



IBM XIV Storage System

XIV VSS Provider - xProv 2.2.3

Release Notes





Second Edition (May 2010)

This edition applies to IBM XIV Storage System Software and to all subsequent releases and modifications until otherwise indicated in new editions.

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Introduction

The IBM XIV xProv VSS Provider allows you to take snapshots of Windows applications using the VSS Framework as the application manager and the IBM XIV Storage System as a Snapshot management system.

Change List

New Features and Components

Introducing a command line interface to configure IBM XIV systems

A command-line interface (CLI) is now available. To start the CLI, open the MachinePoolCLI.exe file that is located in the .NET folder in the xProv installation directory.

Resolved Known Issues and Bug Fixes

Support for Flash Copy Management instant restore feature breaks in version 2.2.2

The FCM instant restore feature restores shadow sets that are taken in Windows 2003 and Windows 2008 environments. This is fixed and supported in version 2.2.3.

MachinePoolEditor “revalidate” operation does not correct data in the configuration.

In addition to testing the connection to the IBM XIV System, the revalidate operation also validates the system configuration.

Note: The revalidate operation does not fix incorrect IP addresses.

Previous Versions Change List

New Features and Components

Improved xProv performance

xProv communication with the XIV storage array has been optimized. VSS operations involving communication with the storage array are completed in a shorter amount of time.

Verify sufficient space in pool during the Prepare phase

xProv verifies that the storage pool has a sufficient amount of space to create all the required snapshots without deleting old ones. If there is not enough space, the Prepare phase returns a veto and Shadow set creation fails. A message is displayed in the Event Viewer application log.

Minimum required space is $17 \times (\text{No_of_Snapshots_to_create} + 1)$.

Support LUN Resync on Windows 2008 R2

xProv now supports the Windows 2008 R2 LUN Resync operation. The LUN Resync operation restores the original volume from its snapshot.

Mapping snapshots to a single host in a cluster environment on XIV version 10.2

For XIV system V10.2.0 or later, xProv supports mapping snapshots to a single host. This means that even if the host is defined in a cluster, the VSS snapshot import operation only unmaps the LUNs to the specific host.

Resolved Known Issues and Bug Fixes

VSS snapshot operation fails for shadowset containing more than 5 volumes - FIXED

The limitation of maximum 5 volumes per VSS snapshot operation is removed with this release. VSS Snapshot operation now supports up to 20 volumes on the XIV system.

Missing notification if a snapshot is deleted due to insufficient space in pool - FIXED

During the process of creating or importing a shadow set, if a required snapshot is not found, a query is done against the XIV system events to see if the snapshot has been deleted as a result of insufficient space in the storage pool.

Supported environments

Compatibility Matrix

Operating System	<ul style="list-style-type: none">• Windows 2003 x86 SP1 and above• Windows 2003 x64 SP1 and above• Windows 2003 IA64 SP1 and above• Windows 2008 x86• Windows 2008 x64• Windows 2008 IA64• Windows 2008 R2• Windows 2008 R2 IA64
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System Requirements

.NET Framework	<ul style="list-style-type: none">• 2.0 and above
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Limitations / Known Issues

Shadow Copies That Contain Dynamic Disks Must Be Transported to a Different Host

The native support for dynamic disks cannot accommodate LUNs with duplicate signatures and configuration database contents. The shadow copy LUNs must be transported to a different host. VSS enforces this by not allowing auto-import shadow copies of dynamic disks. A requester should not import a transportable shadow copy back to the same host.

See the following site for more information:

[http://msdn.microsoft.com/en-us/library/aa384600\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/aa384600(VS.85).aspx).

Shadow Set creation might fail after a LUN resync on Windows 2008 R2

This is a known issue for the Microsoft VSS framework. There is a hotfix for this issue and a KB is in the process of being released. Until the KB is released, a possible workaround is to restart the VSS service after a LUN resync.

Warning messages about storage identifiers not supported on Windows 2008

The following warning message is shown for storage systems that support TPGS:

"The provider has reported a storage identifier that is not supported by VSS."

These warning messages do not interfere with the valid operation of VSS.

