimeZone:	(UTC+01:00) Brussels, Copenhagen, Madrid, Paris

----- Windows Information -----

Microsoft Windows 7 Ultimate (Version: 6.1.7600)

Localization:

System Country:	United States
System Language:	English
User Country:	United States
User Language:	English

----- Hardware Information -----

Number of CPU(s): 1
CPU Name: Intel(R) Pentium(R) 4 CPU 3.40GHz
CPU Type: x64 Family 15 Model 4 Stepping 3
CPU Frequency: 3400 MHz
Total Memory: 2048 MBytes
Free Disk (C:): 64706 MBytes

END of REPORT

Access the Configuration dialog box

To access the configuration parameters, click the Configuration button to display the Configuration dialog box.

Chapter 6 Message Daemon File Interface

This chapter describes the file interface mechanism used to communicate between Message Daemon and the messaging application.

File naming conventions

All files are stored in the IN, OUT and ATTCH'S folders of the messaging application. They should follow these naming conventions:

- Files containing messages to be sent have the extension .SND.
Responsibility: Messaging application.
Note: Message Daemon deletes these files once they have been successfully sent.
- Files containing messages received have the extension .RCV.
Responsibility: Message Daemon.
Note: The messaging application must delete these files once they have been processed.
- Echoed messages awaiting acknowledgement from the SITATEX server have a .WIN extension. When an acknowledgement is received, the .WIN extension is renamed to either .RCV or .SNT, depending on the configuration setting in Message Daemon. See the Flow Diagram of the Traffic Regulation Mechanism that follows.
Responsibility: Message Daemon.
- Files that contain errors have either a .ERR or .RCV extension, depending on the configuration setting in Message Daemon. These files contain an error message describing the problem.
Responsibility: Message Daemon.
Note: The messaging application must delete these files once they have been processed.
- Attached files received are stored in the ..INATTCH'S folder. They have a .ATT extension.
Note: The messaging application must delete these files once they have been processed.
- The file name format is free but should follow the DOS file name rules. In order to provide an easy way to process messages in a chronological order, each new file name should have a value that puts it at the top of the list when sorting alphanumerically.

For example, you could build file names using hexadecimal notation: from 00000000 to FFFFFFFF. You should restart from 00000000 when there are no more files with the same extension in the relevant folder.

File processing

Sending files

Message Daemon regularly polls the OUT folder for files with the .SND extension. Therefore, your messaging application should use a different extension before the file is complete and ready to send. Once it is ready, your messaging application should rename the file with the .SND extension.

(Message Daemon creates temporary files during message processing. They are renamed when they are ready.)

Transmission process

1. When the slow poll timer expires, Message Daemon lists the OUT folder files with a .SND extension. If no file is found, the slow poll timer is restarted (see the "Traffic regulation" section in Chapter 6 for more details.)
2. If at least one file is found, the file list is kept in memory and sorted alphanumerically. The file with the 'lower' file name is opened and remains open until it is completely processed.
3. If an error is detected, a .ERR file is created in the IN folder and opened. Message Daemon stores the details of the detected error (see the "Message Dameon error strings" section in Appendix A) in the file header and appends the entire file when it is produced by the messaging application.

The .SND file in the OUT folder is deleted by Message Daemon, and then its file name is removed from the previously constructed file list.

4. If an error is not detected, the created message is stored in the Communication queue and the .SND file is closed.

The .SND file in the OUT folder is deleted by Message Daemon, and its file name is removed from the previously constructed file list.

5. If the file list is not empty, Message Daemon takes the next file from the list and processes it (as described in step 2 - 4) until the file list is empty.

Reception process

When the slow poll timer expires, Message Daemon checks the SITATEX Communication queue for a message to be processed (see the "Traffic regulation" section in Chapter 6).

1. If no message is waiting, Message Daemon restarts the slow poll timer.
2. If a message is waiting, Message Daemon creates a temporary file. The received message is processed, and its elements are written to the output file. The file is closed when it is complete.
3. Message Daemon constructs the final output file name that has this format:

<date and time in hexadecimal>.RCV

If a file already exists with this name, the number is incremented until it is possible to assign a unique name.

Note: The same naming convention applies to echo messages returned from the SITATEX gateway, except that the file extension is now .WIN.

