Sun Virtual Desktop Infrastructure

VDI Demo (Featuring VMware vCenter) for Version 3.1

April 2011

ORACLE®

VDI Demo (Featuring VMware vCenter)

VDI Demo (Featuring VMware vCenter)

The following information describes how to install and configure the VDI components (VDI Core and virtualization platform) on one host. A Demo VDI Setup is great for evaluation, but cannot support a large deployment.
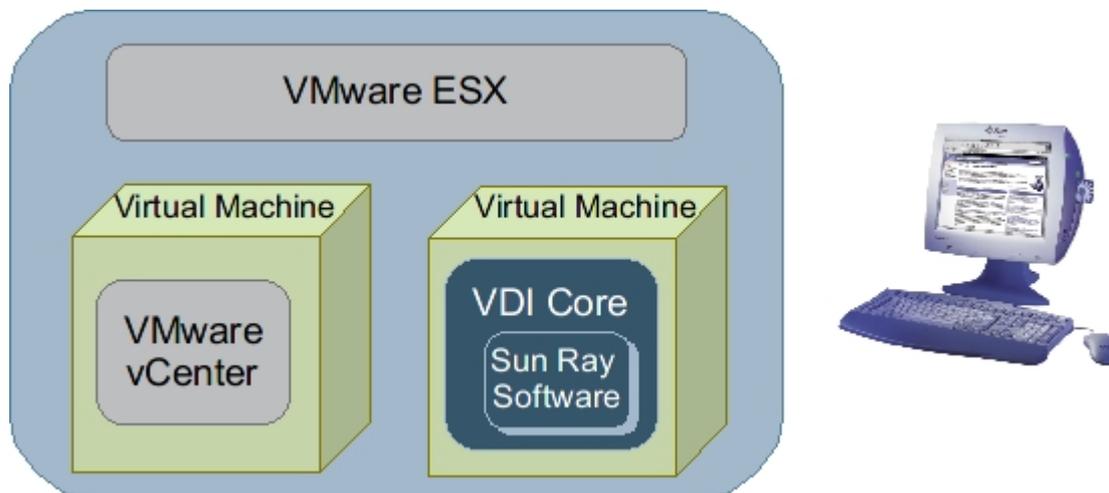
> ℹ The VDI Demos are not supported production environment configurations. For more information about supported production environment VDI configurations, please see the VDI Configurations page.

You can also make a multi-host demo version of VDI. Be sure to consult the Supported Software tables in the VDI 3.1 Release Notes. Also refer to VDI Configurations to learn more about which hardware configurations will and will not work.

System Requirements

These are the system requirements for a VDI with VMware vCenter Demo setup that is running under 50 virtual machines. The system requirements and installation instructions for VMware ESX Server and VMware vCenter used in this Demo Guide are based on the VMware Guide Running VirtualCenter in a Virtual Machine.

The machine must meet the following requirements:

- Standalone VMware ESX Server
  At least one 2.0GHz x86 CPU
  At least 4GB RAM
  At least 32GB disk space

For more information about VMware system requirements, refer to:

- Running VirtualCenter in a Virtual Machine
- vCenter Server and the vSphere Client Hardware Requirements
- Minimum System Requirements for Installing VirtualCenter
- Minimum System Requirements for Installing ESX

1. Install and Configure VMware ESX and vCenter

How to Set Up a VMware ESX Server

VMware ESX server is a Linux-based appliance that provides a virtualization platform by abstracting CPU resources, storage, and memory of a physical host into multiple virtual machines.

Steps

1. Power on the host machine with the VMware ESX Server CD in the CD drive.
   If available, you can also use remote management applications such as the Integrated Lights Out Manager (ILOM) to drive the installation.

2. During installation, you can safely rely on the suggested default settings.
   Refer to "Chapter 7: Installing VMware ESX Server Software" in the VMware ESX Server 3 and VirtualCenter Installation Guide.

