

Nortel Application Gateway Pre-Installation Checklist for Communication Server

The Application Gateway 2000 delivers business applications to Internet-enabled IP telephones and personal computers. It is an open, standards-based network platform that supports simultaneous voice and data services. IP phones are configured to access the Application Gateway for applications. The Application Gateway is configured to access the source applications and securely deliver them to IP phones.

Given that the Application Gateway is a bridge between voice and data environments, this checklist is intended

to provide telecom and data network professionals with a clear path to a successful implementation. We recommend having on site during the installation the appropriate Distributor or Vendor technician who can, if needed, contact a Nortel Support Representative in case work needs to be done on the call switch for interoperability with the Application Gateway.

We recommend that you keep this checklist updated and accessible to the administrator.

Release Requirements

Application Gateway operation requires these Nortel releases:

- Nortel Communication Server 1000 Releases 5.5 and 5.0 (Patch required. For the latest patch version, please refer to <http://support.nortel.com/go/main.jsp>). Note: Release 5.0 and higher with UNISim 3.0 is required to obtain IP/DN information directly from the phone. Previous releases require synchronization with a call server to obtain IP/DN information.
- Nortel Communication Server 1000 Releases 3.0, 4.0, 4.5B and higher (Requires patch MPLR21347 for IP/DN mapping)
- Signaling Server software Release 4.5088 and higher
- UNISim 1.3 and higher; UNISim 3.0 is recommended
- Preferred Firmware: 2001/2002/2004(0604DCD), 1110/1120E/1140E (0625C6E), 2007(0621C6D)
- Supported Firmware: 2001/2002/2004 (0604DCB and higher); 2007 (0621C6B and higher); 1110/1120E/1140E (062AC6B and higher); 1200 Series (062XC6B and higher).
Contact your Nortel Support Representative for other supported versions.
- For Access Services, Magtek Model 21040110 Card Reader.
- For SIP speaker paging, E286p29 firmware is required.
- SIP Speakers:
Model C10A from Digital Data Corporation (DDC); PN 368081
Models 010844C/020460G from Cyberdata Corporation

	Application Support by IP Phone									
	2001 XAS	2002 2004 XAS	2007 GXAS	1120E XAS GXAS	1140E XAS GXAS	1110 XAS	1210 XAS	1220 XAS	1230 XAS	2050 v3 GXAS
Express Directory	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Broadcast Server	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Zone Paging	Receive only	Yes	Yes	Yes	Yes	Receive only *	Receive only	Yes	Yes	Yes
Guest Services	No	No	Yes	No	No	No	No	No	No	No
Access Services	No	No	Yes	No	No	No	No	No	No	No

*IP Phone 1110s support sending pages through the handset only.

Installation Summary

Select each application to be configured:

- ☐ Broadcast Server ☐ Express Directory ☐ Zone Paging
☐ Guest Services ☐ Access Services

Select each call server used at the site:

- ☐ Communication Server 1000, Release: ☐ 4.5B ☐ 5.0 _____

Select the firmware used at the site:

- Phase 2 phones: ☐ 0604DCB ☐ other _____ IP Phone 2007: ☐ 0621C6B ☐ other _____
IP Phone 1120E: ☐ 062AC6B ☐ other _____ IP Phone 1140E: ☐ 062AC6B ☐ other _____
IP Phone 1110: ☐ 062AC6B ☐ other _____ IP Phone 1200 series: ☐ 062XC6B ☐ other _____

Select the SIP speakers used: ☐ Model C10A from DDC ☐ Models 010844C/020460G from Cyberdata

Application Gateway Port Usage

The following tables list all of the incoming and outgoing ports used by the Application Gateway. These ports must be open on the Application Gateway's gateway device (such as a firewall or router).

Incoming Ports	Transport Protocol	Application Protocol	Purpose	Configurable?
General				
80	TCP	HTTP	HTTP service port	Yes
3001	TCP	HTTPS	Application Gateway Administration Tool service port	No
9001	TCP	HTTPS	Application Gateway Administration Tool service port	No
9014, 9025	TCP	HTTP	Application Gateway cluster communication ports	No
Voice Office Applications				
5000	UDP	Proprietary	RUDP/UNISTim port for signaling with phones	No
50005	UDP	RTCP	RTCP receive port for monitoring RTP traffic statistics from phones	No
IP Phone 2007				
44443	TCP	Proprietary	GXAS service port for IP Phone 2007 communication with the Application Gateway	Yes
Broadcast Server				
80	TCP	HTTP	Broadcast Server push port	Yes
Zone Paging				
20480 - 20511 and ports configured on SIP speakers	UDP	RTP	RTP receive ports for Zone Paging	No

