

Kerio Connect

Kerio Connect Multi-Server

Kerio Technologies

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Kerio Connect Multi-Server

About Kerio Connect Multi-Server

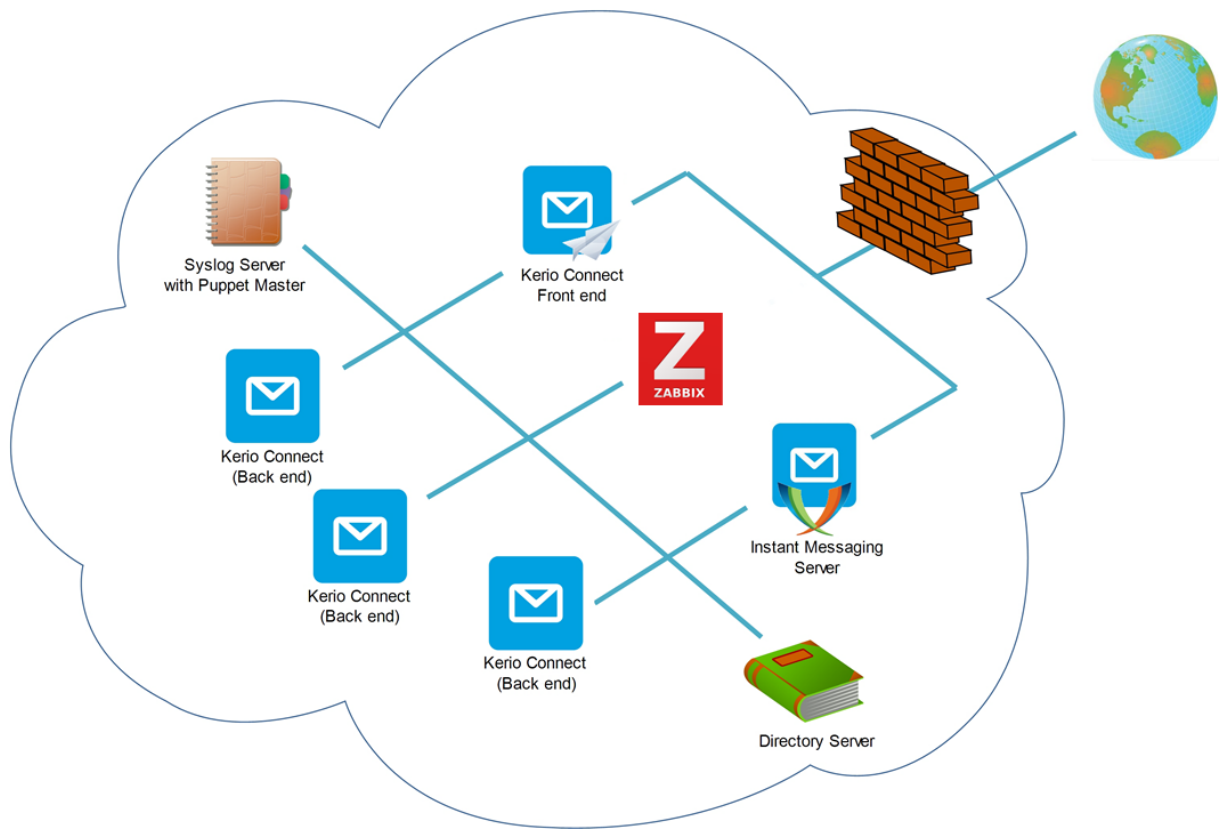


This document relates to Kerio Connect Multi-Server 8.5

Kerio Connect Multi-Server is a distributed architecture solution designed for easy scalability. All users access their Kerio Connect account through a single server address, regardless of their home server. The connection is directed to the user's server automatically.

Use Kerio Connect Multi-Server in any of the following scenarios:

- Large on-premise installations to lower the load and improve the Kerio Connect performance
- Distributed server environments to use a single domain and a single URL to access the mailboxes
- Kerio Cloud Solution Partner hosting your own Kerio Connect Cloud environment to distribute users across multiple servers



Current version limitations

All architectural components of Kerio Connect Multi-Server are available and ready to use.

