Oracle® Secure Global Desktop: Platform Support and Release Notes for Release 5.0

Abstract

This document describes the new and changed features for this release of Oracle Secure Global Desktop. Information on supported platforms and known bugs and issues are included.
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Preface

The Oracle Secure Global Desktop Platform Support and Release Notes provide information about the system requirements and support, and the new features and changes, for this version of Oracle Secure Global Desktop (SGD). This document is written for system administrators.

1. Audience

This document is intended for new users of SGD. It is assumed that readers are familiar with Web technologies and have a general understanding of Windows and UNIX platforms.

2. Document Organization

The document is organized as follows:

• Chapter 1, New Features and Changes describes the new features and changes for this version of Oracle Secure Global Desktop.

• Chapter 2, System Requirements and Support includes details of the system requirements and supported platforms for this version of Oracle Secure Global Desktop.

• Chapter 3, Known Issues, Bug Fixes, and Documentation Issues contains information about known issues, bug fixes, and documentation issues for this version of Oracle Secure Global Desktop. Details on providing feedback and reporting bugs are also included.

3. Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

4. Related Documents

The documentation for this product is available at:


For additional information, see the following manuals:

• Oracle Secure Global Desktop Administration Guide

• Oracle Secure Global Desktop Installation Guide

• Oracle Secure Global Desktop Gateway Administration Guide

• Oracle Secure Global Desktop User Guide

• Oracle Secure Global Desktop Security Guide
5. Conventions

The following text conventions are used in this document:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>boldface</strong></td>
<td>Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.</td>
</tr>
<tr>
<td><em>italic</em></td>
<td>Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.</td>
</tr>
<tr>
<td><strong>monospace</strong></td>
<td>Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.</td>
</tr>
</tbody>
</table>
Chapter 1. New Features and Changes

This chapter describes the new features and changes in Oracle Secure Global Desktop (SGD) Release 5.0.

1.1. New Features in Release 5.0

This section describes the features that are new in the SGD 5.0 release.

1.1.1. Lightweight Client for Tablet Computers

This release includes a new lightweight SGD Client which enables users to access SGD using a tablet computer, such as an iPad. The new client uses an HTML5 web page to display applications and to provide support for client features such as printing and copy and paste.

See Table 2.3, “Supported Tablet Devices for the SGD Client” for supported tablet computer installation platforms.

On a tablet computer, the user experience is different when compared to using a desktop computer, and how users interact with applications is changed. See Using a Tablet Computer in the Oracle Secure Global Desktop User Guide for more details.

When you are using a tablet computer with SGD there are some limitations and features that are not available. See Limitations of Using a Tablet Computer.

1.1.2. Support for Windows 8 Clients

Microsoft Windows 8 (32-bit and 64-bit) has been added as a supported client platform.

For the best user experience, run Windows 8 in desktop mode.

Using Internet Explorer in "Metro" mode is not supported. Users are prompted to transfer to Internet Explorer 10 for the desktop when they log in to SGD.

On 64-bit Windows 8 platforms, the 32-bit version of the Java Plug-in software is required.

1.2. Changes in Release 5.0

This section describes the changes since the SGD 4.70 release.

1.2.1. Changes to the tarantella security enable Command

The default setting for the --firewalltraversal option of the tarantella security enable command is now off. In previous releases, this setting was on by default.

This means that when you run the tarantella security enable command without specifying a --firewalltraversal option, firewall traversal is disabled automatically.

The change has been made to make it easier to configure SGD servers to work with the SGD Gateway and with tablet computers.

1.2.2. Using Untrusted Certificates With Tablet Computers

As part of the introduction of support for tablet computers, changes have been made to the required security configuration when untrusted certificates are used on an SGD server or SGD Gateway.
When a tablet computer connects to a secure SGD array, the user is prompted to download and install one of the following configuration profiles:

- `sgd.mobileconfig`. Configuration profile used for the SGD array.
- `sgdg.mobileconfig`. Configuration profile used for the SGD Gateway.

A configuration profile is present on each SGD server in the array and contains details of the security certificates used by the array members. A separate configuration profile is used when connecting through the Gateway. See About Configuration Profiles in the Oracle Secure Global Desktop Administration Guide for more details about configuration profiles.

If tablet computers are used to access an array that is secured using untrusted certificates, some manual security configuration steps are required. See How to Configure an SGD Array for Secure Connections to Tablet Computers Using Untrusted Certificates in the Oracle Secure Global Desktop Administration Guide.

The required security configuration when connecting from a tablet computer to a SGD Gateway that uses untrusted certificates is described in How to Configure the SGD Gateway for Connections From Tablet Computers Using Untrusted Certificates in the Oracle Secure Global Desktop Gateway Administration Guide.

### 1.2.3. Support for Java 7

This release of SGD supports Java 7. Browsers can use Java Plug-in software version 1.7 as a plug-in for Java technology.

**Note**

For details of known issues when using Java Plug-in software version 1.7, see knowledge document ID 1487307.1 on My Oracle Support (MOS).

### 1.2.4. Changes to Browser Requirements

For this release, browsers must support cookies and must be configured to allow cookies. If you try to access SGD using a browser where cookies are disabled, you are prompted to enable cookies.

In previous releases, it was not necessary to enable cookies for your browser.

### 1.2.5. Legacy VDI Broker Not Available

The Legacy VDI broker for integrating with Oracle Virtual Desktop Infrastructure (Oracle VDI) is no longer available.

The Legacy VDI Broker is a virtual server broker that enables SGD to request a desktop from a local Oracle VDI 3.2 installation.

Users of the Legacy VDI broker should upgrade to a supported version of Oracle VDI and use the VDI broker supplied with SGD version 5.0.

### 1.2.6. Security Improvements for SGD Web Page Cookies

Session cookies used by SGD are now marked as `HttpOnly`. This change enhances security, as it prevents the cookies from being accessed by client-side scripts written in software such as JavaScript.

### 1.2.7. Changes for the SGD Remote Desktop Client

New command line options have been added for the SGD Remote Desktop Client, also known as the `ttatsc` command.
- The `-resize` option enables automatic session resizing for Windows applications. For example, if a user rotates a tablet display when viewing the application.

- The `-multimon` option is used to select the preferred X extension used by SGD.

### 1.2.8. Changes for Installing the SGD Client on Mac OS X Platforms

To support the Gatekeeper feature of Mac OS X, the following changes have been made when installing the SGD Client on Mac OS X platforms.

- The install package file is now signed using a package signing certificate. Additionally, the package file extension has changed from `mpkg` to `pkg`.

- For manual installation of the SGD Client, installing to a user-specific location is no longer available. Gatekeeper must be configured to allow applications downloaded from Mac App Store and identified developers.
Chapter 2. System Requirements and Support

This chapter includes details of the system requirements and supported platforms for Oracle Secure Global Desktop (SGD) version 5.0.

2.1. SGD Server Requirements and Support

This section describes the supported platforms and requirements for SGD servers.

2.1.1. Supported Installation Platforms for SGD

Table 2.1, “Supported Installation Platforms for SGD” lists the supported installation platforms for SGD.

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Supported Versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Solaris on SPARC platforms</td>
<td>Solaris 10 8/11 (update 10)</td>
</tr>
<tr>
<td></td>
<td>Solaris 10 1/13 (update 11)</td>
</tr>
<tr>
<td></td>
<td>Solaris 11, 11.1</td>
</tr>
<tr>
<td></td>
<td>Trusted Extensions versions of the above</td>
</tr>
<tr>
<td>Oracle Solaris on x86 platforms</td>
<td>Solaris 10 8/11 (update 10)</td>
</tr>
<tr>
<td></td>
<td>Solaris 10 1/13 (update 11)</td>
</tr>
<tr>
<td></td>
<td>Solaris 11, 11.1</td>
</tr>
<tr>
<td></td>
<td>Trusted Extensions versions of the above</td>
</tr>
<tr>
<td>Oracle Linux (32-bit and 64-bit)</td>
<td>5.8</td>
</tr>
<tr>
<td></td>
<td>5.9</td>
</tr>
<tr>
<td></td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>6.4</td>
</tr>
</tbody>
</table>

Oracle products certified on Oracle Linux are also certified and supported on Red Hat Enterprise Linux due to implicit compatibility between both distributions. Oracle does not run any additional testing on Red Hat Enterprise Linux products.

