2015

Acronis

Installing Acronis Backup Advanced Edition

BEST PRACTICE

Acronis

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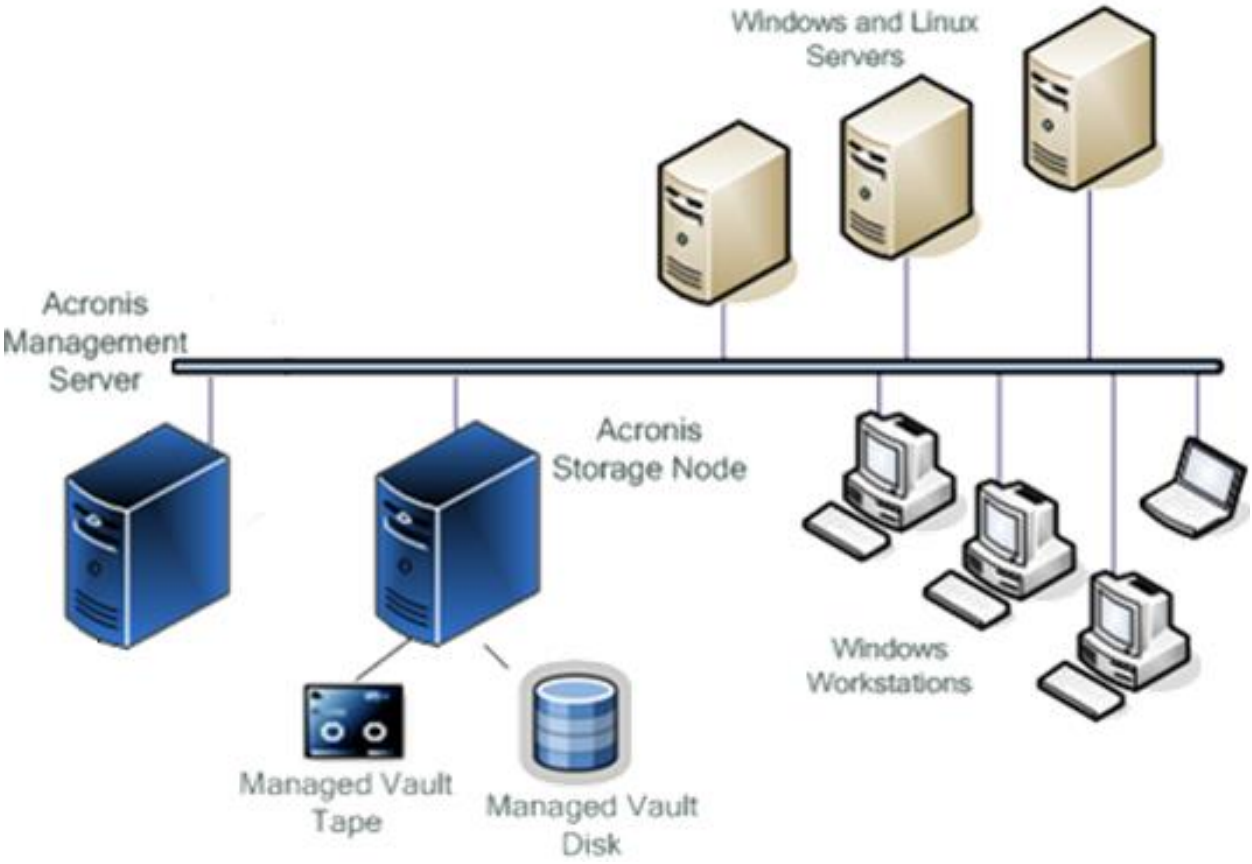
The Acronis Backup Advanced suite is a set of best in class data protection solutions for creating file- or disk-based backups of your PCs or servers. You can quickly recover from a complete system failure by using an image backup. In case of a disaster you can easily recover the complete PC or server. Acronis Backup is most often used as disaster recovery solution to ensure business continuity. It supports Windows and Linux operating systems, backing up physical and virtual machines, several hypervisors, as well as application backup for Microsoft Exchange, SQL Server, SharePoint, and Active Directory.

This guide will help you to install and evaluate Acronis Backup Advanced within a test environment. The installation, suggested in this document, will enable you to easily transfer the configuration to your production environment. Special network characteristics like different locations, special network configuration, network load, and bandwidth have not been taken into account and need to be considered separately by the administrator.



Acronis Backup Advanced components

Management Server

Acronis Management Server (AMS) is the central component responsible for distributing backup plans to and managing status information of the agents. For its tasks the management server uses four different SQL databases, two of them being Microsoft SQL Express. All information required like e.g. backup type, backup source and target, backup schedule, retention rules, and backup options are available within the backup plans that get distributed from the management server to the agents. The Acronis Management Server (AMS) is not required to run the backup. When you install the Management Server it also installs the Acronis License Server (ALS) per default. The agents check their license occasionally.

Acronis Storage Node

Backups can be stored on different storage media, such as local disk, external disk, network shares, FTP/SFTP-targets and Acronis Cloud Storage. In addition to these backup targets, you can install an Acronis Storage Node (ASN) to save your backups there. Using an Acronis Storage Node provides the advantage of offloading the agent from certain backup functions by delegating them to the Storage Node. The Storage Node takes care of a central catalog, encryption, and validation. Another advantage of using a Storage Node is the fact that all backup-relevant information gets stored in central databases, so the Management Server and a boot medium can access that information faster.

An Acronis Storage Node can function in two modes. On one hand it is the central backup repository and provides the ability to work with connected tape devices. On the other hand it enables deduplication. As soon as you want several machines to store their backups centrally, we recommend using an Acronis Storage Node.

Agents / Appliance

You need to install an Acronis Backup Agent on every machine you want to backup. There are agents for Windows and Linux operating systems. The Windows Agent consists of the “Agent Core” and the “Agent for Windows” and is for Windows server as well as workstation operating systems. The agents install as a service and run the tasks defined in the backup plan, such as the backup itself, acting on retention rules, validating or replicating backups. Some functions such as validating or cataloging will be done by the Storage Node if the backup target is a vault on the Storage Node.

In a VMware ESXi environment you can use either a Windows agent for ESXi or a virtual appliance.

Bootable Media Builder

Bootable Media Builder creates boot-images as ISO-files that can be burnt onto a CD. Bootable Media Builder can also load the boot-image it created onto the PXE-server that comes with Acronis Backup Advanced, so that machines without an operating system can be booted over the network. The bootable medium that gets delivered with the software is Linux-based, but you can also create a bootable medium based on Microsoft Windows PE. In order to do that, you need to download and install Microsoft WAIK (Windows 7) or the Microsoft ADK (Windows 8) from the Microsoft website. You can install Bootable Media Builder on any PC.

Management Console

Acronis Backup Advanced Management Console is a GUI to manage and monitor all backup tasks. To do this centrally the Management Console connects to the Management Server. The Management Console can also connect directly to an agent on a machine or to a boot medium. You can install the Management Console on any PC on the network running a Microsoft operating system.

Command Line Tool / SDK

Acronis Backup Advanced provides “acrocmd.exe”. It offers all functionality of the Management Console in a command line tool. So “acrocmd.exe” is similar to an SDK. It is available for Linux and for Windows and is included with the boot medium. Using acrocmd you can e.g. create, restore, validate, or export backups. If you want a task to run automatically, you can do that with acrocmd. Or you can access and control other machines with an Acronis agent centrally.

Before installation

Acronis Server Components

Acronis Management Server and Acronis Storage Node

You need one machine each to install Acronis Management Server and Acronis Storage Node. Acronis Management Server requires 8 GB RAM minimum, Acronis Storage Node should have a minimum of 16 GB RAM.

Acronis Storage Node

Acronis Storage Node can work in two modes, standard or with deduplication. In order to use deduplication you need to fulfill strong hardware requirements. A Storage Node with deduplication can have only one vault. Mixing different vault types on a Storage Node with deduplication is NOT recommended.

Acronis Storage Node without deduplication

In standard mode Storage Node requires two path names for creating a vault. They can be created locally or as a network share. You can create up to 20 vaults on a Storage Node in standard mode. Make sure that you know how much data you need to backup in order to size the vault for that drive correctly. Please also consider how many backups you need to keep around.

Acronis Storage Node with deduplication

For deduplication the agent reads disk sectors and calculates their hash values. The Storage Node uses a database to save hash values of all stored data. The agent compares the calculated hash values with the hash values of the data already stored on the Storage Node. When you backup an operating system with 40 GB of data on the local disk, this is 41.943.040 KB of data. Data on disk is stored in blocks of 4 KB. So it tells you, that 10.000.000 sectors on your disk are in use. Since not every sector is filled by a 100% the agent needs to compare roughly 12,000,000 to 13,000,000 hash values with the Acronis Storage Node. With the ability to run up to 10 backups in parallel this results in 130 million database requests on the Storage Node within this one backup window. That's why a Storage Node with deduplication requires high performance hardware. Therefore we do NOT recommend to use network shares on a Storage Node with deduplication. The detailed requirements can be found in the online help files and in KB article 37089. If you notice slow performance during backing up to a Storage Node with deduplication, please verify the requirements according to KB article 45424. Make sure that you consider especially the ASN Hardware Configuration Guide.

