Sun Secure Global Desktop 4.41 Installation Guide

Sun Microsystems, Inc.
www.sun.com

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Contents

Preface

The *Sun Secure Global Desktop 4.41 Installation Guide* provides instructions for installing, upgrading, and removing Sun Secure Global Desktop Software (SGD). It also provides instructions on how to get started using the software.

How This Book Is Organized

Chapter 1 describes the things you must know and do before you install SGD.

Chapter 2 describes how to install SGD.

Chapter 3 describes the requirements and procedures for upgrading from a previous version of SGD.

Chapter 4 describes how to log in to SGD and get started using the software.

Chapter 5 describes how you remove SGD.

Using UNIX Commands

This document might not contain information on basic UNIX® commands and procedures such as shutting down the system, booting the system, and configuring devices. Refer to the following for this information:

- Software documentation that you received with your system
- Solaris™ Operating System documentation, which is at

  `http://docs.sun.com`

This document does, however, contain information about specific SGD commands.

Shell Prompts

Shell	Prompt
C shell	*machine-name*`%`
C shell superuser	*machine-name*`#`
Bourne shell and Korn shell	`$`
Bourne shell and Korn shell superuser	`#`

Typographic Conventions

Typeface	Meaning	Examples
`AaBbCc123`	The names of commands, files, and directories; on-screen computer output	Edit your `.login` file. Use `ls -a` to list all files. `% You have mail.`

`AaBbCc123`	What you type, when contrasted with on-screen computer output	`%` **`su`**
		`Password:`

AaBbCc123	Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values.	Read Chapter 6 in the *User's Guide.* These are called *class* options. To delete a file, type **`rm`** *filename*.

Note – Characters display differently depending on browser settings. If characters do not display correctly, change the character encoding in your browser to Unicode UTF-8.

Related Documentation

The following table lists the documentation for this product. The online documentation is available at:

```
http://docs.sun.com/app/docs/coll/1706.3
```

Application	Title	Part Number	Format	Location
Release Notes	*Sun Secure Global Desktop 4.41 Release Notes*	820-4905-10	HTML PDF	Online Software CD and online
Administration	*Sun Secure Global Desktop 4.41 Administration Guide*	820-4907-10	HTML PDF	Online
User	*Sun Secure Global Desktop 4.41 User Guide*	820-4908-10	HTML PDF	Online

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CHAPTER 1

Preparing to Install

This chapter describes the things you must know and do before you install Sun Secure Global Desktop (SGD).

Topics in this chapter include:

Hardware Requirements

Use the following hardware requirements as a guide and not as an exact sizing tool. For detailed help with hardware requirements, contact a Sun Secure Global Desktop Software sales office (`http://www.sun.com/secure/contact/`).

The requirements for a server hosting SGD can be calculated based on the *total* of the following:

- What is needed to install and run SGD
- What is needed for each user that logs in to SGD on the host and runs applications

The following are the requirements for installing and running SGD:

- 1.5 gigabytes of free disk space, plus another 300 megabytes at install time
- 256 megabytes of random-access memory (RAM)
- 1 gigahertz processor
- Network interface card (NIC)

This is *in addition to* what is required for the operating system itself and assumes the server is used only for SGD.

The following are the requirements to support users who log in to SGD and run applications:

- Minimum 20 megabytes for each user
- On SPARC® technology platforms (SPARC platforms), 15 megahertz for each user
- On x86 platforms, 20 megahertz for each user

⚠ **Caution –** The actual central processing unit (CPU) and memory requirements can vary significantly, depending on the applications used.

Supported Installation Platforms

The following table lists the supported installation platforms for SGD.

Operating System	Supported Versions
Solaris™ Operating System (Solaris OS) on SPARC platforms	8, 9, 10, 10 Trusted Extensions
Solaris OS on x86 platforms	10, 10 Trusted Extensions
Red Hat Enterprise Linux (Intel x86 32-bit)	4, 5
Fedora Linux (Intel x86 32-bit)	8
SUSE Linux Enterprise Server (Intel x86 32-bit)	9, 10

Installing on Solaris 10 OS Trusted Extensions

When you install SGD on Solaris 10 OS Trusted Extensions platforms, you must install SGD in a labelled zone. Do not install SGD in the global zone.

By default, SGD is installed in the /opt/tarantella directory. As the /opt directory is read only on Solaris 10 OS Trusted Extensions platforms, you must select another location to install SGD. On Solaris OS platforms, the installation program asks you for the installation directory when you install the software.

Operating System Modifications

You might have to make some operating system modifications. Without these modifications, SGD might not install properly or operate correctly.

Localized Messages During Installation on Linux Platforms

When you install SGD on Linux platforms, localized messages in the supported languages can only be displayed if the gettext package is installed. If the gettext package is not installed, English is used during the installation.

Fedora 8

SGD fails to install if the libXp.so.6 library is not available on the host. This library was deprecated in Fedora Core 3. However, the file is still available in the libXp package.

SGD fails to install if the libexpat.so.0 libraries are not available on the host. Fedora 8 contains version 1 of these libraries by default. Obtain and install the required version of these libraries before installing SGD. If you still get dependency error messages about this library, use the --nodeps option of the rpm command to install the SGD package.

5250 and 3270 Applications

The libXm.so.3 library is required to support 5250 and 3270 applications. This library is available in the OpenMotif 2.2 package.

SUSE Linux Enterprise Server 9 With Service Pack 2

SGD fails to install if the libgdbm.so.2 library is not available on the host. SUSE Linux Enterprise Server 9 with Service Pack 2 contains version 3 of the library by default. Obtain and install version 2 of the library before installing SGD.

SUSE Linux Enterprise Server 10

SGD fails to install if the `libgdbm.so.2` and `libexpat.so.0` libraries are not available on the host. SUSE Linux Enterprise Server 10 contains version 3 and version 1 of these libraries by default. Obtain and install the required version of these libraries before installing SGD.

Solaris 8, 9, and 10 OS

You must install at least the End User Solaris OS distribution to get the libraries required by SGD. If you do not, SGD does not install.

SGD fails to install if the `/usr/lib/libsendfile.so` library is not available on the host. This library might be included with the Core Solaris Libraries (`SUNWcsl`) package, or you might have to apply patch number 111297 to obtain it.

Solaris 8 OS `/dev/random` Pseudo Device

Users might not be able log in to SGD on Solaris 8 OS platforms if the host does not have the `/dev/random` pseudo device. You might have to install patch number 112438 to obtain this device.

Red Hat Enterprise Linux 5

The default `/etc/hosts` file for Red Hat Enterprise Linux 5 contains a single entry, which incorrectly maps the host name of the SGD host to the local loopback address, `127.0.0.1`.

Edit the `/etc/hosts` file to remove this mapping, and add a new entry that maps the name of the SGD host to the network IP address of the SGD host. The SGD host name must not be mapped to the local loopback IP address.

OpenSolaris 2008

The SGD Client requires the `libXm.so.4` library. This library is available in the Solaris Express Community Edition.

Network Requirements

You must configure your network for use with SGD. The following are the main requirements:

- Hosts must have Domain Name System (DNS) entries that can be resolved by all clients.
- DNS lookups and reverse lookups for a host must always succeed.
- All client devices must use DNS.
- When you install SGD, you are asked for the DNS name to use for the SGD server.
  - In a network containing a firewall, use the DNS name that the SGD host is known as *inside* the firewall.
  - Always use fully-qualified DNS names for the SGD host. For example, `boston.indigo-insurance.com`.

The *Sun Secure Global Desktop 4.41 Administration Guide* has detailed information about all the ports used by SGD and how to use SGD with firewalls. The following information lists the common ports used.

Client devices must be able to make Transmission Control Protocol/Internet Protocol (TCP/IP) connections to SGD on the following TCP ports:

- **80** - For Hypertext Transfer Protocol (HTTP) connections between client devices and the SGD Web Server. The port number can vary depending on the port selected on installation.
- **443** - For HTTP over Secure Sockets Layer (HTTPS) connections between client devices and the SGD Web Server.
- **3144** - For standard (unencrypted) connections between the SGD Client and the SGD server.
- **5307** - For secure connections between the SGD Client and the SGD server. Secure connections use Secure Sockets Layer (SSL).

Note – The initial connection between an SGD Client and an SGD server is *always* secure. After the user logs in to SGD, the connection is downgraded to a standard connection. When you first install SGD, TCP ports 3144 and 5307 must be open to connect to SGD. You can configure SGD to always use secure connections.

To run applications, SGD must be able to make TCP/IP connections to application servers. The types of applications determine the TCP ports that must be open, for example:

- **22** – For X and character applications using Secure Shell (SSH)

- **23** – For Windows, X, and character applications using Telnet
- **3389** – For Windows applications using Windows Terminal Services
- **6010** and above – For X applications

Clock Synchronization

In SGD, an array is a collection of SGD servers that share configuration information. As the SGD servers in an array share information about user sessions and application sessions, it is important to synchronize the clocks on the SGD hosts. Use Network Time Protocol (NTP) software or the `rdate` command to ensure the clocks on all SGD hosts are synchronized.

SGD Web Server

When you install SGD, you install the SGD Web Server. The SGD Web Server is an Apache web server that is preconfigured for use with SGD.

When you install SGD, the SGD installation program asks you for the TCP port that the SGD Web Server listens on for HTTP connections. This is usually TCP port 80. If another process is listening on that port, the installation program asks you to choose another port.

Required Users and Privileges

To install SGD, you must have superuser (root) privileges.

The system must have `ttaserv` and `ttasys` users and a `ttaserv` group before you can install SGD.

The `ttasys` user owns all the files and processes used by the SGD server. The `ttaserv` user owns all the files and processes used by the SGD Web Server.

The SGD server does not require superuser (root) privileges to run. The SGD server starts as the root user and then downgrades to the `ttasys` user.

If you try to install the software without these users and group in place, the installation program stops without making any changes to the system and displays a message telling you what you need to do. The message includes details of an install script that you can run to create the required users and group.

If you need to create the required users and group manually, the following are the requirements:

- The user names must be `ttaserv` and `ttasys`.
- The group name must be `ttaserv`.
- You can use any user identification number (UID) or group ID (GID) you want. The UID and GID can be different.
- Both users must have `ttaserv` as their primary group.
- Both users must have a valid shell, for example `/bin/sh`.
- Both users must have a *writable* home directory.
- For security, lock these accounts, for example with the `passwd -l` command.

One way to create these users is with the `useradd` and `groupadd` commands, for example:

```
# groupadd ttaserv
# useradd -g ttaserv -s /bin/sh -d /home/ttasys -m ttasys
# useradd -g ttaserv -s /bin/sh -d /home/ttaserv -m ttaserv
# passwd -l ttasys
# passwd -l ttaserv
```

To check whether the `ttasys` and `ttaserv` user accounts are correctly set up on your system, use the following commands.

```
# su ttasys -c "/usr/bin/id -a"
# su ttaserv -c "/usr/bin/id -a"
```

If your system is set up correctly, the command output should be similar to the following examples.

```
uid=1002(ttaserv) gid=1000(ttaserv) groups=1000(ttaserv)
uid=1003(ttasys) gid=1000(ttaserv) groups=1000(ttaserv)
```

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 (CDM)
- Seamless windows (Windows platforms only)
- Audio (UNIX or Linux platforms only)

The following are the supported installation platforms for the SGD Enhancement Module:

Operating System	Supported Versions
Microsoft Windows	Windows Server 2008 Windows Server 2003 Windows 2000 Server Microsoft Windows XP Professional Microsoft Windows Vista Ultimate Microsoft Windows Vista Business
Solaris OS on SPARC platforms	8, 9, 10, 10 Trusted Extensions
Solaris OS on x86 platforms	10, 10 Trusted Extensions
Red Hat Enterprise Linux (Intel x86 32-bit)	4, 5
Fedora Linux (Intel x86 32-bit)	8
SUSE Linux Enterprise Server (Intel x86 32-bit)	9, 10

Note the following limitations:

- On Microsoft Windows XP Professional and Microsoft Windows Vista platforms, only CDM is supported. Seamless windows and advanced load balancing are not supported. Only full Windows desktop sessions are supported. Running individual Windows applications is not supported for these platforms.
- On Solaris 10 OS Trusted Extensions platforms, audio and CDM are not supported.

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.

Application Connection Methods

To run applications, SGD must be able to connect to the application server that hosts the application. Typically this is done using either Telnet or Secure Shell (SSH). Enable one of these services before installing SGD. SSH is the best for security.

If you are using SSH, you must enable X11 forwarding. You can do this either in your SSH configuration or by configuring the application in SGD. The *Sun Secure Global Desktop 4.41 Administration Guide* has details on using SSH with SGD.

Release Notes

Before installing SGD, read the *Sun Secure Global Desktop 4.41 Release Notes*. The release notes contain important information about this version of SGD, including the known issues and bugs with installation.

CHAPTER 2

Installing SGD

This chapter describes how to install Sun Secure Global Desktop (SGD).

If you are upgrading, read the upgrade instructions in Chapter 3 *before* installing the software.

SGD contains several installable components:

- The component installed on *hosts* provides the main functionality of SGD.
- The component installed on *application servers*, called an SGD Enhancement Module, provides additional functionality for SGD, for example to enable users to access the drives on their client device.
- The component installed on *client devices* enables users to connect to an SGD server.

Topics in this chapter include the following:

- "Performing the Installation" on page 11
- "Installing the SGD Enhancement Module for Microsoft Windows" on page 14
- "Installing the SGD Enhancement Module for UNIX and Linux Platforms" on page 15
- "Installing the SGD Client Manually" on page 18

Performing the Installation

On Solaris OS platforms, install SGD with the `pkgadd` command.

On Linux platforms, install SGD with the `rpm` command.

By default, SGD is installed in the `/opt/tarantella` directory. You can change the installation directory as follows:

- **Solaris OS platforms** – The installation program asks you for the installation directory when you install the software.
- **Solaris 10 OS Trusted Extensions platforms** – The installation program asks you for the installation directory when you install the software. You *must* select another installation directory because the /opt directory is a read-only directory. You must also install SGD in a labelled zone. Do not install SGD in the global zone.
- **Linux platforms** – You can choose a different installation directory by using the --prefix option with the rpm command when you install the software.

Once you install SGD, the SGD server and the SGD Web Server are running.

Note – Installation of SGD might take longer than expected and might appear to hang. This is because the installation program attempts to access a location on /net/telford. To avoid this issue, add a Domain Name System (DNS) entry for telford.
This issue is documented on page 41 of the *Sun Secure Global Desktop 4.41 Release Notes*.

▼ How To Install SGD

Caution – If you are upgrading from a release before SGD version 4.40, this release contains significant changes to the SGD organizational hierarchy. Read "Organizational Changes for Versions 4.40 and Later" on page 21 *before* you upgrade.

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1. **Obtain the software.**

   Download the software from http://www.sun.com/software/products/sgd or copy it from the CD-ROM.

   Save the software to a temporary directory on the host.

   These are the package files:

   - tta-*version*.sol-x86.pkg for Solaris OS on x86 platforms
   - tta-*version*.sol-sparc.pkg for Solaris OS on SPARC technology platforms
   - tta-*version*.i386.rpm on Linux platforms

2. **Log in as superuser (root) on the host.**

3. **Install SGD.**

   If the package file is compressed, you must expand it before installing.

   To install on Solaris OS on x86 platforms:

```
# pkgadd -d /tempdir/tta-version.sol-x86.pkg
```

   To install on Solaris OS on SPARC technology platforms:

```
# pkgadd -d /tempdir/tta-version.sol-sparc.pkg
```

Note – On Solaris OS platforms, if the installation fails with a `pwd: cannot determine current directory!` error message, change to the /*tempdir* directory and try again.

   To install on Linux platforms:

```
# rpm -Uvh /tempdir/tta-version.i386.rpm
```

4. **Verify that the SGD package is registered in the package database.**

   On Solaris OS platforms:

```
# pkginfo | grep -i tta
```

   On Linux platforms:

```
# rpm -qa | grep -i tta
```

5. **Start the SGD server.**

```
# /opt/tarantella/bin/tarantella start
```

   The first time you start the SGD server, the SGD installation program runs. This program does the following:

   - Asks you to agree to the Software License Agreement.
   - Presents a list of recommended settings that you can accept or change, including the following:
     - **TCP port.** If a web server is currently running on TCP port 80, the SGD installation program asks you which TCP port to use for the SGD Web Server.
     - **Peer DNS name.** You must use a fully-qualified DNS name. If you are running SGD on a network with a firewall, use the DNS name that the host is known by inside the firewall.

- Installs and configures the software. This includes creating an organizational hierarchy with some sample applications, and making the UNIX or Linux system `root` user an SGD Administrator.
- Adds a file to the system startup directory to ensure that the SGD server and the SGD Web Server start when the system reboots. For example, if you install the software in run level 3, the file is in the `/etc/rc3.d` directory and named `*sun.com-sgd-base`.
- Modifies root's `crontab` to archive the SGD log files weekly.
- On Linux platforms only, adds a SGD Pluggable Authentication Module (PAM) configuration file, `/etc/pam.d/tarantella`. This is copied from the existing `/etc/pam.d/passwd` file. If this file does not exist, the PAM configuration file is not created.
- Creates a log file, `/tmp/tta_inst.log`. This file contains a copy of the messages displayed during installation.

Installing the SGD Enhancement Module for Microsoft Windows

The SGD Enhancement Module for Microsoft Windows contains modules for advanced load balancing, client drive mapping (CDM), and seamless windows. When you install the Enhancement Module, you can choose which of these modules to install.

By default, the Enhancement Module is installed in the `C:\Program Files\Tarantella\Enhancement Module` directory, but the installation program asks you for the installation directory.

After installation, the load balancing service is running. The load balancing service starts automatically whenever the Windows host is rebooted.