See the following site for more information.:

<http://support.microsoft.com/kb/951793>

Installation failure / Uninstall might leave xProv DLL registered – earlier versions

If you perform a rollback procedure after an installation failure of an older version, the xProv DLL might still be registered in DCOM.

Follow these instructions to remove the DLL from DCOM:

- Click Start > Run and open dcomcnfg.exe
- Choose Component Services > Computer > My Computer > DCOM Config
- In the right pane, click xProv and press Delete on the keyboard.
- A message box is displayed to confirm that you want to delete xProv. Click Yes.

VSS operation might fail during import on Windows 7 and Windows 2008 R2

The process might timeout while waiting for the import of a shadowset. One or more snapshots might be missing from the system after a rescan, even if they are mapped to the host by the XIV Storage System. The following Microsoft hotfix resolves this issue:

<http://support.microsoft.com/kb/977096>

This issue is also fixed in Windows 2008 R2 SP1.

Installation Guide

The installation process includes the following steps:

1. Installing xProv using a Wizard
2. Configuring IBM XIV systems to work with the installed xProv

The installation starts with the Wizard and automatically takes you to the MachinePool screen, where you add the systems.

Prerequisites

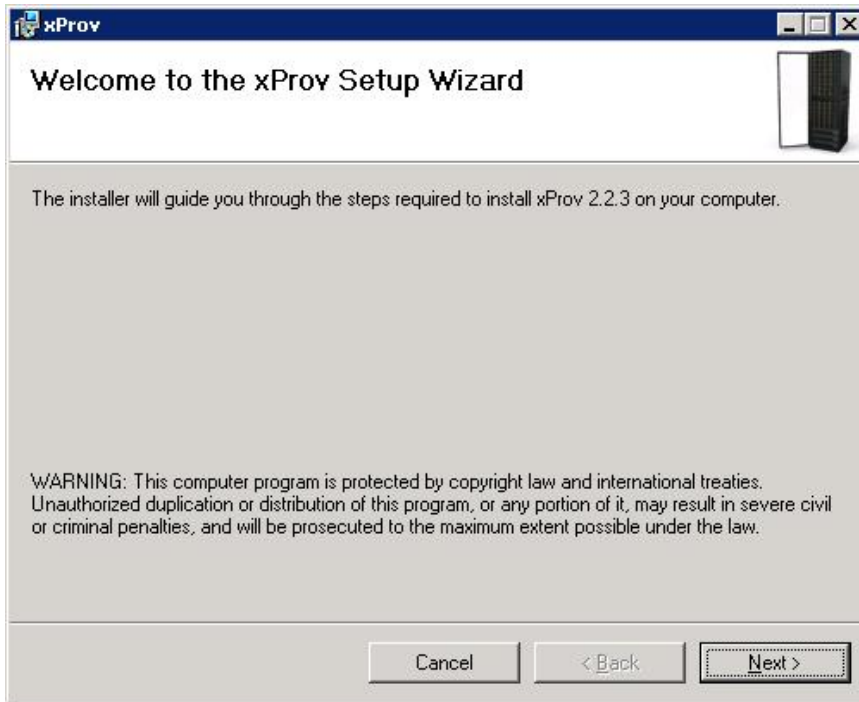
1. Verify that your Windows platform is supported (see above).
2. Verify that you have IP connectivity to the XIV systems.
3. Verify that you have XIV Storage Administrator credentials.
4. If you are using Microsoft Cluster on Windows 2003 server, you must create a resource of type Distributed Transaction Coordinator before you install xProv.

Installation Packages

xProvSetup-2.2.2-x86.msi	<ul style="list-style-type: none"> • Windows 2003 x86 SP1 and above • Windows 2008 x86
xProvSetup-2.2.2-x64.msi	<ul style="list-style-type: none"> • Windows 2003 x64 SP1 and above • Windows 2008 x64 • Windows 2008 R2 x64
xProvSetup-2.2.2-IA64.msi	<ul style="list-style-type: none"> • Windows 2003 IA64 SP1 and above • Windows 2008 IA64 • Windows 2008 R2 IA64

