



Connection Broker

Where Virtual Desktops Meet Real Business

Quick Start

Versions 5.2, 5.3, 6.0
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Leostream products are patent pending.

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Chapter 1: Introduction

This document provides information on how to install and configure the Leostream™ Connection Broker. See the associated sections of the complete [Connection Broker Administrator's Guide](#) for more information pertaining to each step.

All screen shots are taken using Connection Broker 6.0. Use identical menu selections in Connection Broker 5.2 and 5.3.

Leostream™ Components

The Leostream Connection Broker consists of the following four components.

- **The Connection Broker:** The main virtual appliances that manages and assigns desktops and applications to users.
- **The Leostream Agent:** When installed on each desktop, provides the Connection Broker with information about the connection status of remote users to these desktops. The agent also performs functions related to the Leostream features for USB passthrough and multi-monitor support. The Leostream Agent is a critical component when scaling out deployments to a large number of end users.
- **Leostream Connect:** A client provided by Leostream that allows users to log into desktops from fat or thin clients. Using Leostream Connect, you can repurpose existing fat desktops and laptops, lowering the cost of VDI deployments. Some thin clients provide built-in Leostream Connect clients.
- **Database:** The Connection Broker stores all information in an internal database. A typical installation requires 700 Mbytes of disk space for the internal database, with larger installations requiring upwards of 1 Gbyte. Solutions that require Connection Broker clusters must use an external Microsoft® SQL Server® 2005 database.

What is the Connection Broker?

A connection broker lies at the heart of any VDI deployment. The Leostream Connection Broker runs as a virtual appliance within VMware® or Citrix® virtualization layers, making it easy to install, maintain, and update. The Connection Broker provides end users with consistent, reliable access to data and desktops from a wide range of fat and thin clients. The Connection Broker also allows you to manage:

- Desktop sessions, to optimize resource and power consumption
- USB passthrough, to ensure data security
- End user experience, to provide the optimal working environment for your end users

The Connection Broker defines:

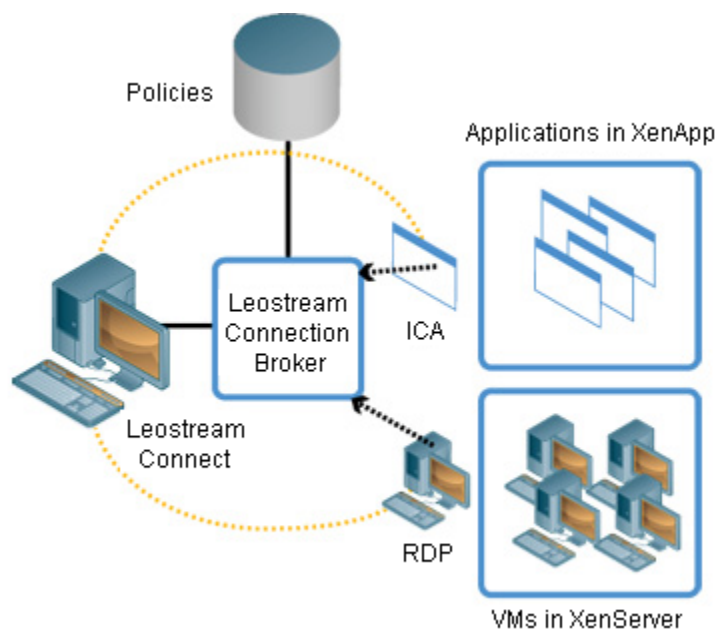
- **Authentication Servers:** A server that provides authentication services to users logging into the Connection Broker. The Connection Broker supports Microsoft Active Directory®, Novell® eDirectory™, or OpenLDAP™ directory services. You can specify any number of (trusted or not-trusted) domains, using any combination of authentication server types. In addition, the Connection Broker allows you to manually define users without configuring an authentication server.
- **Centers:** The external systems from which the Connection Broker pulls resources, such as, VMware ESX and vCenter Server (formerly VirtualCenter), Citrix™ XenServer™ or XenApp™ (formerly Presentation Server™), Active Directory, or Microsoft Terminal Services Server.
- **Resources:** Desktops and applications available for assignment to an end user.
- **Desktops:** Virtual machines, physical machines, blades, and Microsoft Terminal Services that you want to assign to end users. Desktops can be running either Microsoft Windows® or Linux® operating systems.

- **Applications:** Applications hosted in a Citrix XenApp farm, that you want to assign to end users.
- **Pools:** Collections of desktops or applications, gathered from a single or multiple centers.
- **Policies:** Rules that assign desktops and applications to users, and define what occurs when the assignment is done. Policies also: configure the remote viewer to use for fat desktops, thin clients, and Web-based access; provide power control for virtual desktops; manage USB passthrough permissions. Policies link to one or more pools.
- **Roles:** Permissions that control the level of access an end user has to different features in the Connection Broker Web interface. Roles allow you to define, for example, Help Desk users who need to maintain the desktops in your VDI, but who are not allowed to modify the Connection Broker setup.

Administrator-defined access control rules map end users to roles and policies. These roles and policies determine:

- Which desktops and applications the Connection Broker offers the user
- The level of access the user has to the Connection Broker Web interface

The Connection Broker maps users to these rules via their authentication server attributes and assigns desktops and applications from pools, as depicted in the following figure.



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If you already installed your Connection Broker virtual appliance, skip to [2: Starting the Virtual Machine](#). Otherwise, download the software from the Leostream Web site

[://www.leostream.com/resources/downloads.php](http://www.leostream.com/resources/downloads.php))

You must obtain a Connection Broker license in order to use the Connection Broker. If you do not have a license, register for a trial license, as follows:

1. Click the **Free Trial...** link in the top right of any page in the Leostream Web site.
2. Enter your contact information into the **Free Trial Request** form.
3. Click **Submit**.