3. After installation, install the VMware Virtual Infrastructure Client so that you can access the VMware ESX server.
   Refer to page 74, "Installation Procedure for VMware Infrastructure Management" in the VMware ESX Server 3 and VirtualCenter Installation Guide.

How to Install VMware vCenter in a Virtual Machine (Demo)

The following procedure is supported by VMware and can be referenced in more detail in the guide Running VirtualCenter in a Virtual Machine.

Steps

1. Using the VI Client (installed during ESX Server preparation), access the ESX Server host directly to create the virtual machine for hosting vCenter.

2. Create a virtual machine.
   Refer to Chapter 10: Creating Virtual Machines of the VMware guide Basic System Administration.

3. Follow the standard procedure for installing vCenter in a virtual machine as you would in a physical server.
   Refer to Chapter 6: Installing VMware Infrastructure Management in the VMware ESX Server 3 and VirtualCenter Installation Guide.

The original (hosting) ESX server must be added to the vCenter inventory, see the next section for more information.

How to Set Up a VMware vCenter Server

VMware vCenter provides central management of several ESX servers, and can be installed on a physical or virtual host. Refer to "Chapter 6: Installing VMware Infrastructure Management" in the VMware ESX Server 3 and VirtualCenter Installation Guide.

Steps

Once VMware vCenter is installed, complete the following configuration steps:

1. Add the VMware ESX server as a managed host.
   In VMware vCenter select the datacenter where the host will be added. In the menu bar go to Inventory > Datacenter > Add Host, and follow the instructions.

2. Install the Windows System Preparation Tools for Windows XP.
   These tools can be downloaded from the following Microsoft web sites:
   - Windows XP Service Pack 2 Deployment Tools
   - Windows XP Service Pack 3 Deployment Tools

3. Extract the Sysprep tools from the CAB into the following directory:

```
C:\Documents and Settings\All Users\Application Data\VMWare\VMWare
VirtualCenter\sysprep\xp
```

For further instructions, see "Appendix B: Installing the Microsoft Sysprep Tools" in the VMware Basic System Administration Guide.

4. Verify that the server is configured for access to the web services API.
   Sun VDI takes advantage of the web services API provided by the VMware Infrastructure SDK to communicate through HTTPS with VMware vCenter.
   a. Verify that the VMware vCenter Webaccess component is installed and configured.
   b. Verify that Port 443 (HTTPS) is enabled in any firewall that may be active on the system.
   c. As a simple test, go to `https://<vCenter Host>/mob`. If everything works correctly, you will have access to the VMware Infrastructure SDK browser (after providing the VMware administrator user name and password).

> ℹ The previous version of Sun VDI required the installation of a Virtual Desktop Connector agent on the VMware vCenter host. Starting with Sun VDI 3, this step is no longer necessary.

2. Create Virtual Machines and Test the Setup

How to Create Virtual Machines (VMware vCenter)

Sun VDI presents users with easy access to their virtual desktops, typically instances of Microsoft Windows XP executed in a virtual machine. You can manually create virtual machines, or you can configure Sun VDI to create or clone additional virtual machines automatically from a template.

Steps

1. Create a virtual machine with Microsoft Windows.
   Use your standard process for creating virtual machines. For full details, see "Creating Virtual Machines" in VMware Basic System Administration.
   Follow these recommendations:
   - Use Microsoft Windows XP SP3 as the baseline. The license must be a volume license.
   - Define one disk. It should be as small as possible, for example, 4 GB. The size impacts system performance and overall storage consumption.
   - RAM also should be as small as possible, for example, 384 MB.
   - A single CPU should be enough.
   - One network interface is needed. It should be configured for DHCP. Ensure that the virtual machine obtains a valid IP after powering on.

2. Install the VMware Tools.
   Once you have created a virtual machine with Microsoft Windows XP installed on it, install VMware Tools. VMware Tools is a suite of utilities that enhances the performance of the virtual machine's guest operating system and improves management of the virtual machine. Installing VMware Tools in the guest operating system is vital.
   The installation can be easily triggered from within the VMware Virtual Infrastructure Client (VIC): Right-click the virtual machine and choose Install VMware Tools. For additional details see Installing and Upgrading VMware Tools in VMware Basic System Administration.

