Requirements for MetaLib V4 and SFX V4 Installation

Version 4

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Table of Contents

Chapter 1 Overview 5

Chapter 2 Server Hardware and Software Requirements 7

Server Requirements 7

Operating System/Platform for MetaLib and SFX 8

File System and Disk Space 8

MetaLib Disk Space Requirements 9
NFS Disk Usage 9
Oracle-Compatible Network-Attached File Servers 9
SFX Disk Space Requirements 10
Summary — MetaLib and SFX Disk Space Requirements 11
Calculating Disk Space Requirements 11

RAM Requirements 11

Required Software on Solaris Platform 12

Native C Compiler 12
Required for SFX 12

Required Software on Linux Platform 12

FTP and SFTP Client and Server 12
C-Development and Linux-Compatible Packages Installed 12
IBMJava 12
Other Software 13

Media for Data Exchange 13

Backup and Recovery Media and Procedures 13

Additional Server Software Installed with the Installation Kit 13

Optional Server Software (Solaris Platform) 14

Chapter 3 Client Hardware and Software Requirements 15

Browsers 15

Unicode Font 15

Chapter 4 Communication Requirements 17

Network Configuration 17

Server Access 18

Ports and Activity Type 19
Additional MetaLib Installation in Parallel *19*
Apache with SSL 20
Chapter 5 Requirements for Ex Libris Installation 21
Server Access 21
Root Access 21
List of Operations that Should Be Available for sudo 22
Other Related Requirements 22
Additional Notes 23
Chapter 6 Responsibilities Checklist 25
Appendix A Manual Checks for Hardware and Software Requirements 29
Operating System Versions Supported by MetaLib 4.X 29
Hardware Requirements 30
Disk Space Requirements 30
Additional Linux Operating System Requirements 30
Additional SUN Operating System Requirements 31
Performing Checks for SFX 32
Appendix B Pre-Installation Checks Utility 35

1

Overview

This document describes the requirements for the installation and use of MetaLib Version 4 and SFX Version 4. Before purchasing and installing the hardware and operating system, you must receive confirmation from Ex Libris regarding the hardware and operating system requirements. Requirements outlined in this document may change due to customer and Ex Libris development needs.

2

Server Hardware and Software Requirements

This section includes:

- **Server Requirements** on page **7**
- **File System and Disk Space** on page **8**
- **RAM Requirements** on page **11**
- **Required Software on Solaris Platform** on page **12**
- **Required Software on Linux Platform** on page **12**
- **Media for Data Exchange** on page **13**
- **Backup and Recovery Media and Procedures** on page **13**
- **Additional Server Software Installed with the Installation Kit** on page **13**
- **Optional Server Software (Solaris Platform)** on page **14**

Server Requirements

MetaLib and SFX should be installed on a dedicated server to ensure optimal performance of these applications.

NOTE:
If you want to use your ALEPH or DigiTool server, you must contact your Ex Libris representative for sizing requirements.

Operating System/Platform for MetaLib and SFX

CAUTION:

Refer first to *Operating System Requirements for Red Hat Enterprise Linux* and *Operating System Requirements for the Sun Platform* for basic and detailed requirements and then refer to the additional specific MetaLib/SFX requirements below.

For each of the following operating system versions, Ex Libris recommends that you install the latest OS update level.

- Sun:
  - Solaris 5.10 (64 bit), based on SPARC processors
  - Solaris 10, based on x86 processors
- Linux: Red Hat Enterprise Linux AS/ES 5 and 6 (Update 2 or later) 64-bit, based on Intel or AMD 64-bit processors.

NOTE:

RH 6 is supported in MetaLib 4.5.3 (October 16, 2012) and later releases.

For an exact model, including the required number of CPUs and required RAM as a function of the number of users, contact your Ex Libris representative.