After you submit the form, Leostream sends you an email with your trial license and the link to the Connection Broker software.

Step 1: Downloading and Installing the Connection Broker

The Connection Broker runs as a virtual appliance within the following virtualization platforms:

- VMware Server version 2.0.x
- VMware ESX and ESXi 3.5
- Citrix XenServer 5.0

To download the Connection Broker:

1. Click on the link in the Leostream Connection Broker Trial Information email you received from Leostream, or go to:

[://www.leostream.com/cb](http://www.leostream.com/cb)

2. In the page that opens, click the Connection Broker link appropriate for your virtualization platform.
3. Unpack the Connection Broker archive.
4. Install the Connection Broker virtual appliance. Use the method suitable for your virtualization platform, as follows:
 - For VMware vCenter Server, use the **Import** menu to install the virtual machine
 - For VMware Server, double-click on the `.vmtx` file
 - For Citrix XenServer, use the **Import VM** option in XenCenter

See the [Leostream Installation Guide](#) for complete details on installing the Connection Broker, Leostream Agent, and Leostream Connect for your particular platform.

The **Resources** section of the Leostream Web site contains additional information that you may find useful in getting started with your deployment.

- Go to the **Downloads & Documentation** page to download Leostream Connect, the Leostream Agent, or any Leostream documentation.
- Go to the **Training** page to download training presentations and videos showing how to get started with your Connection Broker.
- Go to the **Knowledge Center** for a list of frequently asked questions.

Step 2: Starting the Virtual Machine

After you install the Connection Broker, start the virtual machine. Once the virtual machine is running, the Connection Broker IP address appears in the console, for example:

```

Welcome to Leostream version 6.0.1.0

To configure Leostream remotely, please open a
web browser and point it to the following URL:
http://10.110.72.3/

For support please go to:
http://www.leostream.com/support/

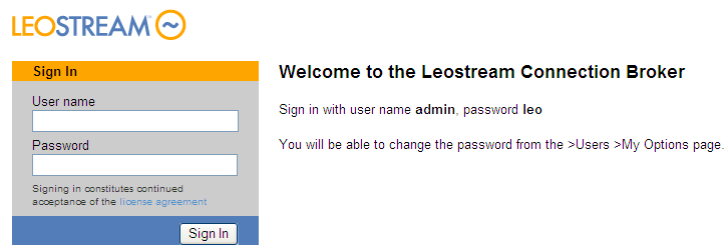
To login please type:
Ctrl+C
  
```

If the console cannot obtain an IP address from DHCP, you can manually configure the network. See “Manually Configuring the Connection Broker Address” section in the [Leostream Installation Guide](#) for more information. Otherwise, proceed to the next step.

Step 3: Opening the Web Interface

Once you have the Connection Broker IP address, open the Administrator Web interface, as follows.

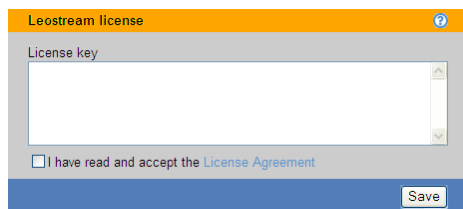
1. Open a Web browser.
2. Enter the Connection Broker IP address in your browser's URL edit field. The Connection Broker **Sign In** page opens, as shown in the following figure:



3. Sign into the Connection Broker Web interface using the following default credentials:

- **User name:** admin
- **Password:** leo

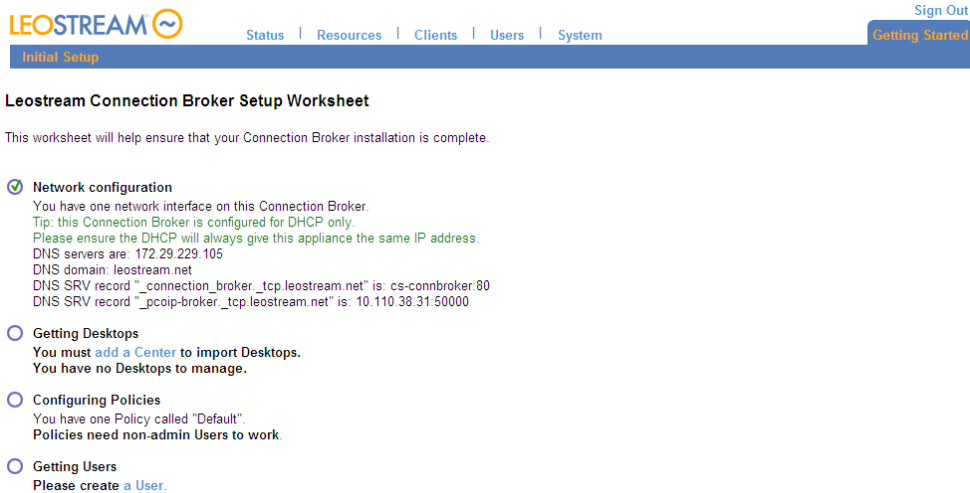
4. Click **Sign In**. The **Leostream license** page, shown in the following figure, opens.



5. In the **License key** edit field, enter the license key you received via email. Ensure that there are no spaces in or after the sequence and that you include the lines containing the text `-----BEGIN LICENSE-----` and `-----END LICENSE-----` line.

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6. Click on the **License Agreement** link to view the End User License Agreement for the Connection Broker.
7. Read the agreement and, if you accept it, select the **I have read and accept the license agreement** check box.
8. Click **Save**. The **Getting Started** page, shown in the following figure, opens. This page lists the general steps required to configure your Connection Broker.

