



Remote Office 9150

Overview

The Nortel Networks Remote Office 9150 is a powerful option for extending cost-effective, high-quality communications to remote offices. The award-winning¹ Remote Office 9150 extends the features and functions of a Meridian 1 or Succession CSE 1000 communication system to remote branch offices providing for up to 32 Meridian Digital telephones and utilising an standard IP-based network connection and/or ISDN circuit-switched telephone lines.

This gives remote branch office workers full access to the corporate telephone network as if they were at the main site. Remote Office enables a user at a remote location to access all of the system resources, such as unified messaging, the corporate directory and corporate dialing plans. In addition, all of the 450+ features enjoyed in the main office are available remotely, features such as “Boss-Secretary Filtering”, “Audio Conferencing” and “Automatic Call Distribution”.

Customer Profile

- Multi-site enterprises that want to leverage the investment in their Meridian 1 or Succession CSE 1000 by cost effectively distributing high-quality communications capabilities over IP throughout the entire organisation
- Enterprises that need to cost effectively support small remote offices with up to 32 users
- Teleworking centres that want to transparently connect remote workers or call centre agents to a Meridian 1 and Succession CSE 1000
- School districts extending from a central site with centralised voice mail
- Small clinics and doctors’ offices extended from a main hospital
- Banks, credit unions and other financial services organisations with numerous remote sites

- Seamlessly sharing CallPilot, Meridian Mail and Symposium Call Centre applications with remote sites over converged voice/data networks
- Increasing the productivity of distributed workforce services, mobility and Unified Messaging
- Ensuring QoS levels

Key Points

- Cost effective Branch solution: Leverages Customer Investments - from high value features and applications at host site
- Scalable Remote Solution - gives up to 32
- Flexible Access Options - digital telephones extended via IP network and/or ISDN BRI lines
- Reduces Charges - by providing dial tone from the host Meridian 1 or local central office
- Simplified Management - with only one centralised database to support
- Efficient use of Bandwidth - with voice compression options
- Maintains High Voice Quality - via QoS transitioning technology. The 9150 offers a voice QoS feature that automatically switches to the circuit network if IP congestion affects voice quality and back to IP when voice QoS is re-established on the WAN. Switching between IP and circuit switched networks is transparent to the user.

Typical Applications

Typical applications include small branch offices that desire to leverage the features and functionality of a central corporate PBX while still providing a local presence in the distant community served. Examples include bank and credit union branch offices, doctor offices and clinics associated with a major hospital, regional sales and service support centres, a remote agent call centre pod at the local shopping centre and other similar scenarios.

Features and Benefits

All of the Remote Office products communicate with the Meridian 1 or Succession CSE 1000 communication systems via a single-slot or dual-slot Reach Line Card. This flexible integrated application card can simultaneously support not only Remote Office 9150-based branch offices, but also 9110 and 9115 telecommuters, IP-enabled Meridian Digital phones with the Meridian Digital Telephone IP Adapter and directly wired Meridian Digital phones².

Unlike many other IP Telephony products from other vendors, Remote Office 9150 is able to ensure voice quality and reliability because of its ability to place and receive phone calls over circuit-switched PSTN lines, as well as over a Voice over IP network connection. When IP performance levels drop, Remote Office 9150 uses patented QoS transitioning technology to maintain voice quality, moving live active calls from the IP network to PSTN fallback lines without dropping the call.

The Remote Office 9150 allows centralised administration and control of branch office telephones, a consistent user interface between branch offices and headquarters and centralised application support, such as CallPilot Unified Messaging and Symposium Call Centre. The Remote Office 9150 is fully survivable in the event that the branch office loses IP connectivity with the headquarters office.

Features	Nortel Networks Remote Office 9150
Scalable Capacity	8-32 telephones
Interfaces	Up to four U or S/T ISDN BRI interfaces 10BaseT Ethernet One analogue port
Compatible Handsets	Support M2000, M3800 and M3900 sets plus add-on modules
Host Site	16- and 32-port Meridian Internet Gateway Remote IPE line cards Ethernet interface for VoIP Shared ISDN PRI/T1/E1 PBX trunking to remote sites
Meridian Feature/Application Support	All Meridian 1/Succession CSE 1000 Applications: <ul style="list-style-type: none">• Telephony features• Symposium Call Centre• Supports 1st and 3rd party CTI• Call Pilot Unified Messaging• Meridian Mail
Connection to Meridian Host	Ethernet interface for VoIP ISDN BRI G.729 (8 kbps) encoding supports up to 8 simultaneous calls back to the Meridian 1 or Succession CSE 1000 on a single ISDN B channel (14 calls on 1 BRI)

Survivable	<p>If WAN connection lost to Meridian:</p> <ul style="list-style-type: none"> • Local station to station calls supported • ISDN BRI Lines allow local outgoing and incoming call for remote users
Local Switching	Station to station calls are switched locally saving bandwidth to Meridian
Audio Compression	Supports multiple codecs to maximise WAN bandwidth
QoS Transitioning	Dynamically switches calls from packet networks to circuit-switched networks if voice quality degrades
Bridge Port	The Bridge Port feature allows local PSTN calls received or placed on the branch office's ISDN BRI phone numbers to be transferred, call-forward and/or conference from the Remote Office 9150 branch office to the Meridian 1 or Succession CSE 1000 communication system
DiffServ and 802.1p QoS Support	802.1p Layer 2 QoS and DiffServ Layer 3 QoS means improved IP performance. When installed on a QoS-capable network, the Remote Office 9150 utilises these QoS features to ensure maximum IP performance and voice quality over the IP network
Jitter Buffer Configuration	Administrators can now minimise latency (delay) on fast high-performance IP connections, or maximise voice quality on IP connections that may need extra buffering
Multiple Subscriber Numbering (MSN) Support	Remote Office 9150's support of MSN allows each ISDN-BRI channel to have a separate DN (phone number) from the CO. This means that each BRI line can now have up to two phone numbers (one for each B-channel). In some areas, this may be the only BRI configuration supported
Voice Activity Detection	Voice Activity Detection (sometimes called silence suppression) can dramatically reduce the amount of IP traffic generated during a voice conversation. The Voice Activity Detection feature allows one side (or both) of a VoIP connection to stop sending traffic when there is nobody speaking on that side