With Acronis Backup Advanced Update 6 there have been some improvements for data deduplication. The required amount of memory has been reduced and the database has been optimized.

If you use an older version but want better performance, have a look at KB article 56205.

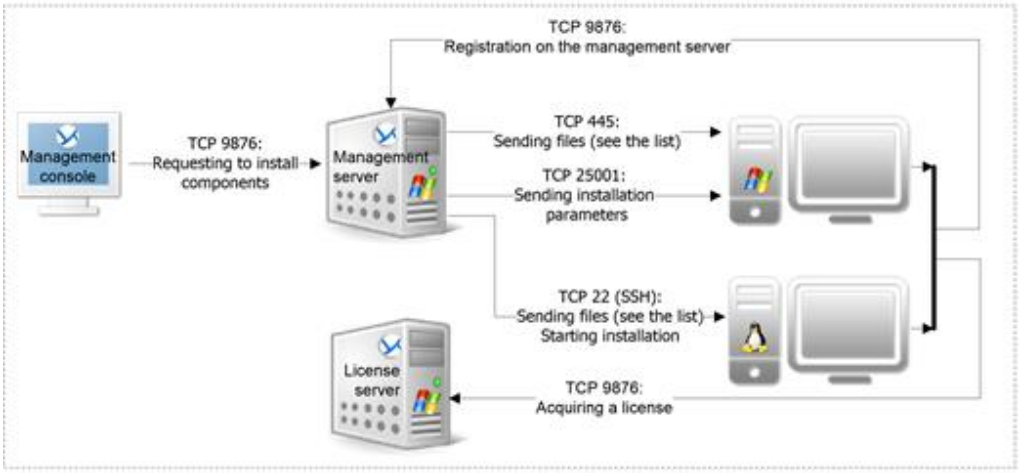
Agents

You need to install an Acronis Backup Agent on every machine you want to backup. For Windows and Linux machines you can deploy agents from the Management Console. For a remote installation there are certain prerequisites for the target machine. You can find the details in the online help files. Please check the prerequisites for a remote installation as well as the free storage space. You can look up the required disk space in this table.

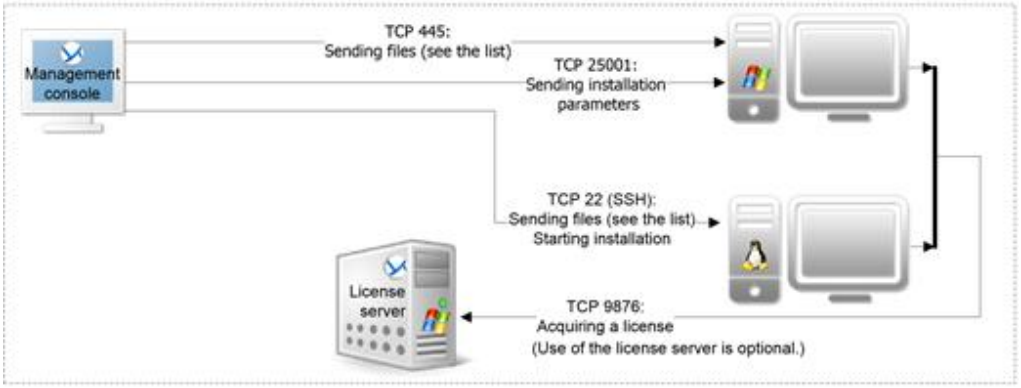
Sum up the required disk space for all components you want to install remotely. For installing "Agent Core" and "Agent for Windows" remotely, you will need approx. 2.4 GB free space on your disk.

Instead of installing remotely, you can also install manually by deploying the agents from the installation package via MSI installation (software deployment).

Management Server is present



Management Server is absent



User

Management Server, Storage Node, and agents will install as services within the operating system. Usually you would create new local users for these and provide them with the necessary rights. For testing purposes you should leave this task to the installation software (using the suggested defaults).

Alternatively you can use existing local users. In an Active Directory (AD) environment you can also create central accounts and assign them to the services. When using existing AD users, you need to make sure that the user right match the required rights of the services. Very often a typical AD user has no right to start a service. You can find the required information on the necessary rights in KB article 15276.

Software

There is no additional software required. Installing Acronis Management Server does also install a Microsoft SQL Express 2005 database. If you install Microsoft SQL Express 2008 R2 or Microsoft SQL Express 2012 yourself upfront, you will get better performance. If you want to use an existing SQL-Server, you can specify that server during the installation process.

If you want to create and use a Windows PE bootable medium, you need to download Microsoft WAIK or Microsoft ADK. Find the respective links within the Bootable Media Builder.

DNS

Having a correct DNS setup is extremely important for all Acronis components to be able to communicate with each other.

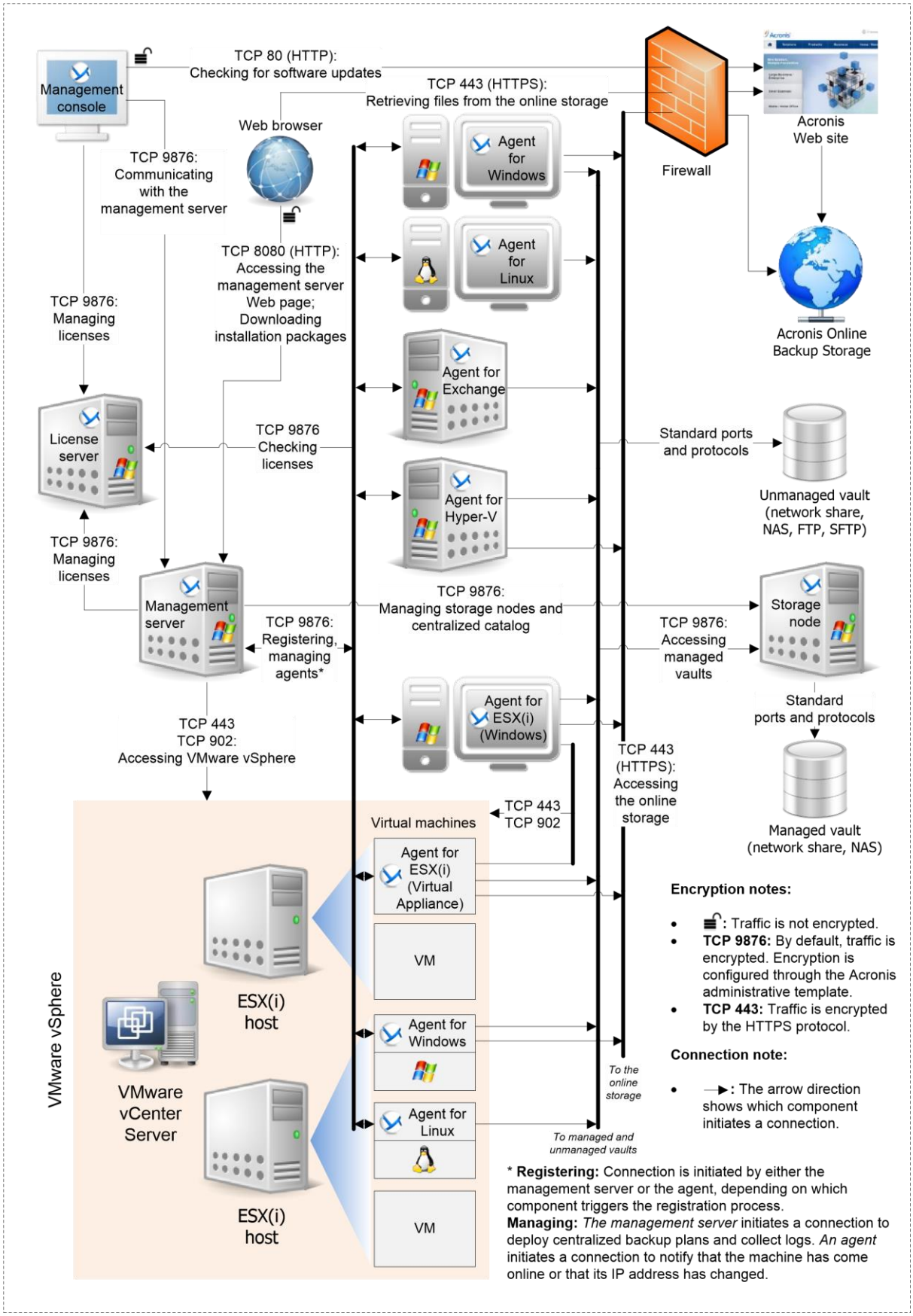
Sometimes the machines to be backed up may have no access to a DNS server. In this case you need to put the respective IP addresses and computer names into the hosts-file. You can find the hosts-file at C:\Windows\System32\Drivers\etc.