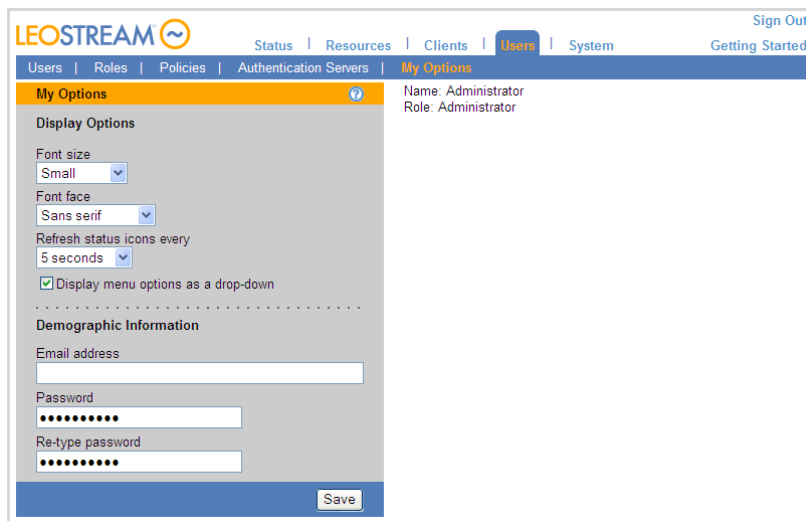


The screenshot shows the Leostream web interface. At the top, there is a navigation bar with the Leostream logo and links for Status, Resources, Clients, Users, and System. A 'Sign Out' link is in the top right. Below the navigation bar, there is a 'Getting Started' button. The main content area is titled 'Leostream Connection Broker Setup Worksheet' and contains a list of setup steps:

- Network configuration**
You have one network interface on this Connection Broker.
Tip: this Connection Broker is configured for DHCP only.
Please ensure the DHCP will always give this appliance the same IP address.
DNS servers are: 172.29.229.105
DNS domain: leostream.net
DNS SRV record "_connection_broker_tcp.leostream.net" is: cs-connbroker:80
DNS SRV record "_pcoip-broker_tcp.leostream.net" is: 10.110.38.31:50000
- Getting Desktops**
You must add a [Center](#) to import Desktops.
You have no Desktops to manage.
- Configuring Policies**
You have one Policy called "Default".
Policies need non-admin Users to work.
- Getting Users**
Please create a [User](#).

You can change your default Connection Broker password, as follows.

1. Click the **Users** link in the main navigation menu.
2. Click the **My options** link in the **Users** page navigation menu.
3. Enter your new password in the **Password** and **Re-type password** edit fields, shown in the following figure.




The screenshot shows the 'My Options' page in the Leostream web interface. The user is identified as 'Administrator' with the role 'Administrator'. The page is divided into two main sections:

- Display Options:** Includes dropdown menus for 'Font size' (set to 'Small') and 'Font face' (set to 'Sans serif'), a 'Refresh status icons every' dropdown (set to '5 seconds'), and a checked checkbox for 'Display menu options as a drop-down'.
- Demographic Information:** Includes an 'Email address' field, a 'Password' field, and a 'Re-type password' field. Both password fields contain masked characters (dots).

A 'Save' button is located at the bottom right of the form.

4. Click **Save**.

 The Connection Broker cannot remind you of your password.

Step 4: Configuring the Network

By default, the Connection Broker uses DHCP to determine its IP address. Leostream recommends using a static IP

address for the appliance, and configuring DNS with your primary search domain. Otherwise, if your DHCP has a short lease time, your Connection Broker IP address may time-out and your end users cannot log into their desktops.

Setup a static IP address for the Connection Broker and configure the DNS, as follows.

1. Click the **System** link in the main navigation menu.
2. Click the **Network Configuration** link in the **System** page navigation menu
3. Enter the Connection Broker IP address, in the **Interface Configuration** area:
 - a. Select **Static IP =>** from the **Configuration** drop-down menu, as shown in the following figure.
 - b. Enter the **IP address**, **Netmask**, and **Gateway** in the appropriate edit fields.

The screenshot shows the 'Edit Network Configuration' window. Under the 'Interface Configuration' section, the 'Configuration' dropdown menu is expanded, showing 'Use DHCP' and 'Static IP =>'. A red arrow points to 'Static IP =>'. Below this, there are input fields for 'IP address', 'Netmask', and 'Gateway'. Under the 'DNS' section, there is a 'Domain' field and three fields for 'Primary DNS', 'Secondary DNS', and 'Tertiary DNS'. A 'Save' button is located at the bottom right of the form.

4. To configure the DNS, in the **DNS** area:
 - a. Enter the domain name in the **Domain** edit field
 - b. Enter the primary, secondary, and tertiary DNS addresses, as required, in the appropriate edit fields
5. Click **Save**.