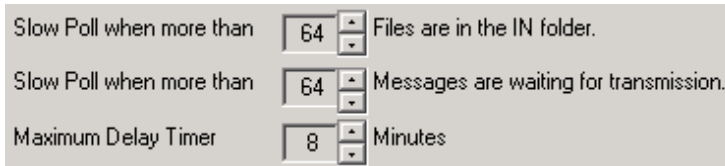
4. Any .WIN files (awaiting the SITATEX server delivery acknowledgement) that receive this acknowledgement are renamed to .RCV (or .SNT depending on the configuration parameters).
5. If no more messages are waiting in the SITATEX queue, the slow poll timer is restarted; otherwise, the process described in step 2 above is restarted until there are no more messages waiting.

Note: *It is the messaging application's responsibility to delete files from the IN folder after they have been processed.*

Traffic regulation

Message Daemon uses a traffic regulation mechanism, which avoids system saturation when there are too many files to process in the IN or OUT folders. The following steps describe how the system processes the IN folder traffic (the OUT folder is handled identically):

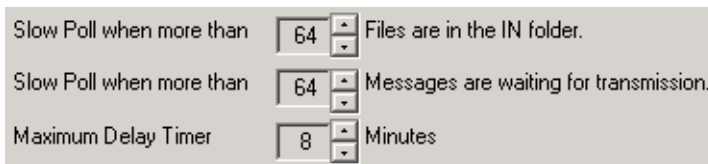
1. Message Daemon finds out how many files are in the IN folder. The number of files depends on how many were put there by Message Daemon and how many have been deleted by the messaging application after being processed.
2. If the number of files in the IN folder is above the value set in the Configuration dialog box:



The screenshot shows a configuration dialog box with three settings:

- Slow Poll when more than Files are in the IN folder.
- Slow Poll when more than Messages are waiting for transmission.
- Maximum Delay Timer Minutes

Message Daemon puts the “Process incoming files and put them in the IN folder” task to sleep for a fixed interval. The interval starts at two minutes. Its ceiling is the value set in the Configuration dialog box:



The screenshot shows a configuration dialog box with three settings:

- Slow Poll when more than Files are in the IN folder.
- Slow Poll when more than Messages are waiting for transmission.
- Maximum Delay Timer Minutes

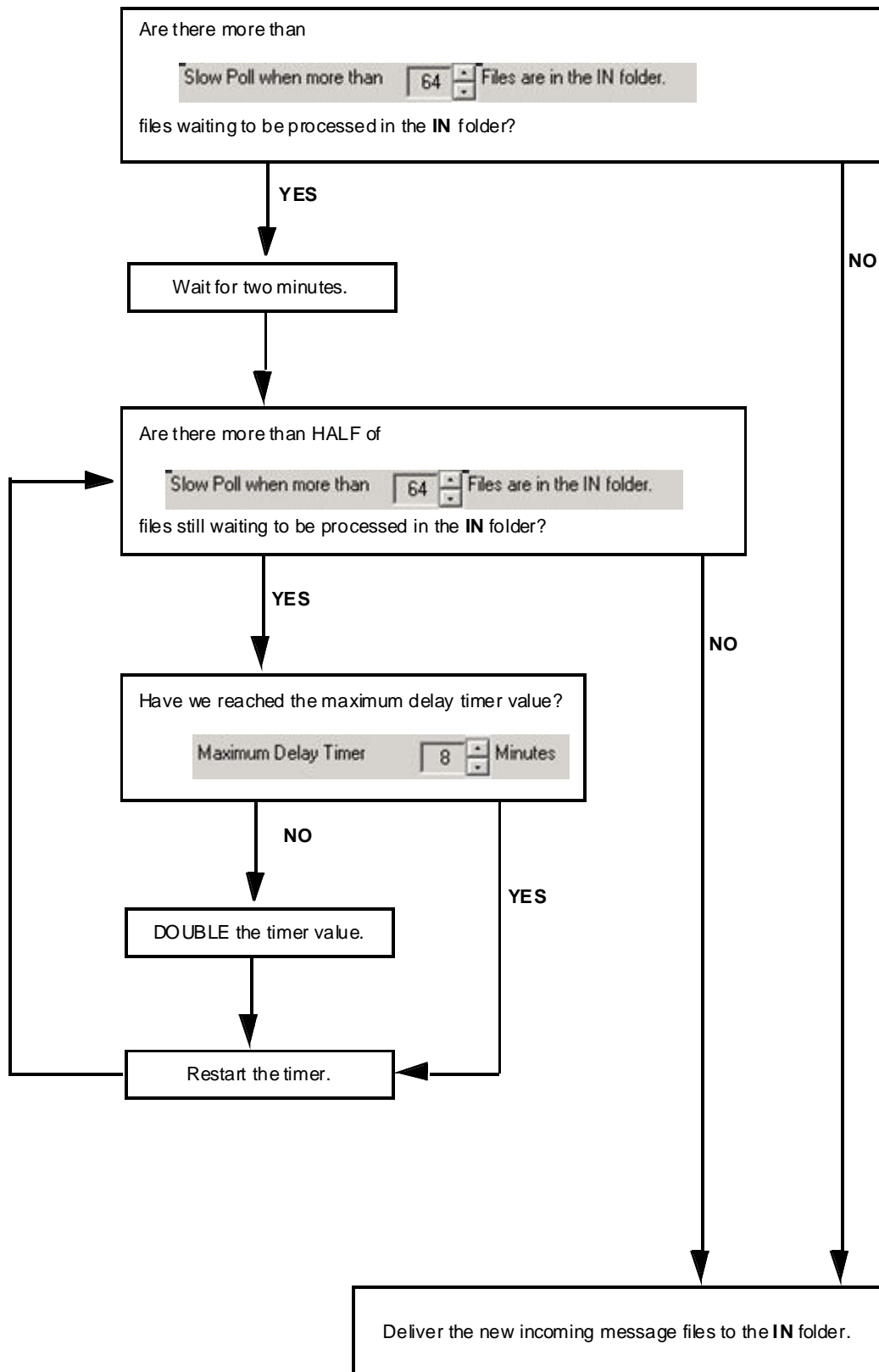
This allows the messaging application time to process the incoming files.