Operating Systems

Acronis Management Server as well as Acronis Storage Node can be installed onto a Windows operating system. You can find the supported operating systems in the documentation online. We recommend a server operating system for installing Acronis Management Server and Acronis Storage Node.

Network Ports

The default communication port is TCP 9876. If you install remotely, the firewall needs to be open for ports 445 and 25001 for incoming and outgoing TCP-connections.


Management console
TCP 80 (HTTP): Checking for software updates
TCP 443 (HTTPS): Retrieving files from the online storage
Web browser
Firewall
Acronis Web site
TCP 9876: Communicating with the management server
Agent for Windows
Agent for Linux
TCP 8080 (HTTP): Accessing the management server Web page; Downloading installation packages
TCP 9876: Managing licenses
Acronis Online Backup Storage
Agent for Exchange
License server
TCP 9876 Checking licenses
Standard ports and protocols
Unmanaged vault (network share, NAS, FTP, SFTP)
Agent for Hyper-V
TCP 9876: Managing licenses
Management server
TCP 9876: Managing storage nodes and centralized catalog
TCP 9876: Registering, managing agents*
TCP 9876: Accessing managed vaults
Storage node
Standard ports and protocols
Agent for ESX(i) (Windows)
TCP 443 TCP 902: Accessing VMware vSphere
TCP 443 (HTTPS): Accessing the online storage
Managed vault (network share, NAS)
TCP 443 TCP 902
Virtual machines
Agent for ESX(i) (Virtual Appliance)
VM
VMware vSphere
ESX(i) host
Agent for Windows
VMware vCenter Server
Agent for Linux
To the online storage
To managed and unmanaged vaults
ESX(i) host
VM
Encryption notes:
: Traffic is not encrypted.
TCP 9876: By default, traffic is encrypted. Encryption is configured through the Acronis administrative template.
TCP 443: Traffic is encrypted by the HTTPS protocol.
Connection note:
: The arrow direction shows which component initiates a connection.
* Registering: Connection is initiated by either the management server or the agent, depending on which component triggers the registration process.
Managing: The management server initiates a connection to deploy centralized backup plans and collect logs. An agent initiates a connection to notify that the machine has come online or that its IP address has changed.

Configuring the Hardware

Acronis Management Server

You can install Acronis Management Server into a virtual machine with good performance. We recommend to install the Management Server onto a Windows server operating system. Create one drive on the server for the operating system, and if you want to install Microsoft SQL Express locally, create another drive for that. Make sure you have enough RAM. If you want to install SQL Express locally you should have 12 GB of RAM, not just 8 GB. The size of the system partition should match the operating system accordingly. The size for the SQL partition depends on the amount of data you want to backup and the number of backups you want to keep.

Acronis Storage Node

Acronis Storage Node manages the backups and the data they contain. In order to do so it uses four databases. We strongly recommend putting Acronis Storage Node onto a separate server. Do NOT install Acronis Storage Node on the machine that is running Acronis Management Server. Now think about the following: Do you want deduplication on the Storage Node or store backups to a directly connected tape device. For evaluation purposes you should not enable deduplication on the Storage Node. If you plan to create a vault locally, you should create a system partition plus two more partitions for a) storing the catalog data and b) the vault itself (to store the backups). We recommend to use speaking drive names like “system”, “catalog”, “vault” etc. If you plan to use a network share or NAS for the vault (to store the backups), you don’t need that partition on the server.

If you plan to store backups on a connected tape device, there will be an extra database for the catalogs of the tapes and their contents. We recommend to put this database onto a separate partition (see tape location). By putting that database onto its own partition you avoid the system partition to overflow.

To have enough memory available for the databases we recommend to have at least 16 GB RAM on the Storage Node.

Preparing Windows and Linux machines for agent installation

Usually the Windows Agents will get installed centrally by creating MSI packages and deploying them onto the respective machines. You can find information on how to create MSI packages as well as parameters for the transform-files at:

http://www.acronis.com/support/documentation/AcronisBackup_11.5/index.html#6181.html

You can also deploy agents with the MSI installation using Active Directory group policies. Find a description on what to do at:

http://www.acronis.com/support/documentation/AcronisBackup_11.5/index.html#14132.html

Or you can install agents for Windows and for Linux remotely using the Acronis Management Server. Find the prerequisites and configuration information at:

http://www.acronis.com/support/documentation/AcronisBackup_11.5/index.html#13085.html

Or you can install the agent in a master image and distribute this master image to more machines. You will need to edit the Acronis Agent Service. Find detailed instructions in KB article 56355.

Installation of Acronis Backup Advanced

Installing SQL Express 2008 R2 / 2012 (optional)

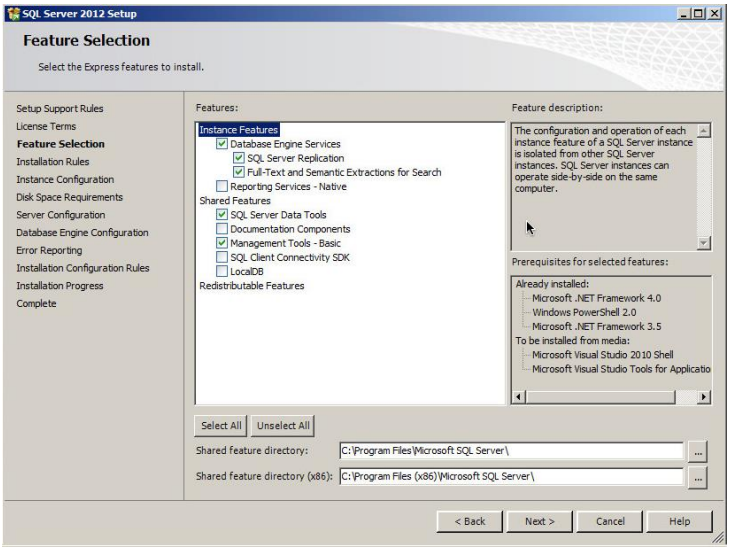
Install Microsoft SQL Express 2008 R2 or Microsoft SQL Express 2012 first on the server. You need to download the installation files from Microsoft. The Advanced version is not required, WT edition and management tools are enough.

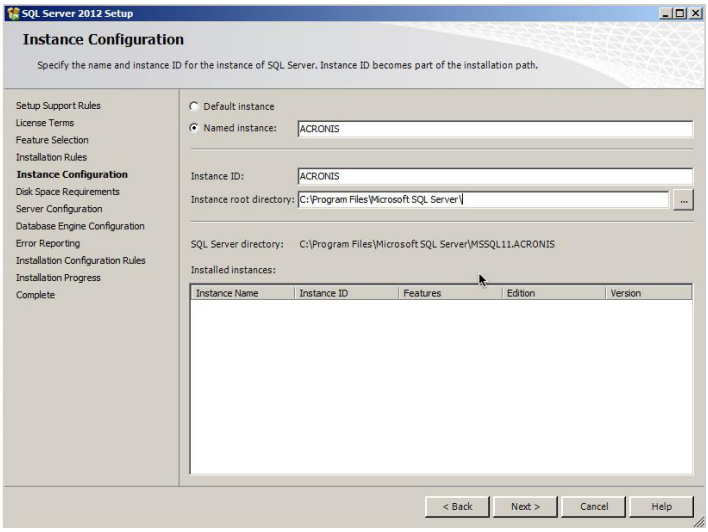
Please note: By default the recovery model is set to “full” with SQL Express 2008 and 2012. This can lead to a very large database and is a known problem (see Acronis KB article 12857 for more information). Make sure that you use the simple recovery model for the database “acronis_cms_cards”. Microsoft SQL Server Management Studio can help with that.