Step 5: Enabling General Connection Broker Features

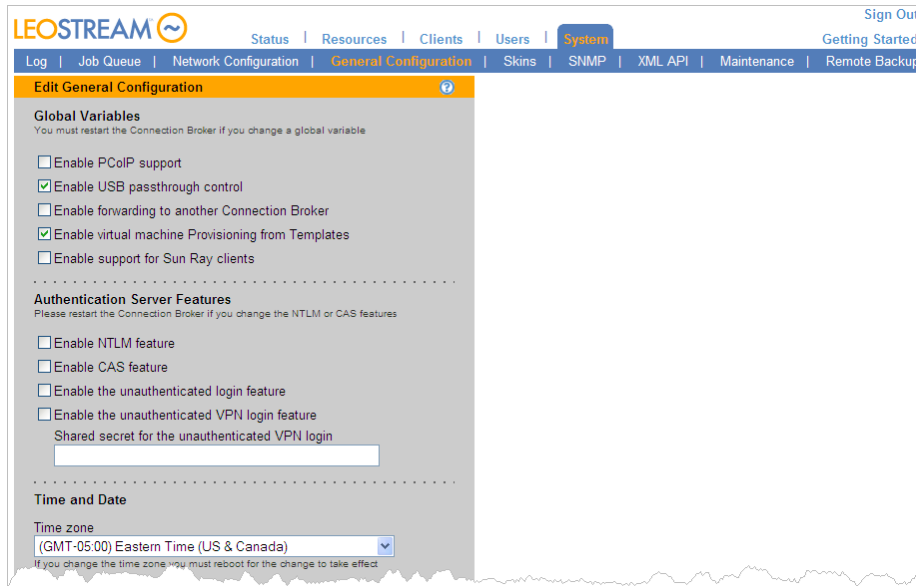
You must enable the appropriate global and authentication server features before proceeding with your Connection Broker setup.



In many cases, if you do not enable the feature on the **> System > General Configuration** page, your Connection Broker Web interface omits the controls you need to configure these features.

Enable general Connection Broker features, as follows:

1. Click the **System** link in the main navigation menu.
2. Click the **General Configuration** link in the **System** page navigation menu. The **Edit Generation Configuration** form opens, as shown in part in the following figure.



3. Select the features required by your deployment, for example **Enable USB passthrough control**.
4. Scroll down to the bottom of the form and click **Save**.

Step 6: Importing Centers

The following steps show how to create a center to register machines in VMware vCenter Server.

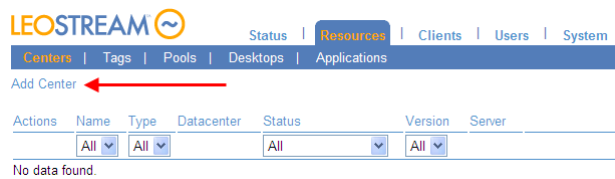


To add machines from a Microsoft Active Directory® service, you must first add an Active Directory authentication server. See [9: Authenticating Users](#) for information on how to add an authentication server. Add the authentication server, without assigning user roles and policies, before proceeding with the rest of step 6. See the [Connection Broker Administrator's Guide](#) for complete instructions on adding an Active Directory center.

Adding a Center

To add a center:

1. Click the **Resources** link in the main navigation menu.
2. Click the **Centers** link in the **Resources** page navigation menu.
3. Click the **Add Center** link, as shown in the following figure:



4. In the **Create Center** form, shown in the following figure, select the type of center to create from the **Type** drop-down menu.

Create Center

Type: VMware vCenter Server

Name: vCenter

Server IP address: 172.29.229.140

Username: administrator

Password: [REDACTED]

Datacenter: [REDACTED]

Refresh interval: 1 minute

Set newly-discovered desktops to "Unavailable"

Continuously apply any Auto-Tags

Notes: [REDACTED]

Save

5. Configure the center by entering the following information into the appropriate fields. Not all fields appear for each type of center.
 - a. **Name:** A name for the center
 - b. **Server IP address:** The server IP address
 - c. **Username and Password:** The user name and password of a user with administrative privileges
6. Click **Save**.

After you click **Save**, the Connection Broker adds the center to your **Centers** list and imports the desktops or applications. To see the imported virtual machines, go to the **> Resources > Desktops** page. To see the imported applications, go to the **> Resources > Applications** page. The following figure shows an example list of desktops. See the “Managing Desktops” section of the [Connection Broker Administrator’s Guide](#) for information on viewing, editing, and controlling desktops from within the Connection Broker.

LEOSTREAM

Status | **Resources** | Clients | Users | System

Centers | Tags | Pools | **Desktops** | Applications

Import Desktop Import Range of Desktops

Filter this list: No filter

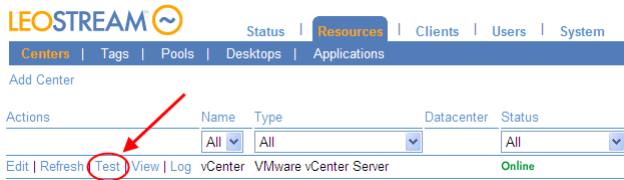
<input checked="" type="checkbox"/>	Actions	Name	User	Availability	Power Status
<input type="checkbox"/>	Control Edit View Log HD status	Joe's Development CB	All	Available	Running
<input type="checkbox"/>	Control Edit View Log HD status	Joe's Centos	All	Available	Running
<input type="checkbox"/>	Control Edit View Log HD status	joshua	All	Available	Running

The Connection Broker places all imported desktops into the default All Desktops pool. See [7: Defining Pools of Machines](#) for more information on setting up additional pools.

Testing the Center

If the **Status** column for the center indicates the status is **Offline**, the Connection Broker cannot import the virtual machines from this center. To determine why the center is offline, test the center by selecting the **Test** action associated with the center, as shown in the following figure.

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The resulting connection test log provides information to help you debug the center. Consider the following:

- Is the NIC down?
- Is your firewall preventing the connection?
- Has the vCenter Server stopped running?
- Are the username and password you entered when creating the center correct, and does that user have the necessary privileges?

Once the virtual machines are imported into the Connection Broker, you can install the Leostream Agent on each machine running a Microsoft Windows® operating system. The Connection Broker requires this application to differentiate between a user disconnecting and logging out from a Windows desktop. If the application is not installed, when users disconnect from their desktop, the Connection Broker assumes that they have logged out.

