



NetVision Demonstration Guide

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1 Introduction

The purpose of this document is to provide guidelines for determining how best to demonstrate or evaluate the NetVision products prior to a customer 'buying' decision. Often a full deployment of a wireless voice-over-IP (WVoIP) telephony solution is expensive and typically involves a re-site survey, a possible upgrade of the customers' PBX system, and the installation of a gateway product. Prior to a full-scale rollout or implementation, customers require and in some cases demand, a demonstration or "proof of concept", in order to assist them in their buying decision. This document provides some suggestions and guidelines on how to address these customer demonstration requirements for WVoIP products and services from Symbol.

Often, a customer considering a WVoIP implementation has no background in understanding the technology and has many concerns about its viability in their environment. Early press information on VoIP in general left customers with an overall skepticism with regard to the voice quality and viability of VoIP – much less wireless VoIP solutions. Because of this skepticism and lack of knowledge, demonstrations are often key to closing a sale.

The following are suggestions on how best to set up winning demonstrations of the NetVision products.

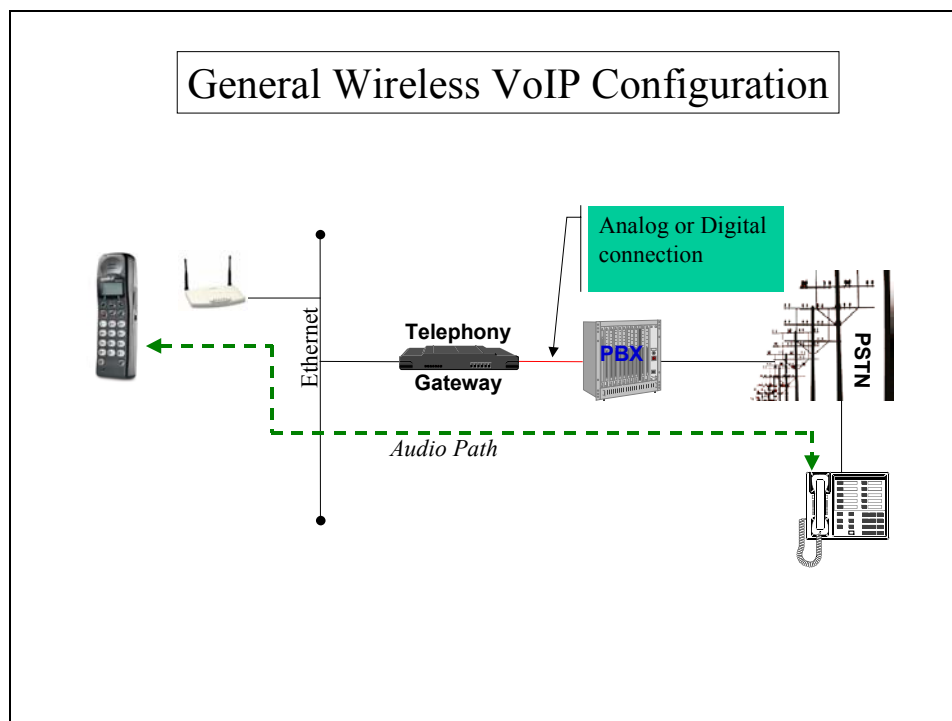


Figure 1 - Generic Wireless VoIP Configuration

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The exact configuration of a demonstration may be dictated by the issues or concerns held by the prospective customer. Options for valid demonstrations may range from simple proof that the technology is available and that voice quality is excellent to complex validation of full system integration into the customer's existing Private Branch Exchange (PBX) or IP Communications System (IPCS).

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In general there are three approaches to staging a wireless VoIP demonstration:

- Simple peer-to-peer demonstration
- Small-scale integration into PBX with analog lines.
- Full pilot system-level demonstration.

The instructions that follow are based on using the NetVision-II (KT-NP-4046-WW) phone with firmware version v.4.21-xx (or greater). These demonstrations can also be performed using the NetVision-I (NP-4046-100-US/1C/EU) phones, but with the firmware upgraded to v4.21-xx or greater.