2.1.1.1. Virtualization Support

SGD is supported and can be installed in an Oracle virtualized environment. If you encounter a problem when using an unsupported virtualization environment, you may be asked to demonstrate the issue on a non-virtualized operating system to ensure the problem is not related to the virtualization product.

Installation in zones is supported for Oracle Solaris platforms. SGD can be installed either in the global zone, or in one or more non-global zones. Installation in both the global zone and a non-global zone is not supported.
On Oracle Solaris Trusted Extensions platforms, you must install SGD in a labeled zone. Do not install SGD in the global zone.

2.1.1.2. Retirements to Supported SGD Installation Platforms

The following table shows the SGD installation platforms that have been retired for this release.

<table>
<thead>
<tr>
<th>SGD Version</th>
<th>Platforms No Longer Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>Oracle Linux 5.7</td>
</tr>
</tbody>
</table>

2.1.2. Supported Upgrade Paths

Upgrades to version 5.0 of SGD are only supported from the following versions:

- Oracle Secure Global Desktop Software version 4.70.909
- Oracle Secure Global Desktop Software version 4.63.905
- Oracle Secure Global Desktop Software version 4.62.913

If you want to upgrade from any other version of SGD, contact Oracle Support.

2.1.3. Java Technology Version

This release of SGD includes JDK version 1.6.0_43.

2.1.4. SGD Web Server

The SGD web server consists of an Apache web server and a Tomcat JavaServer Pages (JSP) technology container preconfigured for use with SGD.

The SGD web server consists of several components. The following table lists the web server component versions for this release of SGD.

<table>
<thead>
<tr>
<th>Component Name</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apache HTTP Server</td>
<td>2.2.24</td>
</tr>
<tr>
<td>OpenSSL</td>
<td>1.0.0k</td>
</tr>
<tr>
<td>mod_jk</td>
<td>1.2.37</td>
</tr>
<tr>
<td>Apache Tomcat</td>
<td>7.0.37</td>
</tr>
<tr>
<td>Apache Axis</td>
<td>1.4</td>
</tr>
</tbody>
</table>

The Apache web server includes all the standard Apache modules as shared objects.

The minimum Java Virtual Machine (JVM) software heap size for the Tomcat JSP technology container is 256 megabytes.

2.1.5. Supported Authentication Mechanisms

The following are the supported mechanisms for authenticating users to SGD:

- Lightweight Directory Access Protocol (LDAP) version 3
• Microsoft Active Directory
• Network Information Service (NIS)
• RSA SecurID
• Web server authentication (HTTP/HTTPS Basic Authentication), including public key infrastructure (PKI) client certificates

2.1.5.1. Supported Versions of Active Directory

Active Directory authentication and LDAP authentication are supported on the following versions of Active Directory:

• Windows Server 2003
• Windows Server 2003 R2
• Windows Server 2008
• Windows Server 2008 R2

2.1.5.2. Supported LDAP Directories

SGD supports version 3 of the standard LDAP protocol. You can use LDAP authentication with any LDAP version 3-compliant directory server. However, SGD only supports the following directory servers:

• Oracle Internet Directory 11gR1 (all 11.1.1.x.0 releases)
• Oracle Directory Server Enterprise Edition version 11gR1
• Microsoft Active Directory, as shown in Section 2.1.5.1, “Supported Versions of Active Directory”

Other directory servers might work, but are not supported.

Sun Directory Server is no longer supported as an LDAP directory server.

2.1.5.3. Supported Versions of SecurID

SGD works with versions 4, 5, 6, and 7 of RSA Authentication Manager (formerly known as ACE/Server).

SGD supports system-generated PINs and user-created PINs.

2.1.6. SSL Support

SGD supports TLS version 1.0 and SSL version 3.0.

SGD supports Privacy Enhanced Mail (PEM) Base 64-encoded X.509 certificates. These certificates have the following structure:

```
-----BEGIN CERTIFICATE-----
...certificate...
-----END CERTIFICATE-----
```

SGD supports the Subject Alternative Name (subjectAltName) extension for SSL certificates. SGD also supports the use of the * wildcard for the first part of the domain name, for example * .example.com.
SGD includes support for a number of Certificate Authorities (CAs). The /opt/tarantella/etc/data/cacerts.txt file contains the X.500 Distinguished Names (DNs) and MD5 signatures of all the CA certificates that SGD supports. Additional configuration is required to support SSL certificates signed by an unsupported CA. Intermediate CAs are supported, but additional configuration might be required if any of the certificates in the chain are signed by an unsupported CA.

SGD supports the use of external hardware SSL accelerators, with additional configuration.

SGD supports the following cipher suites:

- RSA_WITH_AES_256_CBC_SHA
- RSA_WITH_AES_128_CBC_SHA
- RSA_WITH_3DES_EDE_CBC_SHA
- RSA_WITH_RC4_128_SHA
- RSA_WITH_RC4_128_MD5
- RSA_WITH_DES_CBC_SHA

2.1.7. Printing Support

SGD supports two types of printing: PDF printing and Printer-Direct printing.

For PDF printing, SGD uses Ghostscript to convert print jobs into PDF files. Your Ghostscript distribution must include the ps2pdf program. For best results, install the latest version of Ghostscript on the SGD host.

SGD supports Printer-Direct printing to PostScript, Printer Command Language (PCL), and text-only printers attached to the user's client device. The SGD tta_print_converter script performs any conversion needed to format print jobs correctly for the client printer. The tta_print_converter script uses Ghostscript to convert from Postscript to PCL. To support this conversion, Ghostscript must be installed on the SGD server. For best results, download and install the additional fonts.

Ghostscript is not included with the SGD software.

2.2. Client Device Requirements and Support

This section describes the supported platforms and requirements for client devices.

2.2.1. Supported Client Platforms

The following tables list the supported client platforms and browsers for the SGD Client.

- For supported desktop operating systems, see Table 2.2, “Supported Desktop Platforms for the SGD Client”.

- For supported tablet computers, see Table 2.3, “Supported Tablet Devices for the SGD Client”.

Caution

The client platform for the SGD Client must be a full operating system. An individual application, such as a browser, is not a supported client platform.
<table>
<thead>
<tr>
<th>Supported Client Platform</th>
<th>Supported Browsers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Windows 8 (32-bit and 64-bit) a b</td>
<td>Internet Explorer 10 c</td>
</tr>
<tr>
<td></td>
<td>Mozilla Firefox 17.0.2:ESR, 18</td>
</tr>
<tr>
<td></td>
<td>Chrome 24</td>
</tr>
<tr>
<td>Microsoft Windows 7 (32-bit and 64-bit)</td>
<td>Internet Explorer 9 d e</td>
</tr>
<tr>
<td></td>
<td>Mozilla Firefox 17.0.2:ESR, 18</td>
</tr>
<tr>
<td></td>
<td>Chrome 24</td>
</tr>
<tr>
<td>Microsoft Windows XP Professional SP3 (32-bit)</td>
<td>Internet Explorer 7, 8</td>
</tr>
<tr>
<td></td>
<td>Mozilla Firefox 17.0.2:ESR, 18</td>
</tr>
<tr>
<td></td>
<td>Chrome 24</td>
</tr>
<tr>
<td>Sun Ray Software on Oracle Solaris (x86 and SPARC platforms):</td>
<td>Mozilla Firefox 10.0.7:ESR</td>
</tr>
<tr>
<td>• Solaris 10 8/11 (update 10)</td>
<td></td>
</tr>
<tr>
<td>• Solaris 10 1/13 (update 11)</td>
<td></td>
</tr>
<tr>
<td>• Solaris 11, 11.1</td>
<td></td>
</tr>
<tr>
<td>Sun Ray Software on Oracle Linux (32-bit and 64-bit):</td>
<td>Mozilla Firefox 17.0.2:ESR, 18</td>
</tr>
<tr>
<td>• Oracle Linux 5.8, 5.9, 6.2, 6.3, 6.4</td>
<td>Chrome 24</td>
</tr>
<tr>
<td>Oracle Linux 5.8, 5.9, 6.2, 6.3, 6.4 (32-bit and 64-bit)</td>
<td>Mozilla Firefox 17.0.2:ESR, 18</td>
</tr>
<tr>
<td></td>
<td>Chrome 24</td>
</tr>
<tr>
<td>Ubuntu Linux 10.04, 12.04 (32-bit and 64-bit)</td>
<td>Mozilla Firefox 17.0.2:ESR, 18</td>
</tr>
<tr>
<td></td>
<td>Chrome 24</td>
</tr>
<tr>
<td>Mac OS X 10.7 and 10.8 g</td>
<td>Safari 6</td>
</tr>
<tr>
<td></td>
<td>Mozilla Firefox 17.0.2:ESR, 18</td>
</tr>
<tr>
<td></td>
<td>Chrome 24</td>
</tr>
</tbody>
</table>

a Windows 8 is supported in desktop mode only.

b On 64-bit Windows 8 platforms, the 32-bit version of the Java Plug-in software is required.

c Only the desktop version of Internet Explorer 10 is supported. The "Metro" version is not supported.

d On 64-bit client platforms, the 32-bit and 64-bit versions of Internet Explorer are supported.

e Compatibility View is supported for Internet Explorer 9.

f On 64-bit Ubuntu Linux 12.04 platforms, the ia32-libs package is required.

