Acronis® Snap Deploy® 3

Installation Guide

Table of Contents

1. What is Acronis® Snap Deploy®

Acronis Snap Deploy is a flexible, efficient software solution for deployment of a fully configured operating system (with or without application software and any other data) to multiple computers. Because the product uses disk imaging technology, it is ideal for rapid bare-metal installations and flexible centralized provisioning.

2. Acronis Snap Deploy components

Acronis Snap Deploy includes the following components:

1. **Acronis Snap Deploy Management Console** is an administrative tool for remote access to Acronis servers and Acronis Snap Deploy Management Agent.

    When disconnected from the Acronis components, the console allows only installing Acronis products on remote machines.

2. **Acronis OS Deploy Server** is a component that performs centralized deployment through the network with the help of Acronis Snap Deploy Agents.

3. **Acronis Snap Deploy Agent** is a bootable component that performs deployment on each target computer under control of the Acronis OS Deploy Server.

    There are two ways to load Acronis Snap Deploy Agent on target computers: locally from bootable media or remotely using Acronis PXE Server.

4. **Acronis Master Image Creator** is a bootable, locally controlled component that takes an image of the master system.

    There are two ways to load Acronis Master Image Creator on a master computer: directly from bootable media or remotely using Acronis PXE Server.

5. **Acronis Snap Deploy Management Agent** is a component that takes an image of the master system in Windows environment under the administrator's control through the Acronis Snap Deploy Management Console. The administrator can also manage files and execute applications on a remote computer using Acronis Snap Deploy Management Agent.

6. **Acronis PXE Server** allows for network booting computers into Acronis Snap Deploy Agent, Acronis Master Image Creator or Preinstallation Environment. The computers must support PXE. Using Acronis PXE Server considerably reduces the time required for booting multiple computers as compared to using bootable media. It also eliminates the need to have a technician onsite to install the bootable media into the system that must be booted.

7. **Acronis Wake on LAN Proxy** is a component that enables the Acronis OS Deploy Server to wake the target computers located in the other subnet.

8. **Acronis Standalone Utility** is a bootable component that enables full functional deployment with GUI on a standalone computer (a computer isolated from the network or included in a network without Acronis Snap Deploy infrastructure.)

9. **Acronis License Server** is a component that tracks licenses of Acronis products.

10. **Acronis Universal Deploy** (optional) is an add-on to Acronis Snap Deploy that enables hardware-independent operating system deployment.

3. Upgrade from v 2.0 to v 3.0

To upgrade from Acronis Snap Deploy version 2.0 to version 3.0, buy the necessary number of upgrade licenses and import the licenses to your license server. For each v 2.0 license that you have on the license server, you can import one upgrade license that is considered as free and can be assigned to any computer.

Install the components of v 3.0 over the v 2.0 components.

Components of v 3.0 cannot communicate with v 2.0 components since they use cryptographic communication protocol that was not supported in v 2.0. Remove old Acronis Snap Deploy components, if the new components are installed on other computers.

4. System requirements

The Acronis Snap Deploy components can be installed on computers running the following operating systems:

	The type of license required for the Acronis Snap Deploy Management Agent installation
MS Windows Server 2008 (TBD)	S
MS Windows Server 2003 Service Pack 2 (x86, x64)	S
MS Windows Server 2003 R2 (x86, x64)	S
MS Windows Small Business Server 2003	S
MS Windows Storage Server 2003 R2	S
MS Windows Server 2003 x64 Editions	S
MS Windows 2000 Server	S
MS Windows 2000 Advanced Server	S
MS Windows 2000 Professional SP4	WS
MS Windows Vista Home Basic (x86, x64)	WS
MS Windows Vista Home Premium (x86, x64)	WS
MS Windows Vista Business (x86, x64)	WS
MS Windows Vista Ultimate (x86, x64)	WS
MS Windows XP Home	WS
MS Windows XP Professional	WS
MS Windows XP Professional x64 Edition	WS
MS Windows XP Professional SP2	WS

* - S – server license, WS – workstation license.