NOTES:

- The mandatory minimum required RAM is 4 GB.
- Although Sun T-Series servers are supported and certified SPARC platforms, our tests have found them unsuitable for Ex Libris products in terms of performance. You may use them for Test environments only, but Ex Libris cannot guarantee response times and performance.
- MetaLib on SUN Solaris 10 based on x86 is a special edition release that does not allow clustering and fast sets functionality. The application is available only as a Primo service, and not as a stand-alone installation.

File System and Disk Space

MetaLib and SFX installations require a file system mounted on `/exlibris` with a mandatory minimum size of 50 GB.

In the case of a multi-instance MetaLib and SFX installation, each additional instance (beyond the first) requires an additional 5 GB.

MetaLib Disk Space Requirements

MetaLib installation requires 25 GB of the mandatory 70 GB disk space (minimum), plus 3 GB for each additional MetaLib institution. MetaLib's Oracle data can be installed separately from the application as follows:

- MetaLib application — 6 GB on the file system `/exlibris`.
- Oracle data — 19 GB either on the `/exlibris` file system or on another file system.

The `/exlibris` file system must be mounted directly to the server, and cannot be a soft or symbolic link to any alternatively named file system.

NOTE:
The MetaLib application and supporting software is installed in the `/exlibris/metalib` directory. SFX is installed in the `/exlibris/sfx_ver` directory.

NFS Disk Usage

Ex Libris does not support Oracle installation or Oracle database creation on NFS disks for the following reasons:

- Oracle does not support files on a file system that does not have a write-through-cache capability (for example, Standard NFS uses the UDP protocol which does not include an acknowledgment).
- Oracle Server and the database files require special file permissions which are not available on certain file systems (for example, VFAT). If these file permissions are not set correctly, the Oracle server does not function properly.
- Oracle Corporation does not recommend locating data files on NFS mount points unless the storage vendor and storage device are listed in the Oracle Storage Compatibility Program List (see **Oracle-Compatible Network-Attached File Servers** on page **9**). For Linux, Oracle recommends using NFS-based storage systems only (such as NetApp).

Oracle-Compatible Network-Attached File Servers

The Oracle Compatible Product column (see **Table 1**) provides links to OSCP member pages listing the compatibility of their products with Oracle versions.

NOTE:
Oracle supports only NFS protocol with network file servers. Oracle does not support CIFS protocol because CIFS protocol cannot guarantee certain write block size and data commitment to disk or cache. NFS client in the Windows environment (such as PC-NFS) is supported.

Table 1. OSCP Member Pages

Company	Oracle Compatible Product	Contact	Email Address	Contact Phone (USA)
Auspex	NS3000XR	Lawrence Didsbury	didsbury@auspex.com	408-566-3539
BlueArc	Titan SiliconServer	Brett Penny	bpenny@bluearc.com	408-576-6600
EMC	Celerra	Jason Kotsaftis	kotsaftis_jason@emc.com	800-445-2588 If you are outside of the U.S., please contact your local EMC office.
HP	NAS 8000 and E7000		nas-oracle.team@hp.com	800-752-0900
Network Appliance	Filers	Puneet Pandit	puneet.pandit@netapp.com	408-822-6291
Procom Technology	NetFORCE	Carlos Ortiz	carlos_ortiz@procom.com	949-852-1000
VERITAS	ServPoint	Scott Gaw	scott.gaw@veritas.com	650-527-3698

SFX Disk Space Requirements

SFX installation requires the remaining 40 GB of the mandatory 70 GB disk space (minimum), plus 10 GB for each additional SFX instance. SFX application and all supporting software is typically installed in the `/exlibris/sfx_ver` directory.

Summary — MetaLib and SFX Disk Space Requirements

Table 2 lists the minimal disk space requirements for running and maintaining MetaLib and SFX software and data.

Table 2. Disk Space Requirements

Usage	Size	File System
MetaLib, SFX, Oracle; and other add-on required software products, and the SFX database	70 GB plus 10 GB for each additional SFX and MetaLib instance	`/exlibris`
RAM	4 GB minimum	
Swap space	Twice the amount of RAM	
`/tmp`	4 GB	

These general guidelines for determining the minimal disk space requirements for MetaLib and SFX presume that the customer performs system maintenance on their MetaLib and SFX installations at regular intervals, as recommended by Ex Libris (for example, cleaning temporary or scratch directories, shortening or deleting old log files, and so on).

