Meridian 1

R24B Market Introduction Catalogue

(formerly known as International General Release Bulletin)

(For Asia Pacific's Distributors internal use only)

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Introduction

Document Purpose

This document summarizes the features being developed for the Meridian 1 software product, X11 Global Release 24B. The purpose of this document is to assist functional primes to develop their plans and strategies by providing a general overview of Release 24 features. This document reflects the Release 24B content as of the June, 1999. This document describes the product, which is applicable to the International market, therefore it is intended for International use only.

X11 Release 24B is a multi-purpose release designed to deliver a single Global software stream to all markets.

X11 Release 24B will be supported on the following Meridian 1 systems only:

Option 11C Mini, Option 11C, Option 51C, Option 61C, Option 81, and Option 81C.

This document will continue to be up-issued through the introduction process of X11 Release 24B, and as such the information contained within this document will be subject to change.

This document is the master document for Release 24B information, and as such should be considered as the reference document.

Due to country readiness and specific country introduction programs, not all feature contents will be introduced in all countries in Asia Pacific coincident with the general availability (GA) date of X11 Release 24B. For further information, please contact your regional Nortel Product Management Prime or your Marketing Prime.

Release 24A/B Features

System

Option 11C Line Size Expansion (Release R24B and later)

The Fibre Expansion phase of the Line Size Expansion project supports two additional Expansion cabinets through new dual port fibre expansion daughterboards, thereby increasing the line capacity of the Option 11C system to 700 lines (from 400 lines). One dual port daughterboard can replace two existing single port fibre daughterboards. Thus two installed dual port fibre daughterboards can support up to four expansion cabinets. There are two versions of the dual port fibre daughterboard: a short haul (up to 10m), and a long haul (up to 3 km).

In general, call processing feature operation remains unchanged from the existing Option 11C other than changes required being compatible with the new daughterboards. The new dual port fibre daughterboard supports 2 conference devices, therefore increasing the maximum number of conference devices to 6 for a 5 cabinet Option 11C system (from 4 for a 3 cabinet Option 11C system). OA&M is modified to accept IPE card TNs in slots 31 to 50.

The dual port and single port daughterboards can coexist on the same SSC card. If additional tone transmission resources are required, the NTAK03DA can be installed in the main cabinet.

This feature is available to the international market.

Option 11C Mini (Release R24B and later)

Option 11C Mini is a new system in the Meridian 1 system portfolio that will address the 16 ~ 80 station market requirements. Features supported on this machine is similar to those of Option 11C. Detail information for this machine will be released in a separate document.

M3900 Series Meridian Digital Telephones (Release R24B and later)

M3900 Series Meridian Digital Telephones provide integrated voice and data communication. The M3900 Series telephones communicate with the Meridian 1 through digital transmission over standard twisted-pair wiring.

The M3900 Meridian Digital telephone interfaces with the eXtended Digital Line Card (XDLC) in the Intelligent Peripheral Equipment (IPE) shelf of the system. The XDLC supports 16 voice and 16 data ports. The system software assigns a Terminal Number (TN) to each port in the system.

The five models of the M3900 series telephones have their own unique characteristics.

The M3900 Series Meridian Digital Telephones support features through a variety of feature keys:

- Prelabeled feature keys
- Soft-labeled Programmable line/feature keys
- Soft Programmable feature keys
- Programmable feature keys

M3901 features
The M3901 Entry is a single line digital model designed as a "place" set for use in lobby/reception areas, cafeteria, hallways, etc. The main features of the M3901 are:

- one line (Directory Number) capability
- five programmable features
- Prelabeled feature keys:
- DN line
- Feature
- Hold
- Goodbye
- Volume Control Bar
- twelve dial pad keys
- Message Waiting and Call Status LED
- Feature Activation LED headset capabilities (no headset port)

M3902 features
The M3902 Basic brings the display and handsfree capability to a single line set level, supporting applications for light telephone use in manufacturing and warehouse environments. The main features of the M3902 are:

