

WINDOWS 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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This document may contain sample screen shots, used to demonstrate Asigra Cloud Backup™ procedures. All information appearing in this document is used for illustration purposes only, and it should be considered fictitious.

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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 or upgrade

I) Supported Platforms

Platform	Version
Windows® XP x86 (32-bit)	<ul style="list-style-type: none"> Professional SP3 Media Center SP3 Home SP3
Windows® XP x64 (64-bit)	<ul style="list-style-type: none"> Professional SP2, or Media Center SP2
Windows® 2003 x86 (32-bit) or x64 (64-bit)	<ul style="list-style-type: none"> Standard SP2 / R2 SP2 Enterprise SP2 / R2 SP2 SBS SP2 Data Center SP2 (64-bit only)
Windows® VISTA x86 (32-bit) or x64 (64-bit)	<ul style="list-style-type: none"> Ultimate SP2 Enterprise SP2 Home Basic SP2 Business SP2 Home Premium SP2
Windows® 2008 x86 (32-bit)	<ul style="list-style-type: none"> Standard SP2 Enterprise SP2
Windows® 2008 x64 (64-bit)	<ul style="list-style-type: none"> Standard SP2 / R2 SP1 Enterprise SP2 / R2 SP1 SBS SP2 Data Center SP2 / R2 SP1
Windows® SBS 2011 x64 (64-bit)	<ul style="list-style-type: none"> Standard
Windows® 7 * x86 (32-bit) or x64 (64-bit)	<ul style="list-style-type: none"> Ultimate SP1 Professional SP1 Enterprise SP1
Windows® 2012 x64 (64-bit)	<ul style="list-style-type: none"> Essentials Standard Datacenter
Windows® 8 x86 (32-bit) or x64 (64-bit)	<ul style="list-style-type: none"> Pro Enterprise

*NOTE: In some cases (see Microsoft KB972813) on German Windows 7 Professional, the installation will fail as it installs the MS SQL Server 2005 Express database. This occurs if a language pack (MUI) was used to install the German interface. If this occurs, installation of DS-Client is not supported on that target machine.

II) 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	1 GB or more

Software	Version
Microsoft® SQL Server 2008 R2 SP1 Express (For DS-Client database)	(Free) All necessary drivers are installed automatically. <ul style="list-style-type: none"> • SQL Server 2008 R2 SP1 Express has a 10GB limit for the databases. If you near 10GB you must activate the DS-Client Database Automatic Expansion feature or upgrade to MS SQL Server. • SQL 2008 R2 Express edition will use only 1 physical CPU (but it uses all the cores if a multi-core processor is present) and it will use up to 1 GB RAM for the buffer pool (even if the computer has more).
- OR -	
Microsoft® SQL Server (For DS-Client database)	(Full versions: Separate purchase is required. SQL Server must be installed and running.) <ul style="list-style-type: none"> • * SQL 2005 SP4 • * SQL 2008 SP3 • * SQL 2008 R2 SP2 • * SQL 2012 SP1 • "case insensitive" sort order
* NOTE <ul style="list-style-type: none"> • The (free) Express edition from these MS SQL Server versions are also supported. They have similar limitations to the 2008 R2 SP1 Express database that comes automatically with the DS-Client installation. However, if you want to use an Express edition, it is much simpler to use the one that comes automatically with the installation. 	

III) 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 by the Installation program in **"Step 5. Enter Registration Information" on page 9.**

- 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.

IV) 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.

V) Log in to target installation computer

- Make sure you have logged on as the target DS-Client computer's Administrator (or a user with equivalent privileges).
- Create a Windows User Account for the DS-Client service to use. This account should be a member of the Administrators Group.
- For MS SQL Server 2008/2012 (both Express and Full versions), whatever user account that is logged in to install DS-Client must also be added to the MS SQL 2008/2012 "**Logins**" and be given the "**sysadmin**" server role.

Note: If you are installing to a fresh machine (with no database instance) and you want the DS-Client installation to install the SQL database, you can disregard this note, since the user account that installs SQL 2008/2012 is automatically granted those database rights.