▼ How to Install the SGD Enhancement Module for Microsoft Windows

1. **Log in to the Windows host as a user with administrator privileges.**

2. **Save the Enhancement Module installation program to a temporary directory on the host.**

   If you are installing from the CD-ROM, the installation program is in the `EnhancementModules` directory.

   Alternatively, download the installation program from an SGD Web Server from `http://`*server.example.com*, where *server.example.com* is the name of an SGD server. When the SGD Web Server Welcome Page displays, click Install a Sun Secure Global Desktop Enhancement Module.

   The SGD Enhancement Module installation program is `temwin32.exe`.

3. **Install the SGD Enhancement Module.**

   Double-click `temwin32.exe` and follow the instructions on the screen.

Installing the SGD Enhancement Module for UNIX and Linux Platforms

The SGD Enhancement Module for UNIX and Linux Platforms contains modules for advanced load balancing, CDM and UNIX audio.

The UNIX audio module of the Enhancement Module is optional and is not installed by default. If you choose to install the UNIX audio module, the SGD audio driver is installed in the kernel of the operating system.

On Solaris OS platforms, the UNIX audio module can be installed only in the global zone.

On Linux platforms, the UNIX audio module can be installed only if your kernel version is 2.4.20 or later. The SGD audio driver is compiled before it is installed in the kernel. To compile the audio driver, the following must be available on the host:

- Header files for your Linux kernel version
- GNU Compiler Collection (GCC)
- `make` utility
- `soundcore` kernel module

On Solaris OS platforms, install the Enhancement Module with the `pkgadd` command.

On Linux platforms, install the Enhancement Module with the `rpm` command.

On Solaris OS and Linux platforms, the Enhancement Module is installed in the /opt/tta_tem directory by default. On Solaris OS platforms, the installation program asks you for the installation directory when you install the software. On Linux platforms, you can choose a different installation directory by using the --prefix option with the rpm command when you install the software.

After installation, the advanced load balancing module and the UNIX audio module, if selected, are running. The CDM module is not running, because this requires additional configuration. The additional configuration needed is described in the *Sun Secure Global Desktop 4.41 Administration Guide*.

The Enhancement Module installation program adds a file to the system startup directory to ensure that the Enhancement Module starts when the system reboots. For example, if you install the software in run level 3, the file is in the /etc/rc3.d directory and named *sun.com-sgd-em.

▼ How To Install the SGD Enhancement Module on Solaris Platforms

1. **Save the SGD Enhancement Module to a temporary directory on the host.**

   If you are installing from the CD-ROM, the package is in the EnhancementModules directory.

   Alternatively, download the installation program from an SGD Web Server from http://*server.example.com*, where *server.example.com* is the name of an SGD server. When the SGD Web Server Welcome Page displays, click Install a Sun Secure Global Desktop Enhancement Module.

   These are the package files:

   - tem-*version*.sol-x86.pkg for Solaris OS on x86 platforms
   - tem-*version*.sol-sparc.pkg for Solaris OS on SPARC technology platforms

   where *version* is the SGD version number.

2. **Log in as superuser (root) on the host.**

3. **Install the SGD Enhancement Module.**

   If the package file is compressed, you must expand it before installing.

   To install on Solaris OS on x86 platforms:

```
# pkgadd -d /tempdir/tem-version.sol-x86.pkg
```

   To install on Solaris OS on SPARC technology platforms:

```
# pkgadd -d /tempdir/tem-version.sol-sparc.pkg
```

   When you install, the Enhancement Module installation program presents the following settings that you can accept or change:

   - The installation directory.
   - The amount of virtual memory the host has. This is used for load balancing.
   - Whether to install the UNIX audio module.

4. **Verify that the Enhancement Module package is registered in the package database.**

```
# pkginfo | grep -i tem
```

▼ How To Install the SGD Enhancement Module on Linux Platforms

1. **Save the SGD Enhancement Module to a temporary directory on the host.**

   If you are installing from the CD-ROM, the package is in the `EnhancementModules` directory.

   Alternatively, download the installation program from an SGD Web Server from `http://`*server.example.com*, where *server.example.com* is the name of an SGD server. When the SGD Web Server Welcome Page displays, click Install a Sun Secure Global Desktop Enhancement Module.

   The package files are `tem-`*version*`.i386.rpm`, where *version* is the SGD version number.

2. **Log in as superuser (root) on the host.**

3. **Install the SGD Enhancement Module.**

```
# rpm -Uvh tem-version.i386.rpm
```

4. **Verify that the Enhancement Module package is registered in the package database.**

```
# rpm -qa | grep -i tem
```

5. **Start the Enhancement Module installation program.**

```
# /opt/tta_tem/bin/tem start
```

6. **Configure settings for the Enhancement Module.**

   The Enhancement Module installation program presents the following settings that you can accept or change:

   - The amount of virtual memory the host has. This is used for load balancing.
   - Whether to install the UNIX audio module.

Troubleshooting Installing the UNIX Audio Module on Linux Platforms

On Linux platforms, if the UNIX audio module does not install, the SGD Enhancement Module installation program asks you whether to cancel the installation or to continue the installation without installing the UNIX audio module. If the UNIX platform module does not install, check the following:

- Is the Linux kernel version 2.4.20 or later?
- Are the header files for your Linux kernel version installed?
- Do the version numbers of the header files and the Linux kernel match?
- Does the GCC version match the version used to compile the Linux kernel?
- Does the `dmesg` utility reveal any other errors?

Installing the SGD Client Manually

The SGD Client is usually installed automatically when a user connects to an SGD server using a browser with Java technology enabled. Follow these instructions only if you want to install the SGD Client *manually*.

You do not need superuser (root) or administrator privileges to install the SGD Client.

On Microsoft Windows platforms, the SGD Client is installed in the `C:\Program Files\Sun\Secure Global Desktop Client` directory by default, but you can choose a different installation directory when you install the software. A shortcut for the SGD Client is added to the Windows Start Menu.

On UNIX and Linux platforms, the SGD Client is installed in the `$HOME/bin` directory by default, but you can choose a different installation directory when you install the software.

▼ How to Install the SGD Client Manually on Microsoft Windows Platforms

1. **In a browser, go to an SGD Web Server.**

   For example, `http://`*server.example.com*, where *server.example.com* is the name of an SGD server.

   The SGD Web Server Welcome Page displays.

2. **(Optional) Select your preferred language.**

   Click one of the flags at the top of the Welcome Page.

   The Welcome page displays in the selected language.

3. **Click Install the Sun Secure Global Desktop Client.**

   The Sun Secure Global Desktop Client page displays.

4. **Download the SGD Client installation program.**

   Click Download the Secure Global Desktop Client for Microsoft Windows.

   Save the installation program to a temporary directory on the PC.

   The SGD Client installation program is `sgdcwin-`*lang*`.exe`.

5. **Change to the temporary directory and install the SGD Client.**

   Double-click `sgdcwin-`*lang*`.exe` and follow the instructions on the screen.

▼ How to Install the SGD Client Manually on Solaris OS and Linux Platforms

1. **In a browser, go to an SGD Web Server.**

   For example, `http://`*server.example.com*, where *server.example.com* is the name of an SGD server.

   The SGD Web Server Welcome Page displays.

2. **(Optional) Select your preferred language.**

   Click one of the flags at the top of the Welcome Page.

   The Welcome page displays in the selected language.

3. **Click Install the Sun Secure Global Desktop Client.**

   The Sun Secure Global Desktop Client page displays.

4. **Download the SGD Client tar file.**

   Click Download the Secure Global Desktop Client for *platform*.

   Save the tar file to a temporary directory on the host.

   Tar file names indicate a platform, as follows:

   - `sgdci3so.tar` for Solaris OS on x86 platforms
   - `sgdcspso.tar` for Solaris OS on SPARC technology platforms
   - `sgdci3li.tar` for Linux platforms

5. **Change to the temporary directory and extract the tar file.**

```
$ cd /tempdir
$ tar xvf tarfile
```

6. **Install the SGD Client.**

```
$ sh sgdc/install
```

   Follow the instructions on the screen.

Logging in Using the SGD Client

- On UNIX and Linux platforms, you start the SGD Client with the `ttatcc` command.
- On Microsoft Windows platforms, you can either start the Client as part of the installation or click Start → Programs → Sun Secure Global Desktop → Login.

The first time you start the SGD Client, it asks for the following information:

- The Uniform Resource Locator (URL) of the SGD server to connect to. This is usually `http://`*server.example.com*`/sgd`, where *server.example.com* is the name of an SGD server.
- The proxy settings to use. The settings can be determined from your default browser, if Java technology is enabled, or you can type them in.

CHAPTER 3

Upgrading SGD

This chapter describes the requirements and procedures for upgrading from a previous version of Sun Secure Global Desktop (SGD).

Topics in this chapter include the following:

- "Before You Upgrade" on page 21
- "Performing the Upgrade" on page 24
- "Upgrading Other SGD Components" on page 28

Before You Upgrade

This section describes the things you must know and do before upgrading.

Organizational Changes for Versions 4.40 and Later

SGD version 4.40 introduced a new web-based administration tool, the Administration Console, which replaced Object Manager, Array Manager, Configuration Wizard, and Session Manager. As a result, if you are upgrading from a release before version 4.40 there are some significant changes to the SGD organizational hierarchy. The main changes are as follows:

- Application objects are always created and maintained in a new organization object called `o=applications`.
- Application server objects, formerly known as host objects, are always created and maintained in a new organization object called `o=appservers`.

- The previous administration tools allowed you to build complex relationships between objects. The allowed relationships have been simplified.

When you upgrade from a release before version 4.40, your existing application and application server objects, and their associated group and organizational unit objects, are moved to the new organizations. As far as possible, SGD attempts to preserve the relationships between the objects, but after the upgrade some users might find that some applications are no longer on their webtop.

Before you upgrade from a release before version 4.40, it is advisable to perform a test to see how the changes affect you. You can do this by upgrading a pre-production environment that mirrors the production environment. Alternatively, detach a secondary server from the array and upgrade it.

Upgrades and Early Access Program Software

Upgrades to or upgrades from Early Access Program (EAP) software releases of SGD are not supported. EAP software releases must always be a fresh installation.

Conditions for Upgrading

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

- Sun Secure Global Desktop Software version 4.40
- Sun Secure Global Desktop Software version 4.31
- Sun Secure Global Desktop Software version 4.30

If you want to upgrade from any other version of SGD, or from Tarantella Enterprise 3 version 3.30 or earlier, contact Sun Support.

If you are sure you want to perform an unsupported upgrade, you must create an empty file `/opt/tarantella/var/UPGRADE` before installing the new version of the software. Your SGD installation might not be upgraded correctly.

Before You Upgrade on Solaris OS Platforms

When you upgrade on Solaris OS platforms, the `pkgadd` command performs several checks and asks you to confirm the changes before installing the package. You can create an administration file that instructs `pkgadd` to bypass these checks and install the package without user confirmation.

To avoid user interaction, the administration file must contain the following lines:

```
conflict=nocheck
instance=unique
```

When you upgrade SGD, use the `pkgadd -a` *adminfile* command to specify the administration file.

If you do not specify an administration file when you upgrade, the SGD installation program creates one for you and gives you the option to quit the installation so that you can run the `pkgadd` command again with the `-a` *adminfile* option.

Upgrades and Your Existing Configuration

When you upgrade, the following changes are applied to your existing configuration:

- Your existing Enterprise Naming System (ENS) database is preserved and backed up.

  The ENS database is the storage area for all the objects in your SGD organizational hierarchy.

  The `/opt/tarantella/var/ens` directory is backed up to the `/opt/tarantella/var/ens.`*oldversion* directory.

  The backup is not changed. The existing ENS database might be changed if changes are needed to enable it work with the new version of SGD.

Note – "Organizational Changes for Versions 4.40 and Later" on page 21 has details of some significant changes to ENS in this release.

- The SGD server configuration and the SGD global configuration are preserved but *not* backed up.

  This configuration is stored in the `/opt/tarantella/var/serverconfig` directory.

  This configuration is changed only if new properties files need to be added or new attributes need to be added to existing properties.

- All the server resources files in the `/opt/tarantella/var/serverresources` directory are replaced.

  These files are not normally edited as they control how SGD works.

- Your SGD login scripts are preserved and backed up.

  The `/opt/tarantella/var/serverresources/expect` directory is backed up to `/opt/tarantella/var/serverresources/expect.`*oldversion*.

- Your customized SGD files are backed up but they are *not upgraded*.

You can customize SGD by *changing the files* found in a standard installation, for example webtop themes, or by *adding your own files*, for example login scripts.

You have to upgrade these files manually.

When you install the new version of SGD, the installation program warns you if files exist that might need to be upgraded manually. See "Upgrading a Customized SGD Installation" on page 26 for advice on how to upgrade these files.

Performing the Upgrade

How you upgrade SGD depends on whether you are upgrading an evaluation version or a fully licensed version of SGD, and on whether you are upgrading a single-server or multiple-server array. If you have customized SGD, you might have to upgrade your customized files manually.

Upgrading Evaluation Versions of SGD

If an SGD server does not have a license key installed, or belong to an array that is fully licensed, the SGD server is in *evaluation mode*. After 30 days the evaluation period expires and the SGD server is in *expired evaluation mode*.

Upgrade an SGD server in evaluation mode or expired evaluation mode by installing the next version of the software.

An SGD server that was in expired evaluation mode remains in expired evaluation mode after the upgrade. You cannot log in to an SGD server when it is in expired evaluation mode.

To license a server when it is in expired evaluation mode, you must either use the `tarantella license add` command to add a valid license key, or join the server to an array that is already fully licensed.

▼ How to Upgrade a Fully Licensed Single-Server Array

1. **Make sure no user sessions and application sessions are running in the array, including suspended sessions.**

2. **Upgrade the server by installing the new version of SGD.**

▼ How to Upgrade a Fully Licensed Multiple-Server Array

All SGD servers in a multiple-server array must run on the same version of the SGD software. This means that to upgrade an array, you must dismantle the array, upgrade each server independently, and then rebuild the array.

1. **Make sure no user sessions and application sessions are running in the array, including suspended sessions.**

2. **Dismantle the array.**

   On the *primary SGD server*, detach the secondary SGD servers from the array:

```
# tarantella array detach --secondary server
```

Note – Detach only one secondary SGD server at a time. After making the change to the structure of the array, wait until SGD has copied the change to all the SGD servers in the array before making any further changes. Run the `tarantella status` command on the primary SGD server to check the status of the array.

   When a secondary SGD server is detached from an array, it loses its license keys and, temporarily, you might not be able to log in to SGD on this host.

3. **Upgrade the primary SGD server by installing the new version of the software.**

4. **Upgrade the secondary SGD servers by installing the new version of the software.**

5. **Rebuild the array.**

   On the *primary SGD server*, add the secondary SGD servers to the array:

```
# tarantella array join --secondary server
```

Note – Add only one secondary SGD server at a time. After making the change to the structure of the array, wait until SGD has copied the change to all the SGD servers in the array before making any further changes. Run the `tarantella status` command on the primary SGD server to check the status of the array.

   When a secondary SGD server is added to an array, it gains any license keys installed on the primary SGD server.

Upgrading a Customized SGD Installation

When you upgrade, the SGD installation program preserves the customized files it finds, but it does not upgrade them. These files have to be manually upgraded. Two sets of files might need to be upgraded:

- **SGD Web Server files** – Web application files and files used to configure the SGD Web Server
- **SGD server files** – Files used by the SGD server, such as login scripts

Two types of customized files might need attention after you have upgraded:

- **Customized files** – Files found in a standard SGD installation that have been changed by an SGD Administrator
- **Bespoke files** – Files your organization created and added to an SGD installation

Upgrading Customized SGD Web Server Files

When you upgrade, the SGD installation program backs up any *customized* SGD Web Server files it detects. Backed-up files and their locations are listed in the `/opt/tarantella/var/log/webservercustomized.list` log file.

To upgrade the customized files, use utilities such as `diff` and `patch` to compare and merge the differences between the backed-up files and the files in the standard SGD installation.

The SGD installation program copies any *bespoke* SGD Web Server files it finds into the new installation. These files are not changed.

Upgrading Customized SGD Server Files

When you upgrade, the SGD installation program backs up the customized and bespoke SGD server files it detects and produces the following log files:

- `/opt/tarantella/var/log/upgraded.files` – A summary of the changes
- `/opt/tarantella/var/log/customized.list` – A list of any files that an Administrator has edited or added
- `/opt/tarantella/var/log/customizedchanged.list` – A list of any files that an Administrator has edited that were changed by the upgrade
- `/opt/tarantella/var/log/docrootjava.log` – A list of new or modified Java™ technology files from the original installation

Use these log files to identify the files that need to be manually upgraded.

▼ How to Manually Upgrade Customized SGD Server Files

1. **Create a copy of the customized file.**

2. **Identify the changes made between SGD versions.**

   The `customizedchanged.list` log file lists the customized files that have to be manually upgraded. For each file listed in this log file, your system will have three versions of the file:

   - The old, customized version in one of the following directories:
     - `/opt/tarantella/var/serverresources.`*oldversion* for login scripts.
     - `/opt/tarantella/etc/data.`*oldversion* for other files such as color maps.
   - The old, uncustomized version in the `/opt/tarantella/etc/templates.`*oldversion* directory.
   - The new, uncustomized version in the `/opt/tarantella/etc/templates` directory.

   Use a utility such as `diff` to compare the old, uncustomized file with the new, uncustomized file. This highlights the changes made between SGD versions.

3. **Apply the changes to the customized file.**

   Use a utility such as `patch` to apply the changes identified in Step 2 to the copy of your customized file.

4. **Copy the upgraded customized file into the correct location in the new SGD installation.**

▼ How to Manually Upgrade Bespoke SGD Server Files

1. **Create a copy of the bespoke file.**

2. **Identify the changes made between SGD versions.**

   The `docrootjava.log` and `customized.list` log files list the bespoke files that might have to be manually upgraded.