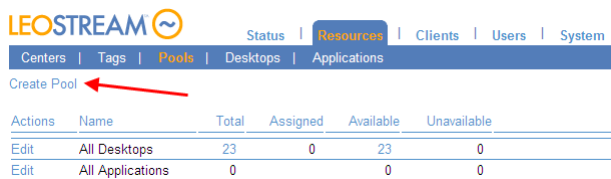


By default, the Connection Broker does not offer a desktop to a user if the desktop does not have an installed Leostream Agent. If you want to assign desktops that do not have a Leostream Agent, select the **Offer running Desktops without a Leostream Windows Agent** option in the user's policy. See [8: Defining User Policies](#) for complete instructions on creating policies.

Step 7: Defining Pools of Machines


A *pool* is a group of desktops used to limit which resources are presented to different users. By default all desktops are in the All Desktops pool. You can optionally create additional pools, as follows:

1. Click the **Resources** link in the main navigation menu.
2. Click the **Pools** link in the **Resources** page navigation menu.
3. Click the **Create Pool** link, as shown in the following figure.



4. Enter the basic pool characteristics, as follows:
 - a. **Name:** a unique identifier for this pool.
 - b. **Subset of Pool:** The parent pool from which to draw desktops for this pool.
 - c. **Define Pool Using:** The information to use when selecting desktops for this pool. You can define pools using any of the following characteristics.
 - i. Desktop Attributes
 - ii. Tags
 - iii. Centers
 - iv. vCenter Server (VirtualCenter) Resource Pools
 - v. LDAP attributes (If you defined an Active Directory center in your Connection Broker)
 - vi. Manual selection
5. Based on your selection in part c of step 4, enter the characteristics that define the pool.

For example, the following figure shows how to configure the **Create Pool** page when selecting Desktop Attributes from the **Define Pool Using** drop-down menu. This example creates a pool named `Operations`, defined as a subset of the `All Desktops` pool and including desktops whose names begins with the text `xp`.

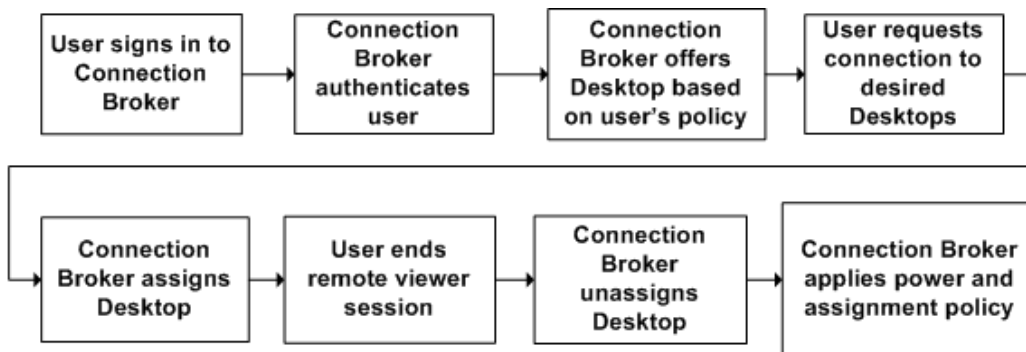
 You must define tags and associate these tags with desktops before you can use tags to define pools. See the “Working with Tags” section of the [Connection Broker Administrator’s Guide](#) for information on creating tags.

6. Click **Save**.

After you finish configuring your pools, the **> Resources > Pools** page displays a hierarchy of all available pools. For a complete description of pools, see the “Creating and Nesting Pools” section in the [Connection Broker Administrator’s Guide](#).

Step 8: Defining User Policies

The following figure illustrates the different steps the Connection Broker follows when connecting users to desktops. With the exception of authenticating users, policy logic determines how the Connection Broker handles each step.

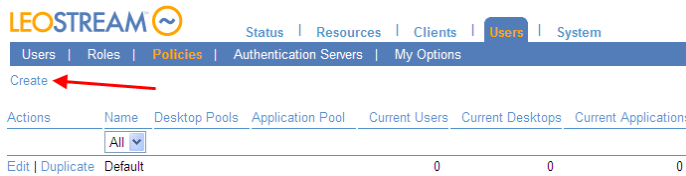


The Connection Broker provides a Default policy that applies if no other policy exists or is applicable. The Default policy assigns one desktop from the **All Desktops** Pool. You can create additional policies, as follows:

1. Click the **Users** link in the main navigation menu.

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2. Click the **Policies** link in the **Users** page navigation menu.
3. Click the **Create** link, as shown in the following figure.



4. In the **Create Policy** form, shown in the following figure, enter a name for the policy in the **Policy name** edit field.

The screenshot shows the 'Create Policy' form. It has a title bar with 'Create Policy' and a help icon. The form contains several fields: 'Policy name' (a text input field), 'Desktop Assignment from Pools' (a section header), 'Pool' (a dropdown menu with 'Select...' as the current selection), 'When User Logs into Connection Broker' (a section header), and 'Number of desktops to offer:' (a dropdown menu with '1' as the current selection).

5. Select a pool to gather desktops from in the **Pool** drop-down menu.
One policy can assign desktops from multiple pools. Use the **[Add Pools]** menu at the bottom of the **Desktop Assignment from Pools** section to add additional pools to the **Create Policy** form.
6. For each pool, from the **Number of desktops to offer** drop-down menu, select the number of desktops to offer to a user of this policy.
7. For each pool, use the controls shown in the following figure to configure any assignment and power control options.

See the “Controlling Desktops in a Pool” section of the [Connection Broker Administrator’s Guide](#) for information on using the controls shown in the following figure.

