



leostream®

Remote Desktop Access Platform

# Getting Started with Leostream Concepts

A primer of the platform's components, concepts, and workflows.

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# What the Leostream Platform does

The Leostream Platform manages remote access to hosted desktops.

Users get consistent access from many kinds of client device, and desktops can run on premises or in a public cloud.

In the cloud, the platform can also grow and shrink to match demand.

## Leostream Platform components

The Connection Broker is the backbone of the platform. The Leostream Gateway, Leostream Agent and Leostream Connect client support it.

### Connection Broker

The Connection Broker is the main application. It manages the whole hosted desktop environment. Here you inventory and provision desktops, assign and connect users, and define the end-user experience. It also includes a web portal for users.

### Leostream Gateway

The Leostream Gateway is optional. It gives users clientless, HTML5 access to their desktops from a web browser. It also acts as a gateway for PCoIP, RDP, HP Z Remote Graphics Software, Amazon DCV and Mechdyne TGX, so users can reach desktops in a network that is isolated from their client.

### Leostream Agent

The Leostream Agent is installed on each remote desktop. It tells the Connection Broker when a user logs out, disconnects, or is idle. It also manages USB device passthrough and network printer redirection, and it runs on Windows, Linux and macOS.

### Leostream Connect

Leostream Connect is the software client. Users run it to log in and open their hosted resources from a full or thin client. Existing desktops and laptops can be repurposed as client devices, which lowers the cost of a deployment. Users can also sign in through the Leostream Web client, a PCoIP client, or a compatible thin client.

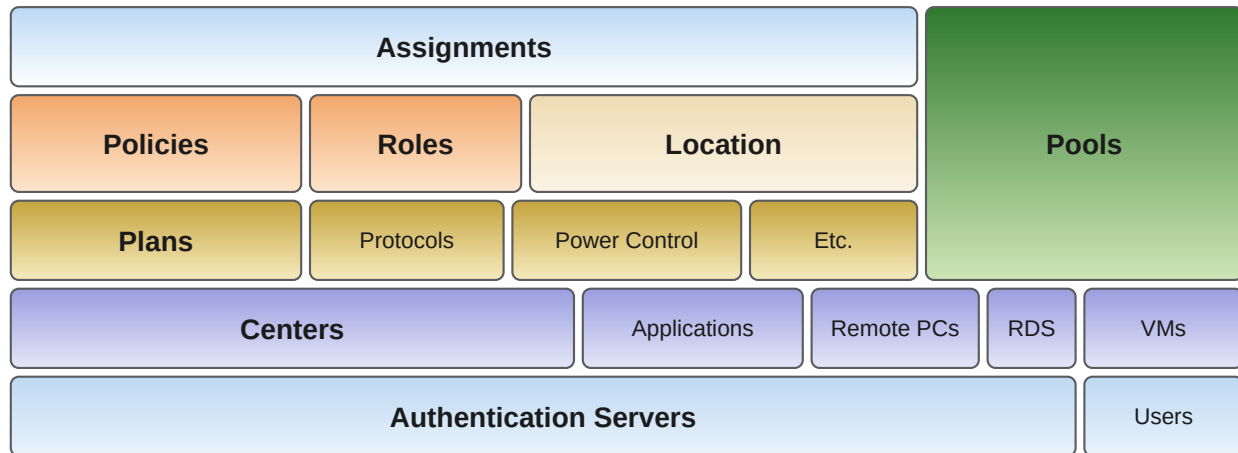
### Database

In a proof-of-concept environment, the Connection Broker keeps everything in an internal PostgreSQL database. A large, redundant production environment needs an external PostgreSQL or Microsoft SQL Server database.

# Leostream Platform concepts

Before configuring anything, learn the core concepts.

All configuration is done in the Administrator Web interface. Begin with authentication servers, and fill in the other concepts as you work through your configuration.

