

System Information Messenger

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1 Introduction

What is the System Information Messenger?

The System Information Messenger (SIM) is a software utility that automatically collects data from an Image Services system and sends it to FileNet via email. If enabled, it runs as a background task once a day to collect performance statistics, license usage data, system configuration data, and software registration information. SIM sends collected data to FileNet or customer designated recipients once a week via email. For security purposes, SIM only uses outgoing email. In addition, SIM is turned off by default and will execute only if it is intentionally configured.

What type of data does it collect?

The System Information Messenger collects the following data:

- Server Configuration Information comprised of the following:
 - Server Name
 - Server Machine ID Number
 - Operating System Name
 - Operating System Version Number
 - Server Manufacturer
 - Server Model
 - Server Model Type
 - Server Model ID
 - Total Number of CPUs
 - Number of Enabled CPUs
 - CPU Type
 - CPU Speed
 - Amount of Physical Memory
 - Amount of Paging/Swap Space

- Language/Locale Setting
- Local Time Zone
- Image Services Version Number
- Oracle Version Number
- Image Services System Serial Number
- Daily CSS Performance Reports which contain the following:
 - Percentage of time that the CPU was completely idle
 - Percentage of time that the CPU was running kernel code
 - Percentage of time that the CPU was running user code
 - Percentage of time that the CPU was spent waiting on I/O to complete
 - Number of disk operations per second
 - Current and Peak number of users logged in to Image Services
- The current Configuration Database file which contains the configuration settings for Image Services.
- Software Registration Information comprised of the following:
 - Image Services SystemID Number*
 - Company Name*
 - Phone Number of Server's Modem
 - System Administrator's:
 - Name
 - Title
 - Company Division Name & Department Name
 - Email Address
 - Phone Number
 - Fax Number
 - Mailing Address
 - Shipping Address
 - * Items marked with an asterisk are required for security reasons. Although most items are optional, FileNet encourages customers to provide all applicable data to keep records current.

Who will have access to the data?

To protect customer data, only IBM personnel will have access to the data sent to FileNet, and that data will be kept confidential. However, for those customers who want to send the SIM data reports to additional recipients, SIM provides an option for that.

What are the benefits?

- This software will keep FileNet updated with the latest configuration and statistical information from customer systems without relying on manual data entry.
- The data collected from a customer's system can be sent to additional email addresses defined by the customer so that local administrators, partners, or resellers can also keep track of system statistics.
- Having accurate version information for the operating system, RDBMS, and Image Services software, for the entire customer base, helps FileNet to determine what direct upgrade paths must be provided for in future automated upgrade utilities.
- The **SvrInfo** command displays several key pieces of server and system information as shown in the following example:

	FileNet Server Information
Server Name:	Defender
Machine ID Number:	1234567890
Operating System Name:	HP-UX
Operating System Version:	11.11
Server Manufacturer:	Hewlett-Packard
Server Model:	L1500-6x
Server Model Type:	9000
Server Model ID:	800
Total Number of CPUs:	2
Number of Enabled CPUs:	2
CPU Type:	PA8700 2.0
CPU Speed:	650 MHz
Physical Memory:	1024 MB
Paging/Swap Space:	1536 MB

Language/Locale Setting:	С
Local Time Zone:	PDT
Image Services Version:	4.0.0.174
Oracle Version:	9.2.0.2.0
FileNet System ID:	123456
FileNet SSN:	1100555555

- The ISRegstr command allows customers to define, display, and update software registration information whenever necessary. The software registration data is stored on the Image Services server which provides quick and easy access for customers. In addition, FileNet is automatically updated every week with any changes. Having accurate and current software registration data helps FileNet improve communications with customers.
- The **mailit** command makes it easier to send email with attachments (such as log files) directly from the server.
- All of the utilities work with the Image Services software but do not require the Image Services software to be either running or stopped.

How does it work and does it impact system performance?

The System Information Messenger runs as a background task once a day so it does not impact system performance. It works with Image Services performance **utilities** to collect information during each daily execution, and every Monday, the data collected from the previous week is emailed to FileNet. The UNIX sendmail utility is used to route the outgoing email from the customer's Image Services server to their network mail server for delivery to FileNet and/or any customer designated recipients.

Customer Security Concerns

Making a connection from the Image Services server to Internet mail services may raise security concerns for some customers, and that is why the System Information Messenger was designed to use only *outgoing* email. In most Enterprise environments, the network mail server controls the flow of incoming email. By default, most mail servers will allow other computers on the customer's network to send email to the Image Services server, but will block all incoming Internet email. This can be tested by simply sending an email from an external email address to a mailbox on the Image Services server and checking if it is received. To be certain that the email address is correct, it is usually easier to simply *reply to* an email sent *from* the Image Services server.

What if External Email Service is not available from the server?

If external email is not available on the Image Services server, other methods exist for sending the data to FileNet. These methods are explained in the next chapter under Data Send Mode options.

Documentation Conventions

The following conventions have been used throughout this document:

- System Input/Output in screen shot examples is displayed in this font type.
- In screen shot examples, User input is highlighted in yellow to distinguish input from output.
- Points of special interest are highlighted in blue.

Please read the entire document before beginning software configuration. An understanding of the process and knowledge of required input will help insure that the process runs smoothly.

2 Preparing for Software Configuration

Prerequisites

- This release applies only to Image Services running on UNIX platforms.
- Note that SIM should be configured to run on all IS servers, not just the root server.

