

# Remote Installation Notes

## NuDesign SNMPv3 Agent Service for Windows

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### General Installation Notes

The intent of this note is to outline the necessary steps and their order for Mass Installation of the NuDesign SNMPv3 Agent Service (NDT SNMPv3 Service) on Remote Computers. The network administrator may modify them to suit the needs of their network installation.

This note is for the 64bit NDT SNMPv3 Service, where the **Windows System Directory** is **System32** and **NDT Configuration Registry** file is called **NDMPCfg64.reg**. For the 32 bit NDT SNMPv3 Service, the **Windows System Directory** is **SysWow64** and the **NDT Configuration Registry** file is called **NDMPCfg.reg**.

When updating your existing NDT SNMPv3 Service configuration or installing a new version of NDT SNMPv3 Service, always rename and save your previous NDT SNMPv3 Service configuration registry and the run-time files, for backup. The "Command Prompt" when running the "sc" and "regedit" commands in the Mass Installation scenarios must be started with the "Run as Admin" credentials.

For details about all aspects of NDT SNMPv3 Service, please consult its Help file, included with the product or available on the web site at [www.ndt-inc.com/SNMP/HelpFiles.html](http://www.ndt-inc.com/SNMP/HelpFiles.html)

### Relevant NDT SNMPv3 Service File Directories and Registry Branches

1. **Install Directory** - C:\Users\\Documents or ..\Downloads - this is where 3rd party Extension DLL Installer, the NDT SNMPv3 Service Installer and NDT Service Configuration File NDMPCfg64.reg are typically placed for installation.
2. **Target Directory** - the default selected by the NDT SNMPv3 Service Installer is C:\Program Files\NuDesign Tools\NDT SNMPv3 Agent Service x64 directory. It contains: SNMPv3 Service's Software License Agreement, Help, ReadMe, NDT Configuration Editor exec, sample MIBs, sample NDMPDynConfig.xnv, sample "send notifications" project.
3. **Windows System Directory** - C:\Windows\System32 - this is where the NDT SNMPv3 Service executable file, NDAgent.exe, support DLL NDSXapi.dll, dynamic configuration file NDMPDynConfig.xnv and key license file NuDesignSNMPServiceLicenseKey.txt need to be installed.
4. **Program Data Directory** - C:\ProgramData\NuDesign Tools\NDT SNMPv3 Agent Service x64 - this is where the NDT Configuration Editor stores the Events Log file, NDEventsLog.txt and backup configuration registry files, NDMPCfg64.reg and its previous copy, NDMPCfg64Old.reg file.

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5. **NDT Service Registry branch** - this is where the NDT Service stores its configuration, including pointers to MS and 3rd party Extension DLLs (which have their own registry space)
  - HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\services\NDMPAgent64
6. **NDT Service Configuration Editor Registry Keys** - content of these keys is set-up by the NDT SNMPv3 Service Installer on a Configuration Development Computer and it depends on the selection of **Target Directory** during the installation. The **Target Directory** of Remote Computers must match the **Target Directory** selected on the Configuration Development Computer.
  - HKEY\_CLASSES\_ROOT\CLSID\{C51D7A42-0033-4d05-AC69-B63C4A766278}
  - HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\explorer\ControlPanel\NameSpace\{C51D7A42-0033-4d05-AC69-B63C4A766278}

## Configuring the NDT SNMPv3 Service on a Configuration Development Computer

1. install 3rd party Extension DLLs as per their vendor's instructions.
2. place the **NuDesignSNMPServiceLicenseKey.txt** Key License file in the **Windows System Directory**.
3. install the **NDT SNMPv3 Service** using the provided **NDT SNMPv3 Service Installer** (it will automatically load and register Microsoft sub agent Extension DLLs). It will also install a default SNMPv3 demonstration configuration, matching the configuration of NuDesign's **Visual MIBrowser Pro** to provide for quick SNMPv3 Service connectivity testing and overall installation verification.
4. using the **NDT Service Configuration Editor** implement your specific, production SNMPv3 configuration (remember to remove the default SNMPv3 demo configuration before deployment), verify Microsoft's and 3rd party Extension DLL's load and registration status.
5. using the "Export" button of the NDT Service Configuration Editor, save the completed configuration **NDMPCfg64.reg** registry file, for distribution to Remote Computers, as discussed in the next sections.
6. if planning to install the **NDT Service Configuration Editor** on Remote Computers, save the following registry files, for distribution. These settings enable showing the Configuration Editor in the Windows Control Panel:
  - a. `regedit /e NDT_CLSID.reg HKEY_CLASSES_ROOT\CLSID\{C51D7A42-0033-4d05-AC69-B63C4A766278}`
  - b. `regedit /e NDT_ControlPanel.reg HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\explorer\ControlPanel\NameSpace\{C51D7A42-0033-4d05-AC69-B63C4A766278}`