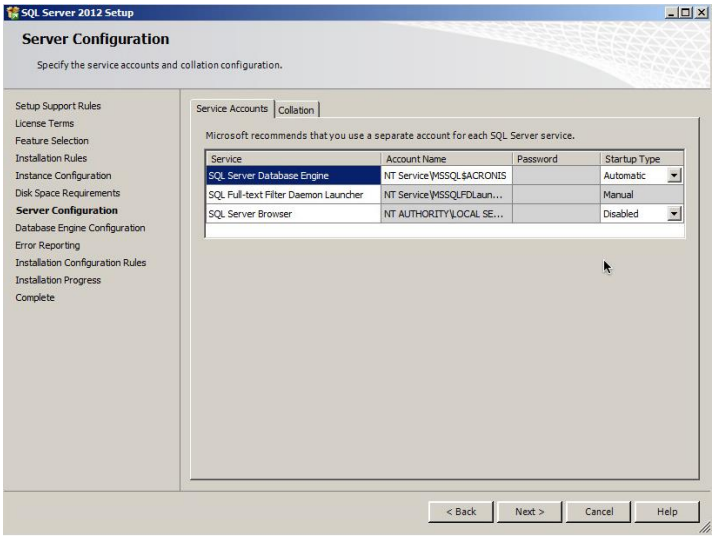
Make sure to install Microsoft SQL Software and database onto the drive you’ve created for them. We recommend to change the instance name from MSSQLEXPR to ACRONIS. For authentication you can use mixed mode. Set a password for the SA account. For Windows authentication you need to create a user and password for the Management Server service.

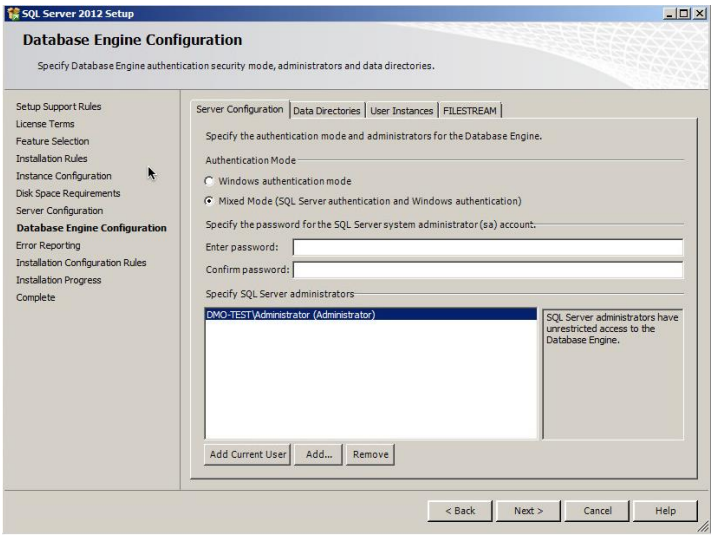
Note: If later on you find the installation of Microsoft SQL Express not being sufficient, you can move the database to a Microsoft SQL Server. Find the how-to information in Acronis KB article 40853.

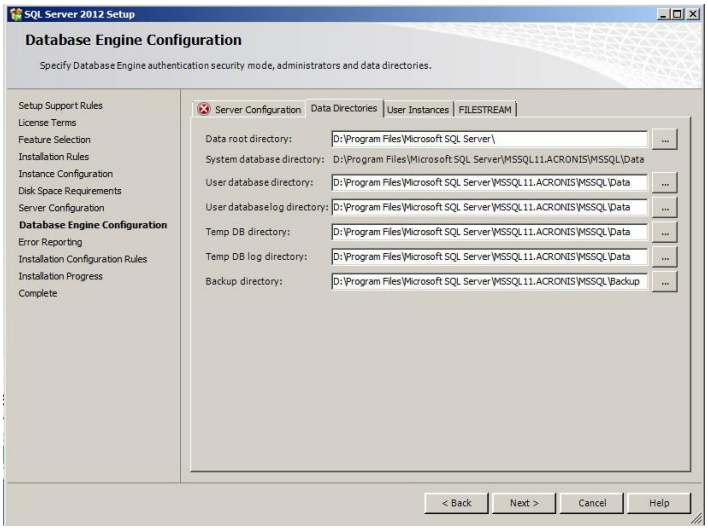
The following gives step-by-step guidance showing the important screenshots only.



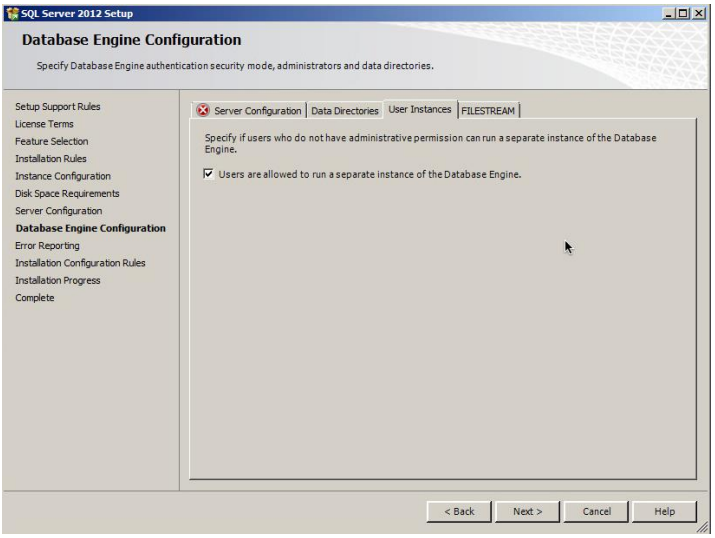

SQL Server 2012 Setup
Instance Configuration
Specify the name and instance ID for the instance of SQL Server. Instance ID becomes part of the installation path.
Setup Support Rules
License Terms
Feature Selection
Installation Rules
Instance Configuration
Disk Space Requirements
Server Configuration
Database Engine Configuration
Error Reporting
Installation Configuration Rules
Installation Progress
Complete
Default instance
Named instance:
ACRONIS
Instance ID:
ACRONIS
Instance root directory:
C:\Program Files\Microsoft SQL Server\
SQL Server directory:
C:\Program Files\Microsoft SQL Server\MSSQL11.ACRONIS
Installed instances:
Instance Name
Instance ID
Features
Edition
Version
< Back
Next >
Cancel
Help

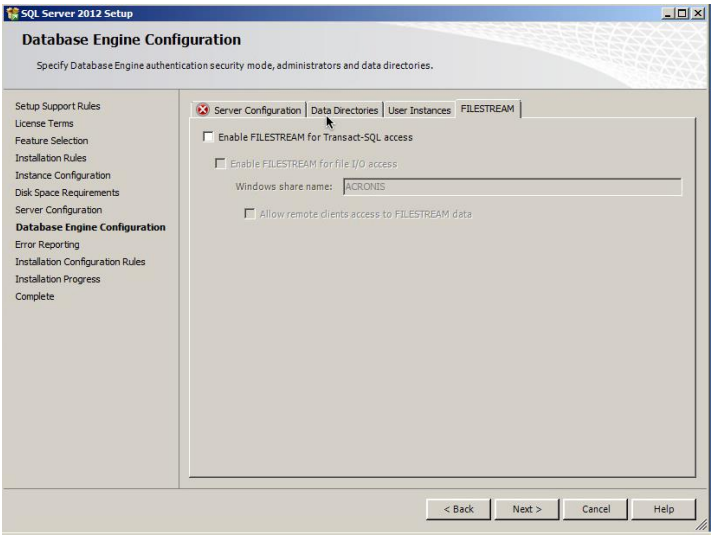

SQL Server 2012 Setup
Server Configuration
Specify the service accounts and collation configuration.
Setup Support Rules
License Terms
Feature Selection
Installation Rules
Instance Configuration
Disk Space Requirements
Server Configuration
Database Engine Configuration
Error Reporting
Installation Configuration Rules
Installation Progress
Complete
Service Accounts
Collation
Microsoft recommends that you use a separate account for each SQL Server service.
Service
Account Name
Password
Startup Type
SQL Server Database Engine
NT Service\MSSQL$ACRONIS
Automatic
SQL Full-text Filter Daemon Launcher
NT Service\MSSQLFDLaun...
Manual
SQL Server Browser
NT AUTHORITY\LOCAL SE...
Disabled
< Back
Next >
Cancel
Help


SQL Server 2012 Setup
Database Engine Configuration
Specify Database Engine authentication security mode, administrators and data directories.
Setup Support Rules
License Terms
Feature Selection
Installation Rules
Instance Configuration
Disk Space Requirements
Server Configuration
Database Engine Configuration
Error Reporting
Installation Configuration Rules
Installation Progress
Complete
Server Configuration
Data Directories
User Instances
FILESTREAM
Specify the authentication mode and administrators for the Database Engine.
Authentication Mode
Windows authentication mode
Mixed Mode (SQL Server authentication and Windows authentication)
Specify the password for the SQL Server system administrator (sa) account:
Enter password:
Confirm password:
Specify SQL Server administrators
DMO-TEST\Administrator (Administrator)
SQL Server administrators have unrestricted access to the Database Engine.
Add Current User
Add...
Remove
< Back
Next >
Cancel
Help



(Please note: The pathnames in the screenshot, are from a special test environment. Change this to the correct pathnames used in your environment.)