5. Installation file

Acronis Snap Deploy installation file includes the following components and the components' features:
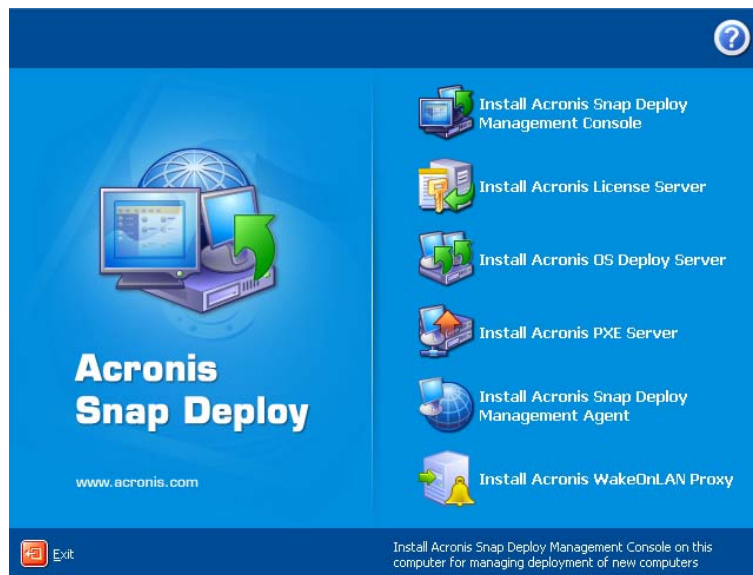**Acronis Snap Deploy Management Console**
     Acronis Snap Deploy PE Builder
     Media Builder for Acronis Image Creator
     Media Builder for Acronis Snap Deploy Agent
     Media Builder for Acronis Standalone Utility
Acronis License Server
     Acronis License Server
     Acronis License Server Management Console

Acronis License Server Management Tool
Acronis OS Deploy Server
Acronis PXE Server
Acronis Snap Deploy Management Agent
Acronis WOL Proxy

The installation window

The **Acronis Universal Deploy** option installs from its own installation file.

6. Common installation configurations

Acronis Snap Deploy components can be installed in various configurations, in terms of distributing the components and features among the networked computers.

1. The minimal configuration that enables only **offline imaging and standalone deployment**:
> Acronis Snap Deploy Management Console (custom installation, including:
>> Media Builder for Acronis Image Creator
>> Media Builder for Acronis Standalone Utility.)

all on the same computer.

2. The minimal configuration that enables **offline imaging, standalone deployment and deployment through the network with Acronis OS Deploy Server**:
> Acronis Snap Deploy Management Console (custom installation, including:
>> Media Builder for Acronis Image Creator
>> Media Builder for Acronis Standalone Utility
>> Media Builder for Acronis Snap Deploy Agent.)
> Acronis License Server (custom installation, includes only:
>> Acronis License Server)
> Acronis OS Deploy Server

all on the same computer. On the target computers, no Acronis components are required.

3. The configuration that adds the **network boot of master and target computers** to the above functionality:
> Acronis Snap Deploy Management Console (custom installation, including:

Media Builder for Acronis Image Creator
Media Builder for Acronis Standalone Utility
Media Builder for Acronis Snap Deploy Agent.)
Acronis License Server (custom installation, includes only:
Acronis License Server)
Acronis OS Deploy Server
Acronis PXE Server

all on the same computer. On the target computers, no Acronis components are required.

This is the recommended elementary configuration that enables most of the Acronis Snap Deploy functionality.

In case physical access to the powerful server is limited, you can install the console on a separate computer. Another common configuration is:

Workstation:
Acronis Snap Deploy Management Console (custom installation, including:
Media Builder for Acronis Image Creator
Media Builder for Acronis Standalone Utility
Media Builder for Acronis Snap Deploy Agent.)

Server:
Acronis License Server (custom installation, includes only:
Acronis License Server)
Acronis OS Deploy Server
Acronis PXE Server

Generally, you can install all Acronis servers on separate computers. In this case, you will have to connect the management console to each server separately to manage the server. With all servers on one computer, only one console connection is needed.

