Operating System Requirements for the Oracle Solaris Platform
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# Table of Contents

**Chapter 1**  Operating System Requirements................................................................. 5  
   Operating System ................................................................................................. 5  
   Operating System Packages ............................................................................... 6  
   *Solaris* 10 (SPARC 64-Bit) Patches for Oracle 10.2 ........................................ 7  
   *Solaris* 10 (x86-64) Patches for Oracle 10.2 .................................................... 7  
   *Solaris* 10 (SPARC 64-Bit) Patches for Oracle 11.1 ......................................... 7  
   *Solaris* 10 (SPARC 64-Bit) Patches for Oracle 11.2 ......................................... 7  
   *Solaris* 10 (x86-64) Patches for Oracle 11.2 .................................................... 7  
   *Solaris* 10 Required Patches for Oracle 12c ...................................................... 8  
   *Solaris* 11 (SPARC 64-bit or x86-64) ............................................................... 8  
   Required Executable Files .................................................................................... 8  
   Native C Compiler ............................................................................................... 8  
   Additional Software ............................................................................................ 9  
   Windows Manager ............................................................................................... 9  

**Chapter 2**  Performing a System Requirements Verification............................... 11  
   Operating System Information ........................................................................... 11  
   Determining RAM ............................................................................................... 11  
   Determining Swap Space ..................................................................................... 12  
   Determining System Executable Files ............................................................... 12  
   Determining Configured Disk Space ................................................................. 12  
   Determining the Root User’s PATH Setting ...................................................... 12  

**Chapter 3**  NFS Mount Options for Ex Libris Products........................................... 13  
   Overview ............................................................................................................ 13  
   Oracle Mount Options ....................................................................................... 13  
   Additional Mount Options for Ex Libris Software ......................................... 14
Operating System Requirements

This section provides operating system requirements for installing Ex Libris applications on the Sun Solaris operating system.

This section includes:
- Operating System on page 5
- Operating System Packages on page 6
- Required Executable Files on page 8
- Native C Compiler on page 8
- Additional Software on page 9
- Windows Manager on page 9

Operating System

Solaris 10 is the required operating system.

Supported architecture: 64 bits x86 processors and SPARC processors.

For each of the following operating system versions, Ex Libris recommends that you install the latest OS patch cluster recommended for this operating system.

The mandatory OS level for the Oracle 12c installation is Solaris 10 (64-bit) update 11 or later update.

The following table shows the current OS version certifications for each Ex Libris application.

<table>
<thead>
<tr>
<th>Application</th>
<th>Solaris 10 SPARC</th>
<th>Solaris 10 x86 64</th>
<th>Solaris 11 SPARC</th>
<th>Solaris 11 x86 64</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALEPH 20.x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aleph 21</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1. OS Version Certifications for Ex Libris Applications
Operating System Requirements for the Sun Platform

Table 1. OS Version Certifications for Ex Libris Applications

<table>
<thead>
<tr>
<th>Application</th>
<th>Solaris 10 SPARC</th>
<th>Solaris 10 x86 64</th>
<th>Solaris 11 SPARC</th>
<th>Solaris 11 x86 64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aleph 22, 23</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>ARC 2.0</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARC 3.0</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARC 4.x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>DigiTool 3.x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MetaLib 4.x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Rosetta 5.x</td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>SFX 4.0</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Verde 2.0</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voyager 9</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voyager 10</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Operating System Packages

The following operating system packages must be installed:
SUNWarc
SUNWbinutils
SUNWbtool
SUNWcsl
SUNWdtrc
SUNWeu8os
SUNWgcc
SUNWgccruntime
SUNWhea
SUNWia15cs
SUNWic1cs
SUNWicof
SUNWlibC
SUNWlibm
SUNWlibms
SUNWmfrun
SUNWsprot
SUNWtcsh
SUNWtoo
SUNWxfnt

**Solaris 10 (SPARC 64-Bit) Patches for Oracle 10.2**
127127-11 or later

**Solaris 10 (x86-64) Patches for Oracle 10.2**
118345-03 or later (SunOS 5.10_x86: ld Patch)
119961-01 or later (SunOS 5.10_x86, x64, Patch for assembler)

**Solaris 10 (SPARC 64-Bit) Patches for Oracle 11.1**
127111-02 or later (SunOS 5.10: libc patch)
137111-04 or later (SunOS 5.10: kernel patch)
117837-05 or later (C++ compiler optimizer patch)
117846-08 or later (C++ compiler Optimization patch)
118682-01 or later

**Solaris 10 (SPARC 64-Bit) Patches for Oracle 11.2**
120753-06 or later (SunOS 5.10: Microtasking libraries (libmtsk) patch)
139574-03 or later
119963-14 or later (SunOS 5.10: Shared library patch for C++)
124861-15 or later (SunOS 5.10 Compiler Common patch for Sun C C++ (optional))

**Solaris 10 (x86-64) Patches for Oracle 11.2**
120754-06 or later (SunOS 5.10_x86 libmtsk)
119961-05 or later (SunOS 5.10_x86: Assembler)
119964-14 or later (SunOS 5.10_x86 Shared library patch for C++_x86)
137104-02 or later
139575-03 or later
139556-08 or later

**Solaris 10 Required Patches for Oracle 12c**
147440-25147441-25

**Solaris 11 (SPARC 64-bit or x86-64)**
For Solaris 11 only Oracle 11.2.0.3 (and later) is certified.
The same packages (or equivalent) as Solaris 10 are required.
In addition, the following packages (or later versions) are required for Oracle Database 11g Release 2 (11.2) for Oracle Solaris 11:
- pkg://solaris/developer/build/make
- pkg://solaris/developer/assembler
- pkg://solaris/system/dtrace
- pkg://solaris/developer/assembler
- pkg://solaris/developer/build/make
- pkg://solaris/system/xopen/xcu4 (if not already installed as part of standard Oracle Solaris 11 installation)
- pkg://solaris/x11/diagnostic/x11-info-clients
- pkg://solaris/compress/unzip

Install XCU4 Utilities.