Run the DS-Client Installation Program

Step 1. 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\Windows_32_bit\dsclni_11_2_0_0.win.exe`
 - 64-Bit Version:
`\Software\DS-Client\Windows_64_bit\dsclni_11_2_0_0.win64.exe`**[Option B]** Run the Installation Center for Windows Products (**setup.exe**) located in the root directory of the installation DVD.
 - The Installation Center is a common launcher for all Windows-platform installations. It allows you to choose the specific installation package you want, without the need to browse the installation DVD.
2. Choose the Setup Language:
 - English
 - German

*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. If you run the English installation, you will not be able to switch to German using the Win32 GUI (dsuser.exe).*
3. A pre-requisite check is performed on the installation machine. This scans the hardware and Operating System for compatibility (see **"II) Hardware & Software Minimum Requirements"** on page 5).
4. Click "Install".
 - Follow the GUI to install DS-Client, or if the file "inst_param.txt" exists in the current directory, setup will run the installation based on the specified XML installation template file (if it exists). This may reduce the screens (simplified installation), or eliminate the need for user interaction entirely (silent mode installation).
5. The License Agreement page appears. You must accept the license agreement to continue. Click Next.

Step 2. Select Destination Location

1. Specify the Destination Folder.
 - The default is: **C:\Program Files\CloudBackup\DS-Client**
 - To specify a different destination folder, click the corresponding Browse button and specify a new directory path.
2. Click Next.

Step 3. Select Installation Options

1. The Select Installation Options screen appears.
2. Three options are available:

Type	Description
Typical	Installs all the essential DS-Client and DS-User Software.
DS-User only	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. See: DS-User Only Installation
Custom	Allows you to selectively install DS-User and DS-Client components (you can install all components). Additional components include support for MS SQL Server, NetWare, MS Exchange, UNIX, as well as the DS-User Guide (PDF file). See: Custom Installation

3. By default, the Typical installation is selected.
4. Click Next. Refer to the section pertaining to the installation option selected:
 - **Typical Installation:** Setup continues from “[Step 4. Select Microsoft SQL Server Instance](#)” on page 8
 - **DS-User Only:** See “[DS-User Only Installation](#)” on page 15.
 - **Custom:** See “[Custom Installation](#)” on page 12.

Step 4. Select Microsoft SQL Server Instance

1. The Select a Microsoft SQL Server Instance screen appears.
2. You must select if you want to use a database prefix. This is useful if you host multiple DS-Client databases on the same server\instance (as a common remote database location):

do not use prefix	(Default). The database name will be dsclient .
use customized prefix	The prefix is used to make sure each DS-Client installation has a unique database name (in the form: <Prefix>_<dsclient>). <ul style="list-style-type: none"> • This can be up to 32 characters long; it must start with a letter and the content can be numbers (0-9), letters (a-z), or the “_” (underscore) character.
use DS-Client number	The DS-Client number will be used as a prefix to make sure the name is unique (e.g. if the DS-Client number is DSCXXX00002 the db name will be “DSCXXX00002_dsclient”). <ul style="list-style-type: none"> • Note: Do not use this option if you are performing Mass Deployment installation to a “Template DS-Client” (confirm this with your Service Provider).

3. You must specify the database instance.
 - **Install** (local computer only): If this option is available, you can install a new SQL 2008 R2 Express Instance. Click Next and the installation runs SQL 2008 R2 Express setup. This requires the Microsoft .NET Framework, which will be automatically installed by the setup program, if required. This might take several minutes to finish.
WARNING: SQL 2008 R2 Express has a maximum database limit of 10 GB.
 - **Select:** A list of database Instances currently visible from the installation computer appears. Select one of the database Instances from the list, or type* in the target computer and instance manually (computer_name\instance_name).
Note 1: The MS SQL Server must be configured with a “case-insensitive” sort order.
** Note 2: For Windows SBS editions, the Windows internal databases (MICROSOFT##SSEE and SBSMONITORING) are excluded from selection. DO NOT manually type either of these databases for your database instance selection.*

