

TANDBERG and VNC

TANDBERG

Application Notes

D12800 Rev. 2.0

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1. Introduction.

The PC SoftPresenter is a feature of the TANDBERG videoconferencing system that allows you to easily connect the videoconferencing system to your computer using Virtual Network Computing (VNC) over the LAN. This is useful in video meetings when you want to share with everyone something that is displayed on your PC monitor such as a PowerPoint presentation, Internet site or any other type of data. It allows you to see high-resolution images and information at the same time that you hear the comments and feedback of everyone in the meeting.

This document is intended to be a resource for implementing and using VNC technology on your TANDBERG Videoconferencing systems.

2. What is VNC.

VNC stands for Virtual Network Computing. VNC is a remote display system, which allows you to view a computing 'desktop' environment on a remote TANDBERG codec over a LAN connection. VNC consists of two types of component. A *server*, which generates a display, and a *viewer*, which actually draws the display on the monitor. TANDBERG has installed the *viewer* component on its codecs and the *server* component must be installed on the PC used for a presentation.

The VNC system is based on the concept of a remote framebuffer or *RFB*. Therefore, it is referred to the protocol underlying VNC as the *RFB protocol*. The RFB protocol simply allows a PC to update the framebuffer displayed on a TANDBERG Codec. The protocol will operate over any reliable transport such as TCP/IP.

One of the main advantages is that no state of communication is stored at the TANDBERG Codec when sending a PC presentation. It means that interrupting the Codec's connection to the PC and then reconnecting it will not result in any loss of data.

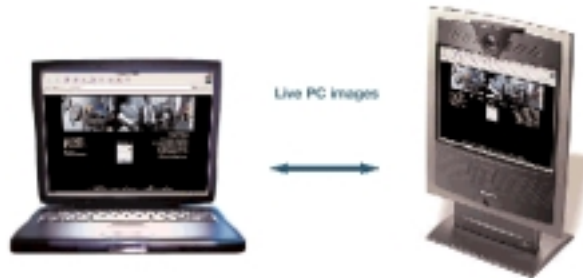
2. TANDBERG System Requirements

VNC runs on all TANDBERG systems using software versions B3.0 (released July 2001) or later. The TANDBERG system must have the option for PC SoftPresenter (Presenter Package on TANDBERG 1000, 550 and 500 or Natural Presenter Package on TANDBERG 8000, 7000, 6000, 2500, 880 and 800).

On the PC, VNC is supported by most of platforms, such as Windows, Unix and Macintosh. The following chapters describe the steps for Windows application.

3. Installation

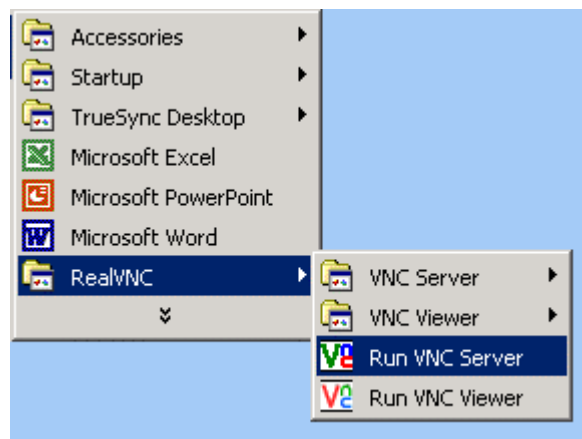
The latest version of VNC (version 3.3.7 - march 2003) is available free of charge from <http://www.realvnc.com/download.html>. If you already have a VNC 3.3.3 or earlier version installed on your PC, you can install this new version on top of it, but we recommend to use Add/Remove programs to completely remove prior VNC installations from your PC.



3.1 Configuration on the PC

WinVNC is very simple to install and to use:

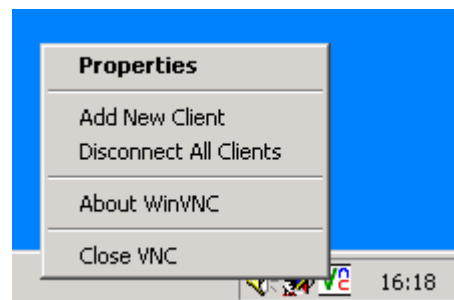
1. Download free of charge the VNC program (<http://www.realvnc.com/download.html>). In order to work with TANDBERG Systems you will need the server component. So choose the full installation option (server and viewer).
2. After downloading, start the WinVNC setup program. (If you received VNC as a ZIP archive, you'll need to unpack it first!).
3. The set-up program will always install the VNC viewer for Windows, and will optionally install the WinVNC server – You NEED this server component!, so in order to install the server simply tick the appropriate checkbox during setup.
4. As the final stage of the setup process, the installer can register WinVNC as a system service, and start it. You DO NOT need this functionality!. WinVNC can run as an application. (See picture below):



