

Columbus Software Deployment

User Manual

Module version 7.6

columbus

Issue: 12.18

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General

Thank you very much for choosing brainwaregroup and Columbus. Columbus and Spider provide you with powerful tools for software and lifecycle management.

This manual will support you in using the manifold possibilities of Columbus in the best possible way for your company.

0.1 Typographical conventions

This manual uses various formats to highlight certain terms and actions. Specific notes and tips are shown with a different background color, according to their importance.

Format	Description
Bold font	Elements in the software or in the operating system, such as menu items, buttons or elements of a selection list
<i>Italic font</i>	Emphases (important details) and links to other chapters or documents
Triangle symbol "➤"	Instruction step
Angle bracket ">"	Command menu sequences, e.g. File > Open
System font	Directories, code and script samples
CAPITAL LETTERS	Key names, e.g. SHIFT, CTRL, or ALT
KEY+KEY	Key combinations, i.e. the user has to hold one key and press another simultaneously, e.g. CTRL+P or ALT+F4.

Note	Used for notes or tips which facilitate the work or for additional information which enhances understanding for the product.
-------------	--

Important	Information which should be observed by the user, because otherwise problems or additional work may be caused in operation.
------------------	---

Attention	Information which should be observed by the user in order to prevent malfunctions of the system (crashes, data loss, system failure).
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0.2 Help

Please visit our **Website** <http://www.brainwaregroup.com> for additional information and support. Here you can find all documents, a **KnowledgeBase** <https://kb.brainwaregroup.com/> as well as a support form if you have questions for our specialists.

Support

The support page features a link to the **KnowledgeBase** <https://kb.brainwaregroup.com/>, the support form and information about our customer service.

- Open **www.brainwaregroup.com** <http://www.brainwaregroup.com> in your browser and click on **Support and KnowledgeBase** on the right side.
- Start your search in the **KnowledgeBase** where you can find a list of the most common support cases

If nothing matches your search criteria, you may use the support form for advanced information. Please provide a detailed description of your problem so that our specialists can help you as quick as possible.

- Click on Support Form.
- Please fill in at least the fields marked with an asterisk (*) and click on **Send Question**
 - ℹ You will receive a confirmation that your question has been received in the system.

The support page contains the telephone numbers necessary for telephone contacts.

Documentation

A separate download area is available on our web site for the currently available documentation. This area contains all manuals in PDF and CHM format in German and English language. At present, some of the technical manuals are only available in English.

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- Click on **Login**, enter your **User name** and **Password** and then click on **Register**.
- Please select **Documentation** as download type, then select the desired product and click on **Search**
 - ℹ An overview of all available documents will be displayed.
- Click on the desired format and language to download the PDF/CHM file in the desired form.

You will find the Acrobat Reader on our support page or directly under www.adobe.com.

Note

During the installation the documents are copied by default to the directory named `[C:\Program Files]\Columbus`. In order to display the Console help in German you will have to rename the file `CMC_de.chm` in the `\Console` directory to `CMC.chm`.

Training information

brainwaregroup is taking all efforts to ensure that our products and solutions will be used and operated in an appropriate, qualified and proper way. Therefore, we are offering various training courses. You can find all information about training types and dates under the **Training** http://www.brainwaregroup.com/de-ch/kalender/training.html?utm_source=bwg.KC&utm_medium=referral menu point

0.3 Licensing

Relevant for licensing is the number of managed assets based on the valid price list at the time of purchasing the license.

Managed assets are computer systems, e.g. laptops, desktops, servers, virtual servers, thin clients, mobile devices, tablets, every kind of asset for which software can be managed or for which another active management is technically available.

Such an active management can be e.g. the installation of the operating system, the inventORIZATION or the distribution of software (no definitive list). The service desired by the customer determines the suites or modules to be licensed.

A license is basically bound to one computer, regardless whether the license is used only once or continuously.

Apart from computers, Columbus is also able to collect data from additional network devices (routers, switches, printers, etc.) which are administered as so-called *Not Managed Devices*. These devices require no Columbus license as long as they have the status *Not Managed*.

Columbus has an active license check for all Columbus modules. License limit violations are signaled both on the Console as well as in the log file.

Summary

The brainwaregroup licensing rules comprise the following:

- Each <ASS> operated by Columbus requires a license.
- The transfer of a license to another computer is limited to replacement purchases.

In case of a license violation

- you will be notified at the start or during your work with the Console,
- entries are generated in the log files.

Important

If the number of managed assets increases, the customer shall bind himself/herself to obtain a new license for the additional ones within 30 days. The Software can restrict or stop the operation after an under-licensing period of 30 days.

A license comprises the temporally unlimited, non-exclusive usage right for the current version of the Software including all hot fixes within one year from the invoice date.

CHAPTER 1

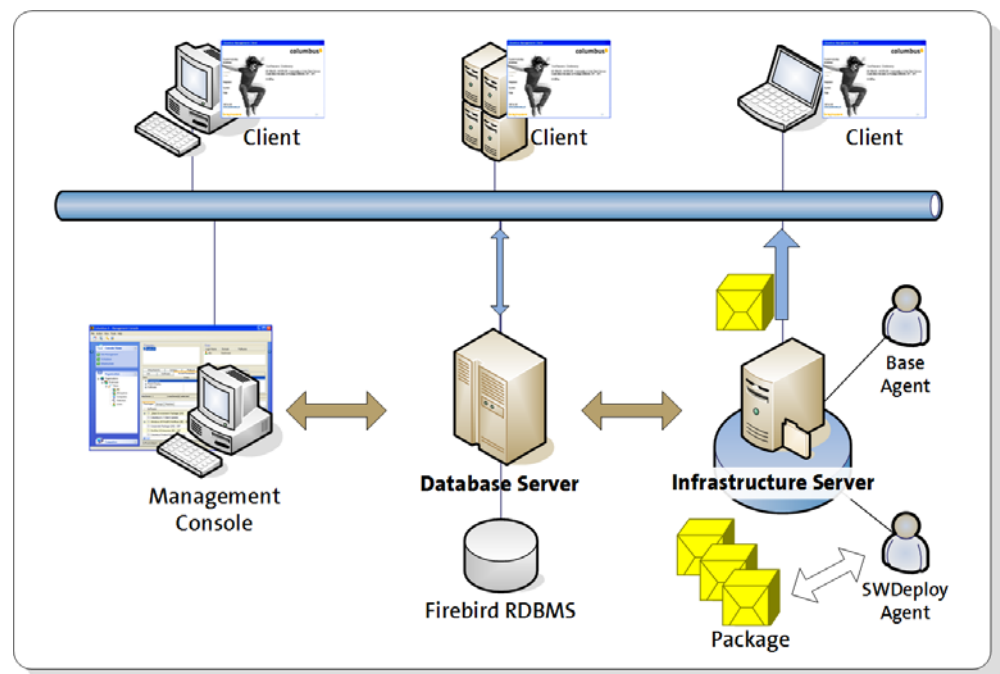
Product Description

In this chapter

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This chapter gives a short introduction to the material and describes the basic functions of Columbus Software Deployment.

1.1 Function



1.2 System components

The following explains the system components and their basic functions which are required for a Columbus system.

1.2.1 Master Server

The Master Server, which also contains the Columbus Database, is the core of a Columbus System which is used by all components to communicate with each other. All required information is collected in the Columbus Database and is therefore also available for a comprehensive reporting.

In principle, the Columbus System is based on the fact that, on the one hand, the current status of a device is saved in the database and, on the other, that a new target status is defined by allocation of jobs (e.g. software, operation system) which is then implemented by cooperation of all involved components.

The database basis is Microsoft SQL Server. From the point of view of function, performance and security, this product will certainly meet highest requirements. In case of medium-sized and small installations, it is also possible to use an Express Edition, which does not entail any license costs.

1.2.2 Site Server

The Columbus Site Server provides the operational platform for each group of agents for the operation at a certain location. All Management Clients communicate with the Site Server which in return communicates with the central Master Server.

This clearly structured communication represents a simplified configuration of routers and firewalls and allows for a clear definition of the usable bandwidths and centralized security.

Since Columbus allows to use any amount of such Site Servers, they may be used in subsidiaries in which the access from outside (even in the company's intranet) is impossible due to strict security guidelines.

A Site Server has always the possibility to offer the functionality of all modules in the form of agents which have to be activated. Which agents are eventually going to be activated on each server, depends from the current demands of the location. Depending on the size of the environment it could make sense to use several Site Servers in one location. The agents, which will be activated on the Site Server, will manage e.g. the local depots (directories) which contain e.g. the Packages and disk images for the operating system installation.

1.2.3 Management Console

The management tool of Columbus is the Management Console (CMC). In the Console, data can be reviewed and orders are given for the computers.

Except for a few special functions, the Console does not directly communicate with Clients, but via Master Server. This provides a highly scalable environment in which also the communication paths to be used, and thus router and firewall configurations, are clearly defined.

The Console can either be installed on a central server or on an individual administrative Client.

Important

The Management Console enables the access to a variety of functions including the complete new setup of computers. The access to the Console and the definition which user should be allowed to use which functions should be well thought over in order to minimize the risk of operating errors.

1.2.4 Management Client

The Management Client component is installed on the target computers and checks at each start or depending on the configuration at certain times if allocated packages are available.

Following each action, a current status message is returned via Site Server to the Columbus Database.

The Management Client can be installed on a target system by using different techniques.

1.3 Important Terms

Below we would like to explain some terms which will be important for understanding the following chapters.

1.3.1 Package

A Package is a collection of files which are automatically installed and configured by an application. The Columbus Package is defined with the `Package.ini` file and contains a machine and a client part. If this file exists in a directory, it is recognized as a Package by Columbus.