<p>Remote SQL Server Instances</p>	<p>The following requirements apply if you are installing to a remote SQL Server.</p> <ul style="list-style-type: none"> • The remote database must be installed on a supported operating system and you must ensure that the time zone is the same as the one on the DS-Client computer. • Make sure the SQL Server has rights to dump the DS-Client database in the installation's "\db" subfolder (specified in "Step 2. Select Destination Location" on page 7). • If there is a firewall enabled between the DS-Client computer and SQL server machine, then make sure the DS-Client can access the remote SQL Server. • On Windows XP/VISTA: Go to the Windows Control Panel > Administrative Tools > Local Security Setting > Local Policies > Security Options > Network Access: Sharing and security model for local accounts. Set its value to "Classic - Local users authenticate as themselves".
<p>MS SQL Server 2008 R2 Express</p>	<p>By default, MS SQL Server 2008 R2 Express is only installed with local connection settings.</p> <p>You must change the settings from SQL Server Configuration Manager:</p> <ul style="list-style-type: none"> • Enable the TCP/IP under SQL Server Network Configuration > Protocols for SQLEXPRESS. • Make sure the SQL Server Browser is running.

4. Click Next.

Step 5. Enter Registration Information

1. The Enter Registration Information screen appears.
2. Enter the appropriate information in each field of the screen.

<p>Name</p>	<p>Enter a descriptive name for this DS-Client. This name appears in brackets in the Connect to DS-Client Service screen. (In the JAVA version, it also appears in the list of available DS-Client computers.)</p>
<p>Account #</p>	<p>Enter your Account number.</p>
<p>DS-Client #</p>	<p>Enter your DS-Client number.</p>
<p>Browse</p>	<p>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.</p>

3. Your Account and DS-Client numbers must match those provided to you by your Service Provider System (see: **III) Obtain the DS-Client Installation Program** in the Before You Install section).
4. Click Next.

Step 6. Specify DS-System Address

You received the IP address of the DS-System (see: **III) Obtain the DS-Client Installation Program** in the Before You Install section). The DS-Client requires this address in order for it to connect to the DS-System.

1. The Specify DS-System Address screen appears.
2. Enter the IP address of the DS-System your DS-Client will be using. 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.
3. Click Next.

Step 7. DS-Client Startup / Service Logon

1. The DS-Client Service Logon Account screen appears. You are prompted to enter the account for the DS-Client **service** to use.
 - **Local System Account:** This option is available if you are installing to a DS-Client using a local database (see: **"Step 4. Select Microsoft SQL Server**

- Instance” on page 8).** It will use the Windows “Local System account” instead of a specific user account. This option is intended for laptop users.
- **This account:** Enter the Windows User Account and Password the DS-Client service will use in the appropriate fields:
 - This must be a valid Windows user account that has already been created.
 - This account must be a member of the Administrators Group.
 - **Register DS-Client SPN to Active Directory:** In Windows Domain environments, this option may appear to allow the DS-Client to offer a more secure “Logon using security context” feature provided by Active Directory. If selected, the installation registers “CloudBakSvc” as the DS-Client SPN in Windows Active Directory. (See the DS-Client Knowledge Base article “Logon using security context” for more information.)
2. By default, the Auto Start box is checked. This means the DS-Client service starts automatically each time the DS-Client computer boots (recommended).
 - Uncheck this box if you do not want the DS-Client Service to start on reboot. (This means you must manually start the Service before you can use it.)
 3. Click Next.

Step 8. Select Encryption Key(s)

1. The Encryption Keys Setup screen appears. In this screen, you must set the encryption key that the DS-Client will use. (See: **IV) Select your encryption key(s)**)
 - Choose an encryption type (DES or AES) and level (# of bits) from the list.
 - 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, installation 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. It is necessary if you ever need to reinstall your DS-Client (e.g. if the computer was destroyed in a disaster) to a new computer.
2. **Private Key:** You must set the private key for your DS-Client.
 - Backup data from your DS-Client installation will be encrypted with this key.
3. **Account Key:**
 - Common backup data from all your DS-Client installations will be encrypted with this key.
4. **Allow encryption key forwarding to DS-System:**
 - Check to have DS-Client forward the encryption key(s) to the DS-System the first time it connects with DS-System.

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.
5. Click Next.

Step 9. Create Initial Backup Set

1. The Create Initial Backup Set screen appears. This is optional. It will create a backup set of the DS-Client computer, consisting of Registry / System State and the My Documents folder for each user on the DS-Client computer.

Note: This screen only appears if this is the first installation of the DS-Client on the target computer.