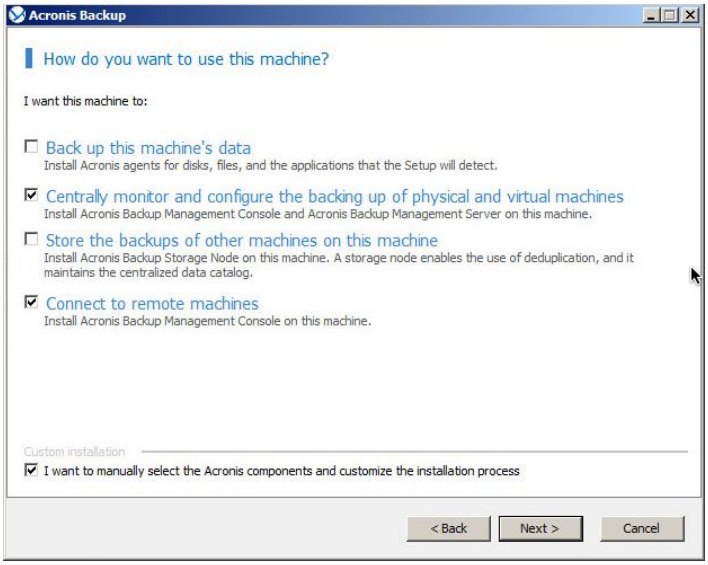


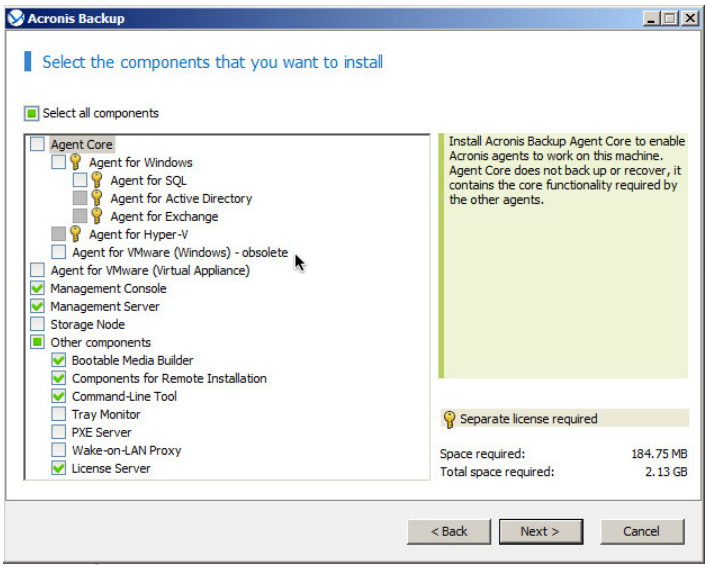
Installing Acronis Management Server

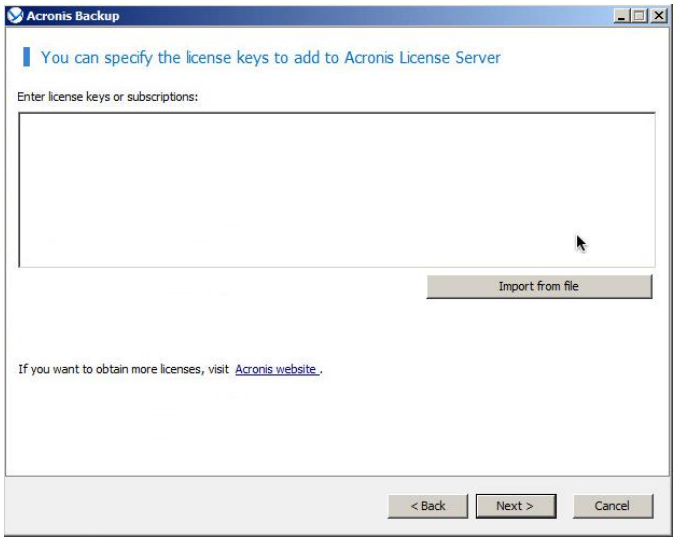
Now install Acronis Management Server. Run the setup program, click on “Install Acronis Backup” and choose “Centrally monitor and configure the backing up of physical and virtual machines”. Make sure you select the check box “I want to manually select the Acronis components and customize the installation process” in order to see all selected components.

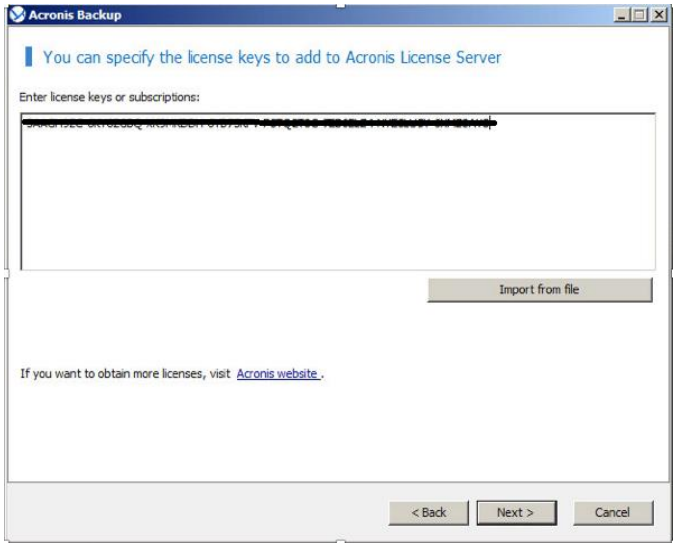
During the installation process you will be asked which SQL Server you want to use. The installation software will detect the local installation of Microsoft SQL Express and will automatically offer to use it. For authentication you can either specify the SQL SA account or the Windows account that you used for Acronis Management Server.

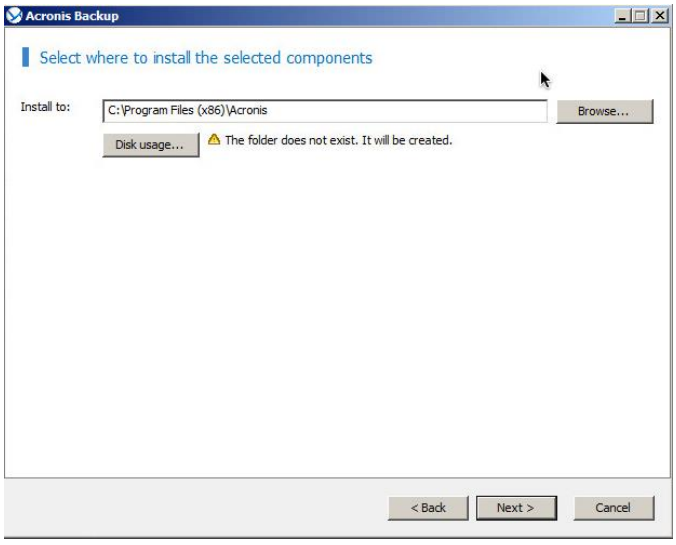
The following provides step-by-step guidance:

