

What are your options?

- Command Line Switches – Normally for older applications or applications with very little configuration options.
- Answer Files – Sometimes provided for the automated installation of more complex applications. Legacy InstallShield setups provide some native support.
- MSI Transforms – If you are lucky enough to have an MSI provided, MST files can be created to customize these installations.
- Scripted Installs – For simple installations, you may be able to manually apply the files and registry entries required for the application.
- Repackaging – When the above options are not provided or reasonable, a repackaged installation will provide the custom, silent installation desired. This is common practice for shops using IntelliMirror as they must have MSI files to assign software to systems, and the vendor does not often provide them.

Command Line Switches

- Which applications support them?
 - Most all Microsoft Applications
 - Internal mandate requires some form of automated installation support
 - Applications Designed for distribution often with built in distribution mechanisms
 - AntiVirus
 - Norton
 - McAfee
 - Management Software
 - Altiris Client (I take credit for pointing this need out to them a couple of years back)
 - BMC Patrol
 - Lanovation PrismDeploy
 - Cognet Client
- How To Determine Support
 - Try commons switches:
 - Microsoft
 - Use /Q1 to suppress the Exit dialog. Use /QT to suppress all dialogs including the background frame window and progress gauge.
 - Wise Setups
 - /SILENT
 - Other Switches To Try...
 - -/QUIET
 - -/UNATTENDED
 - -/S
 - -/Q
 - -/SMS
 - -/?

Unless there are not many options available, command line support is often facilitated by an answer file...

Answer Files

- Examples
 - Programs intended for mass deployment (Oracle Client, Corel, Acrobat Reader, QuickTime Player)
 - Normally an INI file formatted configuration file with varying degrees support for customization. (i.e. Standard or Full – no custom)
- InstallShield support
 - Examples: Lotus Notes Client, Java Runtime, and Macromedia Shockwave Player. Check properties of setup.exe and look for InstallShield as listed company.
 - Create answer file:
 - Setup.exe /r
 - File is created in windows folder by default with the name setup.iss
 - Use answer file:
 - Setup.exe /s /SMS
 - By default setup will look for setup.iss in the same folder as setup.exe.
 - SMS switch causes command to wait until complete before releasing control to next action in a script (offered to keep SMS from removing connection to shared source before installation completed)
 - Limitations
 - Does not always capture all dialogs.
 - Registration intentionally – or others unintentionally. Must try to know for sure.
 - Many setups spawn others.
 - Dependencies or third party software may be a called setup.exe which you cannot
 - Does not account for anything unexpected.
- Making Use of Command Line Support
 - Batch Files
 - Most common method
 - String multiple actions together
 - Suppress Reboots and control reboot at the end
 - MSI Custom Actions
 - If GPO push is desired this method may still be desirable as it provides you with
 - Vendor support (don't tell them you repackaged it!)
 - Support for very large installations (GPO has a MSI size limitation)
 - Must specify installed file or identify it by property

- InstallShield requires an EXE file for execution, specify CMD.EXE with Command line property of path to batch file
- Normally you should configure the custom action for deferred execution. If your custom action needs to access properties or table entries in the .MSI, the required files must be installed successfully prior to execution. When doing this, place the custom action after InstallFinalize in the Execute Sequence.
- Do not place custom actions like this in the User Interface Sequence as it will not take place when run silently.
- Cannot call an MSI from within and MSI when running silently (if you must, shell out and have your script wait for the previous instance of MSIEXEC to close out.)
- Disadvantages- no roll back, uninstall or self-healing (uninstall must be accounted for manually)
- For GPO, consider Startup or Shutdown script as an option.
 - As a matter of fact this was the method I had to use at a customer site to update MSI itself.
 - Lockdown meant no logon script use
 - GPO meant it had to be an MSI
 - MSI cannot call and MSI when run silently
 - Script would run every time, so dropped a footprint file when done- this file was then checked for before execution to avoid constant reinstallations.