2.1 Simple peer-to-peer configuration

The simplest wireless VoIP demonstration configuration is **peer-to-peer**. This configuration only requires two NetVision phones and a single Spectrum24 Access Point. There is no need to configure the equipment as part of the customer's Ethernet network. This demonstration configuration is dependent upon using the standard H.323 call control protocol. (There is no peer-to-peer capability supported by the Cisco "skinny" protocol (SCCP) configuration.)

The phones need to be configured with unique static IP addresses and a user list that correspond to the both phones (see below). When configured, calls between the two phones can be made by dialing pre-configured extensions with an associated IP-address.

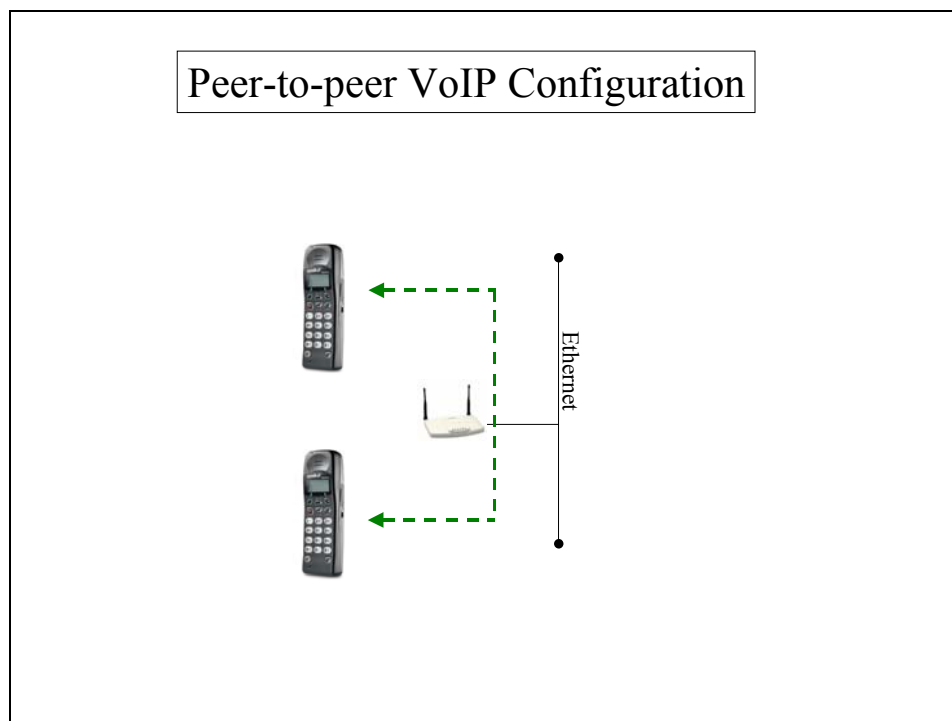


Figure 2 - Peer-to-peer VoIP Configuration

In this mode, calls may be made between the two configured phones and the customer can experience the voice quality and the simplicity of the user interface with minimal configuration setup.

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To configure a set of phones, use the Command Line Interface (CLI)¹ through the serial cable to:

- Set RF network information (ESS_ID)
- Set up two phones with users defined for each phone with an assigned IP address.

For system verification and test purposes, two phones (with H.323 call control) can be readily configured to make direct calls to one another.

General example:

```
>cfg default
>set rad ess YOUR-ESSID
>set network ipadr YOUR-IP-ADDRESS
>set directory ext 0 (empty)
>set directory name 0 THE-PEERS-NAME
>set directory ipadr 0 THE-PEERS-IP-ADDRESS
```

The following examples illustrate this:

On Phone 1:

```
>cfg default
>set rad ess test_ess
>set network ipadr 157.235.99.111
>set directory ext 0 (empty)
>set directory name 0 phone2
>set directory ipadr 0 157.235.99.222
```

On Phone 2:

```
>cfg default
>set rad ess test_ess
>set network ipadr 157.235.99.222
>set directory ext 0 (empty)
>set directory name 0 phone1
>set directory ipadr 0 157.235.99.111
```

With this basic configuration the phones can call each other as (phone1) and (phone2) respectively. No gateway is needed since the phones call each other directly. After configuring the phones, power up the phones and make a call between one of the phones by pressing NAME (for NetVision-I) or the “down” navigation button on NetVision-II. Select one name by pressing SND.