Note the following functional limitations:

- Users can share folders across all servers only in [Kerio Connect Client](#) and with [Kerio Outlook Connector \(Offline Edition\)](#)
- Users cannot share public folders across the servers
- The [Greylisting](#) service is not available
- IP address groups in [user access policies](#) are available only for HTTP/HTTPS

Configuring Kerio Connect Multi-Server

The following articles describe how to install and configure Kerio Connect Multi-Server:

- [Installing Kerio Connect Multi-Server](#)
- [Licensing Kerio Connect Multi-Server](#)
- [Upgrading and downgrading Kerio Connect in Kerio Connect Multi-Server](#)

- [Securing Kerio Connect Multi-Server](#)
- [Migrating from current installations to Kerio Connect Multi-Server](#)
- [Managing Kerio Connect Multi-Server](#)
- [Creating users in Kerio Connect Multi-Server](#)
- [Monitoring Kerio Connect Multi-Server with the Zabbix server](#)
- [Troubleshooting Kerio Connect Multi-Server](#)

Installing Kerio Connect Multi-Server

Installation overview



This document relates to Kerio Connect Multi-Server 8.5

Kerio Connect Multi-Server is available as a Linux-based VMware virtual appliance ([download from this link](#)).

The installation file is the same for all server roles. However, you must install the individual servers in this order:

1. **Puppet master**

Puppet master is responsible for configuring all other servers and server upgrades and contains a Syslog server.

2. **Directory server**

The directory server (OpenLDAP) is the central storage location for user and group information in the multi-server deployment. All back-end servers are connected to this directory.

3. **Back-end servers**

Back-end servers represent individual installations of Kerio Connect. You can install two or more back-end servers, and you can install them now or at any later time.

4. **Instant messaging server** (optional)

The instant messaging server also has Kerio Connect installed. It manages the XMPP communication.

5. **Front-end server**

The front-end server is a proxy server that routes connections to back-end servers with user accounts and hosts a session server.

6. **Zabbix monitoring server** (optional)

With Zabbix, you can monitor all servers in Kerio Connect Multi-Server. Read [Monitoring Kerio Connect Multi-Server with the Zabbix server](#) for more information.



If you are upgrading from a current installation of Kerio Connect, read [Migrating from current installations to Kerio Connect Multi-Server](#) before you start the installation.

System requirements

For better performance, run the servers on multiple physical servers running VMware vSphere Hypervisor. See the Kerio Connect [Tech Specs](#) page for the supported VMware product versions.

These are the minimum system requirements for the virtual appliances:

	CPU	RAM	Disk space	LAN
Puppet master	2 CPU cores (Intel Xeon E5 recommended)	4 GB	100 GB virtual disk	1 Gbit
Directory server	2 CPU cores (Intel Xeon E5 recommended)	4 GB	Default virtual machine disk space	1 Gbit
Back-end server (200 or more users)	2 quad-core CPUs (Intel Xeon E5 recommended)	16 GB	7.2-15K RPM, SAS-SATA, 3.5", 1+ TB, RAID10 recommended 1000 IOPS read / 800 IOPS write	1 Gbit
Instant messaging server	2 CPU cores (Intel Xeon E5 recommended)	4 GB	Default virtual machine disk space	1 Gbit
Front-end server	1 quad-core CPU (Intel Xeon E5 recommended)	8 GB	Default virtual machine disk space	1 Gbit (10 Gbit recommended)
Zabbix server	1 CPU	1 GB	Default virtual machine disk space	1 Gbit



If you need more disk space, add a new hard drive to the virtual appliance. See the article [Adding a new disk to a virtual appliance](#).

Prerequisites

Have the following ready before beginning the installation:

- Internet access
- DHCP server
- DNS server

If you install all servers and don't have a DNS server available in your network, you must configure the proper domain names manually on all servers except the puppet master (see below).