4. To add the **ability to deploy Windows on dissimilar hardware** to any configuration but (1), install the **Acronis Universal Deploy** add-on on a computer where Acronis OS Deploy Server is installed.

5. To add the **online imaging ability** and **the ability to validate images integrity** to any configuration, install **Acronis Snap Deploy Management Agent**.

Online imaging means that the master system is imaged live (without reboot or suspending operations.) Online imaging can be performed remotely whenever you need on connecting the console to the management agent installed on the master computer. The management agent will be included in the master image and deployed on all target computers. This will enable you to manage files and execute applications on target computers at any time after deployment.

However, having excess software in the master image is not always rational. Besides, installation of the agent takes a license.

We recommend that you create a master image using bootable Acronis Master Image Creator or the command line utility in PE. Nevertheless, having at least one management agent on the network (not necessarily on the master computer) makes sense. You will be able to validate (check) your images integrity using the management agent.

6. To add the Acronis OS Deploy Server **ability to deploy in other subnet** (across a switch) to any configuration but (1), install **Acronis WOL Proxy** on any server in the subnet where the target computers are. No additional actions are required.

Acronis WOL Proxy has to be installed only if:
- you are going to perform scheduled deployment (manual or event-driven deployment do not require WOL Proxy Server)

AND
- all or some of the target computers are in subnet(s) other than Acronis OS Deploy Server.

7. Installing the Acronis Snap Deploy Components

7.1 Installation of Acronis Snap Deploy Management Console

Acronis Snap Deploy Management Console is an administrative tool for remote access to Acronis servers and Acronis Snap Deploy Management Agent. Install Acronis Snap Deploy Management Console on any networked computer from which you prefer to operate.

To install Acronis Snap Deploy Management Console:
1. Run the Acronis Snap Deploy setup program
2. Click **Install Acronis Snap Deploy Management Console**
3. Follow the Install Wizard instructions on the screen.

Typical and complete installations install, besides Acronis Snap Deploy Management Console, **Media Builder for Acronis Image Creator, Media Builder for Acronis Snap Deploy Agent** and **Media Builder for Acronis Standalone Utility**. We strongly recommend that you install all the features that enable creation of bootable CD, DVD or other removable media with bootable Acronis components.

Once Acronis Snap Deploy Management Console is installed, you can install the other components remotely using the console's remote installation feature (for more information, see the Acronis Snap Deploy User Guide section *4.2 Installation and update of Acronis components on remote computers.*)

7.2 Installation of Acronis License Server

7.2.1 Installation

Acronis License Server is a component that tracks licenses of Acronis products. Install **Acronis License Server** on a computer accessible to Acronis OS Deploy Server. Installing both products on the same computer would make sense.

A typical installation installs Acronis License Server and the Acronis License Server Management Console. A complete installation installs, besides these two, Acronis License Server Management Tool. A custom installation lets you choose components to install.

The **Acronis License Server Management Tool** is a simple command-line utility for controlling Acronis License Server. **Acronis License Server Management Console** provides an easy-to-use GUI. Alternatively, you can control Acronis License Server using Acronis Snap Deploy Management Console. So you can choose to install only the Acronis License Server.

If you have already installed Acronis License Server that came with another Acronis product, you still need to install Acronis License Server that came with Acronis Snap Deploy. You can install both license servers on the same computer. The Acronis License Server then will be seen as a common server for all Acronis products.