Available disk space, if less than the minimal requirements specified above, must be confirmed by Ex Libris.

Note that the disk space requirements do not include:

- System disk requirements
- All types of data redundancy, such as RAID 1,5 or 0/1 solutions.

Calculating Disk Space Requirements

(A): Number of MetaLib institutions/SFX instances =

(B): Basic MetaLib/SFX installation: 70 GB

Additional disk space for multiple institutions/instances:

(C): [Number of institutions/instances - 1] x [10 GB] = GB

Total disk space requirements: **(B)** + **(C)** = GB

RAM Requirements

Minimum RAM required is 4 GB. For an exact size as a function of the number of users and product configuration, contact your Ex Libris representative.

Required Software on Solaris Platform

NOTE:
Refer to *Operating System Requirements for the Sun Platform* for detailed requirements.

Native C Compiler

SUN/Solaris operating systems require an installed native C compiler with ANSI support (Sun Forte Workshop version 6.2 and later or Sun ONE Studio Collection - Sun Studio 12 or higher).

Purchase and installation of the native C compiler is the customer's responsibility. The native C compiler is supplied by SUN.

This compiler is in addition to `gcc`, which is installed by Ex Libris (see **Additional Server Software Installed with the Installation Kit** on page **13**).

Required for SFX

The following tools are required:

- tcsh
- GNU tar

Required Software on Linux Platform

FTP and SFTP Client and Server

The FTP and SFTP software must be loaded for Solaris and Linux.

C-Development and Linux-Compatible Packages Installed

Refer to *Operating System Requirements for Red Hat Enterprise Linux* for detailed requirements.

IBMJava

If the IBMJava2 rpm packages are installed, ensure that the package versions are 1.3.1-5 or later.

NOTE:
Installation of this package is not mandatory.

Other Software

The following executable files exist in the `/usr/bin` or `/bin` directories:

`make`, `ar`, `ld`, `nm`, `gzip`, `su`, `tar`, `compress`

Media for Data Exchange

An internet connection is a prerequisite for MetaLib and SFX implementation and support (see **Communication Requirements** on page **17**). The customer should also have a CD-ROM drive for data and software exchange with Ex Libris in case FTP is unavailable. The CD-ROM drive should be capable of reading ISO 9660 format with RockRidge extensions.

Backup and Recovery Media and Procedures

MetaLib and SFX include backup procedures. However, backup and recovery procedures and their selected media are the customer's responsibility.

Additional Server Software Installed with the Installation Kit

Following are add-on software products for MetaLib and SFX, which are all installed as part of the MetaLib installation Kit (MIK) to ensure full compatibility with MetaLib and SFX. Third-party software installed by the customer will **not** be used.

- Oracle
- MF Cobol
- MySQL
- Java
- gcc (on Solaris platform)
- gsort (on Solaris platform)
- gzip
- Perl with add-on modules
- Apache Server
- OpenSSL
- wget

- GNU Make

Optional Server Software (Solaris Platform)

An installation of the `top` tool (system performance monitoring tool) on the Solaris platform is highly recommended. The `top` tool must be installed by the customer's system administrator.

NOTE:
The `top` tool is part of the standard Linux operating system.

3

Client Hardware and Software Requirements

This section includes:

- **Browsers** on page **15**
- **Unicode Font** on page **15**

Browsers

MetaLib and SFX are compatible with the following internet browsers:

- Internet Explorer 7.x and 8.x running on Windows XP, Windows Vista, or Windows 2000
- Internet Explorer 8.x running on Windows 7
- Firefox 3.0 and 3.5 running on Windows platforms as above or Mac OS X
- Safari 1.3 and 2.x running on Mac OS X

NOTE:
MetaLib's and SFX's administrative interfaces are supported with Internet Explorer version 6.0 or later and Firefox 1.5 and later.