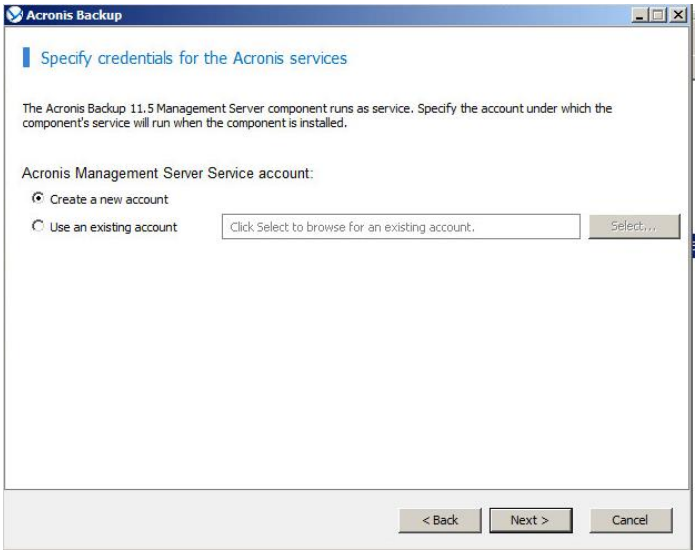


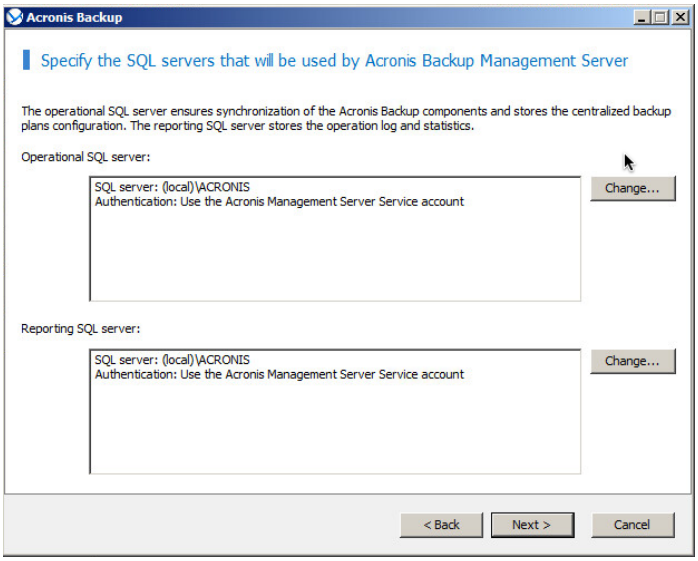


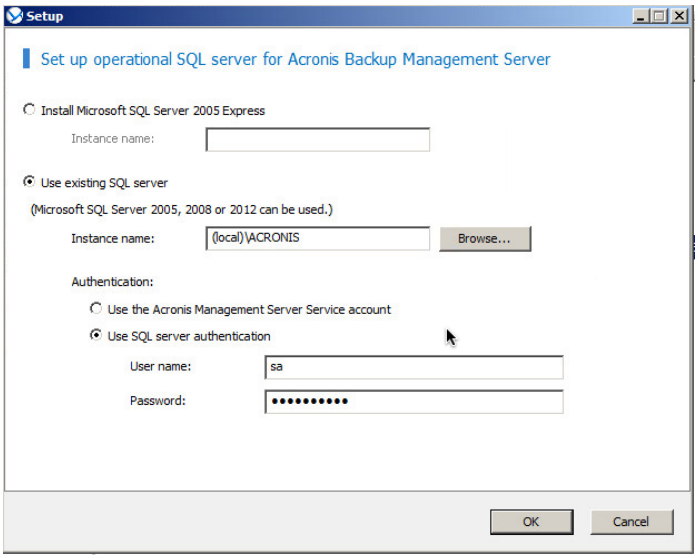

Acronis Backup
You can specify the license keys to add to Acronis License Server
Enter license keys or subscriptions:
Import from file
If you want to obtain more licenses, visit Acronis website .
< Back
Next >
Cancel

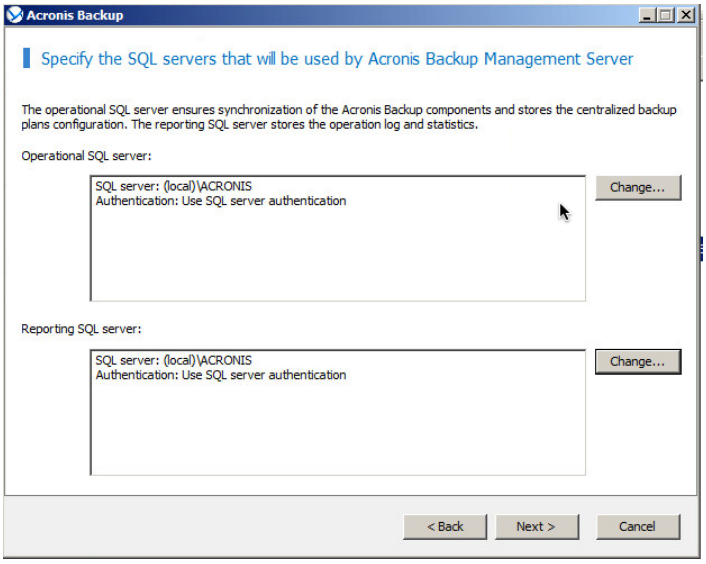

Acronis Backup
You can specify the license keys to add to Acronis License Server
Enter license keys or subscriptions:
Import from file
If you want to obtain more licenses, visit Acronis website .
< Back
Next >
Cancel


Acronis Backup
Select where to install the selected components
Install to:
C:\Program Files (x86)\Acronis
Browse...
Disk usage...
The folder does not exist. It will be created.
< Back
Next >
Cancel


Acronis Backup
Specify credentials for the Acronis services
The Acronis Backup 11.5 Management Server component runs as service. Specify the account under which the component's service will run when the component is installed.
Acronis Management Server Service account:
Create a new account
Use an existing account
Click Select to browse for an existing account.
Select...
< Back
Next >
Cancel

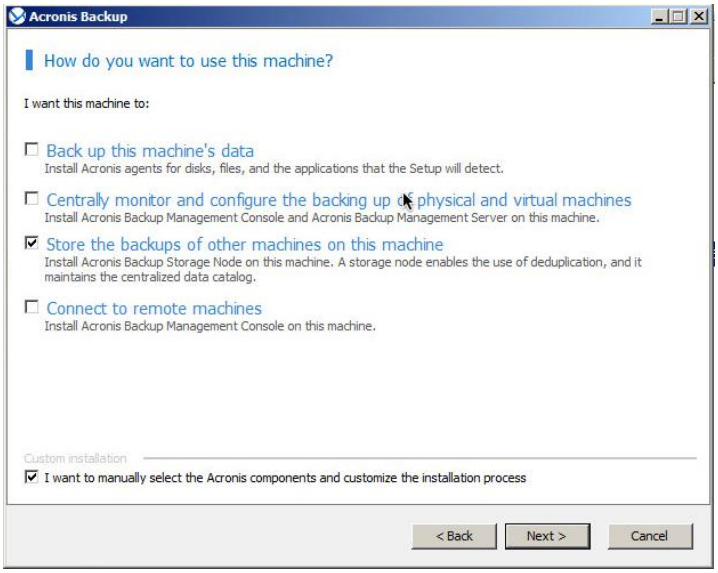

Acronis Backup
Specify the SQL servers that will be used by Acronis Backup Management Server
The operational SQL server ensures synchronization of the Acronis Backup components and stores the centralized backup plans configuration. The reporting SQL server stores the operation log and statistics.
Operational SQL server:
SQL server: (local)\ACRONIS
Authentication: Use the Acronis Management Server Service account
Change...
Reporting SQL server:
SQL server: (local)\ACRONIS
Authentication: Use the Acronis Management Server Service account
Change...
< Back
Next >
Cancel

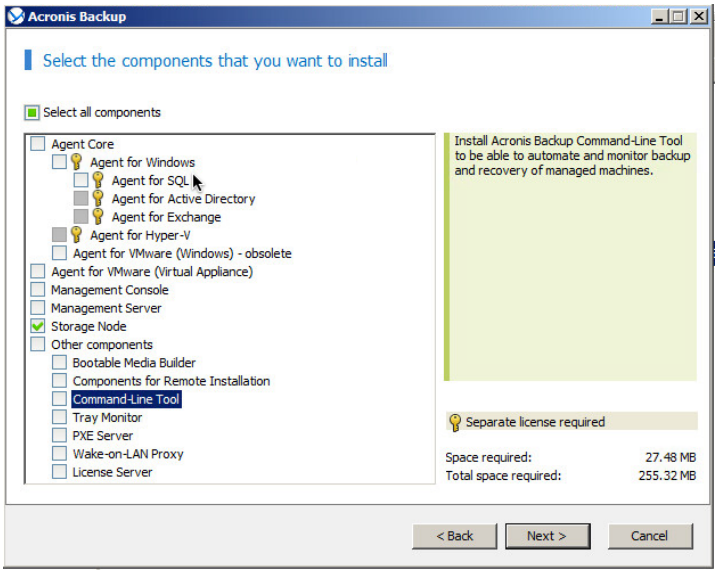

Setup
Set up operational SQL server for Acronis Backup Management Server
Install Microsoft SQL Server 2005 Express
Instance name:
Use existing SQL server
(Microsoft SQL Server 2005, 2008 or 2012 can be used.)
Instance name:
(local)\ACRONIS
Browse...
Authentication:
Use the Acronis Management Server Service account
Use SQL server authentication
User name:
sa
Password:
OK
Cancel


Acronis Backup
Specify the SQL servers that will be used by Acronis Backup Management Server
The operational SQL server ensures synchronization of the Acronis Backup components and stores the centralized backup plans configuration. The reporting SQL server stores the operation log and statistics.
Operational SQL server:
SQL server: (local)\ACRONIS
Authentication: Use SQL server authentication
Change...
Reporting SQL server:
SQL server: (local)\ACRONIS
Authentication: Use SQL server authentication
Change...
< Back
Next >
Cancel

Installing Acronis Storage Node

Run the setup program on the server that will become the Storage Node. Choose “Store the backups of other machines on this machine” and again “I want to manually select the Acronis components and customize the installation process”. Make sure that only Acronis Storage Node has been selected. The installation process will also ask for a user or will offer to create a default user.