   The only way to upgrade bespoke files is to compare versions of the standard SGD files to identify changes that have taken place and then apply those changes to your bespoke files.

   Use a utility such as `diff` to compare the old, uncustomized file with the new, uncustomized file. This highlights the changes made between SGD versions.

   To identify the changes, compare the following files:

   - The old version of the standard SGD files in the `/opt/tarantella/etc/templates.`*oldversion* directory.
   - The new version of the standard SGD files in the `/opt/tarantella/etc/templates` directory.

3. **Apply the changes to the bespoke file.**

   Use a utility such as `patch` to apply the changes identified in Step 2 to the copy of your bespoke file.

4. **Copy the upgraded bespoke file into the correct location in the new SGD installation.**

Upgrading Other SGD Components

This section describes how you upgrade the SGD Enhancement Module and the SGD Client.

▼ How to Upgrade the SGD Enhancement Module for Microsoft Windows

- **Install the new version of the SGD Enhancement Module.**

  See "How to Install the SGD Enhancement Module for Microsoft Windows" on page 14.

▼ How to Upgrade the SGD Enhancement Module for UNIX and Linux Platforms

When you upgrade the SGD Enhancement Module and you install the UNIX audio module, you might see a message that says the UNIX audio module is already running. This message is displayed because the SGD audio driver is currently in use and cannot be stopped. As the SGD audio driver has not changed in this release, this message can be safely ignored.

- **Install the new version of the Enhancement Module.**

  See "How To Install the SGD Enhancement Module on Solaris Platforms" on page 16.

▼ How to Upgrade the SGD Client Automatically

The SGD Client can only be upgraded automatically if *both* of the following are true:

- The previous version of the SGD Client was installed automatically
- The user's browser has a supported Java Plug-in tool and Java technology is enabled

1. **Close any existing browser sessions.**
2. **Start a new browser session.**
3. **Log in to SGD.**

   See "How to Log In to SGD" on page 31.

▼ How to Upgrade the SGD Client Manually

Follow this procedure only if the previous version of the SGD Client was installed manually.

- **Install the new version of the SGD Client.**

  See "How to Install the SGD Client Manually on Solaris OS and Linux Platforms" on page 19.

CHAPTER 4

Getting Started With SGD

This chapter describes how to log in to Sun Secure Global Desktop (SGD) and get started using the software.

Topics in this chapter include the following:

Logging In to SGD

SGD supports several mechanisms for authenticating users. By default, any user with an account on the SGD host can log in to SGD using their UNIX or Linux system user name and password.

▼ How to Log In to SGD

To use SGD, you need the SGD Client and a supported browser. Usually the SGD Client is installed automatically when you log in. To perform an automatic installation, the browser must have a supported Java Plug-in tool and Java technology must be enabled. If you are using Internet Explorer on Microsoft Windows Vista platforms, you must also add the Uniform Resource Locator (URL) of the SGD server to the list of Trusted Sites in Internet Explorer's Security Settings.

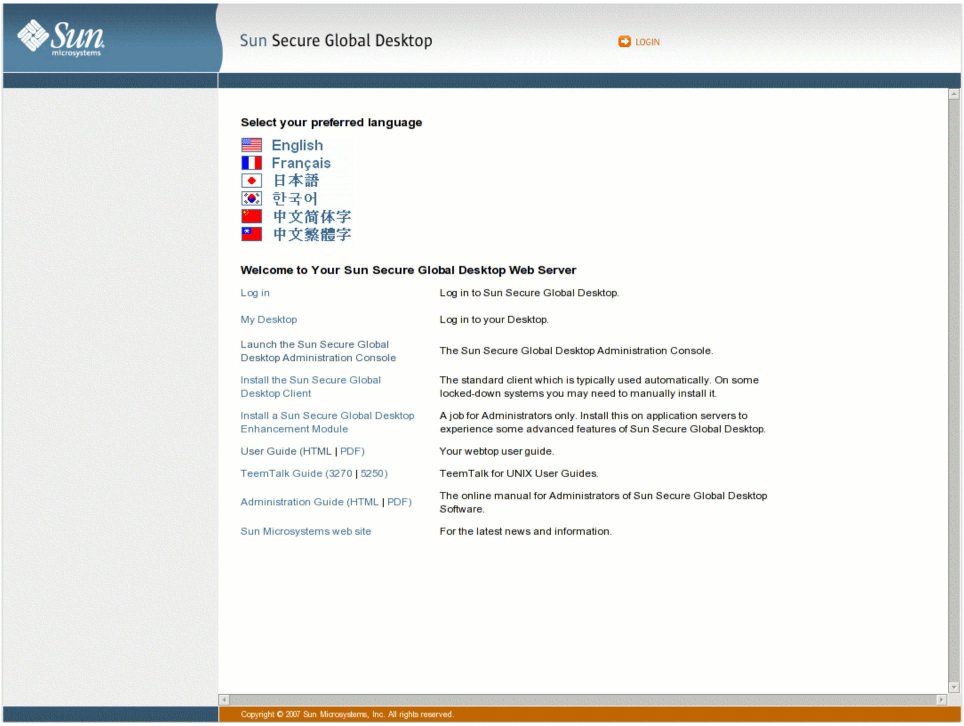
If your browser does not have Java technology, you must manually install the SGD Client and then connect to SGD. See "Installing the SGD Client Manually" on page 18.

To use SGD with a browser, the browser must have JavaScript™ technology enabled.

1. **Using a browser, go to** `http://`*server.example.com* **where** *server.example.com* **is the name of an SGD server.**

   The SGD Web Server Welcome Page is displayed, as shown in FIGURE 4-1.

FIGURE 4-1 The SGD Web Server Welcome Page



Select your preferred language

- English
- Français
- 日本語
- 한국어
- 中文简体字
- 中文繁體字

Welcome to Your Sun Secure Global Desktop Web Server

Log in	Log in to Sun Secure Global Desktop.
My Desktop	Log in to your Desktop.
Launch the Sun Secure Global Desktop Administration Console	The Sun Secure Global Desktop Administration Console.
Install the Sun Secure Global Desktop Client	The standard client which is typically used automatically. On some locked-down systems you may need to manually install it.
Install a Sun Secure Global Desktop Enhancement Module	A job for Administrators only. Install this on application servers to experience some advanced features of Sun Secure Global Desktop.
User Guide (HTML | PDF)	Your webtop user guide.
TeemTalk Guide (3270 | 5250)	TeemTalk for UNIX User Guides.
Administration Guide (HTML | PDF)	The online manual for Administrators of Sun Secure Global Desktop Software.
Sun Microsystems web site	For the latest news and information.

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2. **(Optional) Select your preferred language.**

   Click one of the flags at the top of the Welcome page.

   The Welcome Page is displayed in the selected language.

3. **Click Login.**

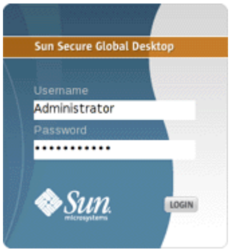
   The SGD Login Page is displayed, as shown in FIGURE 4-2.

4. **Log in.**

   When you install SGD, SGD creates a default SGD Administrator with the user name “Administrator”. This user authenticates using the password of the UNIX or Linux system root user on the host.

   Type Administrator for the Username and the superuser (root) password for the Password.

FIGURE 4-2 The SGD Login Page



Sun Secure Global Desktop

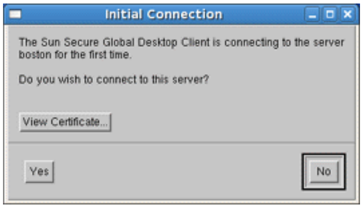
Username: Administrator

Password: •••••••••••

   If a Java technology security message displays, click Run to install the SGD Client.

   The Untrusted Initial Connection message is displayed. See FIGURE 4-3.

FIGURE 4-3 An Untrusted Initial Connection message



Initial Connection

The Sun Secure Global Desktop Client is connecting to the server boston for the first time.

Do you wish to connect to this server?

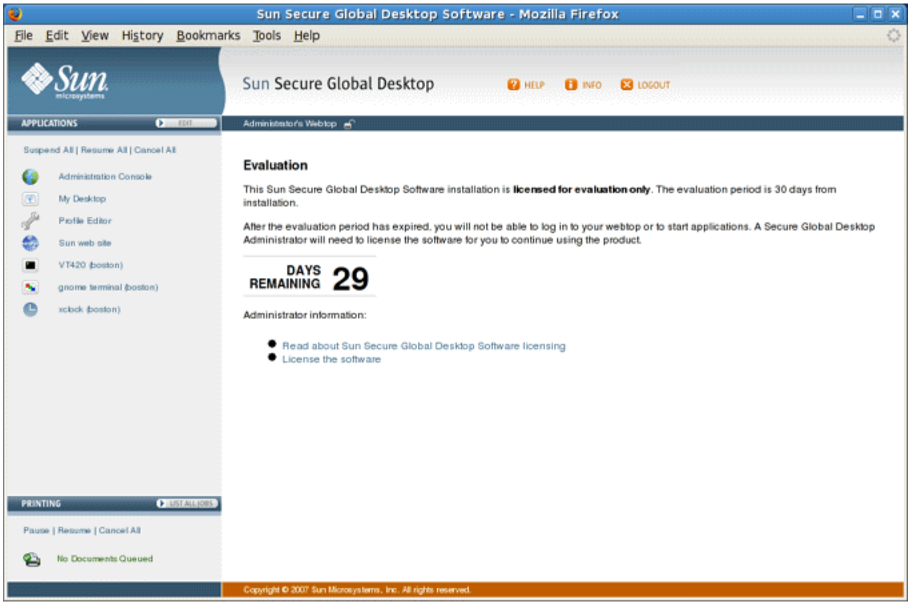
5. **Check the Untrusted Initial Connection message.**

   The Untrusted Initial Connection message is a security measure to ensure the SGD Client only connects to trusted hosts. The message gives you the opportunity to check the host name and server certificate details before agreeing to the connection. The message displays only once for each SGD server to which you connect.

   Check that the host details are correct. If they are, click Yes. If they are not, click No.

   The webtop for the Administrator user is displayed, as shown in FIGURE 4-4.

FIGURE 4-4 The Administrator User's Webtop



Evaluation

This Sun Secure Global Desktop Software installation is **licensed for evaluation only**. The evaluation period is 30 days from installation.

After the evaluation period has expired, you will not be able to log in to your webtop or to start applications. A Secure Global Desktop Administrator will need to license the software for you to continue using the product.

DAYS REMAINING 29

Administrator information:

- Read about Sun Secure Global Desktop Software licensing
- License the software

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The SGD Client icon is displayed in the task bar. See FIGURE 4-5.

FIGURE 4-5 SGD Client Task Bar Icon

Using the Webtop

The webtop lists the applications and documents you access through SGD, including the SGD administration tools.

The webtop lists some sample applications that the SGD installation program found on the host so that you can start using SGD.

Running Applications

To run an application, click its link on the webtop, as shown in FIGURE 4-6.

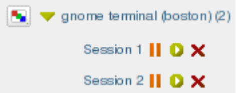
FIGURE 4-6 An Application Link on a Webtop

When you start an application, you might be asked for a user name and password. This is authentication information for the application server which is running the application. These details can be cached securely so you do not need to enter them more than once for each application server.

SGD Administrators configure how applications appear. Some applications might appear full-screen with no window decoration, and others in a window that behaves in the same way as a window on the client device.

When an application is running, a triangle appears in front of the application's name on the webtop and a number appears in brackets after it. The session toolbar also appears below the application name, as shown in FIGURE 4-7.

FIGURE 4-7 The Session Toolbar



The number in brackets is the number of separate instances of the application you have started. SGD Administrators configure how many simultaneous instances of an application that you can run.

Some applications can be configured to keep running even when they are not displayed. These are "resumable" applications. To close an application's window without ending the application, you *suspend* the application. To display the window again and start using the application, you *resume* the application.

There is a separate session toolbar for each running instance of the application, which you use as follows:

- Click the Suspend button to suspend an application session
- Click the Resume button to resume an application session
- Click the Cancel button to end an application session

Click the triangle to hide and show the session toolbars for the application sessions, as shown in FIGURE 4-8.

FIGURE 4-8 Hidden Session Toolbars

You can manage all your application sessions at once from the links at the top of the Applications area. You use these links as follows:

- Click Suspend All to suspend all running applications
- Click Resume All to resume all suspended application
- Click Cancel All to end all running or suspended applications

Applications can have one of three resumability settings.

Setting	Description
Never	The application exits when you log out of SGD. You cannot suspend or resume, non-resumable applications.
During the User Session	The application continues to run until you log out of SGD. While you are logged in, you can suspend and resume these applications.
General	The application continues to run even after you have logged out of SGD. When you log in again, click the resume button to display the running application again.

Resumable applications are useful for the following reasons:

- Applications that take a long time to start can be left running, even after you have logged out of SGD.
- You can leave applications running while you travel.
- You can easily recover from browser or other crashes.

Changing Your Settings

If you click the Edit button in the Applications area of the webtop, you can change your settings.

On the Edit Groups tab, you can “personalize” your webtop by arranging your applications into groups. You decide how and when the groups display. Groups are useful for keeping similar applications together or for hiding applications not used very often. Only a SGD Administrator can add an application to, or remove an application from, the list of applications that are available on a user’s webtop.

On the Client Settings tab, you can configure the settings for the SGD Client, for example the proxy server to use, or whether the list of applications you can run displays in the desktop Start or Launch menu. The settings are stored in a profile on the client device.

Logging Out

You must log out of SGD before closing your browser. This enables SGD to shut down any applications that need not run any more and stop the SGD Client.

If you close your browser without logging out, you are not logged out of SGD, because the SGD Client is still running. If you accidentally close the browser, you can only display the webtop by logging in again.

To log out of SGD, click the Logout button on the webtop and click OK when prompted for confirmation.

SGD Administration Tools

SGD has the following administration tools:

- **Administration Console** – Enables user and user session management, SGD server configuration, and the configuration of applications for SGD users
- **Profile Editor** – Enables definition of settings for the SGD Client for the users in your organization
- `tarantella` **command** – Enables control and configuration of SGD from the command line

The Administration Console and the Profile Editor are available on the webtop of SGD Administrators.

The Administration Console

To display the Administration Console, you can use any browser that is supported by SGD, apart from Safari. See the *Sun Secure Global Desktop 4.41 Administration Guide* for details of the supported browsers for SGD. The browser must have the JavaScript programming language enabled.

The Administration Console works best when you run it on the primary SGD server in the array.

Starting the Administration Console

To start the Administration Console, you click the link on the webtop.

If you want to run the Administration Console without displaying the webtop, you can run it from the following locations:

- `http://`*server.example.com* and click the Launch the Secure Global Desktop Administration Console link
- `http://`*server.example.com*`/sgdadmin`

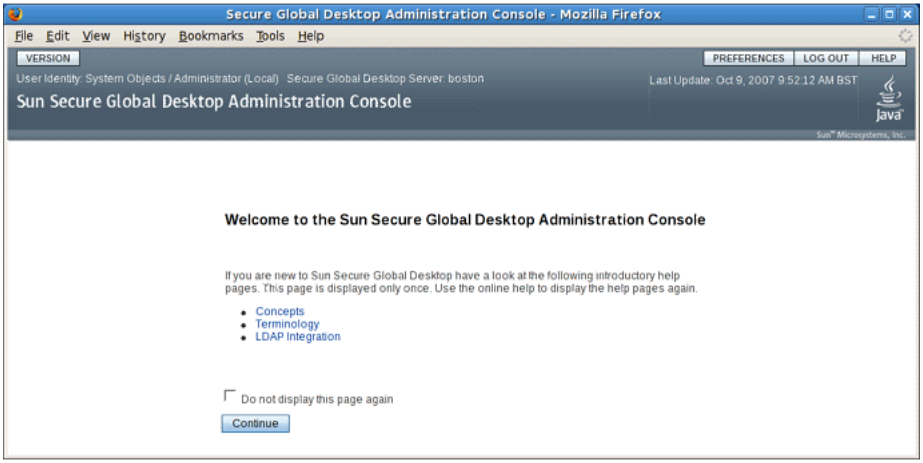
where *server.example.com* is the name of an SGD server.

If you run the Administration Console without displaying a webtop, you are prompted to log in as an SGD Administrator.

Using the Administration Console

When you log in to the Administration Console, the Welcome screen is displayed, as shown in FIGURE 4-9.

FIGURE 4-9 The Administration Console Welcome Screen



User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 9:52:12 AM BST

Sun Secure Global Desktop Administration Console

Welcome to the Sun Secure Global Desktop Administration Console

If you are new to Sun Secure Global Desktop have a look at the following introductory help pages. This page is displayed only once. Use the online help to display the help pages again.

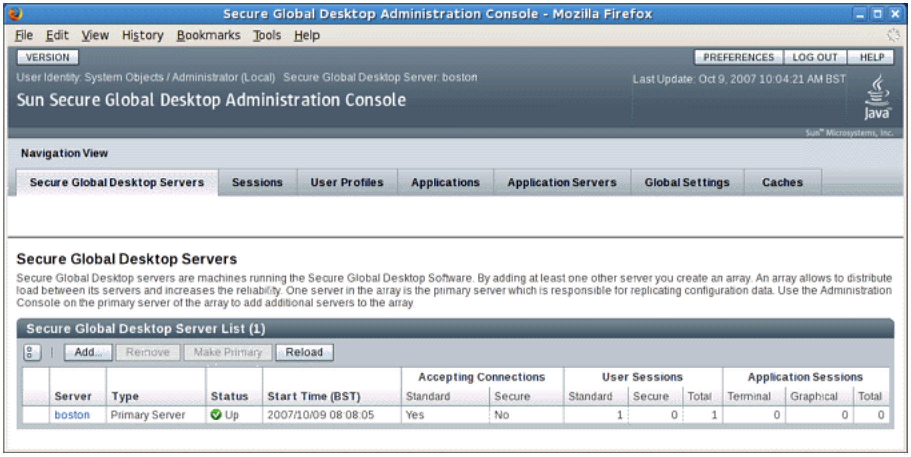
- Concepts
- Terminology
- LDAP Integration

□ Do not display this page again

Continue

The Welcome Screen contains links to information to help you get started. Click Continue to display the Administration Console. The Administration Console opens in Navigation View, as shown in FIGURE 4-10.