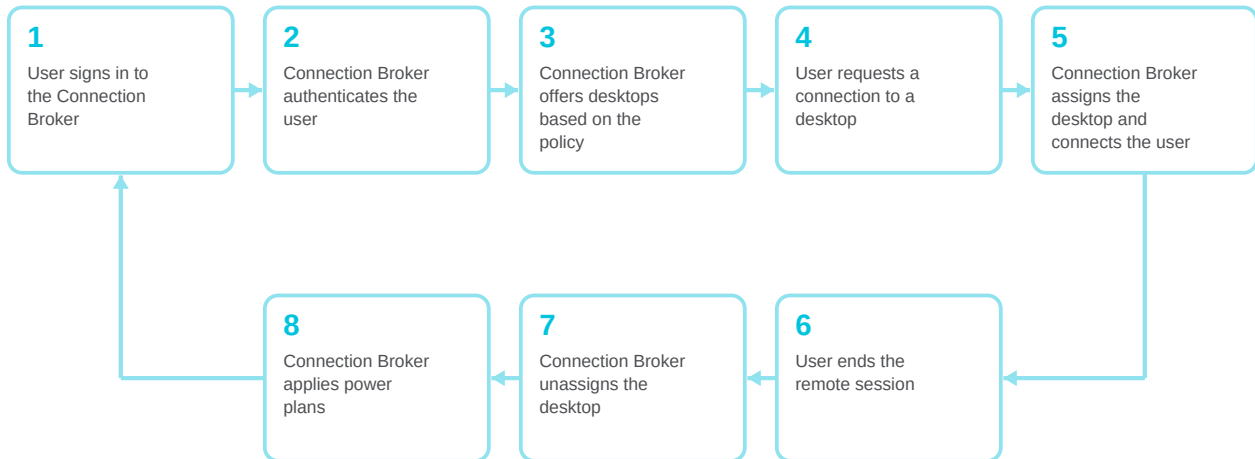


| Concept                       | Definition                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Authentication servers</b> | An authentication server checks the credentials of users logging in to the Connection Broker. The broker supports Microsoft Active Directory and OpenLDAP, and any identity provider that speaks RADIUS, SAML, or OpenID Connect. You can define any number of domains, and you can also create local users without an authentication server. |
| <b>Centers</b>                | A center is an external system from which the Connection Broker inventories hosted resources, including desktops and printers. The platform supports a wide range of on-premises systems and cloud hosting providers.                                                                                                                         |
| <b>Pools</b>                  | A pool is a collection of desktops. A desktop's pool membership controls how the Connection Broker manages the user's connection and remote session. Pools also hold the rules that decide when the Connection Broker creates new desktops in the cloud.                                                                                      |
| <b>Plans</b>                  | A plan is a common set of rules for how the Connection Broker manages a user's connection to their assigned desktop. There are protocol plans, power control plans, and release plans.                                                                                                                                                        |
| <b>Policies</b>               | A policy assigns desktops from one or more pools, and attaches plans to the desktops in those pools. Policies also control USB device passthrough permissions. The Connection Broker assigns a single policy to each user.                                                                                                                    |

| Concept            | Definition                                                                                                                                                                                                            |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Roles</b>       | A role is a set of permissions. It controls how much access a user has to the Connection Broker Administrator Web interface.                                                                                          |
| <b>Locations</b>   | A location is a collection of client devices used to log into the Leostream Platform. The Connection Broker may change the user's policy, and therefore their offered desktops, based on the user's current location. |
| <b>Assignments</b> | An assignment is a set of rules that decides which role and which policy the Connection Broker gives a user. It looks at who the user is and where they logged in from.                                               |

# How the platform connects a user to a desktop

Eight steps, from sign-in to release. Apart from authentication, the user's policy decides how each step is handled.



## 1. User signs in to the Connection Broker

The user signs in to the Connection Broker from a web browser, a thin client, a mobile device, or Leostream Connect. Different clients support different credentials, such as passwords, smart cards, or tokens.

## 2. Connection Broker authenticates the user

The Connection Broker searches for the user in the domains you have defined.

## 3. Connection Broker offers desktops based on the policy

The Connection Broker assigns the user a policy, using the assignment table of the domain that authenticated them, and offers the desktops that policy allows.

## 4. User requests a connection to a desktop

A user whose policy offers several desktops chooses which ones to connect to, and how many.

## 5. Connection Broker assigns the desktop and connects the user

The Connection Broker assigns the chosen desktops to the user and launches the display protocol. An assigned desktop is never offered to anyone else. The Connection Broker is not in the data path of the display protocol. If the desktop is on an isolated network, the Leostream Gateway tunnels the connection.

## 6. User ends the remote session

When the user disconnects or logs out, the Connection Broker applies the power control and release actions from the plans in the user's policy.

## 7. Connection Broker unassigns the desktop

If the release plan returns the desktop to its pool, the broker unassigns it and it becomes available to other users. Otherwise the assignment stays.

## 8. Connection Broker applies power plans

Finally, the broker takes any power control actions set in the policy.

# Where to go next

|                                                |                                                                     |
|------------------------------------------------|---------------------------------------------------------------------|
| <b>Leostream Installation Guide</b>            | How to install every component of the Leostream Platform.           |
| <b>Connection Broker Quick Start Guide</b>     | A general overview of configuring pools, policies, and assignments. |
| <b>Leostream Gateway Guide</b>                 | Installing and using the Leostream Gateway.                         |
| <b>Leostream Scalability Guide</b>             | Guidelines for building a large-scale production environment.       |
| <b>Connection Broker Administrator's Guide</b> | A complete description of all Connection Broker functionality.      |

All of these are linked from the [Leostream documentation page](#).