

LINUX DS-Client Installation Guide



Assumptions

The following assumptions are made about the audience for this document:

Familiarity: User is familiar with the Operating System platform. User is familiar with basic Internet browsing.

Correct Input: User enters the correct data (e.g. user names, passwords, etc.) when asked or required. If invalid data is entered, an error message will appear, and you will be forced to correct the error before you may proceed.

Canceling activities: The option to cancel the current activity (in some cases the option is “No”) will exit the activity.

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About Asigra Cloud Backup™

Asigra Cloud Backup™ is a unique alternative to traditional backup methods, replacing conventional tape based systems with a fully automated Online solution. It provides centralized and automated backups of PCs, file servers and application/database servers with secure offsite storage and immediate Online restoration.

The system uses a DS-Client, installed onto the customer network, which hosts the Asigra Cloud Backup™ client application software that performs the backup and restore activity.

Document Prepared by:	
Asigra Inc.	
1120 Finch Avenue West, Suite 400	
Toronto, Ontario, CANADA M3J 3H7	
info@asigra.com	
www.asigra.com	

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Before you install

Verify the installation computer meets the following requirements:

I) Hardware & Software Minimum Requirements

You should use the best hardware possible to maximize Asigra Cloud Backup™ performance. If applicable, it is strongly recommended that you use the fastest brand-name components available.

Hardware	x86 (32-bit) or x64 (64-bit) Architecture
CPU (1 or 2)	2 GHz or greater
RAM	4 GB RAM or more
Free disk space for app. and buffer	2 GB or more
Connection to DS-System	LAN, Internet, WAN

Software	Version
Operating System	RedHat Enterprise Linux 5.8 or 5.9 - ES/AS (x86 / x64)
	RedHat Enterprise Linux 6.2 or 6.3 or 6.4 - ES/AS (x86 / x64)
	SUSE Linux Enterprise Server 10 up to SP4 (x86 / x64)
	SUSE Linux Enterprise Server 11 SP2 (x86 / x64)
	SUSE Open Enterprise Server 2 SP3 (x86)
Database	SUSE Open Enterprise Server 11 (x64)
	<ul style="list-style-type: none"> PostgreSQL 8.1 or 8.2 or 8.3 or 8.4 or 9.0 (upgrade existing installations only) PostgreSQL 9.1 (embedded, no separate installation required)

II) Obtain the DS-Client Installation Program

Contact your Asigra Cloud Backup™ Service Provider to register. You will be provided with:

- Installation Disc (or download from Service Provider Website);
- Your Customer Account number: _____;
- Your DS-Client number: _____;
- The DS-System IP address: _____;

Write these numbers down (a space is provided for each above). They are required when you first connect to the DS-Client. (See [“Step 5. Connect to DS-Client and perform initial configuration” on page 7.](#))

- Alternatively, your Service Provider can provide you with a .CRI (Customer Registration Information) file. This file contains your customer account and DS-Client number, along with the DS-System IP address.

III) Select your encryption key(s)

- Data backed up through the DS-Client is encrypted using the encryption key(s) you specify.
- Encryption keys are set once. You cannot change the key(s) once set. The DS-Client service will not be allowed to start.
- You must select the type of encryption key (DES, AES 128-bit, AES 192-bit, AES 256-bit). Stronger encryption requires longer keys (8, 16, 24, or 32 characters).

- **Private key:** You must set this key.
- **Account key:** If you only have one DS-Client, you do not need to set this key. When you have more than one DS-Client, you must specify an Account key. This must be the same for every DS-Client that is registered under this same customer account on the DS-System. Common data from your DS-Clients will be encrypted using the Account key.

IV) Backup your existing DS-Client database

If you are upgrading an existing DS-Client installation, it is strongly recommended that you back up the existing DS-Client database before proceeding.

- For an external PostgreSQL database, use the command:

```
# pg_dump -U postgres dsclient > /<installation_path>/dsclient.dmp
```

- For an embedded PostgreSQL database, use the command:

```
/<installation_path>/db/pgsql/bin/pg_dump -U dsclient dsclient -h  
<installation_path>/db/pgsql > /<installation_path>/dsclient.dmp
```

Install or upgrade DS-Client

Step 1. Log in to target installation computer

- Logon as root

Step 2. Run Installation Package

Depending on your selections, some different screens will appear. These differences are noted below.