Unicode Font

Ex Libris recommends installing an appropriate Unicode font including all characters used by the customer on the PC and in the browser.

NOTE:
If you use CJK character set, the load time of pages may be slow. Therefore, if you use only Latin characters, choose a Latin Unicode font for better performance.

4

Communication Requirements

This section includes:

- **Network Configuration** on page **17**
- **Server Access** on page **18**
- **Ports and Activity Type** on page **19**
- **Apache with SSL** on page **20**

Network Configuration

The server must have a fully qualified hostname (include short hostname and domain name) that is registered in the DNS.

When performing a distributed installation, all application servers must have DNS entries.

The server name must be defined in `/etc/hosts` as follows:

- Both the fully qualified name and the short host name must be linked to a physical IP address (internal). In order to make sure the correct name is defined, use the following commands:

  ```
  grep `eval hostname` /etc/hosts
  ```

  This command must return a valid entry with a physical IP address.

- For SunOS, enter the following commands to find the internal IP address:

  ```
  /usr/sbin/ifconfig -a | grep inet | grep -v 127.0.0.1 | awk
  '{print $2}'
  ```

- For Linux, enter the following commands to find the internal IP address:

  ```
  /sbin/ifconfig -a | grep addr: | grep -v 127.0.0.1 | awk
  '{print $2}'
  ```

See the following example for `/etc/hosts`:

```
# Do not remove the following line, or various programs
# that require network functionality will fail.

127.0.0.1    localhost.localdomain       localhost

10.1.222.22  ml-inst.corp.metalib.com    ml-inst
```

The first active line should be configured exactly as shown in the example.

The second line should contain the internal IP address, followed by the fully qualified name (hostname + domain name), the short name, and any possible aliases.

Server Access

In order to support MetaLib and SFX sites, access to the system for the local support office and for Ex Libris Headquarters via the Internet, with a minimum bandwidth of 64 Kbps, is required.

Customers requesting assistance with the installation of MetaLib and/or SFX must provide system access to their server for the initial installation, setup and ongoing troubleshooting and support of the MetaLib and SFX installations.

If a firewall is installed, you must enable ssh access for your local Ex Libris office and the HQ Jerusalem office, using the relevant IP addresses from the following list:

- HQ Jerusalem office – Israel:
  - 212.179.71.70
  - 212.179.71.34
- Local Ex Libris office – USA:
  - Des Plaines: 207.56.64.194
  - Boston: 72.164.6.114
- Local Ex Libris office – Germany:
  - Seefeld: 217.91.56.60
  - Hamburg: 195.37.97.145
  - Cologne: 194.8.220.178
- Local Ex Libris office – France:
  - 195.5.253.245

- Local Ex Libris office – UK:
  - 88.96.11.121
- Local Ex Libris office - Australia:
  - 203.87.118.110

Outgoing FTP access must be enabled for the following host names:

- ftp.exlibris.co.il
- ftp.exlibrisgroup.com
- ftp.exlibris-usa.com

Incoming/outgoing SFTP access must be enabled for the following IP:

66.77.99.12

Ports and Activity Type

The following ports must be available:

- Telnet or SSH standard port (incoming)
- FTP standard port (outgoing)
- SFTP standard port (incoming/outgoing)
- HTTP ports 8331 and 80, if the port is going to change to 80 on STP for MetaLib (incoming)
- HTTP ports for SFX (incoming): This includes the reverse proxy server port that you select. The default ports are 80 and 3410. (In case of multiple installations, use 34<*copy number*>0 ports).

  Each SFX instance has a unique port that is accessed by the reverse proxy server: 3001 (for the global instance), 3002, and 3003 are the default ports. (In case of multiple installations, use 3<*copy number*>01, 3<*copy number*>02, and 3<*copy number*>03, and so forth ports).

  HTTP ports may be reconfigured by the system administrator after the SFX installation.
- TCP/IP port 7331 for running the MetaLib Z39.50 gate (outgoing)
- In a TWO TASK installation, port 1521 should be open between both Oracle and MetaLib application servers.