Preparation

Prior to starting the software configuration, you will need to:

- Get the System ID of the FileNet Image Services system.
 - The System ID is typically a 6 digit number and is unique to each FileNet system. The System ID can be found on all packing slips and software license documentation. The System ID is also referred to as the CID or SysID. However, it is not the SSN, although some SSNs contain the System ID. It is very important to find and use the correct value for each FileNet system.
- Identify the formal Company Name of the customer. The following criteria should be used for the Company Name:

- It should be the name that the company uses to formally identify itself in official correspondence.
- It should be the name of the company actually using the Image Services software (not the reseller or partner's name).
- It should be verbose in order to facilitate searching by Company Name in FileNet's database.
- It can be a maximum of 65 characters.
- Note, the System ID and Company Name settings for non-Root servers must match the corresponding values defined for the Root server. However, other configuration and contact settings can be unique to each server, and for widely distributed systems it can be very useful to define site specific contacts.
- Discuss the features and options of the System Information Messenger with the customer and determine if outgoing email needs to be configured on the IS server. If it does, the following information will be needed for sendmail configuration:
 - The fully qualified Server Name and IP address of the customer's mail server that routes their company's email.
 - In many network environments, the name "mailhost" is defined as an alias for the primary mail server. Try pinging mailhost from any system using DNS. A positive reply should yield the IP address of the network mail server. Then use nslookup on the returned IP address to determine the fully qualified network name of the mail server.
 - Otherwise, the company's IT department should be able to provide this information. However, it may take a few days to get a response so it should be requested well in advance.

- For AIX platforms also determine:
 - The Host Name of the IS server
 - The hostname command will return this information
 - The Domain Name for the IS server
 - If the server uses DNS, then the domain name can be found in /etc/resolv.conf. Otherwise, ask the system or network administrator.
- Determine the Data Send Mode to be used for this system. The Data Send Mode defines how collected data will be sent to FileNet. The data communication process needs to be explained to the customer so they can select whichever Data Send Mode is appropriate for their company. It is important to point out that SIM only sends data from the Image Services server and never receives any data via email. The reason there are different options for sending the data to FileNet is to accommodate different security environments. There are three Data Send Modes defined as follows:
 - Normal Mode:
 - Data is automatically emailed once a week to FileNet at <u>FnSIM@us.ibm.com</u>. The data is also emailed to any optional addresses entered into the Email Address List so the customer can receive the data as well.
 - This is the preferred mode since it is completely automated.

• Forwarded Mode:

 Data is not sent directly to FileNet. It is emailed on a weekly basis to the addresses in the Email Address List, and the email contains instructions for the System Administrator to forward the email to <u>FnSIM@us.ibm.com</u>.

- Customers who need to review outgoing data before it is sent to FileNet will want to use this mode.
- Manual Mode:
 - Automatic email is disabled, and the data is archived to a local directory.
 - The Image Services System Administrator should periodically:
 - collect the data from the Archive subdirectory (/fnsw/local/logs/SIM/Archive/....),
 - transfer the data to a system where it can be emailed,
 - email it to FileNet at FnSIM@us.ibm.com, and
 - remove the subdirectory containing the data just sent.
 - Detailed instructions for manually sending data to FileNet are provided in Chapter 4.
 - Customers will need to use this mode if they do not want email services configured on their IS servers, or have network configurations where the IS server cannot communicate with the mail server used for routing company email.
- Determine the time of day that the System Information Messenger should be scheduled to run.
 - SIM does not require the Image Services software to be either running or stopped. It only requires that the server be in a multiuser state for it to run. However, as a precaution, it should not be scheduled to start between 23:45 and 24:00 to avoid execution during a date change.
 - SIM can normally be scheduled to run during off-peak hours. However, on SUN SPARC 10000 Series servers using Dynamic

System Domains and dynamic processor allocation, it should be scheduled to run during typical peak usage periods in order to get an accurate count of the number of processors being used.

- The default time that SIM is scheduled to start is 19:30, and this can be customized for each site noting the above conditions.
- Determine if there are any additional email addresses to which data reports should be sent.
 - If the Data Send Mode is Normal then the FileNet email address is automatically included in the Email Address List. Additional entries to the Email Address List are optional. However, the customer may want to add some of their own email addresses to the list so they can review the data being sent back to FileNet.
 - If the Data Send Mode is Forwarded, then the FileNet email address is removed from the Email Address List. In this mode, the purpose of the Email Address List is to define customer email addresses that will receive the data. It is intended that the Image Services System Administrator will be on this list and will be responsible for forwarding the email to FileNet at FnSIM@us.ibm.com.
 - If the Data Send Mode is Manual, then the Email Address List is ignored.
- Get contact information for the System Administrator. See the sample data below for details.

To help identify all of the information needed for a complete installation, a form and sample data are provided on the following pages.

GENERAL CONFIGURATION INFORMATION	
System ID (NOT SSN):	
Formal Company Name:	
SIM Data Send Mode:	
Time of Day for SIM to run:	
Additional email addresses to receive reports:	

SENDMAIL CONFIGURATION INFORMATION	
Host Name of this Image Services server:	
Domain Name for this server:	
Fully Qualified name of mail server:	
Mail server's IP address:	

CONTACT INFORMATION	
System Administrator's Name:	
Job Title:	
Division Name:	
Department Name:	
Email Address:	
Phone Number:	
Fax Number:	
Mailing Address:	
Shipping Address:	
Phone Number for Server's modem:	

SAMPLE DATA:

GENERAL CONFIGURATION INFORMATION	
System ID (NOT SSN):	100006
Formal Company Name:	XYZ Corporation
SIM Data Send Mode:	Normal
Time of Day for SIM to run:	19:30
Additional email addresses to receive reports:	csmith@xyzcorp.com pnguyen@xyzcorp.com

SENDMAIL CONFIGURATION INFORMATION	
Host Name of this Image Services server:	ISProd1
Domain Name for this server:	xyzcorp.com
Fully Qualified name of mail server:	MailServer1.xyzcorp.com
Mail server's IP address:	10.1.2.30

CONTACT INFORMATION	
System Administrator's Name:	Chris Smith
Job Title:	Senior Systems Analyst
Division Name:	Information Technology
Department Name:	Operations & Support
Email Address:	csmith@xyzcorp.com
Phone Number:	713-555-1111
Fax Number:	713-555-1112
Mailing Address:	Suite 1304 Room 24
	2400 Sunrise Circle
	Houston, TX 77001-1220 USA
Shipping Address:	DataCenter Rec2
	Attn: Chris Smith or Pat Nguyen
	130 XYZ Drive
	Houston, TX 77001-1222 USA
Phone Number for Server's modem:	713-555-1113

3 Setup and Configuration for UNIX Platforms

Perform the following steps to configure the System Information Messenger.

