TightVNC for Windows: Installing from MSI Packages

TightVNC Version 2.5.2

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Starting with version 2.5, TightVNC installer comes in the form of MSI packages. MSI format is used by the standard Windows Installer and allows installing software both interactively and in automated silent mode.

Interactive installation is simple and does not differ from the standard way you install the software: open the MSI file in Explorer and follow the conventional installation wizard. Automated installation needs more explanation and this is what this document is about.

System Requirements

System requirements are simple. TightVNC runs on any type of Windows, starting with Windows 2000 with the latest Service Pack. It works fine on Windows 7 and even on Beta version of Windows 8 (as available in summer 2012). Both x86 (32-bit) and x64 (64-bit) systems are supported. TightVNC uses very little disk space and can be used on systems with little main memory (RAM) so we don't list any minimal recommendations – it should fit any system, provided that Windows itself works fine on it.

Choosing the Right Package

First of all, we need to say that there are two MSI packages of TightVNC, 64-bit and 32-bit. The file names look like this (where 2.5.2 is a version number):

- tightvnc-2.5.2-setup-32bit.msi

- tightvnc-2.5.2-setup-64bit.msi

Choose the one matching your system type. If you run 32-bit version of Windows (x86 architecture), you can only install 32-bit version of TightVNC. If your system is 64-bit (x64 architecture), you should install 64-bit version. While 32-bit version might work on a 64-bit machine, that can result in poor performance.

Installing Silently

To install an MSI package silently from the command line, you should run the msiexec tool with /i and /quiet options (where /i stands for install, /quiet sets silent mode). For TightVNC, it would be a good idea to add the /norestart option, to prevent rebooting the system after installing the software. If everything is good, TightVNC installation should not require restart even if its previous version is running as a service. The installer should upgrade the system correctly, by shutting down old service, installing the files and then starting new service.

Here is the simplest example of installing TightVNC in silent mode:

- `msiexec /i tightvnc-2.5.2-setup-64bit.msi /quiet /norestart`

This command should install TightVNC with default settings. However, MSI allows you to customize installation via so called MSI properties. The general syntax is the following:

- `msiexec /i tightvnc-2.5.2-setup-64bit.msi /quiet /norestart`
  `PROPERTY1=value1 PROPERTY2=value2 PROPERTY3=value3`

There is a number of standard properties which are supported by every package (e.g. ADDLOCAL

for selecting components to be installed). Also, each package can add its own MSI properties to perform some package-dependent customization. In next sections, all TightVNC-specific MSI properties will be documented.

Choosing the Components to Install

If you would like to install a specific component of TightVNC, use the standard MSI property named ADDLOCAL. The following three commands install only the server part, only the client part and both parts, correspondingly:

- `msiexec /i tightvnc-2.5.2-setup-64bit.msi /quiet /norestart ADDLOCAL=Server`

- `msiexec /i tightvnc-2.5.2-setup-64bit.msi /quiet /norestart ADDLOCAL=Viewer`

- `msiexec /i tightvnc-2.5.2-setup-64bit.msi /quiet /norestart ADDLOCAL="Server,Viewer"`

Properties, Part 1: Installation Options

All available installation options listed below work only in the silent mode (with /quiet option).

Properties which are related to the TightVNC Viewer installation configuration begin with VIEWER_ prefix, and server installation properties begin with SERVER_ prefix. Notice that a property will have an effect only if you install the component associated with it.

Property	Value
VIEWER_ASSOCIATE_VNC_EXTENSION	0 – do not associate the ".vnc" file extension with tvnviewer.exe 1 – associate the ".vnc" file extension with tvnviewer.exe Default value: 1
SERVER_REGISTER_AS_SERVICE	0 – do not register the server as a service 1 – register the server as a service Default value: 1
SERVER_ADD_FIREWALL_EXCEPTION	0 – do not add firewall exception for the TightVNC Server 1 – add firewall exception for the TightVNC Server Default value: 1
VIEWER_ADD_FIREWALL_EXCEPTION	0 – do not add firewall exception for the TightVNC Viewer 1 – add firewall exception for the TightVNC Viewer Default value: 1
SERVER_ALLOW_SAS	0 – do not allow generating the "Ctrl+Alt+Del" combination (also known as SAS) programmatically 1 – allow generating the "Ctrl+Alt+Del" combination programmatically Default value: 1

Table 1: Installation options

Properties, Part 2: TightVNC Server Configuration (Service Mode)

You can preconfigure your TightVNC Server during installation, by specifying configuration-related properties in the command line. This will affect service mode only, it will not alter settings of application-mode TightVNC Server.