**NOTE:**
From Solaris 11, the SUNW prefix for package names is no longer used. With the introduction of IPS, all software packages are renamed. For more information, refer to Oracle Solaris 10 SVR4 and IPS Package Comparison.

**Required Executable Files**
The following executable files must be present in the /usr/ccs/bin directory:
make, ar, ld, nm.

**Native C Compiler**
Requires Sun Studio C/C++ Compiler Collection version 11 or later. Ex Libris recommends that you install the latest version of these compiling environments.
**Additional Software**

- tcsh SHELL (package SFWtcsh)
- top processes (package SFWtop)
- bash SHELL (package SUNWbash)

**Windows Manager**

The installation of the Oracle Server online install modes requires X-Windows. Use any Sun-supported X-Windows server. For example: dtwm.
Performing a System Requirements Verification

The commands listed in this chapter are intended to help you perform the necessary system requirements verification. Depending on the test results, the Installation Team can determine whether the system is ready for an installation of the application.

This section includes:
- Operating System Information on page 11
- Determining RAM on page 11
- Determining Swap Space on page 12
- Determining System Executable Files on page 12
- Determining Configured Disk Space on page 12

Operating System Information

To determine your current operating system information, enter the following command:

```
/bin/uname -a
```

Determining RAM

To determine the amount of random-access memory (RAM) installed on your system, enter the following command:

```
/usr/sbin/prtconf | grep size
```
Determining Swap Space

To determine the bytes of swap space currently configured on your system, enter the following command:

```
/usr/sbin/swap -a
```

Determining System Executable Files

To determine whether you are using the correct system executable files, enter the following command:

```
/usr/bin/which make
```

Determining Configured Disk Space

To determine how much disk space is currently configured on your system, enter the following command:

```
/bin/df -k
```

Determining the Root User’s PATH Setting

To determine that the C compiler executable file is included in the PATH setting of the root user, as user root, enter the following command:

```
/usr/bin/which cc
```

The SPARCworks C compiler executable file is usually located in:

```
/opt/SUNWspro/bin
```
This section includes:
- **Overview** on page 13
- **Oracle Mount Options** on page 13
- **Additional Mount Options for Ex Libris Software** on page 14

**Overview**

To install Ex Libris products with NFS mounts under Unix/Linux OS requires you to use the correct mount options.

Using the correct mount option is also mandatory for Oracle database files. If the correct option is not used, Oracle fails to mount the database files located on the NFS mounts.

Note that the requirements are different for software mounts and for Oracle data files. Using the Oracle database mount options on a software disk may work, but performance may be affected.

**Oracle Mount Options**

The Oracle requirements for NFS mounts may change periodically and can be checked in Oracle support note 359515.1.

The following table related to the Oracle software and database files for Oracle versions 10.2 to 11.1.

In the table below:
- Binaries is the shared mount points where the Oracle Home and CRS_HOME are installed.
- Datafiles includes online logs, control files, and data files.
The following table is for a single instance installation.

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Mount Options for Binaries</th>
<th>Mount Options for Oracle Datafiles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun Solaris (8, 9, 10)</td>
<td>rw,bg,hard,rsize=32768,wsize=32768,vers=3,nointr,proto=tcp,suid</td>
<td>rw,bg,hard,rsize=32768,wsize=32768,vers=3,[forcedirectio or llock],nointr,proto=tcp,suid</td>
</tr>
<tr>
<td>AIX (5L)</td>
<td>rw,bg,hard,rsize=32768,wsize=32768,vers=3,intr,timeo=600,proto=tcp</td>
<td>rw,bg,hard,rsize=32768,wsize=32768,vers=3,cio,intr,timeo=600,proto=tcp</td>
</tr>
<tr>
<td>Linux x86</td>
<td>rw,bg,hard,rsize=32768,wsize=32768,vers=3,nointr,timeo=600,tcp</td>
<td>rw,bg,hard,rsize=32768,wsize=32768,vers=3,nointr,timeo=600,proto=tcp,actimeo=0</td>
</tr>
<tr>
<td>Linux x86_64</td>
<td>rw,bg,hard,rsize=32768,wsize=32768,vers=3,nointr,timeo=600,tcp</td>
<td>rw,bg,hard,rsize=32768,wsize=32768,vers=3,nointr,timeo=600,proto=tcp,actimeo=0</td>
</tr>
</tbody>
</table>

In addition to the Oracle requirements, the nolock option is required in Linux and the llock option is required in Solaris to prevent locked issues that might cause database file locks and severe performance issues.

**Additional Mount Options for Ex Libris Software**

For most purposes, Ex Libris products work with the same mount options as the Oracle binaries. Note the following:

- The nolock (Linux) llock (Solaris) options are required to prevent file locks and severe performance issues.
- Do not use the noac options in a shared installations.
- Make sure that actimeo is larger than 0, but under 60 to prevent jobd/batchd sync issues.

**NOTE:**

For mixed environments (binaries and database files on the same mount) Oracle recommends the use of Oracle DNFS - see Oracle document ID 762374.