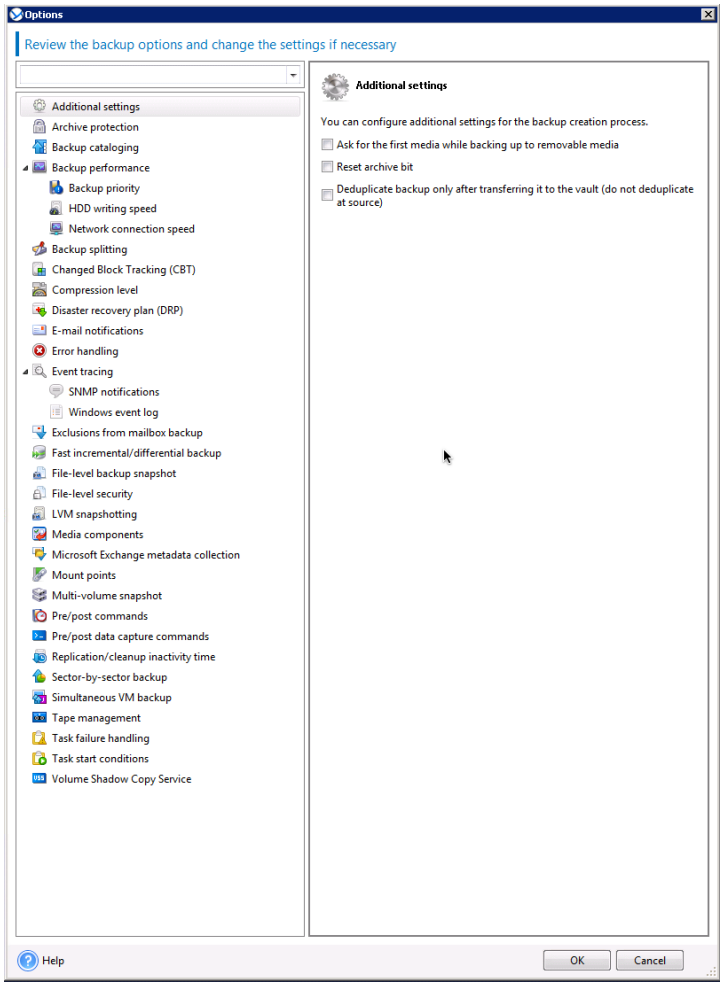
Configuring after installation

Configure for Antivirus Software

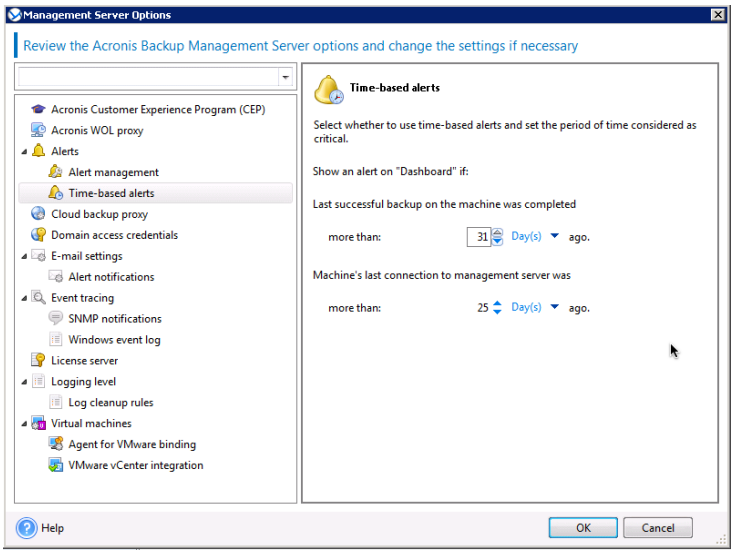
If you are running antivirus software on the server acting as Acronis Management Server and/or the server acting as Acronis Storage Node, then you need to exclude certain Acronis folders from the AV-scan. Please follow Acronis KB article 36429.

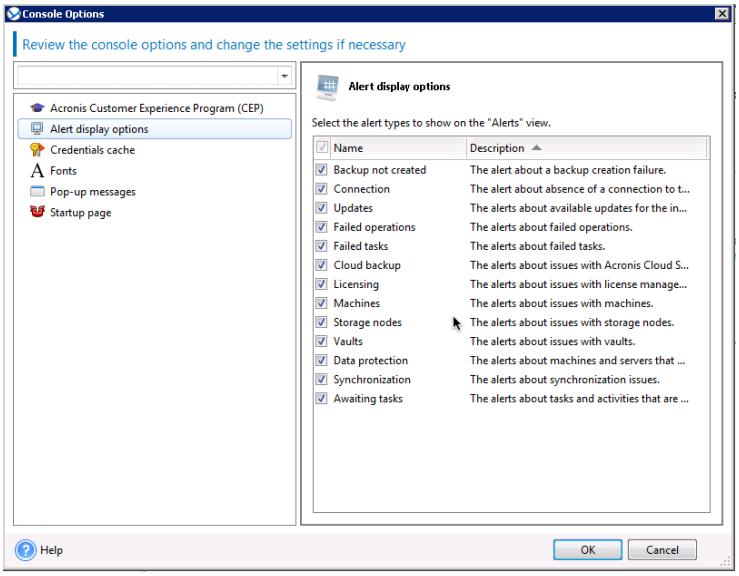
Configure the Management Server

Start the Management Console and connect to the Management Server. In the menu "Options" you will find "Default backup options". Go through all menu items and set the options according to your requirements. For backing up machines, that don't have users working on them like for example a manufacturing execution system, it will be useful to set "Silent mode". Once you've set the options accordingly, they will be used as template for all backup plans. Find information on the individual options in the online help files.



Next configure the settings for “Management server options” and “Console options” for the Management Console.

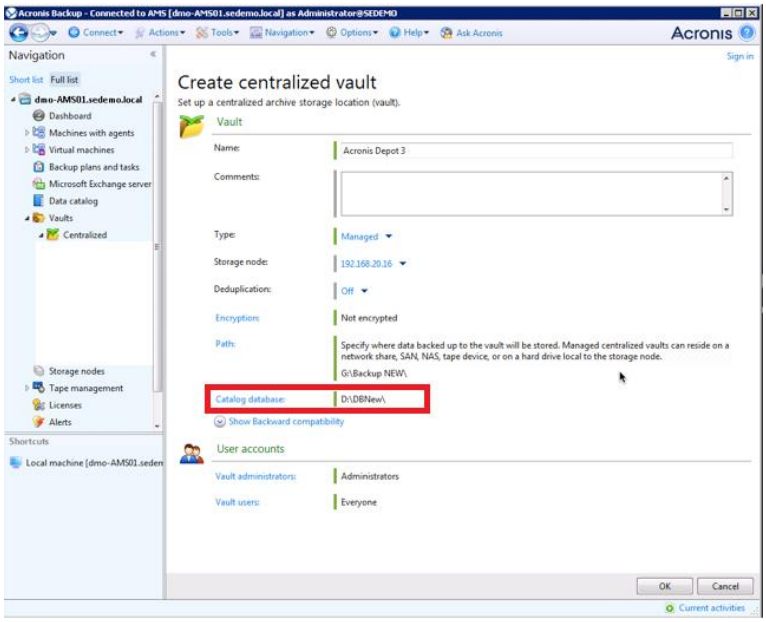




Integrating the Storage Node

In the navigation pane on the left click on “Storage Node” and add the server where you’ve installed the Acronis Storage Node. Once you’ve added it, you can create managed vaults on the Storage Node. To do so click on “vault” in the navigation window on the left and choose “create”. Name the vault explicitly and change the type to “managed”. Afterwards you can choose the server that is the Storage Node and specify a path for the vault and a path for the data catalog. We recommend to change the path for the catalog database from drive C: to the earlier created drive D: on the Storage Node.

You can create up to 20 vaults for one Storage Node. For an evaluation usually one Storage Node with one vault is enough. Later on in a production environment it might be useful to limit the number of machines using one vault to 50 to 100 and to create several vaults.