Additional MetaLib Installation in Parallel

The following ports must be available:

- Telnet or SSH standard port (incoming)

- FTP standard port (outgoing)
- SFTP standard port (incoming/outgoing)
- HTTP ports 8332 and 80, if the port is going to change to 80 on STP for MetaLib (incoming)
- HTTP ports for SFX (incoming): 9003, reverse proxy server port chosen by the customer [3210 is default]; each SFX instance requires a unique port accessed by the reverse proxy server [default is 3001, 3002, 3003]. The system administrator may reconfigure HTTP ports after installation.
- TCP/IP port 7332 for running the MetaLib Z39.50 gate (outgoing)
- In a TWO TASK installation, port 1521 should be open between both Oracle and MetaLib application server.

Apache with SSL

If SSL installation is required, HTTPS port 443 for MetaLib and 4210 for SFX, or any other port configured by the customer for this purpose must be available. It is the customer's responsibility to purchase an SSL certificate.

NOTE:
The settings for all ports, except the HTTP and Z39 ports, must be defined so that only valid Ex Libris IPs can access them from outside the firewall.

5

Requirements for Ex Libris Installation

This section includes:

- **Server Access** on page **21**
- **Root Access** on page **21**
- **List of Operations that Should Be Available for sudo** on page **22**
- **Other Related Requirements** on page **22**
- **Additional Notes** on page **23**

Server Access

In order to log on to the server, an initial `exlibris` user with permission to `su` or `sudo` is required. This user can be deleted after the installation is complete.

Root Access

Ex Libris staff require a root password to:

- create the following users and set ownership of files:
  - `metalib` and `m_ftp` with a group ID of `exlibris`.
  - `oracle` with a group ID of `dba`.
  - `sfxglb4`, `sfxlcl4`, and `sfxtst4` with a group ID of `sfx`.
- enable the users listed above to create directories and files under the file system `/exlibris`.
- install MetaLib, SFX and the additional software listed in **Additional Server Software Installed with the Installation Kit** on page **13**.
- add automatic activation of MetaLib, Oracle, SFX, and Apache to the machine's boot process.

- reboot the server to effect new values of system parameters that were modified during the installation process, and to test the automatic activation of MetaLib, SFX, Oracle, and Apache. The reboot will be coordinated with the customer.

List of Operations that Should Be Available for sudo

1. Create users and groups:
   - `useradd`
   - `groupadd`
   - `vipw`
2. Change system parameters:
   - For Sun Solaris servers - `/etc/system` file
   - For Linux - `/etc/rc.d/rc.local` and `/etc/security/limits.conf` files
3. Create directories and change permissions:
   - `mkdir`
   - `chown`
4. Create files necessary for the autostartup mechanism in the `/etc` directory.
5. Micro Focus Cobol installation in following directories:
   - `/opt/microfocus` — License Manager SW installation
   - `/etc/mflmrcscript` — License manager startup script

Other Related Requirements

Verify the following related requirements:

- `tcsh` must be available. Ex Libris products and the users listed above work under `csh`.

NOTE:
SFX users do not work under `csh`, only `tcsh`.

- The system manager must be available throughout the installation.
- The system manager must define an alias for the hostname in the `/etc/hosts` file.

- If the IBMJava2 rpm packages are installed in RH Linux environment, ensure that the version of the packages is 1.3.1-5 (or later).
- SFX: The cron service is running and allowed for all members of group `sfx`.
- The mail service should be installed and tested. This required in order to send e-mail from the server via SMTP. `sendmail` is recommended.

Additional Notes

Home directories for the users part of the `sfx` group are by default placed in the `/exlibris/sfx_ver/sfx_version_3/<instance_name>/home` path. If this configuration is not acceptable, inform Ex Libris prior to the installation.

6

Responsibilities Checklist

This table summarizes the the requirements described in this document.

