

The Solution for Minimum Configuration of Enterprise Telephony Systems using the Ninja Enterprise SIP Softclient

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Abstract

The paradigm change in the telecommunication industry has brought forth that communication devices today utilize standard network protocols and infrastructures rather than analogue lines or proprietary networks that transfer multiplexed digital voice data. Mobile phones have even undergone a complete transformation - from pure communication devices that utilize a microcontroller as keyboard- and display driver - into powerful computer devices featuring a fully-fledged operating system, web browser and movie player and, as a sub-functionality, a telephony application.

An increasing number of decision-makers in corporations realize that every office employee has a PC on his desk and that as a matter of fact all the hardware that is needed for voice and video communication is already in place. All that it takes is a powerful telephony application, which is inevitably cheaper than additional hardware devices. Additional to the sheer cost reduction is the direct integration of the telephony functionality into the IT infrastructure, which allows for automatic configuration and management of the corporate telecommunication system.

Ninja Enterprise is a ground-breaking Integrated Communication solution that enables companies to administer tens, hundreds or thousands of telephones, CTI interfaces, TAPI drivers and Desktop Sharing software installations.

Key words: VoIP, Voice-over-Internet-Protocol, SIP, Session Initiation Protocol, softclient, software, telephone, encryption, CTI, Computer Telephony Integration, TAPI, Telephony Advanced Programmers Interface, Desktop Sharing, Ninja, Remote Administration, Automatic Configuration, Integrated Communication.

1. Introduction

For updating or upgrading their telephony systems have many European and American corporations recently migrated to the open SIP standard and have thus been able to shut down an entire network. This has entailed sizable cost savings. Not only is a single Local Area Network sufficient these days, but also can hardware devices now be obtained from many different and heavily competing sources.

In cases where cost reduction is especially important, pure software solutions are rapidly becoming mandatory. This is particularly the case for large offices or contact- and call centers.

Due to the fact that every employee has a PC on his desk in order to read information about his dialog partners and to take notes, all the hardware that is needed to have telephone conversations is already built into the PC - except for the (typically inexpensive) handset or headset.

Once the vast majority of telephones are nothing but software applications, the fascinating opportunity to be able and control all the telephones from a single location is born. Further cost savings result from the improved manageability as it's now possible for the IT department to administer the entire



Fig. 1. Office building Housing Companies in Bangalore

telecommunication infrastructure from a single desk. In cases where malfunctions formerly made it necessary for a technician to check a defective piece of hardware, it is now possible to perform any fault diagnosis remotely!

This approach has become standard practice in a substantial number of leading call centers in Germany and the U.S. It is currently being adopted by companies with one or more locations with 15 .. 1000 workplaces.

2. Basic differences between classic hardware telephone systems and the Integrated Communication solution Ninja Enterprise

The following figure depicts the key differences between an integrated communication solution and classic telephony systems. Today, voice communication is only one of many modes to communicate in offices. A multitude of almost equally important ways to communicate is e-mail, mobile voice communication, desktop sharing and in some companies messaging.