More than two phones may be defined and added to each “directory” list. The preceding example is only a simple model.

2.2 Small Scale WVoIP Analog Configuration

The demonstration configuration for installing a small gateway into the customer’s PBX (to permit a small scale “pilot”) is more complex, but easily achievable. Since all PBX systems support an analog line connection (2500 “set”), a 4-port analog gateway is an appropriate, low cost solution for such a demonstration. Supporting up to 4 NetVision phones attached to their production PBX, the gateway offers a “real time” demonstration of how the phones integration

¹ Configuration with the CLI is accomplished by invoking HyperTerminal (9600 Baud, 8, 1, N, no flow control) and the serial cable to execute the CLI commands.

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as a solution. Because this configuration utilizes an analog line connection, not all features & functions will be supported on the installed NetVision handset.

Depending on the policies and flexibility of the specific customer, the gateway may be integrated into their network or may require setting up an isolated network with a small Ethernet hub to connect the gateway to the Access Point. Site preparation will be vital to success of this option. The customer must prepare one or more analog lines from their PBX and have them located near where the gateway will be installed. Additionally, up to five (5) IP addresses may be required in order to assign IP-address to the gateway and up to four NetVision phones.

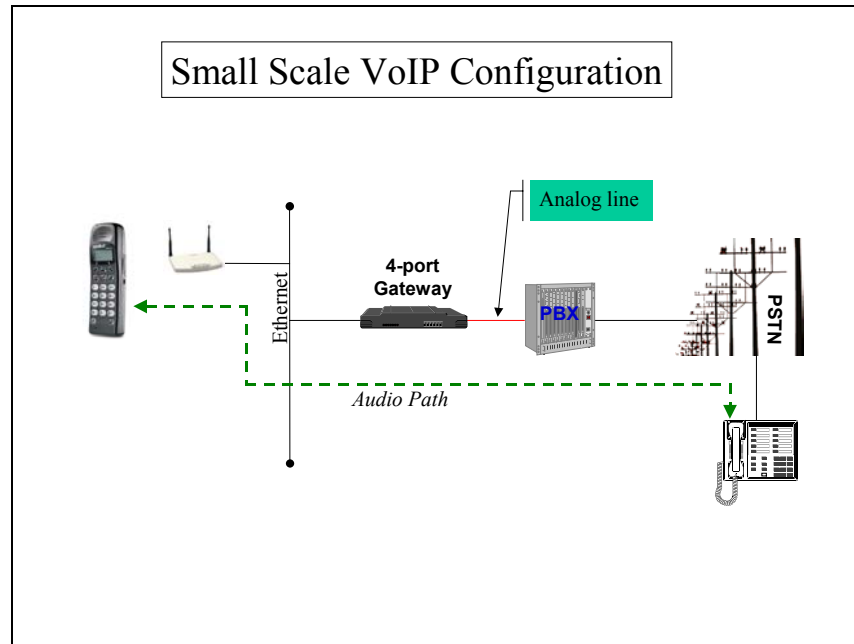


Figure 3 - Small Scale WVoIP analog Configuration

Section 3.2 lists that equipment required to deploy this demo option. You will also need a laptop computer to configure the phones and gateway (see below). The Ericsson 4-port gateway is a compact, lightweight H.323 gateway that is perfect for setting up extended "live" demonstrations.