Installing xProv

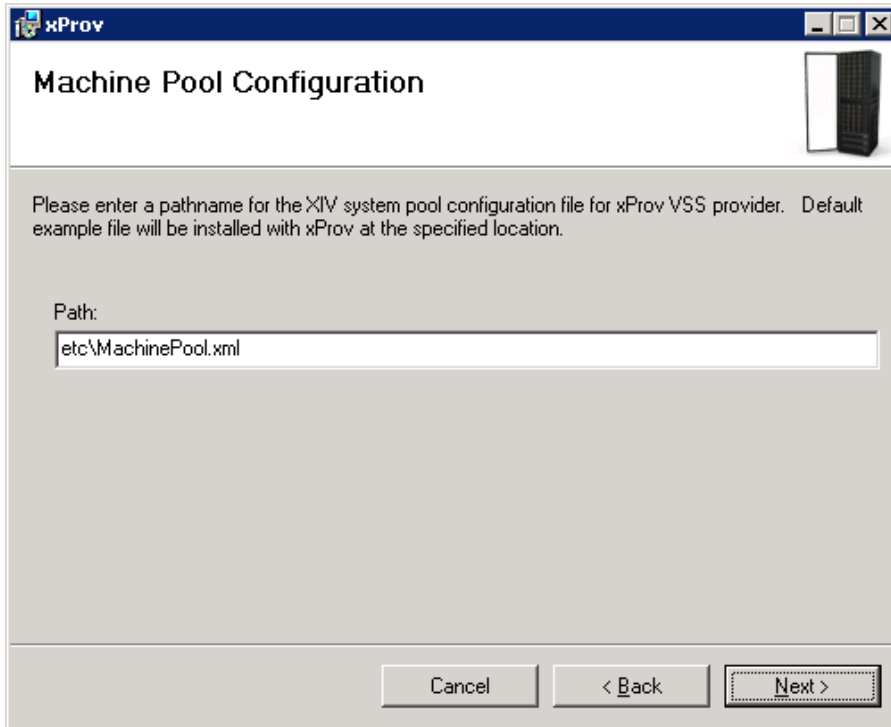
- 1 Run the installation package. The xProv wizard opens on screen. Click **Next**.



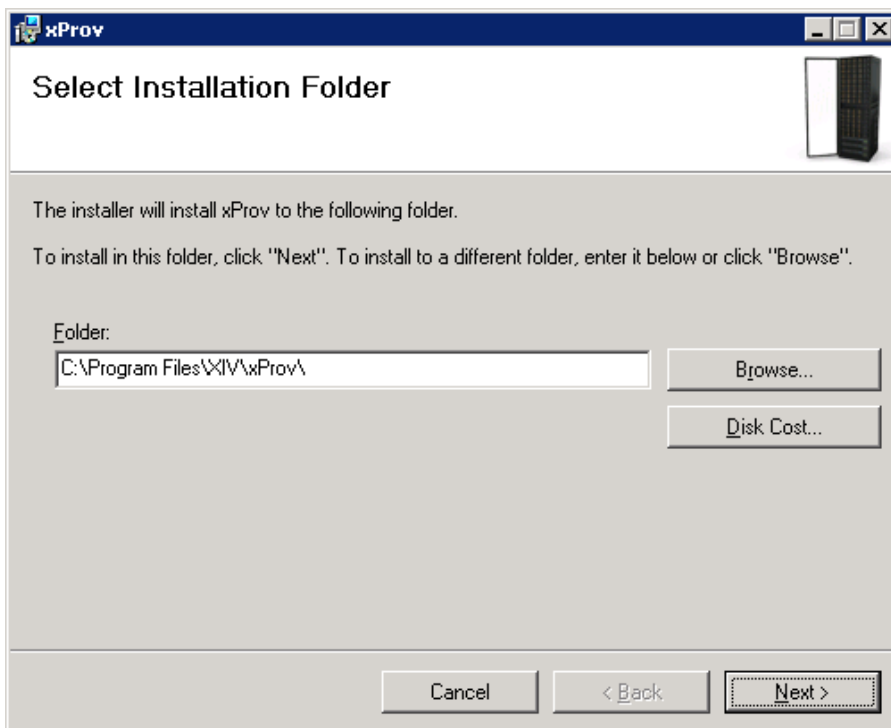
- 2 Approve the license agreement and click **Next**.