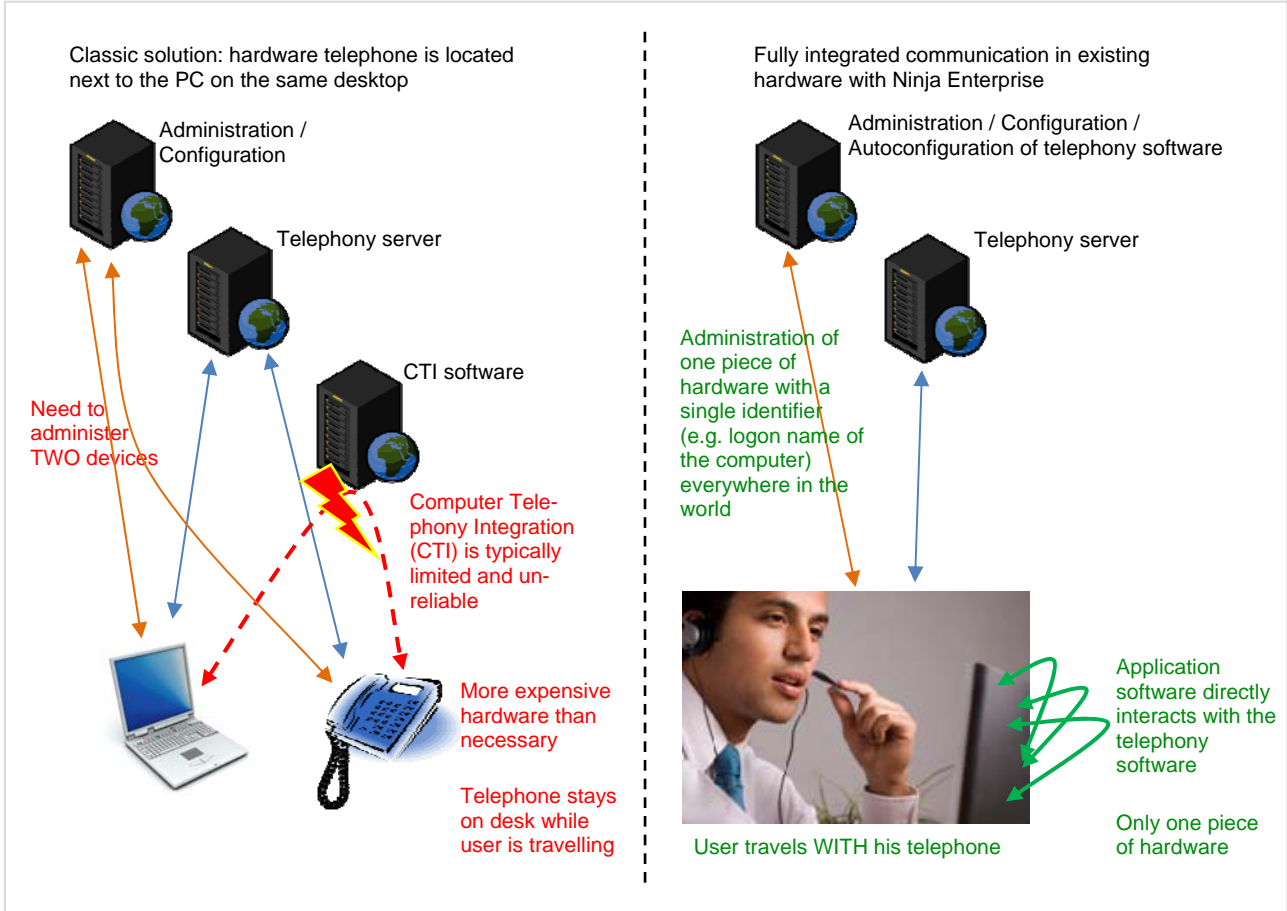


Fig. 2: Classic hardware telephones vs. Integrated Communication with Ninja Enterprise in offices

In practice only call centers migrate fully to Ninja Enterprise. In typical offices there is no definite way to predict the number of users who are reluctant to exchange their hardware by a handset or a headset. Once they've realized that it's much more comfortable to make and to receive calls on their PC, they want to take advantage of this progress as well - particularly as 3rd party ERP- and CRM software interacts comfortably with the softclient.

Even for classic hardware systems there are so-called "Call Agents" available which dial a number that is highlighted on the computer screen of a user and these quite basic pieces of software are easily adopted by users as soon as a small number of employees start using them.