Outgoing Ports	Transport Protocol	Application Protocol	Purpose	Configurable?
General				
161	TCP	SNMP	SNMP service port	Yes
514	UDP	Syslog	Syslog service port	No
8080	TCP	HTTP	Outbound connection to a proxy server or a secure proxy server, if the Application Gateway is behind a firewall or proxy	Yes
Voice Office Applications				
23	TCP	Telnet	Connection to signaling server to obtain DN	Yes
389	TCP	LDAP	Connection to LDAP server	Yes
Broadcast Server and Zone Paging				
5060	UDP	SIP/RTP	Initial connection to SIP API uses SIP. After the connection is open, RTP audio streams are sent to the speaker.	No
9998	TCP	HTTP	Broadcast Server push port	No
50004	TCP	RTP	RTP traffic for Broadcast Server and Zone Paging	No
Guest Services				
configurable	TCP	Proprietary	Connection to property management system (defaults to 3015)	Yes

Application Gateway Basic Network Connectivity

The following information is required to activate the Application Gateway on the network. For background information on these settings, refer to the *Application Gateway Administration Guide*.

- ☐ One network cable (two cables required if the Application Gateway straddles two networks)
- Application Gateway static IP address and subnet mask: _____
- ☐ Application Gateway static IP address and subnet mask: _____
(Second interface needed only if the Application Gateway straddles two networks.)
- ☐ NAT IP address (if the Application Gateway is behind a firewall): _____
(This is the IP address that IP telephones should use to listen for audio streams from the Application Gateway if a NAT device is between the Application Gateway and the phones.)
- ☐ External public address: _____
(interface 0 / LAN1) (interface 1 / LAN2)
(Needed if the Application Gateway is to use Network Address Translation. Can be an IP address or host name.)
- ☐ Default gateway IP address: _____
(The default gateway, such as the router or firewall.)
- ☐ DNS server(s): _____
(Needed only if you use name resolution.)
- ☐ Outbound proxy host and port: _____
(non-secure proxy) (secure proxy)
- Subnets excluded from proxy server: _____
(Needed only if the Application Gateway is behind a firewall or proxy server.)
- ☐ VLAN disabled on switch or router port connected to the Application Gateway
(UNISTIM packets will be lost unless VLAN is disabled.)

Application Connectivity: General

Note: Voice Office operation requires a mapping of phone IP addresses and their DNs, or extension. If your site uses Communication Server 1000, release 5.0, the DN can be obtained directly from the phone. This is the recommended configuration.

For older Communication Server releases, a signaling server and call server or CSV file is used to obtain a mapping of IP addresses to extensions (DNs). When a phone connects to the Application Gateway, the Application Gateway uses the phone's MAC address to look up its extension in the map. A phone cannot obtain a session with the Application Gateway unless the phone's extension appears in the IP/DN map. For more information, refer to the *Application Gateway Administration Guide*.

First Signaling Server

- ☐ Network routing allows Application Gateway to Telnet into the specified signaling server
- ☐ Multi-user login enabled on Call Server
- ☐ If a Gatekeeper is enabled on the Call Server, the Application Gateway does not point to the Call Server interface which has the Gatekeeper enabled.
(The Application Gateway cannot log in to the Call Server over an interface which has a Gatekeeper enabled.)
- ☐ Signaling server IP address and telnet port: _____
- ☐ Signaling Server username/password: _____
- ☐ Customer number: _____
- ☐ Call Server username/password: _____

Second Signaling Server (needed only for Communication Server Release 3.0):

- ☐ Network routing allows Application Gateway to Telnet into the specified signaling server
- ☐ Multi-user login enabled on Call Server
- ☐ Signaling server IP address and telnet port: _____
- ☐ Signaling Server username/password: _____
- ☐ Customer number: _____
- ☐ Call Server username/password: _____

CSV-formatted file

- ☐ Web server URL: _____
- ☐ Username/password required for URL access: _____

Application Connectivity: Broadcast Server

Broadcast Server consists of server software installed on a computer running Microsoft Internet Information Services (IIS). With Broadcast Server installed on the IIS server, users can create and manage content to be distributed to IP telephones. For more information, refer to the *Application Gateway Administration Guide*.