1. **[Option A]** Run the installation program from the download directory or from the corresponding folder on the installation DVD:
 - 32-Bit Version: `/Software/DS-Client/Linux_32_bit/setuplinuxclient.bin`
 - 64-Bit Version: `/Software/DS-Client/Linux_64_bit/setuplinuxclient.bin`
- [Option B]** Run the Installation Center for Linux Products (**setup_lin.sh**) located in the root directory of the installation DVD.
 - The Installation Center is a common launcher for all Linux-platform installations. It allows you to choose the specific installation package you want, without the need to browse the installation DVD.
2. Follow the GUI to install DS-Client.
3. The Installation starts:
 - Choose the Setup Language (English / German) and click "Install".

Note: The selected language will be installed for the DS-Client daemon. Once set, the DS-Client Service language cannot be changed (for logs and popup messages). The DS-User GUI language can be changed from the Initialization screen (if the required language components have been installed). The DS-Client can be installed on English or German Operating Systems.
 - You must accept the terms of the license agreement by selecting that radio button.
4. A pre-requisite check is performed on the installation machine. This scans the hardware and Operating System for compatibility (see **"1) Hardware & Software Minimum Requirements"** on page 4). Click Next.

Step 3. Choose Setup Type and Installation Location

1. The Choose Setup Type and Installation Location screen appears.
2. Two setup type options are available:

Type	Description
DS-Client	Installs the DS-Client daemon (service) components.
DS-User	Installs the DS-User GUI components. This option is for end-user workstations. You can install DS-User on any network computer, so end-users can access the DS-Client and specify their own backup sets.

3. By default, both options are selected.
4. In the "Directory Name" field, choose the destination folder where the installation will copy the program files. The default destination folder is:
 - `/opt/CloudBackup/DS-Client`
5. To specify a different destination folder, click the Browse Button.
 - The Choose Directory screen appears.
 - Specify a new directory path
 - Click OK.

6. Click "Install".

Step 4. Finish Installation

1. The Setup Complete screen appears once all files are copied.
 - You can select to start the DS-User and DS-Client upon exiting the Installation.
 - **Start DS-Client at boot time (run-level 3):** Select to configure the DS-Client to automatically start each time the installation computer boots.
2. Click "Done" to complete the installation.
3. You can manually start and stop the DS-Client service (daemon) with the following commands:

```
Start DS-Client: /etc/init.d/dsclient start
Stop DS-Client: /etc/init.d/dsclient stop
```

4. Start the DS-Client daemon.

Step 5. Connect to DS-Client and perform initial configuration

On connection to a Linux DS-Client that has not registered with the DS-System, you will encounter an "Initial DS-Client Configuration" screen where you must enter this information.

1. Application > Asigra DS-Client | DS-User > DS-User.
2. A DS-Client List appears on the left-side of the GUI. From the DS-Client List, select the DS-Client you want (unregistered DS-Clients appear in green).
3. The "Connect to DS-Client Service" screen appears. Enter your Credentials and click "Connect".
4. After you successfully connect to the DS-Client, the "Initial DS-Client Configuration" screen appears.

5. In the "Customer Registration Info" section, enter the following:

Customer Name	Enter a descriptive name for this DS-Client. <ul style="list-style-type: none"> • This name appears in brackets after the computer name in the Java DS-User GUI's list of available DS-Client computers (when sorted by Name).
---------------	---

Account #	Enter your Account number. This number is provided to you by your Service Provider.
DS-Client #	Enter your DS-Client number. This number is provided to you by your Service Provider.

- **Browse:** An alternative to manually entering the above information is to use a .CRI file supplied by your Service Provider. Click “Browse” to search for this file on your network.
6. In the “DS-System Info” section, specify the DS-System connection information. You received the IP address of the DS-System from your Service Provider. The DS-Client requires this address in order for it to connect to the DS-System. In the “Address” field:
- Enter the IP address of the DS-System your DS-Client will be using and click “Add”.
 - Your Service Provider may have more than one IP address for the DS-System, if this is the case you can specify any or all of them.
7. In the “Encryption Keys” section, you must set the encryption key(s) that the DS-Client will use.