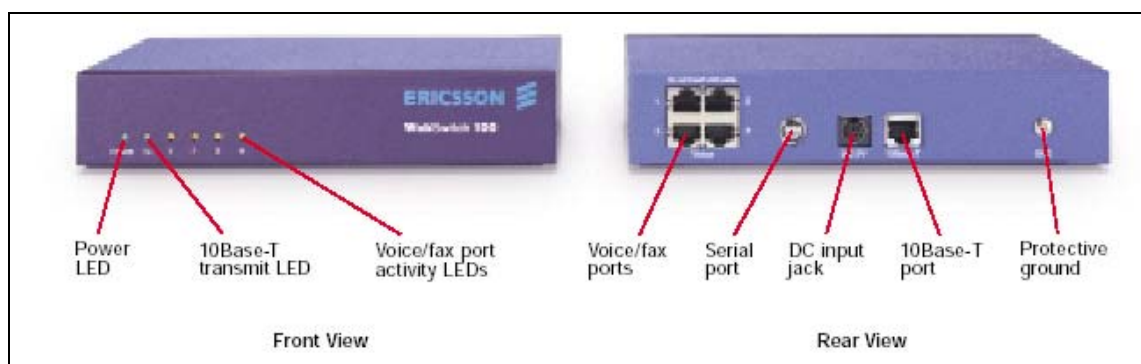


Figure 4 - Ericsson 4-port gateway

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The gateway is configured using a network connection (using the assigned 'default' IP address that is contained in the accompanying documentation) and the WebSwitch "Net Manager" utility that can be installed from the CD that accompanies the product.

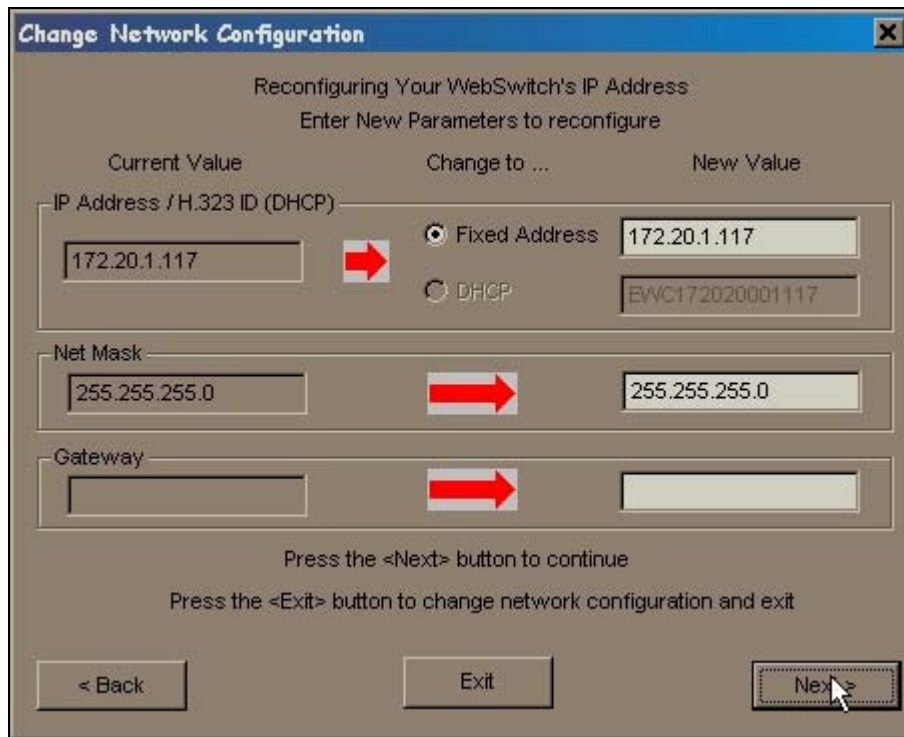


Figure 5 - Ericsson 4-port main configuration screen

When connected to the target WebSwitch, the IP address of the gateway may be changed along with the associated sub-net mask². It is **IMPORTANT** that you write this IP address down because it is the only information that will permit re-configuration of this gateway. Preferably, this IP-address value should be written on the exterior of the gateway housing.