3. After the timer has expired, Message Daemon finds out how many files are in the IN folder again.
4. If the number of IN folder files is still below the allowed maximum, then Message Daemon doubles the current timer value and continues the “sleep” state. (Message Daemon can continue doubling the timer value until it reaches the maximum delay timer value set in the Configuration dialog box)
5. If the number of IN folder files has fallen to half the number of files allowed (in this case 32), then Message Daemon runs the “Process incoming files and put them in the IN folder” task.

The status of this process is shown on a progress bar and a countdown in the Message Daemon main window.

This mechanism allows:

- The messaging application the time to process waiting files. (For example, if it is not fast enough to process all of the incoming messages, it has been stopped or its PC is too slow.)
- The SITATEX communication layers the time to deliver them to the network.

Flow diagram for the traffic regulation mechanism (IN folder is displayed)

File structure

The file structure for sent and received messages is identical. It is based on a set of keywords identifying the fields followed by the field value(s). The file can be edited with any ASCII editor.

- A field keyword is identified by an equal sign '=' at the first character position of a line.
- The keyword's name is located immediately after the equal sign followed by a carriage return/line feed sequence. Its value is not case sensitive.
- The field value(s) are located on the line(s) following the keyword line until a new equal sign is detected at the start of a new line (or the end of the file is reached).
- Only the first occurrence of a keyword is processed; all the others are ignored.
- Any keyword that is not found in the table below is ignored, including all text that follows until a new valid keyword is detected.
- Keywords can be stored in any order for transmission messages, but Message Daemon will always store them in the order defined in the table below.
- Only the keywords indicated as mandatory in the table below are necessary in the file; all the others can be omitted or present with or without their field(s).
- All lines must be terminated with a CR/LF sequence.

Fields

Field keyword	Mandatory	Meaning
HEADER	No	Message information header.
PRIORITY	No	Message priority.
DESTINATION TYPE B	Yes	List of the Type B destination addresses.
ORIGIN	No	Message origin address, defaulted to the user station address.
DBLSIG	No	Message double signature.
MSGID	No	Origin line message identifier.
SUBJECT	No	Message subject.
SMI	No	Standard Message Identifier.
FAX HEADER	No	Fax header. Only relevant when the fax gateway Type B is in the destination list.
TEXT	Yes	Message text part.
ATTACHMENTS	No	List of document file names attached to the message

=HEADER keyword

This optional field has different values depending on whether it was created by the messaging application or Message Daemon.

Message Daemon header values

This parameter contains general information on the message to report the status on the processing of the message (e.g., the message type, processing date and UTC time).