- ☐ Broadcast Server fixed IP address: _____ (DHCP is not supported.)

Server requirements (to run Broadcast Server software)

- ☐ 1 GHz Intel Pentium CPU with 256MB RAM and 50MB hard disk space
- ☐ Windows 2000 Server SP4 or Windows 2003 Server
- ☐ Microsoft IIS 5.0 for Windows 2000 or Microsoft IIS 6.0 for Windows 2003; Windows XP (limited)
If your distribution list has 10 or fewer entries and you have a small number of phones, you can also alternatively install Broadcast Server on Windows XP and use Microsoft IIS 6.0 for Windows XP. A limitation of Windows XP is that it cannot handle more than 10 concurrent requests. As a result, if this limit is exceeded, IIS will not receive confirmations from the Application Gateway and thus will send duplicate messages to some subscribers. In addition, Windows XP can subscribe only 10 phones at a time.
- ☐ Microsoft Internet Explorer 5.0 or higher
- ☐ Must be configured to use the same NTP time server as the Application Gateway
For information on synchronizing the Application Gateway to a time server, see "Setting the System Date and Time" in the *Application Gateway Administration Guide*. For information on synchronizing a Windows server clock to a time server, refer to the Windows documentation.

Application Connectivity: Express Directory

This information allows the Application Gateway to connect to directory servers to download directory information on a regular basis. Once a directory has been downloaded to the Application Gateway, IP telephone users can access the Express Directory feature. Directory information is also used by the Broadcast Server, and Zone Paging applications. For more information, refer to the *Application Gateway Administration Guide*.

LDAP directory

The following information is needed if your site uses an LDAP directory:

- ☐ LDAP version 3 or CallPilot LDAP version 2
(Supported directories include Microsoft Active Directory, OpenLDAP, SunONE/iPlanet LDAP, and Novell eDirectory. The Application Gateway automatically detects the version in use.)
- ☐ For Novell eDirectory, enable the Allow Clear Text Passwords on the LDAP Group object.

- ☐ Hand-Free Activation (HFA) enabled (optional)
(Express Directory provides automatic dialing of directory numbers. For the automatic dialing to work, HFA must be enabled as part of the Class of Service options during set provisioning on the Communication Server 1000.)

- ☐ LDAP server IP address and port: _____
(LDAP server port default is 389. If you use an indexed database, using port 3268 will significantly speed the LDAP queries.)

- ☐ LDAP Bind DN and password: _____

Example syntax:

"user@domain.name" (Active Directory User Principal Name, UPN)

"cn=Administrator,cn=Users,dc=ace,dc=com" (Active Directory)

"ou=Administrator,dc=ace,dc=com"

"cn=BindUser,o=Org"

For Novell eDirectory, the Bind DN user must have access rights to see the properties of the users.

- ☐ LDAP Base DN: _____

Example syntax:

"cn=Users,dc=ace,dc=com" (Active Directory)

"ou=Users,dc=ace,dc=com"

"ou=Group1,ou=Group2,o=Org"

- ☐ LDAP Attribute fields

Common Name: _____ Last (Sur)Name: _____

First Name: _____ Email: _____

Telephone Number: _____ Mobile Number: _____

Extension: _____

Title: _____ Department: _____

Application Connectivity: Zone Paging

Zone Paging uses department information from the LDAP directory server specified for Express Directory to create zones. You can supplement those imported zones with custom zones, created from the extensions included in the IP/DN map.

Application Connectivity: Guest Services

This information includes the location and file names for the images and slides to be used for Guest Services. For more information, refer to the *Guest Services Configuration Guide*.

☐ Application icon (30x30) (path and name): _____

Screen Type: ☐ Slideshow ☐ Button Panel ☐ Slideshow/Button Panel ☐ Split-Screen Slideshow

☐ Logo image (path and name): _____
240x60 if no PMS is enabled; 240x50 if PMS is enabled.

Note: Images in PNG format are recommended for the logo, slides, and buttons.

Slideshow images

Specify for each slideshow image an associated action, if any. "Dial" is the full number, including any prefixes, to be dialed when the phone user taps the slide. "URL" is the Web URL to display when the phone user taps the slide. You can include up to 20 slides in a slideshow.