Manual configuration when the DNS server is not available

On each server:

1. Open the file `/etc/hosts`.
2. Add the following lines to the file, and save it:

```
<puppet master IP address> puppetmaster <puppet master name>  
127.0.1.1 <server role> <server name>
```

For example:

```
192.168.62.4 puppetmaster kerio-puppetmaster  
127.0.1.1 backend kerio-backend1
```

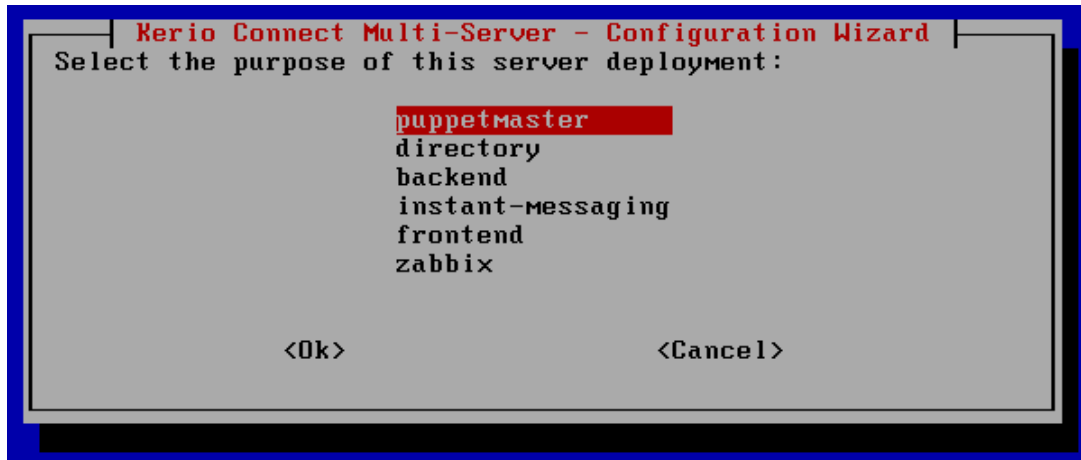
The server roles are: puppetmaster, directory, backend, instant-messaging, frontend, zabbix

3. Run the following command to finish the configuration:

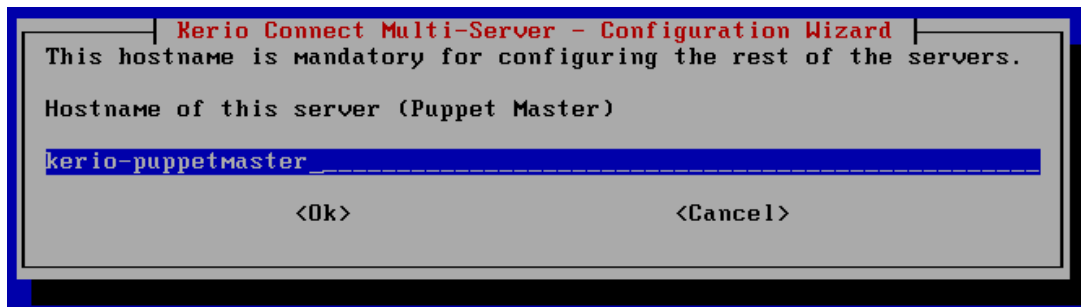
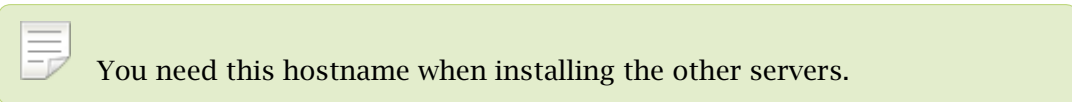
```
puppet agent -t
```