The following list of differences unveils the power of Ninja Enterprise:

Feature	Ninja Enterprise	Conventional hardware telephones
Typical telephone features (audio, conferencing, etc.)	SIP standard is fully supported. Conferences with up to 6 peers,	SIP standard is fully supported. Conferences up to 3 or 6 peers depending on the computing power of the telephone hardware.
Video	Supported - including H.264 high quality codec.	Only supported by expensive hardware. No H.264 support due to missing hardware and low CPU power.
Automatic configuration	Supported through the Ninja Enterprise server.	Rarely supported, but each telephone has an ID that is NOT linked to the logon name of the user (Windows User Domain).
Portability	Users with notebook or netbook computers carry their telephone (with their usual telephone number) with themselves when they are travelling.	Telephones typically remain on the desk of the user while he is on assignment.
CRM connection via TAPI	Ninja Enterprise collaborates with any TAPI compliant application like MS Outlook, Salesforce, etc. The software can even be used to remote-control certain hardware telephones.	Supported, but only if intermediate software is installed.
Dedicated Add-In for MS Outlook	Ninja can be controlled directly from within MS Outlook. This is pretty practical as the e-mail client is typically the #1 communication channel in offices.	Not supported. Telephone and PC are two different devices.
Encryption	Standard server-based (SRTP) as well as highly secure peer-to-peer encryption.	Standard server-based (SRTP) support is typically available. Certificates are although needed. Security depends on server. Server can route calls in the clear via public phone lines.
Instant creation of desktop sharing sessions	Ninja Enterprise will provide One-Click instant launch of desktop sharing sessions.	Not supported. Telephone and PC are two different devices.
Making calls hands-free	Calls can be accepted and terminated directly on the headset piece of Jabra headsets. Any Bluetooth or DECT wireless headset as well as any corded headset for PCs are supported by Ninja!	Sometimes supported, but commercially available devices are typically not compatible.
Recording	Supported and configurable through the Ninja Enterprise server.	Not supported.
Status display for groups	Supported in the form of a comprehensive pictogram.	Not supported as displays are generally too small.
Web browser-based interaction with ERP and CRM systems	Ninja Enterprise supports individual web page displays that contain the call status (telephone number, call timer, time until pickup, hold status and hang up).	Not supported.
Own Branding	Ninja Enterprise allows branding of the graphical user interface globally, for branch offices or even for groups of users.	Not supported
Own Action Pages	Custom user interfaces can be created for individual actions so that daily work in offices and contact centers is automated.	Not supported
Simple SIP Account configuration	Allows the individual configuration up to 4 simultaneous SIP accounts which can be configured by a user friendly web-interface (10 SIP proxies on request).	Not supported
Simple Authentication	SIP accounts are configurable by a local IP-address, Windows user name, Domain name, Windows computer name.	Not supported
Individual Add-Ons	Any individual Add-On can be developed to your requirements.	Not supported
Centralized phone book	Create your own general phone book which will be deployed to all phones automatically	Supported, mostly restricted to a few count of contacts.

Table 1: Comparison of conventional hardware-based corporate telephony installations vs. the Ninja Enterprise Integrated Communication solution

3. How does it work?



Ninja is pure software running on any Windows PC, laptop, netbook or barebone computer. In order to be able to make telephone conversations, a microphone and a loudspeaker is additionally needed. A combination of both in the form of a USB handset or a more practical headset is certainly best. Users have a broad choice of headsets and handsets. Any device that is compatible with a PC can be used.

The best choice is a DECT headset that is plugged into a free USB port and that enables users to walk freely in a room at a distance of up to 50 meters or more and to terminate (as well as to accept) a call using a button that is directly mounted at the headset.



Conventional hardware telephones as well as all common softclients are individually configured and the configuration is stored locally as a file or, in case of hardware telephones, in a small non-volatile EEPROM or FLASH memory.

For Ninja Enterprise this is only partly the case.

In lieu of operating stand-alone with a fixed set of configuration parameters, Ninja Enterprise relies on a base configuration. The softclient authenticates itself e.g. with the logon name of the operating system and subsequently receives the correct SIP credentials among a multitude of additional parameters from the Ninja autoconfiguration server. Subsequently performs the Ninja Enterprise softclient the logon at the SIP (telephony) server.



Fig. 3: Ninja Enterprise repeatedly checks on the autoconfiguration server for new configuration data

Additional parameters are e.g. recording path, group definitions (for the group status as shown below), skin parameters, codec settings, disabled features and it's even possible and practical to send the command to the softclients to display a popup window that contains messages like server downtimes, individual time account status, etc.

