



## Product Bulletin

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Date: 12 September, 2005

***This bulletin replaces P-2005-0195-Global from June 17, 2005.***

# Introducing the Nortel IP Color, Touch Screen 2007 Phone

## Introduction

Nortel\* is pleased to announce the introduction of the IP Phone 2007, bringing a new realm in information access and user experience to the desktop IP Phone. The IP Phone 2007 integrates a 5x7" color touch-screen display for maximizing personal productivity in converged communications access with a thoughtfully designed and intuitive user interface as part of ongoing enhancements to its Adaptive Clients portfolio.

With the Nortel IP Phone 2007, the desktop IP Phone continues its ongoing transformation from a telephony-centric communications device to a highly efficient information portal for converged communications access. With its support for advanced text and graphic-based web-centric applications, as presented on its large color display, the IP Phone 2007 delivers access to a wide array of information, from company and world news to weather and traffic reports to streaming audio and video – efficiently, effectively and in pleasing visual form.

IP Phone 2007 enhances the user experience with an unmatched set of features and flexibility. With its integrated USB port, IP Phone 2007 delivers “point-n-click” navigation of, and keyboard interaction with, presented application content on its display. Call and control commands have been intelligently transformed to touch-buttons with an IP Phone 2007 GUI telephone screen. Making a call is now as simple as a human touch-point (fingertip), an accompanied stylus tap or combination of mouse click/keyboard entry for ultimate flexibility.

Initial support is planned for both Communication Server 1000 (backward compatible to Release 3.0) and Business Communications Manager Release 3.7<sup>2</sup>. Merchandise orders for the IP Phone 2007 shall be accepted as of June 17<sup>th</sup>, 2005 with shipments slated to commence the same day.

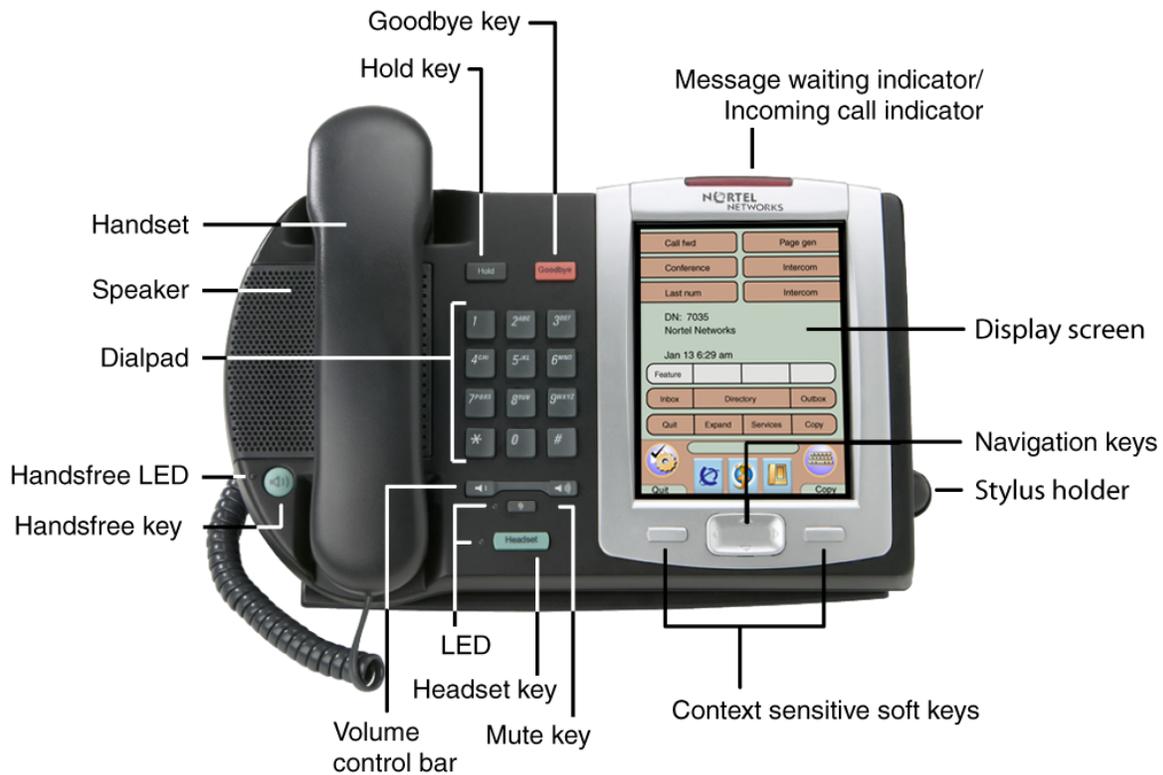
This bulletin provides an overview of the new phone’s hardware and firmware capabilities, and contains a listing of all Product Order Codes. System compatibility requirements and product references are also listed.

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<sup>2</sup> Support plans for other Nortel Communication Servers are under formulation at this time. Contact your Nortel account representative to obtain further details on the progress of such plans.