After setting the gateway IP address, the voice codec should be configured. Select the "G.729ab+G.711/FAX" option. Proceed to the "Next" configuration screen. **Do not enable Voice Activity Detection.**

² The default IP address, as set from the factory is **192.168.10.1** with a sub-net mask of 255.255.255.0.

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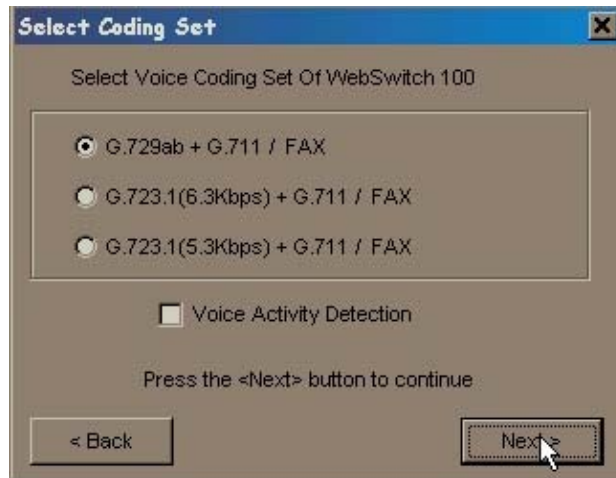


Figure 6 - Codec Selection Dialog Box

The final configuration step will be to assign IP addresses to the associated analog phone port lines. For each of the analog lines, the associated PBX extension and phone IP address must be entered.

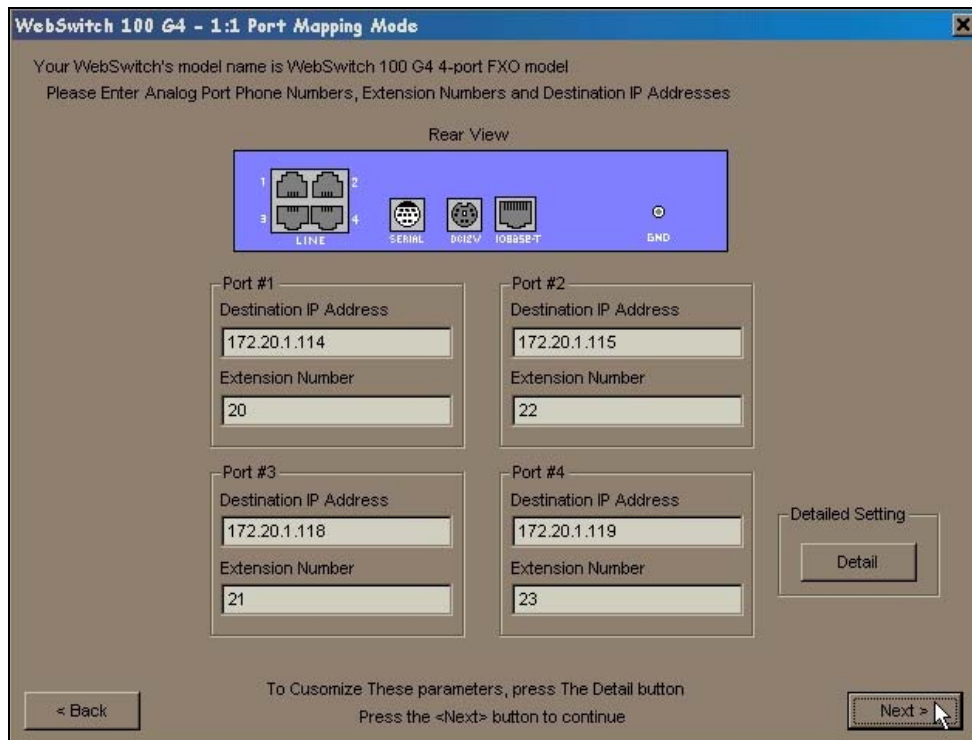


Figure 7 - Assignment of IP-address/extension values

Configuration of all ports is not necessary and only the ports required for the demonstration are necessary. **It is not clearly identified in the documentation accompanying the gateway, but it is important to prefix the extension assignment with an asterisk (*).** Follow the configuration utility instructions to complete the process and update the gateway. Once this is complete, the gateway is enabled to process calls to and from NetVision phones.