Format

Sent messages:

SND, <UTC time, YYYY/MM/DD HH:MM>

Messages not sent because of the detection of an error:

SER, <UTC time, YYYY/MM/DD HH:MM>

<one or more lines detailing the error – see "Error strings" in Appendix A>

Successfully received messages:

RCV, <UTC time, YYYY/MM/DD HH:MM>

Received messages with an error:

RER, <UTC time, YYYY/MM/DD HH:MM>

<one or more lines detailing the error – see "Error strings" in Appendix A>

Examples

1. Message sent, no error reported:

```
=HEADER
SND,2004/04/14 11:45
```

2. Message received, no error reported:

```
=HEADER
RCV,2004/04/14 11:47
```

3. Message sent, one error reported:

```
=HEADER
SER,2004/04/14 11:45
Error: At least 1 line is too long
```

4. Message received, one error reported:

```
=HEADER
RER,2004/04/14 11:45
Incomplete Attachment
```

=PRIORITY keyword

This optional field contains the message priority.

For received messages, it contains the message priority if present. If absent, the keyword is not defined.

For sent messages, it must contain the code to be used as message priority. If invalid, an error is reported (see "Error strings" in Appendix A).

Format

Two letters, anything other than the values below are considered as normal priority.

QU	highest
QN	normal
QD	lowest

Examples

1. Operationally urgent message:

```
=PRIORITY
QU
```

2. Deferred, delivered after all other messages cleared:

```
=PRIORITY
QD
```

=DESTINATION TYPE B keyword

This keyword and field contents are mandatory. They list the destination addresses of the message. There can be up to 32 destination addresses defined for messages to be sent. Received messages cannot have more than 32 addresses because of Type B constraints. Each address is defined on a separate line.

Format

Defining a destination address requires a mandatory address type identification, the Type B address itself and an optional string describing the extended address value if applicable (e.g., for fax, Internet or X.400 addresses).

Address types:

Keyword	Recipient Address type
STX	Type B station address: SITATEX or other. (See note 1 below.) Format: =DESTINATION TYPE B STX, destination Type B address
RTB	RTB server. (See note 2 below.) Format: =DESTINATION TYPE B RTB, RTB Gateway Type B address, destination Type B address
FAX	BFAX server. (See note 2 below.)

	<p>Format:</p> <p>=DESTINATION TYPE B FAX, BFAF Gateway Type B address, destination telephone number</p> <p>destination telephone number: the full number including the international code.</p> <p>Example:</p> <p>33492966485</p>
TELEX	<p>TELEX server. (See note 2 below.)</p> <p>Format:</p> <p>=DESTINATION TYPE B TELEX, TELEX Gateway Type B address, destination TELEX address</p>
LOCAL	<p>SITATEX local LAN address. (See note 2 below.)</p> <p>Format:</p> <p>=DESTINATION TYPE B LOCAL, local Gateway Type B address, sssuuu</p> <p>sssuuu: session and user number, where: sss=three-digit session number uuu=three digit user number.</p> <p>Example:</p> <p>014001 is session 14, user 1.</p>
INTERNET	<p>Internet. (See note 2 below.)</p> <p>Format:</p> <p>=DESTINATION TYPE B INTERNET, Internet Gateway Type B address, destination Internet address</p>
FDS	<p>Enhanced Fax Delivery Service server. (See note 2 below.)</p> <p>Format:</p> <p>=DESTINATION TYPE B FDS, Fax Delivery Service gateway Type B address, destination FDS address</p>
EXTENDED	<p>X.400. (See note 2 below.)</p> <p>Format:</p> <p>=DESTINATION TYPE B EXTENDED, X.400 gateway Type B address, destination X.400 address</p> <p>Example:</p> <p>EXTENDED,QNJXAXS,c=ww/a=sitamail/p=gmsmail/o=sita/s=smith/g=john/</p>

Notes:

1. When addressing a native Type B recipient, the address definition line contains two fields separated by a comma. Everything else on the line is ignored:
 - a. The address type identification is a string describing the address type: STX.
 - b. The Type B address in seven or eight characters.