## Main Topic

IP Phone 2007 is an exciting new addition to the Nortel suite of Adaptive Clients. With support for telephony, advanced web-centric applications and multimedia presentation, the IP Phone 2007 evolves the desktop IP Phone well beyond that of a telephony communications device – transforming it into an intelligent and intuitively designed “Information Appliance” – a portal geared to maximizing not only human interaction but also information exchange, thereby significantly boosting customer value.



IP Phone 2007 introduces/delivers the following capabilities described within this bulletin:

- Multi-line IP Phone with up to twelve programmable line/feature keys<sup>3</sup>
- 5x7", QVGA, fully pixel based, bitmapped, backlit, color touch-screen display for a premier user experience
- Onboard Virtual Network Computer (VNC) technology, supporting Unified Communications from External Application Servers (XAS, G-XAS), transforms the IP Phone 2007 into an "Information Appliance"
- Applications and Primary Application navigation softkeys offer quick and efficient access to registered XAS applications boosting personal productivity
- Integrated USB port supports external USB mice, keyboards and hubs along with an on-screen popup keyboard for flexible menu navigation and options in data entry
- Local AC and Power over Ethernet (pre-standard and IEEE 802.3af) power options
- Stylus "Valet" for immediate access and convenient storage of styli used to interact with the IP Phone 2007 touch-screen
- Tools softkey delivers main screen "single click" access to configuration, diagnostic and user preference menus on the IP Phone 2007 display
- Personalized feature keys with use of a Customization Button tool
- On-screen context-sensitive "soft label" keys and feature keys
- Internal Ethernet switch with PC pass-through port for collocated PC offering single 10/100 Base-T Ethernet connection to the LAN for reduced infrastructure costs
- Backlit LCD with local brightness and contrast controls offers enhanced viewing angles and increases flexibility
- Backlight timer extending display life while aligning to customer deployment requirements
- Up to 650 business telephony features from Nortel Communication Servers<sup>4</sup>
- Voice traffic prioritization and VLAN tagging support within IP Phone 2007 hardware in compliance with 802.1p/Q and DiffServ standards
- 802.1x and Extensible Authentication Protocol (EAP) standard support
- Wideband capable speaker technology for the ultimate listening experience<sup>5</sup>
- Powered RJ-8 port for quick connect support of amplified (and unamplified) headsets
- Voice Message Waiting/Incoming Call Indication LED
- User-selectable ring tones
- Adjustable footstand supports customized viewing angles
- Supports G.711 a-law/ $\mu$ -law, G.729a, G.729a (Annex B) codecs
- Static and dynamic address (partial and full DHCP) assignment supported

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<sup>3</sup> Nortel Communication Server dependent - support of twelve programmable line/feature keys requires use of "shift" function – available to Communication Server 1000 and Succession 1000 servers only with IP Phone 2007.

<sup>4</sup> Nortel Communication Server dependent

<sup>5</sup> Wideband audio communications support requires support of G.722 codec from the Nortel Communication Server

- Charcoal color with metallic bezel

IP Phone 2007's stylish design comes with an integrated 5"x7" diagonal, Quarter VGA (QVGA)<sup>6</sup>, Color Super-Twisted Nematic (CSTN)<sup>7</sup>, 240 x 320 character, fully pixel based and bitmapped, backlit, touch-screen Liquid Crystal Display (LCD). Several advantages are inherent with this design. First, the use of a Super-Twisted Nematic (STN) display results in improved viewing angles and contrast at high multiplex rates along with increased color definition<sup>8</sup>. Second, as a fully pixel-based, bitmapped display, characters on the display are able to be turned on or off, which enables far greater character definition and is useful in international language environments.

The LCD of the IP Phone 2007 is backlit,<sup>9</sup> which offers enhanced viewing angles for its users. A backlit timer, specifically designed to conserve power and preserve display life when the phone remains idle (i.e., not in use) for a selected period of time, is also introduced with the IP Phone 2007. Backlight timer options include 5, 10, 15 and 30 minute selections along with 1 and 2-hour settings. A "sleep never" option (i.e., where the backlight is always on) has also been developed for customers wishing "always on" presentation. Note that the backlight is always on whenever a user is engaged in communications (i.e., goes "off-hook", is active on a telephone call, receives advanced application content, presses the touch-screen etc). The backlight timer setting option is accessible by either end user or administrator through the contrast and brightness settings option, which is accessible through the IP Phone 2007's a secure tools menu.

Applications presentation with IP Phone 2007 includes support for either text-based XAS (XAS) or graphical XAS (G-XAS) services as delivered by external application servers. Text-based XAS is familiar to users of Nortel IP Phones 2004 and 2002 today, accessible through use of an "Expand" hard key on these phones while leveraging a 3<sup>rd</sup> party external application server. IP Phone 2007 introduces an "Expand" softkey, making access to text-based XAS applications on the IP Phone 2007 very familiar and easy-to-use.