IP Bandwidth Restriction

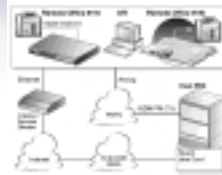
IP Bandwidth Restriction feature allows an administrator to set a maximum amount of bandwidth that will be transmitted over the IP connection between the Reach Line Card and the Remote Office 9150 unit. If the maximum IP bandwidth restriction has been reached, and additional calls are attempted, those calls will be routed over the BRI connection

Ordering Information

For further information, please contact your Nortel Networks representative.

¹Remote Office 9110/9115 won Best of Show award at the 2001 Internet Telephony Conference and Expo in San Diego, USA.

²Directly wired Meridian Digital Telephone support not available on Succession CSE 1000 systems.



Remote Office 9110/9115

Overview

Remote Office 9110 and 9115 use the award-winning technology¹ to extend a single digital telephone to a remote location. This gives a remote worker full access to the corporate telephone network as if they were at the main corporate site. Remote Office enables a user at a remote location to access all of the system resources, such as unified messaging, the corporate directory and corporate dialing plans. In addition, all of the 450+ features enjoyed in the main office are available remotely, features such as “Boss-Secretary filtering”, “Audio Conferencing” and “Automatic Call Distribution”.

Remote Office 9110 and 9115 uses either traditional circuit switched connections or packet switched VoIP connections. Unlike many other IP Telephony products from other vendors, Remote Office 9110 and 9115 are able to ensure voice quality and reliability because they can place and receive phone calls over analogue PSTN lines, as well as over VoIP packet switched networks. When IP performance levels drop, voice quality can be maintained by moving live, active calls from the IP network onto the analogue fallback line without dropping the call.

Remote Office 9110 is a small circuit board mounted in the footstand of a digital telephone and the Remote Office 9115 is a small module external to the telephone. The following table shows the digital telsets which Remote Office supports.

Customer Profile

- Home-based employees
- Executive home-based offices
- Home-based employees
- Occasional remote worker
- Call centre agent teleworkers - single agent working from home or remote site
- Remote jobsite support - support of small temporary field/project offices
- Support personnel (including IT, facilities) that may rotate pager duty and/or have to respond to work calls after hours
- Very small branch offices (2-3 phones) without ISDN BRI ability and little internal phone-to-phone traffic

Typical Applications

- Ideal solution Home-worker
- Call centre agent teleworkers - single agent working from home or remote site
- Remote jobsite support - support of small temporary field/project offices

Key Points

- Leverage the features & Applications of a Meridian 1 or Succession CSE 1000 communications system across to the home-office, worker as if he was in the office
- Cost saving by providing VoIP solution
- Centralised System Administration - under Optivity Telephony Manager
- Patent Quality of Service (QoS guaranteed) with both IP & Circuit Switch Analogue connectivity

Features and Benefits

All of the Remote Office products communicate with the Meridian 1 or Succession CSE 1000 communication systems via a single-slot or dual-slot Reach Line Card. This flexible integrated application card can simultaneously support not only Remote Office 9110 and 9115 telecommuters, but also Remote Office 9150 branch offices and IP-enabled Meridian Digital phones with the Meridian Digital Telephone IP Adapter.

Remote Office products are flexible: they may be installed in PSTN-only, or IP-only modes, depending on what access methods are available to the remote user.

Features	Nortel Networks Remote Office 9910 / 9115
Interfaces	Single Analogue POTS 10BaseT Ethernet
Compatible Handsets	Supported M2000 and M3900 sets plus add-on modules
Meridian Feature/Application Support	All Meridian 1/Succession CSE 1000 Applications: <ul style="list-style-type: none"> • Telephony features • Symposium Call Centre • Supports 1st and 3rd party CTI • MIPCD, MICB, MIRAN • CallPilot and Meridian Mail
Connection to Meridian Host	Ethernet interface for VoIP Analogue POTS G.729 (8 kbps) encoding back to the Meridian 1 or Succession CSE 1000 on a single Analogue POTS
Survivable	If WAN connection lost to Meridian - Local Line allows local outgoing and incoming call for remote users
Audio Compression	G.711, G.729a, 30ms voice samples
QoS Transitioning	Dynamically switches calls from packet networks to analogue POTS line when IP performance degrades
Standards Compliant	TAPI: via Symposium TAPI Service Provider (first party or third party mode) <ul style="list-style-type: none"> • IEEE 802.1p: Layer 2 QoS • DiffServ: Layer 3 QoS • NAT-P: Network Address Translation
Transparent Access to all Meridian and Succession Features (from the Remote Location)	<ul style="list-style-type: none"> • Call Pilot (Unified Messaging), message lights, MICB Conference Bridge, etc • Same phones and user interface whether at remote site or at main site • Phones can be programmed identically to local phones, including an exact copy of an existing phone (one phone number rings at both a remote and local office phone – MADN Multiple Appearance Directory Number) • Remote phones have the same access as local phones to call centre and other applications
Voice Activity Detection	Voice Activity Detection (sometimes called silence suppression) can dramatically reduce the amount of IP traffic generated during a voice conversation. The Voice Activity Detection feature allows one side (or both) of a VoIP connection to stop sending traffic when there is nobody speaking on that side