3. Enable remote desktop access.
   RDP is the main access method to the Microsoft Windows XP desktop. By default, this access method is disabled and rejected through the firewall. To enable remote desktop access, launch VMware's Virtual Infrastructure Client, with your virtual machine still powered on and logged in, then follow these steps:
   a. Open a console for the virtual machine, and click the virtual machine's Start button.
   b. Right-click on My Computer in the start menu, and select Properties.
   c. In the System Properties window, select the Remote tab.
   d. Under Remote Desktop, check the box marked Enable Remote Desktop on This Computer so that this item is selected.
   e. Make sure that the desired users have been granted remote access rights.
   f. Click OK to save the settings and close the dialog.
   Before you try to connect to a virtual desktop remotely, ensure that no firewall blocks the remote access. Make sure that port 3389 is enabled in any firewall that may be active on the system.

4. Install the Sun VDA Tools.

VDI has a tools component that notifies the VDI service when a desktop is in use and handles RDP connections when the guest OS initiates Standby. The VDI Tools must be installed on the guest operating system for recycling to work correctly and so that the RDP connection is correctly closed when the virtual machine goes into Standby or Suspend mode.

   a. Locate the `vda-tools.msi` installer file in the directory where you unzipped the VDI archive.
The `vda-tools.msi` is located in the `./image/vda_3.1/Windows/Packages/` subdirectory. Copy the installer to the desired virtual machine.
   b. Within the virtual machine's console, double-click the installer and follow the prompts to complete installation.
The default target location for the VDI Tools on Windows is `C:\Program Files\Sun\Virtual Desktop Access\Tools`.
   c. The VM Services list should now contain a new service named Sun VDI Tools, running and set to start automatically.

5. Configure power management.

An unused virtual desktop is treated like a laptop that is unplugged to save power. It is suspended automatically to release all its CPU and memory consumption. Suspending virtual machines also affects how they are recycled. A virtual machine will be recycled if it has been suspended for longer than the recycling idle timeout period, even if the user has not logged out of the machine.

   a. Open the Virtual Infrastructure Client.
   b. Select the desired virtual machine and open the console.
   c. Log into the virtual machine.
   d. Go to Start -> Control Panel. Open Power Options.
   e. Set the System Standby time to the desired value.
   f. Verify that the guest OS actually enters standby as configured.
Virtual machines should be configured to be suspended when the OS goes into standby. This is enabled in VMware vCenter.
   g. Open the Virtual Infrastructure Client.
   h. Right-click on the desired virtual machine and go to Edit Settings
   i. Go to Options -> Power Management, select Suspend the Virtual Machine.

6. Convert a virtual machine into a template.

You can clone additional virtual machines manually, or let Sun VDI clone them automatically from a template. Any existing virtual machine can be converted into a template.

   a. Open the Virtual Infrastructure Client.
   b. Right-click the desired virtual machine and power down the machine.
   c. From the commands area or the pop-up menu, click Convert to Template.
For additional details see Chapter 13: Working with Templates and Clones in VMware Basic System Administration.

7. Create a Customization Specification.

It is necessary to customize the identity and network settings of Windows XP after a clone has been created from a template. This can be achieved using a Customization Specification.

   a. Open the Virtual Infrastructure Client.
   b. Click Edit from the menu above the tool bar and select Customization Specifications.
   c. Click the New icon in the Customization Specification Manager to start the wizard.
   d. On the first wizard step, choose Windows as the target virtual machine OS, and give the specification a name and description.
   e. The following steps ask the standard Windows installation questions and should be completed to correspond with your requirements, with the exception of the following.
      • Computer Name: Make sure that the Use the Virtual Machine Name item is selected. If not, you may end up with duplicate hostnames.
      • Windows License: Enter your Windows XP serial number. The Include Server License Information item should be left unchecked.
      • Networking: Make sure the interface is configured for DHCP. If not, your cloned virtual machines will not have unique IP addresses and will not work with Sun VDI.
   f. After completing the wizard and saving your customization specification, close the Customization Specification Manager.
For additional details see Chapter 14: Customizing Guest Operating System in VMware Basic System Administration.