An example of an application server which supports text-based XAS technology is Citrix's Application Gateway (formerly NET6). Citrix's Visual Voice Office feature set, supported on IP Phones 2002, 2004 and 2007 and described briefly under the benefits section of this

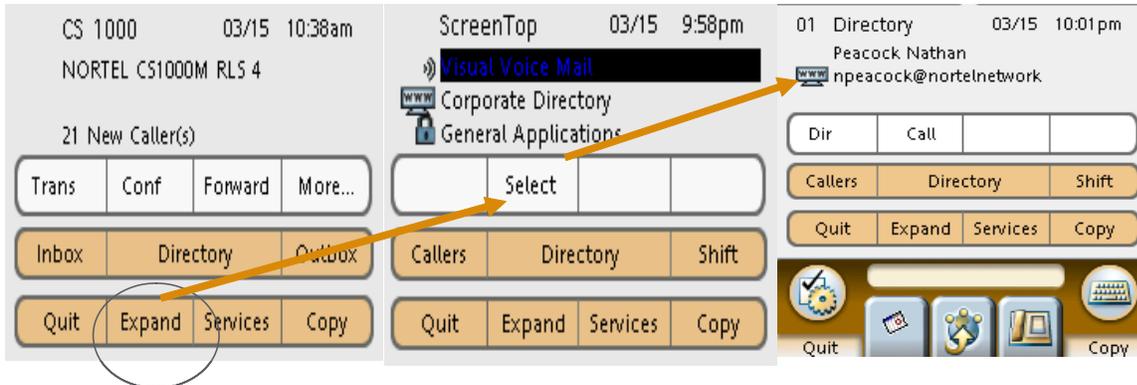
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<sup>6</sup> QVGA = Quarter Video Graphics Array

<sup>8</sup> STN = Super-Twisted Nematic – a type of display that uses fluids to "twist" greater than 90° thus improving viewing angles and contrast at high multiplex rates. Additionally, each pixel on the CSTN display is made up of three colors (red, green and blue) with each color being controlled individually by the graphic controller chip within the IP Phone 2007. The result is that IP Phone 2007's display actually contains 960x240 individually controlled pixels for increased color definition. Reference source: Pacificdisplay.com [http://www.pacificdisplay.com/lcd\\_glossary.htm](http://www.pacificdisplay.com/lcd_glossary.htm)

<sup>9</sup> CCFL backlight = Cold Cathode-Fluorescent Tube

bulletin, is one example of a text-based XAS application suite. The diagram below shows the user steps in accessing Corporate Directory, a Citrix Visual Voice Office feature, accessible from the information area of the Telephone Screen of the IP Phone 2007.



**User taps Expand key -> scrolls to Corporate Directory -> taps Select softkey -> accesses Corporate Directory**

New with introduction of the IP Phone 2007 is support for the graphical version of XAS or what is referred to as G-XAS. IP Phone 2007's onboard Virtual Network Computer (VNC), along with Remote Frame Buffer Protocol (RFB) protocol support, enables the presentation of web-centric; data applications and multimedia content (i.e., web pages, still frames, streaming video) to be displayed on the IP Phone 2007 as delivered by G-XAS servers. G-XAS servers also support the presentation of text-based XAS applications. G-XAS is accessible via the IP Phone 2007's Applications softkey shown below:



A "Primary Applications" softkey, introduced with IP Phone 2007, enables users upon tapping this key to go directly to the last application presented on the display of the IP Phone 2007. The Primary Applications softkey boosts personal productivity, freeing the user from having to navigate the Applications menu for the application last used on the IP Phone 2007. The first application registered with the G-XAS server is assigned to this key as the

default. However, as multiple applications are registered to the G-XAS server, the Primary Applications softkey provides the benefit described above. Icon representation on the Primary Applications softkey is provided by the G-XAS server.

IP Phone 2007 introduces an integrated Universal Serial Bus (USB) port which, at general availability, supports standard USB mice and keyboards and boosts personal productivity with more flexible navigation while interacting with the phone. Given the wide array of choices and customer preferences in such peripherals, these items are not bundled with the IP Phone 2007 nor sold by Nortel. They are customer supplied. USB mice can be used as pointers for navigation of web-centric content, along with IP Phone 2007 menus, in place of finger touches using the touch-screen. USB keyboards can be leveraged for text and numerical entries as an alternative to using the alphanumeric dial pad of the phone itself. The USB port is located on the underside of the IP Phone 2007 adjacent to the phone's Ethernet connections.

USB hubs are supported on IP Phone 2007 but must be powered for support. Maximum power output supplied on IP Phone 2007's USB port is 500mA. This is enough power to "register" most USB devices and power one low speed device. Other USB peripherals such as web cameras, thumb drives, card readers, etc., are not supported at time of general availability, but remain under consideration for possible implementation in a future release. Customer feedback is always welcomed on ongoing evaluations. Suggestions for consideration can be made via the Enterprise Suggestion Box at <http://www38.nortelnetworks.com/nn/ccm/>

A popup display-based keyboard, as an alternative to a USB keyboard for users who wish to minimize desktop footprint when performing data entry, is introduced with the IP Phone 2007 Telephone Screen. To access the popup keyboard, users simply tap the keyboard icon key on the lower right of the touch panel screen which is just above the copy softkey. Alphabetical along with a numeric/symbol popup keyboards are supported and are shown on below as well.