Oracle products certified on Oracle Linux are also certified and supported on Red Hat Enterprise Linux due to implicit compatibility between both distributions. Oracle does not run any additional testing on Red Hat Enterprise Linux products.
Table 2.3. Supported Tablet Devices for the SGD Client

<table>
<thead>
<tr>
<th>Supported Device</th>
<th>Generation</th>
<th>Operating System</th>
<th>Supported Browsers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple iPad</td>
<td>2</td>
<td>iOS 6.x&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Safari&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mini</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Includes all updates to iOS 6.
<sup>b</sup> Private browsing mode is not supported.

The SGD Administration Console is not supported on Safari browsers, either on Mac OS X or iPad client devices.

Beta versions or preview releases of browsers are not supported.

Browsers must be configured to accept cookies.

Browsers must have the JavaScript programming language enabled.

**Java Technology Requirements**

- On *desktop computer platforms*, browsers must have Java technology enabled to support the following functionality:
  - Downloading and installing the SGD Client automatically
  - Determining proxy server settings from the user’s default browser

  If Java technology is not available, the SGD Client can be downloaded and installed manually. Manual installation is available for all supported desktop platforms.

- On *tablet computer platforms*:
  - Java technology is not required on the browser
  - Manual installation of the SGD Client is not supported

Java Plug-in software versions 1.6 and 1.7 are supported as a plug-in for Java technology.

**Note**

For details of known issues when using Java Plug-in software version 1.7, see knowledge document ID 1487307.1 on My Oracle Support (MOS).

For best results, client devices must be configured for at least thousands of colors.

The SGD Client and webtop are available in the following supported languages:

- English
- French
- German
- Italian
2.2.1.1. Virtualization Support

SGD is supported and can be installed in an Oracle virtualized environment. If you encounter a problem when using an unsupported virtualization environment, you may be asked to demonstrate the issue on a non-virtualized operating system to ensure the problem is not related to the virtualization product.

2.2.1.2. Retirements to Supported Client Platforms

The following table shows the SGD Client installation platforms and browsers that have been retired for this release.

<table>
<thead>
<tr>
<th>SGD Version</th>
<th>Platforms No Longer Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>Mac OS X 10.6</td>
</tr>
<tr>
<td></td>
<td>Oracle Solaris 10, 11</td>
</tr>
<tr>
<td></td>
<td>Oracle Linux 5.7</td>
</tr>
<tr>
<td></td>
<td>Firefox 3</td>
</tr>
<tr>
<td></td>
<td>Firefox 11</td>
</tr>
<tr>
<td></td>
<td>Chrome 17</td>
</tr>
<tr>
<td></td>
<td>Safari 5</td>
</tr>
</tbody>
</table>

2.2.2. Supported Proxy Servers

To connect to SGD using a proxy server, the proxy server must support tunneling. You can use HTTP, Secure Sockets Layer (SSL) or SOCKS version 5 proxy servers.

For SOCKS version 5 proxy servers, SGD supports the Basic and No Authentication Required authentication methods. No server-side configuration is required.

2.2.3. PDF Printing Support

To be able to use PDF printing, a PDF viewer must be installed on the client device. SGD supports the following PDF viewers by default.

<table>
<thead>
<tr>
<th>Client Platform</th>
<th>Default PDF Viewer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Windows platforms</td>
<td>Adobe Reader, at least version 4.0</td>
</tr>
<tr>
<td>Oracle Solaris on SPARC platforms</td>
<td>GNOME PDF Viewer (gpdf)</td>
</tr>
</tbody>
</table>
Supported Smart Cards

<table>
<thead>
<tr>
<th>Client Platform</th>
<th>Default PDF Viewer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adobe Reader (acroread)</td>
<td></td>
</tr>
<tr>
<td>Oracle Solaris on x86 platforms</td>
<td>GNOME PDF Viewer (gpdf)</td>
</tr>
<tr>
<td>Oracle Linux</td>
<td>GNOME PDF Viewer (gpdf)</td>
</tr>
<tr>
<td></td>
<td>Evince Document Viewer (evince)</td>
</tr>
<tr>
<td></td>
<td>X PDF Reader (xpdf)</td>
</tr>
<tr>
<td>Mac OS X</td>
<td>Preview App (/Applications/Preview.app)</td>
</tr>
</tbody>
</table>

Note
The Adobe Reader PDF viewer must support the -openInNewWindow command option. The Preview App PDF viewer must support the open -a command option.

On Windows 8 platforms, the Reader app is not supported as a PDF viewer.

On tablet computers, the browser plug-in is used to display PDF files.

To be able to use a supported PDF viewer, the application must be on the user's PATH.

Support for alternative PDF viewers can be configured in the user's client profile.

2.2.4. Supported Smart Cards
SGD works with any Personal Computer/Smart Card (PC/SC)-compliant smart card and reader supported for use with Microsoft Remote Desktop services.

2.3. SGD Gateway Requirements and Support
This section describes the supported platforms and requirements for the SGD Gateway.

2.3.1. Supported Installation Platforms for the SGD Gateway
The supported installation platforms for the SGD Gateway host are shown in Table 2.4, “Supported Installation Platforms for the SGD Gateway.”

Table 2.4. Supported Installation Platforms for the SGD Gateway.

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Supported Versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Solaris on SPARC platforms</td>
<td>Solaris 10 8/11 (update 10)</td>
</tr>
<tr>
<td></td>
<td>Solaris 10 1/13 (update 11)</td>
</tr>
<tr>
<td></td>
<td>Solaris 11, 11.1</td>
</tr>
<tr>
<td>Oracle Solaris on x86 platforms</td>
<td>Solaris 10 8/11 (update 10)</td>
</tr>
<tr>
<td></td>
<td>Solaris 10 1/13 (update 11)</td>
</tr>
<tr>
<td></td>
<td>Solaris 11, 11.1</td>
</tr>
<tr>
<td>Oracle Linux (32-bit and 64-bit)</td>
<td>5.8</td>
</tr>
<tr>
<td></td>
<td>5.9</td>
</tr>
</tbody>
</table>
SGD Server Requirements for the SGD Gateway

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Supported Versions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>6.4</td>
</tr>
</tbody>
</table>

Oracle products certified on Oracle Linux are also certified and supported on Red Hat Enterprise Linux due to implicit compatibility between both distributions. Oracle does not run any additional testing on Red Hat Enterprise Linux products.

**Note**

If your users connect to the SGD from a tablet computer, using the SGD Gateway is the only supported method of firewall traversal.

By default, the SGD Gateway is configured to support a maximum of 100 simultaneous HTTP connections, 512 simultaneous Adaptive Internet Protocol (AIP) connections, and 512 simultaneous websocket connections. Websocket connections are AIP connections to tablet computers. The JVM memory size is optimized for this number of connections. Appendix C of the *Oracle Secure Global Desktop Gateway Administration Guide* has details of how to tune the Gateway for the expected number of users.