How to Test the Platform Setup (VMware vCenter)

It is highly recommended to test the configuration made so far, before setting up the remaining Sun VDI components. A quick manual test consists of cloning a virtual machine using the desired template and customization specification followed by a remote access to the cloned virtual machine via RDP.

Before You Begin

In order to test the platform setup, you must first create a virtual machine. Refer to the How to Create Virtual Machines (VMware vCenter) page for more details.

Steps

1. Open the Virtual Infrastructure Client.

2. Right-click on the desired template and select Deploy Virtual Machine from this Template.
   a. The wizard will ask you to specify a name for the new VM - select the desired host/cluster and datastore with sufficient free space.
   b. On the Guest Customization step, select the Customize Using an Existing Customization Specification option, then choose the customization specification you just created from the list.
   c. Review your selections, and click Finish to begin cloning.

3. After the cloning has finished, select the new virtual machine and power it on.
   After some time you should see its IP address and host name appear in the Virtual Infrastructure Client. Make sure that it has a unique IP address and that the host name corresponds to the virtual machine name.

4. On the VMware vCenter server, open a Remote Desktop Connection by clicking Start > All Programs > Accessories > Communications > Remote Desktop Connection.
   a. In the Remote Desktop Connection window, enter the IP address of the newly cloned virtual machine, and click Connect.
   b. If everything is configured correctly, a full-screen remote desktop session to your virtual machine should be displayed.

> ℹ️ Congratulations!
> You are finished setting up the virtualization platform (desktop provider) piece of the VDI Demo. Next you will need to install the VDI Core software in a virtual machine hosted by the ESX Server.

3. Install and Configure the VDI Core Software

> ⚠️ Before You Begin
> For a minimal VDI Demo using VMware vCenter, the VDI Core can also be installed in a virtual machine hosted by the ESX Server. To create the VDI Core virtual machine host, refer to Step 2, in How to Install VMware vCenter in a Virtual Machine (Demo) above.

How to Install and Configure the VDI Core Software (Demo)

Steps

1. As root user, unzip the VDI archive if you have not already done so, and run the installation (shown for x86).

   ```
   # unzip vda_3.1_amd64.zip
   # cd vda_3.1_amd64
   # ./vda-install
   ```

   After accepting the license agreement, the installation process begins, and all VDI components are installed. These components include:

```
Sun VDI 3.1 Installation
    + Installing Sun VDI Core...
    + Installing MySQL Database...
    + Installing Web Administration...
    + Installing Apache Tomcat...
    + Installing RDP Broker...
    + Installing Sun Ray Client...
    + Installing Java Runtime Environment...
    + Installing Sun Ray Server Software...
    + Installing Sun Ray Connector for Windows Operating Systems...
```

2. After successful installation reboot your machine.

```
# reboot
```

3. As root user, run the vda-config script, and choose the "**0 Evaluation Sun VDI Host**" configuration type:

```
# /opt/SUNWvda/sbin/vda-config
```