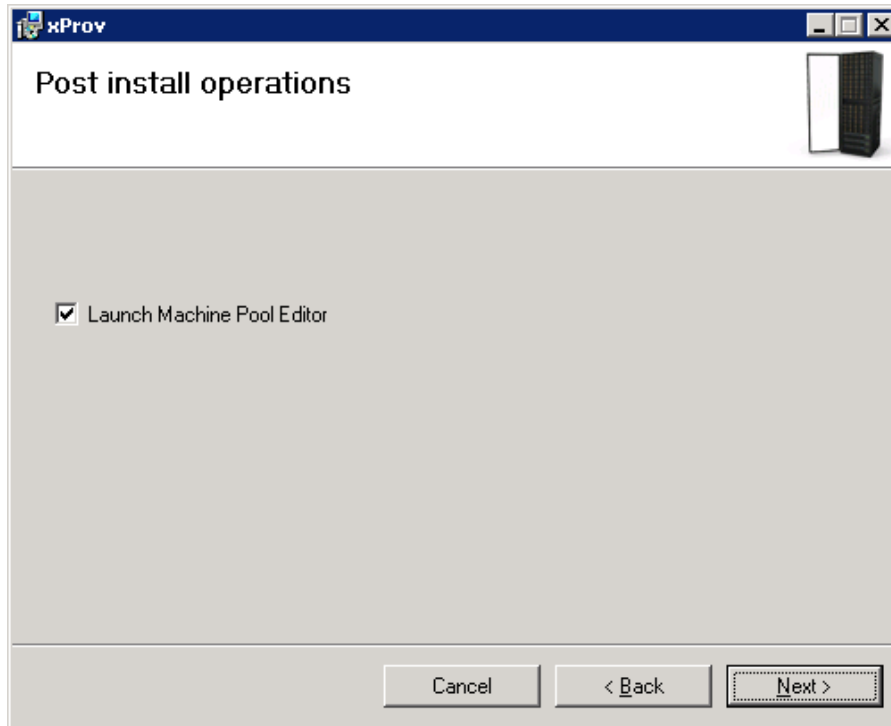
- 3** Approve the path to the Machine Pool configuration file. The default path to this file is:
`<installation folder>\etc\MachinePool.xml`
 Click **Next**.



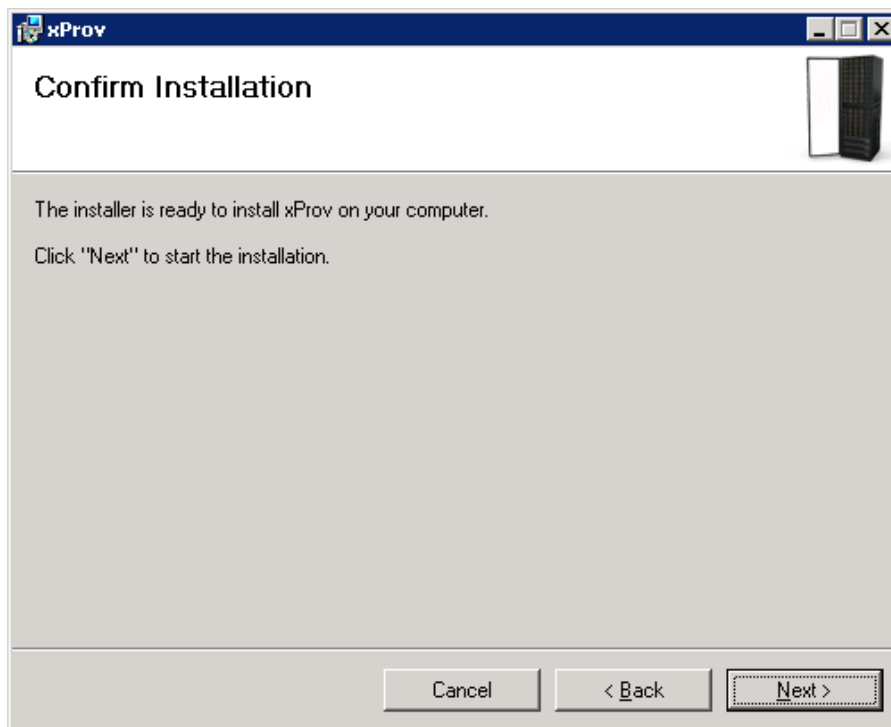
- 4** Set the installation folder and click **Next**.