MSI Transforms

- Capabilities
 - Transforms can be used to make any modifications to a vendor provided MSI.
 - They are applied at install time (not after)
- Never repackage an MSI. Why?
 - Microsoft Recommends Against it
 - You Don't Need To!
 - Two items will appear in Add/Remove programs (if you use the old one, Windows Installer may put it back again if an entry point is called)
- Creating MST Files
 - Custom Installation Wizards
 - Office 2000/XP (CIW)
 - This can be used to create an MST for other applications as well- simply ignore the Office-Specific portions of the wizard.
 - Command AntiVirus
 - Hummingbird Exceed (Sconfig)
 - Third Party
 - InstallTailor – Wise (PackageStudio/WFWI)
 - Tuner – InstallShield (AdminStudio/Developer)
 - WinINSTALL 7.5 – On Demand Software
 - Walls – Chicago-Soft
 - MsiTran.exe – SDK - Can generate or apply transforms to installer databases via the command line and is included in the Windows Installer Software Development Kit (SDK).
- Making Use Of MST Files
 - Command Line
 - TRANSFORMS. Public Property; must be all CAPS. Common Mistake TRANSFORM (no error, but will not apply the transform)
 - GPO
 - Choose “Published or Assigned (Advanced)” to have option of specifying transforms on the package's Modifications tab.
 - Ensure a resilient source
 - UNC for smaller networks (no WAN link)
 - DFS share for larger networks
 - Default will be where it was installed from, do not specify a mapped drive letter that may not be available in the future for install on demand actions by users

Scripted Installations

- Simple installations
 - Shortcut to server location
 - Basic “file copy” installations
 - Xcopy \\server\share\source “c:\Program Files” /s /i /q /y
 - /S – Copy subdirectories
 - /I – If destination does not exist and copying more than one file, assumes that destination must be a directory.
 - /Q – does not display file names while copying
 - /Y – Overwrites existing files without prompting
 - Registry entries may also be imported or set via script to meet the requirements of the application.
 - REGEDIT /S regfile.reg
 - DLL registration may be handled silently via command line:
 - Regsvr32 /s acledit.dll

Repackaging

- Benefits
 - Gets you a customized silent installation, and you have complete control.
 - Gets you an MSI when you need one
 - Where are all those vendor MSIs we were supposed to see as a result of Microsoft's Windows 2000 logo requirement?
- Disadvantages
 - Requires Experience to do well
 - No matter how "simple" the sales people will tell you this is, it can only be made so easy. You still need to understand the installation and how it works. What is needed? What is not needed? What will cause you problems?
 - Difficult to sort out needed components
 - Including things you shouldn't could result in anything from repetitive reinstallations by MSI packages, to system crashes.
 - MSI Size limitation (Big packages)
- Tools Available
 - Wise PackageStudio
 - InstallShield AdminStudio
 - WinINSTALL
 - Walls
 - PrismDeploy (Formerly PictureTaker)

Things to Watch Out For

- Reboots

Check runonce and files pending rename as something to determine this.

- Self extracting MSP

The Service Releases provided by Microsoft for Visio are self extracting executables that apply a MSI patch (MSP) to the machine on which it is run. For deployment purposes, this can be confusing- DO NOT REPACKAGE THIS. To get hold of the MSP files them, you must extract them from the downloaded executable as shown here:

```
V10R1PEN.EXE /C /T:C:\Temp
```

This will decompress the files into your temp directory where you can properly apply the MSP to your installation point as shown here:

```
msiexec.exe /p "C:\Temp\Visio20002SR1ENGPro_C.MSP /a  
"\\server\share\visio_source_directory\Visio.msi" SHORTFILENAMES=True /qb
```

You may then initiate a reinstallation/repair on the clients to update them to the applied service release.

- **Self Extracting Setup.exe Packages**

Primarily designed for web deployment, a setup of over one megabyte is very likely to be a self-extracting setup file. Run setup and go to %TEMP% to find the source files (normally in a cryptically named folder.) these files are removed when setup is closed, so copy them out to the network after you see the welcome screen if you need them (InstallShield). This setup.exe will not likely accept any command line switches.

Looking For More Help

- Readme.txt
 - Any readable text file you can find on the CD may contain a helpful hint or if you are really lucky – it may even tell you what to do!
- Vendor product knowledge base
 - Although you are not very likely to find an answer to your questions in a FAQ, it may be addressed somewhere in their knowledge base.
 - It may be “we do not support SMS distribution”
- Vendor Forums and Newsgroups
 - Chances are someone else has fought the same problems you are. Did they ask questions? You may benefit from any answers.
 - Ask questions yourself for the rest of us!
 - Help Get vendors thinking about deployment requirements!
- Google Search
 - silent
 - non-interactive
 - quiet
 - "sms package"
 - "network install"
- AppDeploy.com
 - Package Knowledge Base
 - Over 100 deployment notes, command lines, links and tips on working in a locked down (security) environment.
 - Message Boards
 - One of the few places you can go to discuss this with others