- Do not create default backup set
 - Create default backup set
 - Create default backup set and show total file size
2. Click Next.
 - If you selected to create an initial backup set, a second screen will appear for you to view the contents of this backup set. When you are satisfied with the selection, click Next.

Step 10. Start Copying Files

1. The Start Copying Files screen appears.
2. Click Next.
3. The installation copies the files according to your setup specifications.

Step 11. Database Dump File

If you are installing a new version of the DS-Client, a dump of your old DS-Client database file may be made. Otherwise, the installation skips to [Step 12. Finish Installation](#).

1. The Database installation screen appears.
2. Select the dump location.
 - The default is in the \\...\DS-Client\db subdirectory
 - To specify a different folder, click the corresponding Browse button and specify a new directory path.
3. Click Next.

Step 12. Finish Installation

1. The Setup Complete screen appears once all files are copied.
2. Click Finish to complete the installation.

Custom Installation

A custom installation allows you to select specific components to install (or exclude from installation).

1. The Select Components screen appears after the Select Installation Options screen.
2. Select Components as required, by clicking the checkboxes beside each item. A total file size for the selected component is provided on the right.
3. Setup continues from [Step 4. Select Microsoft SQL Server Instance](#) of the Typical installation. Some screens may not appear, depending on the item(s) selected for installation.
 - In the Encryption Keys Screen, the Account Encryption Key can be specified. This is only necessary if you have more than one DS-Client.

DS-Client Standalone 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.

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

- See "Manual Upgrade" on page 13.
- See "Auto-Upgrade" on page 14.

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 service.
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. In the DS-Client DB folder, check if any of the database patches returned any errors. (You can find the DB folder in the DS-Client Installation directory. The default is C:\Program Files\CloudBackup\DS-Client on Windows.)
6. If no errors occurred from the database patches, start the DS-Client service.
7. Check if you can connect to the DS-Client service using the same (upgraded) version of the DS-User GUI.
 - If the connection is successful, check the DS-Client Event Log for errors.
8. Run a Daily or Weekly Admin to see if the DS-Client can connect to the DS-System.
9. 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 service 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 Administrator (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) Supported Platforms"** 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 **setupwin.exe** from the Installation DVD folder:

```
\\Software\DS-Client\DS-User\Windows\
```

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

DS-Client Installation:

- Follow the same steps from the section **"Run the DS-Client Installation Program"** on page 7 until you reach the Select Installation Type screen.
 - Select DS-User.
 - Continue clicking Next until the Specify TCP/IP Parameters screen appears.
 - Enter the TCP/IP address of DS-Client. If the DS-Client is located on the same subnet as your workstation, you may leave this field blank.
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.

Grid DS-Client Installation

Grid DS-Client is a configuration of several DS-Client computer installations working together **with a common set of DS-Client databases** to balance the processing load in a high availability environment. From the DS-System perspective, the Grid DS-Client is a single DS-Client with the same Registration Information on each node.

NOTE: You must be familiar with installing a Typical Windows DS-Client (See [“Run the DS-Client Installation Program” on page 7](#)).

Before Installing (Grid DS-Client)

Before Installing any nodes of a Grid DS-Client, make sure of the following:

1. Supported platforms:
 - All DS-Clients that will be part of the Grid DS-Client must be installed on supported Operating Systems ([See “I\) Supported Platforms” on page 4](#)).
 - Hardware and software minimum requirements are listed in section [“II\) Hardware & Software Minimum Requirements” on page 5](#).
 - Operating Systems are recommended to be similar (i.e: in the same Grid, you should only use 64-bit DS-Client installations).
2. Database considerations:
 - Database server must be common to all DS-Client nodes in the same Grid.
 - The same databases (e.g. ‘dsclient’, ‘dsdelta’, ‘dslanfiles’) must be used for all DS-Client nodes in the same Grid.
3. Encryption key(s):
 - Both Private and Account Encryption keys must be the same for all DS-Clients belonging to the same DS-Client Grid.
4. DS-Client Windows Service Account:
 - The service account must be the same for all DS-Clients belonging to the same Grid in order to avoid problems with Database connections (Daily and Weekly Admin performing database backup), Local Storage issues, etc.
 - Each node’s service account must have enough credentials to remotely start/ stop the DS-Client service on all other nodes. This is required for the “Auto upgrade” feature.
5. DS-Client computers in same Windows domain:
 - All DS-Client computers must be members of the same domain.
 - Each computer must have the same software installations to backup any of the special backup types (e.g. NetWare client, MySQL client, etc.).
 - Each computer must have the same access permissions to all network resources.
6. All nodes (including the database server, if using a remote database) are synchronized to the same time server and configured to the same time zone to ensure time-consistency. Otherwise the logs (backup generations) will be subject to unpredictable scenarios due to inaccurate timing and confusing (or even failure) scenarios may occur.
7. On each node, perform the following (if applicable):
 - On Windows 2003 / XP / VISTA / 2008 / 7: Go to the Windows Control Panel > Administrative Tools > Local Security Settings > Local Policies > Security