- one line (DN) capability
- three soft programmable feature keys
- Prelabeled feature keys:
- Goodbye
- Headset (with LED indicator)
- Hold
- Options
- Smart Mute
- Message (with LED indicator)
- Copy
- Transfer (with LED indicator)
- Quit
- four Navigation
- Volume Control Bar
- twelve dial pad
- Handsfree Button (with LED indicator)
- two lines by twenty-four character display area
- handsfree calling option
- Group Listening feature available
- on-Hook dialing
- headset capability (no headset port)
- one accessory port

M3903 features

The M3903 Enhanced is the mid-range model designed for use by other professionals and technical specialists with enhancements in several areas. The main features of the M3903 are:

- two Soft-labeled line/feature keys (two layers each, giving the user access to four lines/features)
- four Soft Programmable feature keys (three layers each, giving the user access to twelve features)
- Prelabeled feature keys:
- Goodbye
- Headset (with LED indicator)
- Hold
- Options
- Smart Mute
- Message (with LED indicator)
- Copy
- Directory/Log
- Quit
- Shift (page 1, page 2)
- four Navigation
- Transfer (with LED indicator)
- Volume Control Bar
- twelve dial pad
- Handsfree button key (with LED indicator)
- three line by twenty-four character display area Call Log
- Group Listening feature available
- on-Hook dialing
- two accessory ports
- Headset port
- handsfree calling option

M3904 features

The M3904 Professional set provides executives, managers and administrative assistants with a variety of enhancements. The main features of the M3904 are:

- six Soft-labeled lines/features (two layers each, giving the user access to twelve lines/features)
- four Soft Programmable feature keys (three layers each, giving the user access to twelve features)
- Prelabeled feature keys:
- Goodbye
- Shift (page 1, page 2)
- Hold
- Smart Mute (with Led indicator)
- Smart Mute
- Volume Control Bar
- Handsfree (with LED indicator)
- Quit
- Headset (with LED indicator)
- Copy
- Options
- twelve dial pad
- Message (with LED indicator)
- four Navigation
- Directory/Log
- four line by Twenty-four character display
- Personal Directory

- Call Log
- Group Listen capabilities
- on-Hook Dialing
- two Accessory Ports
- speaker Indicator
- Headset option (Headset port)
- handsfree calling option

M3905ACD features

The M3905 Call Center model is designed to support the specialized demands of call center agents and supervisors and is similar in appearance to the M3904, minus the handset. The main features of the M3905ACD are:

- eight Soft-labeled Programmable line/feature keys (two layers each, giving the user access to sixteen lines/features)
- four Soft Programmable feature keys (three layers each, giving the user access to twelve features).
- Prelabeled feature keys
- Goodbye
- Headset (with LED indicator)
- Hold
- Call Supervisor
- Smart Mute
- Copy
- Not Ready
- Quit
- Make Set Busy
- four Navigation
- InCalls
- Volume Control Bar
- twelve dial pad
- Supervisor Observe (with LED indicator)
- Personal Directory
- Call Log
- five line by twenty-four character display
- handset optional
- Supervisor Observe key with LED
- Supervisor Headset Observe port
- The prelabeled feature keys located across the lower edge of the telephone can be programmed to fit the needs of the M3905ACD telephone user.

This family of digital telephones is available to the international market. Individual market availability is dependent on market introduction plan.

Meridian Digital telephones headset

A headset can attach to the M3901 M3902, M3903, M3904, and the M3905. The M3903, M3904 and M3905 have headset jacks with a prelabeled headset feature key to turn the headset on and off. Check with your local distributor for the make and model of headsets compatible with your M3900 set.

Global Incremental Software Management (Release R24B and later)

The Incremental Software Management (ISM) feature provides flexibility and control over system configuration and implementation. With ISM, software ordering and pricing is based on the total count of Terminal Numbers (TNs), Automatic Call Distribution (ACD) positions (agents and supervisors), ACD Directory Numbers (ACD-DNs and Control DNs), Associate Telephone (AST) DNs, Digital Subscriber Loops (DSLs), Logical Terminal Identifiers (LTIDs), D-channels (DCHs), Application Module Links (AMLs), Recorded Announcement (RAN) Broadcast routes, and RAN and Music Broadcast connections that are to be purchased for a system. For specific system requirements and limits, refer to your regional Pricing Manual.