You will see the following configuration script:

```
Sun Ray Server Software Configuration
    + Providing configuration data...
    + Loading Sun Ray data store...
    + Populating Sun Ray data store...
    + Creating Sun Ray core services configuration...
    + Restarting Sun Ray data store daemon...
    + Configuring Sun Ray Server Software Web Administration...
    + Adding 10 user accounts for Sun Ray sessions...

Sun Ray Client Configuration
    + Setting Kiosk Mode Session Type to 'vda'...
    + Enabling Kiosk Mode Policy for All Card and Non-Card Users...
    + Enabling LAN Connections...
    + Configuring Sun Ray Connector for Windows Operating Systems...
    + Restarting Sun Ray Server Software...

MySQL Database Configuration
    + Creating MySQL group (vdadb)...
    + Creating MySQL user (vdadb)...
    + Setting up MySQL directory...
    + Setting up MySQL cluster directory...
    + Initializing database...
    + Starting Sun VDI database (MySQL)...
    + Setting user rights...
    + Creating database tables...
    + Configuring database connection...

Sun VDI Web Administration Configuration
    + Enabling Sun VDI web administration...
    + Restarting Sun VDI web administration...

RDP Broker Configuration
    + Starting RDP broker...

System Configuration
    + Restarting Common Agent Container service...
```

For more information about the settings of the default configuration, see the VDI Defaults page.

Once configuration is complete, go to http://<server name>:1800 (or http://localhost:1800 if remote administration has been disabled). Use root user credentials to log into the VDI Manager. You will be re-directed to https and the browser will ask you to accept the security certificate. After confirmation, you should get the login screen.

4. Set Up Desktop Providers and Pools

How to Create Desktop Providers (VMware vCenter)

Desktop providers encapsulate the details of the underlying virtualization platform. At a minimum, you must configure one desktop provider before you can continue with the creation of pools. There is no limitation to the number of providers the system can manage. At any time you can configure additional providers.

Follow the steps below to set up a VMware vCenter desktop provider.

Before You Begin

- Make sure that the two-year SSL certificate for the vCenter server has not expired by checking the details of the certificate in a browser that has accepted it previously.

VDI Manager Steps

1. Sign into the VDI Manager.
   a. Go to http://<server name>:1800 (or http://localhost:1800 if remote administration has been disabled), and use root user credentials. For a multi-host configuration, use one of the VDI Secondary hosts.
   b. You will be re-directed to https and the browser will ask you to accept the security certificate. After confirmation, you should get the login screen.

2. Select the Desktop Providers category in the left sidebar.

3. Select New in the VMware vCenter Desktop Providers overview.
   This will activate the New Desktop Provider for VMware vCenter wizard.
   a. Type the name or IP address and the administrator credentials for the VMware vCenter.
   b. Click Finish.
      The new desktop provider is displayed in the VDI Manager. You can now view the VMware vCenter resource details, including datacenters, VMware clusters, and datastores.

> ⓘ In Sun VDI 2.0, you could limit the used VMware vCenter resources to specific VMware datacenters. This resource restriction is now handled as part of the pool configuration.

How to Create Desktop Pools

Sun VDI organizes desktops in pools. A pool is a collection (or container) of desktops. Typically you will create different pools for different types of users. For example, the engineering team at your company might have different desktop requirements than the marketing department.

> ⛔ Sun VirtualBox Desktop Providers Only
> When changing pool settings from NAT networking to Host Networking + Windows RDP, existing desktops that are running must be stopped and restarted or else subsequent user requests for these desktops will fail.
> This issue occurs because existing, running desktops will be using NAT and will not have a public IP address.
> After the pools settings have been changed, subsequent requests for that desktop will attempt to access the desktop via the private (and unaccessible) NAT IP.

> ℹ **Microsoft Remote Desktop Providers Only**
> Only one pool can be created per Microsoft Remote Desktop provider.

VDI Manager Steps

1. Sign into the VDI Manager.
    a. Go to http://<server name>:1800 (or http://localhost:1800 if remote administration has been disabled), and use root user credentials. For a multi-host configuration, use one of the VDI Secondary hosts.
    b. You will be re-directed to https and the browser will ask you to accept the security certificate. After confirmation, you should get the login screen.