There is no need to install Acronis License Server Management Console or Acronis License Server Management Tool once again, because you already have the necessary management instruments.
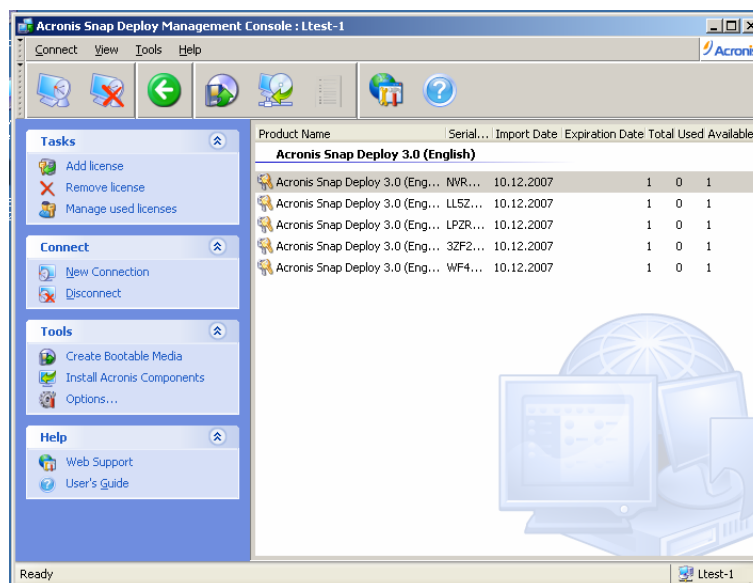
To install Acronis License Server:
1. Run the Acronis Snap Deploy setup program
2. Click **Install Acronis License Server**
3. Follow the Install Wizard instructions on the screen.
4. Reboot on prompt.
After installation, Acronis License Server launches automatically as Windows service.

Before installing Acronis OS Deploy Server, import serial numbers to Acronis License Server either in command-line mode or using Acronis Snap Deploy Management Console.

7.2.2 Adding licenses using Acronis Snap Deploy Management Console

1. Run the Acronis Snap Deploy Management Console.
2. Click **Manage licenses**. Connect to the computer where Acronis License Server is installed.
3. Click **Add License** on the sidebar.
4. In the Add License window, type in the serial number or a path to the .txt or .eml file containing the serial numbers. Or you can browse to the file.
5. In the final window, click **Proceed**. Acronis License Server performs the operation and reports the number of newly-added licenses.

The license server has 5 free workstation licenses

7.2.3 Adding licenses in command line mode

If you have installed Acronis License Server Management Tool, you can add licenses to the Acronis License Server in the command line mode.

1. Run cmd.exe (Windows Command Prompt)
2. Go to the folder where Acronis License Server is installed. By default, it is
   \Program Files\Acronis\LicenseServer
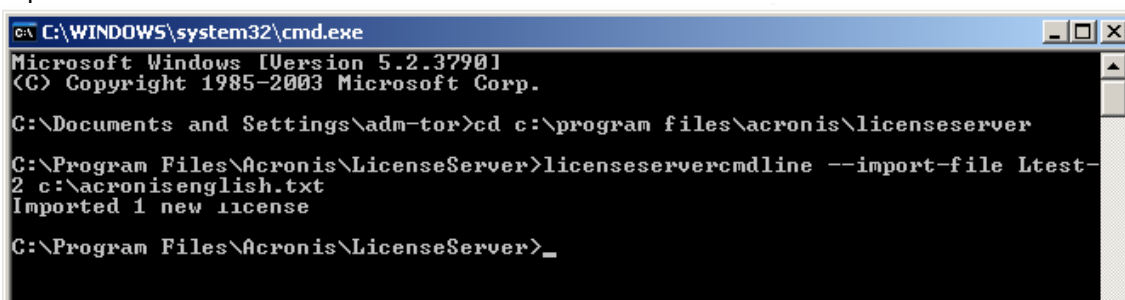3. Enter the following command:

`LicenseServerCmdLine --import-file [servername] [filename]`
where:
`servername` – name of the computer where Acronis License Server is installed
`filename` – name of the file (*.txt or *.eml) with the serial numbers

Example:

This will add the serial numbers from C:\AcronisEnglish.txt to the license server Ltest-2.

7.3 Installation of Acronis OS Deploy Server

Acronis OS Deploy Server is a component that performs centralized deployment through the network with the help of Acronis Snap Deploy Agents.

Before installing Acronis OS Deploy Server, you need to install the Acronis License Server and import license numbers to it (for more information see the previous section).

To install Acronis OS Deploy Server:
1. Run the Acronis Snap Deploy setup program
2. Click **Install Acronis OS Deploy Server**
3. Follow the Install Wizard instructions on the screen.
4. Reboot on prompt.