- 1. IDENTIFY REQUIRED CONFIGURATION INFORMATION AS DEFINED IN THE PREVIOUS CHAPTER.
- 2. LOGIN AS ROOT TO THE IMAGE SERVICES SERVER.
- 3. CHECK OPERATING SYSTEM REQUIREMENTS.
 - Follow the instructions in <u>Appendix A: Operating System Soft-</u> <u>ware Requirements</u> to verify requirements for the appropriate OS.
- 4. CONFIGURE & TEST THE EMAIL SYSTEM. This only needs to be performed if the System Information Messenger or other utilities will be sending mail to other systems. Skip to <u>Step 5</u> if outgoing mail will not be utilized or follow the instructions below to configure and test outgoing mail.
 - A. Check If Sendmail Is Already Configured. To determine if sendmail is already configured, ask the local system administrator or try sending a test mail message with the mailit command as documented in <u>Step 4C</u>.

- B. Configure Sendmail
 If sendmail needs to be configured, follow the instructions for the appropriate operating system in <u>Appendix B: Configuring Sendmail.</u>
- C. Send A Test Mail Message:
 - mailit -SIMtest
 - Follow the on-screen prompts to enter a destination email address.

Note: It is a good idea to use an external email address for testing if actual usage will send email to addresses external to the company. This is because the mail system may allow message delivery within the company's domain but require additional configuration for external routing.

- This usage of mailit will send a predefined message and attachment to the recipient.
- For a sample execution of this command, see <u>Appendix</u> <u>D: Mail Test Example</u>.
- Determine if the test mail message was received.
 - Note that it may take a few minutes to deliver the message depending on system load and network traffic.
 - If the mail message was received and it contained a readable attachment, then the mail system is properly configured, and you can proceed to <u>Step 5</u>.
 - If the mail message was not received, and sendmail has not yet been configured, return to <u>Step 4B</u> to configure sendmail.
 - Otherwise, proceed to <u>Step 4D</u> to resolve the problem.

- D. Resolve Mail System Problems
 - If the mail message was received, but the attachment was missing or was included as encoded text in the message body, install the latest mailx patch for your operating system.
 - If the mail message was not received, it may have been returned to your local mailbox as undeliverable.
 - To check if the mail was returned, run the mailx command and look for a message with a subject of "Returned mail...". If it was returned, read the returned message for an explanation of the problem.
 - If the mail message was not received and not returned, use the techniques discussed in <u>Appendix C: Troubleshooting</u> <u>Sendmail</u> to resolve the problem.
 - Return to <u>Step 4C</u> and send another test message to re-test outgoing mail.
- 5. ENTER SOFTWARE REGISTRATION INFORMATION FOR IMAGE SERVICES.
 - From the command line, run:
 - ISRegstr
 - Follow the on-screen prompts to:
 - enter the SystemID & Company name (MAKE SURE THESE ARE CORRECT).
 - enter optional user information such as the System Administrator's name, phone number, email address, mailing address, and shipping address.
 - For a sample execution, see <u>Appendix E: Registration</u> <u>Example</u>.
 - Encourage the customer to provide all applicable information so that communications can be improved and kept up to date.

- Make sure the customer is aware that they can update this information whenever necessary by running ISRegstr.
- 6. CONFIGURE THE SIM DATA DELIVERY OPTIONS.
 - From the command line, run:
 - ISSIMcfg
 - Follow the on-screen prompts to:
 - select the appropriate Data Send Mode, and
 - enter any desired customer email addresses.
 - In addition to defining delivery options, this command will add a default entry in the root crontab for the System Information Messenger.
 - For a sample execution, see <u>Appendix F: Configuration</u> <u>Example</u>.
- 7. ACTIVATE THE NEW CRONTAB ENTRY.
 - From the command line, run:
 - crontab -e
 - This command runs vi to edit the crontab, and it notifies cron that table entries have changed.
 - If desired, change the time of day that the System Information Messenger is scheduled to run.
 - If the execution time does not need to be changed, the crontab must still be modified in some manner so that cron will process the new entry for SIM.
 - For example, simply overwrite a space with another space.
 - Save and exit vi with: <ESC>:x or <ESC>ZZ

- 8. RUN SvrInfo TO DISPLAY SERVER CONFIGURATION INFORMATION.
 - From the command line, run:
 - SvrInfo
 - This command will display configuration information for the server.
 - Please review this data and report any errors or anomalies since this data will be collected by the System Information Messenger.
 - Note that SvrInfo can be installed and used as a stand-alone utility to display configuration data of new servers *prior* to the installation of Image Services software.
- 9. LOGOFF OF THE SERVER.
- 10. PROVIDE FEEDBACK IF DESIRED.
 - Email comments and suggestions to <u>FnSIM@us.ibm.com</u> and use the phrase "SIM: Comments and Suggestions" in the Subject Line.
 - If you find any errors or anomalies, please email a detailed description to <u>FnSIM@us.ibm.com</u> and use the phrase "SIM: Problem Report" in the Subject Line.

Δ Manual Data Delivery

If the SIM Data Send Mode is set to "Manual Mode" then collected data is saved each week to a local directory instead of being sent via email. The Image Services System Administrator should send the data to File-Net every Tuesday, and this chapter provides instructions to accomplish this task.

Archive Directory

The directory, /fnsw/local/logs/SIM/Archive, contains subdirectories which store the SIM data for each week. The names of those subdirectories correspond to the date the reports were "submitted" to the Archive. Each Archive subdirectory should contain the following files:

- CSS_Perf.txt
 - SIM Log.txt
 - UserData.txt
 - IS CDB.txt *
 - * IS_CDB.txt will only exist on root servers

The file named MsgBody.txt contains basic instructions for emailing the data to FileNet. This file also contains the text for the message body of the email. The other files in the directory are the SIM data files and should be attached to the bottom of the email message.