Each configuration option (e.g. ALLOWLOOPBACK) is controlled via a pair of MSI properties with different prefixes (SET_ALLOWLOOPBACK and VALUE_OF_ALLOWLOOPBACK in this example).

SET_* properties control if the respective option should be modified. They accept the following values:

- 1 – set the configuration option (you should provide the corresponding VALUE_OF_* property);

- 0 – do not change the option;

- −1 – remove the option from the server configuration (this should result in resetting the option to its default value).

VALUE_OF_* properties provide actual values for the configuration options, but they take effect only if the corresponding SET_* properties have been set to 1. Thus, to set each individual configuration option *XXX*, you must specify both SET_*XXX* and VALUE_OF_*XXX* properties. For example, to disable incoming connections in your newly installed server, you should install TightVNC with a command like this:

- `msiexec.exe /i tightvnc-2.5.2-setup-64bit.msi /quiet /norestart SET_ACCEPTRFBCONNECTIONS=1 VALUE_OF_ACCEPTRFBCONNECTIONS=0`

Here is a list of all server options configurable via MSI properties:

MSI Property Names	Option Value (for VALUE_* Properties)	Configuration Window
SET_ACCEPTHTTPCONNECTIONS VALUE_OF_ACCEPTHTTPCONNECTIONS	Enables Java Viewer (on HTTP connections) 0 – do not serve Java Viewer to Web clients 1 – serve Java Viewer to Web clients Default value: 1	Server/Web Access
SET_ACCEPTRFBCONNECTIONS VALUE_OF_ACCEPTRFBCONNECTIONS	0 – do not accept incoming connections 1 – accept incoming connections Default value: 1	Server/Incoming Viewer Connections
SET_ALLOWLOOPBACK VALUE_OF_ALLOWLOOPBACK	0 – do not allow loopback connections 1 – allow loopback connections Default value: 0	Access Control/Loopback connections
SET_ALWAYSSHARED VALUE_OF_ALWAYSSHARED	Defines server behaviors on a new connection 0 – allow non-shared connections 1 – always treat new connections as shared Default value: 0 If both ALWAYSHARED and NEVERSHARED are false then the type of connection is determined by client settings *Note*: this option is described further in the section "Properties, Part 3: Server behavior on new connections"	Administration/Session Sharing
SET_BLOCKLOCALINPUT VALUE_OF_BLOCKLOCALINPUT	0 – allow local input during client sessions 1 – block local input during client sessions Default value: 0	Server/Web Access
SET_BLOCKREMOTEINPUT VALUE_OF_BLOCKREMOTEINPUT	0 – allow remote input events 1 – block remote input events Default value: 0	Server/Input Handling
SET_DISCONNECTACTION VALUE_OF_DISCONNECTACTION	Defines an action that will be performed when last client disconnects: 0 – do nothing 1 – lock desktop 2 – log off current user Default value: 0	Administration/When Last Client Disconnects
SET_DISCONNECTCLIENTS VALUE_OF_DISCONNECTCLIENTS	Defines server behaviors on a new connection 0 – disconnect existing clients on new non-shared connection 1 – block new non-shared connection if someone is already connected Default value: 1 DISCONNECTCLIENTS does not work if ALWAYSSHARED is set to 1 *Note*: this option is described further in this section "Properties, Part 3: Server behavior on new connections"	Administration/Session Sharing