5. Press the Run VNC Server option and WinVNC will add a VNC icon with a green "V" to the system task bar.



6. Clicking on this icon with the right mouse button will cause a menu to be displayed.



7. Click on properties:



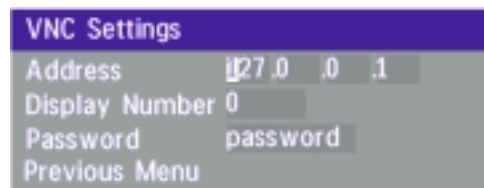
- **Accept Socket Connections** - (default) the server normally accepts direct, socket-based connections from the TANDBERG System. Clearing this will disable any incoming connections.
- **Display Number** - This allows the user to specify the display number, which the server will use. There is normally no need to change this from the default of zero.

- **Password** - Incoming connections must be authenticated to verify that the person connecting is allowed to connect to this machine. This text box allows your password to be specified for authentication. Write a password in the 'password' field. It must correspond with the 'VNC settings' in the TANDBERG System.
- **Auto** - This tick box indicates to WinVNC whether it should use the display number specified in the Display Number box, or whether it should use the first display number not already in use on the server machine.
- **Leave the rest of fields as they are.**

8. Now go to the TANDBERG System and configure it to work with your PC.

3.2. Configuration on the TANDBERG System.

1. Go to VNC Settings menu on your TANDBERG System (TANDBERG 1000, 550 and 500). On TANDBERG 8000, 7000, 6000, 2500, 880 and 800 go first to Video Settings, set the option PC to 'VNC' and then get in VNC Settings menu.



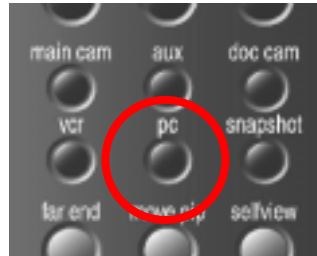
2. Write the PC's IP address into the 'Address' field
Note: Moving the mouse over the icon should cause the IP address of your PC to be displayed. Write this IP address on the VNC settings



3. Leave the 'display number' on '0' and write down the same password you wrote in the VNC Properties on the PC. From software version B4.0, the password will be shown as asterisks ('*****') after leaving the VNC setting menu.

4. Using VNC

After the PC and the TANDBERG System are configured, it is possible to use PC SoftPresenter and enjoy a flexible way to send presentations to a TANDBERG System. Simply run the VNC server on the PC (as shown on page 4) and press PC button on the TANDBERG Remote control and you will have high-resolution PC images sent to your TANDBERG System.



Use UP/DOWN on the remote control in order to activate PAGE UP/PAGE DOWN on the PC.

5. VNC Communication and Troubleshooting:

- The Codec and the PC must be connected to the LAN in order to communicate. VNC requires TCP/IP network connectivity between the PC and the TANDBERG System. It can be over LANs, WANs, broadband ISP, and modem dialup ISP
- If you have problems communicating a simple test is to use the ping utility. If you can't ping from your PC to the TANDBERG System, and vice-versa, then VNC will not work. This can be that the PC and the codec are between a firewall.
- Many organisations operate firewalls to reduce the risk of intrusion by malicious attackers via the Internet. These firewalls typically operate by only allowing connections in to machines in that organisation on specific ports. The simplest way to allow VNC connections in through your firewall is to configure your firewall software to allow connections to the VNC ports. TANDBERG Systems uses the TCP port 965 for systems running SW B3.x and TCP Port 1027 for systems running B4.x and higher.
- The VNC feature is a presentation feature and not optimised for moving data.
- VNC is very sensitive to correct network and graphic card drivers. If you experience problems, try to update the latest drivers from your vendor on your PC.
- VNC does not install any system level hooks or driver software. Consequently it cannot cause machines to crash except by exposing bugs in the underlying operating system and device drivers. If it appears that VNC causes your machine to crash, check that you have the latest service packs, graphics drivers and network drivers installed for your system.
- VNC requires a password when a Codec tries to connect to the PC. This password is encrypted to avoid being read by an intruder. Then the imbedded TANDBERG Encryption will encrypt the content of the presentation transmitted. (See D5017230 - TANDBERG Security.pdf)