Path and name	Action (optional)
1: _____	<input type="radio"/> Dial: _____ <input type="radio"/> URL: _____
2: _____	<input type="radio"/> Dial: _____ <input type="radio"/> URL: _____
3: _____	<input type="radio"/> Dial: _____ <input type="radio"/> URL: _____
4: _____	<input type="radio"/> Dial: _____ <input type="radio"/> URL: _____
5: _____	<input type="radio"/> Dial: _____ <input type="radio"/> URL: _____
6: _____	<input type="radio"/> Dial: _____ <input type="radio"/> URL: _____
7: _____	<input type="radio"/> Dial: _____ <input type="radio"/> URL: _____
8: _____	<input type="radio"/> Dial: _____ <input type="radio"/> URL: _____

9: _____

10: _____

11: _____

12: _____

13: _____

14: _____

15: _____

16: _____

17: _____

18: _____

19: _____

20: _____

☐ Dial: _____

☐ URL: _____

☐ Dial: _____

☐ URL: _____

☐ Dial: _____

☐ URL: _____

☐ Dial: _____

☐ URL: _____

☐ Dial: _____

☐ URL: _____

☐ Dial: _____

☐ URL: _____

☐ Dial: _____

☐ URL: _____

☐ Dial: _____

☐ URL: _____

☐ Dial: _____

☐ URL: _____

☐ Dial: _____

☐ URL: _____

☐ Dial: _____

☐ URL: _____

☐ Dial: _____

☐ URL: _____

Dial-pad button images

☐ 9-button panel

☐ 12-button panel

Specify for each button image an associated action. "Dial" is the full number, including any prefixes, to be dialed when the phone user taps the button. "URL" is the Web URL to display when the phone user taps the button. The button panel can include up to 12 buttons.

Path and name

Action

1: _____

☐ Dial: _____

☐ URL: _____

2: _____

☐ Dial: _____

☐ URL: _____

3: _____

☐ Dial: _____

☐ URL: _____

4: _____

☐ Dial: _____

☐ URL: _____

5: _____

☐ Dial: _____

☐ URL: _____

6: _____

☐ Dial: _____

☐ URL: _____

7: _____

☐ Dial: _____

☐ URL: _____

8: _____

☐ Dial: _____

☐ URL: _____

9: _____

☐ Dial: _____

☐ URL: _____

10: _____

☐ Dial: _____

☐ URL: _____

11: _____

☐ Dial: _____

☐ URL: _____

12: _____

☐ Dial: _____

☐ URL: _____

Navigation button images

Default images are used if customized images are not specified. Images should be 55x25.

Previous: _____

More: _____

Next: _____

Property management system

Guest Services includes an optional connection to a property management system, providing the display of the guest's name and room number on the Guest Services screens.

Property management system installed at your site:

☐ Agilysys Lodging Management System

☐ MICROS-Fidelio OPERA Property Management System

☐ Other: _____

The port over which your property management system will communicate with the Application Gateway:

☐ Port: _____

(The port default is 3015 for Agilysys.)

Room numbers can be derived from telephone numbers as follows:

☐ Trimming _____ digits from the beginning of the telephone number

☐ Trimming _____ digits from the end of the telephone number

☐ Other (describe):

Application Connectivity: Access Services

The following setup information is for Access Services. For more information, refer to the *Guest Services Configuration Guide*.

Global setting

Screen Type: ☐ Access Services

Access Services settings

☐ Default URL for Web server: _____

☐ Destination URL for posting card reader data: _____

☐ Timeout URL: _____

Operation > General setting

☐ Secured Full Screen GXAS Mode
(Secured mode requires port 443.)

☐ Secured GXAS Mode
(Requires port 443.)

☐ Full Screen GXAS Mode
(Requires port 44443.)

☐ Normal GXAS Mode
(Requires port 44443.)

Nortel Application Gateway 2000

Pre-Installation Checklist

Planning

Copyright © 2006—2008 Nortel Networks. All Rights Reserved.

LEGAL NOTICE

While the information in this document is believed to be accurate and reliable, except as otherwise expressly agreed to in writing NORTEL PROVIDES THIS DOCUMENT "AS IS" WITHOUT WARRANTY OR CONDITION OF ANY KIND, EITHER EXPRESS OR IMPLIED. The information and/or products described in this document are subject to change without notice.

Nortel, the Nortel logo, the Globemark, SL-1, Meridian 1, and Succession are trademarks of Nortel Networks.

All other trademarks are the property of their respective owners.

Publication number: NN42360-201
Document release: Standard 04.02
Date: December 2008
Sourced in Canada

To provide feedback or report a problem in this document, go to www.nortel.com/documentfeedback.