1.3.2 Setup routine

A setup routine is a program or a routine used to install, update, repair or remove software or programs. The setup routines are mainly distinguished by the most used variants, the MSI and the EXE files.

MSI files are database files used by Windows Installer (`msiexec.exe`). They contain information on the application, including its functions and components as well as the relevant files, registry entries, shortcuts, etc. This Windows Installer (`msiexec.exe`) reads the information in the MSI file and executes the actual installation. On Windows, the MSI Installer is already integrated in the operating system.

As regards the EXE files, they are compiled, self-extracting and self-executable installation files. They contain information on their application, including its functions and components, the relevant files, registry entries, shortcuts, etc. as well as an installation routine. In some cases, the installation routine could also be a MSI file. However, it is possible that the installation routine was specifically programmed and therefore the Windows Installer is not used at all.

1.3.3 Silent installation

In case of a silent installation, the complete setup of a program or installation routine is run without any input from the user. Inputting information, such as the desired installation path, a required license code or confirming the license rights, is omitted during a silent installation. Such settings are previously defined, e.g. in a script (a so-called response file) or with a specific command line parameter.

Usually, the installation time is considerably reduced, since it must not wait for information input. If the same software must be installed on several computers, time is additionally saved by carrying out this installation automation process. A silent installation must only be configured once but can be executed any number of times on different systems without requiring additional working time.

CHAPTER 2

Basics & Concept

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2.1 Process example

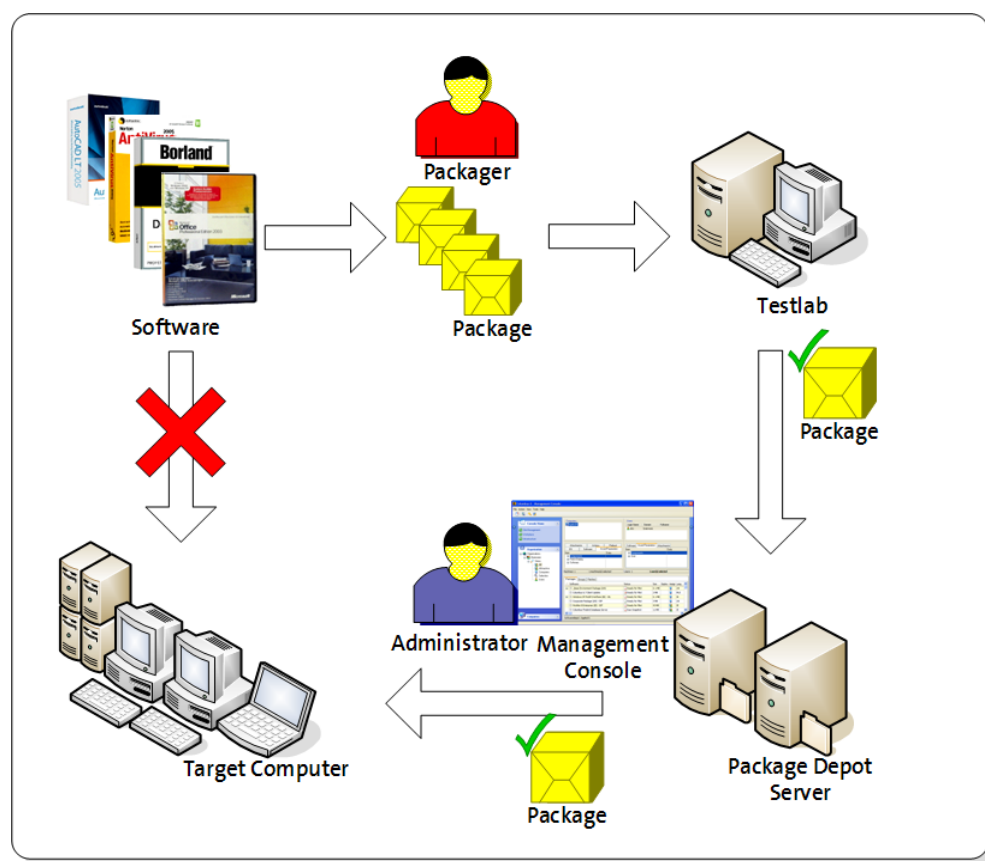
2.1.1 Roles of software distribution

In case of a software distribution system many people are involved. Typically you would recognize the following roles:

- The **administrator** operates, maintains and configures the system.
- The **users** get their required applications installed and configured automatically.
- The **software manufacturer** supplies the applications and the setup program.
- The **packer** packs the setup program of the application in a package of the software distribution system.
- A **product manager** determines the configuration and the type of installation for an application.
- The **support** offers the user help in case of malfunctions or problems. They receive information from the administrator regarding the configuration of the system. They report malfunctions after qualification for a solution to the administrator.
- The **network operator** runs the network on which the software distribution takes place. In smaller organizations, this is often identical with the administrator. In case of bigger organizations, the network is almost always operated by an external company.
- The **server operator** runs the required servers. In smaller organizations, this is often identical with the administrator. In case of bigger organizations, the servers are often operated independently.

It is not always possible to precisely separate the roles from each other. In case of smaller companies and organizations, various roles are often owned by only one person.

2.1.2 Process of software distribution



The applications are not installed directly on the user's computers. First, the packer converts them into a standard package format in order to ensure a fully automatic distribution and installation. The created packages are tested extensively before they are made available in the productive environment on package servers. An administrator allocates the software packages via Management Console to the corresponding target computers. The allocated software packages will be installed on the computers by the Management Client without any intervention of the user.

2.2 Environment

For Software Deployment Agent to be configured correctly, certain directories must be created on the Infrastructure Service on which the agent shall run and be made accessible using a Windows share. This is what we call a *Depot*.

For most environments, the standard directory `\OSDepot` (Single Depot) generated by the Setup is sufficient. For more complex environments and requirements, this directory may also be split-up and structured in a function-related way (Multiple Depots). One Agent supports up to 10 different directories which may be stored on various servers (Multiple Servers).

2.2.1 Single Depot

Note






We recommend to start with only one directory. This facilitates the initial configuration, because only one directory has to be configured in the agent.

Folder	Description
 \OSDepot	Basic directory for storage of the Packages.

2.2.2 Depot structure

In bigger companies, often several people are involved in the Package release process. According to their assignment, individual people may be authorized for certain functions, or the storage of the Package is physically separated. This is primarily useful, if due to security reasons, separate environments are set up for development, testing and production..

Example for a possible separated depot structure:

Folder	Description
 \SWDepot	Standard directory for storing packages. Created by Setup.
 ...\Development	Directory where packages are created and edited. After completion and initial successful testing by the engineer, they are moved into the \QA directory. Often, you do not want to deal with unfinished packages on a productive Infrastructure Service, so these are stored completely on a test system. This corresponds to a mixed operation with Multiple Depot and Multiple Server.
 ...\QA	Directory in which packages to be tested are stored. Only after a successful system test, these are moved to a productive directory (\Pilot or \Production).
 ...\Pilot	Directory in the production environment dedicated for new packages after they have passed the system test. These packages may e.g. be made available for certain pilot systems only before being moved to the directory \Production if the operation has been successful.
 ...\Production	For all Packages available in operation. Only this directory is configured in the productive environment at the agent in order to only distribute these Packages. Only Packages in this directory will be replicated to other Infrastructure Service.

2.2.3 Multiple server

Instead of dividing the <Depot_SW> in several subdirectories, you can also use several depot servers for the various functions. In this case, we would like to recommend a central download server, a test server and the productive Infrastructure Services. Only one single depot is then required on these servers.

A mixed operation consisting of multiple depot and multiple server operation is possible and often makes sense.

2.2.4 Example for a release process

The following task distribution is possible:

- The Package developers save the newly created Packages in the [\Development](#) directory and edit them there. As soon as the Packages are finished, they are forwarded to the QA team.
- Certain employees check the Packages for formal and technical aspects and ensure the functionality and correctness of the user configuration.

- Only after a successful testing, a Package will be moved into the productive environment, where the administrators can distribute the Packages.

2.3 Important Notes

Below you will find some tips from the practice which will help you to easily start with the system and notify you about things to be observed.

2.3.1 Business considerations

Automate the loading of new Packages by configuring a regular interval. Please ensure that the SW depots are freshly loaded before the users start to log-in in the morning.

If Packages should be replicated to external Site Server, a refresh has to be carried on these servers after completion of the replication so that the new Packages are available on site. If you are using Columbus Replication, this step can be executed automatically.

If you work with automatic groups or patch packages, the Packages will be allocated and installed automatically after a refresh of the SW depot.