## Initial Mass Installation of NDT SNMPv3 Service on Remote Computers

Using your preferred method of remote file installation, “push” out to each remote server, the following files and perform the following actions from your installation script.

1. place in the **Install Directory**
    - a. each 3rd party Extension DLL's Installer, if any
    - b. **NDMPCfg64.reg**, - the NDT SNMPv3 Service configuration registry file
    - c. **NDT\_CLSID.reg** & **NDT\_ControlPanel.reg** - optional Control Panel registry files
  2. place in the **Windows System Directory** the following files:
    - a. **NDAgnt.exe** – the NDT SNMPv3 Service executable
    - b. **NDSXApi.dll** – a support DLL
    - c. **NDMPDynConfig.xnv** – the Dynamic Configuration file. (required to assign a unique Engine ID to each remote service installation)
    - d. **NuDesignSNMPServiceLicenseKey.txt** – the Key License file
  3. optionally place in the **Target Directory** – create the same **Target Directory** as on the Configuration Development Computer and copy there the following files, **only if** the remote location needs local access to the configuration editor: Service's Software License Agreement, ReadMe, Service Help and NDT Service Configuration Editor exec files .
  4. for NDT SNMPv3 Service rev prior to rev16, download & install Microsoft Visual C++ 2008 SP1 redistributable (x64) lib, if not already installed. Not required for rev16 & up.
  5. enable Microsoft’s SNMP Service feature - this will unpack MS Extension DLLs for use with the NDT SNMPv3 Service. Depending on which Windows / Windows Server you are using you may find that Simple Network Management Protocol (SNMP) feature is available as a "Feature" or as an "Optional Feature". The recommended process is to first update your Windows with the latest MS updates, in fact Windows 10, depending on its version, must be updated for this process to succeed. Then execute the following commands to cover the above scenarios, one of them will succeed, depending on your Windows type. The final outcome is that its Windows MS SNMP Service is enabled and its MS DLLs are loaded. The commands are:
    - a. `dism /online /NoRestart /Enable-Feature /FeatureName:SNMP`
    - b. `dism /online /NoRestart /Add-Capability /capabilityname:SNMP.Client~~~0.0.1.0`
- Note that the NDT SNMPv3 Service will stop the MS Service and set it to "manual" status, when it is started as per bullet 10 below
6. install any 3rd party Extension DLLs; they must be installed as per their vendor's instructions.
  7. install NDMPAgent64 as a Service using the command:
    - a. `sc create NDMPAgent64 binPath= C:\Windows\System32\NDAgnt.exe depend= EventLog displayname= "NuDesign SNMPv3 Agent Service (x64)" start= auto`

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8. merge the NDMPCfg64.reg Service configuration file, using the command:
  - a. `regedit /s NDMPCfg64.reg`
9. if installing the **NDT Service Configuration Editor** on the remote computers, merge the following registry files (previously saved from the Configuration Development Computer) into each Remote Computer. This enables showing the Configuration Editor in the Windows Control Panel:
  - a. `regedit /s NDT_CLSID.reg`
  - b. `regedit /s NDT_ControlPanel.reg`
10. start the NDT SNMPv3 Service using the command:
  - a. `sc start NDMPAgent64`

## Mass Upgrade of the NDT SNMPv3 Service on Remote Computers – changing files and configuration

This section assumes that the Remote Computers have the NDT SNMPv3 Service already installed and need to be upgraded with a new release of Service run-times and a new configuration.