Collecting and Sending the Data

Every Monday, the SIM data for the previous week is submitted to the Archive directory. The precise time the data is submitted depends on SIM's scheduled execution time, but by Tuesday morning, the previous week's data will be ready to send to FileNet. Ideally, the data should be

- SIM Cfg.txt
- SvrInfo.txt
- Status.txt

- MsgBody.txt

sent to FileNet once a week. However, if more than one week's data is being sent at a time, please send a separate email for each week. In other words, each subdirectory under the Archive directory goes in one email. The steps below summarize how to collect and send one week's data to FileNet:

- 1. Transfer the Archive subdirectory and its contents to a system that has email capabilities. The data files are all ASCII text files so it is not necessary to use a binary transfer.
- 2. Start a new mail message and insert (as text) the contents of MsgBody.txt into the body of the new mail message. The message body now contains basic instructions including the target email address and text for the subject line.
- 3. Copy and paste the email address (<u>FnSIM@us.ibm.com</u>) from the message body into the "TO:" field of the email.
- 4. Copy and paste the subject (FileNet IS System Information Reports from SystemID:) from the message body into the "SUBJECT:" field of the email.
- 5. Attach all of the other files from the Archive subdirectory to the bottom of the email.
- 6. Note, it is not necessary to delete the instructions from the message body.
- 7. Send the email.
- 8. Remove the Archive subdirectory (which contains the data just emailed) from both the local system and the Image Services system. Note, delete only the appropriate subdirectory (not the Archive directory itself).

Appendix A – Operating System Software Requirements

Return to Configuration Steps

AIX Requirements

- 1. No additional software packages or patches are needed since the OS requirements for this version of Image Services include minimum required versions of sendmail and mailx.
- 2. Verify the existence of /usr/sbin/sendmail and /usr/bin/mailx to be certain that required OS utilities were not accidentally omitted or removed.

HP-UX Requirements

- 1. No additional software packages or patches are needed since the OS requirements for this version of Image Services include minimum required versions of sendmail and mailx.
- 2. Verify the existence of /usr/sbin/sendmail and /usr/bin/mailx to be certain that required OS utilities were not accidentally omitted or removed.

Solaris Requirements

- 1. No additional software packages or patches are needed since the OS requirements for this version of Image Services include minimum required versions of sendmail and mailx.
- 2. Verify the existence of /usr/lib/sendmail and /usr/bin/mailx to be certain that required OS utilities were not accidentally omitted or removed.

Appendix B – Configuring SENDMAIL

Return to Configuration Steps

Configuring sendmail on AIX

- Backup the current Sendmail Configuration file cp /etc/mail/sendmail.cf /etc/mail/sendmail.orig
- 2. Create a new Sendmail Configuration file for this server
 - Copy the sample sendmail.cf file to use as a baseline:
 - cp /usr/lpp/bos.net/inst_root/etc/mail/sendmail.cf /etc/mail/sendmail.cf
 - Define entries in the sendmail.cf file for the HostName, DomainName, and the fully qualified MailHost name.
 - Note, these entries are very simple, but they are case sensitive. The entries are defined by prefixing the actual name with a particular string:
 - The HostName entry is defined by prefixing the string "Dw" to the actual host name of the system. (The quotes should not be included in the actual entry).
 - The DomainName entry is defined by prefixing the string "Dm" to the actual domain name for the system.
 - The MailHost entry is defined by prefixing the string "DSsmtp:" to the fully qualified name of the mail server. (The fully qualified name is server name with the domain name.)
 - Note, the current sendmail.cf file has sample entries in it. The plan is to edit sendmail.cf, search for each sample entry, and redefine the sample entry using actual names. The table below defines the literal strings to search for:

Entry Name	Literal string to search for
HostName (Dw)	#DwYourHostName
DomainName (Dm)	#DmYourDomainName
MailHost (DS)	#DSmailer:relayhostname

- Using your favorite editor make the following changes to /etc/sendmail.cf:
 - Find: #DwYourHostName
 - Uncomment the sample entry by removing the # sign.
 - Replace the string "YourHostName" with the actual host name of the server.
 - Find: #DwYourDomainName
 - Uncomment the sample entry by removing the # sign.
 - Replace the string "YourDomainName" with the actual domain name for the server.
 - Find: #DSmailer:relayhostname
 - Uncomment the sample entry by removing the # sign.
 - Replace the string "mailer:relayhostname" with the string "smtp:" followed by the fully qualified name of the mail server.
 - If there is a blank DS entry (DS on a line by itself) below the DS entry you just created, delete the blank DS entry by removing the line.
 - Save the file and exit the editor
- The table below shows an **example** of the three changes to the sendmail.cf file. In this example, the HostName is "bugs", the DomainName is "bunny.com", and the fully qualified name of the Mail-Host is "ourmailhost.bunny.com"

Original Line	New Line
#DwYourHostName	Dwbugs
#DmYourDomainName	Dmbunny.com
#DSmailer:relayhostname	DSsmtp:ourmailhost.bunny.com

- 3. Perform additional configuration steps for servers that do not use DNS:
 - Skip the following steps if the file /etc/resolv.conf exists:
 - Edit the /etc/hosts file and add the IP address and the fully qualified hostname of the mail server for the site. For example, add a line similar to:

10.0.3.4 ourmailhost.bunny.com ourmailhost

 Create the file /etc/netsvc.conf with an entry as follows: hosts=local
 Note: onter line exactly as it appears above do not real

Note: enter line exactly as it appears above -- do not replace 'local' with the actual hostname.

- 4. Stop and Start Sendmail
 - For the changes that have just been made to take effect, the sendmail daemon must be stopped and re-started by typing the following:

stopsrc –s sendmail startsrc –s sendmail –a "–bd –q30m"

Return to Configuration Steps

Configuring sendmail on HP-UX

- Backup the current Sendmail Configuration file cp /etc/mail/sendmail.cf /etc/mail/sendmail.orig
- 2. Create a new Sendmail Configuration file for this server
 - Use the master template to build a new configuration file:

cd /usr/newconfig/etc/mail/cf/cf

 There should be one generic*hpux10.mc file, make a copy to use as a template:

cp generic*.mc ourmail.mc

- Edit ourmail.mc using your favorite editor
 - add the following line at the end of the file: define(`SMART_HOST', mailhost.xyzcorp.com)

where *mailhost.xyzcorp.com* is the fully qualified name of the current mail server that routes mail at your site. (NOTE, the quotes need to be a forward and backward quote.)