The screenshot shows the 'When User Logs into Connection Broker' configuration section. It contains several settings: 'Number of desktops to offer:' (dropdown with '1'), 'Select desktops to offer based on:' (dropdown with 'User ("follow-me" mode)'), 'Display to user as:' (dropdown with 'Desktop Name'), 'Allow users to reset offered desktops:' (dropdown with 'Not allowed'), and three checkboxes: 'Mark desktop as Unreachable if remote viewer service is unavailable', 'Offer running desktops without a Leostream Windows Agent', and 'Offer stopped and suspended desktops'. Below this is the 'When User is Assigned to Desktop' section with four checkboxes: 'Revert the desktop to its most-recent snapshot', 'Log out any rogue users', 'Enable single-sign-on to desktop console', and 'Prevent user from manually releasing desktop'. The 'When User Disconnects from Desktop' section has three rows of settings: 'Power control: wait 0 minutes then Do not change power state', 'Assignment: wait 0 minutes then Keep user assigned', and 'Forced logout: wait 0 minutes then Do not log user out'. The 'When User Logs Out of Desktop' section has two rows: 'Power control: wait 0 minutes then Do not change power state' and 'Assignment: wait 0 minutes then Release to pool'. The 'Timed Release After Initial Assignment' section has 'Release to pool: Never'. The 'When Desktop is Released' section has 'Log user out of the desktop' checkbox and 'Power control: wait 0 minutes then Do not change power state'.

8. Use the **Filters** section to specify additional limits to the desktops offered by this policy. The filters apply to all pools in the policy.

For example, the following figure shows how to limit the offered desktops to only those whose name matches the user's login name. See the "Policy Filters" section of the [Connection Broker Administrator's Guide](#) for more information on filtering pools.

9. Use one of the following sections to configure the remote viewer protocol you plan to use:
 - a. **Leostream Connect Configuration:** If your end users log in from a fat or thin client running Leostream Connect for Windows or Linux. Also use this section to configure remote viewer protocols for thin clients that provide a built-in Leostream client, such as certain HP thin clients.
 - b. **Wyse Configuration:** If your end users log in from a Wyse WTOS thin client that provides its own Leostream client. You can use this section to configure RDP and ICA connections.
 - c. **HP SAM Configuration:** If your end users log in from an HP thin client that is preconfigured with an HP SAM (Session Allocation Manager) client. You can use the SAM client to log into the Leostream Connection Broker, in lieu of installing an additional Leostream Client.
 - d. **Web Browser Configuration:** If your end users will log in using the Leostream Web client, regardless of if they are or are not coming through an SSL VPN.

See the "Managing Remote Clients" section of the [Connection Broker Administrator's Guide](#) for detailed instructions on setting up remote viewer preferences.

10. If you selected the **Enable USB passthrough control** feature on the > **System > General Configuration** page, select the **Allow Connection Broker to manage USB passthrough** option to specify what type of USB devices a user of this policy may pass through from their client to their remote desktop. With this option selected, the **Mode** drop-down menu allows you to specify:
 - a. If the Connection Broker should explicitly *block* all USB device passthrough
 - b. If the user can connect *all* USB devices to their remote desktop
 - c. If the user can connect only specific USB devices to their remote desktop

The following figure shows these three options.

11. Click **Save**.

See the "Creating User Policies" section in the [Connection Broker Administrator's Guide](#) for a complete description on Connection Broker policies

Step 9: Authenticating Users

The Connection Broker can authenticate users in standard LDAP systems, such as Active Directory, OpenLDAP™, or Novell® eDirectory™. For detailed information, see the "Authentication Users" section of the [Connection Broker](#)

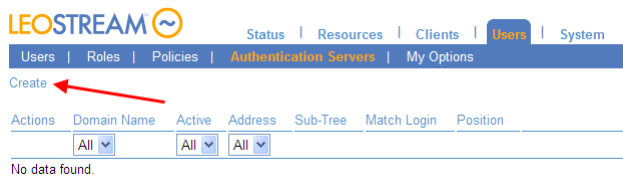
Administrator's Guide.

The Connection Broker currently supports the following authentication systems:

- Username, only, authentication
- Username and password authentication
- Smart card authentication
- Biometric authentication on the remote desktop

To add an authentication server:

1. Click the **Users** link in the main navigation menu.
2. Click the **Authentication Servers** link in the **Users** page navigation menu.
3. Click the **Create** link, as shown in the following figure.



4. In the **Create Authentication Server** form that opens, shown in the following figure, configure the **Connection Settings** section.

A screenshot of the 'Create Authentication Server' form. The form is titled 'Create Authentication Server' and has a 'Connection Settings' section. In this section, the 'Type' dropdown menu is set to 'Active Directory'. The 'Address' field is empty, and the 'Port' field is set to '389'. Below these fields, there are two checkboxes: 'Encrypt connection to the authentication server using SSL (LDAPS)' and 'Query the DNS SRV record for every request', both of which are unchecked. The form also has a 'Search Settings' section with a 'Login' field containing 'Administrator@localdomain' and a 'Password' field. At the bottom of the form, there is an 'Other' section with a checked checkbox 'Query for group information' and a 'Next >' button.