### 2.3.1. Virtualization Support

SGD is supported and can be installed in an Oracle virtualized environment. If you encounter a problem when using an unsupported virtualization environment, you may be asked to demonstrate the issue on a non-virtualized operating system to ensure the problem is not related to the virtualization product.

On Oracle Solaris platforms, installation in zones is supported. The SGD Gateway can be installed either in the global zone, or in one or more non-global zones. Installation in both the global zone and a non-global zone is not supported.

### 2.3.2. Retirements to Supported Gateway Installation Platforms

The following table shows the SGD Gateway installation platforms that have been retired for this release.

<table>
<thead>
<tr>
<th>SGD Version</th>
<th>Platforms No Longer Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>Oracle Linux 5.7</td>
</tr>
</tbody>
</table>

### 2.3.3. SGD Server Requirements for the SGD Gateway

The following requirements apply for the SGD servers used with the SGD Gateway:

- **Secure mode.** By default, the SGD Gateway uses secure connections to SGD servers. You must enable secure connections on your SGD servers. Firewall forwarding must not be enabled.

  In a standard installation, an SGD server is configured automatically to use secure connections.

- **SGD version.** It is best to use version 5.0 of SGD with version 5.0 of the Gateway. Use the latest version of the Gateway, where possible.

- **Clock synchronization.** It is important that the system clocks on the SGD servers and the SGD Gateway are in synchronization. Use Network Time Protocol (NTP) software, or the `rdate` command, to ensure that the clocks are synchronized.
2.3.3. Apache Web Server

The Apache web server supplied with the SGD Gateway is Apache version 2.2.24. The web server includes the standard Apache modules for reverse proxying and load balancing. The modules are installed as Dynamic Shared Object (DSO) modules.

2.3.4. Java Technology Version

The SGD Gateway includes Java Runtime Environment (JRE) version 1.6.0_43.

2.3.5. SSL Support

SSL support for the SGD Gateway is provided by the Java Runtime Environment (JRE) supplied with the Gateway. See the Java Platform documentation for more details.

The SGD Gateway supports Privacy Enhanced Mail (PEM) Base 64-encoded X.509 certificates. These certificates have the following structure:

```
-----BEGIN CERTIFICATE-----
...
certificate...
-----END CERTIFICATE-----
```

The SGD Gateway supports the use of external hardware SSL accelerators, with additional configuration.

By default, the SGD Gateway is configured to support the following high grade cipher suites for SSL connections:

- SSL_RSA_WITH_RC4_128_MD5
- SSL_RSA_WITH_RC4_128_SHA
- TLS_RSA_WITH_AES_128_CBC_SHA
- TLS_RSA_WITH_AES_256_CBC_SHA
- TLS_DHE_RSA_WITH_AES_128_CBC_SHA
- TLS_DHE_RSA_WITH_AES_256_CBC_SHA
- TLS_DHE_DSS_WITH_AES_128_CBC_SHA
- TLS_DHE_DSS_WITH_AES_256_CBC_SHA
- SSL_RSA_WITH_3DES_EDE_CBC_SHA
- SSL_DHE_RSA_WITH_3DES_EDE_CBC_SHA
- SSL_DHE_DSS_WITH_3DES_EDE_CBC_SHA

The following cipher suites are also supported, but must be configured by the user, as shown in the Oracle Secure Global Desktop Gateway Administration Guide.

- SSL_RSA_WITH_DES_CBC_SHA
- SSL_DHE_RSA_WITH_DES_CBC_SHA
2.4. Application Requirements and Support

This section describes the supported platforms and requirements for displaying applications through SGD.

2.4.1. Supported Applications

You can use SGD to access the following types of applications:

- Microsoft Windows
- X applications running on Oracle Solaris, Linux, HP-UX, and AIX application servers
- Character applications running on Oracle Solaris, Linux, HP-UX, and AIX application servers
- Applications running on IBM mainframe and AS/400 systems
- Web applications, using HTML and Java technology

SGD supports the following protocols:

- Microsoft Remote Desktop Protocol (RDP) at least version 5.2
- X11
- HTTP
- HTTPS
- SSH at least version 2
- Telnet VT, American National Standards Institute (ANSI)
- TN3270E
- TN5250

2.4.2. Supported Installation Platforms for the SGD Enhancement Module

The SGD Enhancement Module is a software component that can be installed on an application server to provide the following additional functionality when using applications displayed through SGD:

- Advanced load balancing
- Client drive mapping (UNIX or Linux platforms only)
- Seamless windows (Windows platforms only)
- Audio (UNIX or Linux platforms only)
Table 2.5, “Supported Installation Platforms for the SGD Enhancement Module,” lists the supported installation platforms for the SGD Enhancement Module.

### Table 2.5. Supported Installation Platforms for the SGD Enhancement Module.

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Supported Versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Windows (64-bit)</td>
<td>Windows Server 2008 R2</td>
</tr>
<tr>
<td></td>
<td>Windows Server 2003 R2</td>
</tr>
<tr>
<td></td>
<td>Windows Server 2003</td>
</tr>
<tr>
<td>Oracle Solaris on SPARC platforms</td>
<td>Solaris 8, 9, 10, 11, 11.1</td>
</tr>
<tr>
<td></td>
<td>Trusted Extensions versions of the above</td>
</tr>
<tr>
<td>Oracle Solaris on x86 platforms</td>
<td>Solaris 10, 11, 11.1</td>
</tr>
<tr>
<td></td>
<td>Trusted Extensions versions of the above</td>
</tr>
<tr>
<td>Oracle Linux (32-bit and 64-bit)</td>
<td>5, 6</td>
</tr>
<tr>
<td>SUSE Linux Enterprise Server (32-bit and 64-bit)</td>
<td>10, 11</td>
</tr>
</tbody>
</table>

Oracle products certified on Oracle Linux are also certified and supported on Red Hat Enterprise Linux due to implicit compatibility between both distributions. Oracle does not run any additional testing on Red Hat Enterprise Linux products.

On Oracle Solaris Trusted Extensions platforms, only advanced load balancing is supported. Audio and CDM are not supported.

---

**Note**

The SGD Enhancement Module no longer provides functionality that is supported on Windows 7 and Windows XP platforms. These platforms are still supported as an application server platform, see Section 2.4.3, “Microsoft Windows Remote Desktop Services”.

Application servers that are not supported platforms for the SGD Enhancement Module can be used with SGD to access a supported application type using any of the supported protocols.

### 2.4.2.1. Virtualization Support

SGD is supported and can be installed in an Oracle virtualized environment. If you encounter a problem when using an unsupported virtualization environment, you may be asked to demonstrate the issue on a non-virtualized operating system to ensure the problem is not related to the virtualization product.

Installation in zones is supported for Oracle Solaris platforms. SGD can be installed in the global zone, or in one or more non-global zones. Installation in both the global zone and a non-global zone is not supported.

On Oracle Solaris Trusted Extensions platforms, you must install SGD in a labeled zone. Do not install SGD in the global zone.

### 2.4.3. Microsoft Windows Remote Desktop Services

SGD does not include licenses for Microsoft Windows Remote Desktop Services. If you access Remote Desktop Services functionality provided by Microsoft operating system products, you need to purchase
additional licenses to use such products. Consult the license agreements for the Microsoft operating system products you are using to determine which licenses you must acquire.

**Note**

Before Microsoft Windows Server 2008 R2, Remote Desktop Services was called Terminal Services.

SGD supports RDP connections to the following versions of Microsoft Windows:

- Windows Server 2008 R2
- Windows Server 2008
- Windows Server 2003 R2
- Windows Server 2003
- Windows 7 SP1
- Windows XP Professional SP3

On Windows 7 and Windows XP platforms, only full Windows desktop sessions are supported. Running individual applications is not supported. Seamless windows are also not supported.

The features supported by SGD depend on whether you connect using RDP or Oracle VM VirtualBox RDP (VRDP), as shown in the following tables.