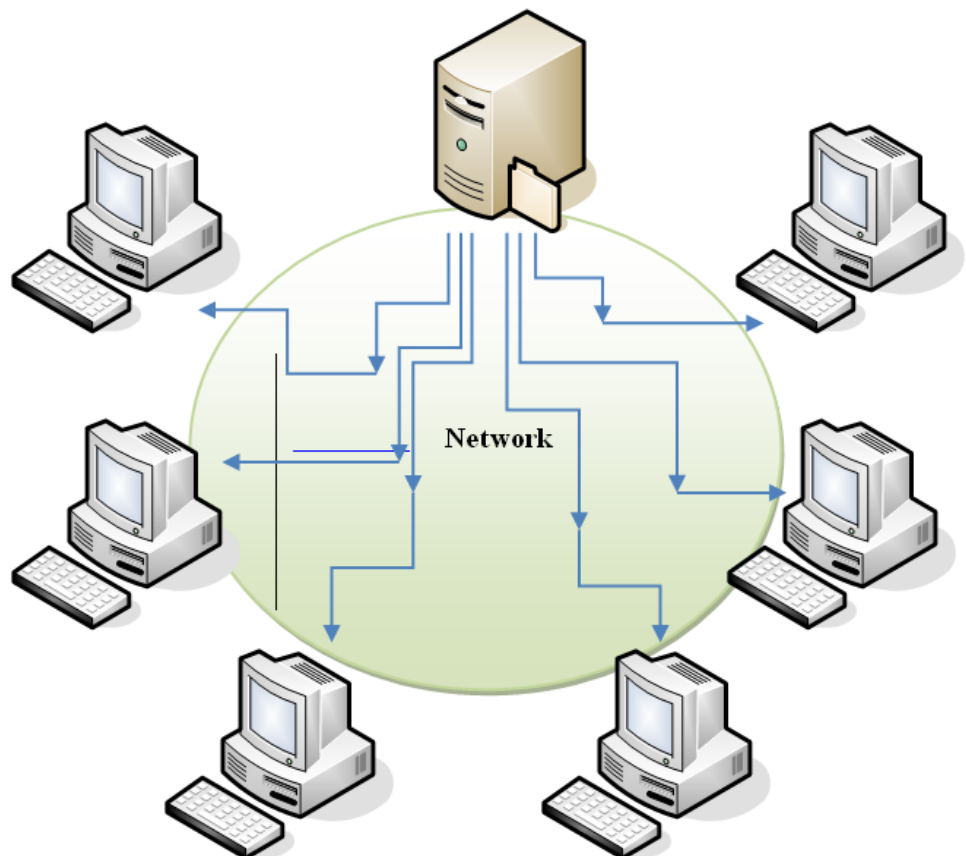
Please ensure that the Packages are tested on some test or pilot systems before they are distributed in general.

2.4 Software Deployment with releases

The Software Deployment Agent indexes all packages stored in the <Depot_SW> of the Columbus release. For access to the release, the Software Deployment Agent opens a mapped UNC release and processes all Packages that it finds in the configured position.

When Management Clients process Packages, they must copy or load the files that make up the Packages into the local cache of the Client device. The Packages must be in the <Depot_SW> on a Columbus server. Every Client opens a mapped network share in order to copy or load the files as shown in the following diagram:

When the package files are copied in the local memory of the Management Client, the Client starts processing the package script files and installs the Package. The disadvantage is that many computers share the limited bandwidth of the server and the server is very busy when the clients are copying the required files.



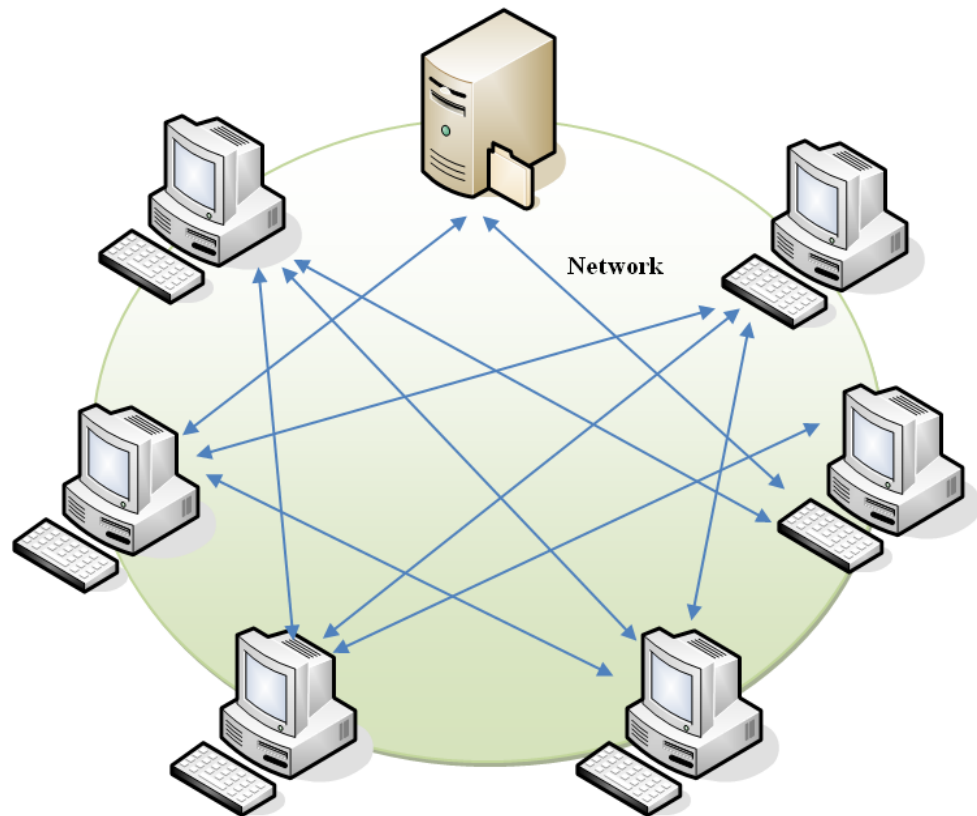
UNC based file copy: The management clients connect with the UNC release of the Columbus server in order to get access to the Packages in the <Depot_SW>.

2.5 Software Deployment without releases

When the option to execute a Software Deployment without releases is activated, the Software Deployment Agent generates metadata for the individual packages, indexes them and are stored for the data blocks in the block depot of the <Agt_BS>.

When the Management Clients process Packages, they request the metadata for the package to be processed and detect the data blocks that are missing in the local data block cache. After they detect the required data blocks, they contact the <Agt_BS> in order to load the missing data blocks. When all data blocks are loaded, the Package is reconstructed with the package meta data from the client's local package cache folder and the package scripts are processed. Then, the package is installed.

The following diagram shows the process for loading the data blocks of <Agt_BS>.

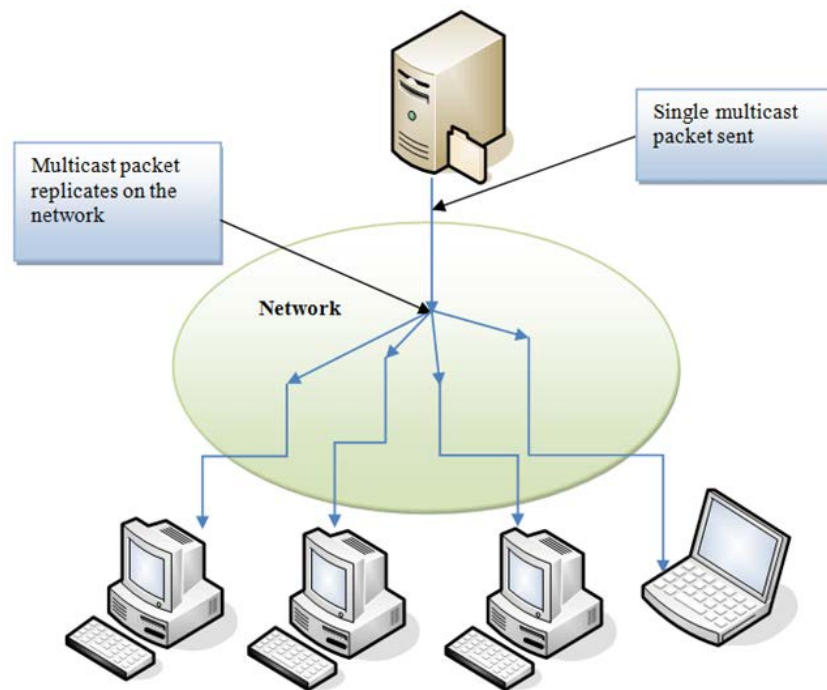


Software Deployment without releases: Management Clients connect themselves with other Management Clients that require blocks through OTB in order to create new Packages. Management Clients can also connect themselves with the <Agt_BS> in order to load blocks that are not available in the Management Clients of the same network.

The advantage is that the Columbus server is less loaded, since data blocks of other Management Clients can be loaded and, depending on the availability of the data blocks, they can be reconstructed without contacting a Columbus server nor an agent.

If Packages of the Software Deployment Agent have been indexed and metadata has been created, and the data blocks in the block depot of the <Agt_BS> have been stored, the data blocks of a Package can be sent as multicast in order to fill the local data block cache of the client in advance. This is previously done in order to reduce the amount of data blocks requested over the network. This approach is useful to distribute a Package to many clients, and also reduces

the network activity during distribution, since package multicasting is postponed for a time after the end of operation hours or it can be freely scheduled by the administrator.



Multicast support: Management Clients with active multicast horch function receive packages that were sent by <Agt_BS> as multicast and store data blocks in the local block cache to be able to create again the package.

CHAPTER 3

Configuration

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This section describes the necessary configuration steps to operate Software Deployment.

3.1 Providing the environment

For Software Deployment Agent to be configured correctly, certain directories must be created on the Infrastructure Service on which the agent shall run and be made accessible using a Windows share. This is what we call a *Depot*.

Note	In this chapter, the operating sequence is described with the help of the depot structure in the section Concept (see " Depot structure " on page 15).
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How to create an environment

- Navigate in the Explorer to the default directory `\OSDepot` which has been created by the setup process.
- Create subdirectories named `\Development`, `\QA`, `\Pilot` and `\Production`.