 Compile ourmail.mc and generate ourmail.cf: NOTE: the current directory must be /usr/newconfig/etc/mail/cf/cf

m4 ../m4/cf.m4 ourmail.mc > ourmail.cf

• Install ourmail.cf as the new sendmail configuration file:

cp ourmail.cf /etc/mail/sendmail.cf

- 3. Perform additional configuration steps for servers that do not use DNS:
 - Skip these steps if the file /etc/resolv.conf exists.
 - Edit the /etc/hosts file and add the IP address and the fully qualified hostname of the mail server for the site. For example, add a line similar to:

10.0.3.4 mailhost.xyzcorp.com mailhost

- Make sure the file /etc/nsswitch.conf exists and contains the following line (verbatim): hosts: files
- 4. Stop and Start Sendmail
 - For the changes that have just been made to take effect, the sendmail daemon must be stopped and re-started by typing the following:

/sbin/init.d/sendmail stop /sbin/init.d/sendmail start

Return to Configuration Steps

Configuring sendmail on Solaris

- Backup the current Sendmail Configuration file cp /etc/mail/sendmail.cf /etc/mail/sendmail.orig
- 2. Create a new Sendmail Configuration file for this server
 - Use the master template to build a new configuration file: cd /usr/lib/mail/cf
 - There should be one main*sun.mc file, make a copy to use as a template:

cp main*sun.mc ourmail.mc

Edit ourmail.mc using your favorite editor

add the following line at the end of the file:

define(`SMART_HOST', mailhost.xyzcorp.com)

where *mailhost.xyzcorp.com* is the fully qualified name of the current mail server that routes mail at your site. (NOTE, the quotes need to be a forward and backward quote.)

- Compile ourmail.mc and generate ourmail.cf: NOTE: the current directory must be /usr/lib/mail/cf)
 - /usr/ccs/bin/m4 ../m4/cf.m4 ourmail.mc > ourmail.cf
- Install ourmail.cf as the new sendmail configuration file:

cp ourmail.cf /etc/mail/sendmail.cf

- 3. Perform additional configuration steps for servers that do not use DNS:
 - Skip these steps if the file /etc/resolv.conf exists.
 - Edit the /etc/hosts file and add the IP address and the fully qualified hostname of the mail server for the site. For example, add a line similar to:

10.0.3.4 mailhost.xyzcorp.com mailhost

- 4. Stop and Start Sendmail
 - For the changes that have just been made to take effect, the sendmail daemon must be stopped and re-started by typing the following:

/etc/init.d/sendmail stop /etc/init.d/sendmail start

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Appendix C – Troubleshooting SENDMAIL

Return to Configuration Steps

This appendix contains some useful commands to help you resolve problems with sendmail. The examples in this appendix use the following accounts & server names:

Email account sending to: Name of LocalHost: Domain name for LocalHost: Name of mail server: MyAccount@XYZcorp.com Defender XYZcorp.com MailSvr.XYZcorp.com

1. To see the status of a mail message, list the contents of the mail queue as follows:

/usr/lib/sendmail -bp Note: On older releases of AIX, this command may take a couple of minutes to complete.

- If sendmail is working properly, the queue will probably be empty.
- Use sendmail to send a mail message and display communication progress: /usr/lib/sendmail -v myaccount@XYZcorp.com < /dev/null
 - Here is sample output from the command when it works properly:

```
Defender(root)/tmp> /usr/lib/sendmail -v MyAccount@XYZcorp.com <
/dev/null
MyAccount@XYZcorp.com... Connecting to MailSvr.XYZcorp.com via re-
lay...
220 MailSvr.XYZcorp.com ESMTP Server (Microsoft Exchange Internet Mail Service 5.5.2650.21) ready
>>> EHLO Defender.XYZcorp.com
250-MailSvr.XYZcorp.com Hello [177.252.200.200]
250-XEXCH50
250-HELP
250-ETRN
```

```
250-DSN
250-SIZE 7168000
250-AUTH LOGIN
250 AUTH=LOGIN
>>> MAIL From:<root@Defender.XYZcorp.com>
250 OK - mail from <root@Defender.XYZcorp.com>
>>> RCPT To:<MyAccount@XYZcorp.com>
250 OK - Recipient <MyAccount@XYZcorp.com>
>>> DATA
354 Send data. End with CRLF.CRLF
>>> .
250 OK
MyAccount@XYZcorp.com... Sent (OK)
Closing connection to MailSvr.XYZcorp.com
>>> OUIT
221 closing connection
```

3. Example Debugging Session: **Problem:**

The test mail message was not received at the target destination.