### Table 2.6. Features Supported by SGD When Using RDP

<table>
<thead>
<tr>
<th>Feature</th>
<th>RDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio recording (input audio)</td>
<td>✓</td>
</tr>
<tr>
<td>Audio redirection</td>
<td>✓</td>
</tr>
<tr>
<td>Clipboard redirection</td>
<td>✓</td>
</tr>
<tr>
<td>COM port mapping</td>
<td>✓</td>
</tr>
<tr>
<td>Compression</td>
<td>✓</td>
</tr>
<tr>
<td>Drive redirection (client drive mapping)</td>
<td>✓</td>
</tr>
<tr>
<td>Multi-monitor</td>
<td>✓</td>
</tr>
<tr>
<td>Network security (encryption level)</td>
<td>✓</td>
</tr>
<tr>
<td>Session directory</td>
<td>✓</td>
</tr>
<tr>
<td>Smart card device redirection</td>
<td>✓</td>
</tr>
<tr>
<td>Time zone redirection</td>
<td>✓</td>
</tr>
<tr>
<td>Windows printer mapping (client printing)</td>
<td>✓</td>
</tr>
</tbody>
</table>

### Table 2.7. Features Supported by SGD When Using VRDP

<table>
<thead>
<tr>
<th>Feature</th>
<th>VRDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio recording (input audio)</td>
<td>✓</td>
</tr>
<tr>
<td>Audio redirection</td>
<td>✓</td>
</tr>
<tr>
<td>Clipboard redirection</td>
<td>✓</td>
</tr>
<tr>
<td>Network security (encryption level)</td>
<td>✓</td>
</tr>
</tbody>
</table>
2.4.3.1. Audio Quality

Windows Server 2008 R2 and Windows 7 support audio bit rates of up to 44.1 kHz. By default, SGD supports bit rates of up to 22.05 kHz. To support bit rates of up to 44.1 kHz, in the Administration Console go to the Global Settings, Client Device tab and select the Windows Audio: High Quality option.

2.4.3.2. Audio Recording Redirection

Audio recording redirection is supported for Microsoft Windows Server 2008 R2 and Windows 7 application servers.

To record audio in a Windows Remote Desktop Services session, audio recording redirection must be enabled on the application server. By default, audio recording redirection is disabled.

To enable audio recording for Microsoft Windows 7 Enterprise application servers, you also need to add the following registry entry to the `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Terminal Server\WinStations\RDP-Tcp` key.

```
"fDisableAudioCapture"=dword:00000000
```

2.4.3.3. Color Depth

SGD supports 8-bit, 16-bit, 24-bit, and 32-bit color depths in a Windows Remote Desktop Services session.

32-bit color is available on Windows Server 2008, Windows Server 2008 R2, and Windows 7 platforms. To display 32-bit color, the client device must be capable of displaying 32-bit color.

15-bit color depths are not supported. If this color depth is specified on the Remote Desktop Session Host, SGD automatically adjusts the color depth to 8-bit.

2.4.3.4. Encryption Level

You can only use the Low, Client-compatible, or High encryption levels with SGD. SGD does not support the Federal Information Processing Standards (FIPS) encryption level.

2.4.3.5. Transport Layer Security

From Microsoft Windows Server 2003, you can use Transport Layer Security (TLS) for server authentication, and to encrypt Remote Desktop Session Host communications.

2.4.3.6. Network Level Authentication

If the Remote Desktop Session Host supports Network Level Authentication (NLA) using CredSSP, you can use NLA for server authentication.

2.4.4. X and Character Applications

To run X and character applications, SGD must be able to connect to the application server that hosts the application. SGD supports SSH and Telnet as connection methods. SSH is the best for security.

SGD works with SSH version 2 or later. Because of SSH version compatibility problems, use the same major version of SSH, either version 2 or version 3, on all SGD hosts and application servers.

If you are using SSH to connect to X applications, you must enable X11 forwarding. You can do this either in your SSH configuration or by configuring the application in SGD. The *Oracle Secure Global Desktop Administration Guide* has details on using SSH with SGD.
SGD supports the X Security extension. The X Security extension only works with versions of SSH that support the `-Y` option. For OpenSSH, this is version 3.8 or later.

### 2.4.4.1. X11 Software

SGD includes an X protocol engine (XPE) implementation based on the X.Org Foundation X Server release X11R7.6.

The XPE implementation is based on the following X.org foundation sources:

- `xorg-server 1.9.3`
- `xrandr 1.3`
- `xkeyboard-config 2.1`

The following versions of X.org dependencies are used:

- `Mesa 7.9.2`
- `pixman 0.20.2`

### 2.4.4.2. Supported X Extensions

SGD supports the following X extensions for X applications:

- BIG-REQUESTS
- BLINK
- DAMAGE
- DEC-XTRAP
- DOUBLE-BUFFER
- Extended-Visual-Information
- GLX
- MIT-SCREEN-SAVER
- MIT-SHM
- MIT-SUNDRY-NONSTANDARD
- NATIVE-WND
- RDP
- RECORD
- RENDER
- SCO-MISC
- SECURITY
- SGI-GLX
2.4.4.3. Character Applications

SGD supports VT420, Wyse 60, or SCO Console character applications

2.4.5. Virtual Desktop Infrastructure

SGD uses a type of object called a dynamic application server to represent a virtual server broker (VSB). SGD uses the VSB to obtain a list of application servers that can run an application.

SGD includes brokers that enable you to give users access to desktops provided by an Oracle Virtual Desktop Infrastructure (Oracle VDI) server.

Integration with Oracle VDI is also supported by configuring a Windows application object, as described in the Oracle Secure Global Desktop Administration Guide.

This release of SGD supports the following versions of Oracle VDI:

- Oracle VDI 3.5
- Oracle VDI 3.4.1
- Oracle VDI 3.3.2

2.5. Removed Features

The following features have been removed in the SGD 5.0 release:

- Support for Mac OS 10.6 as a client platform
• Support for Sun Directory Server as an LDAP directory server
• Legacy broker for Oracle VDI 3.2 deployments

2.5.1. Changes in the Next Release of SGD

The following features might not be available in the next release of SGD:

• Supported client platforms and browsers: Ubuntu Linux 10.04 may not be supported as a client platform.
  For browsers, Internet Explorer 7 may not be supported.
Chapter 3. Known Issues, Bug Fixes, and Documentation Issues

This chapter contains information about known issues, bug fixes, and documentation issues for Oracle Secure Global Desktop (SGD). Details on providing feedback and reporting bugs are also included.

3.1. Known Bugs and Issues

This section lists the known bugs and issues for the SGD 5.0 release.

3.1.1. 2205237 – Seamless Windows Display Problems When Restarting a Disconnected Session

**Problem:** Issues with seamless windows might be encountered when the user restarts a Windows application after closing it down. The problem is seen when the application is hosted on a Windows Server 2008 R2 server.

**Cause:** A known problem with some versions of the SGD Enhancement Module.

**Solution:** Ensure that the version of the SGD Enhancement Module running on the Windows application server is the same as the SGD server version.

3.1.2. 6555834 – Java Technology is Enabled For Browser But Is Not Installed On Client Device

**Problem:** If Java technology is enabled in your browser settings, but Java Plug-in software is not installed on the client device, the SGD webtop does not display. The login process halts at the splash screen.

**Cause:** SGD uses the browser settings to determine whether to use Java technology.

**Solution:** Install the Java Plug-in software and create a symbolic link from the browser plug-ins directory to the location of the Java Virtual Machine (JVM) software. Refer to your browser documentation for more information.

3.1.3. 6831480 – Backup Primaries List Command Returns an Error

**Problem:** Using the `tarantella array list_backup_primaries` command on an SGD server that has been stopped and then detached from an array returns a "Failed to connect" error.

**Cause:** A known issue.

**Solution:** Restart the detached SGD server before using the `tarantella array list_backup_primaries` command.

3.1.4. 6863153 – HyperTerminal Application Hangs in a Relocated Windows Desktop Session

**Problem:** Users running the HyperTerminal application in a Windows desktop session experience problems when they try to resume the desktop session from another client device. The HyperTerminal application is unresponsive and cannot be closed down.

**Cause:** A known issue with HyperTerminal when resuming Windows desktop sessions from another client device (also called “session grabbing”).

**Solution:** Close down the HyperTerminal application before you resume the Windows desktop session from another client device.
3.1.5. 6937146 – Audio Unavailable for X Applications Hosted on 64-Bit Linux Application Servers

**Problem:** Audio might not play in X applications that are hosted on 64-bit Linux application servers. The issue is seen for X applications that are hard-coded to use the /dev/dsp or /dev/audio device, and the Audio Redirection Library (--unixaudiopreload) attribute is enabled.