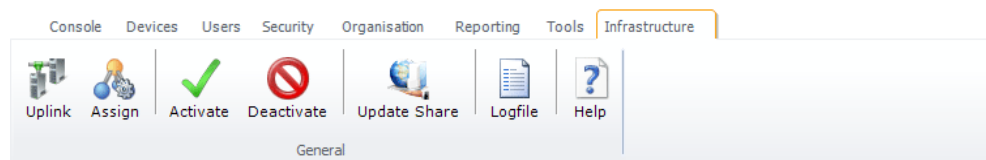
3.2 Activate and assign Software Deployment Agent


The agent can only be used if it has been assigned to a company and has been activated. At the time of activation, an agent is loaded from the corresponding Infrastructure Service and its function is turned on. After that, the agent loads the standard configuration and starts working.

How to activate the agent

- Navigate to the **Infrastructure** screen in the `<CMC_C>` and highlight the Infrastructure Service.
 - ┆ The list below shows all agents which are available on this server.
- Highlight Software Deployment Agent.
 - ┆ The menu ribbon shows all available functions.

- Select the function **Assign** in the **General** menu field.



- Select the company from the list box and click on **Apply**.
 - ! The related company will appear in the list under the **Company** column before the Software Deployment Agent.
- Select the **Activate** function in the menu ribbon.
 - ! The  symbol in the first column of the table summary changes and indicates that the agent has been activated.
 - ! Date and of time of the last connection are logged in the **Last Contact** column.

In order to determine for which part of the organization shall the agent offer its services, a functional assignment to the structure tree via drag & drop is required.

How to assign the agent to a company or site

- Highlight Software Deployment Agent.
- Drag the agent per drag & drop on a **company** or **site** in the structure tree.

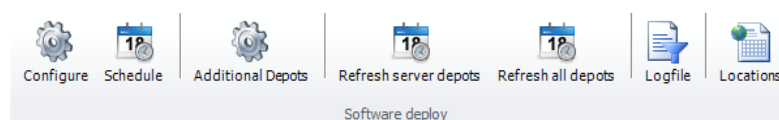
After this action, the agent will offer its function to the corresponding site and all the sites under it (inheritance) Such an inheritance can be interrupted by assigning a different agent on a lower level. The currently responsible agent for a site is shown in the Console on the **Site Management** tab.

3.3 Configure Software Deployment Agent

After the agent has been activated and assigned to a functional unit, it may be configured.

How to configure the agent

- Highlight the Agent in the **Infrastructure** screen.
- Click the **Configure** button in the menu ribbon.



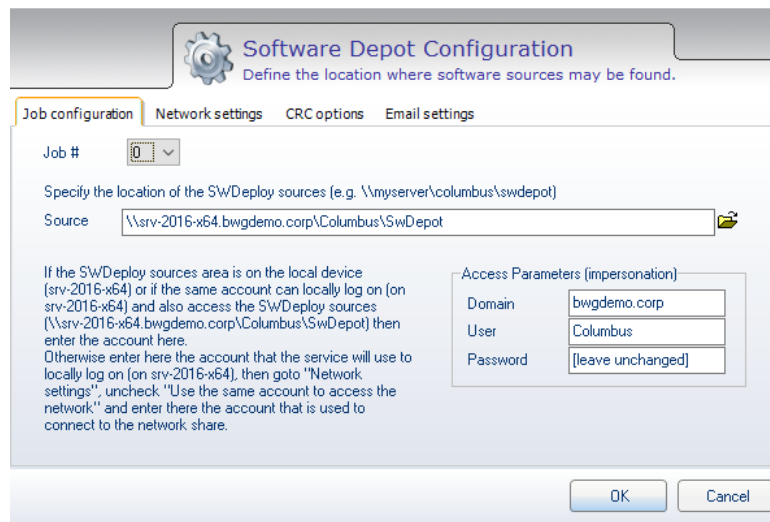
3.3.1 Defining the SW-Depot

Use this dialog to define in which directory the Agent is to search for existing Packages. When creating a package, the SW-Paket will be saved in this directory.

- Select a **JobID** and specify the path to the basis directory **\SWDepot** in the field **Source**.

! The path may be entered manually or using the button .

Define SW Source Location

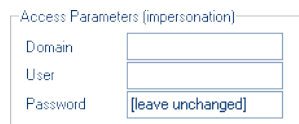


The dialog box is titled "Software Depot Configuration" with the subtitle "Define the location where software sources may be found." It has four tabs: "Job configuration" (selected), "Network settings", "CRC options", and "Email settings". In the "Job configuration" tab, there is a "Job #" dropdown menu showing "0". Below it, a text field labeled "Specify the location of the SWDeploy sources (e.g. \\myserver\columbus\swdepot)" contains the path "\\srv-2016-x64.bwgdemo.corp\Columbus\SwDepot". To the right of this field is a browse button. Below the text field is a section titled "Access Parameters (impersonation)" with three input fields: "Domain" (containing "bwgdemo.corp"), "User" (containing "Columbus"), and "Password" (containing "[leave unchanged]"). At the bottom of the dialog are "OK" and "Cancel" buttons.

Field	Description
Job #	For each directory to be scanned, a unique ID (0-9) is used.
Source	Directories on other servers require the UNC notation (\\server name\share name\directory). The necessary connection parameters are acquired via Access Parameters.
	Note If the Depot is located on the same server, no connection parameters are required.

Access parameters

If a specified directory is located on another data server than the agent, Columbus will use by default the same access parameters as above. If other access parameters should be required, unselect **Use the same account to access the network** and enter the corresponding information.



This form is titled "Access Parameters (impersonation)". It contains three input fields: "Domain", "User", and "Password". The "Domain" field is empty. The "User" field is empty. The "Password" field contains the text "[leave unchanged]".

Field	Description
Domain	Domain name
User / Password	User name and password of the user

3.3.2 Setting the network access

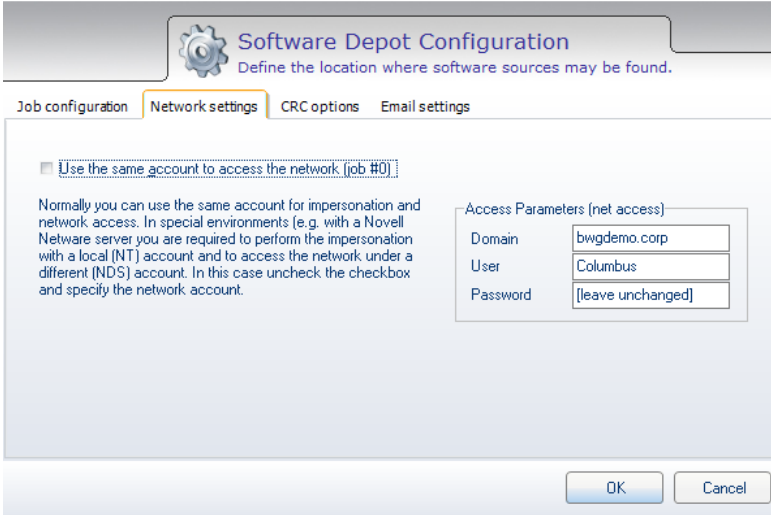
Usually, the agent with the specified account or the agent as system administrator accesses the directory configured as SW-Depot. If e.g. the directory is on a Novell Netware or Linux server, you have to specify an account other than the local Windows login.

- Highlight the option **Use the same account to access the network** and click on **Apply**.

- or -

Deactivate the checkbox and define the account for network access.

Define SW Source Location



The dialog box is titled "Software Depot Configuration" with the subtitle "Define the location where software sources may be found." It has four tabs: "Job configuration", "Network settings" (which is selected and highlighted with an orange border), "CRC options", and "Email settings". In the "Network settings" tab, there is a checkbox labeled "Use the same account to access the network (job #0)". Below this checkbox is a text block explaining that normally the same account is used for impersonation and network access, but in special environments like Novell Netware, a different (NDS) account might be required. To the right of this text is a section titled "Access Parameters (net access)" containing three input fields: "Domain" with the value "bwgdemo.corp", "User" with the value "Columbus", and "Password" with the value "[leave unchanged]". At the bottom right of the dialog are "OK" and "Cancel" buttons.

3.3.3 Using checksums

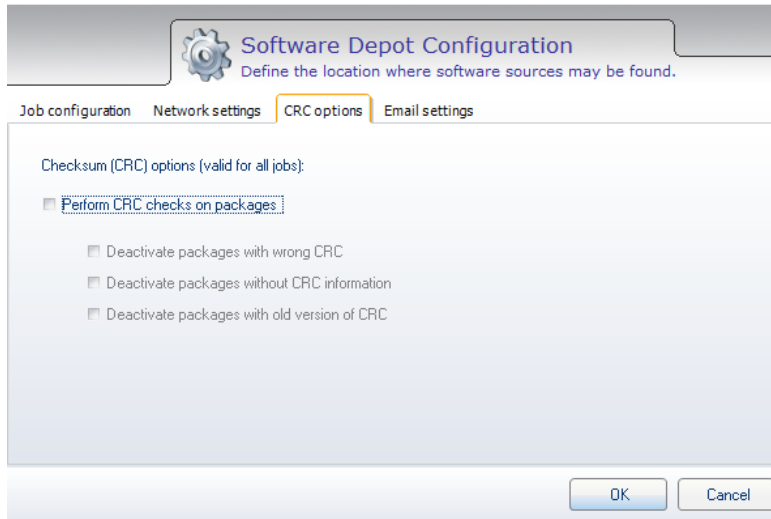
Each Package (patch) is assigned a checksum for control purposes (CRC). Columbus offers the opportunity to deactivate the Package with incorrect CRC information. Such Packages are excluded from the distribution as soon as an unauthorized file manipulation has occurred.

Tipp

In a test environment, we recommend to deactivate these so that the checksum does not have to be recalculated after each correction.