CPYXXXX addresses must be entered just like any other addresses in the destination address list. If they are not valid, an error is reported ("Error strings" in Appendix A).
2. When addressing a non-native Type B recipient (LOCAL, FAX, INTERNET, etc.), the address definition line contains three fields separated by commas:
 - a. The address type identification is a string describing the address. For example, use the EXTENDED keyword when addressing an X.400 recipient. For a list of possible keywords, see the table in the "=DESTINATION TYPE B keyword" section in this chapter.
 - b. The optional Type B address (seven or eight characters) of the gateway. SITATEX contains a table defining the default addresses for most of the gateways. Leave this field empty to use the default address for the given type of address entered. If it is not valid, an error is reported (see "Error strings" in Appendix A).
 - c. The extended destination address string. This string should contain all of the necessary elements for the gateway to address the recipient.

Examples

1. Only one SITATEX Type B address:


```
=DESTINATION TYPE B
STX,NCESHXS
```
2. Four Type B addresses, one in action and two on copy, one of them being local:


```
=DESTINATION TYPE B
STX,NCESHXS
STX,CPYXXXX
STX,UNKNOWN
LOCAL,NCESHXS,014001
```
3. One SITATEX Type B address and a fax number using the default gateway address:


```
=DESTINATION TYPE B
STX,NCESHXS
FAX,,33492966485
```
4. One SITATEX Type B address, a fax number specifying the gateway address, an X.400 recipient specifying the gateway address and an Internet recipient with the default gateway address:


```
=DESTINATION TYPE B
STX,NCESHXS
FAX,HDQFAXS,33492966485
EXTENDED,QNJXAXS,c=ww/a=sitamail/p=gsmmail/o=sita/s=smith/g=john
INTERNET,,john.smith@sita.int
```

=ORIGIN keyword

This optional field contains the message's Type B origin address. If it is not specified, the configured session address will be used.

Format

It can be either a seven or eight character address and must respect the standard Type B address format. If it is not valid, an error is reported (see "Error strings" in Appendix A).

Example

Seven-character origin address:

```
=ORIGIN  
NCESHXS
```

=DBLSIG keyword

This optional field contains the message's double signature. This field is used if the transmission cost for the message is not to be charged to the originator but to another network user. It is necessary to have an agreement between the concerned parties to use this function.

Format

It can be either a two or three alphanumeric character airline designator. If it is not valid, an error is reported (see "Error strings" in Appendix A).

Example

Two-character airline designator:

```
=DBLSIG  
XS
```

=MSGID keyword

This optional field contains the message identifier. Contents of this field appear on the line below the origin address. It is used by the originator to identify the message.

Format

Length is different between sent and received messages as SITATEX automatically adds the message month and year to this field for transmitted messages.

Maximum length for transmitted messages is 30 characters if the configuration field option Include DTG in Message Identifier is checked. If it is not checked, it is 37 characters.

Maximum length for received messages is 37 characters.

Only alphanumeric characters are supported. If they are too long or not valid, an error is reported (see "Error strings" in Appendix A).

Example

Twenty-character message identifier:

```
=MSGID  
This is my message ID
```


=SUBJECT keyword

This optional field contains the message subject.

Format

It can contain up to 69 printable characters. If it is longer or it is not valid, an error is reported (see "Error strings" in Appendix A).

Example

Twenty-six (26) character long message subject:

```
=SUBJECT  
This is my message subject
```

=SMI keyword

This optional field contains the Standard Message Identifier (SMI). The SMI appears on the line below the origin address line. It is often used to identify computer messages.

Format

It must be three alphanumeric characters. If it is not valid, an error is reported (see "Error strings" in Appendix A).

Example

Three-character SMI:

```
=SMI  
BAS
```

=FAX HEADER keyword

This optional field contains the Fax Header. Its content is printed on a separate fax cover sheet before the message. If it is present in the Type B message, it is placed after the SMI. An error is reported if none of the destination addresses are identified as valid fax destinations (see "Error strings" in Appendix A).

Format

This is free text that can contain up to 2,500 printable characters. Each text line cannot be more than 60 characters long and must follow Type B rules with respect to forbidden sequences. If it is not valid, an error is reported.

Example

Two-line fax cover sheet:

```
=FAX HEADER  
Attn: my customer  
From: myself
```

=TEXT keyword

This keyword and field contents are mandatory. This field contains the text part of the message.

Format

Size is limited to 49,152 bytes and it must follow the Type B rules with respect to forbidden sequences, maximum line size, etc.

Valid characters range from 20 hex to 7E hex, plus carriage return (0D hex), line feed (0A hex), tab (09 hex), bell (07 hex) and form feed (0C hex) characters.