With X11 Release 24B, two ISM counters are added and changes are made to the counting criteria for three existing ISM counters. The new ISM counters are “DIGITAL TELEPHONES” and “ANALOGUE TELEPHONES”. The changed ISM counters are ACD AGENTS, AST, and MOBTNS (Mobility TNs). The Mobility TNs counter name has been changed to “WIRELESS TELEPHONES”.

New ISM counters for X11 Release 24

- The “DIGITAL TELEPHONE” ISM counter will count every Digital Telephone configured in Overlay 11, except wireless sets. This includes AST sets, ACD agents, and AST sets configured as ACD agents.
- The “ANALOGUE TELEPHONES” ISM counter will count every Analog Telephone configured in Overlay 10, except wireless sets and phantom sets. This includes AST sets, ACD agents, and AST sets configured as ACD agents.

Modified ISM Counters

- The “ACD AGENT” counter is modified to exclude Meridian Mail and Call Pilot. All ACD Agents configured in Overlay 10 and 11 count as ACD Agents and Analog Telephones or Digital Telephones counters. The port configured in Overlay 11 for Meridian Integrated Products such as MICB is an ACD Agent. It will count against ACD Agents and Digital Telephones counter.
- The AST counter is modified to count against Digital Telephones and AST.
- The “WIRELESS TELEPHONES” counter (formerly named Mobility TNs) is modified to include CT2 and (M)DECT sets configured in Overlay.

This feature is available to the international market.

Inventory Reporting (Release R24B and later)

The Inventory Reporting feature takes advantage of the intelligence built into the Meridian 1 PBX to provide an automated tool for customers and support personnel to produce an inventory report. This report will list the cards and telsets installed in the switch for business and support purposes. The Inventory Reporting feature will run on the Meridian 1 PBX using the evolved Graphical User Interface (GUI) for System Management or using a TTY device providing a Command Line Interface (CLI) to the switch.

The Inventory Reporting feature will allow a MAT6 GUI user to download inventory information from a file resident on the PBX hard-drive to the PC for manipulation in a PC resident database. Many End-Users have inventory tools and applications for asset management but currently, they must manually enter inventory data into their inventory tool.

Uses for this feature include but are not limited to:

-Upgrade Engineering
-Inventory Control
-Fault Isolation

This feature is available to the international market.

TMDI On Option 11C (Release R24B and later)

All software changes for this project are associated with the introduction of a new trunk card. This card is the TMDI (NTRB21) which will replace the NTAK09 1.5M DTI/PRI. The TMDI also has a built in downloadable D-channel. The configuration of this D-channel will be restricted by the use of a new Option 11C specific ISM parameter.

This feature will not affect the current NTAK09 functionality, configuration or maintenance in any way.
The TMDI feature introduces the software changes necessary for an Option 11C system to support a new TMDI pack. These changes include introduction of a new prompt to replace a function that was handled by a dip-switch on the old PRI card. TMDI also introduces an extra loadware application to handle Layer 1 and changes to make the existing loadware files into a 32 bit format instead of the original 16 bit format. To provide CEMUX communication with the card, changes are also required to create an I/O entry for the card.

The TMDI will provide both 1.5 Mb Digital Trunk Interface and 1.5 Mb Primary Rate Interface capability for the Option 11C. The NTAK09 will still be supported and no changes will be made to the installation, configuration and maintenance of this pack. There will be changes made specifically for the installation, configuration and maintenance of the TMDI.

This feature is available to selected countries in Asia Pacific.

510 Trunk Route Member Expansion

Currently X11 software will support a total of 254 trunk members associated with a trunk route. With a growing demand of ISDN trunk facilities utilizing nB+D configurations (a maximum of 383 B-Channels and 1 D-Channel for T-1 interface and 479 B-Channels and 1 D-Channel for the E-1 interface), the current software cannot accommodate all of the possible B-Channel trunk members. In order to meet this need, software development is required to expand the software to accommodate up to 510 trunk members per trunk route.