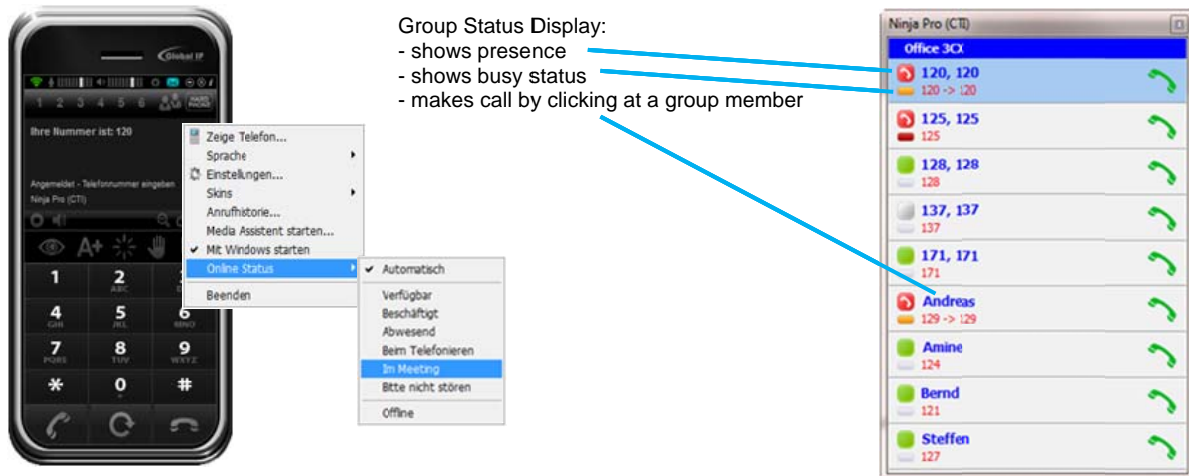


Fig. 4: Ninja Enterprise group status display

All the Ninja telephone clients are controlled by the Ninja Enterprise server software that is itself configured through a comprehensive web interface. The following figures are suggestive of how the server is configured. Once the base configuration is done, group definitions can be made by the administrator or by a number of employees who define groups and group members by themselves.