Encryption Keys <ul style="list-style-type: none"> • An encryption key is case sensitive. Its length (in characters) depends on the type and level of encryption selected. DES requires 8 characters, AES-128 requires 16 characters, AES-192 requires 24 characters, and AES-256 requires 32 characters. For better security, do not use dictionary words or proper names, and try to randomly mix numbers in with the letters. • Auto-complete feature: If you do not specify the full amount of characters in the Key field, the GUI will fill in the remainder by repeating the string of characters you have entered. (e.g. entering “123” with AES-128 will generate an encryption key of “1231231231231231”, or entering “a” for DES will generate the encryption key “aaaaaaaa”). • Keep the key(s) in a secure location. Your ability to select the same encryption type and re-enter the same key is necessary if you ever need to reinstall your DS-Client to a new computer (e.g. if the computer is destroyed in a disaster). 	
Private Key	<p>You must set a private key for this DS-Client. Backup data from your DS-Client installation will be encrypted with this key.</p> <ul style="list-style-type: none"> • Type: Select from the available types. Stronger encryption requires longer keys. • Key: Enter the key. • Confirm: Re-enter the key to verify the string is correct. You cannot change this key once it is set.
Account Key	<p>You must set an account key if more than one DS-Client belongs to your customer account. Common backup data from all your DS-Client installations will be encrypted with this key. Once the account key is set, all DS-Clients from this customer must be configured with that same account key.</p> <ul style="list-style-type: none"> • Type: Select from the available types. Stronger encryption requires longer keys. • Key: Enter the key. • Confirm: Re-enter the key to verify the string is correct. You cannot change this key once it is set.
<p>Allow encryption key forwarding to DS-System</p> <ul style="list-style-type: none"> • Check to have DS-Client forward the encryption key(s) to the DS-System the first time it connects with DS-System. <p>NOTE: If you forward the keys, they will remain encrypted on the DS-System. However, your Service Provider will be able to create a valid .CRI file containing the encrypted keys. This file will be able to recreate a working version of this DS-Client. Make sure this conforms to your security policies before enabling this option.</p>	

Connect to DS-System and verify information

- Check to have DS-Client verify the configured information when you click “Save”. A popup will appear explaining the results.
8. In the "User Info" section, supply the requested information about your organization by choosing from the drop-down list options.
 9. Once you have made all the initial DS-Client configurations, click “Save” to register with the DS-System.
 - If registration is successful, you will be able to use DS-Client immediately. Refer to the DS-Client User Guide for more information.

DS-Client Upgrade

Before upgrading, read the new version's Release Notes for any special steps you need to perform.

Normally, the DS-Client should be the same version / Service Pack as the DS-System.

- An "incompatible version" error message appears in the DS-Client Event Log whenever the DS-Client must be upgraded.

Linux DS-Client can be upgraded either manually or automatically (if DS-System is configured):

- See "Manual Upgrade" on page 10.
- See "Auto-Upgrade" on page 11.

Manual Upgrade

If the DS-System is not configured for "Auto Upgrade", you must perform a manual upgrade of the DS-Client.

To manually upgrade a DS-Client from one version / Service Pack to the next, do the following:

1. Make sure the DS-Client is not running backup/restore activities that are of critical importance for your customers.
2. Stop the DS-Client daemon.
3. Run the new DS-Client Release / Service Pack installation on the machine where the DS-Client software is installed.
 - The installation will detect the existing DS-Client database and will apply the database patches.
 - The installation will also detect and upgrade the DS-Client components that are installed on the DS-Client machine.
4. Finish the installation.
5. Start the DS-Client daemon.
6. Check if you can connect to the DS-Client daemon using the same (upgraded) version of the DS-User GUI.
 - If the connection is successful, check the DS-Client Event Log for errors.
7. Run a Daily or Weekly Admin to see if the DS-Client can connect to the DS-System.
8. If there are any problems with the upgrade, contact your Service Provider.

Auto-Upgrade

If the DS-System is configured for “Auto Upgrade”, the DS-Client will automatically upgrade itself on the first connection to the upgraded DS-System.

1. DS-Client will download the upgrade package from the DS-System.
 - A “silent” upgrade will be performed, meaning there is no requirement for user interaction.
2. Check if you can connect to the DS-Client daemon using the same (upgraded) version of the DS-User GUI.
 - If the connection is successful, check the DS-Client Event Log for errors.
3. Run a Daily or Weekly Admin to see if the DS-Client can connect to the DS-System.
4. If there are any problems with the upgrade, contact your Service Provider.