Table 3. Repsonsibilities Checklist

Details	Purchase and Installation Responsibility	Page
Server Hardware & Software		page 7
Server & OS	Customer	page 8
Disk space	Customer	page 9
Native C compiler (on Solaris platform)	Customer	page 12
gcc (on Linux or Solaris 10 platform)	Customer	
GNU tar (on Solaris platform)	Customer	
SFTP (on Solaris platform)	Customer	page 12
SFTP (on Linux platform)	Customer	
Media for data exchange	Customer	page 13
Backup media	Customer	page 13

Table 3. Repsonsibilities Checklist

Details	Purchase and Installation Responsibility	Page
Additional SW	Ex Libris	page 13
Oracle	Ex Libris	
MF Cobol	Ex Libris	
MySQL	Ex Libris	
Java	Ex Libris	
gcc (on Solaris 9 platform)	Ex Libris	
gsort (on Solaris platform)	Ex Libris	
gzip	Ex Libris	
perl	Ex Libris	
Apache server	Ex Libris	
OpenSSL (if required)	Ex Libris	
wget	Ex Libris	
GNU Make	Ex Libris	
/bin/tcsh (on Solaris platform)	Customer	
Optional Server Software (Solaris Platform)		page 14
top	Customer	
Client Hardware & Software		page 15
PC	Customer	
Browsers	Customer	
Unicode Fonts	Customer	
Communication Requirements		page 17
Open ports	Customer	
SSL certificate (if required)	Customer	

NOTE:

To ensure full compatibility with MetaLib and SFX, the software components listed above as purchased and installed by Ex Libris, such as Oracle and Apache, must be installed as part of the MetaLib Installation Kit and not separately.

A

Manual Checks for Hardware and Software Requirements

This section includes:

- **Operating System Versions Supported by MetaLib 4.X** on page **29**
- **Hardware Requirements** on page **30**
- **Disk Space Requirements** on page **30**
- **Additional Linux Operating System Requirements** on page **30**
- **Additional SUN Operating System Requirements** on page **31**
- **Performing Checks for SFX** on page **32**

This section lists the manual checks needed to verify that the required hardware and software has been installed in MetaLib.

Operating System Versions Supported by MetaLib 4.X

Table 4 lists the commands that display the OS version information.

Table 4. Supported Operating Systems

Platform	OS Version	Command to Check
Linux	Red Hat 4.0 ES/AS - 32 bit and 5.0 ES/AS - 64 bit	`cat /etc/redhat-release`
Sun Solaris	5.9, 5.10 (64 bit)	`uname -a`

Hardware Requirements

Table 5 lists the commands that display memory and swap space.

Table 5. Memory and Swap Space Commands

Platform	OS Version	Command to Check
Memory	4 GB minimum	Linux: `/usr/sbin/dmesg | grep "Physical:"` Sun Solaris: `/usr/sbin/prtconf | grep "Memory size"`
Swap Space	Twice the amount of RAM.	Linux: `/sbin/swapon -s` Sun Solaris: `/usr/sbin/swap -l`

Disk Space Requirements

Table 5 lists the commands that display disk space.

Table 6. Disk Space Commands

Parameter	Size	Command to Check
`/exlibris` disk	25 GB minimum	`df -k /exlibris`
`/tmp` disk	1 GB minimum	`df -k /tmp`

Additional Linux Operating System Requirements

Perform the following checks to verify that the additional Linux OS commands are installed:

- The following executable files should exist in `/usr/bin` or `/bin` directories:

  `make`, `ar`, `ld`, `nm`, `gzip`, `su`, `tar`, and `compress`

  Enter the following commands to verify:

```
ls /usr/bin
ls /bin
```

- To verify that the C-Development package is installed, use the following commands:

```
which gcc
gcc -v
```

- To verify that the FTP package is installed, enter the following command:

```
ftp ftp.exlibrisgroup.com
```

- To verify that the Linux-compatible packages are installed, enter the following command for Linux RedHat:

```
rpm -q <package_1> <package_2>
```

In this example, the presence of *<package_1> <package_2>* is verified.