All characters are considered as belonging to the text until the end of the file is reached or until an equal sign is found at the beginning of a new line.

An error report is generated if anything wrong is detected (see "Error strings" in Appendix A).

Example

Message text of three lines:

```
=TEXT
This is multiple line text
which is displayed
in the text part of the message.
```

=ATTACHMENTS keyword

This optional field contains the list of attached files.

There cannot be more than 10 attached files per message, each of which cannot be greater than 2 MB (after the Type B conversion process).

Each attachment is listed on a separate line. If more than 10 attached files are listed, an error is reported.

If any file after the Type B conversion is greater than 2 MB, neither the message nor the attached files are sent, and an error is reported by the message server (see "Error strings" in Appendix A).

For received messages, attached files are automatically exported into the folder called ATTCH'S. Their file names are generated by the Message Daemon, and take the format of a sequential number for the file name part with a .ATT extension.

It is the responsibility of the messaging application to remove the attached files from the ATTCH'S folder when these files have been processed.

Format

Each line contains the complete path and file name of the attached file. The maximum length is 80 characters.

- For sent messages, no other parameter is required.
- For received messages, each line contains two parameters separated by a comma (,) character:
 - The file name of the attached file is generated by the Message Daemon in the ATTCH'S folder.
 - The original file name of the document is given by the originator.

Note: *In the case of attachments coming from an X.400 source, the message subject is displayed in this field rather than the file name.*

Examples

1. Two files to attach to a send message:

```
=ATTACHMENTS  
C:\AUTOEXEC.BAT  
C:\WINDOWS\WIN.INI
```

2. Three attached files in a received message:

```
=ATTACHMENTS  
01AE3BCD.ATT,C:\AUTOEXEC.BAT  
01AE3BCE.ATT,C:\WINDOWS\SYSTEM.INI  
01AE3BCF.ATT,C:\WINDOWS\WIN.INI
```

Appendix A Error Strings

This appendix describes the list of text errors returned by the various components of SITATEX and stored in the HEADER section of the file.

The Appendix contains the following sections:

- Message server error strings
- Message Daemon error strings

Message server error strings

Sent message information strings

The following user information message strings refer to sent messages.

Information String	Action
Invalid local address for the following recipients	Regenerate the local LAN address book.
Invalid Type B Address	Ensure that the Type B Address is composed of seven or eight alphanumeric characters.
No extended address for X.400 recipient	Ensure that the X.400 address is available.
Document must be attached to Type B or X.400 recipient	Only Type B or extended (X.400) recipients are allowed to attach documents.
A document is empty	Resend the document with a size greater than zero.
Message header too long	Increase the message segment size or reduce the number of recipients.
Max number of parts reached	Increase the message segment size or reduce the message size.
Max number of document segments reached	Increase the document segment size.
Document size too big	Reduce the size of the document.
Attached document missing	Ensure that the referenced file exists and resend the attachment.

Received message information strings

The following user information message strings refer to received messages.

Information String	Probable Cause	Action
Message incompletely received missing part number:	Incomplete multiple-part message.	Ask the originator to resend the message.
Incomplete attachment	Incomplete document attached.	Ask the originator to resend the document.

Message Daemon error strings

The following errors can be generated by Message Daemon when checking messages to be sent. For the mandatory keywords, it is recommended to verify first that the given keyword is present in the file and with the correct syntax. Suggested actions assume that the keyword is present and correct. The information string is preceded by the line number where the error has been detected.

Information String	Keyword	Action
Action forbidden by configuration		Check and modify user rights using the Session Manager program.
Message text missing	Text	Keyword not defined or no text is found.
Forbidden string "ZCZC", "NNNN" or equal sign (=) on first column	Text or Fax Header	Check that text does not contain any of the following sequences: ZCZC, NNNN or = at the beginning of a line.
Text is too long	Text	Reduce size up to 49,152 characters.
At least one line is too long	Text or Fax Header	A line is greater than the maximum allowed.
No BFAF destination address	Destination type B or Fax Header	A BFAF header is present, but there is no BFAF address in the recipient list.
Incorrect priority	Priority	A field must only contain two alphabetic characters.
Incorrect Type B destination address	Destination Type B	Check the syntax of the addresses according to the defined rules.
Syntax error or unknown keyword	Destination Type B	One of the address type's keyword is unknown.
Incorrect Type B origin address	Origin	Check the syntax of the origin addresses according to the defined rules.
Change of origin address forbidden	Origin	Modify Edit Address Privilege check box using the Configuration Tool program.