This feature will also eliminate the same limitation with ISL configurations where 384 is the current limit of trunks controlled by one D-Channel.

The 510 Trunk Member Capacity feature will include the following trunk configurations: PRI mode, Shared Mode, ISL mode, VNS, VNS Shared, DTI mode and Analog mode. This feature is not limited to ISDN functionality.

This feature is available to the international market.

MSDL/DDP Enhancements - Idle Code Selection

Provide a customer selected option (service change) for network framing (idle code selection - yellow alarm) of either "7F" or "FF".

The Lucent 5ESS has a different framing requirement than the other Class 5 switches. Customers with ISDN PRI to the 5ESS must have a patch installed to match the equipment required framing. With this option, it eliminates the need to create custom patches.
Also, Bellcore may be changing the framing requirements for North American interfaces vs. International requirements. By providing a service change selection for framing, the Meridian 1 becomes much more flexible and user friendly for any future standards changes.
The service change selection will be either hexadecimal "7F" or "FF" based upon the equipment and interface requirements for idle code (yellow alarm) situations. The default will be hexadecimal "FF".

This feature is available to the international market.

MSDL/DDP Enhancements - Port Overload Counter

Provide an overload counter capability on a port-by-port basis. Once the overload threshold has been met, disable the port only, not the whole MSDL card. After disabling the affected port, a descriptive error message will be provided for easy service and/or support personnel resolution.

This feature is available to the international market.

MSDL/DDP Enhancements - Status Enquiry Message Throttle

Provide a mechanism to throttle or eliminate MSDL messages in a high traffic situation such as when a D-Channel "restart" happens between Meridian 1's using Network ACD applications, CCR error log reporting during busy periods and an adjustment to the message threshold based upon the system processor type.

This feature is available to the international market.

Bearer Capability in CDR

The Bearer Capability is an information provided by ISDN calls and which indicates what bearer is used for the call. It gives information about the characteristics of the trunk involved in the call (rate, voice or data dedicated, packet or circuit mode transfer, etc.). The following table shows the bearer capability code printed in the CDR and its meaning.

Table: Bearer capability information printed in the CDR

Code	Meaning
01	Circuit mode speech
02	Circuit mode 3.1 kHz audio
03	Circuit mode unrestricted 64 kbit/s digital information transfer
04	Circuit mode unrestricted 64 kbit/s digital information transfer rate adapted from 56 kbit/s
05	Packet mode unrestricted digital information transfer
06	Circuit mode 7 kHz audio
07	Circuit mode restricted 64 kbit/s digital information transfer
08	Circuit mode video
99	Unknown

This information is required in CDR records, in order to allow the operator to apply different rates according to the type of call. It is available for certain protocols such as ISDN through the BCAP IE or DPNSS/DASS through the SIC. For DTI2 and DTI trunks, there is an information set during the call processing about the type of call indicating if it is voice or data. When the bearer capability information is not present, two blanks are output.

This feature is available to the international market.

Process Notification for Networked Calls

When the user originates the call from Meridian 1 to CO, and the call goes out through R2MFC network, then delay between the switches creates sensation for the caller. The delay is approximately 20 seconds and 80% of the calls are dropped and re-attempted. So when the call goes through R2MFC network, then a notification message (Ran Message announcement) is provided to the originator that a call is in progress, so that originator should not drop the call.

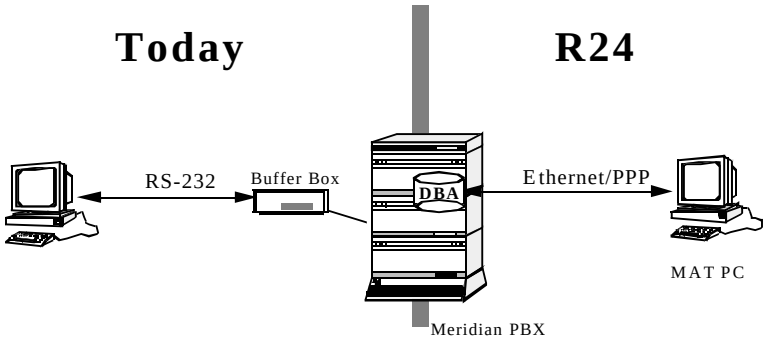
This feature is available to the international market.