1. stop the existing NDT SNMPv3 Service and remove its current configuration, by running the following commands:
  - a. `sc stop NDMPAgent64`
  - b. `sc delete NDMPAgent64`
2. place in the **Install Directory**, the following updated files:
  - a. each 3rd party Extension DLL's Installer, if any
  - b. the **NDMPCfg64.reg** – the NDT SNMPv3 Service configuration file
3. place in the **Windows System Directory**, the following updated files:
  - a. **NDAgnt.exe** - the NDT SNMPv3 Service executable
  - b. **NDSXApi.dll** – a support DLL
  - c. **NDMPDynConfig.xnv** – the Dynamic Configuration file.
  - d. **NuDesignSNMPServiceLicenseKey.txt** – the Key License file
4. optionally, place in the **Target Directory** – copy from the Configuration Development Computer, **only if** the remote location needs local access to the configuration editor, the following updated files: Service's Software License Agreement, ReadMe, Service Help and NDT Service Configuration Editor exec files .
5. install additional 3rd party Extension DLLs (if any), they must be installed as per their vendor's instructions.
6. install NDMPAgent64 as a Service using the command:
  - a. `sc create NDMPAgent64 binPath= C:\Windows\System32\NDAgnt.exe  
depend= EventLog displayname= "NuDesign SNMPv3 Agent Service  
(x64)" start= auto`
7. merge the NDMPCfg64.reg Service configuration file, using the command:
  - a. `regedit /s NDMPCfg64.reg`
8. start the NDT SNMPv3 Service using the command:
  - a. `sc start NDMPAgent64`

## Mass Upgrade of the NDT SNMPv3 Service on Remote Computers – changing files only (retaining configuration)

This section assumes that the Remote Computers have the NDT SNMPv3 Service installed and need to be upgraded with the updated Service runtimes without changes to the configuration.

1. stop the existing NDT SNMPv3 Service using the command:
  - a. `sc stop NDMPAgent64`
2. place in the **Windows System Directory** the following files, if updated:
  - a. **NDAgnt.exe** – the NDT SNMPv3 Service executable
  - b. **NDSXApi.dll** – a support DLL
3. place in the **Target Directory** - copy from the Configuration Development Computer only the updated files: Service's Software License Agreement, ReadMe, Help and NDT Configuration Editor exec files.
4. start the NDT SNMPv3 Service using the command:
  - a. `sc start NDMPAgent64`

## Mass Upgrade of NDT SNMPv3 Service on Remote Computers – a configuration only change

This section assumes that the Remote Computers have a previous version of NDT SNMPv3 Service installed and running and need to be upgraded with a new configuration only.

1. stop the NDT SNMPv3 Service and remove its current configuration using the commands (it will only remove the configuration registry, leaving all runtime files intact):
  - a. `sc stop NDMPAgent64`
  - b. `sc delete NDMPAgent64`
2. place in the **Install Directory** the following files:
  - a. **NDMPCfg64.reg** – the NDT SNMPv3 Service configuration file
3. place in the **Windows System Directory** the following files:
  - a. **NDMPDynConfig.xnv** – the new Dynamic Configuration file
4. install **NDMPAgent64** as a Service using the command:
  - a. `sc create NDMPAgent64 binPath= C:\Windows\System32\NDAgnt.exe depend= EventLog displayname= "NuDesign SNMPv3 Agent Service (x64)" start= auto`
5. merge the NDMPCfg64.reg Service configuration file, using the command:
  - a. `regedit /s NDMPCfg64.reg`
6. start the NDT SNMPv3 Service using the command:
  - a. `sc start NDMPAgent64`

## About NuDesign Technologies

NuDesign Technologies, Inc, based in Toronto, Canada, specializes in the development of SNMP management agents and client applications used in remote configuration, monitoring and control of Windows and Linux Servers & Workstations, embedded devices, networking services and applications.

For all of our software products, supporting standard management protocols such as NETCONF, SNMP, CLI and web protocols such as RESTCONF, please visit our main site at [www.ndt-inc.com](http://www.ndt-inc.com).

The benefits of deploying NuDesign's management software technologies are reliable, low risk, quick-to-market and well supported solutions. The highly automated code generation tools with associated applications and tutorials enable fast prototyping and development. They also facilitate organization and design process for multiple target environments.

## Contact Information

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