Options > Network Access: Sharing and security model for local accounts.
Set its value to “Classic - local users authenticate as themselves.”

- On Windows VISTA: Go to the Windows Control Panel > Network and Internet > Network and Sharing Center: the option “File Sharing” should be set to ON.
- On Windows 2008 / 7: Go to the Windows Control Panel > Network and Internet > Network and Sharing Center > Change advanced sharing settings: the option “Turn on file and printer sharing” should be set to ON.
- On Windows XP / VISTA / 2008 / 7, configure the firewall setting:
 - For XP, make sure “File and printer sharing” is open.
 - For VISTA / 2008 / 7, make sure “File and printer sharing” and “Remote Administration” are in the exception list.
- On Windows VISTA / 2008 / 7: Verify that UAC (User Account Control) is turned off.
- On all Windows platforms: Check if the firewall allows remote control of the DS-Client service between the nodes with the following commands:

```
sc \\[other-node] start|stop ds-client  
taskkill /S \\[other-node] /IM dsclient.exe
```

Note: Replace [other-node] with the IP address or machine name of the target node. If these commands fail, you have a network or configuration problem that you must resolve before you can continue.

8. Port “4410” is used for the communication between nodes in a Grid DS-Client. This port must be opened on all nodes of the Grid DS-Client.

Grid DS-Client Installation Steps

1. Log in to each of the target DS-Client computers as an Administrator-level user.
 - Create a User Account for the DS-Client to use. This account must be member of the Administrators Group / Domain Administrators Group.
 - **Make sure the conditions in “Before Installing (Grid DS-Client)” on page 17** have been met.
2. Run the DS-Client Installation on one of the computers that will belong to the DS-Client Grid.
 - Follow the steps in **“Run the DS-Client Installation Program” on page 7**, however do not start the DS-Client service or DS-User GUI once you reach the end of the installation.
 - Use the **same** Account Number, DS-Client Number, and Encryption Keys when installing each node.
 - When prompted (after setup finishes copying the installation files), choose to “Create new database”.
 - Make sure the Database Server you use is configured to access each of the other DS-Client computers’ “DS-Client Buffer” directory (e.g. read/write permissions to the \temp buffer).
3. Do the same on every computer that will belong to the same DS-Client Grid.
Remember:
 - Use the **same** Account Number, DS-Client Number, and Encryption Keys when installing each node.
 - When prompted (after setup finishes copying the installation files), choose to “Keep the existing database”.
 - Do not start the DS-Client service or the DS-User GUI once you reach the end of each installation.

4. Once you have installed all the DS-Clients, run **DS-Client Setup** on one of them (from Start > All Programs > Asigra DS-Client > DS-Client Setup).
 - When you reach the Enter Grid DS-Client Information screen, select the value: "Configure Grid DS-Client".
 - In the DS-Client Grid Configuration window, fill in the required information:

hostname	the hostname of the DS-Client machine where you are currently running the setup
IP	<p>the internal IP address of the DS-Client machine (on LAN) and the external IP address of the DS-Client machine (for WAN).</p> <ul style="list-style-type: none"> • The internal IP addresses will be used to establish communication between the members of the Grid DS-Client. • The external IP address(es) will be used to validate DS-Client connectivity to DS-System.