Note: You can also perform a manual upgrade of the DS-Client (provided that you have received the new DS-Client Release / Service Pack installation from your Service Provider).

DS-User Only Installation

You can install DS-User on any workstation that can see the DS-Client computer.

DS-User is the user interface to the DS-Client, and distributing it allows end-users to access the DS-Client and specify their own backup sets from their local computer. It can also be installed individually on network workstations, to allow remote management of the DS-Client.

Before Installing DS-User

Make sure that:

- You are logged in as the workstation's root user (or a user with equivalent privileges);
- The workstation is connected to a local/network printer (for Reports);
- The time on the computer is correct;
- The workstation is networked to a DS-Client;
- The installation is running one of the supported Operating Systems from section "(I) Hardware & Software Minimum Requirements" on page 4.

Note: These are minimum requirements. Use the best hardware possible to maximize Asigra Cloud Backup™ performance.

Install DS-User only (for remote management)

DS-User GUI can be installed using two different installation packages:

1. DS-User Multiplatform Installation:

- Run **setuplinux.bin** from the Installation DVD folder:

```
\Software\DS-Client\DS-User\Linux
```

- Choose the Setup Language.
- Follow the GUI to install DS-User.

DS-Client Installation:

- Follow the same steps from the section "[Install or upgrade DS-Client](#)" on [page 6](#) until you reach the "Choose Setup Type and Installation Location" screen.
 - Select DS-User.
2. Click Next and continue clicking Next until the Setup Complete screen appears.
 3. Click Finish.
 4. You may start the program and connect to DS-Client.

DS-User Upgrade (Upgrading an existing installation)

To upgrade to a new software version, you must use the same type of installation package (DS-User Multiplatform or DS-Client Installation). (For example: If you installed using the Multiplatform Installation, you must upgrade using a Multiplatform Installation package. Otherwise, the installation will fail with an error indicating that the specified software is not installed on the target machine.)

To upgrade an existing DS-User installation, perform the following steps:

- Close all open DS-User GUIs on that machine.
- Choose the correct installation package for upgrade, and run it.
- Open the DS-User and try to connect to a DS-Client that has the same version as the DS-User. Connection will be successful; otherwise, an error message will be reported.

Install or upgrade DS-Client (Command Line)

When you install the DS-Client from a command-line (without a GUI), you have the following command-line options after typing "setuplinuxclient.bin":

```
-i silent
-i console
-DINSTALL_FOLDER=/target/install/folder
-DCHOSEN_FEATURE_LIST="DS-C, DS-U"
-DXML=/source/path/filename.xml
-l de or -l en
```

Option Descriptions

```
-i silent
```

Installs the application in silent mode (i.e without any interaction from the user's side). Parameters are taken from the same command line, otherwise default values are used. Default values are the ones used for the GUI mode (installation folder is /opt/CloudBackup, both DS-Client and DS-User are installed, and default language is English).

```
-i console
```

Starts the installation in console mode instead of Graphical User Interface (GUI) mode. This is intended to be used on machines where no GUI is installed.

```
-DINSTALL_FOLDER=/target/install/folder
```

Indicates the desired installation folder; if it does not exist, the folder is created by the installer application.

```
-DCHOSEN_FEATURE_LIST="DS-C, DS-U"
```

Sets which of the two components are to be installed. Possible combinations are (1) "DS-C", (2) "DS-U" or (3) "DS-C, DS-U" to select one of them (1, 2) or both (3).

```
-DXML=/source/path/filename.xml
```

Instructs the installer application to copy the file with an .xml extension from /source/path to the installation folder in /etc

```
-l de
```

Selects the language (for either Console Mode or GUI Mode installation) to be German (-l en is the default and can be omitted).

Examples

```
#!/setuplinuxclient.bin -i silent -l de -DINSTALL_FOLDER=/home/cloudbackup
```

```
#!/setuplinuxclient.bin -i silent -DCHOSEN_FEATURE_LIST="DS-C" -DXML=/scripts/xml/working.xml
```

Install or upgrade DS-Client (Console Mode)

Console mode installation allows you to install the DS-Client from a command-line (without a GUI).

Note: To go back to the previous screen in Console Mode, type “back” and press Enter.