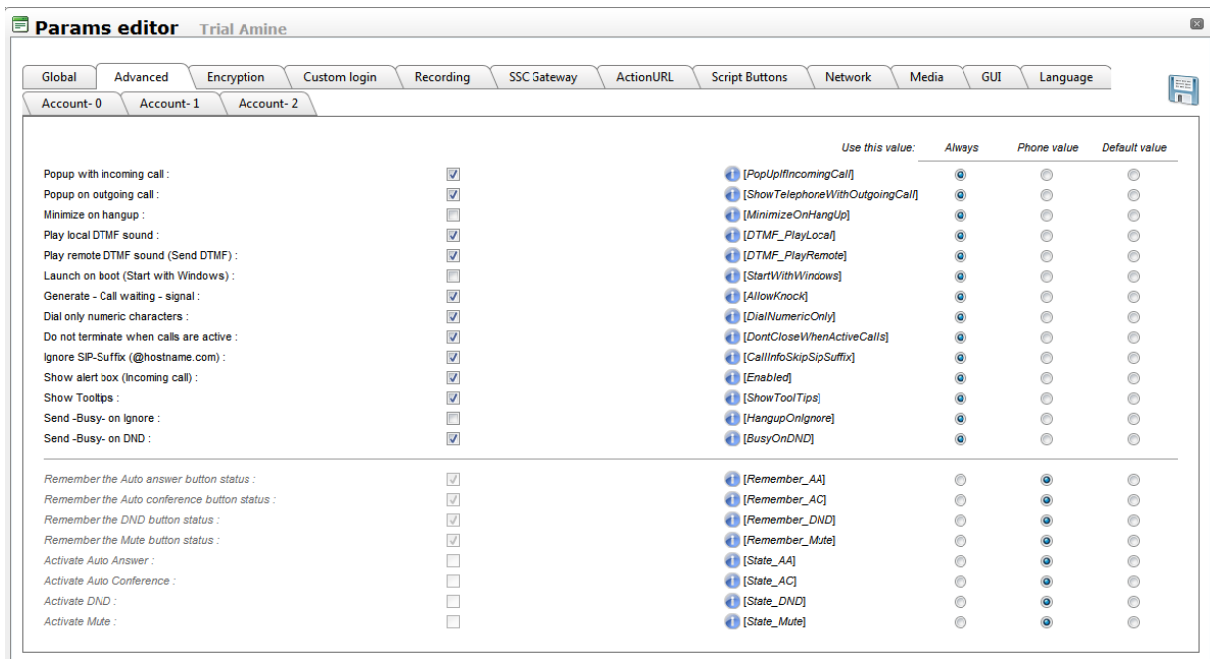


Fig. 5: Screenshot of Ninja Enterprise Server (advanced phone settings)

Groups can be defined freely and groups can be administered either by just one administrator or even by certain group members themselves. By doing so, the administrator has less work to do.

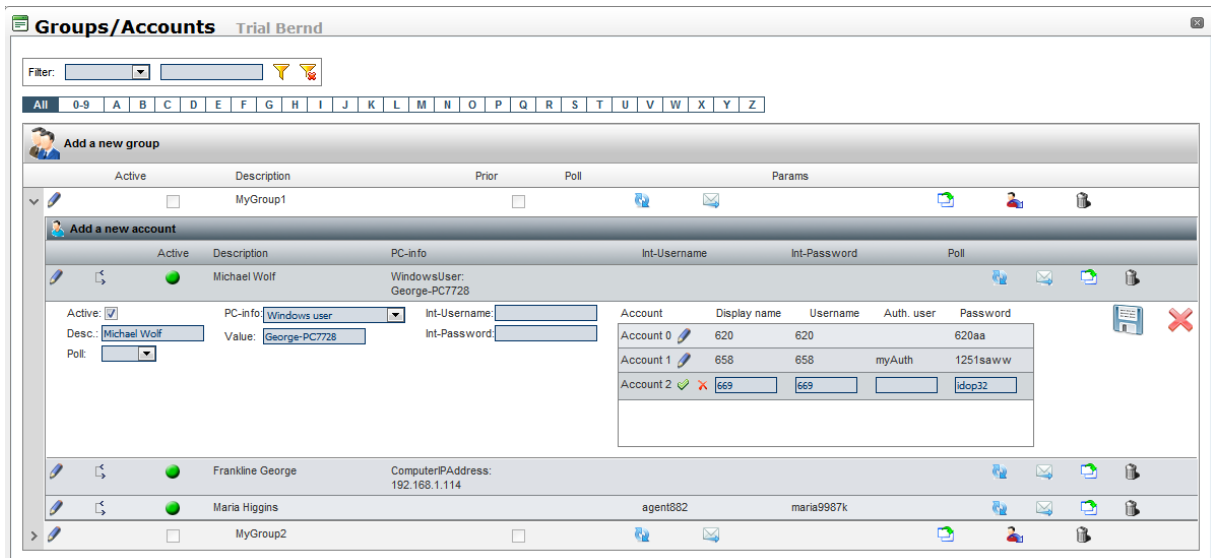


Fig. 6: Definition of groups

4. Conclusion

By changing paradigms in office telecommunication, a new ground-breaking telephony solution is at the disposition of decision-makers in corporations who realize that every office employee has a PC on his desk and that as a matter of fact all the hardware that is needed for voice and video communication is already in place.

In addition to the cost reduction that is connected with using Ninja Enterprise, corporate telephony is truly integrated in the IT infrastructure by providing CTI interfaces, TAPI drivers and Desktop Sharing software installations while having the ability to automatically configure and to manage tens, hundreds or thousands of telephony clients with a single server.

For more information: <http://www.globaliptel.com>

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