- Continue adding the hostname, internal IP address, and external IP address for all the other DS-Clients that will belong to the Grid.
 - Do not change any other values.
5. Finish the DS-Client setup and start the DS-Client service on the node where you ran the DS-Client Setup application.
 6. Start the DS-Client service on all the DS-Clients that belong to the Grid.
 7. Initialize the DS-User with all the IP addresses of the DS-Clients that belong to the grid and connect the one that becomes available in the DS-User GUI.
 8. The DS-Client that will allow DS-User connections is called the Main DS-Client of the Grid. The other DS-Clients that joined the Grid are called Leaf/Node DS-Clients.
 - Once you successfully establish a GUI connection to the Main DS-Client, you can check the status of the Grid in the Grid Menu > Grid Status option.

Upgrading from a Standalone DS-Client to a Grid DS-Client

Identify the following for the standalone DS-Client:

- The database server and database names
 - The DS-Client service account
 - The DS-Client encryption keys (both private and account)
 - The IP address (internal and external)
1. Stop the DS-Client service on the existing DS-Client computer.
 2. Install the DS-Client software on every computer that will belong to the same DS-Client Grid.
 - Point to the same database that is used by the Standalone DS-Client you are upgrading.
 - Use the same encryption keys.
 - Do not start the DS-Client service or the DS-User GUI once you reach the end of each installation.
 3. Follow the same steps as described above in section **"Grid DS-Client Installation Steps" on page 18.**
 4. After upgrading, the DS-Client must be registered with DS-System again (DS-User > Setup > Configuration: Register Now).

Grid DS-Client Upgrade

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

Upgrading the Grid DS-Client software version (Auto-Upgrade)

If DS-System has an appropriate upgrade package for download, Grid DS-Client can Auto-Upgrade like regular DS-Clients.

- Each node will upgrade individually.
- The first node that upgrades to the higher version will stop all other nodes for the upgrade. After the upgrade is finished, all nodes will be started automatically.
- When a node is started, if its version is lower than any of the other nodes, it will perform Auto-Upgrade first.
- See "Auto-Upgrade" on page 14.

Upgrading the Grid DS-Client software version (Manually)

These steps describe how to upgrade a Grid DS-Client from one version of the software to another.

1. Stop all DS-Client services on all the computers in the Grid DS-Client.
2. Run the Service Pack / Release / Hot Fix package on each DS-Client computer, using the same steps as for a Standalone DS-Client.
3. Start all the DS-Client services that are part of the Grid DS-Client.

Changing the Grid DS-Client

If you want to add new nodes, remove nodes, or change the hardware / software of an existing node's hardware configuration, the Grid DS-Client must be re-registered with the DS-System.

- If configured, the DS-System may require you to register within a given time window specified by your Service provider (from DS-User: Setup menu > Configuration: Register Now).

Ports used by Grid DS-Client

DS-Clients that belong to the same Grid DS-Client communicate with one another using the port number 4410. Communication is based on the Internal IP address information provided when the Grid DS-Client was installed (See "Grid DS-Client Installation Steps" on page 18.).

- Make sure there is no firewall on the Grid DS-Client LAN that blocks communication on port 4410.
- Make sure DS-System is accessible from any of the DS-Client(s) that belong to the same Grid DS-Client.

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

Creation Date: March 05, 2008

Revision Date: March 05, 2008

Product: DS-Client (Windows)

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 22](#)
- [“Move DS-Client to 64-bit machine but continue using existing database \(remotely\)” on page 23](#)

Note: You must use the same version number of the Operating System and Database Server. For example: if using Windows 2003 Enterprise SP1 and Microsoft SQL Server 2005 SP2 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.

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 & dsdelta).
Note: The dslanfiles DB is not necessary to recreate a working DS-Client. If you follow these steps, it will not be restored and you will lose any statistical information gathered by the LAN Storage Discovery Tool. To preserve this information, create an MS SQL Server backup set of the DS-Client computer's "dslanfiles" database and back it up.
2. Prepare the new 64-bit machine by installing the 64-bit Operating System.
 - See "I) Supported Platforms" on page 4.
 - Create a user account for DS-Client service that is a member of the Administrators Group.
3. Make sure the new 64-bit DS-Client can keep the same IP Address and hostname (NetBIOS name) that was used on the old 32-bit DS-Client.
4. Install a MS SQL Server instance on the new 64-bit machine. This can be the same computer as the DS-Client or on a remote machine.
5. Install the 64-bit DS-Client on the new machine.
 - Follow the instructions from: "Step 1. Run Installation Package" on page 7
 - When prompted, choose a database instance on the new 64-bit machine.
6. 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.
7. Start the DS-Client Service and run DS-User. At this point, you need to recover the backed up DS-Client databases (from step 1).
 - Setup Menu > System Activities. The System Activities Administration screen appears.
 - Click Repair. The Repair DS-Client dialog box appears.
 - Select "DS-Client & delta databases" and click OK. A recovery message appears, instructing you to restart the DS-Client service.