Step 1. Log in to target installation computer

1. Logon as root

Step 2. Run Installation Package

Depending on your selections, some different screens will appear. These differences are noted below.

1. Browse the installation DVD for the installation program (setuplinuxclient.bin):
 - 32-Bit Version: from the folder /Software/DS-Client/Linux_32_bit
 - 64-Bit Version: from the folder /Software/DS-Client/Linux_64_bit

2. Run the command-line:

```
setuplinuxclient.bin -i console
```

3. The Installation starts:

Console mode offers a command-line style interface that requires single-key input commands to change settings. The command prompt is pre-ceded by a default number in brackets (for example “[0]”). If you press the Enter key, the default number is input. For a different command, press another number from the menu on the screen.

4. Choose the Setup Language:

- German: Press **[1]** and **Enter**
- English: Press **[2]** and **Enter**

Note: The selected language will be installed for the DS-Client service. Once set, the DS-Client Service language cannot be changed (for logs and popup messages). The DS-User GUI language can be changed from the Initialization screen (if the required language components have been installed).

5. The software license agreement appears. You must accept the terms of the license agreement to continue.

- Keep pressing **Enter** until you reach the end of the license agreement
- To accept: Press **[Y]** and **Enter**

6. A pre-requisite check is performed on the installation machine. This scans the hardware and Operating System for compatibility (see “**1) Hardware & Software Minimum Requirements**” on page 4).

Step 3. Choose Setup Type

1. Two Setup options are available:

Type	Description
DS-Client	Installs the DS-Client (service / daemon) components.
DS-User	Installs the DS-User (GUI) components. <ul style="list-style-type: none"> • This option is for enduser workstations. You can install DS-User on any network computer, so endusers can access the DS-Client and specify their own backup sets.

2. By default, both DS-Client and DS-User are selected for setup.

- To select only DS-Client: Press **[1]**
 - To select only DS-User: Press **[2]**
3. To proceed, press **Enter**.

Step 4. Select Installation Location

1. Select the destination directory where DS-Client will be installed. The default destination folder is:

```
    /opt/CloudBackup/DS-Client
```
2. To specify a different destination folder, type a valid path on the local computer and press **Enter**.

Step 5. Finish Installation

1. The Setup Complete screen appears once all files are copied.
2. By default, both the DS-User and DS-Client will be started upon exiting the Installation and the DS-Client will be configured to automatically start each time the installation computer boots.
 - To start only DS-User: Press **[1]**
 - To start only DS-Client: Press **[2]**
 - To only configure DS-Client to start at boot time: Press **[3]**
3. Press **Enter** to finish.

You can also manually start and stop the DS-Client service with the following commands:

```
Start DS-Client: /etc/init.d/dsclient start
```

```
Stop DS-Client: /etc/init.d/dsclient stop
```

Moving Linux DS-Client from 32-bit to 64-bit hardware

Creation Date: February 25, 2008

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Product: DS-Client (Linux)

Summary

New DS-Client installations should be done on the faster 64-bit platforms available. For existing DS-Client installations, you may eventually be required to move from the old 32-bit platform.

This article describes the following scenarios:

- [“Move DS-Client and its database to a new 64-bit machine” on page 17](#)
- [“Move DS-Client to 64-bit machine but continue using existing database \(remotely\)” on page 20](#)

Note: You must use the same version number of the Operating System and Database Server. For example: if using RedHat Enterprise Linux 6.1 ES on the old 32-bit machine, you must install those same versions and Service Packs (for 64-bit) on the new 64-bit machine.

Move DS-Client and its database to a new 64-bit machine

In this scenario, you move **both** the DS-Client installation and the database to a new 64-bit machine.