**Cause:** A known issue. A 64-bit SGD Audio Redirection Library is not included in the SGD Enhancement Module.

**Solution:** No known solution at present.

3.1.6. 6942981 – Application Startup is Slow on Solaris Trusted Extensions

**Problem:** On Oracle Solaris Trusted Extensions platforms, startup times for Windows applications and X applications might be longer than expected.

**Cause:** By default, the X Protocol Engine attempts to connect to X display port 10. This port is unavailable when using Solaris Trusted Extensions. After a period of time, the X Protocol Engine connects on another X display port and the application starts successfully.

**Solution:** Do either of the following:

- Change the default minimum display port used by the SGD server.

  Configure the following setting in the xpe.properties file in the /opt/tarantella/var/serverconfig/local directory on the SGD server:

  ```
tarantella.config.xpeconfig.defaultmindisplay=11
  ```

  Restart the SGD server after making this change.

- Exclude the unavailable port from use by the X Protocol Engine.

  In the Administration Console, go to the Protocol Engines, X tab for each SGD server in the array and type `--xport portnum` in the Command-Line Arguments field, where `portnum` is the TCP port number to exclude.

  Alternatively, use the following command:

  ```
  $ tarantella config edit --xpe-args "--xport portnum"
  ```

  For example, to exclude X display port 10 from use by the X Protocol Engine:

  ```
  $ tarantella config edit --xpe-args "--xport 6010"
  ```

  The changes made take effect for new X Protocol Engines only. Existing X Protocol Engines are not affected.

3.1.7. 6957820 – SGD Client Hangs When Using Smart Card Authentication for Windows Applications

**Problem:** When using a smart card to log in to a Windows application session from a Ubuntu Linux 10.04 client device, the SGD Client hangs after the user exits the authenticated application session. The user might not be able to start any further applications or log out from SGD.

**Cause:** A known issue with version 1.5.3 of PCSC-Lite on Ubuntu client platforms.
Solution: Update to the latest version of PCSC-Lite on the client device.

3.1.8. 6962970 – Windows Client Device Uses Multiple CALs

Problem: A Windows client device is allocated multiple client access licences (CALs). A CAL is incorrectly allocated each time a Windows application is started.

Cause: A known issue if the HKEY_LOCAL_MACHINE\Software\Microsoft\MSLicensing key or any of its subkeys are missing from the Windows registry on a client device. This issue affects Microsoft Windows 7 platforms.

Solution: Recreate the missing keys, by starting the Remote Desktop Connection with administrator privileges. See Microsoft Knowledge Base article 187614 for more details.

3.1.9. 6970615 – SecurID Authentication Fails for X Applications

Problem: SecurID authentication for X applications fails when using the RSA Authentication Agent for PAM. The issue is seen with X applications that are configured to use telnet as the Connection Method.

Cause: A known issue when using the RSA Authentication Agent for PAM.

Solution: Configure the X application object to use SSH as the Connection Method.

3.1.10. 7004887 – Print to File Fails for Windows Client Devices

Problem: When users select the Print to File menu option in a Windows application displayed through SGD, the print job remains on hold in the print queue on the client device. The issue has been seen on Windows Vista and Windows 7 client devices.

Cause: A known issue with some versions of Windows.

Solution: A workaround for Windows Vista is described in Microsoft Knowledge Base article 2022748.

3.1.11. 12300549 – Home Directory Name is Unreadable For Some Client Locales

Problem: When using client drive mapping in SGD, the name of the user's home directory may include unreadable characters. By default, a user's home directory is mapped to a drive called "My Home".

The issue has been seen on non-Windows client devices configured with a non-English client locale, such as ja_JP.UTF-8.

Cause: A known issue for some client locales.

Solution: No known solution at present.

3.1.12. 13068287 – 16-bit Color OpenGL Application Issues

Problem: OpenGL applications, such as three-dimensional graphics programs, do not start or do not display correctly when published through SGD. The issue is seen when the X application object is configured with a 16-bit Color Depth setting.

Cause: A known issue when displaying OpenGL applications using 16-bit color.

Solution: The workaround is to display the application using a 24-bit Color Depth setting.
3.1.13. 13117149 – Accented Characters in Active Directory User Names

**Problem:** Active Directory authentication fails for user names that contain accented characters, such as the German umlaut character (ü). The issue has been seen when using Windows Server 2003 R2.

The following error is shown in the log output when using the server/login/info log filter:

```
javax.security.auth.login.LoginException: Integrity check on decrypted field failed (31)
```

**Cause:** Active Directory authentication uses the Kerberos authentication protocol. This is a known issue when Kerberos authentication is configured to use DES encryption.

**Solution:** The workaround is to disable the use of DES encryption in the `krb5.conf` Kerberos configuration file on the SGD server.

Include the following lines in the `[libdefaults]` section of the `krb5.conf` file.

```
[libdefaults]
default_tgs_enctypes = rc4-hmac des3-cbc-sha1 aes128-cts aes256-cts
default_tkt_enctypes = rc4-hmac des3-cbc-sha1 aes128-cts aes256-cts
```

3.1.14. 13354844, 14032389, 13257432, 13117470, 16339876 – Display Issues on Ubuntu Client Devices

**Problem:** The following display issues might be seen on client devices running Ubuntu Linux.

- The kiosk mode minimize button does not work if you are not using a window manager or if you are using a minimalist window manager, such as evilwm.
- The button for toggling between kiosk mode and an Integrated Window display does not work.
- The SGD Client task bar icon is not shown when using the Unity desktop.
- A seamless windows application that should span multiple monitors is instead displayed with scroll bars on a single monitor.
- Terminal windows, such as a VT420 application, may not be sized correctly.

**Cause:** Known issues when using a Ubuntu Linux client device.

**Solution:** Use one of the following workarounds.

- To use the kiosk mode window decoration, the window manager must implement the change state protocol from Normal to Iconify. Ensure that you are running a suitable window manager.
- Use the Ctrl+Alt+Break keyboard shortcut to toggle between kiosk mode and an Integrated Window display.
- To show the SGD Client task bar icon, add the SGD Client application to the whitelist for the Unity desktop.

Start the `dconf-editor` and go to the Desktop → Unity → Panel dialog. Add Oracle Secure Global Desktop to the list of applications.

- There is no known solution for the seamless windows issue on multiple monitors.
- To ensure that VT420 terminal windows are sized correctly, you may need to install the required fonts. For example, on Ubuntu Linux 12.04 client platforms install the following font packages:
3.1.15. 13971245 – Package Removal Issues on Oracle Solaris 11

Problem: SGD might not uninstall cleanly on Oracle Solaris 11 platforms. After uninstalling SGD, entries for SGD packages are still present in the Solaris package database.

Cause: A known issue when you are using the Image Packaging System (IPS) included with Oracle Solaris 11 and you remove SGD.

Solution: The workaround is to use the SGD package database repair script pkgdbfix.sh after uninstalling SGD. This script is included in the /opt/tarantella/etc/data directory on an SGD server.

Log in as superuser (root) and do the following:

- Uninstall SGD and check for SGD package entries in the Solaris package database.

  # pkgchk -l tta
  # pkgchk -l tta.2

- If any package entries are reported using either of the previous commands, repair the package database.

  # sh pkgdbfix.sh package-instance

  where package-instance is the reported package instance, either tta or tta.2.

3.1.16. 14026511 – VDI Broker Connections Fail After an Oracle VDI Upgrade

Problem: After an Oracle Virtual Desktop Infrastructure (Oracle VDI) host has been upgraded or reconfigured, users might not be able to connect to their Oracle VDI desktops using the VDI broker.

Cause: When using the VDI broker, connections to the Oracle VDI host are secured using a self-signed SSL certificate for the web services API.

Whenever you reconfigure or upgrade Oracle VDI on a host, the web services self-signed certificate is regenerated and the existing SSL certificate is not preserved. In addition, when you upgrade, the host name (subject) used in the web services SSL certificate might change.

Solution: Use one of the following workarounds:

- Upgrade to Oracle VDI version 3.5. This issue was fixed for Oracle VDI release 3.5.