For example:

```
rpm -q binutils compat-db control-center gcc gcc-c++ glibc \
glibc-common gnome-libs libstdc++ libstdc++-devel make pdksh \
sysstat xscreensaver libaio
```

See *Operating System Requirements for Red Hat Enterprise Linux* for the relevant packages list.

If any packages are missing, they should be installed from the original Red Hat CDs or from http://www.redhat.com.

- To verify that the correct version of the IBMJava2 rpm packages are installed, enter the following command to see that the version is 1.3.1-5 or later:

```
java -version
```

Additional SUN Operating System Requirements

Perform the following checks to verify that the additional Sun OS commands are installed:

- Verify all relevant system packages are installed. See *Operating System Requirements for SUN Solaris* for a list of relevant packages.
- To verify that the ftp package is installed, enter the following command:

```
ftp ftp.exlibrisgroup.com
```

- The following executable files should exist in `/usr/ccs/bin` directory:

  `make`, `ar`, `ld`, `nm`

- Enter the following command to verify:

```
ls /usr/ccs/bin
```

- The following executable files should exist in `/usr/bin` directory:

`gzip`, `su`, `tar`, `compress`

- Enter the following command to verify:

```
ls /usr/bin
```

- Use the following command to verify that the Native C compiler and the Sun Forte Workshop version 6.2 (or later) or the Sun ONE Studio Collection are installed:

```
cc -V
```

Installation of the latest operation system patch set is recommended. Relevant package can be taken from the official SUN site:

http://sunsolve.sun.com/pub-cgi/show.pl?target=patches/patch-access&nav=patchpage

Performing Checks for SFX

1. Check the logon information:
   a. Log on as the `exlibris` user.
   b. Enter the following command to switch to the root user.

```
su -
```

   c. Test the logon.
2. Enter the following command to check space:

```
df -k /exlibris
```

3. Perform the following command to check the IP of the server:

```
perl -MSys::Hostname -MSocket -e '$a =  gethostbyname(hostname());
print "\nThe IP:", inet_ntoa($a), "\n";'
```

The output must match the IP that was used to create the license. It cannot be `127.0.0.1`. Otherwise, system administration must adjust the `/etc/hosts` file.

4. Enter the relevant command to check the OS:

```
uname -a (for SUN Solaris)
cat /etc/redhat-release (for Linux Red Hat)
```

5. Check the outgoing FTP connection: `ftp ftp.exlibris-usa.com`

6 For Solaris only, check the existence of all necessary packages: `tcsh`, `top`, and GNU `tar`. Use the following commands to verify:

```
ls -la /bin/tcsh
top
tar --help
```

7 Linux only (IMPORTANT!): Make sure there is no `/etc/my.cnf`. If it exists, rename it. For example, use the following command to rename the file:

```
mv my.cnf my.cnf.bak
```

B

Pre-Installation Checks Utility

The Pre-installation Checks utility is intended to check the server's readiness for MetaLib and SFX installation. The utility creates a detailed log file that includes all of the server information relevant to the installation.

This package includes the following files:

- `precheck.csh` — main utility
- `precheck_lin.csh` — pre-installation checks procedure for Linux
- `precheck_sun.csh` — pre-installation checks procedure for Sun
- `precheck_var.dat` — service data (list of special variables)
- `check_c.c` — C-program template (using for C-compiler checking)
- `README` — instructions file

How to run the utility:

1. Connect to the MetaLib server and log on as the root user.
2. Get the Pre-installation Checks package from the FTP server. Enter the following commands from either `ftp.exlibris.co.il` or `ftp.exlibrisgroup.com`:

```
sftp metal@ftp.exlibris.co.il
cd scripts
get precheck.tar
```

3. Enter the following command to open the tar file:

```
tar -xf precheck.tar
```

4. Run the Pre-installation Checks utility:

```
csh -f precheck.csh
```

5. Check the log file with results and notify the customer in case of problems with server readiness.

6 Transfer the log file and the installation request to the Installation Team.

For more information, contact the Ex Libris Installation Team.