32-bit DS-Client to 64-bit machine with embedded database

1. Run Daily Admin (Setup Menu > System Activities) to dump DS-Client database to the DS-System.
 - Your DS-Client must be configured to dump the database (Setup Menu > Configuration > Parameters Tab: Database Options).
 - This dump backs up the DS-Client databases (dsclient).
Note: If you follow these steps, you will lose any statistical information gathered by the LAN Storage Discovery Tool. To preserve this information, follow the steps in [“Preserving the dslanfiles database” on page 18.](#)
2. Prepare the new 64-bit machine by installing the 64-bit Operating System.
 - [See “I\) Hardware & Software Minimum Requirements” on page 4.](#)
3. Make sure the new 64-bit DS-Client can keep the same IP Address / DNS name that was used on the old 32-bit DS-Client.
4. Install the 64-bit DS-Client on the new machine.
5. Finish the installation. If required, install any DS-Client Service Pack(s) or Hot Fix(es) to match the version on the old 32-bit machine.
6. Start the DS-Client and DS-User. When prompted, input the 64-bit DS-Client's configuration information (the same as for the 32-bit DS-Client).
7. Test the connection with the DS-System by running a Daily Admin. Verify there are no errors in the Activity Log. (You may need to Re-register the DS-Client due to the new hardware / OS.)
8. At this point, you must recover the backed up DS-Client database.
 - Setup Menu > System Activities. The System Activities Administration screen appears.
 - Click Repair. The Repair DS-Client dialog box appears.
 - Select "DS-Client database" and click OK. A recovery message appears, instructing you to restart the DS-Client service.

Preserving the dslanfiles database

The 'dslanfiles' database contains the information scanned using the LAN Storage Discovery Tool. This information is not critical to upgrade the DS-Client, however if these steps are not performed, you will lose any information that was gathered.

1. Dump the "dslanfiles" database on the 32-bit DS-Client machine.
 - If the 32-bit DS-Client is using an embedded database, use the command:

```
<installation_path>/db/pgsql/bin/pg_dump -i -Fc -h <installation_path>/db/pgsql -U dsclient -f /PATH/dslanfiles.dmp dslanfiles
```
 - If the 32bit DS-Client using external database, use the command:

```
pg_dump -i -Fc -h localhost -U postgres -f /PATH/dslanfiles.dmp dslanfiles
```
2. After installing the 64-bit DS-Client, copy the "dslanfiles.dmp" file from the 32-bit machine to the 64-bit machine.
3. Stop the DS-Client daemon on the 64-bit machine.

```
/etc/init.d/dsclient stop
```
4. Start the embedded PostgreSQL service:

```
su dsclient  
<installation_path>/db/pgsql/bin/pg_ctl start -D <installation_path>/db/pgsql/data
```
5. Drop the newly installed "dslanfiles" database with the command:

```
<installation_path>/db/pgsql/bin/psql template1 -h <installation_path>/db/pgsql  
drop database dslanfiles;
```
6. Create a new, empty "dslanfiles" database with the command:

```
create database dslanfiles template=template0 encoding='UTF8';
```
7. Perform following command to restore the "dslanfiles" to the embedded database.

```
<installation_path>/db/pgsql/bin/pg_restore -Fc -i -h  
<installation_path>/db/pgsql -U dsclient --no-owner --no-privileges --role=dsclient -d dslanfiles /PATH/dslanfiles.dmp
```
8. Start the DS-Client daemon and login to DS-User.

32-bit DS-Client to 64-bit machine with external database

1. Dump the "dsclient" and "dslanfiles" databases on the 32-bit DS-Client machine.
 - If the 32-bit DS-Client is using an embedded database, use the following 2 commands:

```
<installation_path>/db/pgsql/bin/pg_dump -i -Fc -h <installation_path>/db/pgsql -U dsclient -f /PATH/dsclient.dmp dsclient  
  
<installation_path>/db/pgsql/bin/pg_dump -i -Fc -h <installation_path>/db/pgsql -U dsclient -f /PATH/dslanfiles.dmp dslanfiles
```
 - If the 32-bit DS-Client is using an external database, use the following 2 commands:

```
pg_dump -i -Fc -h localhost -U postgres -f /PATH/dsclient.dmp dsclient  
pg_dump -i -Fc -h localhost -U postgres -f /PATH/dslanfiles.dmp dslanfiles
```
2. Prepare the new 64-bit machine by installing the 64-bit Operating System.
 - **See "I) Hardware & Software Minimum Requirements" on page 4.**
3. Make sure the new 64-bit DS-Client can keep the same IP Address / DNS name that was used on the old 32-bit DS-Client.
4. Install the external PostgreSQL Server instance on the new 64-bit machine.