- Back up the web services certificate keystore on the Oracle VDI host before upgrading or reconfiguring. Restore the keystore from backup after you have made changes to the Oracle VDI installation.

  This process is described in the Oracle VDI documentation.

- Reconfigure the VDI broker as follows:

  - Import the web services SSL certificate for each Oracle VDI host into the certificate truststore on each SGD server. Depending on your configuration, the truststore is either the CA certificate truststore or a dedicated truststore.

  - Reconfigure the VDI broker to use the host names that appear in the web services SSL certificates.
Change the preferredhosts and failoverhosts settings to use the new host names.

3.1.17. 14021467 – Webtop Language Selection Issue

Problem: Typically, users can select a preferred language from the list on the SGD Welcome Page. They then click Log in to access a webtop in that language.

After selecting a language at the SGD Welcome Page, users may not be able to select a different language for subsequent logins.

Cause: A known issue with caching of the preferred language selection.

Solution: Use one of the following workarounds:

• Clear your browser cache before selecting a different language.
• Locate the following text, at line 66 in the localeutils.jsp file:

```java
prefLang = (String) pageContext.getAttribute(PREF_LANG, PageContext.SESSION_SCOPE);
```

The localeutils.jsp file is in the /opt/tarantella/webserver/tomcat/tomcat-version/webapps/sgd/resources/jsp directory on the SGD server.

• Edit the file, to read as follows:

```java
if (httpServletRequest.getParameter(LANG_SELECTED) == null)
prefLang = (String) pageContext.getAttribute(PREF_LANG, PageContext.SESSION_SCOPE);
```

3.1.18. 14147506 – Array Resilience Fails if the Primary Server is Changed

Problem: Array resilience may fail if you change the primary server while the array is in a repaired state. The array is in a repaired state when the failover stage has completed.

After the recovery stage of array resilience, when uncontactable servers rejoin the array, communications to the other array members may not work.

The issue is seen when secure intra-array communication is enabled for the array.

Cause: A known issue with array resilience when secure intra-array communication is used. By default, secure intra-array communication is enabled for an SGD server.

Solution: No known solution. If possible, avoid changing the array structure during the array resilience process.

3.1.19. 14221098 – Konsole Application Fails to Start on Oracle Linux

Problem: The KDE Konsole terminal emulator application fails to start when configured as an X application object in SGD.

The issue is seen when the application is hosted on an Oracle Linux 6 platform.

Cause: A known issue when running Konsole on Oracle Linux 6. The issue is caused by the application process forking on start up.

Solution: The workaround is to use the --nofork command option when starting Konsole.
In the Administration Console, go to the Launch tab for the X application object and enter `--nofork` in the Arguments for Command field.

### 3.1.20. 14237565 – Page Size Issue When Printing on Non-Windows Client Devices

**Problem:** Print jobs are not delivered to the client printer in the correct page format. For example, a print job for an A4 page size document is delivered to the client printer as a Letter page size document. Depending on the client printer configuration, this might cause the print job to fail.

The issue is seen when using Linux and Mac OS X client devices.

**Cause:** A known issue when printing to some non-Windows client devices.

**Solution:** Some client printers can be configured to ignore the page size format.

A workaround is to use PDF printing when printing from SGD.

### 3.1.21. 14287570 – Microsoft Windows Server 2003 Applications Limited to 8-Bit Color Depth for Large Screen Resolutions

**Problem:** For Microsoft Windows Server 2003 applications, the display color depth on the client device is limited to 8-bit for large screen resolutions. The issue is seen when screen resolutions are higher than 1600 x 1200 pixels.

**Cause:** A known issue with Windows Server 2003 Remote Desktop Services sessions.

**Solution:** See Microsoft Hotfix 942610 for details of how to increase the color depth to 16-bit.

Ensure that the `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Terminal Server \AllowHigherColorDepth` registry entry described in the Microsoft hotfix procedure is set to 1.

### 3.1.22. 14287730 – X Error Messages When Shadowing From the Command Line

**Problem:** Error messages similar to the following might be seen when shadowing an application session from the command line, using the `tarantella emulatorsession shadow` command.

```
X Error:  BadImplementation
Request Major code 152 (RANDR)
Request Minor code 8 ()
Error Serial #209
Current Serial #209
```

Shadowing works as expected, despite the error messages.

**Cause:** A known issue if the X server on the client device does not implement session resizing.

**Solution:** The errors are benign and can be ignored.

### 3.1.23. 14404371 – User Input Characters in the Authentication Dialog Are Unreadable

**Problem:** When a user attempts to enter authentication credentials using the SGD authentication dialog, some input characters might be unreadable. The issue is seen on non-Windows client devices where the user credentials contain multibyte characters, such as European language characters.
The SGD authentication dialog is shown when the user holds down the Shift key when clicking an application link on the webtop.

**Cause:** A known issue with how the SGD Client sets the font list on some client devices.

**Solution:** Use the following workaround.

- On the client device, create a font specification file with the following contents:

  ```
  *XmTextField*fontList: -*-*-medium-r-normal-*-120-*-*-*-*
  ```

- Make the fonts available on the client device.

  ```
  # xrdb -merge filename
  ```

  where `filename` is the name of the font specification file.

Alternatively, you can add the font specification to an `.Xresources` file in your home directory.

### 3.1.24. 15903850 – Printing From a Tablet Computer Fails Sometimes

**Problem:** Tablet computer users may not be able to print from some applications.

Error messages such as the following may be seen:

```
SEVERE: Exception occurred in servlet javax.net.ssl.SSLHandshakeException:
sun.security.validator.ValidatorException: PKIX path building failed:
sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid
certification path to requested target
```

The issue is seen when the print job and the user session are hosted on different SGD servers in the array. This situation may occur in the following scenarios:

- When an SGD server in the array is also used as an application server.
- When application session load balancing is used for the array.

**Cause:** This is a certificate trust issue. One or more SGD servers in the array are secured using an untrusted SSL certificate, such as a self-signed certificate.

**Solution:** On each SGD server, import the SSL certificates from the other array members into the CA certificate truststore. This process is described in the The CA Certificate Truststore section in the Oracle Secure Global Desktop Administration Guide.

The SSL certificate for an SGD server is at `/opt/tarantella/var/tsp/cert.pem`.

The CA certificate truststore for an SGD server is at `/opt/tarantella/bin/jre/lib/security/cacerts`.

### 3.1.25. 16003643 – Currency Symbols Are Not Displayed Correctly on iPad Tablets

**Problem:** When running SGD applications on an iPad tablet, currency symbols such as pound (£), euro (€), and yen (¥) may not display correctly.

**Cause:** A known issue with displaying extended characters, such as currency symbols, on iPad devices.
3.1.26. 16203938 – SGD Gateway Certificates Not Copied to New Array Member

**Problem:** When adding a new SGD server to the array after configuring the SGD Gateway, Gateway certificates are not automatically copied to the new array member.

**Cause:** A known issue when adding a new SGD array member.

**Solution:** The workaround is to remove and then readd the Gateway after the SGD server has joined the array, using the `tarantella gateway remove` and `tarantella gateway add` commands.

See the [tarantella gateway Command](#) in the [Oracle Secure Global Desktop Gateway Administration Guide](#) for details about adding and removing an SGD Gateway for an SGD array.

3.1.27. 16244748 – SGD Client Does Not Install When Using a Sun Ray Client

**Problem:** When using a Sun Ray Client to log in to SGD, the SGD Client may not install. The issue has been seen when the Sun Ray server is using the scbus v2 smart card bus protocol.

**Cause:** A known issue if the Sun Ray server is using the scbus v2 protocol.

**Solution:** A workaround is to disable smart card services on the Sun Ray server host. For example, on Oracle Solaris platforms use the following command:

```bash
# svcadm disable pcscd
```

3.1.28. 16275930 – Unable to Access SGD Servers When Using the SGD Gateway

**Problem:** When connecting through an SGD Gateway, users are unable to access the SGD servers in the array. When they attempt to log in to an SGD server or use the Administration Console, their browser is redirected to an error page.

The issue is seen when the Gateway is configured as follows:

- The port used for incoming connections is not the default port, port 443.
- Connections between the Gateway and the SGD servers in the array are not secure.

These settings are usually configured during installation of the Gateway.