- 5 Approve launching the Machine Pool Editor after the installation. Click **Next**.

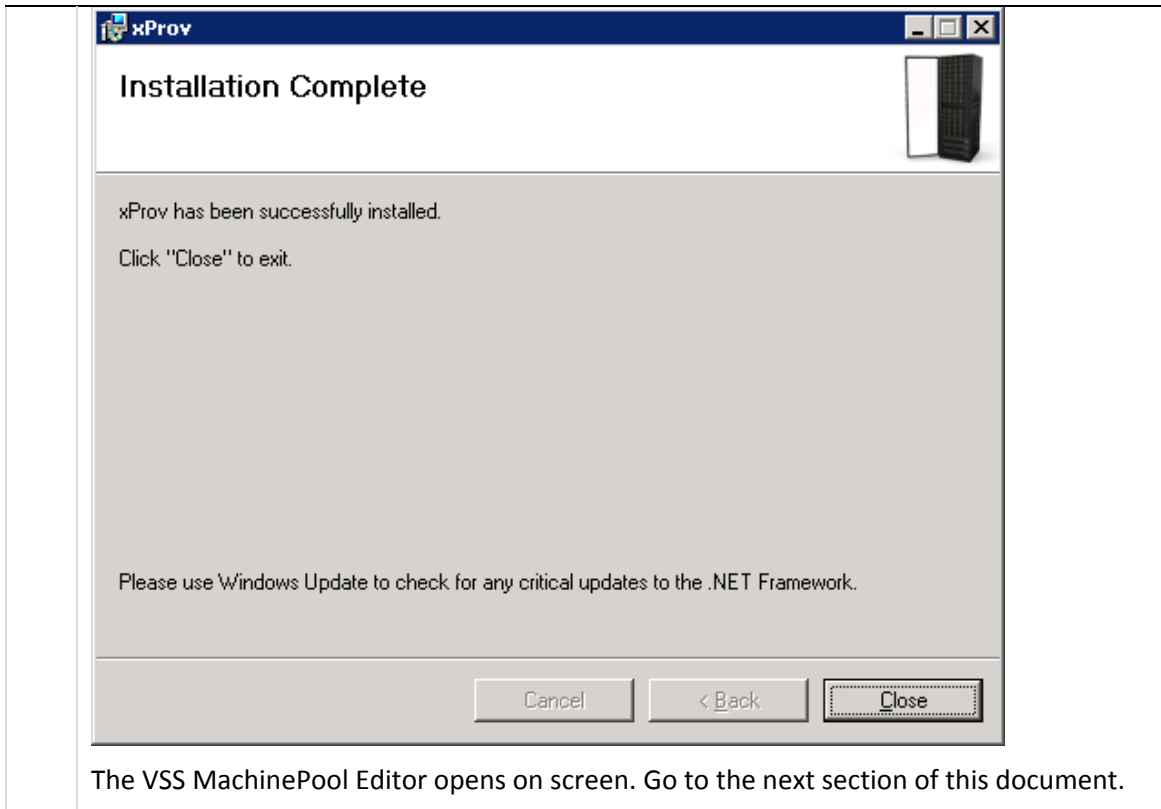


- 6 Click **Next** on the Confirm Installation screen.



xProv is installed.

- 7 The wizard notifies that the installation is complete.