**Alphabetical  
Keyboard**



**Numerical/Symbol  
Keyboard**

IP Phone 2007 offers choice in powering the phone. Power can be locally applied using a universal AC 110/240v adapter. Power cords for the global power supply are region specific and must be specified separately. Consult the ordering information section of this bulletin for further details. IP Phone 2007, in turn, can also be powered from wiring closet switches with support for both pre-standard (both Nortel and Cisco) Power over Ethernet (PoE) as well as direct inline power from IEEE 802.3af compliant Ethernet switches. IP Phone 2007, with USB, a color touch-screen is an IEEE Class 0 device.

IP Phone 2007 comes standard with a Stylus “Valet” and one customized stylus. The Stylus Valet is an integrated styli holder built-in to IP Phone 2007. Use of a stylus, while not mandatory, is encouraged to extend the life of the touch-screen and minimize the need for cleaning the screen of fingerprints. Note that the stylus that comes with IP Phone 2007 is customized. It is optimized in weight and length for use with the phone. Other styli can be used, based on customer preference, but are not optimized in length and width for the Valet and as a result, greater care must be taken in order to avoid their loss.



IP Phone 2007 is wideband communications ready as it is provisioned with a wideband speakerphone. Wideband audio communications enrich the communication experience. For context, an analogy of wideband would be comparing the audio quality of a traditional land-line telephone call (i.e., narrowband at a range of 3.2kHz) to that of a call with close to FM radio quality (the latter being the quality of wideband at a range of 7 kHz). Words that can be confused with a narrowband call are clearly understood with wideband technology as all the frequencies for speech are covered. IP Phone 2007’s speakerphone comes standard with wideband-capable transducers, making the phone future safe upon support of the G.722 wideband codec from Nortel Communication Servers<sup>10</sup>.

While IP Phone 2007 offers a number of unique enhancements as part of its introduction, it is also quite complimentary with the Nortel desktop IP Phone portfolio. IP Phone 2007 provides access to the very same robust suite of telephony features (up to 650) as delivered by Nortel Communication Servers to other Nortel IP Phones. Like the IP Phone 2004, the IP Phone 2007 is a multi-line IP Phone supporting up to twelve programmable line/feature keys on Nortel Communication servers which support “shift” functionality.<sup>11</sup> Fixed and soft label keys from the IP Phone 2004 have been gracefully transformed to touch-buttons just below the information area on the IP Phone 2007’s GUI telephone screen. For example, IP Phone 2004 fixed keys such as inbox, outbox, expand, services, directory, quit and copy have corresponding soft label keys with the IP Phone 2007. Feature keys on IP Phone 2007 can

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<sup>10</sup> Contact your Nortel representative for timing plans in adopting wideband support for the Nortel Communication Server of interest.

<sup>11</sup> Consult your respective Nortel Communication Server documentation for support of the shift function.

also be customized (for text or icon representation) based on customer preferences using a Button Customization Tool described later in this bulletin.

IP Phone 2007 supports both static and dynamic IP address assignment (DHCP). Both partial and full DHCP are supported as with other Nortel IP 200x Phones for administrative flexibility.

IP Phone 2007, as with IP Phones 2002 and 2004, comes standard with an integrated three-port Ethernet switch (one internal, two external), in which one port supports pass-through traffic from the PC. This gives customers the benefit of a reduced cabling infrastructure with a “single wire” running back to their switching closet. Standards based Layer 2 prioritization and VLAN tagging schemes (802.1p/Q), along with Layer 3 Differentiated Services (DiffServ), are supported by the phone hardware as with IP Phones 2002 and 2004.

For customers in the United States, the IP Phone 2007 is compliant with Section 255 of the Telecommunications Act 1996 and Section 508 of the Rehabilitation Act of 1973. For the hearing impaired, the handset of the IP Phone 2007 is Hearing Aid Compatible as it supports an amplified headset and has a visual incoming call indicator. For the visually impaired, the IP Phone 2007 has a raised dimple on the “5” key to assist in proper finger settings on the dial pad.

IP Phone 2007, as with other IP Phone 2000 series sets, supports user-selectable ring tones. Consult your Nortel Communication Server documentation of interest for details on support.

## Features and Benefits of IP Phone 2007

IP Phone 2007 brings a vast array of capabilities to customers seeking a superior communications experience. IP Phone 2007 delivers convergence to the desktop IP Phone enabling secure access to multimedia-based communications sessions via external application servers. Administration benefits are delivered with IP Phone 2007 that customers will find quite powerful as described later in this section.

### Convergence and IP Phone 2007:

- 5"x7" color display supports text, web browsing, data applications, still-frames and video presentations bringing a superior user experience to the desktop IP Phone
- Introduces a main navigation touch-screen menu designed for intuitive access to telephony, data and web-centric applications
- USB port for peripherals such as a mouse and a keyboard – boosting personal productivity in user interaction

With IP Phone 2007, a new realm in information exchange is unveiled to end users at the desktop. IP Phone 2007, with its integration of Virtual Network Computing (VNC), support of Remote Frame Buffer (RFB) protocol and services presented graphically via G-XAS, now enables access to multimedia based content such as web-pages, still frames, data applications and streaming video presentations (up to 7 frames per second<sup>12</sup>) along with the delivery of rich telephony feature sets from Nortel Communication Servers. Multimedia applications content can come from prepackaged solutions, offered by 3<sup>rd</sup> party vendors, or by customers opting to customize their own applications for presentation on the phone display.