Installing Agents

The easiest way to install the required agents in the test environment is doing it manually on every machine you want to backup. If the prerequisites for a remote installation on the target machines have been fulfilled and all required ports are open, you can deploy the agents from the Management Server. In production later on you can also use deployment software to deploy the agents. For more information please read the corresponding chapter in the online help files: Installing Backup & Recovery

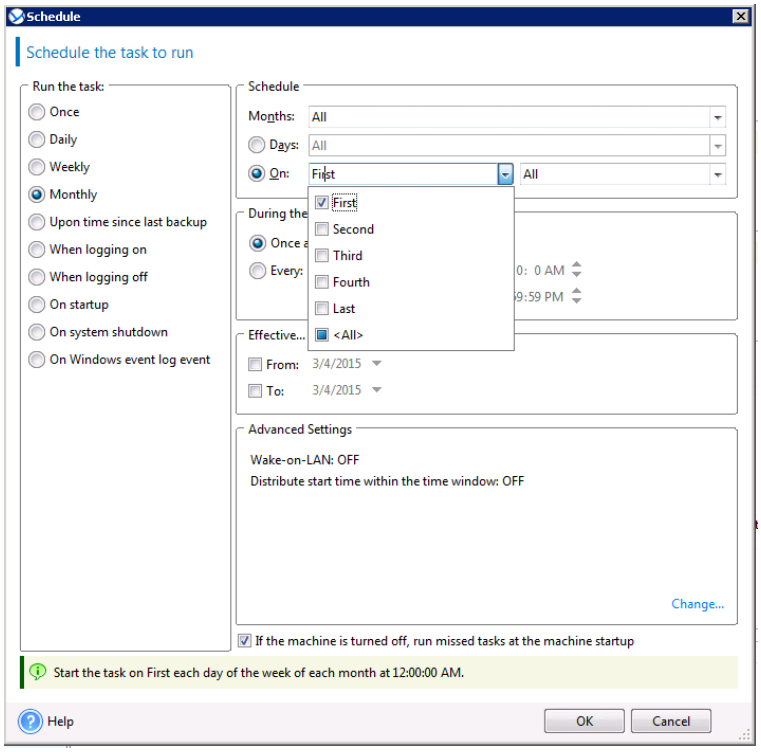
Grouping Machines

For machines with agents installed, you can create groups and assign backup plans to a whole group. You should consider the following. In a typical network 5 to 7 machines can do backups to a central location in parallel without overloading the network. Acronis Storage Node can receive a maximum of 10 backups at the same time. Check your network on how many machines will be able to backup in parallel. Create groups according to the result. When naming the groups, it will be helpful to put hints in the names about backup time, maybe the vault with the backup destination, and if possible about the machines included in the group.

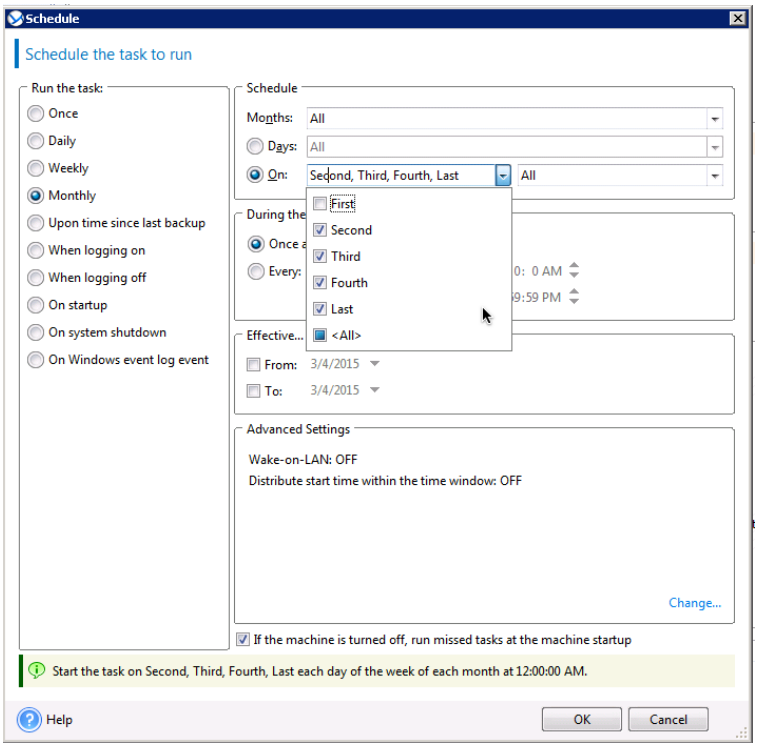
Create Backup Plan

When creating a backup plan the first step is to choose the machines you want to backup and the backup type. You can select file backup, disk backup or (depending on your license) Exchange backup. For backup destination you should use a centralized managed vault. We offer predefined templates for certain backup schemes or you can customize your backup schedule.

Most companies create backups on a monthly basis with a full backup once a month on a certain week day and incremental backups every week for the rest of that month on that same weekday. For such a backup plan you need to use a customized backup scheme. Choose a monthly schedule and then “At”. Specify week of the month, day of the week and time of the day for the full backup. Do the same for the incremental backups. It will be helpful if the name of the backup plan contains hints about backup time and/or machine group to which you assign the backup plan.



Schedule for a monthly full backup, which will run every first week of the month on Saturday at 07:00.



Schedule for an incremental backup, which will run weekly for the rest of a month on Saturday at 07:00.

The schedules shown here, are just examples and need to be customized according to your individual requirements. If your data changes often and you need many recovery points you need to shorten the intervals between backups accordingly.

For retention rules please consider the fact that a backup gets deleted only when there are no more dependencies.

Creating a Bootable medium

In the installation that we described above, we installed Bootable Media Builder on the Acronis Management Server. Now you can create our default Linux-based boot medium or a Windows PE-based one. For a Windows PE-based boot medium you need to install Microsoft Windows AIK or Microsoft Windows ADK on the server. In some rare cases the Linux-based boot medium does not recognize new network cards or storage controllers. In such a case you need to use a Windows PE-based bootable medium, since you can add drivers to it later on using Microsoft tools. You can find a description about how to customize Microsoft Windows PE on Microsoft Technet.

Online Help

We recommend to use our online help for the installation. It allows you to search for terminology and displays the results in a very clear way. So it is quite easy to find the relevant information for a specific topic.

Helpful KB Articles:

35275 How To and Known Issues

38219 Troubleshooting Script for Acronis Management Server

Moving an Acronis Management Server

If you have already an existing installation of Acronis Backup Advanced and want to move it for example to a newer version of your server operating system, you will be able to reuse many configurations, machines and backup plans. Follow KB article 46745 step by step in order to move the installation. Please note that the new machine needs to have the identical machine name and IP address than the former Acronis Management Server. For a nearly seamless move, you should use the same installer build that you've used for the former installation. You can find information about the build in the Management Console using „Help / About" once the Management Console is connected to the Acronis Management Server.

Acronis Academy

If you are interested in more information and details on Acronis Backup Advanced please have a look at the Acronis technical trainings.

Acronis Tech Training … Become an Acronis Guru!

You want to learn more about Acronis Backup corporate solutions? Then join us for an Acronis Tech Training. An Acronis Expert provides comprehensive background knowledge on Acronis corporate solutions.

We make you the expert!

We share with you valuable tips & tricks on

- Disk imaging and backup strategies for server environments
- System availability
- Deployment
- Recovery to homogeneous and heterogeneous hardware, to virtual environments and when using the cloud

After attending the training you will know how to migrate from physical to virtual systems and how to recover a complete system over the network even though it doesn't boot. You will also know how to boot a complete operating system from an image, which can help to reduce downtime significantly.

Ask your reseller about Acronis trainings or contact Acronis sales.

Checklist

Acronis Management Server

- Multicore CPU (4/8)
- Min. 8GB RAM / 12GB RAM incl. SQL Express
- 1Gb network

Acronis Storage Node (without deduplication)

- Dedicated server
- Multicore CPU (4/8)
- Min. 16GB RAM
- 1Gb Network
- 1st drive -> OS
- 2nd drive -> catalog
- 3rd drive -> vault/archive (can be external storage)
- 4th drive -> tape device database (optional)

Acronis Storage Node (with deduplication)

- Dedicated server
- 64-Bit OS
- Min. 2.5 GHz Multicore CPU (4/8)
- Min. 16GB RAM per 1TB of data being deduplicated
  calculating: (4000 + (24x unique data) / 2900) = required RAM
- 1Gb Network
- 1st drive -> OS
- 2nd drive -> catalog
- 3rd drive -> deduplication database
- 4th drive -> vault/archive (can be external storage)
- Backup options -> fast cataloging

Legal Information

Copyright Statement

Acronis patented technologies

Technologies, used in this product, are covered and protected by one or more U.S. Patent Numbers: 7,047,380; 7,275,139; 7,281,104; 7,318,135; 7,353,355; 7,366,859; 7,475,282; 7,603,533; 7,636,824; 7,650,473; 7,721,138; 7,779,221; 7,831,789; 7,886,120; 7,895,403; 7,934,064; 7,937,612; 7,949,635; 7,953,948; 7,979,690; 8,005,797; 8,051,044; 8,069,320; 8,073,815; 8,074,035; 8,145,607; 8,180,984; 8,225,133; 8,261,035; 8,296,264; 8,312,259; 8,347,137; 8,484,427; 8,645,748; 8,732,121 and patent pending applications.