Use the NetVision Administrator v4.0 to configure the NetVision phones for the test. The PBX-gateway IP address should be the IP address assigned to the 4-port gateway. It is suggested for simplicity sake to configure the phones in “personal” mode.

2.3 Full Scale WVoIP Configuration (pilot)

Depending on a customer's evaluation criteria, it may be necessary to deploy a small pilot configuration. This would involve installing and configuring the specific VoIP gateway solution and a small number of phones. For this level of demonstration, it is important that more site preparation is completed prior to the system install. Items that must be performed prior to the pilot are as follows:

- **Site survey for voice.** If the customer already has a wireless LAN deployed, it will most likely not provide sufficient coverage on the perimeter to guarantee good voice quality. A site survey for voice will guarantee a good conclusion of the pilot with regard to voice quality.
- **Coordination with IT department:** Obtaining IP address assignments and understanding security policies are important in being able to properly install a wireless phone pilot. You should work with the IT department representatives during the entire planning and installation process.
- **Coordination with telephony department:** Site preparation for the PBX is key to a successful pilot. Consideration must be made as to any upgrades that might be necessary to the PBX system (i.e., adding ports), running the analog or digital lines to a specified gateway location within the facility, and providing configuration information for the phone lines provided (i.e., extension numbers, etc...) and so on.

Depending on the number of phones to be used in the pilot and the selected gateway product, some order processing lead-time may need to be accounted for in preparing a pilot deployment schedule. Because of the scale of this type of demonstration/pilot, it will be important to gain agreement with the customer as to how long the pilot will run and exactly what are the success criteria.

Further guidance and product specific information can be found in the [NetVision Solution and Installation Guide](#).

3 Components Required for Demo

The following sections are provided to identify the hardware/software components necessary to successfully deploy each of the demonstration configurations described. In all cases, it is assumed that the associate responsible for the equipment setup will have access to a laptop computer with a network connection and will have knowledge of configuring a Spectrum24 wireless infrastructure. Additionally, approximately 3 hours should be allowed for charging the NetVision batteries prior to installing and commissioning the demo configuration.

3.1 Peer-to-peer demo

Table 1 - Peer-to-peer WVoIP Demo

Component	Qty	Part Number
NetVision-II DS phone	2	KT-NP-4046-300-WW
Serial Cable	1	25-20528-01
T3-Access Point	1	AP-4131-1050-WW

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3.2 Small Scale WVoIP Demo

Table 2 - Small Scale demo configuration components

Component	Qty	Part Number
NetVision-II DS phone	4	KT-NP-4046-300-WW
Serial Cable	1	25-20528-01
T3-Access Point	1	AP-4131-1050-WW
Ericsson 4-port gateway	1	FAB.801.360.R2
Ethernet Hub	<i>1 (potentially)</i>	<i>Any one of many Ethernet hubs may be utilized.</i>

3.3 Full Scale WVoIP Demo

For this scale of demonstration it is assumed that the RF-infrastructure is already in place and has been surveyed to ensure coverage for good voice experience. Consideration as to security policies must be accommodated to support WEP or Kerberos services.

Table 3 - Full Scale demo configuration components

Component	Qty	Part Number
NetVision-II DS phone	??	KT-NP-4046-300-WW
Serial Cable	1	25-20528-01
<i>A supported gateway product</i>	1	Any one of our current gateway options may be selected. <ul style="list-style-type: none">• Ericsson WebSwitch 2000/100 with 4 to 24 port support,• Mitel 3800 Application Gateway or ICP 3300• Nortel ITG or BCM, or• Cisco AVVID CallManager.

It is recommended that prior to deploying a demo, you should check the Symbol web site to ensure that the phones being configured have the most current firmware release. Also, demonstration of features such as Kerberos and AirBEAM® require more network components.