Installing the puppet master server

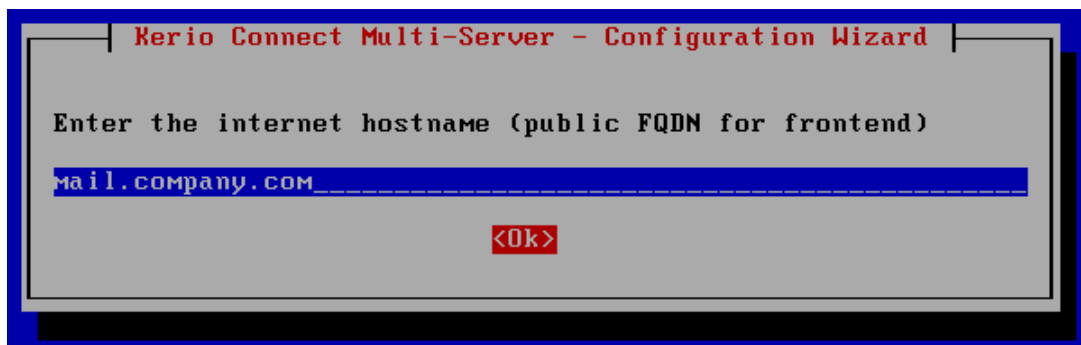
1. Run the Kerio Connect Multi-Server virtual appliance.
2. Read the introductory page and select **OK**.
3. Select **puppetmaster** as the server's role, and select **OK**.



4. Type the hostname of the puppet master server, and select **OK**.



5. Type the Internet hostname of your mailserver, and select **OK**. This may be different from your domain's DNS name.

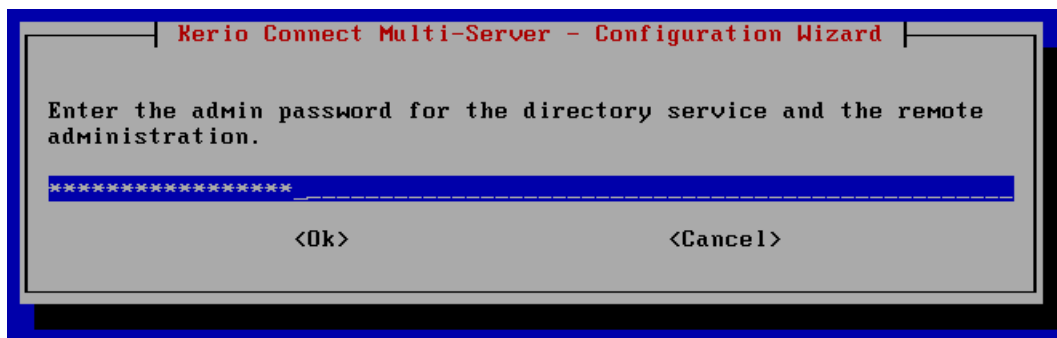


Installing Kerio Connect Multi-Server

6. Type the DNS name of your domain, and select **OK**. This may be different from the Internet hostname of your mailserver.



7. Type and confirm the administrator password, and select **OK**.



To log in to the appliance after installation, use root/kerio.

Installing the directory server

1. Run the Kerio Connect Multi-Server virtual appliance.
2. Read the introductory page, and select **OK**.
3. Select **directory**, and then select **OK**.
4. Type the hostname of the puppet master server.
5. Type the hostname for the directory server and select **OK**.

To log in to the appliance after installation, use root/kerio.

Installing the back-end servers

All back-end servers must have the same primary domain. If you install any back-end server later, they will be added to the distributed multi-server automatically.

The first back-end server installed is a **master server**.

1. Run the Kerio Connect Multi-Server virtual appliance.
2. Read the introductory page, and select **OK**.
3. Select **backend**, and select **OK**.
4. Type the hostname of the puppet master server.
5. Type the hostname for the back-end, server and select **OK**.

To log in to the appliance after installation, use `root/kerio`.