One example of prepackaged application support in the marketplace today is with Citrix's Voice Office Suite (formerly NET6). The Voice Office Suite takes advantage of the visual presentation capabilities and flexibility offered by the IP Phone 2007 and its display. Citrix Conference Manager, for example, compliments a Nortel audio conference bridge application (Integrated Conference Bridge or ICB), enabling users to visually schedule and administer ICB audio conferences using the IP Phone 2007's integrated touch-screen display, for the ultimate in employee flexibility and convenience. Express Directory, another application in the Citrix Voice Office Suite, provides realtime, organization-wide, directory access using the Lightweight Directory Access Protocol (LDAP) standard, enhancing personal productivity with convenient access to frequently dialed colleagues. Citrix's Visual Voicemail, intelligently integrated with the Nortel CallPilot application, supports Unified Messaging (e.g. fax, email and voicemail communications). With Visual Voicemail, employees have the ability to see a text-based listing of (and select actions on) the voice

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<sup>12</sup> Meaning that the display screen of the IP Phone 2007 can be updated every 1/7<sup>th</sup> of a second

messages that are of greatest importance to them. Screen shots of Citrix's Visual Voicemail and Express Directory applications, as presented on IP Phone 2007, are shown directly below.



In addition, Citrix's Broadcast Server feature, as part of the Visual Voice Office Suite, allows web-centric, text and/or audio content to be "pushed" to Nortel IP Phones even if the recipient is on the phone at the time. Broadcast Server notifications can be quite useful for a broad base of information passage – including weather, traffic, company news, security alerts, etc., - leveraging the large color display of the IP Phone 2007.

An example of a pushed alert is shown below.

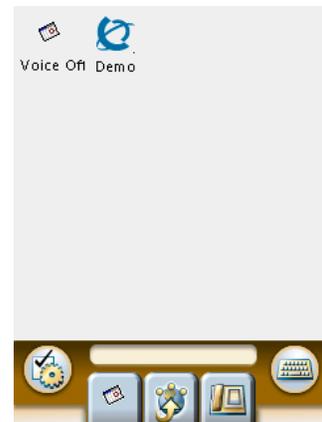


More information can be obtained on Citrix's Voice Office Suite at <http://www.citrix.com/English/PS/products/feature.asp?familyID=13991&productID=15058&featureID=20211>

Another option for customers wishing to elevate the competitiveness of their business is to leverage the inherent capabilities for rich presentation and information exchange of the IP Phone 2007 by customizing application presentation on its display. Citrix's WYSIWYG<sup>13</sup> Design Studio enables customization of web-centric content for Nortel IP Phones 2002, 2004 and the 2007. Customers can select the portions of web pages they deem relevant to present to their employees and make them available visually, in color, via IP Phone 2007's robust display capabilities.

Customers wishing to further exploit convergence with IP Phone 2007 could also integrate daily business application support for presentation on the phone. This could be particularly useful in environments where a PC is deemed undesirable such as visitor lobbies, information kiosks and retail stations for check-out, etc. Sample applications running on IP Phone 2007 could include customer or order statuses, inventory updates, floor maps, weekly specials, travel or financial services, etc<sup>14</sup>.

The impact of convergence upon the desktop IP Phone shall be recognized by users when interacting with IP Phone 2007's main navigation menu and specifically, the Applications Softkey. IP Phone 2007's Applications Softkey can be thought of as the phone's "portal page" to applications, facilitating selection of and access to a wide array of capabilities and services. When a user taps the Applications softkey, they are presented with a new screen displaying those applications registered with the external application server the user's IP Phone 2007 is pointed to. Within this "Application Menu", icons represent the applications and appear when an application initially registers with the external application server. The result is a very efficient and easy-to-use access portal to a wide array of multimedia applications and services. In the example shown below, there are selections for demo and the Citrix Voice Office Suite. The Citrix Voice Office Suite in this instance also happens to be the Prime Applications softkey as it was the



<sup>13</sup> WYSIWYG = What You See Is What You Get

<sup>14</sup> Customization services for applications content are not offered by Nortel. Customers must engage 3<sup>rd</sup> party application server vendor(s) for arrangement and development of such services. Nortel has developed a 3<sup>rd</sup> party Software Developer's Kit for the IP Phone 2007. This kit provides access to 3<sup>rd</sup> party developers to the VNC code in order to more rapidly develop customized applications as well as provide customers choice in 3<sup>rd</sup> party vendor solutions. The IP Phone 2007 Software Developer's Kit is currently available [www.nortel.com/developers](http://www.nortel.com/developers).

last application accessed. The number of applications reflected in the Application Menu is limited only by the number of applications the server itself can support.

### Application Menu

IP Phone 2007's integrated Universal Serial Bus (USB) port is another proof point to the delivery and potential of convergence as brought about by IP Phone 2007. Support of standard USB mice and keyboards transcend today's telephony solutions – bringing a new level of interaction capability with IP Phone 2007. A USB mouse could be used to select applications on the Applications Menu page shown above, click on web links or menu options as presented on the IP Phone 2007's telephone page. The external USB keyboard could be used for alphanumeric data entry.