MAT Data Buffering and Access

The Data Buffering and Access (DBA) feature is developed to forward Meridian system data to an external data collector in real time and to utilise storage space on Meridian PBX for backup system data as needed. A separate data collector module will be implemented on Meridian Administration Tool (MAT) to receive real time system data or to retrieve the system data stored on Meridian system for further processing. From the customer's view, this DBA feature provides an integrated solution for CDR and TRF data access and collection all within a Meridian PBX cabinet. This simplifies switch room's equipment management, increases the system performance and, as a result, lowers total cost of ownership to our customers and distributors.

The DBA feature is an enhancement that supplements the current data collection via a buffer box. It provides an in-skin version of the buffer box function with bigger storage capacity, faster data access and improved overall system performance.

This feature is available to the international market.



CAS/AOP Interworking (from Release 23C)

This feature development removes the package restriction on the Option 11C and allows both the CAS and Attendant Overflow Position (AOP) feature to co-exist.

This feature is available to the international market.

CP4 (from Release 23C)

CP4 provides 1.5 x CP3 Call Capacity by increasing the external processor bus speed from 33 to 66MHz. The new **C**all **P**rocessor, called **CP4**, will use the same microprocessor (Motorola 68LC060) as the CP3 card

The CP4 is applicable to the Global market.

Manufacture Delivered Customer Solution (from Release 23C)

Manufacture Delivered Customer Solution (MDCS) disks are being introduced in order to provide a quicker means to meet customer needs of critical solutions in a timely, robust and cost-effective manner. MDCS disks containing “fixes” to these problems will be distributed globally for installation on Meridian 1 sites. These disks will be produced by Manufacturing Operations on 1.44/2.0 Meg diskettes by CP type (currently only CP1, CP2, and CP3 are supported).

MDCS disks will be made available globally to all Nortel CTS organisations and those distributors equipped to apply patched solutions to Meridian 1 sites.

Support Tools Enhancements

NACD Source Table Viewer (Release R24B and later)

The Network ACD (NACD) feature is configured in overlay 23. There are two tables that can be Configured (and printed) in overlay 23; Day Table and Night Table. These tables define the NACD routing for a particular local ACD queue. These tables define entries that "point" to ACD queues at other Meridian nodes. When an entry in a Day or Night table is configured, an NACD facility message is sent to the target node. Once this message is received at the target node, an ACD source table entry is created at the target ACD queue. The source table is required because when the target ACD queue changes state, e.g. goes into night service, the target node can send a message to the "source" node to inform it of the state change. Once the source node receives this message, it changes the state of the entry in the associated day or night table.
The NACD source table is an internally created table. There is no mechanism currently to print this table. The structure of the source table is very similar to the Day and Night tables.

This tool will provide the ability to print the NACD source table in overlay 23 in order to aid in problem diagnostics.

This feature is available to the international market.

Bug 105 Monitor Tool (Release R24B and later)

This tool is being developed to aid in the resolution of BUG 105 problems. This tool will enhance the BUG 105 printout when the support personnel enables the monitoring in PDT.

The current BUG105 message prints as follows:
BUG105 : unpacked-TN
BUG105 <return-addresses>

The proposed new format follows:
BUG105 : unpacked-TN NTWKADDR NTWKDATA0 NTWKDATA1
BUG105 : talkslot_word:crptr tdslot_word:crptr tdjunc_word:crptr ttr_tn:crptr tdtn:crptr
BUG105 : < bug_print_crptr data>…
BUG105 : < connection memory and call register data read/derived from TN in NTWKDATA0

This feature is available to the international market.