MSI Property Names	Option Value (for VALUE_* Properties)	Configuration Window
SET_EXTRAPORTS VALUE_OF_EXTRAPORTS	Mapping of additional listening TCP ports to selected screen area Type: string in format "*PORT:WIDTHxHEIGHT+LEFT+TOP*" For example: "5901:1280x1024+0+0,5902:1280x1080+1280+0" Default value: ""	Extra ports/Extra ports
SET_GRABTRANSPARENTWINDOWS VALUE_OF_GRABTRANSPARENTWINDOWS	0 – do not grab transparent windows 1 – grab transparent windows Default value: 0	Server/Update Handling
SET_HTTPPORT VALUE_OF_HTTPPORT	Web access port Type: DWORD Default value: 5800	Server/Web Access
SET_IPACCESSCONTROL VALUE_OF_IPACCESSCONTROL	Set rules for IP ranges Type: string in format "*IP1-IP2*:{0|1|2}", where: 0 – allow connections 1 – deny connections 2 – set query action For example: "0.0.0.0-255.255.255.255:2" – set the query action for all incoming connections. Default value: ""	Access Control/Rules
SET_LOCALINPUTPRIORITY VALUE_OF_LOCALINPUTPRIORITY	0 – allow remote input on local activity 1 – block remote input on local activity Default value: 0	Server/Input Handling
SET_LOCALINPUTPRIORITYTIMEOUT VALUE_OF_LOCALINPUTPRIORITYTIMEOUT	Allows to change inactivity time (in seconds) belonged with the option "Block remote input on local activity" Type: DWORD Default value: 3	Server/Input Handling
SET_LOGLEVEL VALUE_OF_LOGLEVEL	Log verbosity level Value range: 0-9 (0 – disable logging) Default value: 0	Administration/Logging
SET_LOOPBACKONLY VALUE_OF_LOOPBACKONLY	0 – allow 1 – allow only loopback connections Default value: 0	Access Control/Loopback Connections
SET_NEVERSHARED VALUE_OF_NEVERSHARED	Defines server behaviors on a new connection 0 – allow shared connections 1 – never treat new connection as shared Default value: 0 If both ALWAYSHARED and NEVERSHARED are false then the type of connection is determined by the client's setting *Note*: this option is described further in this section "Properties, Part 3: Server behavior on new connections"	Administration/Session Sharing
SET_POLLINGINTERVAL VALUE_OF_POLLINGINTERVAL	Screen polling cycle time (in milliseconds) Type: DWORD Default value: 1000	Server/Update Handling
SET_QUERYACCEPTONTIMEOUT VALUE_OF_QUERYACCEPTONTIMEOUT	The setting is effective only for IP-addresses with access rule action "Query local user": 0 – accept connection on timeout 1 – reject connection on timeout Default value: 0	Access Control/Query Settings
SET_QUERYTIMEOUT VALUE_OF_QUERYTIMEOUT	Query timeout (in seconds) Type: DWORD Default value: 30	Access Control/Query Settings
SET_REMOVEWALLPAPER VALUE_OF_REMOVEWALLPAPER	0 – show wallpaper 1 – hide desktop wallpaper Default value: 1	Server/Miscellaneous
SET_RFBPORT VALUE_OF_VALERFBPORT	Main server port Type: DWORD Default value: 5900	Server/Incoming Viewer Connections
SET_RUNCONTROLINTERFACE VALUE_OF_RUNCONTROLINTERFACE	0 – do not show service icon in the notification area 1 – show service icon in the notification area Default value: 1	Server/Miscellaneous

MSI Property Names	Option Value (for VALUE_* Properties)	Configuration Window
SET_SAVELOGTOALLUSERSPATH VALUE_OF_SAVELOGTOALLUSERSPATH	0 – make log file private for each user 1 – make log file available to all users Default value: 0	Administration/Logging

Table 2: Server configuration options

Properties, Part 3: Server Behavior on New Connections

Server behavior and connection types are controlled by ALWAYSHARED, NEVERSHARED and DISCONNECTCLIENTS options and their combinations. The meaningful combinations are shown in the following table.

ALWASHARED	NEVERSHARED	DISCONNECTCLIENTS	Description
0	0	0	Block new non-shared connection if someone is already connected
0	0	1	Disconnect existing clients on new non-shared connection
0	1	0	Never treat connections as shared, disable new clients if there is one already
0	1	1	Never treat connections as shared, disconnect existing client on new connections
1	0	0, 1 (not significant)	Always treat connection as shared, add new clients and keep old connections

Table 3: Server session sharing options

In the first two examples the resulting connection type is determined by the client setting (the check box "Request shared session" in the "Connection options" window). In the remaining cases that client setting is ignored.