- Highlight the options and click on **Next**.




Define SW Source Location



The dialog box is titled "Software Depot Configuration" with the subtitle "Define the location where software sources may be found." It has four tabs: "Job configuration", "Network settings", "CRC options" (which is selected and highlighted with an orange border), and "Email settings". In the "CRC options" tab, there is a section titled "Checksum (CRC) options (valid for all jobs):". Below this title is a checkbox labeled "Perform CRC checks on packages". Underneath this checkbox are three sub-options, each with its own checkbox: "Deactivate packages with wrong CRC", "Deactivate packages without CRC information", and "Deactivate packages with old version of CRC". At the bottom right of the dialog are "OK" and "Cancel" buttons.

Option	Description
Perform CRC checks on packages	Activates the <i>CRC Check</i> function.
Deactivate packages with wrong CRC	Packages with a <i>wrong</i> CRC sum are deactivated.
Deactivate packages without CRC information	Packages with <i>missing</i> CRC information are deactivated.
Deactivate packages with old version of CRC	Packages with an <i>old</i> CRC sum (Columbus 3.5) are deactivated.

Packages with wrong CRC information are displayed in the software list with a  icon.

Icon	Description
	CRC checksum of the package is correct
	CRC checksum of the package is missing or wrong
	Warning obsolete CRC checksum

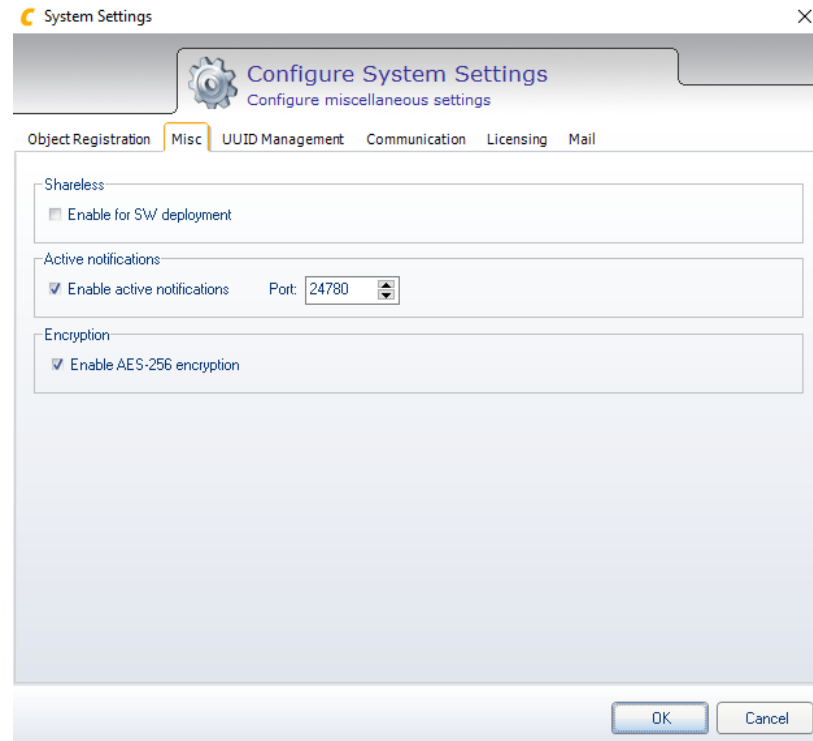
3.4 Software Deployment without releases

In order to use the Software Deployment without release, the feature must be activated. Once it is activated, it is active for all companies, clients and Software Deployment Agent. It is important to know that, when the feature has been activated, all <Depot_SW>s and all <Depot_PAD>s must be indexed again in order to create metadata for packages and data blocks. Below is a description of how to activate/deactivate the feature, as well as all the configuration changes that must be taken into account.

3.4.1 Activate and deactivate

Activate Software Deployment without releases

- Click **System** in the menu and then **Settings** in the menu ribbon.
- Click the "Misc" tab and tick the control box "Enable for SW deployment" in the shareless area.
- In the confirmation dialog, click "OK" to activate the option.



Deactivate Software Deployment without releases

- Click **System** in the menu and then **Settings** in the menu ribbon.
- Click the "Misc" tab and untick the control box "Enable for SW deployment" in the shareless area.
- In the confirmation dialog, click "OK" to deactivate the option.

3.4.2 Additional settings on the <Agt_BS>

Agents configuration

- Highlight <Agt_BS> in the infrastructure screen.
- Select the "Configure" function in the menu ribbon.
- Click on the "Shareless" tab.

Backup Server Settings

Backup Server Settings
Specify the configuration settings for the Backup Server

General **Shareless**

Connections:

Set alternate server if current is not available

Alternate host 1

Alternate host 2

OK Cancel

Field	Description
Alternate server 1	When this value is set, the client can connect itself using the specified server name or the IP address if the standard block store is not available.
Alternate server 2	When this value is set, the client can connect itself using the specified server name or the IP address if the standard block store and the alternative server are not available.

3.4.3 Additional settings on the Software Deployment Agent

Agents configuration

- Highlight Software Deployment Agent in the infrastructure view.
- Select the "Configure" function in the menu ribbon.
- Click on the "Shareless" tab.

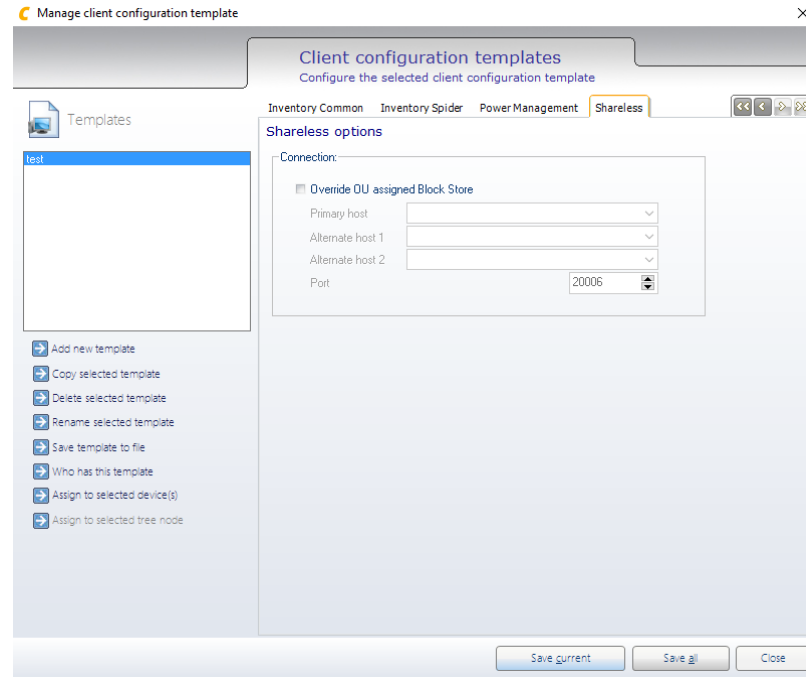
Define SW Source Location

The screenshot shows the 'Software Depot Configuration' dialog box with the 'Shareless' tab selected. The 'Connection' section has 'Block Store' set to 'srv-2016-x64' and 'Port' set to '20006'. The 'Metadata Options' section is expanded, showing 'Process metadata for each package' checked, 'Clear package scan files' set to 'Never', 'Maximum software set size' set to '0', and 'Maximum single file size' set to '0'. The 'OK' and 'Cancel' buttons are at the bottom right.

Field	Description
<BS>	Preferred <BS> that provides the Package in the form of data blocks and metadata. Either the name or the IP address can be entered.
Port	Port through which the preferred <BS> shall be addressed.
Process metadata for each package	This setting allows for defining that the Software Deployment Agent checks whether files are added, removed or modified in the package folders every time that the software is indexed, so the package metadata can be updated accordingly.
Clear package scan files	This setting defines if and when the metadata are to be deleted before carrying out an indexation process.
Maximum software set size	This setting allows for defining how much disc space is permitted before package blocks are removed if the local cache exceeds the set value. The value can be entered as a percentage which will be automatically defined for each client (example: a setting of 10 % for a client with a free disc space of 10000 MB means that 1000 MB can be used for the local block depot before cleanup is started). Absolute values in MB and GB can also be entered as required.
Maximum single file size	Maximum size for a <BS> file.

3.4.4 Client configuration templates

If Software Deployment is activated without releases, the following new tab will be available in the client configuration templates. If this setting is activated, the settings of the <Agt_BS> assigned in the Management Console can be overridden.



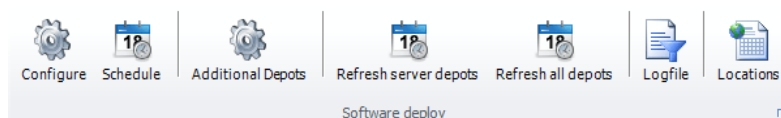
Primary host	By setting the following value, you can instruct the management client to connect to a specific <BS>. This can be needed if more than one <BS> are present in the network.
Alternate server 1	When this value is set, the client can connect itself using the specified server name or the IP address if the standard <BS> is not available.
Alternate server 2	When this value is set, the client can connect itself using the specified server name or the IP address if the standard block store and the alternate server 1 are not available.
Port	This port is used to transfer missing data blocks. Every time this parameter is changed, the configuration of Software Deployment Agent and <Agt_BS> must be updated accordingly, since they use the same port.