### Security

Industry analyst surveys continue to show customers' heightened awareness and concerns regarding security when adopting IP Telephony. Nortel's IP Phone portfolio, including the IP Phone 2007, follows a "thin client" model which leverages external application servers for application presentation. This reduces security exposure by limiting the ports, and the time these ports must be open, for information exchange between the phone and the network gateway.

- Secure by Design - Information exchange is handled using XAS technology and external application servers, minimizing exposure of the IP Phone 2007 to Denial of Service (DoS) attacks while maximizing the customization of information
- Support for 802.1X and Extensible Authentication Protocol (EAP) as a post-GA firmware download

IP Phone 2007 is a portal to multimedia applications content. However, by not integrating a browser within its own architecture, IP Phone 2007 avoids the attacks often intended to expose the security flaws of such browsers. Denial of Service (DoS) events, triggered for example by an overflow of malformed packets directed at IP Phones with integrated browsers listening to/for traffic on Port 80, are not a risk with IP Phone 2007 and its client-stimulus or ("thin-client") model implementation.

In addition, IP Phone 2007's technology model offers a benefit in the area of cost of administration. As browser standards evolve, only the application gateway must be updated for these new standards. This eliminates the need for updates to be performed at each desktop, which could be required with IP Phones that have integrated browsers.

IP Phone 2007 will also benefit from the ongoing focus within Nortel for support of evolving standards in the area of network-based security. As part of its Plan of Record, Nortel will be supporting the 802.1X and Extensible Authentication Protocol (EAP) standard as a post-GA optional firmware download for all desktop-based IP Phone 200x (Phase II only) series phones beginning Q3, 2005, including the IP Phone 2007<sup>15</sup>. The first implementation of 802.1X/EAP will support the Message Digest-5 (MD-5) EAP standard<sup>16</sup>.

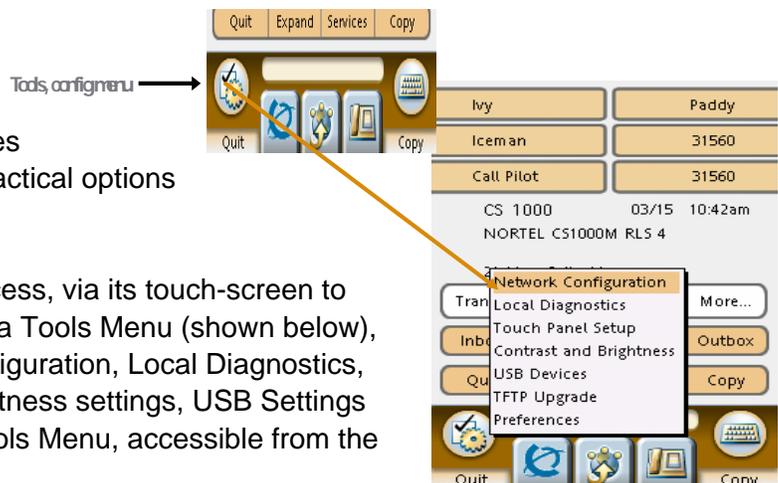
## Administration

IP Phone 2007, as a member of the Nortel IP Phone 200x portfolio, offers similar benefits to IT staff in administration along with the addition of some new capabilities leveraging its display. Highlights in both areas are described:

### New capabilities with IP Phone 2007:

- Secure Tools Menu provides intuitive touch-screen access to local administration capabilities
- Backlight display timer offers practical options for extending display life

IP Phone 2007 offers “point-n-click” access, via its touch-screen to diagnostics. IP Phone 2007 introduces a Tools Menu (shown below), which provides access to Network Configuration, Local Diagnostics, Touch Panel Setup, Contrast and Brightness settings, USB Settings and Preferences for the phone. The Tools Menu, accessible from the tools icon, is shown below.



### IP Phone 2007 Secure Tools Menu

<sup>15</sup> 802.1x and EAP will not be supported on Phase 0/1 Nortel IP Phones. IP Softphone 2050 and Mobile Voice Client as resident of PC/Pocket PC-based platforms, would leverage these platforms for support of authentication. Timelines for support may vary by Nortel Communication Server. Consult your Nortel representative for the server timeline of specific interest.

<sup>16</sup> The IEEE 802.1X standard increases security by validating the identification of a user who requests network access - whether that request comes from a PC or an IP Phone. It does not key on which access port (i.e., Ethernet receptacle) the device plugs into. The 802.1X standard describes the method by which Extensible Authentication Protocol (EAP), the actual protocol used between the client (in this case a desktop IP Phone 200x) and an authentication server (typically a Remote Access Dial-In User Server or RADIUS), is handled and passed along a wired or wireless LAN network. EAP is particularly beneficial in networks where users connect from random locations. With studies showing that upwards of 90% of employees are now working remote to their campus headquarters<sup>16</sup>, the value of such an implementation is clear. For more information on 802.1X and EAP, consult [www.ieee.org](http://www.ieee.org) and IETF RFC 3748

The Network Configuration Menu takes advantage of IP Phone 2007's touch-screen and peripheral capabilities to enhance user interface and boost personal productivity for administrators when initially configuring the phone for use.