Installing the instant messaging server

1. Run the Kerio Connect Multi-Server virtual appliance.
2. Read the introductory page, and select **OK**.
3. Select **instant-messaging**, and select **OK**.
4. Type the hostname of the puppet master server.
5. Type the hostname for the instant messaging server, and select **OK**.

To log in to the appliance after installation, use `root/kerio`.

Installing the front-end server

1. Run the Kerio Connect Multi-Server virtual appliance.
2. Read the introductory page, and select **OK**.
3. Select **frontend**, and select **OK**.
4. Type the hostname of the puppet master server.
5. Type the hostname for the front-end server, and select **OK**.

To log in to the appliance after installation, use `root/kerio`.

Installing the Zabbix server

1. Run the Kerio Connect Multi-Server virtual appliance.
2. Read the introductory page, and select **OK**.
3. Select **zabbix**, and select **OK**.
4. Type the hostname of the puppet master server.
5. Type the hostname for the zabbix server, and select **OK**.

To log in to the appliance after installation, use root/kerio.

For detailed information about the Zabbix server, read [Monitoring Kerio Connect Multi-Server with the Zabbix server](#).

Upgrading and downgrading Kerio Connect Multi-Server

Overview



This document relates to Kerio Connect Multi-Server 8.5

You can use the puppet master server to upgrade or downgrade the servers in Kerio Connect Multi-Server.

Enabling automatic updates

With automatic updates enabled, you can download the new version on the puppet master and it is automatically installed on the other servers.

To enable automatic updates:

1. On the puppet master server, open the `site.pp` file for editing.

The default location is `/etc/puppet/manifests/site.pp`

2. Add `ensure => latest` to the role definitions for the server roles.

```
if $::system_role == 'backend' {
    class {'kerio_cloud::backend':
        ensure => latest,
    }
}

if $::system_role == 'instant-messaging' {
    class {'kerio_cloud::backend':
        im_enabled => true,
        ensure      => latest,
    }
}

if $::system_role == 'frontend' {
    class {'kerio_cloud::proxy':
        ensure      => latest,
    }
}
```

Upgrading and downgrading Kerio Connect Multi-Server

```
if $::system_role == 'directory' {
    class { 'kerio_cloud::directory':
        ensure => latest,
    }
}
```

3. Save the file.

Upgrading the front-end proxy server



New in Kerio Connect Multi-Server 8.5.1!

1. Verify you have automatic updates enabled for the front-end proxy server (see above).
2. On the puppet master server, download the 64-bit Debian installation package of the front-end proxy server.

```
cd /var/packages/pool/non-free/
wget <package URL>
```

For example: `wget <http://cdn.kerio.com/dwn/connect/connect-8.5.1-4597/kerio-connect-p`

3. Publish the package in the repository.

```
update-archive
```

The front-end proxy server is upgraded within approximately 30 minutes.

Upgrading Kerio Connect

To upgrade to a newer version of Kerio Connect:

1. Verify you have automatic updates enabled for Kerio Connect Multi-Server (see above).
2. On the puppet master server, download the 64-bit Debian installation package of Kerio Connect.

```
cd /var/packages/pool/non-free/
wget <package URL>
```

For example: `wget <http://cdn.kerio.com/dwn/connect/connect-8.5.1-4597/kerio-connect-8`

3. Publish the package in the repository.

```
update-archive
```


All Kerio Connect servers are upgraded within approximately 30 minutes.

Downgrading Kerio Connect

To downgrade to an older version of Kerio Connect, you must disable the automatic downloads first and then install the version you need.