5. Copy the "dsclient.dmp" and "dslanfiles.dmp" file from the 32-bit machine to the 64-bit machine.
6. Install the 64-bit DS-Client on the new machine.
7. Finish the installation. If required, install any DS-Client Service Pack(s) or Hot Fix(es) to match the version on the old 32-bit machine. (**Do not start DS-Client Service or DS-User**).
8. Modify the dsclient.cfg at /<installation_path>/etc to point to the external PostgreSQL.
 - Database Home: This is the directory where you can find "bin/psql".
 - Database Host: IP address or computer_name where the PostgreSQL instance resides.
 - Database Type: PostgreSQL
 - Database User: postgres
 - Database Password: This must be in encrypted format. Use the 'asigraenc' application in /<DS-Client_Installation_Path>/Tools to generate an encrypted version of your postgres password. (For example: ./asigraenc mypassword)
 - Database Port: 5432
9. Then you must create a new, empty external "dsclient" and "dslanfiles" database with the following 2 commands:

```
psql template1 -Upostgres
create database dsclient template=template0 encoding='UTF8';
create database dslanfiles template=template0 encoding='UTF8';
```

10. After that run the following 2 commands to restore the "dsclient" and "dslanfiles" to the external database.

```
pg_restore -Fc -i -h localhost -Upostgres --no-owner --no-privileges
--role=postgres -d dsclient /PATH/dsclient.dmp
pg_restore -Fc -i -h localhost -Upostgres --no-owner --no-privileges
--role=postgres -d dslanfiles /PATH/dslanfiles.dmp
```

NOTE: The pg_restore command only supports dump files created with equal or lower versions of pg_dump. It is best to make sure the pg_dump and pg_restore used are the same version.

11. Start the DS-Client service with the command /etc/init.d/dsclient start.
12. Launch the DS-User and input the 64-bit DS-Client configuration info as the same as 32-bit DS-Client.
13. Test the connection with the DS-System by running a Daily Admin. Verify there are no errors in the Activity Log. (You may need to Re-register the DS-Client due to the new hardware / OS.)

Move DS-Client to 64-bit machine but continue using existing database (remotely)

In this scenario, you move **only** the DS-Client installation to a new 64-bit machine. You keep the existing database at its old 32-bit location (as an external, remote database).

1. Run Daily Admin (Setup Menu > System Activities) to dump DS-Client database to the DS-System.
 - Your DS-Client must be configured to dump the database (Setup Menu > Configuration > Parameters Tab: Database Options).
2. Prepare the new 64-bit machine by installing the 64-bit Operating System.
 - See “(I) Hardware & Software Minimum Requirements” on page 4.
3. Make sure the new 64-bit DS-Client can keep the same IP Address / DNS name that was used on the old 32-bit DS-Client.
 - This means you must change the IP Address / DNS name of the old 32-bit machine where the database still resides.
 - If you cannot preserve the IP Address / DNS name of the DS-Client on the new 64-bit machine, you must ask your Service Provider to reconfigure the DS-System with the new IP Address / DNS name. After you finish installation, you must first re-register the DS-Client to reset the hardware on the DS-System (Setup Menu > Configuration > Setup Tab: Register Now).
4. Install the 64-bit DS-Client on the new machine.
 - Follow the instructions from: “Install or upgrade DS-Client” on page 6
5. Finish the installation. If required, install any DS-Client Service Pack(s) or Hot Fix(es) to match the version on the old 32-bit machine.
6. Modify the dsclient.cfg at /<installation_path>/etc to point to the PostgreSQL Server instance where the database is located on the old 32-bit machine.
 - Database Home: This is the directory where you can find "bin/psql".
 - Database Host: IP address or computer_name where the PostgreSQL instance resides.
 - Database Type: PostgreSQL
 - Database User: postgres
 - Database Password: This must be in encrypted format. Use the 'asigraenc' application in /<DS-Client_Installation_Path>/Tools to generate an encrypted version of your postgres password. (For example: ./asigraenc mypassword)
 - Database Port: 5432
7. Restart DS-Client and DS-User. Input the 64-bit DS-Client configuration info as the same as 32-bit DS-Client.
8. Test the connection with the DS-System by running a Daily Admin. Verify there are no errors in the Activity Log.

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Configure Linux DS-Client with an external PostgreSQL database

Creation Date: December 08, 2011

Revision Date: September 26, 2012

Product: DS-Client (Linux)

Summary

From v11.2, default installations of Linux DS-Client will come with an embedded PostgreSQL database (on the local machine). This article helps you to configure the Linux DS-Client to use an unembedded, external (remote or local) database.