The Local Diagnostics Menu of IP Phone 2007 provides access to Network Diagnostics that can be used for confirming network connections. PING commands as well as statistics and settings capture (i.e., Ethernet, IP Network and IP Phone and DHCP information) are available, useful in IP Phone administration.

Touch panel settings in the administration menu are used to calibrate the IP Phone 2007's touch-screen. Users or administrators are prompted to touch three cross-haired targets, presented on the screen with the stylus, for purposes of synchronizing the touch-screen.

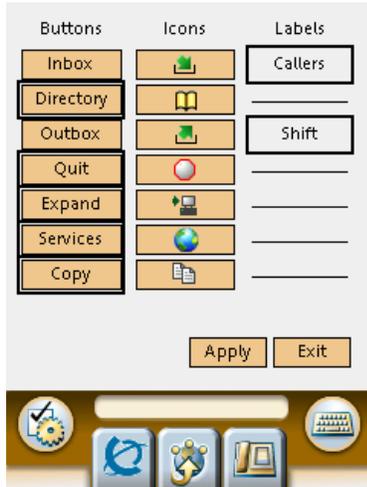
IP Phone 2007 supports both local contrast and brightness settings as well as server-driven contrast settings from the Telephone Proxy Server (TPS). This provides greater flexibility to IT staff when installing and implementing IP Phone 2007 sets across the network. IP Phone 2007's Contrast and Brightness setting offers local control for display contrast, backlight brightness (or intensity) as well as a Backlight Timer (referred to as sleep idle in the menu). The Backlight timer can be set for 5, 10, 15, 20 and 30 minute durations along with 1 and 2 hour time periods. The purpose of the timer is to conserve the display when not in use. There is also a "sleep never" setting for customer deployments needing to have the backlight on 24x7.

IP Phone 2007, with its introduction of support for USB peripheral devices, also supports a USB device administration menu. USB device information is retrieved from those devices attached to the phone and are reflected on the IP Phone 2007's USB Device Menu screen.

Finally, the IP Phone 2007 Tools Menu includes a User Preferences Menu. At initial availability, this provides customers with the ability to customize key label buttons for icons or text based on their preferences. Button customization also supports Nortel Communication Servers that today enable customers to change the features assigned to "hard" feature keys on IP Phones 2002 and 2004, such as Business Communications Manager (BCM). The Customization Button Menu includes columns for buttons (the default), icons (that can be used in place of buttons) or labels (customized text for the function based on user preferences). Labels can be customized using either the integrated popup keyboard or by using the USB keyboard<sup>17</sup>. The Button Customization Tool is shown on the next page.

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<sup>17</sup> Note: Local language customization is a plan of intent item for IP Phone 2007 and would be delivered via a future firmware download. Check with your Nortel representative for timing plans. The extent of language localization is dependent upon whether the item for display is controlled by a Nortel Communication Server or is controlled locally by the IP Phone 2007. In cases where the presentation remains under control of the Communication Server (i.e, programmable line/feature keys, four soft label keys, information area of the display on a voice call) – language capabilities mirror that delivered by the Communication Server.



All keys changed to icons

## Button Customization Tool

### Common Administration features with other IP 200x series phones:

IP Phone 2007 shares a number of administration benefits as part of the IP Phone 200x series portfolio. This reduces administration cost by applying the same administration procedures regardless of which IP Desktop Phone is deployed. Key common benefits are highlighted below:

- Support of firmware downloads minimize Operating Expenditure Costs (OPEX) while protecting customer investment with field installable access to software-based enhancements
- Emulation of IP Phone 2004 feature sets minimize end user and administrator retraining costs

IP Phone 2007, as with the other desktop IP 200x series phones, supports firmware downloads<sup>18</sup> making available optional enhancements to customers via field upgrades. This reduces customer operating expenditure costs (OPEX) and inconvenience by eliminating

<sup>18</sup> Actual method of delivery varies Nortel Communication server. Communication Server 1000 Release 4.0 and Succession 1000 Release 3.0 use TFTP while Business Communications Manager (BCM) leverages its Telephony Proxy Server via UTP. Consult your Nortel Communication Server documentation for their support plans/methodologies of firmware upgrades for IP 2000 desktop phones.

the need for customers to return the phone to a Nortel facility or channel partner for desired feature enhancements. For example, a recent firmware download enhancement was the support of 802.1Q VLAN tagging for IP Phones 2002, 2004 on the PC pass-through port of IP 200x phones. This firmware enhancement will be integrated into the firmware of IP Phone 2007 with general availability of the IP Phone 2007. More information on the feature content delivered from this firmware download can be obtained via the Product Bulletin for 2007 firmware downloads – available to channel partners via the Product Information Center (PIC) at:

[https://app12.nortelnetworks.com/cgi-bin/myinn/home/NN\\_bulletinDetails.jsp?DC=0&DY=2005&curOid=12460&whereClause=10&progSrcID=-8461](https://app12.nortelnetworks.com/cgi-bin/myinn/home/NN_bulletinDetails.jsp?DC=0&DY=2005&curOid=12460&whereClause=10&progSrcID=-8461)