Output from debugging session:

```
Defender(root)/tmp> /usr/lib/sendmail -bp
Mail Queue (1 request)
--Q-ID-- --Size-- ----Q-Time----- Sender/Recipient-----
TAA18172 118 Thu Oct 26 19:24 root
(host map: lookup (XYZcorp.com): deferred)
MyAccount@XYZcorp.com
Defender(root)/tmp>
Defender(root)/tmp> /usr/lib/sendmail -v MyAc-
count@XYZcorp.com < /dev/null
MyAccount@XYZcorp.com... XYZcorp.com: Name server timeout
MyAccount@XYZcorp.com... Transient parse error -- message queued
for future delivery
MyAccount@XYZcorp.com... queued
Defender(root)/tmp>
```

```
Defender(root)/tmp> /usr/lib/sendmail -bp
                Mail Queue (2 requests)
--Q-ID-- --Size-- -----Q-Time----- ------Sender/Recipient--
TAA18172
              118 Thu Oct 26 19:24 root
                 (host map: lookup (XYZcorp.com): deferred)
                                   MyAccount@XYZcorp.com
TAA18281
                0 Thu Oct 26 19:32 root
                 (host map: lookup (XYZcorp.com): deferred)
                                   MyAccount@XYZcorp.com
Defender(root)/tmp>
Defender(root)/tmp> cat /etc/resolv.conf
cat: Cannot open /etc/resolv.conf: No such file or directory
Defender(root)/tmp>
Defender(root)/tmp> grep MailSvr /etc/hosts
10.1.1.25
                MailSvr.XYZcorp.com MailSvr
Defender(root)/tmp>
Defender(root)/tmp> ping MailSvr.XYZcorp.com
PING MailSvr.XYZcorp.com: 64 byte packets
64 bytes from 10.1.1.25: icmp seq=0. time=0. ms
64 bytes from 10.1.1.25: icmp seq=1. time=1. ms
64 bytes from 10.1.1.25: icmp seq=2. time=0. ms
64 bytes from 10.1.1.25: icmp seq=3. time=0. ms
 (Entered ^C to terminate)
----MailSvr.XYZcorp.com PING Statistics----
4 packets transmitted, 4 packets received, 0% packet loss
round-trip (ms) min/avg/max = 0/0/1
Defender(root)/tmp>
```

```
Defender(root)/tmp> cat /etc/nsswitch.conf
cat: Cannot open /etc/nsswitch.conf: No such file or directory
Defender(root)/tmp>
```

Solution:

This server uses a hosts file instead of DNS. The mail server is properly defined in the hosts file and the mail server can be pinged. Unfortunately, sendmail is unable to communicate with the mail server because it cannot communicate with the nameserver to resolve the address of the mail server. Sendmail assumes that DNS is being used unless explicitly told otherwise in the file /etc/nsswitch.conf.

1. Create the file /etc/nsswitch.conf and define hostname resolution to be from files (/etc/hosts).

2. Stop and re-start the sendmail daemon:

/sbin/init.d/sendmail stop /sbin/init.d/sendmail start

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Appendix D – Mail Test Example

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Output from Mailit when Sending a Test Message

FileNet System Information Messenger Mail System Test Utility ->If this utility generates any error messages or messages starting with 'mailit[num]:', please investigate or report the errors. The System Information Messenger will likely encounter the same errors, and it will be easier to correct them now. ->Server Information: Date & Time: Wednesday 10-11-2006 17:48 PDT ServerName: Defender 1234567890 MachineID: SSN: 1100555555 ->The test email message to be sent will contain a generic test message and a short performance report as an attachment. ->The test email message will NOT contain the SSN or Machine ID. ->In order to completely test the routing configuration of the email system, you should send the email to at least one address outside of the company. A free Internet email address (like Yahoo or Hotmail) would be good since email delivery can be verified from any browser with Internet access. Email can be sent to one or more addresses. When entering multiple addresses, separate each address with a space. ENTER EMAIL ADDRESS(s) TO SEND THE TEST MESSAGE TO: Example: test1@hotmail.com sysadmin@mycompany.com ==>MyAccount@hotmail.com

Retrieving Performance Data
Log file defaulting to /fnsw/local/sd/1/perflog Successfully collected performance data.

Attach: /tmp/PerfRpt.txt

The email message contained 1 attachment and was sent to: MyAccount@hotmail.com

Please verify that the destination address received the email, and that the attachment was readable (it should look like a normal CSS Performance report).

Defender(root)/tmp/new>
Defender(root)/tmp/new>

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Appendix E – Registration Example

Return to Configuration Steps

Output from Execution of ISRegstr

Defender(root)/tmp/new> ISRegstr

FileNet Image Services Software Registration Data

Instructions:

- You will be prompted to enter registration information for this software.
 Sample data is listed below to illustrate the type of data and the desired data format.
- Required fields are marked with an * in the sample data below.
 There are very few required fields, but please take this opportunity to provide all applicable data. It will allow FileNet to better serve you.
- Please rest assured that the information you provide will be kept confidential and will only be used by FileNet for official business.
- Note that different shipping and mailing addresses may be specified if desired.
- Note that the data can be updated at any time by re-running this utility.

SAMPLE DATA:

System ID:*	100000		
-	XYZ Corporation		
	713-555-1113		
System Administrator:			
Name:	Chris Smith		
Title:	Senior Systems Analyst		
Division:	Information Technology		
Department:	Operations and Support		
Email:	csmith@xyzcorp.com		
Phone:	713-555-1111		
Fax:	713-555-1112		
Mailing Addres Recipient: Company Routi Company: Street Addres City,State,Zi Country:	Chris Smith ng: Suite 1304 Room 24 XYZ Corporation ss: 2400 Sunrise Circle		
Shipping Addre	ess:		
Recipient:	Chris Smith		
Company Routi	.ng: DataCenter Rec-2 Attn: Chris Smith or Pat Nguyen		
Company:	XYZ Corporation		
Street Addres	ss: 130 XYZ Drive		
City,State,Zi	p: Houston, TX 77001-1222		
Country:	USA		
END [Press q to	o return to program, b to pageup] <mark>q</mark>		

---SYSTEM ID-----The FileNet System ID is typically a 6 digit number and can be found On software packing slips or license agreements. It is not the SSN. It is EXTREMELY important to enter the correct value for this system. Enter a new FileNet SYSTEM ID: (Example: 100000) ==>111111 (Required)

---COMPANY NAME------The Company Name is the formal name of the company which uses this software. You may enter up to 65 characters.

Enter a new COMPANY NAME: (Example: XYZ Corporation) ==>ABC Corporation Enter the real Company Name **NOT** the FileNet "SITE NAME" for the company.

(Required)

---SYSTEM MODEM PHONE NUMBER------If there is a modem attached to the system to allow remote dial-in access for FileNet support personnel, please enter the phone number of the modem line. For numbers outside of the United States, please enter the Country Code and City Code prefixes. Format and Examples:

International:	nnn (nnnn) nnnn nnnn
United States:	nnn-nnn-nnnn

Sydney, Australia: 61 (2) nnnn nnnn Houston, Texas: 713-nnn-nnnn

Enter a new phone number for the MODEM attached to the system: (Example: 713-555-1113) ==>516-222-1110 (Optional)

---SYSTEM ADMINISTRATOR-----The Image Services System Administrator is the primary technical point of contact for system management issues associated with the Image Services software. The System Administrator is typically the recipient of software update packages, and is usually a direct employee of the company using the software.