3.5 Making Packages available

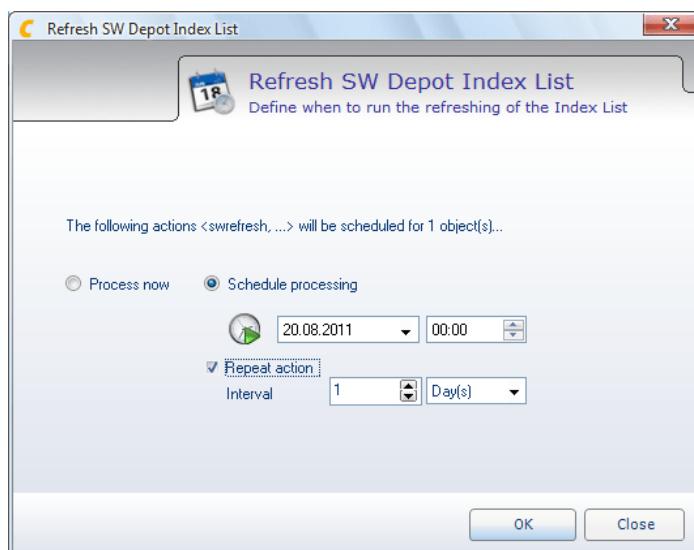
After packages have been added to the <Depot_SW> or in case of modifications of the package definitions, the corresponding agent has to carry out an update. The depot directory will be scanned and reloaded, and all changes are adopted in the database. Only then, the packages will be available for a distribution.

3.5.1 Running the update

- Highlight Software Deployment Agent on the **Infrastructure** screen.
- Select the **Schedule** function in the menu ribbon.



- Choose between immediate execution and an execution at a scheduled date/time with possible repetition.
- In case of a scheduled event, enter the **date** and **start time** for the first update.
- Highlight the Repeat action option if required for a regular update and choose the desired time interval.
- Click on OK.



Note Even if a regular update interval is already configured, you can still execute a one-time update anytime. The repeating interval will not be overwritten.

3.5.2 Checking the update

- Highlight Software Deployment Agent on the **Infrastructure** screen.
- Switch to the register **Scheduled Actions**.
 - ▮ Each planned action is included in the list.

Object		Description
Responsible Server		Name of the Infrastructure Service on which the Agent is installed.
Action	swre fresh , up- date s the soft- ware list	
Timer		when the action is carried out,
Repeat		in which interval the action is carried out
Scheduled By		and who has configured the action.

If an action is unsuccessful, it remains in the Action Queue and is repeated by the Infrastructure Service in the usual 5-minute interval until it is completed correctly. This may be the case if e.g. the data path of the connection parameters have been configured incorrectly.

If you wish to delete one or more actions on the list, proceed as follows:

- Highlight the action and select **Delete Selected Action(s)** from the context menu.

CHAPTER 4

Using

In this chapter

Administrate Packages..... 32
Deactivation of software packages..... 32
Distribute software packages 33
Software groups 34
Install Packages..... 38
Software Kiosk 40

This section describes the basic functions which are required to operate a Software Deployment system.

The Software Deployment is now completely installed and configured, but the computers to be managed are missing. Before these computers may be administrated using Columbus and Packages can be installed,

- the computer must be *registered* in the Management Console,
- and the Management Client must be *configured* and *installed* and *have been started* on the computer.

4.1 Administrate Packages

The administration of the Packages is done in the Infrastructure view of the Console.

Company	Agent	Last contact	Last status
brainwaregroup	Endpoint Protection	01.05.2017 07:54:	01.05.2017 07:54:07: Completed download processing successfully.
brainwaregroup	Indexing and Netw	01.05.2017 08:04:	01.05.2017 08:04:21: Network scan stopped
brainwaregroup	Inventory Collector		
brainwaregroup	LDAP Synchronisati		
brainwaregroup	OS Deployment	01.05.2017 07:53:	01.05.2017 07:53:55: Last refresh completed
brainwaregroup	Patch Deployment	01.05.2017 11:38:	01.05.2017 11:38:28: Sources download job H4JFaVwZTJ has terminated with error Package source (D:\Columbus\
brainwaregroup	Preboot Services	01.05.2017 11:38:	25.04.2017 16:23:05: Windows PE file injection for the x64, x86 image(s) was successful.
brainwaregroup	REST	01.05.2017 07:53:	01.05.2017 07:53:52: Server ready to use on port(s) 8085, 8084
brainwaregroup	Replication		
brainwaregroup	Reporting and Clear		
brainwaregroup	SW Deployment	01.05.2017 07:54:	01.05.2017 07:54:07: Refresh completed

Description	Status	Size	Deploy	Assign	Lang	Version	Platform	Identifier
100100_MS_Windows_Activation	Ready for Pilot	0.1 MB			UNI	01	EXPERT	100100_MS_WINDOWS_ACTIVATION
Columbus Packaging Tools 7 - UNI	Ready for Pilot	0.1 MB			UNI	01	EXPERT	903000_COLUMBUS_PACKAGINGTOOLS
Columbus Prepare for Smart Capture	Productive	0.1 MB			UNI	01	EASY	960000_COLUMBUS_PREPARE_FOR_SM
MS Windows 10 x64 inplace upgrade	Ready for Pilot	0.1 MB			UNI	01	EASY	190100_MS_WINDOWS_10_X64_INPLA
MS Windows 10 x86 inplace upgrade	Ready for Pilot	0.1 MB			UNI	01	EASY	190200_MS_WINDOWS_10_X86_INPLA
Remotely Anywhere 12 (Config - Clien	Ready for Pilot	34 MB			ENU	01	ADVANCED	900000_REMOTELYANYWHERE_12_CON
Remotely Anywhere 12 (Config - Serv	Ready for Pilot	34 MB			ENU	01	ADVANCED	900000_REMOTELYANYWHERE_12_CON

If you select the Software Deployment Agent, all Packages which are saved in the <Depot_SW> are shown in the list under the **Software Packages** detail tab.

4.2 Deactivation of software packages

Packages are entered automatically during the first indexing process with the Software Deployment Agent with the status "activated". However, this status can be set to deactivated if necessary. This ensures that problematic packages are excluded from a further distribution. Only activated packages are taken into account by the Client for scans and installation.

- Navigate to the **Infrastructure** view and highlight the Software Deployment Agent.
- Highlight the Package in the Packagelist and select **Activation > Deactivate selected packages** from the context menu.

Option	Description
Activation	Activate selected packages Ctrl+Alt+A
Assign to selected	Deactivate selected packages Ctrl+Alt+D
Reinstall on selected	Reset manual activation flag Ctrl+Alt+R

Option	Description
Activate selected packages	The highlighted packages are activated and released for the distribution.
Deactivate selected packages	The highlighted packages are deactivated and locked for the distribution.

Option	Description
Reset manual activation flag	This resets the status of the highlighted packages back to the default value.

Important	In the Client Configuration Templates in the "Installation Options" tab, it is possible to configure the behavior for "Accept packages" so that also deactivated packages are installed.
------------------	--

4.3 Distribute software packages

Apart from the direct assignment of packages to computers and users, packages can also be assigned to a site or the entire company. Related software can be summarized in groups which then can be distributed like individual packages.

Packages can be assigned to the following objects:

- Computer
- User
- Companies or sites
- Groups

The Management Client installs the Packages upon the next start, at a predefined point of time or right away and returns the exact status concerning the installation progress to the Console.

Before rolling out new packages, the IT department should first check on test systems whether updates may lead to problems with installed applications. In case of especially critical systems, a harddisk image can be created as a backup using Imaging.


4.3.1 Assign Packages to computers

The assignment of Packages with the Management Console is really simple.

How to assign Packages to computers

- Highlight one (or more) computer(s) in the **Devices** window.
- Navigate to the **Software Packages** tab and highlight the Package.
 - ℳ You can highlight more than one object at the same time.
- Select **Assign to selected > Machines** from the context menu.
 - or -
 - Drag the highlighted Packages into the **Devices** window by using Drag&Drop.
 - ℳ You are not obliged to hit an individual object. The assignment is always valid for all highlighted objects.
- Confirm the security message with **OK** in order to complete the package assignment.

4.3.2 Assign Package to user

Packages containing a special user section, which should not be assigned automatically to all users, have to be assigned manually to the corresponding users. These Packages are marked with the  symbol in the *Assign* column.

The assignment of packages to users is similar to the assignment to computers.

How to assign Packages to a user

- Highlight one (or more) user(s) in the **Users** window.
- Navigate to the **Software Packages** tab and highlight the Package.
 - ℳ You can highlight more than one object at the same time.
- Select **Assign to selected > Users** from the context menu.
 - or -
 - Drag the highlighted Packages into the **Users** window by using Drag&Drop.
 - ℳ You are not obliged to hit an individual object. The assignment is always valid for all highlighted objects.
- Confirm the security message with **OK** in order to complete the package assignment.

4.3.3 Assign Packages to sites

Apart from the known assignment of software to computers, Packages can be also be assigned to a company or site. The assignment of software to complete companies or sites bears the advantage that you are able to use the inheritance within the hierarchical tree structure. Instead of having to repeat the assignment for each computer or user, you will have to make only one assignment to the site or company, and the computer objects are then subordinated to the relevant site or company and will inherit the corresponding assignment.

This approach allows, in combination with an organizational structuring, for the definition of company or department standards.

How to assign Packages to a site

- Navigate to the **Software Packages** tab and highlight the Package.
 - ℳ You can highlight more than one object at the same time.
- Drag the highlighted Packages per Drag&Drop on a company or site in the structure tree.
- Confirm the security message with **OK** in order to complete the package assignment.

How to remove a Package allocated to a site

- Select the **Site Management** view.
- Highlight the **Site** in the structure tree and go to the **Software** tab.
- Highlight the **Package** and select **Deny/Remove Software** from the context menu.