Core software

OHAS Half Disconnect Enhancement (Release R24B and later)

The OHAS Half Disconnect Enhancement feature applies to 500/2500 analog (PBX) type sets in the Meridian 1 system configured with the existing Off-Hook Alarm Security (OHAS) feature and which were established in a call with a party internal or external to the M1 system. Once the M1 system recognises that the other party or parties have disconnected from the call and the PBX set is detected to be in the half disconnect state (i.e., still off-hook), the OHAS Half Disconnect feature can be used.

This feature is available to the international market.

End to End Signaling Display Enhancements (Release R24B and later)

The EES Display Enhancement (EESDSP) feature is an enhancement of the existing EES features. It introduces a customer based option to show or block the display of EES digits dialed after a call is established. These EES digits can convey sensitive information (e.g., account numbers, authorization codes, passwords, etc.). Showing this information can be a security issue for some customers. The new EES Display option will give the customer the choice to show or block all the EES digits from appearing on a set's display screen when entered.

This new EES Display Enhancement option is similar to the existing customer based EES digit inclusion option for CDR records (prompt ECDR) which was introduced in Release 19 as a portion of the Improved EES development. When enabled, all the EES digits are captured in the CDR record for external calls.

With the End-to-End Signaling Display Enhancement option enabled, the user's display shows all the EES digits as dialed as per existing operation of EES. When entered after a call is answered, EES digits are displayed following the Call Party Name Display (CPND) name of the connected party. Leading digits and name characters may be shifted out of the display window.

With the End-to-End Signaling Display Enhancement option disabled, the user's display remains unchanged, keeping the established call information.

For Attendant End-to-End Signaling (AEES), the EES digits are the digits dialed after the attendant console is placed in EES mode after pressing the AEES key. The attendant console can only send the EES DTMF tones to either the source or destination party. When the End-to-End Signaling Display Enhancement option is enabled, the attendant console display shows the EES digits entered while in the EES mode as per existing operation. If disabled, the attendant console display remains unchanged.

The EES Display Enhancement feature does not affect the giving of tones for EES digits nor the processing or the sending of the EES digits. The EES Display option only gives the customer the option to show or block all the EES digits on the display of a digital set.

This feature is available to the international market.

Dual Signaling on analog trunks (Release R24B and later)

The Dual Signaling on analog trunks feature allows a single trunk line to handle Dial pulse signalling on the incoming direction and DTMF signalling on the outgoing direction. This feature is applicable on IPE and EPE trunks. It reduces the amount of DTR units on the system since these units are no longer necessary for trunk access.

The trunk can now be configured as:

-incoming dial pulse - outgoing dial pulse (existing and default functionality)
-incoming DTMF - outgoing DTMF (existing functionality)
-incoming dial pulse - outgoing DTMF (new functionality)
-incoming DTMF - outgoing dial pulse (new functionality)

This feature is available to the international market.

Ringing instead of buzzing on digital sets (Release R24B and later)

This feature allows a digital set to be rung even if the handset is offhook or the set is busy on the other line. This is applicable on ARIES and BCS sets (named as M2006, M2008, M2009, M2016, M2018, M2112, M2216, M2317, M2616) only.

If a call is presented to this set, it will ring according the digital telephone distinctive ringing CLS (DRG1, DRG2, DRG3, DRG4) instead of buzz.

This is applicable when the following conditions are met:

-called set is type of ARIES or M2009, M2317, M2018, M2112

-new CLS RNGI or RNGB is activated on the set which means:
  -RNGI - The set is ringing when idle but off hook.
  -RNGB - The set is ringing even it is busy on the other line or idle but offhook

This feature does not affect features where usually a buzz is provided (e.g. Ring Again, Manual signalling, etc.).
This feature does not change the behavior of the ringing. If any ringing feature (Ringing Change Key, Executive Distinctive Ringing, Network Distinctive Ringing, etc.) is applied on the set, the selected ringing will be used instead of buzzing.

Note: A set of type M2216 is usually in offhook state.

This feature is available to the international market.

Increase of the OHT (Outgoing Hold Timer) (Release R24B and later)

The OHT in the RDB is currently limited to 62 seconds. This enhancement expands the maximum time to 126 seconds.

It is available on analog and DTI2 trunk interfaces.