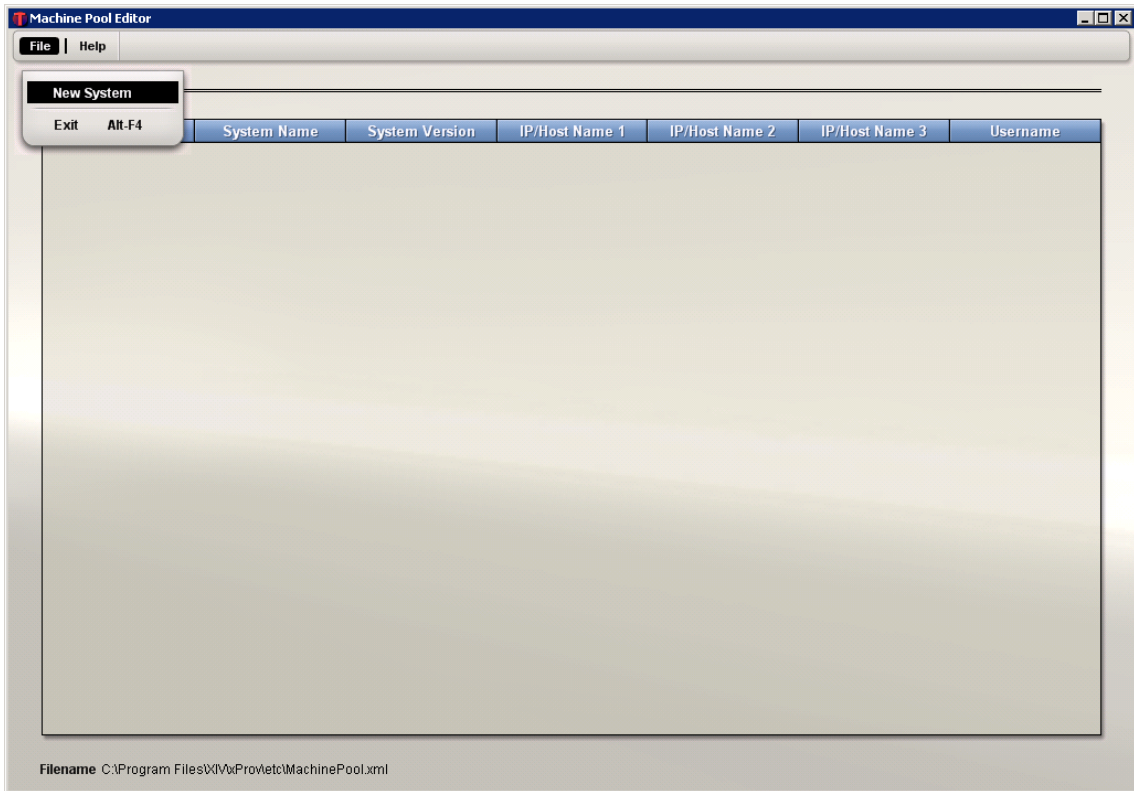


Adding an XIV Machine using VSS MachinePool Editor

For each XIV system the host is connected to, xProv requires XIV system connectivity definitions.

xProv is configured through the MachinePool Editor tool that is bundled with the xProv Installation. After xProv is installed, the MachinePool Editor is displayed.

- 1 Select **File > New System** or right click anywhere in the display area and select **New System**.



- 2 Enter the user name, password and IP address or host name for the system.
Click **Add**.



- 3 The system is added to the Systems list.

The screenshot shows the Machine Pool Editor window. At the top, there is a menu bar with 'File' and 'Help'. Below the menu bar, the title 'Systems' is centered. A table displays the following data:

System Serial	System Name	System Version	IP/Host Name 1	IP/Host Name 2	IP/Host Name 3	Username
MN00026	XIV V10.0 MN00026	10.0.1.c	10.15.220.4	10.15.220.5	10.15.220.6	admin

At the bottom of the window, the status bar shows the filename: C:\Program Files\IV\XProv\etc\MachinePool.xml

The system is saved to the file. The file path is indicated in the status bar.
 xProv is now configured to work as the Snapshot management system for the XIV system.

Using MachinePoolCLI.exe command line

MachinePoolCLI is another tool for adding, removing, and listing defined XIV systems. This tool can be used in scripts or other applications when the XIV GUI cannot be used. The tool is available in the .NET folder of the installation directory.

Define XIV systems

MachinePoolCLI /a <user> <password> <ip>

Remove XIV system

MachinePoolCLI /d <machine_serial_number>

List defined XIV systems

MachinePoolCLI /l [/v]

The optional /v switch connects to the systems and displays the name and version.

Note: The validate option is available only from the GUI.