The wizard will ask you for **Acronis License Server**. Browse to the server, or enter its name or IP address, or let the server be found automatically on the network. This will not decrease the number of deployment licenses. The program just checks the availability of the licenses and stores the specified Acronis License Server parameters to be able to access the Acronis License Server later, when the deployment is launched.

7.4 Installation and setup of Acronis PXE Server

Acronis PXE Server allows the network booting of the Acronis Snap Deploy Agent, Acronis Master Image Creator or Preinstallation Environment on target computers. Using Acronis PXE Server considerably reduces the time required for booting the computers as compared to using bootable media. It also eliminates the need to have a technician onsite to install the bootable media into the system that must be booted. This allows for unattended scheduled deployment.

Using Acronis PXE Server makes sense if there is a Dynamic Host Control Protocol (DHCP) server in your network, so that the booting computers can automatically get IP addresses. Without DHCP, you can boot computers from PXE, but have to configure their network settings manually.

We recommend that you have only one PXE server within a subnet to ensure predictability of the booting computers behavior.

7.4.1 Installation of Acronis PXE Server
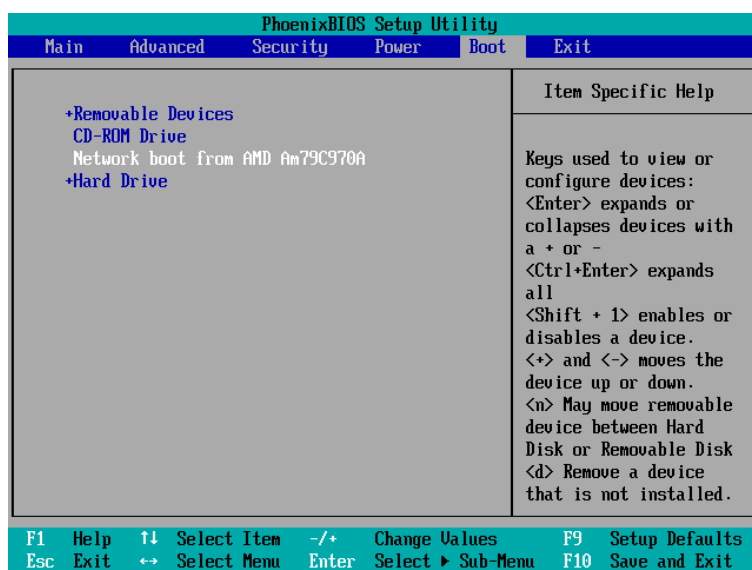
To install Acronis PXE Server:
1. Run the Acronis Snap Deploy setup program
2. Click **Install Acronis PXE Server**
3. Follow the on screen Install Wizard instructions.

Acronis PXE Server runs as a service immediately after installation. Later on it will automatically launch at each system restart. You can stop and start this program in the same way as other services.

7.4.2 Setting up a computer to boot from PXE

For bare metal, it is enough that the machine's BIOS supports network booting.

On a machine that has an operating system on the hard disk, the BIOS must be configured so that the network interface card is either the first boot device, or at least prior the Hard Drive device. The example below shows one of reasonable BIOS configurations. If you don't insert bootable media, the computer will boot from the network.

Setting up the BIOS (example) for network boot

In some BIOS versions, you have to save changes to BIOS after enabling the network interface card so that the card appears in the list of boot devices.

If the hardware has multiple network interface cards, make sure that the card supported by the BIOS has the network cable plugged in.

7.4.3 Setting up PXE and DHCP on the same server

If **Acronis PXE Server** and the **DHCP server** are on the same computer, add to the DHCP server option 60: "Client Identifier" with string value "PXE Client". This can be done as follows:

```
C:\WINDOWS\system32>netsh
netsh>dhcp
netsh>dhcp>server \\<server_machine_name> or <IP address>
netsh dhcp>add optiondef 60 PXEClient STRING 0 comment="Option added for
PXE support"
netsh dhcp>set optionvalue 60 STRING PXEClient
```

7.4.4 Setting up the PXE to work in other subnet

To enable the **Acronis PXE Server** to work in other subnet (across the switch), configure the switch to relay the PXE traffic. The PXE server IP addresses are configured on a per-interface basis using IP helper functionality in the same way as DHCP server addresses. For more information please refer to:
http://support.microsoft.com/default.aspx/kb/257579

7.5 Installation of Acronis WOL Proxy

Acronis Wake on LAN Proxy enables the Acronis OS Deploy Server to wake the target computers located in the other subnet.