*Note: Citrix's Voice Office Suite, along with the transformation capabilities via its Design Studio, will be supported on IP Phone 2007 as of July 14, 2005. An optional firmware update, specifically for IP Phone 2007 sets shipping prior to June 17<sup>th</sup>, shall be made available to customers who wish to leverage the Citrix Application Gateway for Voice Office or Design Studio applications. Nortel will publish a Product Bulletin communicating the firmware update release and downloading instructions at the appropriate time. Note that Citrix Application Gateway Release 5.3.3 is the minimum release to support the Voice Office Suite and Design Studio capabilities on IP Phone 2007. Consult your Citrix representative for further details.*

## References and Related Documents

For more information on the IP Phone 2007, please refer to related documents, including Sales & Marketing Bulletin SM-2005-0170-GLOBALRev2. Additional sales collateral information for Nortel authorized resellers will also be made available, including a customer overview presentation and a data sheet on the IP Phone 2007.

The product page on Partner Information Center (PIC) will be located at:

[https://app12.nortelnetworks.com/cgi-in/myinn/home/NN\\_prodDoc.jsp?BkMq=0&prodID=49660&progSrcID=-8026&whereClause=23&curOid=12460](https://app12.nortelnetworks.com/cgi-in/myinn/home/NN_prodDoc.jsp?BkMq=0&prodID=49660&progSrcID=-8026&whereClause=23&curOid=12460)

Getting Started documentation is available in English and French, and both versions are shipped with the product. The IP Phone 2007 User Guide, Quick Reference Card, NTP 553-3001-368 ("IP Phones: Description, Installation, and Configuration"), and other technical documents relevant to the IP Phone 2007 are available to partners via Helmsman at:

<http://app49.nortelnetworks.com/cgi-bin/HelmExpress/coll>

## Ordering Guidelines and Procedures

Merchandise orders for the IP Phone 2007 are being accepted now with shipments commencing as of June 17<sup>th</sup>, 2005.

IP Phone 2007 ordering information is shown below. IP Phone 2007 does **not** include a universal power supply to support local powering. This power supply is unique to the IP Phone 2007, and cannot be used on other IP Phones and must be ordered separately if local powering is desired. Note that the power supply used for IP Phone 2004 is not supported as it does not provide for the power required to support the LCD of the IP Phone 2007.

PEC	Description
NTDU96AB70	IP Phone 2007 Color Display Phone with Touch screen (charcoal with bezel) – global power adapter must be ordered separately, if desired
	<b>Power Adapter and Power Cords</b>
N0023000	Global power adapter (for local power). Requires purchase of local power cord (see below for options)
NTTK14AB	Cord 9.9 FT, NA Power, NEMA, 125Vac 13 <sup>a</sup> - North America, Middle East, Taiwan, Indonesia, Philippines, Korea, Thailand, Vietnam, Japan
NTTK15AA	Cord 8 FT, ANZ Power AS-3, 240Vac 10A - Australia, New Zealand, PRC
NTTK16AB	Option 11C Standard European Power Cord 250Vac - Other EMEA, Kenya
NTTK17AB	Option 11C Swiss Power Cord, 9.9Ft 125Vac – Switzerland
NTTK18AB	Option 11C UK Power Cord 240Vac - Hong Kong, Ireland, UK, Singapore, Malaysia, India, Bangladesh, Pakistan, Brunei, Sri Lanka
NTTK22AB	Option 11C Denmark Power Cord Kit, 9.9FT 125Vac - Denmark
	<b>Accessories</b>
N0023003	IP Phone 2007 Stylus (for sparing)

## Training

Global Knowledge is the official training partner for Nortel. The following training courses have been updated for the IP Phone 2007 and include:

- 0399C IP Line and IP Phones
- 6322C IP Line and Communication Server 1000

Further details on course offerings and schedules can be obtained from the Global Knowledge website at [www.globalknowledge.com](http://www.globalknowledge.com)

## Requirements and Specifications

For Succession 3.0 and CS1000 Release 4.0 customers a Trivial File Transfer Protocol (TFTP) Server is required in an IP Telephony system to distribute firmware to IP Phones. The TFTP Server can reside on a subnet other than the Call Server and can be located on either side of the firewall.

The TFTP Server holds the firmware for updating the IP Phones manually. The TFTP Upgrade menu is used to upgrade the firmware in the telephone. This menu is for administrator use only. See *IP Phones: Description, Installation, and Operation* (553-3001-368) for detailed instructions.

## Product Advisory

For more information on the IP Phone 2007, please refer to related documents, including Product Advisory Bulletin PAA-2005-0196-GLOBAL. Additional information for Nortel authorized resellers will also be made available, including a data sheet on the IP Phone 2007.

The product page on Partner Information Center (PIC) will be located at:

[https://app12.nortelnetworks.com/cgi-bin/mynn/home/NN\\_prodDoc.jsp?BkMg=0&prodID=49660&progSrcID=-8026&whereClause=23&curOid=12460](https://app12.nortelnetworks.com/cgi-bin/mynn/home/NN_prodDoc.jsp?BkMg=0&prodID=49660&progSrcID=-8026&whereClause=23&curOid=12460)

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