Disabling automatic updates

1. On the puppet master server, open the `site.pp` file for editing.

The default location is `/etc/puppet/manifests/site.pp`

2. Add `ensure => present` to the role definitions for the back-end, front-end, instant messaging, and directory servers.

```
if $::system_role == 'backend' {
    class {'kerio_cloud::backend':
        ensure => present,
    }
}

if $::system_role == 'instant-messaging' {
    class {'kerio_cloud::backend':
        im_enabled => true,
        ensure      => present,
    }
}

if $::system_role == 'frontend' {
    class {'kerio_cloud::proxy':
        ensure      => present,
    }
}

if $::system_role == 'directory' {
    class {'kerio_cloud::directory':
        ensure      => present,
    }
}
```

Downgrading Kerio Connect

On each back-end, front-end, instant messaging, and directory server:

1. Log in as the root user.
2. Update the package definitions.
`apt-get update`
3. List the available version of Kerio Connect.
`apt-cache showpkg kerio-connect`
4. Run the `install` command with the version you want to downgrade to.
`apt-get install kerio-connect=<version>`
For example:`apt-get install kerio-connect=8.5.0.4190-1`

Kerio Connect downgrades to the specified version.

Migrating from current installations to Kerio Connect Multi-Server

Overview



This document relates to Kerio Connect Multi-Server 8.5

If you are using Kerio Connect, you can migrate your current installation to Kerio Connect Multi-Server.

You can migrate from:

- Kerio Connect connected to a directory server
- A Kerio Connect distributed domain
- Kerio Connect with a local database of users



Before you start the migration, back up your data.

Migrating from Kerio Connect connected to a directory service

If you are using a directory service for user management, you must install Kerio Connect Multi-Server, connect it to a directory service, and migrate users from the original server.

Connecting Kerio Connect Multi-Server to a directory service

1. Install the Kerio Connect Multi-Server [puppet master server](#).
2. Install the Kerio Connect Multi-Server [directory server](#).
3. Install one Kerio Connect Multi-Server [back-end server](#). This is the master server.
4. Log in to the back-end server administration and go to the **Configuration** → **Domains** section.
5. Double-click your domain and go to the **Directory Service** tab.

Migrating from current installations to Kerio Connect Multi-Server

6. [Configure the connection to your directory server.](#)
7. Continue installing the remaining servers: additional back-ends, instant messaging, front-end, and Zabbix. (See [Installing Kerio Connect Multi-Server.](#))

The directory server configuration is automatically distributed to all servers.

If you use Kerberos authentication, you must configure it on each back-end server separately. (See [Joining Kerio Connect running on Linux to Open Directory or Active Directory](#) for detailed information.)

Migrating users and data from your Kerio Connect

To migrate your users and their data to the new Kerio Connect Multi-Server installation:

1. On the original Kerio Connect server, go to **Configuration** → **Domains**.
2. Click the **Distributed Domains** button.
3. Click **Next**.
4. Type the hostname of the first back-end server (master server) of your Kerio Connect Multi-Server, and the username and password of its admin.
5. Click **Connect**.

The original server is now connected to your Kerio Connect Multi-Server.

6. On a back-end server, go to **Accounts** → **Users** and migrate all users from the original to the back-end server.

See [Migrating users between the back-end servers](#) for details.

7. Disconnect the original server from the distributed domain in Kerio Connect Multi-Server.

Now you can start using Kerio Connect Multi-Server.

Migrating from a Kerio Connect distributed domain

If you are using a Kerio Connect distributed domain, you must install Kerio Connect Multi-Server, connect it to a directory service, and migrate users from the original servers.

To install Kerio Connect Multi-Server and connect it to a directory service, read [Connecting Kerio Connect Multi-Server to a directory service](#), above.

Migrating users and data from your distributed domain

To migrate your users and their data to the new Kerio Connect Multi-Server installation, do the following for each server in your distributed domain:

1. Disconnect the server from the distributed domain.
See [chapter 7 in Kerio Connect distributed domain manual](#).
2. On that server, go to **Configuration** → **Domains**.
3. Click the **Distributed Domains** button.
4. Click **Next**.
5. Type the hostname of the first back-end server (master server) of your Kerio Connect Multi-Server, and the username and password of its admin.
6. Click **Connect**.
The server is now connected to your Kerio Connect Multi-Server.
7. On a back-end server, go to **Accounts** → **Users** and migrate all users from the original to the back-end server.
See [Migrating users between the back-end servers](#) for details.
8. Disconnect the server from the distributed domain in Kerio Connect Multi-Server.