FIGURE 4-10 The Administration Console in Navigation View


Secure Global Desktop Administration Console - Mozilla Firefox
File Edit View History Bookmarks Tools Help
VERSION
PREFERENCES
LOG OUT
HELP
User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston
Last Update: Oct 9, 2007 10:04:21 AM BST
Sun Secure Global Desktop Administration Console
Java
Sun Microsystems, Inc.
Navigation View
Secure Global Desktop Servers
Sessions
User Profiles
Applications
Application Servers
Global Settings
Caches
Add...
Remove
Make Primary
Reload

Secure Global Desktop Servers

Secure Global Desktop servers are machines running the Secure Global Desktop Software. By adding at least one other server you create an array. An array allows to distribute load between its servers and increases the reliability. One server in the array is the primary server which is responsible for replicating configuration data. Use the Administration Console on the primary server of the array to add additional servers to the array

Secure Global Desktop Server List (1)

					Accepting Connections		User Sessions			Application Sessions		
	Server	Type	Status	Start Time (BST)	Standard	Secure	Standard	Secure	Total	Terminal	Graphical	Total
	boston	Primary Server	✓ Up	2007/10/09 08:08:05	Yes	No	1	0	1	0	0	0

Navigation View is the “top-level” view that enables you to access the tabs for managing the different areas of SGD. The following table summarizes the tabs available in Navigation View and what they are used for.

Tab	Description
Secure Global Desktop Servers	Managing and configuring SGD servers. If you upgraded from a previous release of SGD, this tab replaces Array Manager. This tab is described in more detail in “Managing SGD” on page 62.
Sessions	Managing users’ SGD sessions and application sessions. If you upgraded from a previous release of SGD, this tab replaces Session Manager. This tab is described in more detail in “Monitoring Users” on page 65.
User Profiles	Managing and configuring users’ SGD settings. If you upgraded from a previous release of SGD, this tab replaces Object Manager. This tab is described in more detail in “Creating Users” on page 42.
Applications	Managing and configuring the applications that users can run through SGD. If you upgraded from a previous release of SGD, this tab replaces Object Manager. This tab is described in more detail in “Adding Applications to Webtops” on page 49.

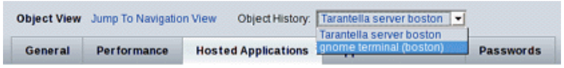
Tab	Description
Application Servers	Managing and configuring the application servers that run the applications displayed through SGD. If you upgraded from a previous release of SGD, this tab replaces Object Manager. This tab is described in more detail in "Adding Applications to Webtops" on page 49.
Global Settings	Configuring settings that apply to SGD as a whole. If you upgraded from a previous release of SGD, this tab replaces Array Manager. This tab is described in more detail in "Managing SGD" on page 62.
Caches	Managing the application server passwords and authentication tokens that SGD has stored.

SGD is built on the following principles of directory services:

- Users, applications, and application servers are represented by *objects* in a directory. The objects are organized into a *organizational hierarchy* representing your organization.
- Different types of object have different configuration settings, known as *attributes*.
- The *relationships* between objects are important and have meanings.
- Each object is identified using a *unique name*.

SGD includes a number of different object types. When you select an object to work with, the Administration Console changes to Object View. The Administration Console provides links to enable you to switch between Object View and Navigation View, and also an Object History that enables you to switch between the objects you have recently worked with, as shown in FIGURE 4-11.

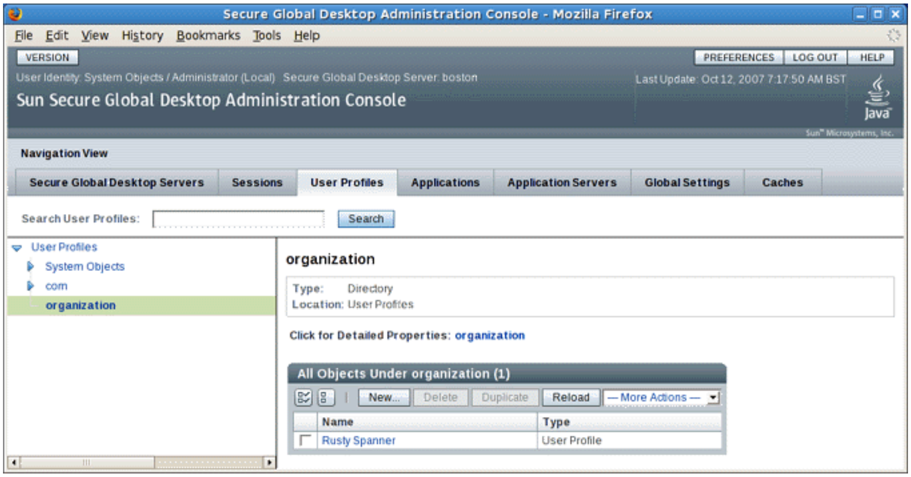
FIGURE 4-11 The Administration Console Navigation Links



Caution – When using the Administration Console, do not use the browser's Back button. Instead, use the navigation links to move between pages in the Administration Console.

The User Profiles, Applications, and Application Servers tabs are divided into two sections. On the left is the navigation tree and on the right is the content area, as shown in FIGURE 4-12. The navigation tree only shows the container objects that are used to structure your organizational hierarchy. As you browse and select objects in the navigation tree, the content area displays a list of objects contained in the selected object.

FIGURE 4-12 The Navigation Tree and Content Area



User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 12, 2007 7:17:50 AM BST

organization

Type: Directory
Location: User Profiles

Click for Detailed Properties: organization

All Objects Under organization (1)

	Name	Type
□	Rusty Spanner	User Profile

Several of the tabs and screens in the Administration Console have a search field. The search is case insensitive and accepts only the * wildcard character. The search results are displayed in a table and are limited to a maximum of 150 hits.

Most tabs in the Administration Console present information in tables. Often the information in a table cell is a link that can be clicked to display further information.

The `tarantella` Command

The `tarantella` command is a script installed in the *install-dir*`/bin` directory. By default, *install-dir* is `/opt/tarantella`. As this script is not on the standard `PATH`, you must use the full path each time you run the command, or change to `/opt/tarantella/bin` before running the command. Alternatively, do the following:

- Add `/opt/tarantella/bin` to the `PATH`, for example:

  ```
  PATH=$PATH:/opt/tarantella/bin; export PATH
  ```

- Create an alias, for example:

  ```
  alias t=/opt/tarantella/bin/tarantella
  ```

The tarantella command is actually a family of commands, each of which can have its own set of subcommands. You always run the subcommands through the tarantella command, for example:

```
 # tarantella license list
```

Help is available for every command by using the --help command-line argument.

Many commands are designed so that you can build scripts around them.

The following restrictions apply as to which users can use particular tarantella commands:

- Commands that control the SGD server and SGD Web Server can be run only by superuser (root)
- Commands for creating and managing arrays of SGD servers can be run only by SGD Administrators
- All other commands can be run by any user in the ttaserv group

Use the usermod -G command to make a user a member of the ttaserv group. The ttaserv group does not have to be the user's primary or effective group.

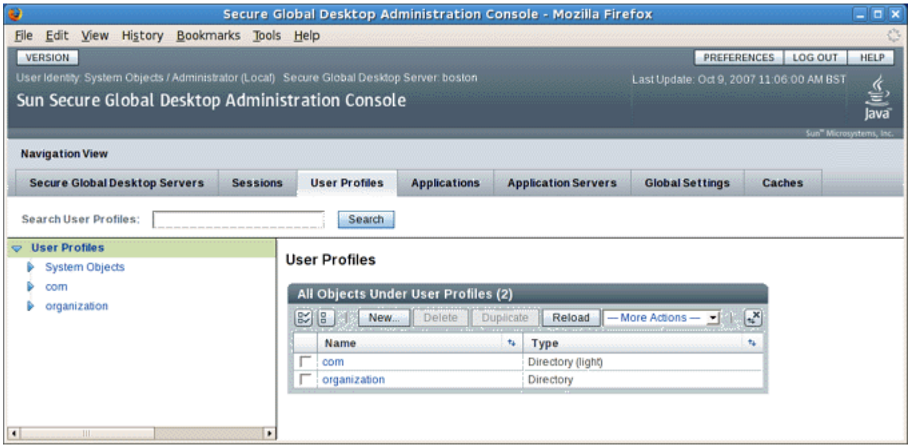
Creating Users

This section describes how to use the Administration Console to create an SGD user. You do this by creating a user profile object. A user profile is used to control a user's SGD settings, such as whether they can log in to SGD and the applications that they can run. This section also describes how to make a user an SGD Administrator.

Tip – You can configure SGD to use a Lightweight Directory Access Protocol (LDAP) directory for obtaining information about users. If you configure SGD for LDAP integration, you do not have to create user profiles. The *Sun Secure Global Desktop 4.41 Administration Guide* has details of how to configure SGD for LDAP integration.

In the Administration Console, the User Profiles tab is where you create and manage user profiles. See FIGURE 4-13.

FIGURE 4-13 The User Profiles Tab



Secure Global Desktop Administration Console - Mozilla Firefox
File Edit View History Bookmarks Tools Help
VERSION
PREFERENCES LOG OUT HELP
User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston
Last Update: Oct 9, 2007 11:06:00 AM BST
Sun Secure Global Desktop Administration Console
Java
Sun Microsystems, Inc.
Navigation View
Secure Global Desktop Servers
Sessions
User Profiles
Applications
Application Servers
Global Settings
Caches
Search User Profiles:
Search
User Profiles
System Objects
com
organization
User Profiles
All Objects Under User Profiles (2)
New...
Delete
Duplicate
Reload
— More Actions —

Name	Type
com	Directory (light)
organization	Directory

By default, this tab contains two “top-level” objects, a Directory object called organization (`o=organization` on the command line) and a Directory (light) object called com (`dc=com` on the command line). You can rename or delete these objects, or create new top-level objects. You create all the objects you need for managing users within these top-level object types.

You can use other Directory objects to subdivide your organization. For example, you might want to use a Directory (organizational unit) for each department in your organization.

Creating User Profiles and SGD Administrators

In this section, you learn how to create a user profile for yourself, and how to make yourself an SGD Administrator. SGD Administrators always have a user profile. Only SGD Administrators can create user profiles.

Users who occupy the Global Administrators role are SGD Administrators. SGD Administrators can configure SGD using any of the SGD administration tools. Users who do not occupy the Global Administrators role have no administration privileges.

The Global Administrators role is an object in the System Objects organization on the User Profiles tab. The Global Administrators role object is used to assign users administrative privileges and to give them access to the administration tools.

After following these procedures, you can log in to SGD using your UNIX or Linux platform user name and password, and run the Administration Console.

You can also use the `tarantella object new_person` command to create a user profile, and the `tarantella role add_member` command to add an SGD Administrator.

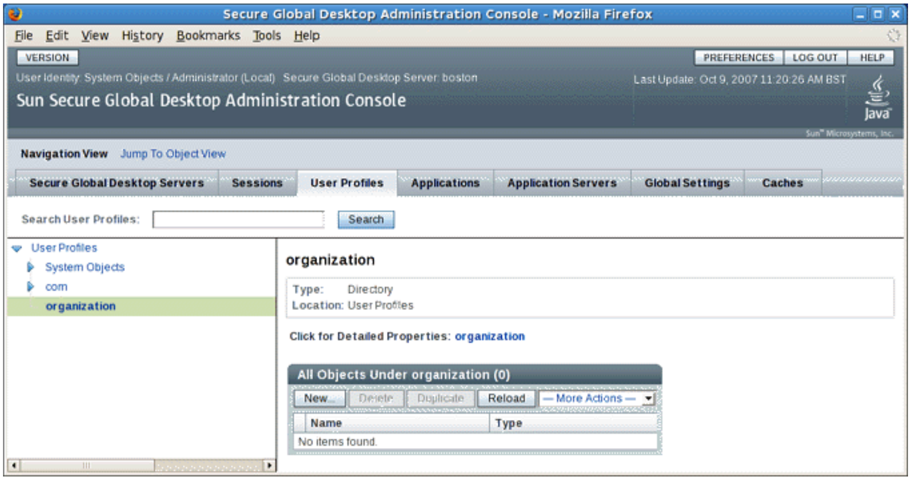
▼ How to Create a User Profile

1. **In the Administration Console, click the User Profiles tab.**
2. **Select an object in the organizational hierarchy.**

   Use the navigation tree to select the organization object, as shown in FIGURE 4-14.

   You can move your user profile to a different location later if needed.

FIGURE 4-14 The Organization Object Selected



Secure Global Desktop Administration Console - Mozilla Firefox
File Edit View History Bookmarks Tools Help
VERSION
PREFERENCES LOG OUT HELP
User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston
Last Update: Oct 9, 2007 11:20:26 AM BST
Sun Secure Global Desktop Administration Console
Java
Sun Microsystems, Inc.
Navigation View Jump To Object View
Secure Global Desktop Servers
Sessions
User Profiles
Applications
Application Servers
Global Settings
Caches
Search User Profiles:
Search
User Profiles
System Objects
com
organization
organization
Type: Directory
Location: User Profiles
Click for Detailed Properties: organization
All Objects Under organization (0)
New...
Delete
Duplicate
Reload
— More Actions —
Name
Type
No items found.

3. **Create the user profile object.**

   a. **In the content area, click New.**

      The Create a New Object window displays.

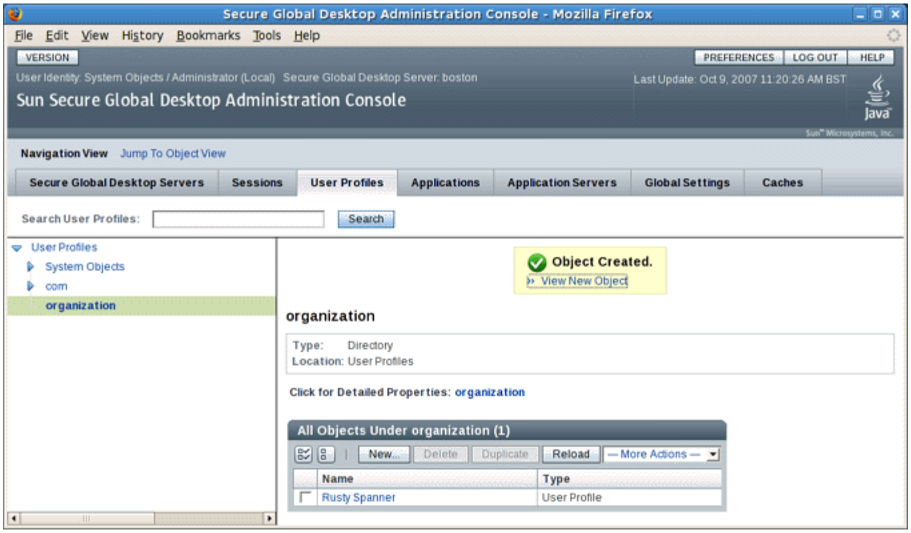
   b. **In the Name field, type your name.**

      For example, `Rusty Spanner`.

   c. **Ensure that the User Profile option is selected and click Create.**

      The Create a New Object window closes and the content area is updated with the new object. See FIGURE 4-15.

FIGURE 4-15 A Newly-Created User Profile



User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 11:20:26 AM BST

Sun Secure Global Desktop Administration Console

Object Created.

View New Object

organization

Type: Directory
Location: User Profiles

Click for Detailed Properties: organization

All Objects Under organization (1)

	Name	Type
□	Rusty Spanner	User Profile

4. **Click the View New Object link.**

   The General tab for the user profile displays in Object View. See FIGURE 4-16.

5. **Configure the user profile.**

   a. **In the Surname field, type your family name.**

      For example, `Spanner`.

   b. **Ensure the Login check box is selected and that the Multiple check box is not selected.**

      This ensures that you can log in to SGD.

   c. **In the User Name field, type your UNIX or Linux platform user name.**

      For example, `rusty`.

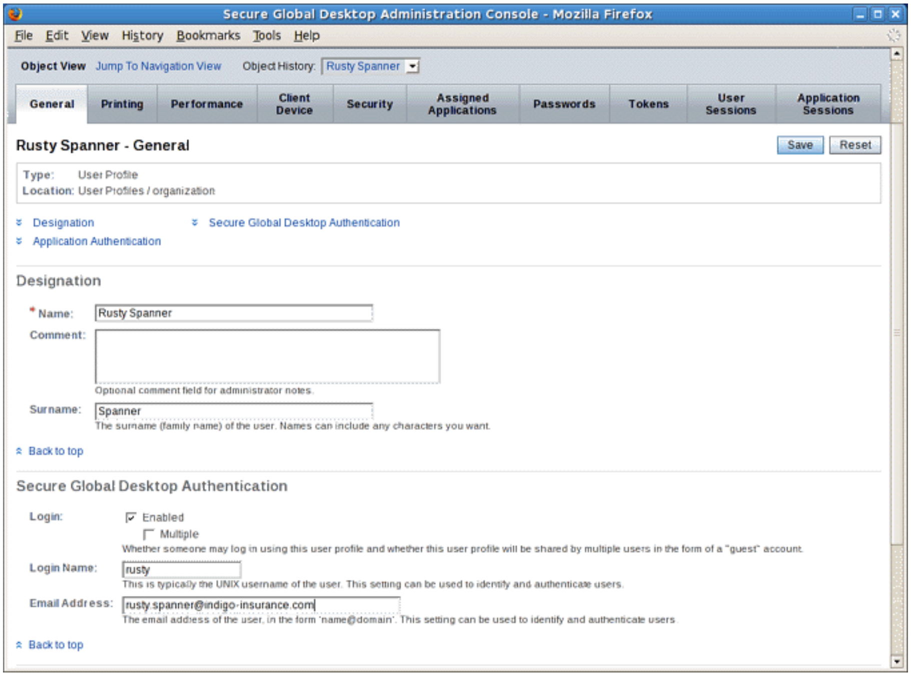
      This attribute can be used to identify and authenticate users.

   d. **In the Email Address field, type your full email address.**

      For example, `rusty.spanner@indigo-insurance.com`.