2. Select the Pools category in the left sidebar.

3. Click New in the All Pools overview.
    A New Pool wizard is displayed.

    a. For Sun VirtualBox and Microsoft Hyper-V desktop providers, choose one of the following pool types:
        • Dynamic pools are filled with cloned flexible desktops. If you choose the Dynamic Pool type, the desktops in the pool will be temporarily assigned to users. They will be recycled each time the user logs out. This pool type is considered dynamic because the user-desktop assignments are often changing.
        • Growing pools are filled with cloned personal desktops. If you choose the Growing Pool type, the desktops in the pool will be permanently assigned to users. Users can log in and out without losing their desktop settings. The desktops are not recycled.
        • Manual pools are initially empty. They are filled manually by importing personal desktops. The Manual Pool type should be used if cloned desktop assignment is not an option.

        > ℹ For Microsoft Remote Desktop providers, pool types do not apply.

    b. Select a template.
        If you have already imported a desktop from Sun VirtualBox or Microsoft Hyper-V, you can select it as a template to clone desktops from.
        If no desktop has been imported yet, select None from the drop down menu. After a desktop has been imported, you can select it as a template from the pool's Cloning tab.
    c. If you chose a template in the previous step, select the pool size or enable automatic cloning.
        You can modify your choice at any time in the pool's Cloning tab.
    d. Click Finish.
        A new pool is displayed in the Pools overview.

5. Import and Clone Virtual Machines

How to Import Desktops (VMware vCenter)

A pool is empty and has no desktops after initial creation. After you create virtual machines, you must import them so that the VDI Core can create a corresponding entry for the virtual machine in its database. The virtual machine will not be altered in any way.

Before You Begin

A virtual machine must be created in VMware vCenter before it can be imported into the VDI Core. Refer to the How to Create Virtual Machines (VMware vCenter) page for detailed information.

VDI Manager Steps

1. Sign into the VDI Manager.
    a. Go to http://<server name>:1800 (or http://localhost:1800 if remote administration has been disabled), and use root user credentials. For a multi-host configuration, use one of the VDI Secondary hosts.
    b. You will be re-directed to https and the browser will ask you to accept the security certificate. After

confirmation, you should get the login screen.

2. Open the Pools tab, then select the previously created empty pool.

3. Select the Desktops tab, and click Import.
   An import dialog is displayed showing the available virtual machines in the vCenter hierarchy. You can select individual virtual machines or folders. If you select a folder, all the virtual machines in the folder will be selected for the import.

4. Click OK to import the desktops into the VDI Core database.

> ⓘ Desktops that are already imported into the VDI Core cannot be selected for import. You also cannot import templates.

After the desktops have been imported successfully, they will show up in the Desktops tab of the Pool page (a page refresh might be necessary).

How to Clone Desktops (VMware vCenter)

Cloning is the fastest and most efficient way to populate a pool. Use the steps below to enable cloning in a pool.

Before You Begin

A virtual machine must be imported before a template can be cloned. Refer to the How to Import Desktops (VMware vCenter) page for detailed information.

VDI Manager Steps

1. Sign into the VDI Manager.
   a. Go to http://<server name>:1800 (or http://localhost:1800 if remote administration has been disabled), and use root user credentials. For a multi-host configuration, use one of the VDI Secondary hosts.
   b. You will be re-directed to https and the browser will ask you to accept the security certificate. After confirmation, you should get the login screen.

2. Select the Pools category, then select a pool's Resources tab.

3. Select your preferred storage for newly cloned virtual machines.
   By default, all available storage may be used. For each clone, the VDI Core will select the storage with the most available disk space.

4. Select the Desktop Cloning tab.

5. Select the preferred template from the Template menu.
   The menu will list all templates that are available in the VMware vCenter.

6. Select Apply System Preparation, and specify which Customization Specification should be used.

7. Select Enable Automatic Cloning, and click Save.

Cloning can take up to a minute to start, after which you will see clone jobs begin to display in the Jobs window. To access the Jobs window, click the Jobs Running link in the top left of the VDI Manager. After a clone job has been finished successfully, the new desktop will display in the Desktops tab of the Pool page. A page refresh might be necessary.

CLI Steps

1. Open a terminal window and sign into the server with root credentials.
   For a multi-host configuration, use one of the VDI Secondary hosts.