Enter the FIRST Name of System Administrator: (Example: Chris) ==><mark>Pat</mark> (Optional) Enter the LAST Name of System Administrator: (Example: Smith) ==><mark>Wilson</mark> (Optional) ---SYSTEM ADMINISTRATOR'S TITLE-----Enter the Job Title of the System Administrator: (Example: Senior Systems Analyst) ==><mark>Systems Analyst</mark> (Optional) ---DIVISION NAME------If applicable, please enter the Division Name of the company to which the System Administrator belongs. Enter the applicable Division Name of the company: (Example: Information Technology) ==>Information Systems (Optional) If applicable, please enter the Department Name of the company to which the System Administrator belongs. Enter the applicable Department Name of the company: (Example: Operations and Support) ==><mark>Operations Technical Support</mark> (Optional) Enter the EMAIL address of the System Administrator: (Example: csmith@xyzcorp.com) ==>PatWilson@abccorp.com (Optional) ---SYSTEM ADMINISTRATOR'S PHONE NUMBER-----For numbers outside of the United States, please enter the Country Code and City Code prefixes. Format and Examples: International: nnn (nnnn) nnnn nnnn United States: nnn-nnn-nnnn Hamburg, Germany: **49 (40) nnnn nnnn** Paris, France: 33 (1) nnnn nnnn Houston, Texas: 713-nnn-nnnn Enter the PHONE number of System Administrator: (Example: 713-555-1111) ==><mark>516-222-1111</mark> (Optional) ---SYSTEM ADMINISTRATOR'S FAX NUMBER-----For numbers outside of the United States, please enter the Country Code and City Code prefixes. Format and Examples: International: nnn (nnnn) nnnn nnnn

International: nnn (nnnn) nnnn nnnn United States: nnn-nnn-nnnn Tokyo, Japan: 81 (3) nnnn nnnn Austin, Texas: 512-nnn-nnnn Enter the FAX number of System Administrator: (Example: 713-555-1112) ==>516-222-1112_____(Optional)

---MAILING ADDRESS: SPECIAL ROUTING INFORMATION------This field can contain any special instructions to insure proper delivery of regular mail within your company to the System Administrator. This can be a Suite Number, Floor & Room number, mail stop, etcetera.

Enter any internal ROUTING information for the System Administrator: (Example: Suite 1304 Room 24) ==>Suite 2100 Room 125 (Optional) ---MAILING ADDRESS: STREET ADDRESS------Enter the STREET NUMBER and NAME for the System Administrator's mailing address: (Example: 2400 Sunrise Circle) ==>1500 AnyStreet ______(Optional)

---MAILING ADDRESS: CITY-----Enter the name of the CITY for the System Administrator's mailing address: (Example: Houston) ==>Hauppauge _____(Optional)

---MAILING ADDRESS: STATE/PROVINCE------In the USA, please use the 2 character state abbreviation.

Enter STATE or PROVINCE for the System Administrator's mailing address: (Example: TX) ==>NY (Optional)

---MAILING ADDRESS: POSTAL CODE-----Enter the POSTAL CODE for the System Administrator's mailing address: (Example: 77001-1220) ==>11744-0122 (Optional)

---MAILING ADDRESS: COUNTRY-----Enter the name of the COUNTRY to be used in the mailing address: (Example: USA) ==>USA______(Optional)

Is the address used for shipping packages identical to the mailing address? [Y|N](N): n

Would you like to copy the mailing address data to the shipping address, and then update only the differences in the shipping address? [Y|N](N): y

NOTE: This eliminates redundant data entry. It copies the mailing address data to the shipping address data and allows you to change only what's different and press Return to accept the rest.

Enter any internal ROUTING information for the System Administrator: Or Enter an ! to delete, Or Enter <CR> to accept current setting of: Suite 2100 Room 125

==>Suite 2300 Room 322 Attn: P.Wilson or C.Jones (Optional)

An alternate recipient has been specified using the Internal Routing Line.

---SHIPPING ADDRESS: STREET ADDRESS _____ Enter the STREET NUMBER and NAME for the System Administrator's shipping address: Or Enter an ! to delete, Or Enter <CR> to accept current setting of: 1500 AnyStreet (Optional) ==> Just press Return to accept the current data as is. ---SHIPPING ADDRESS: CITY Enter the name of the CITY for the System Administrator's shipping address: Or Enter an ! to delete, Or Enter <CR> to accept current setting of: Hauppauge ==> (Optional)

---SHIPPING ADDRESS: STATE/PROVINCE ------In the USA, please use the 2 character state abbreviation. Enter STATE or PROVINCE for the System Administrator's shipping address: Or Enter an ! to delete, Or Enter <CR> to accept current setting of: NY ==>_____________(Optional)

---SHIPPING ADDRESS: POSTAL CODE ------Enter the POSTAL CODE for the System Administrator's shipping address: Or Enter an ! to delete, Or Enter <CR> to accept current setting of: 11744-0122 ==>_________(Optional)

---SHIPPING ADDRESS: COUNTRY ------Enter the name of the COUNTRY to be used in the shipping address: Or Enter an ! to delete, Or Enter <CR> to accept current setting of: USA ==> (Optional)

REVIEW OF UPDATED REGISTRATION INFORMATION:

111111		
ABC Corporation		
516-222-1110		
System Administrator:		
Pat Wilson		
Systems Analyst		
Information Systems		
Operations Technical Support		
PatWilson@abccorp.com		
516-222-1111		
516-222-1112		