Too many destination addresses	Destination type B	Reduce the number of destination addresses.
Incorrect extended address	Destination type B	Check the format of the non-Type B element of the extended address.
Incorrect double signature	DbISig	Check the field length and syntax.
Incorrect message identifier	MsgId	Check the field length and syntax.
Incorrect subject	Subject	Check the field length and syntax.
Incorrect SMI	SMI	Check the field length and syntax.
Forbidden character(s) in BFax header	Fax Header	Only printable characters are supported
BFax header too large	Fax Header	Check the field length.
Too many attached files	Attachments	Leave only up to ten files.
File does not exist or is not accessible	Attachments	Make sure the attachment file name is correct and that it points to a valid file and can be read.
Given path name is too long	Attachments	Store the file in another location, change the path and retry.

Appendix B Configuration File Contents

MessageDaemon.ini contents

The MessageDaemon.ini is Message Daemon's configuration file that is stored in the SITATEX user folder of the Message Daemon user. Most parameters stored in this file are accessed from Message Daemon's configuration dialog box. However, some of them are only available by directly editing this file (they are noted in the parameters identified below).

[Pathname]

Interface= Complete path name of interface folder.

[Timers]

InTimer= Slow poll time value for incoming messages.
Default = 60

OutTimer= Slow poll time value for outgoing messages.
Default = 60

[Traces]

Level= Error log level from 1 (less detailed) to 4 (most detailed).
Default = 4

MaxNumber= Number of records in the trace file.
Default = 65536

AsciiLogFile= If set to Yes, allow generation of the ASCII trace file.
Default = Yes
Possible values are Yes and No.

[Statistics]

MessageIn= Number of incoming messages processed.

FileProcessed= Total number of files processed.

MessageOut= Number of generated message.

Errors= Number of errors detected in the to be sent message files.

[Miscellaneous]

SlowPollReceive= Maximum number of message files waiting in the IN folder before the slow poll mechanism is started.

Default = 64

SlowPollSend= Maximum number of messages waiting for transmission before the slow poll mechanism is started.

Default = 64

Enable/disable attached files automatic compression.

ZipDocument= Default = Yes

Possible values are Yes and No.

MaxLineLength= Maximum number of characters authorized per line (excluding CR/LF).

Default=80, max.=3000, min.=50.

Note: The only way of changing this parameter is by editing this file.

Text of the Message Daemon title bar.

Default=SITATEX SDK - MessageDaemon -

WindowTitle= If the WindowTitle field is not empty, its content is added to the right of the default title.

Maximum number of characters is 21.

Note: The only way of changing this parameter is by editing this file.

If set to Yes, a confirmation dialog box is displayed when closing Message Daemon.

Possible values are Yes and No.

ConfirmExit=

IncludeDTG=If set to Yes, the DTG (Date time group) is added to the message address line in the Message Identifier field. If set to No, this allows an extra seven characters for the Message Identifier text.

Possible values are Yes and No.

MaxTimer= This sets the maximum timer in minutes.

Default=8

ErrExtension= If set to Yes, Message Daemon sets the file extension of messages containing errors to .ERR. If set to No, the file extension is set to .RCV (for compatibility with

previous versions of Message Daemon).

Possible values are Yes and No.

SntExtension= If set to Yes, the echo of each outgoing message has a .SNT extension. If set to No, the extension used is .RCV (for compatibility with existing messaging applications).

Default=Yes

SMRDate= This is the date stamp of the last SMR sent. this is an encrypted and sealed date. If it is changed or removed, the SMR is resent.



Specialists in air transport communications and IT solutions

For further information, please contact SITA by telephone or e-mail:

East & Central Europe

+41 22 747 6000
info.ece@sita.aero

Latin America & Caribbean

+55 21 2111 5800
info.lac@sita.aero

Middle East & North Africa

+961 1 637300
info.mena@sita.aero

North America

+1 770 850 4500
info.nam@sita.aero

North Asia & Pacific

+65 6545 3711
info.nap@sita.aero

North Europe & Sub-Saharan Africa

+44 (0)20 8756 8000
+27 11 5177000
info.nesa@sita.aero

South Asia & India

+65 6545 3711
info.sai@sita.aero

South Europe

+39 06 96511500
info.seu@sita.aero

www.sita.aero