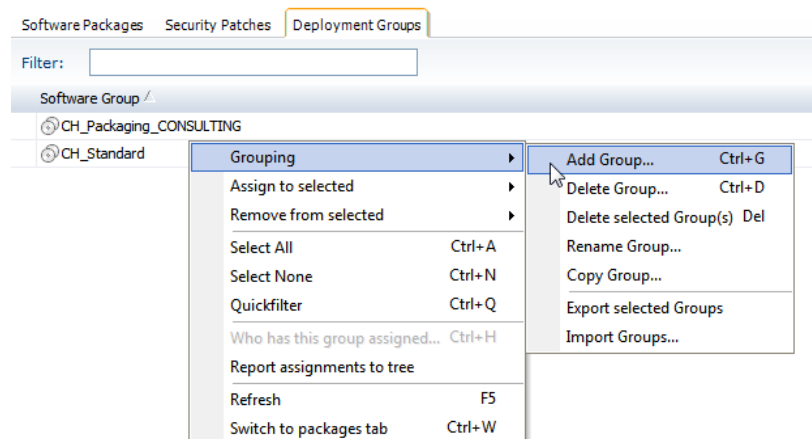
4.4 Software groups

The assignments of packages to computers and users may be simplified by grouping related software or computers with identical application profiles.

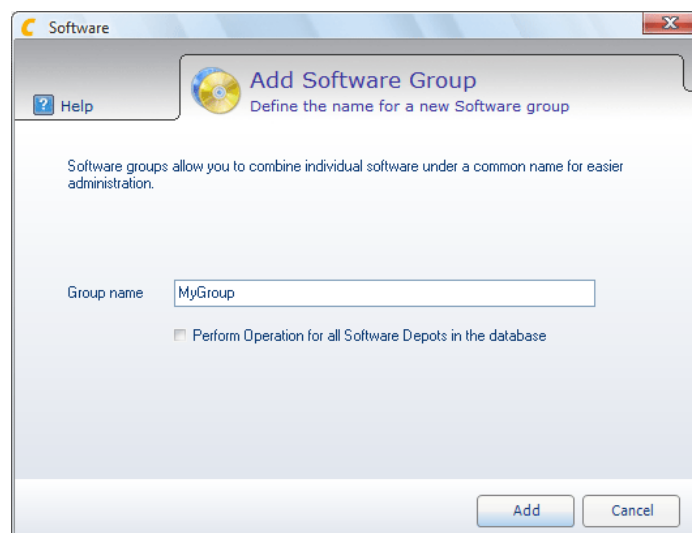
4.4.1 Create/delete software group

How to create a software group

- Navigate to the **Infrastructure** view and highlight the Software Deployment Agent.
- Select the **Software** detail tab and select **Deployment Groups** therein.
- Click in the groups and select **Grouping** > **Add Group** from the context menu.



- Specify a name for the new group in the next dialog window.
- ! The **Perform Operation for all Software Depots in the database** option allows the creation of the group for all available SW depots.



- Click on **Add** to complete the action.

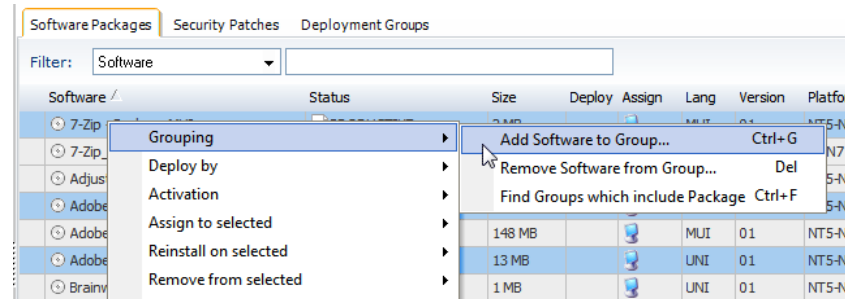
How to delete a software group

- Highlight one or more software groups and select **Grouping** > **Delete Group** or **Delete selected Groups** from the context menu.

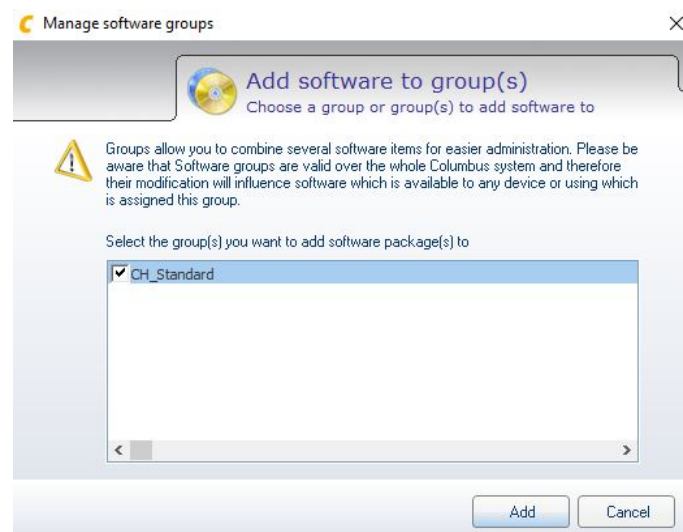
4.4.2 Add software to a group

How to add software to a software group

- Navigate to the **Infrastructure** view and highlight the Software Deployment Agent.
- Select the **Software** detail tab and select **Scripted Packages** therein.
- Highlight the Packages and select **Grouping > Add Software to Group...** from the context menu.



- Select the desired software group and click on **Add**.



4.4.3 Assign software group

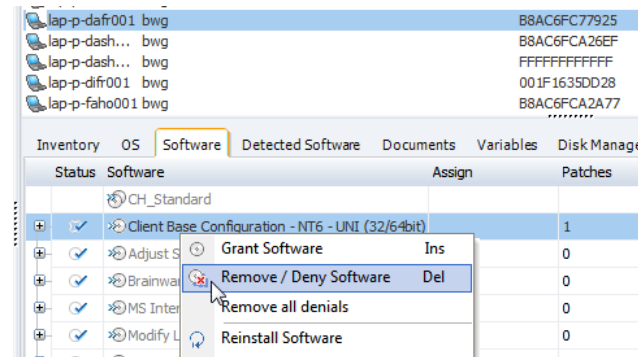
Software groups are assigned similar to packages.

- Highlight the computer and/or user to which you want to assign this software group.
- Navigate to the **Deployment Groups** tab and highlight the desired software group.
 - ! You can highlight more than one object at the same time.
- Select **Assign to selected** in the context menu and then select the desired assignment targets.
 - or -
 - Drag the highlighted software group into the **Devices** or **Users** window by using Drag&Drop.
 - ! You are not obliged to hit an individual object. The assignment is always valid for all highlighted objects.
- Confirm the security message with **OK** in order to complete the software group assignment.

4.4.4 Remove software group

Software groups are removed similar to packages.

- Highlight the computer in the *Devices* window or the user in the *Users* window from which you want to remove the group.
- Navigate to the **Scripted Packages** tab.
- Highlight the software group and select **Remove/Deny Software** from the context menu.



- Confirm the security message with **OK** in order to complete the software group removal.

Inherited software groups

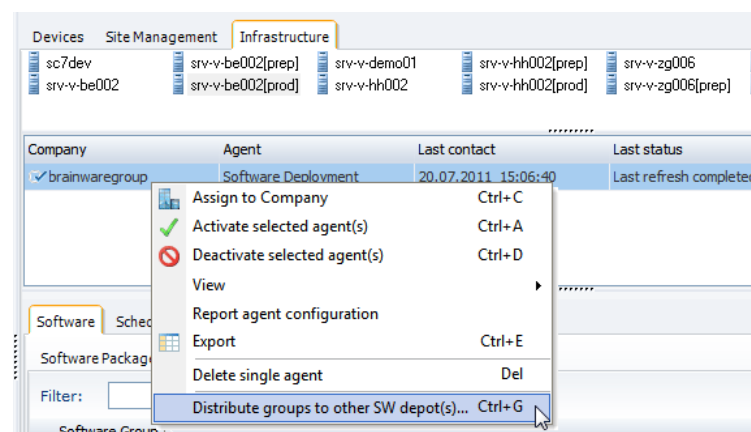
If the software group is not assigned directly, but from a site via inheritance, it is not possible to simply remove this software group, since this software group is assigned to all computers in this site. If you select *Remove/Deny*, you will override this inherited assignment. The software group is *Denied*. If you wish to restore the assignment, select the function *Grant Software*.

4.4.5 Distribute group definitions

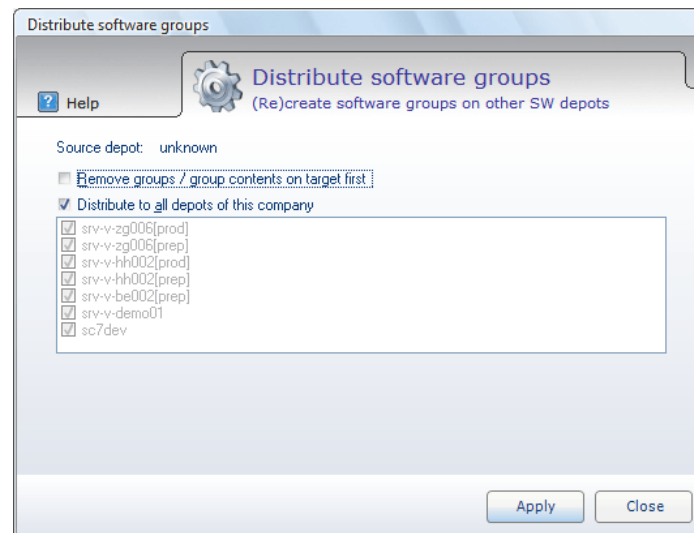
Software group definitions are basically only valid within the local <Depot_SW>. However, they can be transferred to other <Depot_SW>, e.g. in order to have the same software groups on all Infrastructure Services available.