Now you can start using Kerio Connect Multi-Server.

Migrating from Kerio Connect with a local user database

If you have Kerio Connect with a local database of users, you must install Kerio Connect Multi-Server, connect it to a directory service, create users in the directory service and migrate the users from the original server.

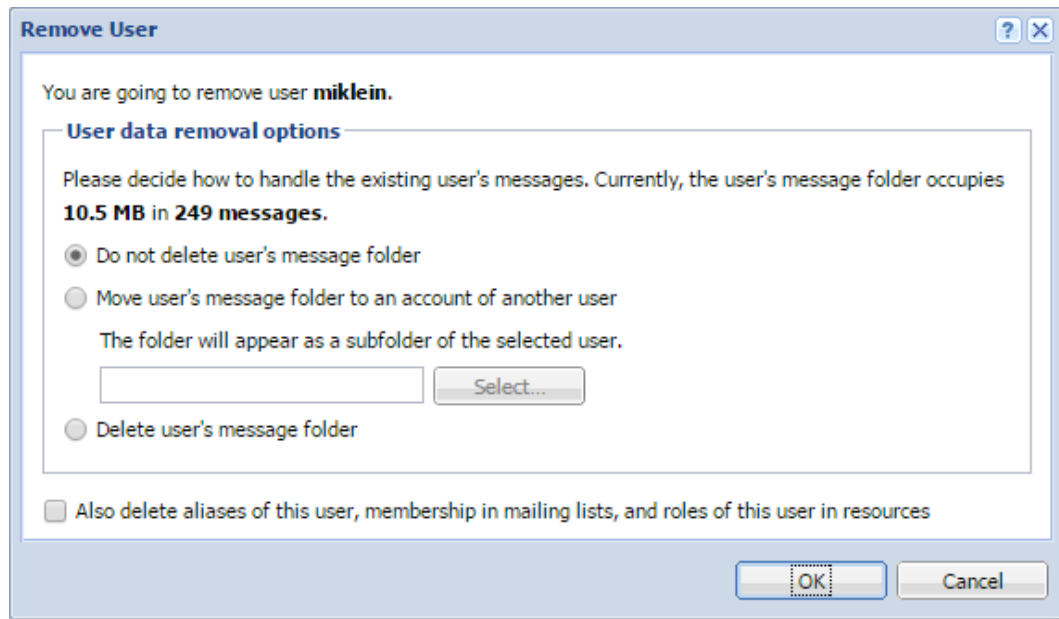
Follow the instructions in [Connecting Kerio Connect Multi-Server to a directory service](#) (above), then perform the migration using the steps below.

Migrating users and data from your server with a local database

To migrate your users and their data to the new Kerio Connect Multi-Server, you must remove the users from the original server, connect this server to Kerio Connect Multi-Server directory server, create the same users on the original server, and then migrate them to a back-end server.

1. On the original Kerio Connect server, go to **Accounts** → **Users**.
2. Remove all local users.

In the **Remove User** dialog box, select **Do not delete user's message folder** and deselect the **Also delete aliases of this user...** option.



3. Connect the server to the Kerio Connect Multi-Server directory server by editing the configuration file.
Read [Mapping users/groups from an OpenLDAP or Generic LDAP server](#) for details.
4. On the original server, create users with the same usernames as before.
Read [Creating users in Kerio Connect Multi-Server](#) for details.
5. On that server, go to **Configuration** → **Domains**.
6. Click the **Distributed Domains** button.
7. Click **Next**.
8. Type the hostname of the first back-end server (master server) of your Kerio Connect Multi-Server, and the username and password of its admin.
9. Click **Connect**.
The original server is now connected to your Kerio Connect Multi-Server.
10. On a back-end server, go to **Accounts** → **Users** and migrate all users from the original to the back-end server.
Read [Migrating users among the back-end servers](#) for details.
11. Disconnect the original server from the distributed domain in Kerio Connect Multi-Server.