Note: If you changed the hostname (NetBIOS name) of the DS-Client computer, you must run DS-Client Setup to register the new hostname in the DS-Client database (normally found in Start > All Programs > Asigra DS-Client > DS-Client Setup). When prompted, enter the same Encryption Key(s) and click Next > through all the Wizard screens to finish.

8. Restart DS-Client and perform the following:
 - Start DS-User and connect to the DS-Client.
 - If you changed the hostname, you will be prompted to migrate any local backup sets (backups of data on the DS-Client computer itself).
 - You must re-register the DS-Client to reset the hardware on the DS-System (Setup Menu > Configuration > Setup Tab: Register Now). Contact your Service Provider, since they must allow you to do this.
Note: Re-registration is not necessary if your Service Provider has turned off "Requires Registration" for this DS-Client.
 - Test the connection with the DS-System by running a Daily Admin. Verify there are no errors in the Activity Log.

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 a 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) Supported Platforms” on page 4.
 - Create a user account for DS-Client service that is a member of the Administrators Group.
3. Make sure the new 64-bit DS-Client can keep the same IP Address and hostname (NetBIOS name) that was used on the old 32-bit DS-Client.
 - This means you must change the IP Address of the old 32-bit machine where the database still resides.
 - If you cannot preserve the IP Address and hostname 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.
4. Install the 64-bit DS-Client on the new machine.
 - Follow the instructions from: “Step 1. Run Installation Package” on page 7
 - When prompted, choose the SQL Server instance where the databases are located on the old 32-bit machine.
 - When prompted, choose to “Keep the existing databases”.
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. Restart DS-Client and perform the following:
 - Start DS-User and connect to the DS-Client.
 - If you changed the hostname, you will be prompted to migrate any local backup sets (backups of data on the DS-Client computer itself).
 - You must re-register the DS-Client to reset the hardware on the DS-System (Setup Menu > Configuration > Setup Tab: Register Now). Contact your Service Provider, since they must allow you to do this.

Note: Re-registration is not necessary if your Service Provider has turned off “Requires Registration” for this DS-Client.

 - 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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Automatic upgrade of MS SQL Server 2005 Express to MS SQL Server 2008 R2 Express

Creation Date: February 19, 2013

Revision Date: February 19, 2013

Product: DS-Client (Windows)

Summary

The v12.0 installation (and higher) will automatically upgrade the MS SQL Server Express database instance used by a Windows DS-Client from 2005 to 2008 R2.

Automatic Upgrade

An automatic upgrade is a 'silent' upgrade (no user interaction required) that is performed when the DS-Client downloads an upgrade package from the DS-System. The upgrade of the database version proceeds under the following conditions:

1. MS SQL Server 2005 Express must have only the following databases:
 - Default databases: master, model, msdb, pubs, Northwind, tempdb
 - DS-Client specific databases: dscslamon, dsclient, dslanfiles, dsdelta (the installation will accept databases if the name starts with a database prefix)
2. The MS SQL Server 2005 Express must be on the local machine.

If the above checks pass:

- The installation upgrades the existing MS SQL Server 2005 Express (32-bit) to MS SQL Server 2008 R2 Express SP1 (32-bit).

If the above checks do not pass (e.g. if there are more databases than the ones listed above):

- The installation will continue and apply the required database patches to the DS-Client databases on the existing MS SQL Server 2005 Express database instance.

Manual Upgrade

A manual upgrade is performed when the end-user runs the installation or upgrade package executable.

- For manual upgrades, the user is prompted if they want to upgrade the MS SQL Server 2005 Express instance.
- If the user chooses to upgrade, no conditions on additional databases apply, and the database will be upgraded to a MS SQL Server 2008 R2 SP1 instance.

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