2. Start automatic cloning in a pool.

```
# /opt/SUNWvda/sbin/vda pool-start <pool name>
```

- Example – Starting automatic cloning in a pool

```
example% /opt/SUNWvda/sbin/vda pool-start MyPool
```

6. Set Up a User Directory

How to Set Up a User Directory for a Demo

Now the desktops must be made available to users. Typically the user information is already stored in an Active Directory or LDAP server. Before you can assign users to desktops, you must configure the desired Active Directory/LDAP server and the VDI Core.

> ℹ️ If you do not have a directory already installed, you may use OpenDS as explained in this blog entry.

> ℹ️ New Page!
> If you would like more details about setting up Active Directory with Kerberos authentication, refer to the new How to Set Up Active Directory and Kerberos for a Demo page.

Steps

1. Select the Settings category in the left sidebar.
2. Then select the User Directory subcategory.
3. Click Add User Directory... to launch the User Directory wizard. Continue depending on your directory type.

    - LDAP directory that supports Anonymous Authentication

        > ℹ️ Active Directory does not support Anonymous Authentication.

        a. Select LDAP Type, and click Next.
        b. Select Anonymous Authentication.
        c. Enter the hostname or IP address, and port number, of the LDAP server. 389 is the default port number used by most LDAP servers.
        d. Enter the base DN of the LDAP server. Specifying a base DN is optional. It allows you to restrict the part of the LDAP directory used to search for the users. In most cases it is not necessary to provide the base DN.
           For example: `cn=Users,dc=my,dc=company,dc=com`
        e. Click Next to review your choices before completing the configuration.

    - Active Directory or other type of LDAP directory that does not support Anonymous Authentication
        a. Select LDAP Type, and click Next.
        b. Select Simple Authentication.
        c. Enter the hostname or IP address, and port number, of the LDAP server. 389 is the default port number used by most LDAP servers.
        d. Enter the base DN of the LDAP server. Specifying a base DN is optional. It allows you to restrict the part of the LDAP directory used to search for the users. In most cases it is not necessary to provide the base DN.
           For example: `cn=Users,dc=my,dc=company,dc=com`
        e. Enter the user name. It must be the fully distinguished name (DN) of a user that has sufficient privileges to search the LDAP directory.
           For example: `cn=super-user,cn=Users,dc=my,dc=company,dc=com`.

f. Enter the password for the user.

g. Click Next to review your choices before completing the configuration.

7. Add Users to Pools, and Assign Tokens to Users

How to Assign Users to Pools or Desktops

You can either assign a user to a specific desktop, or you can assign a user (or user group) to a desktop pool. If a user is assigned to a pool and requests a desktop, Sun VDI will automatically deliver any available desktop from the pool.

For Microsoft Remote Desktop providers, users cannot be directly assigned to desktops. Instead, users or groups are assigned to Remote Desktop Services pools.

VDI Manager Steps

1. Sign into the VDI Manager.

    a. Go to http://<server name>:1800 (or http://localhost:1800 if remote administration has been disabled), and use root user credentials. For a multi-host configuration, use one of the VDI Secondary hosts.

    b. You will be re-directed to https and the browser will ask you to accept the security certificate. After confirmation, you should get the login screen.

2. Select the Users category.

    *   To assign a user or a group, select the Users and Groups subcategory in the left sidebar.

        a. Search for users and groups in the user directory.
            You can specify user name or user ID.

        b. Select a user or group name, and then the Assignment tab in the corresponding profile.

        c. Select Add in the either the user's Assigned Desktops or Assigned Pools table, or the group's Assigned Pools table.

    *   To assign a custom group, select the custom group name in the left sidebar.

        a. Select the Assignment tab in the custom group's profile.

        b. Select Add in the custom group's Assigned Pools table.

3. In the pop-up window, choose the pool or desktop to be assigned, and click OK.

You can always see which pools and desktops are associated with a user by clicking the Summary tab of the user or group's profile.