      This attribute can be used to identify and authenticate users.

FIGURE 4-16 The General Tab for a User Profile


Secure Global Desktop Administration Console - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Object View Jump To Navigation View Object History: Rusty Spanner
General Printing Performance Client Device Security Assigned Applications Passwords Tokens User Sessions Application Sessions
Save Reset
Designation
Secure Global Desktop Authentication
Application Authentication
Back to top

Rusty Spanner - General

Type: User Profile
Location: User Profiles / organization

Designation

* Name: Rusty Spanner

Comment:

Optional comment field for administrator notes.

Surname: Spanner

The surname (family name) of the user. Names can include any characters you want.

Secure Global Desktop Authentication

Login: ☑ Enabled
☐ Multiple

Whether someone may log in using this user profile and whether this user profile will be shared by multiple users in the form of a "guest" account.

Login Name: rusty

This is typically the UNIX username of the user. This setting can be used to identify and authenticate users.

Email Address: rusty.spanner@indigo-insurance.com

The email address of the user, in the form 'name@domain'. This setting can be used to identify and authenticate users.

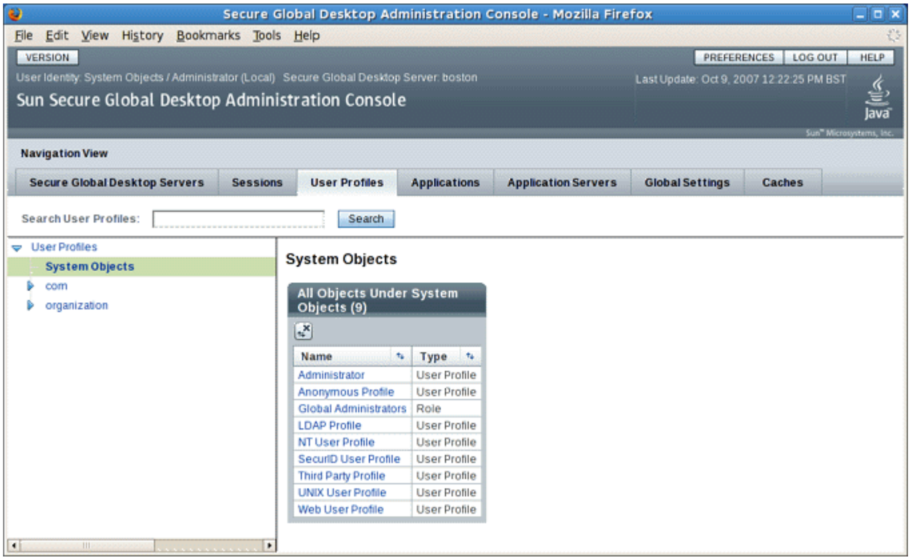
e. **Click Save.**

▼ How to Add an SGD Administrator

1. **In the Administration Console, click the User Profiles tab.**
2. **In the navigation tree, click System Objects.**

   The System Objects table is displayed in the content area, as shown in FIGURE 4-17.

FIGURE 4-17 The System Objects Table



User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 12:22:25 PM BST

Sun Secure Global Desktop Administration Console

Search User Profiles:

System Objects

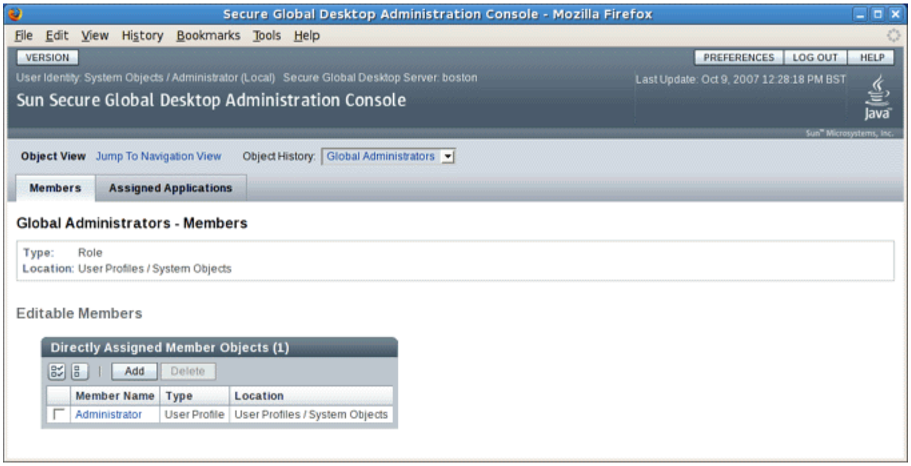
All Objects Under System Objects (9)

Name	Type
Administrator	User Profile
Anonymous Profile	User Profile
Global Administrators	Role
LDAP Profile	User Profile
NT User Profile	User Profile
SecurID User Profile	User Profile
Third Party Profile	User Profile
UNIX User Profile	User Profile
Web User Profile	User Profile

3. **In the System Objects table, click the Global Administrators link.**

   The Members tab is displayed in Object View, as shown in FIGURE 4-18.

FIGURE 4-18 The Members Tab



User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 12:28:18 PM BST

Sun Secure Global Desktop Administration Console

Object History: Global Administrators

Global Administrators - Members

Type: Role
Location: User Profiles / System Objects

Editable Members

Directly Assigned Member Objects (1)

	Member Name	Type	Location
□	Administrator	User Profile	User Profiles / System Objects

4. **In the Editable Members table, click Add.**

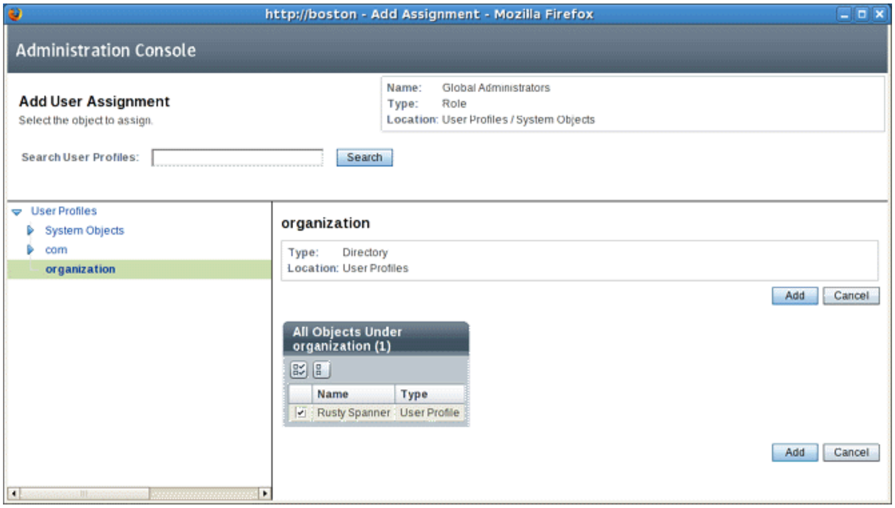
   The Add User Assignment window is displayed. See FIGURE 4-19.

5. **Locate your user profile.**

   Use the Search field to find your user profile, or browse the navigation tree.

6. **Select the check box next to your user profile and click Add.**

FIGURE 4-19 The Add User Assignment Window



Add User Assignment

Select the object to assign.

Name: Global Administrators
Type: Role
Location: User Profiles / System Objects

Search User Profiles:

organization

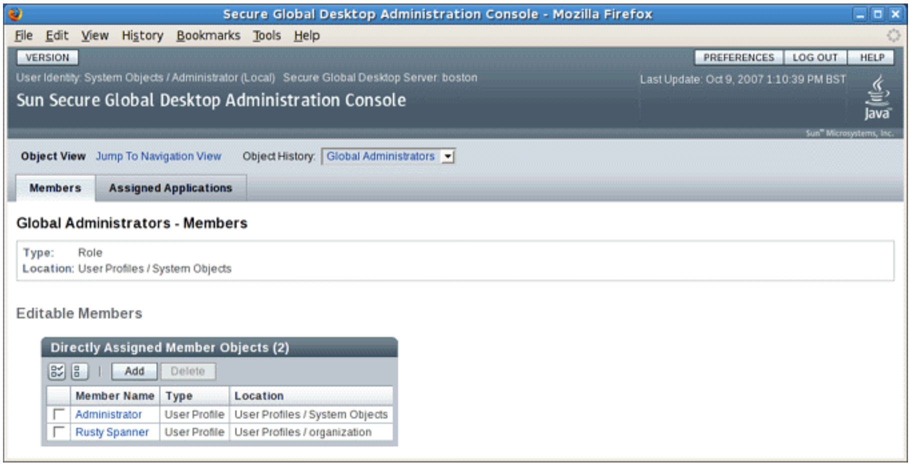
Type: Directory
Location: User Profiles

All Objects Under organization (1)

	Name	Type
☑	Rusty Spanner	User Profile

The Members tab is displayed and your user profile is listed in the Editable Members table. See FIGURE 4-20.

FIGURE 4-20 Updated Members Tab



User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 1:10:39 PM BST

Sun Secure Global Desktop Administration Console

Object History: Global Administrators

Global Administrators - Members

Type: Role
Location: User Profiles / System Objects

Editable Members

Directly Assigned Member Objects (2)

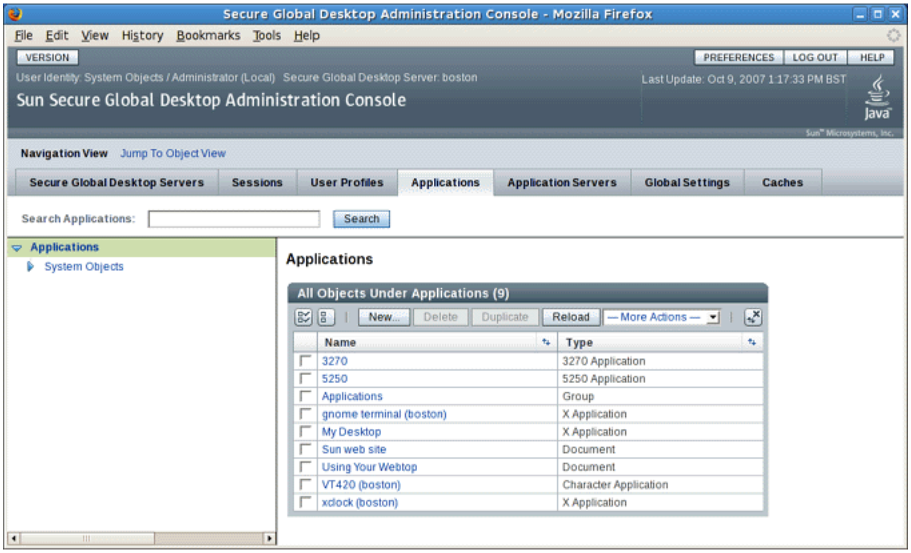
	Member Name	Type	Location
□	Administrator	User Profile	User Profiles / System Objects
□	Rusty Spanner	User Profile	User Profiles / organization

Adding Applications to Webtops

This section describes how to use the Administration Console to create an application object that can be displayed through SGD, and how to make a link for starting the application appear on a user's webtop.

In the Administration Console, the Applications tab is where you configure the applications that users can run through SGD. See FIGURE 4-21. The Application Servers tab is where you configure the application servers that run the applications. See FIGURE 4-22.

FIGURE 4-21 The Applications Tab



Secure Global Desktop Administration Console - Mozilla Firefox
File Edit View History Bookmarks Tools Help
VERSION
PREFERENCES LOG OUT HELP
Sun Secure Global Desktop Administration Console
Java
Navigation View Jump To Object View
Secure Global Desktop Servers
Sessions
User Profiles
Applications
Application Servers
Global Settings
Caches
Search Applications:
Search
Applications
System Objects
Applications
All Objects Under Applications (9)
New...
Delete
Duplicate
Reload
— More Actions —

User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 1:17:33 PM BST

Name	Type
3270	3270 Application
5250	5250 Application
Applications	Group
gnome terminal (boston)	X Application
My Desktop	X Application
Sun web site	Document
Using Your Webtop	Document
VT420 (boston)	Character Application
xclock (boston)	X Application

Application objects are always contained in the Applications organization (`o=applications` on the command line). Application server objects are always contained in the Application Servers organization (`o=appservers` on the command line).

You can use Directory (organizational unit) objects to subdivide these organizations. For example, you might want to use a Directory object to contain the applications used by a particular department. You can also arrange applications and application servers into Groups.

In SGD, there are links or relationships between user profiles, applications, and application servers. The Administration Console calls these links assignments. Each relationship is managed from an assignment tab. For example, user profile objects have an Assigned Applications tab that shows all the application objects that are assigned to the user. These are the applications that display on a user's webtop. Similarly, application objects have a Hosting Application Servers tab that shows the application servers that can run the application.

Tip – You can configure SGD to use searches of an LDAP directory to assign applications to users. This is called Directory Services Integration (DSI). The *Sun Secure Global Desktop 4.41 Administration Guide* has details of how to configure DSI.

Creating and Assigning an Application Object

Creating and assigning an application object involves the following steps:

1. Create an application server object.

   In this step, you specify the name and location of the application server that runs the application.

   See "How to Create an Application Server Object" on page 51.

2. Create an application object.

   In this step, you specify the command that runs when users start the application and how the application is presented.

   See "How to Create an Application Object" on page 53.

3. Assign the application object.

   In this step, you assign the application server object to the application object, so that SGD knows where to run the application. Then you assign the application object to an object on the user profiles tab, so that SGD puts a link for the application on a user's webtop.

   See "How to Assign an Application Object" on page 57.

Only SGD Administrators can create objects and assign them.

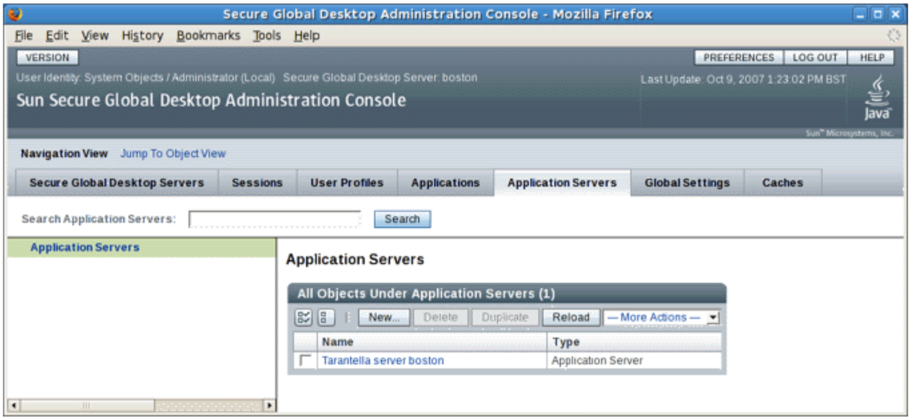
The following procedures describe how to create and assign a Windows application object. The principles are the same for other application types.

On the command line, you can also perform all these steps with the `tarantella object` family of commands.

▼ How to Create an Application Server Object

1. **In the Administration Console, click the Application Servers tab.**

FIGURE 4-22 The Application Servers Tab


Secure Global Desktop Administration Console - Mozilla Firefox
File Edit View History Bookmarks Tools Help
VERSION
PREFERENCES
LOG OUT
HELP
User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston
Last Update: Oct 9, 2007 1:23:02 PM BST
Sun Secure Global Desktop Administration Console
Java
Sun™ Microsystems, Inc.
Navigation View
Jump To Object View
Secure Global Desktop Servers
Sessions
User Profiles
Applications
Application Servers
Global Settings
Caches
Search Application Servers:
Search
Application Servers
Application Servers
All Objects Under Application Servers (1)
New...
Delete
Duplicate
Reload
— More Actions —

	Name	Type
□	Tarantella server boston	Application Server

2. **Create the application server object.**

   Create the application server object directly in the Application Servers organization, as shown in FIGURE 4-22. You can move it to a different location later if needed.

   a. **In the content area, click New.**

      The Create a New Object window displays.

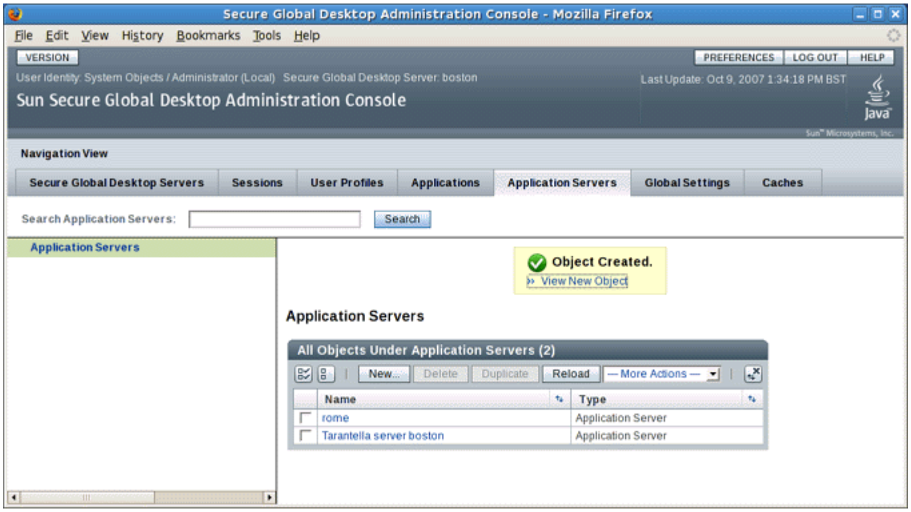
   b. **In the Name field, type the name of the application server.**

      For example, `rome`.

   c. **Ensure the Application Server option is selected and click Create.**

      The Create a New Object window closes and the content area is updated with the new object. See FIGURE 4-23.