Acronis WOL Proxy has to be installed only if:
-    you are going to perform scheduled deployment (manual or event-driven deployment do not require WOL Proxy)
AND
-    all or some of the target computers are in subnet(s) other than Acronis OS Deploy Server.

Install Acronis WOL Proxy on any server in the same subnet as the target computers. No additional actions are required.

To install Acronis WOL Proxy Server:
1.   Run the Acronis Snap Deploy setup program
2.   Click **Acronis WakeOnLAN Proxy**
3.   Follow the Install Wizard instructions on the screen.

Acronis WOL Proxy runs as a service immediately after installation. Later on it will automatically launch at each system restart. You can stop and start this program in the same way as other services.

7.6 Installation of Acronis Snap Deploy Management Agent

Installation of **Acronis Snap Deploy Management Agent** adds the online imaging ability and the ability to validate integrity of your images.

Online imaging means that the master system is imaged live (without reboot or suspending operations.) Online imaging can be performed remotely whenever you need on connecting the console to the management agent installed on the master computer. The management agent will be included in the master image and deployed on all target computers. This will enable you to manage files and execute applications on target computers at any time after deployment.

However, having excess software in the master image is not always rational. Besides, installation of the agent takes a license.

We recommend that you create a master image using bootable Acronis Master Image Creator or the command line utility in PE. Nevertheless, having at least one management agent on the network (not necessarily on the master computer) makes sense. You will be able to validate (check) your images integrity using the management agent.

To install Acronis Snap Deploy Management Agent:

1. Run the Acronis Snap Deploy setup program
2. Click **Install Acronis Snap Deploy Management Agent**
3. Follow the Install Wizard instructions on the screen
4. The wizard will ask you for **Acronis License Server**. Browse to the server, or enter its name or IP address, or let the server be found automatically on the network.

   There must be at least one Acronis Snap Deploy license of appropriate type on the license server. A license for the server product is needed to install the agent on a server operating system. A license for the workstation product is needed to install the agent on a workstation operating system. A server license can be used instead of a workstation license through a prompt. The management agent installation will decrease the number of free licenses by one.

5. Reboot on prompt.

7.7 Installation of Acronis Universal Deploy

Acronis Universal Deploy is an add-on to Acronis Snap Deploy. It is purchased separately and installed from a separate setup file.

Acronis Universal Deploy can be installed only on a computer where Acronis OS Deploy Server is installed.

Acronis Universal Deploy can be installed on a networked computer either locally, by running the setup program, or remotely. To install Acronis Universal Deploy remotely, extract the setup file (.msi) to a network share (see below) and install Acronis Universal Deploy in the same way as other Acronis Snap Deploy components. For more information, see the Acronis Snap Deploy User Guide section *4.2 Installation and update of Acronis components on remote computers*.

After installation Acronis Universal Deploy automatically plugs in Acronis OS Deploy Server.

> You do not need a license to install Acronis Universal Deploy. However, do not forget to add the Acronis Universal Deploy licenses to the license server before starting deployment. If the licenses are not found during deployment, the Acronis Universal Deploy step will be skipped.

8. Extracting the Acronis Snap Deploy components

During Acronis Snap Deploy Management Console installation, all Acronis Snap Deploy components' setup (.msi) files will be placed in the \Program Files\Common Files\Acronis\RemoteInstall folder. Thus, you will be able to remotely install, modify or repair the components using Acronis Snap Deploy Management Console or **msiexec.exe** utility.

When installing Acronis Snap Deploy components on a local computer, you can save setup files for each component separately on a local or network drive. This will help when modifying or recovering the existing component installation on a local computer.

To save a component's setup file:

1. Run the Acronis Snap Deploy setup file
2. In the Install Menu, right-click on the component name and select **Extract**
3. Select a location for the setup file and click **Save**.