Now you can start using Kerio Connect Multi-Server.

Securing Kerio Connect Multi-Server

Overview



This document relates to Kerio Connect Multi-Server 8.5

All servers in Kerio Connect Multi-Server run in an unsecured network. For security, protect the Kerio Connect Multi-Server network with a firewall.

Firewall settings

This table shows the protocols and ports used in Kerio Connect Multi-Server.



Do not change these ports.

On your firewall, open the ports shown in bold (for the front-end server and instant messaging server).

Securing Kerio Connect Multi-Server

Server	Protocol	Port
Syslog server	UDP	514
Directory server	LDAP	389
Back-end servers	IMAP	143
	POP3	110
	HTTP	80
	SMTP	25
	Kerio Connect Administration	4040
Instant messaging server	XMPP	5222
	XMPP SSL	5223
Session server	memcached	11211
Distributed domain server	Synchronization	44337
	Free/Busy HTTP	80
	Free/Busy HTTPS	443
	User migration HTTPS	443
Front-end server	IMAP	143
	IMAP SSL	993
	POP3	110
	POP3 SSL	995
	SMTP	25
	SMTP SSL	465
	SMTP Submission	587
	HTTP	80, 8800
HTTP SSL	443, 8843	

Licensing Kerio Connect Multi-Server

Installing the licence



This document relates to Kerio Connect Multi-Server 8.5

Kerio Connect Multi-Server requires a standard Kerio Connect license.

Install the license on the master server back-end server. That will distribute it to other back-end servers.

See [Registering Kerio Connect](#) for details.

Managing Kerio Connect Multi-Server

Overview



This document relates to Kerio Connect Multi-Server 8.5

You configure Kerio Connect Multi-Server the same as any single-server installation of Kerio Connect, but note the following:

- Users, groups, aliases, mailing lists, and resources are distributed to all servers. Other configuration, such as domain settings, must be done on each server separately.
- If you configure [DKIM](#) on the master server, Kerio Connect Multi-Server distributes the configuration to all back-end servers.
- If you use SpamAssassin, Kerio Connect Multi-Server distributes the database to all back-end servers.
- You must configure [backup](#) and [archiving](#) on each back-end server separately.

Accessing the administration interface

You can access the administration interface of the individual back-end servers only from the Kerio Connect Multi-Server internal network.

Log in to the administration interfaces of all back-end servers using these credentials:

- username: admin
- password: the password you typed when [installing the puppet master](#).

Accessing the Kerio Connect mailboxes

Logging to Kerio Connect



This document relates to Kerio Connect Multi-Server 8.5

All users, regardless of their home server, access their Kerio Connect Client through the front-end server address. Kerio Connect Multi-Server directs the connection to the user's back-end server automatically.

Use the front-end server address when configuring other email clients as well (for example, Microsoft Outlook).



Cross-server sharing is available for Kerio Connect Client users and users with Kerio Outlook Connector (Offline Edition).

Monitoring Kerio Connect Multi-Server with the Zabbix server

Accessing the Zabbix server



This document relates to Kerio Connect Multi-Server 8.5

Zabbix can monitor CPU and memory usage and available disk space of Kerio Connect Multi-Server.

Puppet master automatically installs the Zabbix agent on each server.

To access the Zabbix monitoring:

1. In your browser, type the Zabbix server hostname.
2. Type admin as the username, and use the password you typed during installation.
3. Now you can start using the Zabbix server.

Zabbix server can send notification messages. See the Zabbix documentation on zabbix.com.

Troubleshooting Kerio Connect Multi-Server

Overview



This document relates to Kerio Connect Multi-Server 8.5

If any problem occurs in your Kerio Connect Multi-Server installation, consult the logs. Go to any back-end server's administration interface and locate the **Logs** section. (See [Managing logs in Kerio Connect](#).)

All logs from all the back-end servers are also sent to the **Syslog** server on the **puppet master** server.