FIGURE 4-23 A Newly-Created Application Server Object


Secure Global Desktop Administration Console - Mozilla Firefox
File Edit View History Bookmarks Tools Help
VERSION
PREFERENCES LOG OUT HELP
User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston
Last Update: Oct 9, 2007 1:34:18 PM BST
Sun Secure Global Desktop Administration Console
Java
Navigation View
Secure Global Desktop Servers
Sessions
User Profiles
Applications
Application Servers
Global Settings
Caches
Search Application Servers:
Search
Application Servers
New...
Delete
Duplicate
Reload
— More Actions —

Object Created.

» View New Object

Application Servers

All Objects Under Application Servers (2)

	Name	Type
□	rome	Application Server
□	Tarantella server boston	Application Server

3. **Click the View New Object link.**

   The General tab for the application server object is displayed in Object View, as shown in FIGURE 4-24.

4. **Configure the application server object.**

   a. **In the Address field, type the fully-qualified DNS name of the application server.**

   For example, `rome.indigo-insurance.com`.

   b. **Ensure that the Application Start check box is selected.**

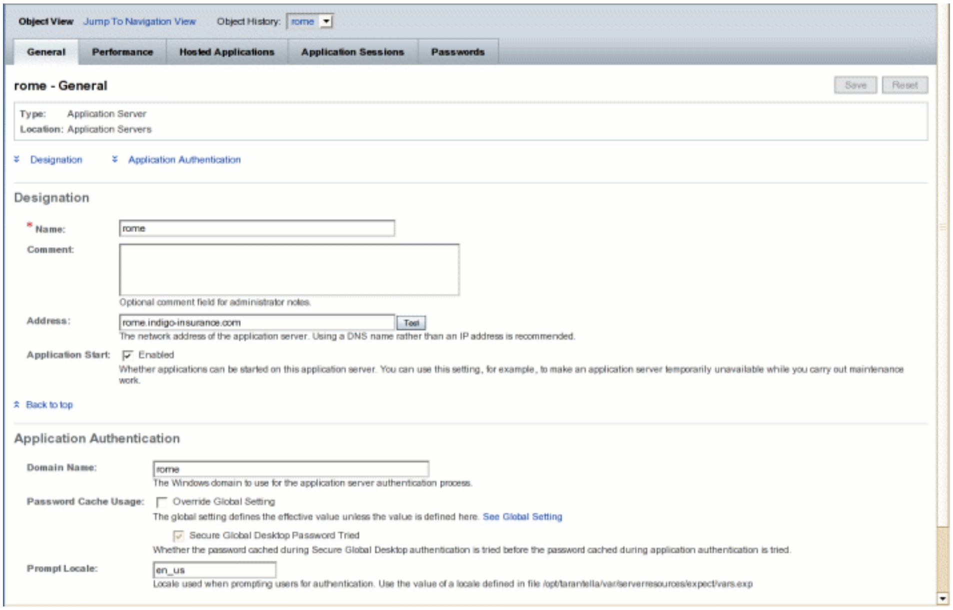
   This tells SGD that the application server is available to run applications.

   c. **In the Domain Name field, type the name of the Microsoft Windows domain.**

   For example, `rome`.

   This attribute is used in the authentication process when users run the application.

FIGURE 4-24 The General Tab for an Application Server Object



Object History: rome

rome - General

Type: Application Server
Location: Application Servers

Designation

* Name: rome

Comment:

Optional comment field for administrator notes.

Address: rome.indigo-insurance.com

The network address of the application server. Using a DNS name rather than an IP address is recommended.

Application Start: ☑ Enabled

Whether applications can be started on this application server. You can use this setting, for example, to make an application server temporarily unavailable while you carry out maintenance work.

Application Authentication

Domain Name: rome

The Windows domain to use for the application server authentication process.

Password Cache Usage: ☐ Override Global Setting

The global setting defines the effective value unless the value is defined here. See Global Setting

☑ Secure Global Desktop Password Tried

Whether the password cached during Secure Global Desktop authentication is tried before the password cached during application authentication is tried.

Prompt Locale: en_us

Locale used when prompting users for authentication. Use the value of a locale defined in file /opt/tarantella/var/serverresources/expect/vars.exp

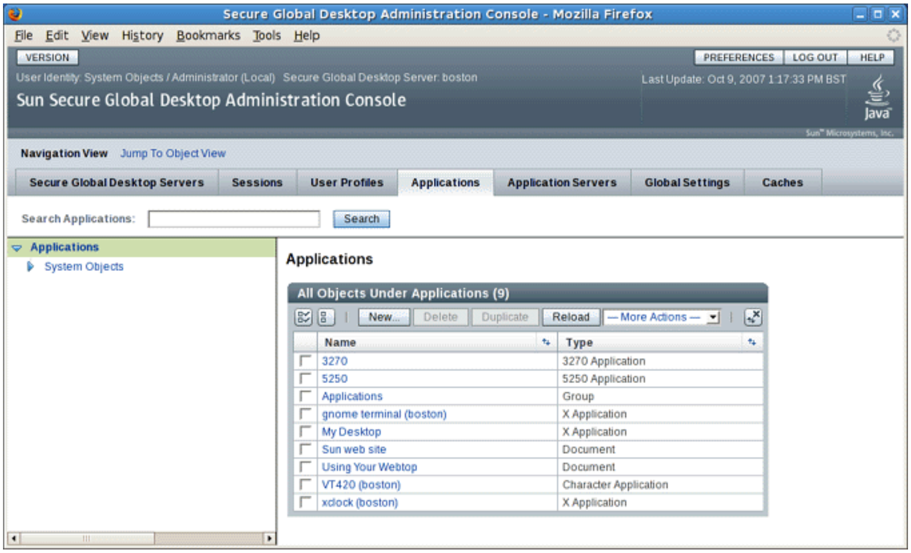
d. Click Save.

▼ How to Create an Application Object

The following procedure is an example of how to create a Windows application object.

1. In the Administration Console, click the Applications tab.

FIGURE 4-25 The Applications Tab


Secure Global Desktop Administration Console - Mozilla Firefox
File Edit View History Bookmarks Tools Help
VERSION
PREFERENCES LOG OUT HELP
Sun Secure Global Desktop Administration Console
Java
Sun Microsystems, Inc.
Navigation View Jump To Object View
Secure Global Desktop Servers
Sessions
User Profiles
Applications
Application Servers
Global Settings
Caches
Search Applications:
Search
Applications
System Objects
New... Delete Duplicate Reload — More Actions —

User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 1:17:33 PM BST

Applications

All Objects Under Applications (9)

Name	Type
3270	3270 Application
5250	5250 Application
Applications	Group
gnome terminal (boston)	X Application
My Desktop	X Application
Sun web site	Document
Using Your Webtop	Document
VT420 (boston)	Character Application
xclock (boston)	X Application

2. **Create the application object.**

   Create the application object directly in the Applications organization, as shown in FIGURE 4-25. You can move it to a different location later if needed.

   a. **In the content area, click New.**

      The Create a New Object window displays.

   b. **In the Name field, type the name of the application.**

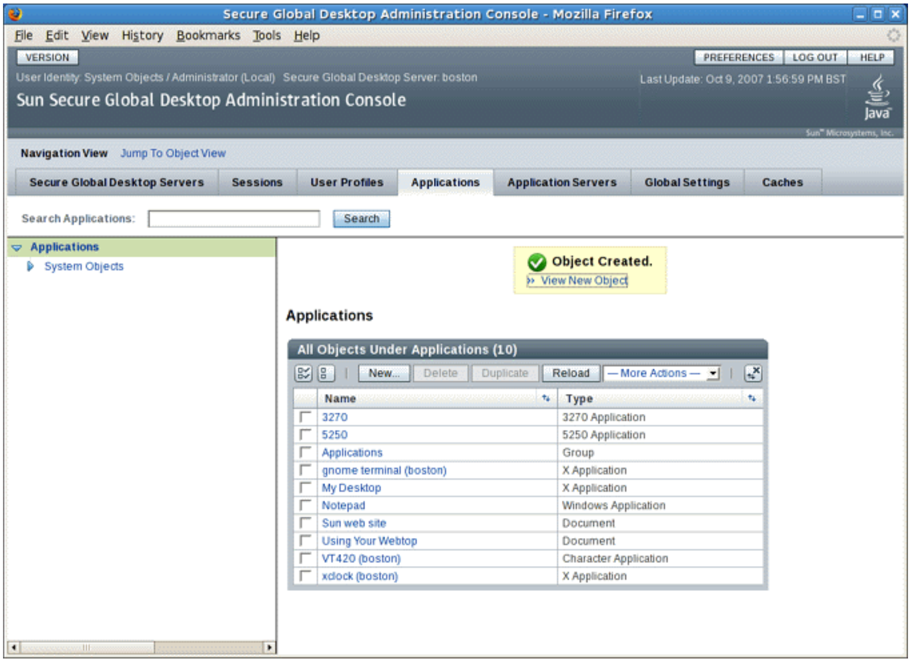
      For example, `Notepad`.

      The name you type is used for the application link on the webtop.

   c. **Ensure that the Windows Application option is selected and click Create.**

      The Create a New Object window closes and the content area is updated with the new object, as shown in FIGURE 4-26.

FIGURE 4-26 A Newly-Created Application Object


Secure Global Desktop Administration Console - Mozilla Firefox
File Edit View History Bookmarks Tools Help
VERSION
PREFERENCES LOG OUT HELP
User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston
Last Update: Oct 9, 2007 1:56:59 PM BST
Sun Secure Global Desktop Administration Console
Java
Sun Microsystems, Inc.
Navigation View Jump To Object View
Secure Global Desktop Servers
Sessions
User Profiles
Applications
Application Servers
Global Settings
Caches
Search Applications:
Search
Applications
System Objects
View New Object
New... Delete Duplicate Reload — More Actions —

Object Created.

Applications

All Objects Under Applications (10)

Name	Type
3270	3270 Application
5250	5250 Application
Applications	Group
gnome terminal (boston)	X Application
My Desktop	X Application
Notepad	Windows Application
Sun web site	Document
Using Your Webtop	Document
VT420 (boston)	Character Application
xclock (boston)	X Application

3. **Click the View New Object link.**

   The General tab for the application object displays in Object View.

4. **Configure the application.**

   The configuration settings for a Windows application are described in more detail in the *Sun Secure Global Desktop 4.41 Administration Guide*. For this example, the default settings are sufficient, apart from the following configuration.

   a. **Click the Launch tab.**

   b. **In the Application Command field, type the application command.**

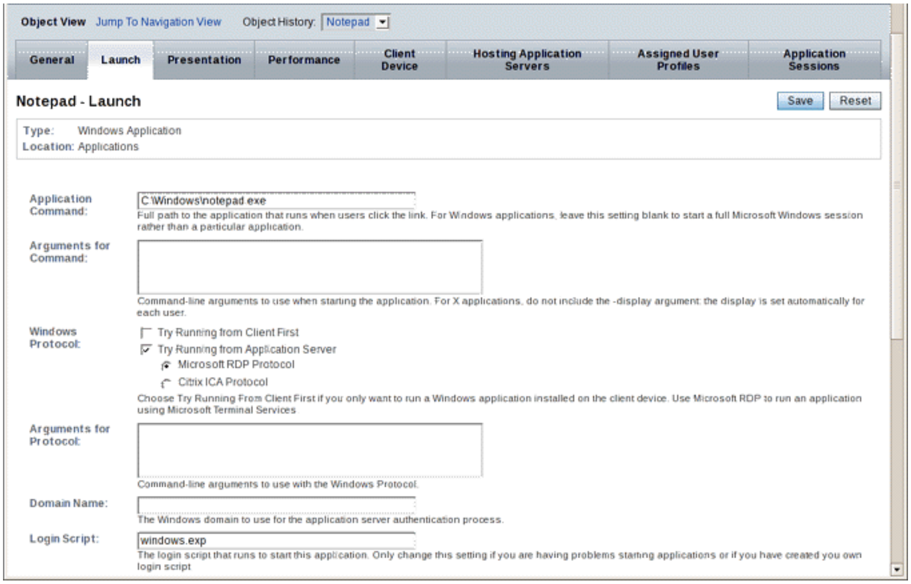
      For Windows desktop sessions, leave this field blank.

      To run a particular application, type the full path of the command that runs the application, for example, `C:\Windows\notepad.exe`.

      The application must be installed in the same location on all application servers.

   c. **Ensure that the Try Running from Application Server check box is selected and that the Microsoft RDP Protocol option is selected.**

FIGURE 4-27 The Launch Tab



Notepad - Launch

Type: Windows Application
Location: Applications

Application Command: C:\Windows\notepad.exe
Full path to the application that runs when users click the link. For Windows applications, leave this setting blank to start a full Microsoft Windows session rather than a particular application.

Arguments for Command:
Command-line arguments to use when starting the application. For X applications, do not include the -display argument: the display is set automatically for each user.

Windows Protocol:
□ Try Running from Client First
☑ Try Running from Application Server
● Microsoft RDP Protocol
○ Citrix ICA Protocol
Choose Try Running From Client First if you only want to run a Windows application installed on the client device. Use Microsoft RDP to run an application using Microsoft Terminal Services.

Arguments for Protocol:
Command-line arguments to use with the Windows Protocol.

Domain Name:
The Windows domain to use for the application server authentication process.

Login Script: windows.exp
The login script that runs to start this application. Only change this setting if you are having problems starting applications or if you have created you own login script

d. **Click Save.**

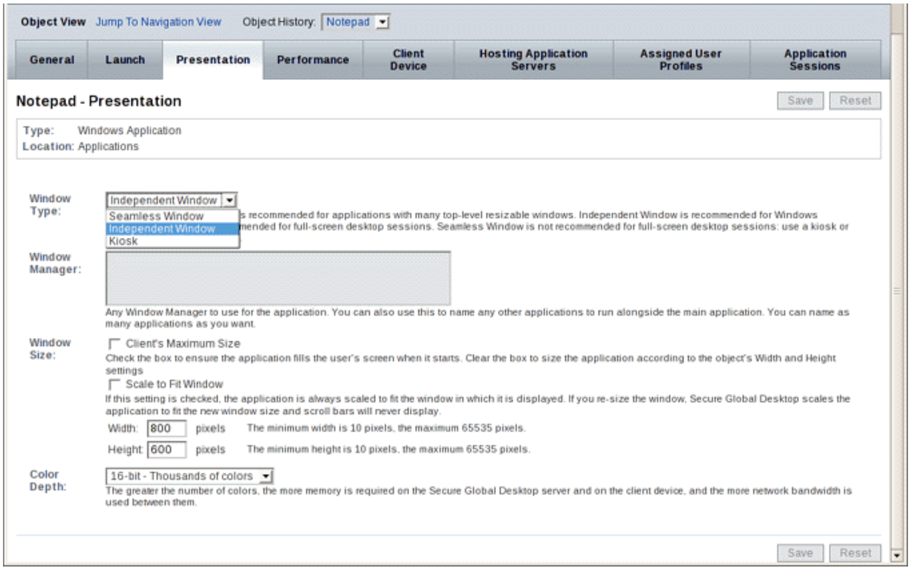
5. **Click the Presentation tab.**

   a. **Configure the Window type.**

   For a Windows desktop session, select the Kiosk setting from the list.

   For an individual application, select the Independent Window setting from the list. You can use the Window Size options to specify the size of the window.

FIGURE 4-28 The Presentation Tab



Object History: Notepad

Notepad - Presentation

Type: Windows Application
Location: Applications

Window Type: Independent Window
Seamless Window
Independent Window
Kiosk
s recommended for applications with many top-level resizable windows. Independent Window is recommended for Windows
mended for full-screen desktop sessions. Seamless Window is not recommended for full-screen desktop sessions: use a kiosk or

Window Manager:
Any Window Manager to use for the application. You can also use this to name any other applications to run alongside the main application. You can name as many applications as you want.

Window Size:
□ Client's Maximum Size
Check the box to ensure the application fills the user's screen when it starts. Clear the box to size the application according to the object's Width and Height settings
□ Scale to Fit Window
If this setting is checked, the application is always scaled to fit the window in which it is displayed. If you re-size the window, Secure Global Desktop scales the application to fit the new window size and scroll bars will never display.
Width: 800 pixels The minimum width is 10 pixels, the maximum 65535 pixels.
Height: 600 pixels The minimum height is 10 pixels, the maximum 65535 pixels.