How to distribute a software group to other <Depot_SW>s

- Navigate to the Infrastructure view.
- Highlight the Software Deployment Agent and select **Distribute groups to other SW depot(s)** from the context menu.



The *Distribute Software Groups Wizard* is started. Select now the <Depot_SW>s among which the software group definitions shall be distributed.



If you select the **Remove groups / group contents on target first** option, all groups on the target depot will be deleted beforehand. This will allow you to ensure an identical group structure on the target depot.

Highlight the **Distribute to all depots of this company** option to distribute the software group definitions to all other Software Deployment Agents which are allocated to the same company. Use this option to provide unified software groups in all sites.

If this option is not enabled, select the <Depot_SW>s among which the software group definitions shall be distributed from the list.

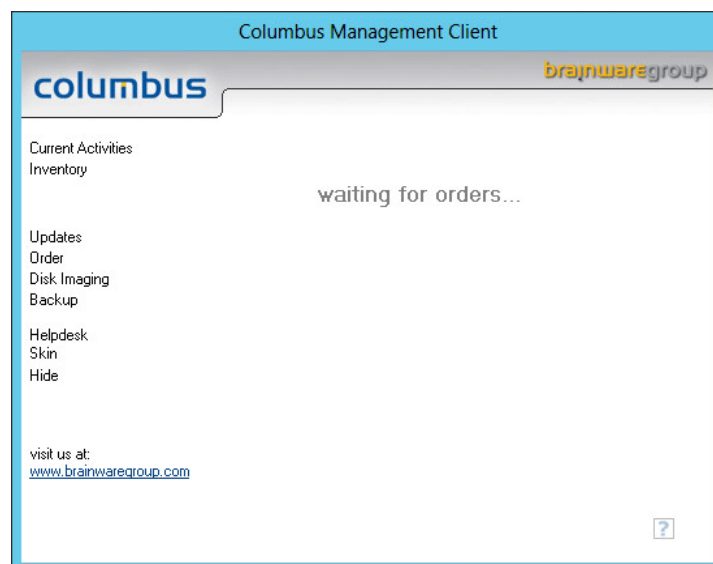
Select **Next>>** to distribute the software group definitions.

Note	The Package allocated to the software groups must be available also on the target depots so that the software group definition can be taken over completely.
-------------	--

4.5 Install Packages

Assigned Packages are installed on the target computer by Management Client,

- when booting up the computer,
- when a user logs-in,
- at predefined points of time (Client configuration),
- when the administrator triggers the installation from the Console or
- when the user selects the function **Updates** in the Client.



At the end, the Management Client returns a precise status report about the successful or unsuccessful installation to the Console.

4.5.1 Replacing used files

The Client is able to install certain software and primarily Packages one after another without reboot. Under Windows you have to tackle the problem that certain system files, which are currently in use, cannot be overwritten correctly. Microsoft provides the program [QCHAIN.EXE](#) for dealing with this problem, which is used also by some patch management tools.

Columbus has integrated this function (similar to QChain) already in the Client and thus does not require the file [QCHAIN.EXE](#). However, this functionality is not activated by default. Therefore, either QChain has to be distributed or the Client has to be configured accordingly.

The configuration entry is named **FileRenameCleanup** and can contain the following values:

Value	Description
0	No cleanup
1	If Columbus executes a reboot action
2	On shutdown of the Columbus Service
3	In case 1 and case 2.

Note QChain works only with files that contain a version information which allows for a comparison of both files.

4.6 Software Kiosk

Furthermore, software distribution is no longer only a centralized task. More and more companies want to give their users the possibility to select the required software via shops. This allows for a more sophisticated control of who gets which software and leads, in combination with clear cost allocations, to the effect that in tendency less licenses are required.

Columbus offers the following possibilities:

- Software on demand
- Software on Order

4.6.1 Software on demand

A unique possibility to release software for shopping and immediate installation, but still maintain a certain control. The administrator can monitor the assignments in Console and even correct them if required. The user does not have to take care of the package updates. Columbus updates the installed software automatically when distributing the software.

However, you have the option to completely leave it to the end user to decide what should be installed and release the Packages completely. This option is suitable for offline work places which could be supplied with software using a CD/DVD.

Software on Demand can be released for defined packages only and thus used in addition for the centralized software distribution.

Requirements

The software to be ordered must be set to **Distribution by Software on Demand** in the Console.

- Navigate to the Infrastructure view.
- Highlight the Package and select **Deploy by > Software on Demand** from the context menu.

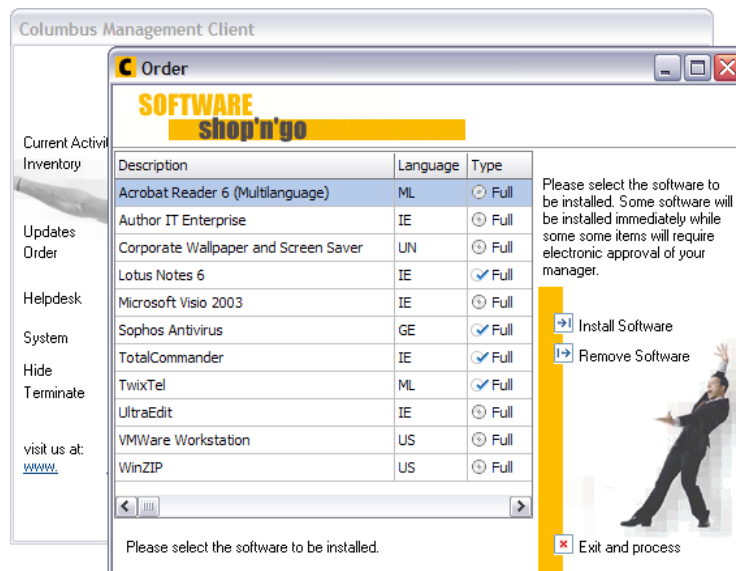
The Management Client must be configured accordingly to allow Software on Demand.

Install software from the shop

Software on Demand provides the user with a kind of software shop and lets the users select software packages and updates from a list of existing software. This function is used for packages which are not managed by the administrator but allow the end user to select and install the required software on his own. The Packages can be made available via various sources such as harddisk drives, network drives, CD/DVD or FTP.

- Open the Management Client and click on the menu point **Order**.
- Highlight the Packages and click on **Install Software**.

- Click on **Exit and Process** to close the window and install the selected software.



4.6.2 Software on Order

If you want to monitor the ordering process and want to allow the user only to apply for software and ensure that the software is installed only after an authorization process, we recommend to use the **Software on Order** function. In combination with the *Software Order Process* on the Columbus *OperationsManager* platform, the software order process is embedded in an electronic business process and administrated and controlled by share workflows.

Software on Order can be released for defined packages only and thus used in addition for the centralized software distribution.

Requirements

The software to be ordered must be set to **Distribution by Software on Order** in the Console.

- Navigate to the Infrastructure view.
- Highlight the Package and select **Deploy by > Software on Order** from the context menu.

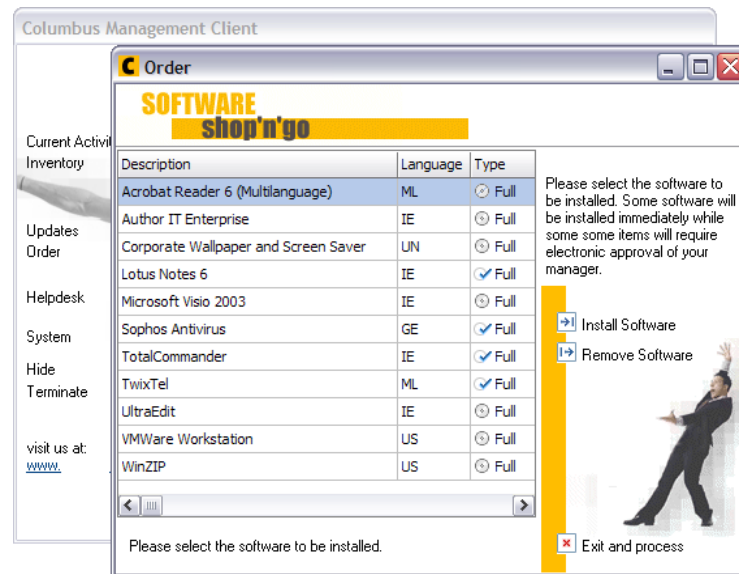
In the OperationsManager the COM Workflow installation/configuration must be executed according to the instructions in the OperationsManager manual.

Setting up the infrastructure

In order to ensure communication with the workflow tool OperationsManager, the COM Interface Agent must be activated on a Infrastructure Service. This will ensure the data exchange between the two systems. The server will pass on the orders made by the user via the Management Client to the OperationsManager to start the authorization process. After a successful authorization, the ordered software will be automatically assigned to the user and his computer.

Giving an order

In general, you will activate the Software on Demand function in the Client. Then the user will see a list of all software which may be ordered and can order the desired software by simple selection.



Alternatively, this list can be provided via a customized web site.

Manage Software Orders

In general, orders with the *ordered* status are passed on to the OperationsManager and will go through the defined authorization process. If this is completed, the order will be sent back to Columbus and is displayed in the above list showing the status *complete*. In case of an authorization, the software will be automatically assigned and installed.