Mailing Address:			
Recipient:	Pat Wilson		
Company Routing:	Suite 2100 Room 125		
Company:	ABC Corporation		
Street Address:	1500 AnyStreet		
City,State,Zip:	Hauppauge, NY 11744-0122		
Country:	USA		
Shipping Address:			
Recipient:	Pat Wilson		
Company Routing:	Suite 2300 Room 322 Attn: P.Wilson or C.Jones		
Company:	ABC Corporation		
Street Address:	1500 AnyStreet		
City,State,Zip:	Hauppauge, NY 11744-0122		
Country:	USA		
END [Press q to return to program, b to pageup] <mark>q</mark>			
Would you like to save this information? [Y N]: y			
Would you like to save this information? [Y N]: y			

The above registration information has been successfully saved. Defender(root)/tmp/new>

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Appendix F – Configuration Example

Return to Configuration Steps

Output from Execution of ISSIMcfg

Defender(root)/tmp/new> ISSIMcfg

FileNet Image Services System Information Messenger Configuration

Introduction:

- The Data Send Mode has 3 possible settings defined as follows:

- 1 = Normal => Data is automatically emailed once a week to FileNet at FnSIM@us.ibm.com. The data is also emailed to any other addresses specified in the Email Address List.
- 2 = Forwarded => Data is not sent directly to FileNet. It is emailed on a weekly basis to the addresses in the Email Address List, and the email instructs the System Administrator to forward the email to FnSIM@us.ibm.com.
- 3 = Manual => Automatic email is disabled, and the data is archived to a local directory. The System Administrator will need to manually collect the data and email it to FileNet once a week.
- The Email Address List contains the email addresses (if any) to which the data reports will be automatically sent.
- Please rest assured that any email addresses you provide will be kept confidential and will only be used by FileNet for official business.

- Note that the configuration settings can be updated at anytime by re-running this utility.
- SAMPLE data is listed below to provide an overview of the type of data you will be prompted for and to illustrate the desired data format.

```
Data Send Mode: Normal
Email Address List: FnSIM@us.ibm.com
csmith@xyzcorp.com
pnguyen@xyzcorp.com
END [Press q to return to program, b to pageup] q
```

```
The Data Send Mode has 3 possible settings defined as follows:
 1 = Normal
              => Data is automatically emailed once a week to
                 FileNet at FnSIM@us.ibm.com. The data is also
                 emailed to any other addresses specified in the
                 Email Address List.
 2 = Forwarded => Data is not sent directly to FileNet. It is
                 emailed on a weekly basis to the addresses in the
                 Email Address List, and the email instructs the
                 System Administrator to forward the email to
                 FnSIM@us.ibm.com.
 3 = Manual
               => Automatic email is disabled, and the data is
                 archived to a local directory. The System
                 Administrator will need to manually collect the
                 data and email it to FileNet once a week.
Enter the number for the new Data Send Mode [1|2|3]:
(Example: enter 1 for Normal Mode)
==><mark>1</mark>
```

---EMAIL ADDRESS LIST-----Enter a new email address to add to the list or enter a blank <CR> to stop: (Example: ChrisSmith@xyzcorp.com) ==> PatWilson@abccorp.com ChrisJones@abccorp.com

Enter a new email address to add to the list or enter a blank <CR> to
stop:
(Example: ChrisSmith@xyzcorp.com)
==>

REVIEW OF UPDATED CONFIGURATION INFORMATION:

Data Send Mode: Normal Email Address List: FnSIM@us.ibm.com PatWilson@abccorp.com ChrisJones@abccorp.com

END [Press q to return to program, b to pageup] q

Would you like to save this information? [Y|N]: y

THE ABOVE CONFIGURATION INFORMATION HAS BEEN SUCCESSFULLY SAVED.

SCHEDULING THE SYSTEM INFORMATION MESSENGER TO RUN AUTOMATICALLY: -> The root crontab has been updated with a default entry for fnISSIM.

-> Run crontab -e as the SuperUser to activate the new crontab entry, and optionally define a different scheduled time for it to run.

Defender(root)/tmp/new>
Defender(root)/tmp/new>

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Appendix G – Command Reference

mailit

DESCRIPTION:

The mailit command sends email messages with file attachments. The main benefits are that it automates the process of attaching files and provides UNIX to DOS conversion options for attachments. In addition, it provides an option to facilitate mail system testing.

SYNTAX:

mailit

[address1 ... address<n>] [[-f filename1 ... filename<n>] [-fc filename1 ... filename<n>] [-fct filename1 ... filename<n>] | -SIMtest | -?]

DEFINITIONS:

address: Email address to send mail message to.

filename: Pathname of file to attach. All attachments will be encoded with uuencode.

OPTIONS:

- -f filename: Attach binary or ASCII file with no data conversion.
- -fc filename: Convert ASCII UNIX file to Microsoft ASCII file format and then attach. This option should only be specified for ASCII files. It is very useful when sending files with .txt extensions to Outlook users, since it allows the file to be displayed with the default viewer.

- Note that the local (source) file is not altered. Only the attachment is modified.
- -fct filename: Same as -fc option but adds a '.txt' extension to the name used for the attachment. This option is very useful when sending AS-CII files that don't have '.txt' extensions to Outlook users, since it allows the file to be displayed by simply clicking on the attachment.
 - Neither the name nor contents of the local (source) file is altered. Only the attachment is modified.
- -SIMtest: Send a pre-defined message with a CSS performance report attachment similar to a SIM message for test purposes. This will exercise the functions needed by the System Information Messenger to identify potential problems and verify that the mail system is fully functional and will properly send attachments.
- -?: Displays this usage summary.

PROMPTS:

The user will be interactively prompted to enter the Subject Line and text for the Message Body (except when using the -SIMtest option). Plus, the user will be given the opportunity to edit the Message Body text with vi after initial text input.

If email addresses are not entered on the command line, the user will be prompted to enter at least one. This is useful on systems where the '@' sign has been defined as the kill character (which inhibits entry of fully qualified addresses).

If no attachments are specified on the command line, the user will be prompted for them. However, attachments are not required.

EXAMPLE:

To send an email to Pat@FileNet.com containing all of the FileNet error logs for the month of February 2006 and convert the logs to Microsoft Text files:

mailit Pat@FileNet.com -fct /fnsw/local/logs/elogs/elog200602*