Color Depth: 16-bit - Thousands of colors
The greater the number of colors, the more memory is required on the Secure Global Desktop server and on the client device, and the more network bandwidth is used between them.

b. **Click Save.**

▼ How to Assign an Application Object

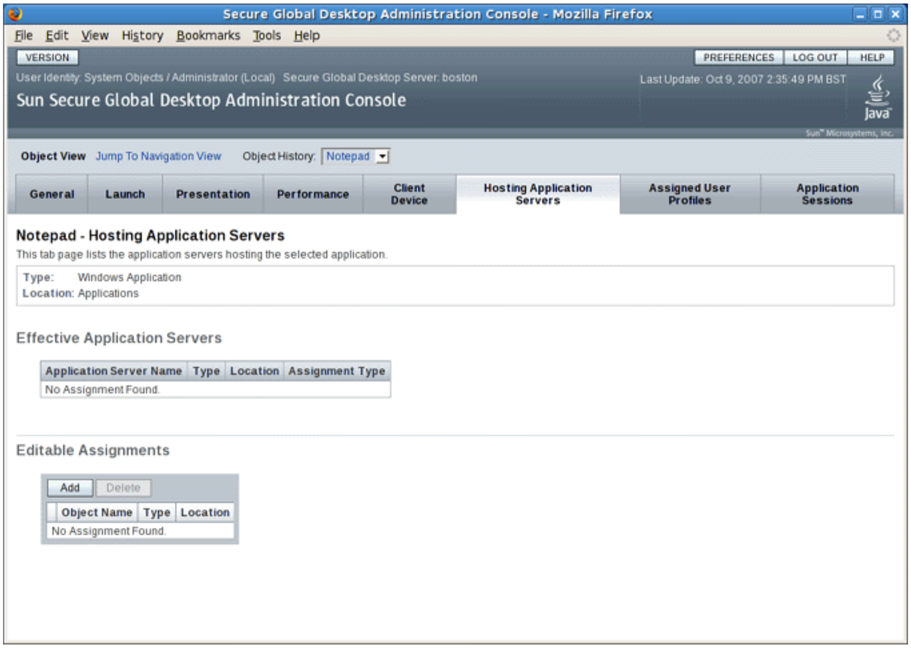
1. **In the Administration Console, click the Applications tab and select the application object.**

   The General tab is displayed in Object View.

2. **Specify the application servers that can run the application.**

   a. **Click the Hosting Application Servers tab. See** FIGURE 4-29.

FIGURE 4-29 The Hosting Application Servers Tab


Secure Global Desktop Administration Console - Mozilla Firefox
File Edit View History Bookmarks Tools Help
VERSION
PREFERENCES LOG OUT HELP
Sun Secure Global Desktop Administration Console
Java
Sun Microsystems, Inc.
Object View Jump To Navigation View
General
Launch
Presentation
Performance
Client Device
Hosting Application Servers
Assigned User Profiles
Application Sessions
Add Delete

User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 2:35:49 PM BST

Object History: Notepad

Notepad - Hosting Application Servers

This tab page lists the application servers hosting the selected application.

Type: Windows Application
Location: Applications

Effective Application Servers

Application Server Name	Type	Location	Assignment Type
No Assignment Found.			

Editable Assignments

	Object Name	Type	Location
No Assignment Found.			

b. **In the Editable Assignments table, click Add.**

The Add Application Server Assignment window displays. See FIGURE 4-30.

c. **Locate the application server.**

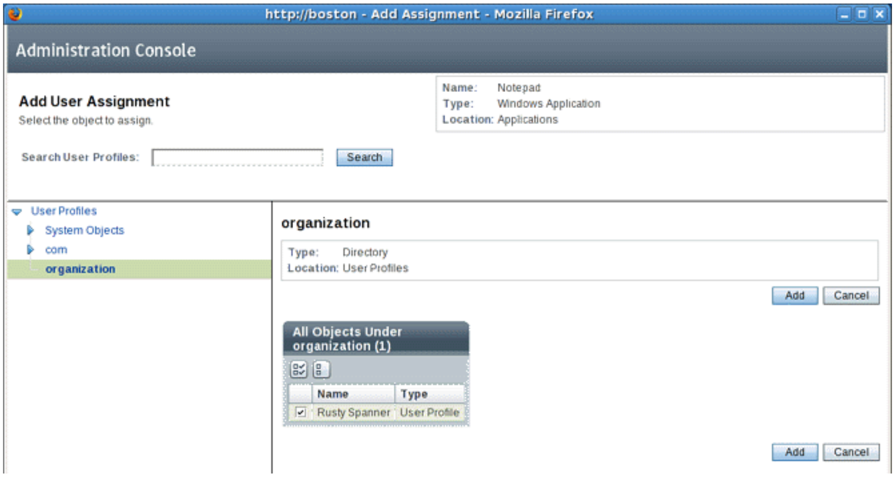
Use the Search field to find the application server object, or browse the navigation tree.

d. **Select the check box next to the application server object and click Add**

If you select more than one application server object, SGD load balances between application servers.

If you select a group object containing application server objects, you select all the application server objects in that group.

FIGURE 4-30 The Add Application Server Assignment Window



http://boston - Add Assignment - Mozilla Firefox

Administration Console

Add User Assignment

Select the object to assign.

Name: Notepad
Type: Windows Application
Location: Applications

Search User Profiles: [ ] Search

- User Profiles
  - System Objects
  - com
  - organization

organization

Type: Directory
Location: User Profiles

Add Cancel

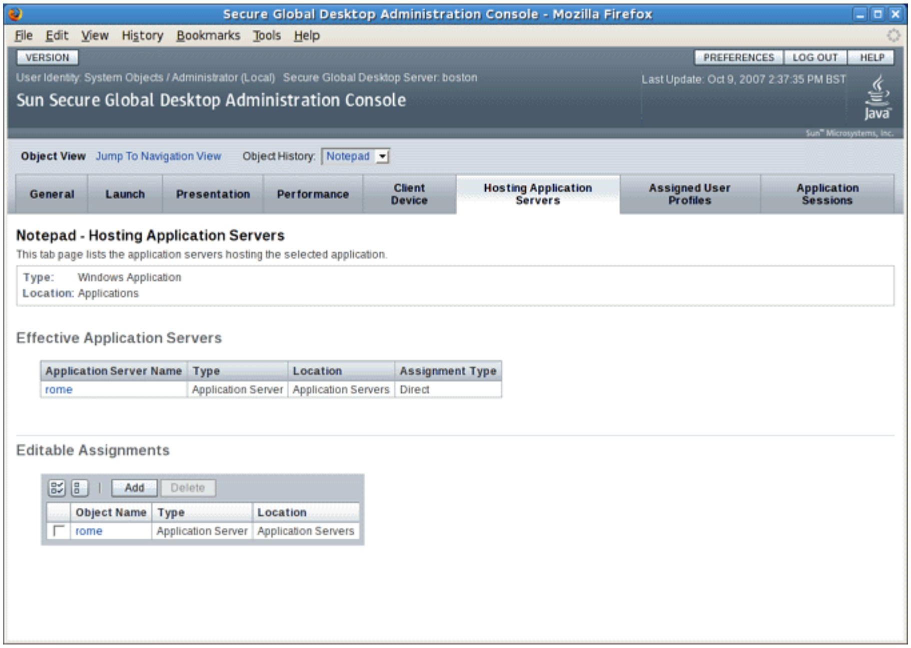
All Objects Under organization (1)

	Name	Type
☑	Rusty Spanner	User Profile

Add Cancel

The Effective Application Servers table is updated with the selected application server object, as shown in FIGURE 4-31.

FIGURE 4-31 Updated Hosting Application Servers Tab



Secure Global Desktop Administration Console - Mozilla Firefox

File Edit View History Bookmarks Tools Help

VERSION PREFERENCES LOG OUT HELP

User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 2:37:35 PM BST

Sun Secure Global Desktop Administration Console

Object View Jump To Navigation View Object History: Notepad

General | Launch | Presentation | Performance | Client Device | Hosting Application Servers | Assigned User Profiles | Application Sessions

Notepad - Hosting Application Servers

This tab page lists the application servers hosting the selected application.

Type: Windows Application
Location: Applications

Effective Application Servers

Application Server Name	Type	Location	Assignment Type
rome	Application Server	Application Servers	Direct

Editable Assignments

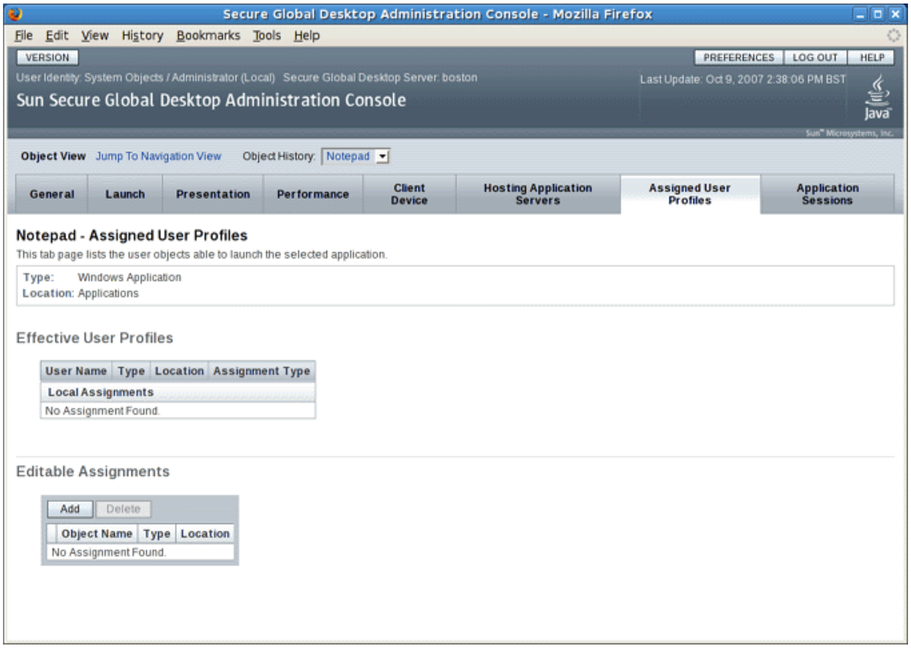
Add Delete

	Object Name	Type	Location
□	rome	Application Server	Application Servers

3. **Specify the users that see the application on their webtop.**

   a. **Click the Assigned User Profiles Tab. See FIGURE 4-32.**

FIGURE 4-32 The Assigned User Profiles tab



User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 2:38:06 PM BST

Sun Secure Global Desktop Administration Console

Object History: Notepad

Notepad - Assigned User Profiles

This tab page lists the user objects able to launch the selected application.

Type: Windows Application
Location: Applications

Effective User Profiles

User Name	Type	Location	Assignment Type
Local Assignments			
No Assignment Found.			

Editable Assignments

	Object Name	Type	Location
No Assignment Found.			

b. **In the Editable Assignments table, click Add.**

The Add User Assignment window displays, as shown in FIGURE 4-33.

c. **Locate the user profile.**

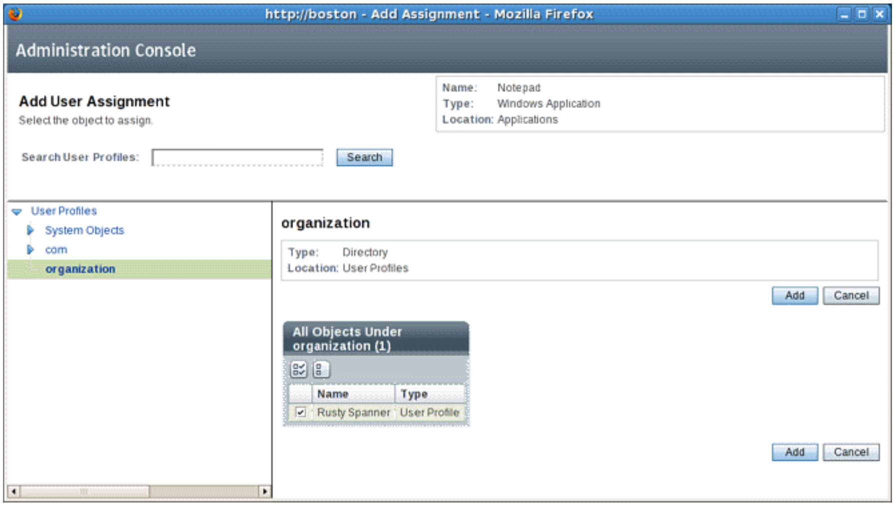
Use the Search field to find the user profile, or browse the navigation tree.

You can assign an application object to a user profile or directory object.

If you assign an application object to a directory object, all the user profiles contained in that directory object automatically receive the application. This is called inheritance. Assigning an application object to directory objects is more efficient.

d. **Select the check box next to your user profile and click Add.**

FIGURE 4-33 The Add User Assignment Window


http://boston - Add Assignment - Mozilla Firefox
Administration Console
Search
User Profiles
System Objects
com
organization
Add
Cancel
All Objects Under organization (1)

Add User Assignment

Select the object to assign.

Name: Notepad
Type: Windows Application
Location: Applications

Search User Profiles:

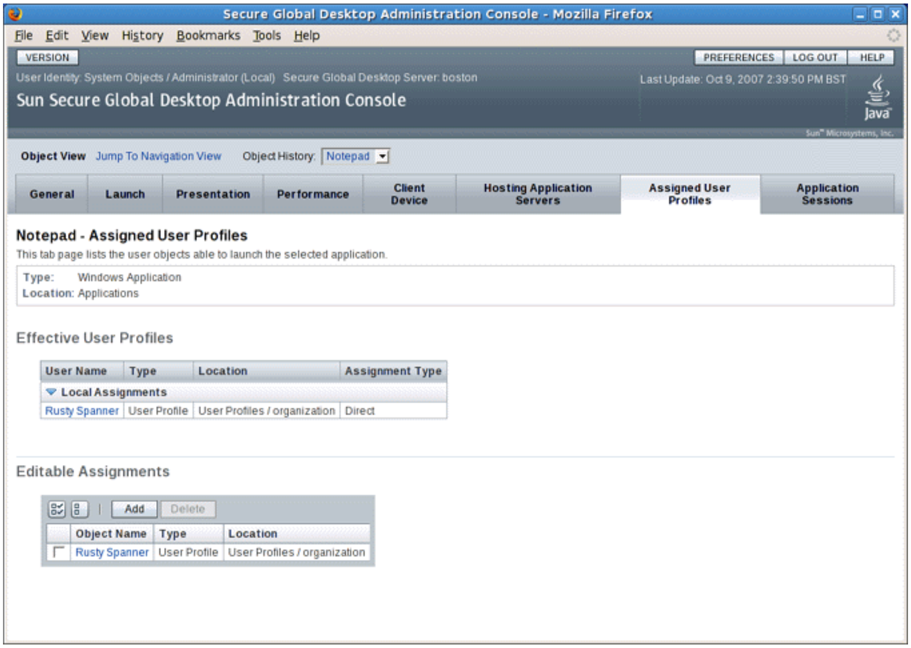
organization

Type: Directory
Location: User Profiles

	Name	Type
☑	Rusty Spanner	User Profile

The Effective User Profiles table is updated with the selected users. See FIGURE 4-34.

FIGURE 4-34 Updated Assigned User Profiles Tab



User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 2:39:50 PM BST

Object History: Notepad

Notepad - Assigned User Profiles

This tab page lists the user objects able to launch the selected application.

Type: Windows Application
Location: Applications

Effective User Profiles

User Name	Type	Location	Assignment Type
Local Assignments			
Rusty Spanner	User Profile	User Profiles / organization	Direct

Editable Assignments

	Object Name	Type	Location
□	Rusty Spanner	User Profile	User Profiles / organization

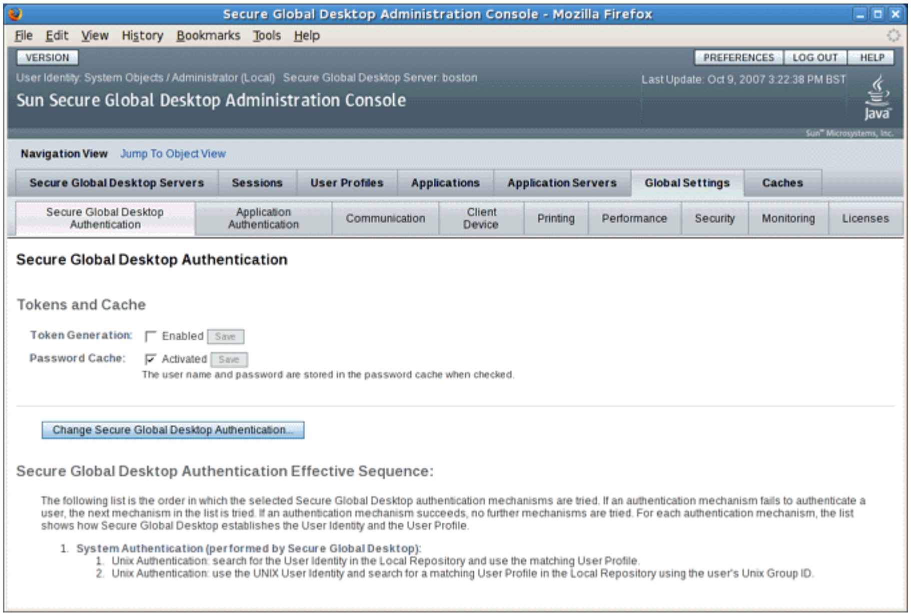
4. **Check that the application appears on your webtop.**

   You might have to log out and log in using your UNIX or Linux system user name and password to see the application on your webtop.

Managing SGD

In the Administration Console, the Global Settings tab is where you configure the settings that apply to SGD as a whole. See FIGURE 4-35.

FIGURE 4-35 The Global Settings Tab


Secure Global Desktop Administration Console - Mozilla Firefox
File Edit View History Bookmarks Tools Help
VERSION
PREFERENCES
LOG OUT
HELP
Sun Secure Global Desktop Administration Console
Java
Sun™ Microsystems, Inc.
Navigation View
Jump To Object View
Secure Global Desktop Servers
Sessions
User Profiles
Applications
Application Servers
Global Settings
Caches
Secure Global Desktop Authentication
Application Authentication
Communication
Client Device
Printing
Performance
Security
Monitoring
Licenses
Save
Save
Change Secure Global Desktop Authentication...

User Identity: System Objects / Administrator (Local)   Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 3:22:38 PM BST

Secure Global Desktop Authentication

Tokens and Cache

Token Generation: □ Enabled

Password Cache: ☑ Activated

The user name and password are stored in the password cache when checked.