IMPORTANT: The external PostgreSQL database must be the same version or higher than the embedded database (i.e. \geq PostgreSQL 9.1.1). If it is lower, the DS-Client will only run in standby mode due to incompatible database patches. (This is a PostgreSQL issue.)

Install Linux DS-Client and configure it with an unembedded PostgreSQL database

1. Install the Linux DS-Client on the target machine.
2. Follow the GUI to install DS-Client. **Do not start DS-Client Service or DS-User.**
3. Modify the dsclient.cfg at `<installation_path>/etc` to point to the external PostgreSQL.
 - Database Home: This is the directory where you can find "bin/psql".
 - Database Host: IP address or computer_name where the PostgreSQL instance resides.
 - Database Type: PostgreSQL
 - Database User: postgres
 - Database Password: This must be in encrypted format. Use the 'asigraenc' application in `<DS-Client_Installation_Path>/Tools` to generate an encrypted version of your postgres password. (For example: `./asigraenc mypassword`)
 - Database Port: 5432
4. Then you must create a new, empty external "dsclient" and "dslanfiles" database with the following 2 commands:

```
psql template1 -Upostgres
create database dsclient template=template0 encoding='UTF8';
create database dslanfiles template=template0 encoding='UTF8';
```

5. Find the following 2 files in the `<installation_path>/db/scripts` folder:

```
postgresdsclient.sql
postgresdslanfiles.sql
```

6. Run these scripts to initialize each database:

```
psql -d dsclient -Upostgres -f <path>/postgresdsclient.sql
psql -d dslanfiles -Upostgres -f <path>/postgresdslanfiles.sql
```

- If running PostgreSQL Server on the local (DS-Client) computer, `<path>` is the `<installation_path>/db/scripts` (default is usually `/opt/CloudBackup/DS-Client/db/scripts`).

- If running PostgreSQL Server on the a remote computer, <path> can be any location. Copy the `postgresdsclient.sql` and `postgresdslanfiles.sql` scripts to the PostgreSQL computer and run the above `psql` commands.

Note: The IP address of the local computer (DS-Client machine) must be added to the `pg_hba.conf` file located under <Postgres_Installation_Path>/data folder, in order to prevent connection problems between the DS-Client machine and the Postgres server.

7. Start the DS-Client service with the following command:

```
Start DS-Client: /etc/init.d/dsclient start
```

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Connecting to an embedded PostgreSQL database

Creation Date: December 22, 2011

Revision Date: December 22, 2011

Product: DS-Client (Linux)

Summary

From v11.2, default installations of Linux DS-Client will come with an embedded PostgreSQL database (on the local machine).

To connect to the embedded database instance that is installed with the Linux DS-Client, follow the steps below:

1. su to root user
2. In a command line type:

```
PATH_TO_PSQL/psql -h PATH_TO_EMBEDDED_PGSQL -U dsclient -d DATABASE_NAME
```

where:

- PATH_TO_PSQL is the path where psql command can be found. For DS-Client installed with embedded PostgreSQL database instance, by default, this path is:
`/opt/CloudBackup/DS-Client/db/pgsql/bin`
- PATH_TO_EMBEDDED_PGSQL is the path where the Embedded Database is installed. By default, this path is `/opt/CloudBackup/DS-Client/db/pgsql`. This path value can be found in the DS-Client installation directory, `/etc/dsclient.cfg` file, in the Database Host value.
- DATABASE_NAME is the database name to connect to, found in the Embedded PostgreSQL database instance.

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DS-Client Binary Version Check (--version)

You can view the DS-Client binary version by doing the following:

1. Through the DS-User GUI, when connected to the DS-Client (Help menu > About DS-User > DS-Client Info...).

-OR-

2. Via command line (also works if the daemon is not running):
 - 'CD' to the DS-Client installation directory's /bin folder. By default, this is:
`/opt/CloudBackup/DS-Client/bin`
 - Enter the command:
`./unixdsclient --version`

Uninstalling

You can uninstall the software with the following command lines:

GUI mode command:

```
<DSCLIENT FOLDER>\_DS-Client_installation\Uninstaller
```

Console mode command:

```
<DSCLIENT FOLDER>\_DS-Client_installation\Uninstaller -i console
```