Properties, Part 4: Password Protection (Service Mode)

The server settings in the table 2 work in any installation mode, but there are some server options concerned with password settings which are effective only during silent installation.

To protect your TightVNC Server, you can set passwords for control interface and VNC client authentication. Settings responsible for enabling authentication are USECONTROLAUTHENTICATION and USEVNCAUTHENTICATION.

If USECONTROLAUTHENTICATION option is set to 1, the server will require the authentication for most of control operations. The USEVNCAUTHENTICATION option is responsible for requiring VNC authentication of incoming connections, which can have view-only or full-control access type. You can set passwords for both of them.

To add a password, first you need to set "use corresponding authentication" property to 1 and then add necessary passwords. All available password options are presented in the table 4. Do not forget to use SET_/VALUE_OF_ pair.

MSI Property Names	Option Value (for VALUE_* Properties)	Configuration Window
SET_USECONTROLAUTHENTICATION VALUE_OF_USECONTROLAUTHENTICATION	0 – do not protect control operations with an administrative password 1 – protect control operations with an administrative password Default value: 0	Administration/Control Interface
SET_USEVNCAUTHENTICATION VALUE_OF_USEVNCAUTHENTICATION	0 – do not require VNC authentication on establishing connection 1 – require VNC authentication on establishing connection Default value: 1	Server/Incoming Viewer Connections
SET_CONTROLPASSWORD VALUE_OF_CONTROLPASSWORD	Password required to run the server control interface Type: string Default value: "" Requires USECONTROLAUTHENTICATION to be set to 1	[Administration/Control Interface]Password

MSI Property Names	Option Value (for VALUE_* Properties)	Configuration Window
SET_PASSWORD VALUE_OF_PASSWORD	Password used as primary for incoming connections Type: string Default value: "" Requires USEVNCAUTHENTICATION to be set to 1	[Server/Incoming Viewer Connections]Primary password
SET_VIEWONLYPASSWORD VALUE_OF_VIEWONLYPASSWORD	Password used as "view-only" for incoming connections Type: string Default value: "" Requires USEVNCAUTHENTICATION to be set to 1	[Server/Incoming Viewer Connection]View-only password

Table 4: Password protection options

The specific examples of setting passwords are considered in the next section.

Sample Command Line to Preset All Passwords

Here we explore specific examples of setting passwords with MSI properties.

To set a main password for VNC authentication, you should use following commands:

- ```
  SET_USEVNCAUTHENTICATION=1
  VALUE_OF_USEVNCAUTHENTICATION=1
  SET_PASSWORD=1
  VALUE_OF_PASSWORD=PASS
  ```

Also, you can set view-only password:

- ```
  SET_VIEWONLYPASSWORD=1
  VALUE_OF_VIEWONLYPASSWORD=VIEWPASS
  ```

And if you would like to configure the administrative password (protect the user interface of the TightVNC Server), set the following values as well:

- ```
  SET_USECONTROLAUTHENTICATION=1
  VALUE_OF_USECONTROLAUTHENTICATION=1
  SET_CONTROLPASSWORD=1
  VALUE_OF_CONTROLPASSWORD=ADMNPASS
  ```

Finally, lets set all the passwords in one command line:

- ```
  msiexec.exe /i tightvnc-2.5.2-setup-64bit.msi /quiet /norestart
      SET_USEVNCAUTHENTICATION=1
      VALUE_OF_USEVNCAUTHENTICATION=1
      SET_PASSWORD=1
      VALUE_OF_PASSWORD=mainpass
      SET_VIEWONLYPASSWORD=1
      VALUE_OF_VIEWONLYPASSWORD=viewpass
      SET_USECONTROLAUTHENTICATION=1
      VALUE_OF_USECONTROLAUTHENTICATION=1
      SET_CONTROLPASSWORD=1
      VALUE_OF_CONTROLPASSWORD=admpass
  ```