**Cause:** A known issue with this specific Gateway configuration.

**Solution:** Use the following workaround.

On the Gateway host, edit the `opt/SUNWsgdg/httpd/apache-version/conf/extra/gateway/httpd-gateway.conf` file.

Locate the `ProxyPassReverse` directive. For example:

```bash
ProxyPassReverse / http://gw.example.com:80/
```

Change the port number for the `ProxyPassReverse` directive, as follows:

```bash
ProxyPassReverse / http://gw.example.com:port-num/
```
where `port-num` is the port number used by the Gateway for incoming connections.

### 3.1.29. 16310420 – External Keyboard Issue for iPad Tablets

**Problem:** When using an external keyboard with an iPad tablet, some keys may have no effect in SGD applications.

Examples of keys that may not work include modifier keys such as Alt and Ctrl, and function keys.

**Cause:** A known issue when using an external keyboard with an iPad tablet.

**Solution:** Use the on-screen keyboard to enter the missing keystroke.

For example, to enter the key combination Ctrl+C:

- Display the on-screen keyboard and tap the Ctrl key.

  This key is shown when you tap the main key.

- Use the external keyboard to enter the C character.

### 3.1.30. 16416575 – Keyboard Extender Rendering Issue When Displaying Function Keys

**Problem:** On tablet computers, screen rendering issues may be seen when using the keyboard extender to display Function keys. After displaying the available Function keys, users may be unable to access other keys on the keyboard extender. The issue is seen when the tablet is in portrait display mode.

**Cause:** A known issue when the tablet is in portrait display mode.

**Solution:** For the best user experience, rotate the tablet to landscape display mode before selecting the `fn` key on the keyboard extender.

### 3.1.31. 16420093 – Log In Process Fails for Mac OS X Users

**Problem:** Users on Mac OS X platforms are unable to log in to SGD. Downloading of the SGD Client fails and the login process does not complete.

**Cause:** The issue is seen when Mac OS X users have not enabled Java Plug-in software for their browser. On other client platforms, warning prompts are usually shown in this case.

**Solution:** Users must enable Java plug-in software on the client browser before logging in to SGD.

For example, on Safari browsers ensure that the Enable Java content in browser option is checked. This option is disabled by default on Safari browsers.

### 3.1.32. 16544481 – Unable to Contact Multiple Oracle VDI Centers Using the VDI Broker

**Problem:** Users may be unable to contact more than one Oracle Virtual Desktop Infrastructure (Oracle VDI) Center when using the VDI broker.

The issue is seen when multiple dynamic application server objects are configured to use different Oracle VDI Centers. The user experience is that the VDI broker incorrectly uses the same Oracle VDI Center, regardless of which dynamic application server is being used.
**Cause:** A known issue when using the VDI broker with multiple Oracle VDI Centers.

**Solution:** A patch is available to fix this issue. Contact Oracle Support for details.

### 3.1.33. 16613748 – Unable to Generate Mobile Configuration Profiles For Some SGD Gateway Deployments

**Problem:** For some SGD Gateway deployments, Administrators may not be able to generate the `.mobileconfig` configuration profiles used for secure connections to tablet computers. The `ios_profile_create.sh` script used to generate the configuration profiles fails.

The issue is seen when unencrypted connections are used between the SGD Gateway and the SGD servers in the array. In this scenario, the SGD servers are configured to use standard, unencrypted connections.

**Cause:** When security is disabled on an SGD server, the following directories required for the `.mobileconfig` configuration profiles are deleted:

- `/opt/tarantella/var/tsp/certs`. When generating configuration profiles, SSL certificates must be copied to this directory.
- `/opt/tarantella/webserver/apache/apache-version/htdocs/certs`. The generated configuration profiles are stored in this directory.

**Solution:** Create the required directories manually on the primary SGD host:

```bash
# mkdir -p /opt/tarantella/var/tsp/certs/gateway
# mkdir -p /opt/tarantella/var/tsp/certs/array
# chown -R ttasys:ttaserv /opt/tarantella/var/tsp/certs
# mkdir /opt/tarantella/webserver/apache/apache-version/htdocs/certs
# chown root:ttaserv /opt/tarantella/webserver/apache/apache-version/htdocs/certs
```

You can then generate the configuration profiles as described in How to Configure the SGD Gateway for Connections From Tablet Computers Using Untrusted Certificates in the Oracle Secure Global Desktop Gateway Administration Guide.

A link to download the configuration profile is not available on the Info page of the webtop. Users can download the profile by accessing the profile URL directly in their browser. For example:

https://gw.example.com/certs/sgdg.mobileconfig

where `gw.example.com` is the name of the SGD Gateway.

### 3.1.34. 16634591 – Gnome Terminal Application Exits Unexpectedly

**Problem:** When you close down an X application, any running instances of the Gnome terminal application (`gnome-terminal`) may exit unexpectedly.

The issue may also affect applications other than Gnome terminal.

**Cause:** A known issue with how some versions of `gnome-terminal` interact with the `dbus` message bus system.

The issue has been seen with later versions of `gnome-terminal`, such as version 2.31. Earlier versions of `gnome-terminal`, such as version 2.16, are unaffected.

**Solution:** Use one of the following workarounds.
• Configure the Gnome terminal application to run in a separate X Protocol Engine (XPE). The required configuration varies, depending on the display mode of the application:

• **Independent Window:** Disable the Share Resources Between Similar Sessions (`--share`) attribute for the Gnome terminal application object.

• **Client Window Management:** For the SGD server, set the value of the Maximum Sessions (`--xpe-maxsessions`) attribute to 1. This attribute limits the maximum number of application sessions that each X Protocol Engine handles.

• Configure the Gnome terminal application to use a different start up option for dbus.

Configure the Application Command (`--app`) attribute for the Gnome terminal application object, as follows:

```
/usr/bin/dbus-launch --exit-with-session /usr/bin/gnome-terminal
```

### 3.1.35. 17219328 – Configuration Profile Installation Issue on Tablet Computers

**Problem:** Tablet users are not able to install a configuration profile for their Gateway if an array configuration profile has already been installed. Conversely, users are not able to install a configuration profile for their array if a Gateway configuration profile has already been installed.

This affects deployments where users sometimes connect through the Gateway and sometimes directly to SGD.

**Cause:** A known issue when generating configuration profiles. The Gateway or array configuration profile cannot use the same identifier for the `<PayloadUUID>` element.

**Solution:** Edit either the Gateway or SGD `.mobileconfig` configuration profile file to give the `<PayloadUUID>` element a unique name. See About Configuration Profiles for details about configuration profiles.

### 3.2. Bug Fixes in Version 5.0

The following table lists the significant bugs that are fixed in the 5.0 release.

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3.3. Providing Feedback and Reporting Problems

This section provides information about how to provide feedback and contact support for the Oracle Secure Global Desktop product.

To provide feedback or to ask a general question, you can post to the Secure Global Desktop Software Community Forum. Forums are Community-monitored and posting to the Secure Global Desktop Software Community Forum does not guarantee a response from Oracle. If you need to report an issue and have an Oracle Premier Support Agreement, you should open a case with Oracle Support at https://support.oracle.com.

If you are reporting an issue, please provide the following information where applicable:

- Description of the problem, including the situation where the problem occurs, and its impact on your operation.
- Machine type, operating system version, browser type and version, locale and product version, including any patches you have applied, and other software that might be affecting the problem.
- Detailed steps on the method you have used, to reproduce the problem.
- Any error logs or core dumps.
3.3.1. Contacting Oracle Specialist Support

If you have an Oracle Customer Support Identifier (CSI), first try to resolve your issue by using My Oracle Support at https://support.oracle.com. Your Oracle Premier Support CSI does not cover customization support, third-party software support, or third-party hardware support.

If you cannot resolve your issue, open a case with the Oracle specialist support team for technical assistance on break/fix production issues. The responding support engineer will need the following information to get started:

• Your Oracle Customer Support Identifier.
• The product you are calling about.
• A brief description of the problem you would like assistance with.

If your CSI is unknown, find the correct Service Center for your country (http://www.oracle.com/us/support/contact-068555.html), then contact Oracle Services to open a non-technical service request (SR) to get your CSI sorted. Once you have your CSI, you can proceed to open your case through My Oracle Support.