- a. Select an option from the **Type** drop-down menu. If you are using a custom OpenLDAP-based authentication server, leave the default selection for this menu.
- b. Enter the DNS name or IP address in the **Address** field, along with the port number in the **Port** edit field.
- c. Click on the **Encrypt Connection to Authentication Server using SSL (LDAPS)** checkbox if you need a secure connection to the Authentication Server. The port number automatically changes to 636. Re-edit the **Port** edit field if you are not using port 636 for secure connections.
- d. Click on the **Query the DNS SRV record for every request** checkbox if you have setup SRV records. If this option is selected, the Connection Broker ignores the settings in the **Address** and **Port** edit fields and uses the following SRV records to locate the authentication server:
 - `ldap:` If the **Encrypt Connection to Authentication Server using SSL (LDAPS)** checkbox is *not* selected
 - `ldaps:` If the **Encrypt Connection to Authentication Server using SSL (LDAPS)** checkbox is selected

5. In the **Login** and **Password** edit fields, enter the username and password, respectively, for an administrator account that has read rights to the user records.
6. Uncheck the **Query for group information** option if you want to manually specify authentication server groups when assigning policies to users. Otherwise, leave this checked to load group information from the authentication server. If you are using a custom OpenLDAP authentication server, you must uncheck this option.
7. Click **Next >**.
8. In the page that appears:
 - a. Enter a name for the authentication server in the **Domain Name** edit field.
 - b. Select the **Include this name in list of domains on user login screen** option, if you plan to allow your users to select their domain when signing into the Connection Broker.



To allow users to choose their domain, enable the domain name features in the **Login Page** and **Leostream Connect Configuration** sections of the **> System > General Configuration** page.

9. If applicable, see “User Authentication via Web Browsers” in the [Connection Broker Administrator’s Guide](#) for information on the **NTLM Authentication** and **CAS Authentication** sections of the **Create Authentication Server** form.
10. In the **Sub-tree: Starting point for user search** edit field, enter the starting point for searching for users in the authentication server tree.

Enter the fully qualified path in LDAP format to the lowest point on the authentication server tree from which you can get to the objects that you are looking for. See the “Selecting the Starting Point for User Search” section in the [Connection Broker Administrator’s Guide](#) for information.
11. From the **Match Login name against this field** drop-down menu, select the record to match usernames against. See the “Matching Login Name” section in the [Connection Broker Administrator’s Guide](#) for information.
12. In the **Assigning User Role and Policy**, assign groups to the policies you defined in the previous section, as follows:



If you did not select the **Query for group information** option when you created this authentication server, your **Assigning User Role and Policy** section is different from the following example. In this case, see the “Assigning Rules Based on any Attribute” section of the [Connection Broker Administrator’s Guide](#) for more information.

- a. Select an authentication server group from the **Group** drop-down menu.
- b. If using client locations, select a location from the **Client Location** drop down menu. See the “Managing Clients and Locations” section in the [Connection Broker Administrator’s Guide](#) for information on defining client locations.
- c. Select the role to apply to this group from the **User Role** drop-down menu. The two default roles, **User** and **Administrator**, are defined on the **> Users > Roles** page. To define additional roles, see the “Managing User Roles and Permissions” section of the [Connection Broker Administrator’s Guide](#).
- d. Select the policy to apply to this group from the **User Policy** drop-down menu.

For example, the following figure assigns the policy `Operations` to the `Operations` group.

Assigning User Role and Policy
 In this section you can set up rules to assign Users to Roles and Policies based on their group membership. Optionally use the Order column to re-order the rows.

Order	Group	Client Location	User Role	User Policy
1	Operations	+ All	- User	& Operations
2		+ All	- User	& Default
3		+ All	- User	& Default

[Add rows]

Default Role
 User

Users will be assigned to this role if they do not match an assignment rule.

Default Policy
 Default

Users will be assigned to this policy if they don't match an assignment rule.

- Configure any other authentication server settings. See the “Setting Authentication Server Options” section of the [Connection Broker Administrator’s Guide](#) for information.
- Click **Save**.

After you create the authentication server, test that it works by selecting the **Test** action associated with your authentication server on the **> Users > Authentication Servers > Test** page. In the form that opens, enter the name of a user in the authentication server and click **Authenticate**. The Connection Broker queries the authentication server and presents the user’s information.

Loading Users from Your Authentication Server

The Connection Broker automatically loads a user the first time that user signs into the broker. You can manually load users if you want to hard-assign the user to a desktop before they have ever logged into the Connection Broker.



Loading users from authentication domains with a large number of users can take a considerable amount of time.

To manually load users from an authentication server:

- Select the **Load users** action associated with the authentication server, as shown in the following figure:

LEOSTREAM Users | Roles | Policies | Authentication Servers | My Options

Create

Actions	Domain Name	Active	Address	Sub-Tree	Match Login	Position
Edit Test Load users	leostream	Yes	172.29.229.105	DC=leostream,DC=net	sAMAccountName	1

- If you selected the **Query for group information** option when you created the authentication server, the following form appears. Select the group of users to load from the **Select a group to load the users from** drop-down menu. To load all users from the authentication server, select [All groups], as shown in the following figure.

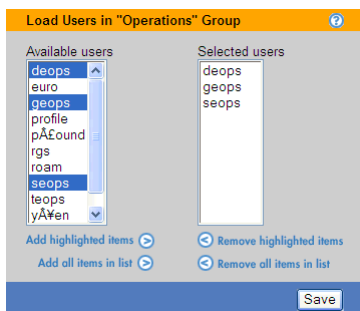
Load Users from Leostream

Select a group to load the users from

[All groups]

Next >

- Click **Next >**.
- In the form that appears, select the particular users to load and click **Add highlighted items**. Alternatively, click **Add all items in list** to add all users. For example, the following figure loads three users from the Operations group.