How to Assign Tokens to Users

In a Sun Ray environment, users will take advantage of smart cards (tokens) to initiate a session on a Sun Ray thin client (DTU). With VDI 3.1, you can assign a token to a user. It is also possible to assign desktops directly to specific tokens. Once tokens have been created, they can be assigned to pools and desktops.

VDI Manager Steps

1. Sign into the VDI Manager.

    a. Go to http://<server name>:1800 (or http://localhost:1800 if remote administration has been disabled), and use root user credentials. For a multi-host configuration, use one of the VDI Secondary hosts.

    b. You will be re-directed to https and the browser will ask you to accept the security certificate. After confirmation, you should get the login screen.

2. Select the Users tab and Users and Groups entry in the left sidebar.

3. Search for a known user in the user directory.

4. Click on the user's name, and then select the Token tab in their profile.

5. Assign the token.

- If you are assigning a new token, click New in the Tokens table. Then Enter the ID of the new token (e.g. Payflex.500d9b8900130200).
- If you are assigning an existing token, select Add in the Tokens table. Then search for the desired token.

> ℹ️ Token IDs can be copied directly from the SRSS Admin GUI (see the Tokens tab and display Currently Used Tokens).

CLI Steps

1. Open a terminal window and sign into the server with root credentials.
   For a multi-host configuration, use one of the VDI Secondary hosts.

2. Assign a token.
   - Assign a new token to a user.

   ```
   # /opt/SUNWvda/sbin/vda token-create -p token-id=<token ID>,user=<user ID>
   ```

     - Example – Creating a new token and assigning it to a user

     ```
     # /opt/SUNWvda/sbin/vda token-create -p
     token-id=Payflex.600a7c5600130200,user=jd123456
     Token Payflex.600a7c5600130200 created
     ```

   - Assign an existing token to a user.

   ```
   # /opt/SUNWvda/sbin/vda token-create -p token-id=<token ID>,user=<user ID>
   ```

     - Example – Assigning an existing token to a user

     ```
     # /opt/SUNWvda/sbin/vda token-setprops -p user=jd123456
     Payflex.600a7c5600130200
     Token properties updated
     ```

8. Access a Virtual Desktop

The two easiest desktop access methods for a demo setup are Sun Ray and Remote Desktop Connection because they are already configured with VDI Core configuration. The following information will explain a quick way to get them up and running. If you would like to configure the advanced options for these software, or use Sun Secure Global Desktop Software (SGD) as your desktop access method, please refer to the main documentation set on the Accessing Desktops page.

How to Access Desktops with Sun Ray (Demo)

Sun Ray in VDI 3.1 supports Sun Ray Desktop Unit (DTU) and Sun Desktop Access Clients as virtual desktop access methods. The steps below refer describe desktop access via a DTU. For detailed information about desktop access with Sun Ray, see the Accessing Desktops page.

Steps

If you have already directed your DTU to your VDI Core host, you will not need to do any extra configuration. Simply insert a user smartcard, and enter user credentials to access your desktop.

- Turn off authentication (optional).
  This information is included to simplify a demo setup, but it is not a required step. If you decide to turn off authentication, no password will be required at the VDI desktop selector screen. If you required authentication for the guest operating system during virtual machine creation, the user must still authenticate themselves in the guest operating system.
  Executed the following command on the VDI host:

```
/opt/SUNWvda/sbin/vda settings-setprops -p clientauthentication=Disabled
```

> ℹ️ If you are already working from a DTU directed at a server other than your VDI Core host, you will need to redirect the DTU. Refer to the How to Redirect a DTU Session on the SRSS 4.2 information site for further details.

How to Access Desktops with Microsoft Remote Desktop Connection (Demo)

For detailed information about desktop access with Microsoft Remote Desktop Connection, see the Accessing Desktops page.

Steps

1. Open a Windows Remote Connection client either on Windows or Mac OSX.
2. Enter details for the VDI Core host and provide a user ID as the connection parameter.
3. Establish the connection to access your desktop.