Secure Global Desktop Authentication Effective Sequence:

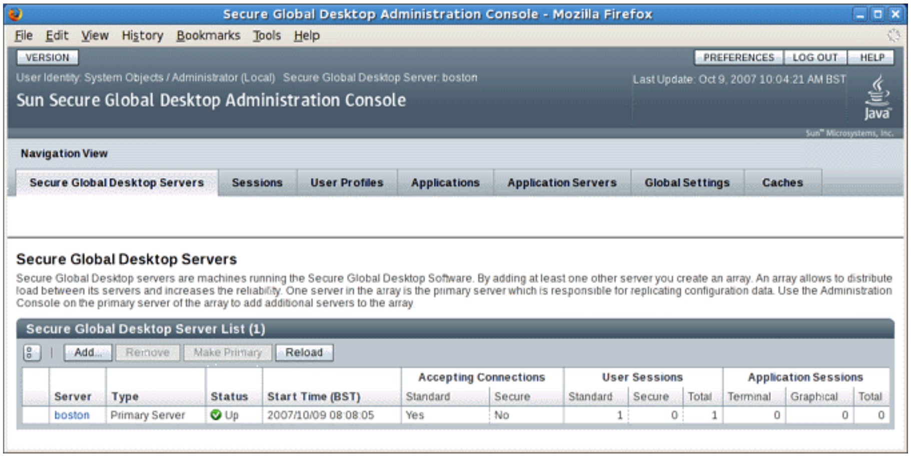
The following list is the order in which the selected Secure Global Desktop authentication mechanisms are tried. If an authentication mechanism fails to authenticate a user, the next mechanism in the list is tried. If an authentication mechanism succeeds, no further mechanisms are tried. For each authentication mechanism, the list shows how Secure Global Desktop establishes the User Identity and the User Profile.

1. System Authentication (performed by Secure Global Desktop):
   1. Unix Authentication: search for the User Identity in the Local Repository and use the matching User Profile.
   2. Unix Authentication: use the UNIX User Identity and search for a matching User Profile in the Local Repository using the user's Unix Group ID.

The Global Settings tab contains other tabs for configuring and managing SGD. For example, the Secure Global Desktop Authentication tab is where you configure how users authenticate to SGD.

In the Administration Console, the Secure Global Desktop Servers tab is where you manage individual SGD servers. See FIGURE 4-36.

FIGURE 4-36 The Secure Global Desktop Servers Tab


Secure Global Desktop Administration Console - Mozilla Firefox
File Edit View History Bookmarks Tools Help
VERSION
PREFERENCES
LOG OUT
HELP
Sun Secure Global Desktop Administration Console
Java
Sun™ Microsystems, Inc.
Navigation View
Secure Global Desktop Servers
Sessions
User Profiles
Applications
Application Servers
Global Settings
Caches
Add...
Remove
Make Primary
Reload

User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 10:04:21 AM BST

Secure Global Desktop Servers

Secure Global Desktop servers are machines running the Secure Global Desktop Software. By adding at least one other server you create an array. An array allows to distribute load between its servers and increases the reliability. One server in the array is the primary server which is responsible for replicating configuration data. Use the Administration Console on the primary server of the array to add additional servers to the array

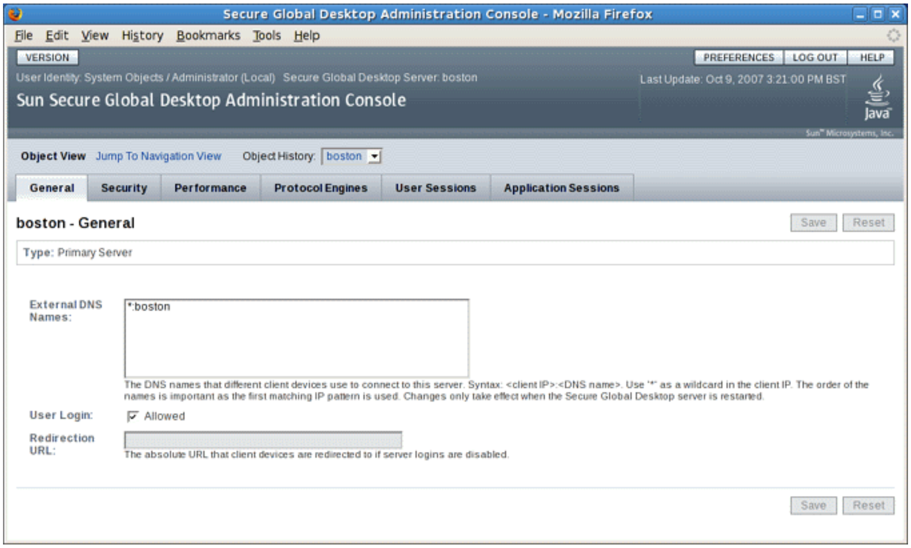
Secure Global Desktop Server List (1)

Server	Type	Status	Start Time (BST)	Accepting Connections		User Sessions			Application Sessions		
				Standard	Secure	Standard	Secure	Total	Terminal	Graphical	Total
boston	Primary Server	✓ Up	2007/10/09 08:08:05	Yes	No	1	0	1	0	0	0

The Secure Global Desktop Servers tab shows you the status of an SGD server, whether it is running, how many user sessions there are, and how many application sessions the server is hosting.

When you click on the name of an SGD server in the Secure Global Desktop Servers List table, the Administration Console displays further tabs in Object View. You use these tabs to configure and manage the selected SGD server. See FIGURE 4-37.

FIGURE 4-37 The General Tab for an SGD Server



User Identity: System Objects / Administrator (Local) Secure Global Desktop Server: boston

Last Update: Oct 9, 2007 3:21:00 PM BST

Object History: boston

boston - General

Type: Primary Server

External DNS Names: *:boston

The DNS names that different client devices use to connect to this server. Syntax: <client IP>:<DNS name>. Use '*' as a wildcard in the client IP. The order of the names is important as the first matching IP pattern is used. Changes only take effect when the Secure Global Desktop server is restarted.

User Login: ☑ Allowed

Redirection URL:

The absolute URL that client devices are redirected to if server logins are disabled.

On the command line, you use the `tarantella config` command to configure global settings and SGD servers. The *Sun Secure Global Desktop 4.41 Administration Guide* has details of all the command-line arguments.

Arrays

The Secure Global Desktop Servers tab enables you to group SGD servers together to form an *array*. An array is a collection of SGD servers that share configuration information.

An array contains the following:

- **One primary server** – This server is the authoritative source for global SGD information, and maintains the definitive copy of the organizational hierarchy
- **One or more secondary servers** – The primary server replicates information to these servers

A single, *standalone* server is considered to be the primary server in an array with no secondary servers.

SGD servers in an array might run different operating systems. However, all the array members must run the same version of SGD.

While you are evaluating SGD you are limited to an array containing a maximum of two SGD servers. Once you install a license key, this restriction is removed.

Arrays have the following benefits:

- User sessions and application sessions are load-balanced across the array. To scale more users, simply add more SGD servers to the array.
- With more than one server, there is no single point of failure. You can decommission a server temporarily with the minimum of disruption to your users.
- Configuration information, including all the objects in your organizational hierarchy, is replicated to all array members. All array members have access to all information.

Users see the same webtop and can resume applications no matter which SGD server they log in to.

You add an SGD server to an array by clicking Add in the Secure Global Desktop Servers List table.

Monitoring Users

You can keep track of what your users are doing by monitoring the user sessions and application sessions in progress. User sessions and application sessions are always associated with a user identity and a user profile. The user identity is the unique authenticated identity of the user. The user profile is the SGD user profile object that contains the user's settings.

User Sessions

A user session begins when a user logs in to SGD and ends when a user logs out. User sessions are hosted by the SGD server the user logs in to. User sessions can be standard sessions or secure sessions. Secure sessions are only available when SGD security services are enabled.

If a user logs in and they already have a user session, the user session is transferred to the new SGD server and the old session ends. This is sometimes called session grabbing, or session moving.

In the Administration Console, you can list user sessions as follows:

- The Sessions tab, in Navigation View, shows all the user sessions that are running on all SGD servers in the array.
- The User Sessions tab for an SGD server shows all the user sessions that are hosted by that server.
- The User Sessions tab for a user profile shows all the user sessions associated with the user profile.

On the Sessions tab and the User Sessions tabs, you can select and end user sessions. On the User Sessions tabs, you can view further details about the user session, for example the information the SGD Client detects about the client device.

On the command line, you use the `tarantella webtopsession` command to list and end user sessions.

Application Sessions

An application session begins when a user starts an application and ends when the application exits. Each application session corresponds to an application currently running through SGD. Application sessions can be running or suspended.

An application session can be hosted by any SGD server in the array. This might not be the same SGD server that the user logged in to.

In the Administration Console you can list application sessions as follows:

- The Application Sessions tab for an SGD server shows all the application sessions that are hosted by that server.
- The Application Sessions tab for a user profile shows all the application sessions associated with the user profile.
- The Application Sessions tab for an application server shows all the applications that are running on that application server.

On the Applications Sessions tabs, you can view further details about an application session. You can also end and shadow application sessions. With shadowing, you and the user see and interact with the application at the same time.

Note – You can only shadow Windows applications and X applications, and the application sessions must not be suspended.

On the command line, you use the `tarantella emulatorsession` command to list and end application sessions.

Controlling SGD

To control SGD from the command line, use the `tarantella start`, `tarantella stop`, and `tarantella restart` commands.

You control an SGD server *and* the SGD Web Server with the following commands:

- `tarantella start` – Starts the SGD Web Server and the SGD server
- `tarantella stop` – Stops the SGD Web Server and the SGD server
- `tarantella restart` – Stops and then restarts the SGD Web Server and the SGD server

Subcommands for the `tarantella start`, `tarantella stop`, and `tarantella restart` commands enable you to control individual components of SGD, as follows:

- The `sgd` subcommand controls the SGD server. The following example starts SGD services on a host, including printing services.

```
# tarantella start sgd
```

- The `webserver` subcommand controls the SGD Web Server. The following example stops and then restarts the SGD Web Server.

```
# tarantella restart webserver
```

See the *Sun Secure Global Desktop 4.41 Administration Guide* for more information about the available subcommands and options for the `tarantella stop`, `tarantella start`, and `tarantella restart` commands.

Controlling the SGD Enhancement Module

This section describes how you control the SGD Enhancement Module.

Controlling the SGD Enhancement Module for Microsoft Windows

When you install the SGD Enhancement Module for Microsoft Windows, the load balancing service starts immediately. The load balancing service also starts automatically whenever the Windows host is rebooted.

▼ How to Manually Control the Load Balancing Service

Use the following procedure to manually stop and start the load balancing service on a Windows host.

1. **Log in to the Windows host as a user with administrative privileges.**
2. **In the Windows Control Panel, click Administrative Tools.**
3. **Click Computer Management.**
4. **In the tree, expand Services and Applications.**
5. **Click Services.**
6. **Double-click the Tarantella Load Balancing Service.**
7. **Click Stop or Start to stop or start the service.**

Controlling the SGD Enhancement Module for UNIX and Linux Platforms

When you install the SGD Enhancement Module for UNIX and Linux Platforms, the load balancing and UNIX audio processes start immediately. The client drive mapping processes have to be started manually because extra configuration is required.

Whenever the host is rebooted, all the Enhancement Module processes are started automatically.

On UNIX and Linux platforms, you can control the Enhancement Module processes manually with the `tem` command. The `tem` command is a script installed in the *install-dir*`/bin` directory. By default, *install-dir* is `/opt/tta_tem`. As this script is not on the standard `PATH`, you must use the full path each time you run the command, or change to `/opt/tta_tem/bin` before running the command. Alternatively, do the following:

- Add `/opt/tta_tem/bin` to the `PATH`, for example:

  ```
  PATH=$PATH:/opt/tta_tem/bin; export PATH
  ```

- Create an alias, for example:

  ```
  alias em=/opt/tta_tem/bin/tem
  ```

You control the Enhancement Module processes manually by running the following commands as superuser (root):

- `tem start` – Starts the load balancing processes
- `tem stop` – Stops the load balancing processes
- `tem startcdm` – Starts the CDM processes
- `tem stopcdm` – Stops the CDM processes
- `tem startaudio` – Starts the UNIX platform audio processes
- `tem stopaudio` – Stops the UNIX platform audio processes

Use the `tem status` command to show the status of the various modules in the Enhancement Module.

SGD Network Architecture

SGD is built around a three-tier network architecture model, consisting of the following tiers:

- Client devices
- SGD servers
- Application servers

Different tiers can reside on the same host. For example, a single UNIX platform host can act as both an SGD server and an application server, but the tiers remain logically independent.

Client Devices

The first tier contains *client devices*. A client device is a piece of hardware that can communicate with SGD using a browser and the SGD Client.

The browser communicates with the SGD Web Server on the second tier and displays the webtop to users.

The SGD Client communicates with SGD servers on the second tier and displays the applications that users run.

The Adaptive Internet Protocol (AIP) ensures optimal network usage between the first and second tiers.

SGD Servers

The second tier contains *SGD servers*, which act as a gateway between the first and third tiers. This tier might contain a single SGD server, or many SGD servers configured to form an array.

An SGD server is responsible for the following:

- Authenticating users when they log in to SGD
- Negotiating with application servers to authenticate users when they run applications, prompting users for passwords when necessary
- Causing the SGD Client to display applications
- Keeping track of running applications even after users have logged out, so that they can resume them later

Application Servers

The third tier contains *application servers* that run users' applications.

When a user clicks a link on their webtop, SGD starts the application on an appropriate application server. Output from the application is redirected by the SGD server from the application server to the client device.

When you tell SGD about an application, you include information about all the application servers that can run the application. SGD load balances between the application servers.

Next Steps

By default, SGD installs in a 30-day evaluation mode. During the evaluation period, the following restrictions apply:

- The size of an array is limited to two SGD servers.
- The number of users that can log in or have running applications is limited to five.

After 30 days, the SGD server no longer permits users to log in.

To continue using SGD, you must add a license key. You can add license keys in the following places:

- On the Licenses tab in the Administration Console
- On the command line:

```
# tarantella license add license-key
```

What You Need to Tell Users

The following information is essential to help people use SGD:

- How to log in to SGD.

  Users need to know the login URL. Use `http://`*server.example.com*`/sgd`, where *server.example.com* is the name of an SGD server.

  Users need to know what user name and password to type to log in to SGD.

  SGD supports several mechanisms for authenticating users. The user names and passwords depend on the enabled authentication mechanisms. By default, users can log in with their UNIX or Linux system user name and password.

  If your organization prefers not to use Java technology, users need to be shown how to download and install the SGD Client manually. See "Installing the SGD Client Manually" on page 18 for details.

- How to run applications.

  Users need to know how to start and stop applications.

  The applications users can access through SGD might run on many different application servers. When a user clicks a link to start an application, SGD might prompt them for a user name and password for the application server. Users need to know what user names and passwords to use.

- Where to get help.

All users have a link to the *Sun Secure Global Desktop 4.41 User Guide* on their webtop. Click Help.

Where to Get More Help

On the webtop, click Help to display the *Sun Secure Global Desktop 4.41 Administration Guide*. This is the online documentation for configuring and running SGD. Online help is also available in the Administration Console.

Documentation in Hypertext Markup Language (HTML) and Portable Document Format (PDF) formats is also available from the following locations:

- `http://`*server.example.com*, where *server.example.com* is the name of an SGD server
- `http://docs.sun.com/app/docs/coll/1706.3`

You can also discuss technical issues at the SGD forum on Sun Developer Network `http://forum.java.sun.com/forum.jspa?forumID=815`.

CHAPTER 5

Removing SGD

This chapter describes how you remove Sun Secure Global Desktop (SGD).

Removing SGD

To remove SGD, you remove the components installed on hosts, on application servers, and on client devices.

▼ How to Remove SGD

1. **Log in as superuser (root) on the SGD host.**
2. **Remove SGD.**

```
# tarantella uninstall --purge
```

Caution – The `tarantella uninstall` command is the only supported method for removing SGD. This command stops all SGD processes before removing the software. Do not use the `pkgrm` or `rpm` commands directly to remove SGD.

▼ How to Remove the SGD Enhancement Module for Microsoft Windows

1. **Log in to the Windows host as a user with administrator privileges.**

2. **In the Windows Control Panel, select Add or Remove Programs.**

3. **Select Secure Global Desktop Enhancement Module for Windows.**

4. **Click Remove.**

▼ How to Remove the SGD Enhancement Module for UNIX and Linux Platforms

1. **Log in as superuser (root) on the application server.**

2. **Remove the Enhancement Module:**

   On Solaris OS platforms:

```
# pkgrm tem
```

   On Linux platforms:

```
# rpm -e tem
```

▼ How to Remove the SGD Client on Microsoft Windows Platforms (Manual Installation)

Follow these instructions only if the SGD Client was installed manually.

1. **In the Windows Control Panel, select Add or Remove Programs.**

2. **Select Sun Secure Global Desktop Client.**

3. **Click Remove.**

▼ How to Remove the SGD Client on Microsoft Windows Platforms (Automatic Installation)

Follow these instruction only if the SGD Client was installed automatically.

- **Remove the SGD Client program.**

  Delete the SGD Client program from the user's Home folder. Typically this is the `C:\Documents and Settings\`*username*`\Local Settings\Temp\tcc\`*version* folder.

  The SGD Client program is `tcc.exe`.

▼ How to Remove the SGD Client on UNIX, Linux, and Mac OS X Platforms

- **Remove the SGD Client program.**

  Delete the SGD Client program from wherever it is installed. Typically this is either the `$HOME/.tarantella/tcc/`*version* directory or the `$HOME/bin` directory.

  The SGD Client program is `ttatcc`.