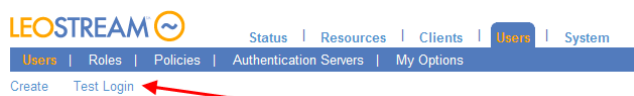
5. Click **Save**.
6. Click the **Load more users** link if you need to enter additional users. Otherwise, click the **Users** link to see the list of loaded users, as shown in the following figure

Actions	Name	Login name	Active	Signed in	Role	Policy	Client/IP Address
Edit Test login	seops	seops	Yes		User	Default	Unknown
Edit Test login	geops	geops	Yes		User	Default	Unknown
Edit Test login	deops	deops	Yes		User	Default	Unknown
Edit Sign out Test login	Administrator	admin	Yes	04/22/2009 - 20:03:30	Administrator		Unknown

Step 10: Testing You Connection Broker Configuration

To test your Connection Broker, ensure that users are correctly assigned to desktops, as follows:

1. Click the **Users** link in the main navigation menu.
2. Click the **Users** link in the **Users** page navigation menu.
3. Click the **Test Login** link, as shown in the following figure:



4. In the **Login Test** form that opens, enter the name of the user to test in the **User Name** edit field.
5. If you are allowing the user to specify their domain, select a domain from the **Domain** drop-down menu.
6. If you configured locations, use the **Location** drop-down menu to select the location you want to test this user logging in from. Otherwise, leave this at the default selection
7. If you have any clients loaded into your Connection Broker, use the **Client** menu to select the client you want to test this user logging in from.
8. Click **Test**. The Connection Broker searches the authentication server for your user, and then presents a report indicating which role and policy it assigned the user, and what desktops and applications it would offer.



Please complete a login test prior to contacting Leostream technical support.

After you test a login from the Connection Broker, you can use a Leostream Connect client or a Web browser to log in as this user, and ensure that the Connection Broker assigns the same desktop and successfully logs in the user.

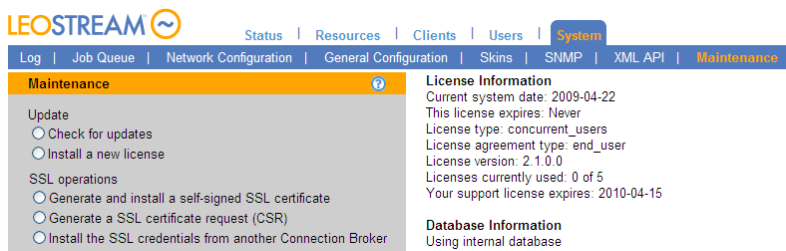
Chapter 3: Managing Your License

You can view and manage license information within the Connection Broker Web interface. To view license information:

1. Click on the **System** link in the top navigation menu.
2. Click on the **Maintenance** link in the **System** page navigation menu.

Viewing License Information

The **License Information** text on the right hand side of the **Maintenance** page, shown in the following figure, displays the license information.



The screenshot shows the Leostream web interface. The top navigation bar includes 'Status', 'Resources', 'Clients', 'Users', and 'System'. Below this, a secondary navigation bar has 'Log', 'Job Queue', 'Network Configuration', 'General Configuration', 'Skins', 'SNMP', 'XML API', and 'Maintenance'. The 'Maintenance' page is active, showing a sidebar with options like 'Update' (Check for updates, Install a new license) and 'SSL operations' (Generate and install a self-signed SSL certificate, Generate a SSL certificate request (CSR), Install the SSL credentials from another Connection Broker). The main content area displays 'License Information' with details: Current system date: 2009-04-22, This license expires: Never, License type: concurrent_users, License agreement type: end_user, License version: 2.1.0.0, Licenses currently used: 0 of 5, Your support license expires: 2010-04-15. Below this is 'Database Information' stating 'Using internal database'.

The most important information this page tells you is:

- The number of available licenses currently used, for example: Licenses currently used: 2 of 5. This number indicates the number of users that can concurrently be assigned to resources using the Connection Broker.
- The support expiration date, for example: Your support license expires 2010-04-15. This date indicates the last date that you are eligible for Leostream support and Connection Broker updates.

Contact [@leostream.com](mailto:leostream.com) to add users to your licenses or renew an expired support license.

Checking for Updates

You can find your Connection Broker version number at the bottom-left corner of every page of the Connection Broker Web interface.

You can also remotely determine the version by querying:

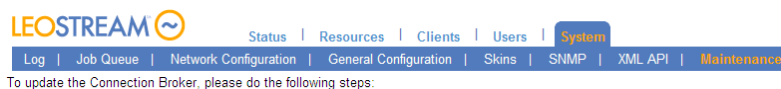
`http://xxx.xx.xxx.xx/version`

Where `xxx.xx.xxx.xx` is your Connection Broker IP address.



Leostream recommends taking a snapshot of your Connection Broker virtual machine prior to installing an update.

To download and install updates select the **Check for updates** option on the **> System > Maintenance** page and click **Next**. The following updates page opens:



The screenshot shows the Leostream web interface with the 'System' > 'Maintenance' page. The main content area displays instructions for updating the Connection Broker. It says 'To update the Connection Broker, please do the following steps:' followed by a numbered list: 1. Click here to check if the Connection Broker needs to be updated. 2. If step 1 allowed you to download an update file you should click here to continue the update.

1. Click the **Click here** link in the first step to check for updates. A new Web browser opens, indicating if there are updates for your Connection Broker

2. If an update is available, download the updated file. Once the file is downloaded, close the browser and return to the Connection Broker Web interface.
3. Click the **Click here** link in the second step of the update process. The following **Upgrade the Connection Broker** form opens.

4. Enter the full path to the update file you downloaded, or browse for the file.
5. Click **Upgrade the Connection Broker** to install the update.

Once the upgrade is complete, you must sign back into your Connection Broker.

Installing a New License

To update your support license, or add users to your license:

1. Go to the **> System > Maintenance** page.
2. In the **Update** section, select the **Install a new license** option.
3. Click **Next**.
4. In the **Leostream license** page, shown in the following figure, enter your new license key.

5. Click on the **License Agreement** link to open the End User License Agreement for the Leostream Connection Broker
6. Read the agreement and, if you accept it, select the **I have read and accept the License Agreement** check box.
7. Click **Save**.