This feature is available for the international market.

Argentina CLID Enhancement (Release R24B and later)

The feature provides Calling party Number display with display allowed/denied on R2MFC trunks.

CLID is transmitted for every call made. The display of the CLID on the terminating set is based on a R2MFC signal received which is either Display allowed or Display Denied. An exception is made for certain types of calls coming in on an emergency route for which the CLID is displayed irrespective of the received signal.

This feature is targeted to work only with the central offices complying to Argentina standards (CNC's resolution 301/98 and CNC File No. 3663/97) for CLID.

Automatic Hold

The Meridian1 X11 Global Release 24 feature allows an active call to be put on hold without having to use a separate Hold Key. Therefore, a call can be placed on hold by pressing a DN type key on which the call is active or any other DN type keys on the set. The Meridian1 X11 Global Release 24 capability reduces the incident of dropped calls that may occur when an attempt is made to answer an incoming call that is ringing on one DN, while the user is established on a call on another DN.

The Meridian1 X11 Global Release 24 feature is available to the international market prior to Release 24. It will be taken out of the International Supplementary Package 131 and incorporated into the base of Release 24 for the global market. The functionality of Meridian1 X11 Global Release 24 works the same way as it did before its introduction to the North American market.

This feature is applicable to all multi-line Meridian 1 proprietary telephones which includes the SL1, M2000 series telephones, M2317 telephones, M3000 Touchphone and Meridian Modular Telephones which are all configured using Overlay 11.

This feature does not apply to 500/2500 type sets. The feature already exists on attendant consoles for all markets in prior releases; therefore, no functionality changes need to be made to the attendant consoles.

This feature is available to the international market.

Call Capacity Report Enhancement

The CCRE feature is designed to improve the accuracy and stability of the existing TFS004 report by taking advantage of the improved mathematical capabilities of the C language compared to the SL-1 language, by expanding the data analysis period from 1 day (24 hours) to 1 week (7 days x 24 hours), and by making minor modifications to the Maximum Real Time Utilization calculation. No changes will be made to the overlays, and changes to the traffic report fields will be minimized.

This feature is available to the international market.

Call Redirection by Day

This feature is an enhancement to the Release 22 feature, Call Redirection by Time Of Day (CRTOD). This feature enables a user to define an alternate set of call redirection DNs which is used for the alternate time period defined at the customer level. There are four different alternate time options defined for the customer and the set can choose any one of them.

The Release 24 feature Call Redirection By Day (CRDAY) enhances the CRTOD feature.

The first part of the feature is to redirect calls coming to a set, to the alternate call redirection DNs depending on the day of the week. Any day of the week can be defined as an alternate day for alternate call redirection. The alternate days applicable to a set depend on the new alternate day option chosen by the set.
The second part of the feature redirects calls coming to a set, to the alternate call redirection DNs during a predefined list of holidays. At the customer level, there is a holiday list of 20 entries. Each new holiday option has the flexibility to include or exclude a holiday from this list of 20 entries. The sets using a particular holiday option will have the holiday list applicable to that option.

This feature is available to the international market.

CLASS: Calling Number and Name Delivery (from Release 23C)

This feature delivers the calling number and/or the calling name, along with the calling date and time, to a CLASS set via FSK signalling.

This feature is controlled release in Asia Pacific.

CLASS: Visual Message Waiting Indicator (from Release 23C)

This feature notifies the customers on an analogue CLASS set in the form of a visual indication that messages are waiting. This notification service used together with the M1 Network Message Services for providing a complete set of advanced voice messages features available on Meridian Mail. The CLASS analogue set connected to the analogue line side of the Meridian 1 system must be equipped with a frequency shift keyed (FSK) modem to receive and display message waiting indication when messages are waiting or deleted.

This feature is targeted at residential and small businesses as well as hospitality, schools / universities, mobile homes, nursing homes and hospitals.

This feature is controlled release in Asia Pacific.

Calling Party Privacy Override

The Calling Party Privacy Override (CPPO) feature allows Meridian 1 to support the "Calling Party Number and Name per call unblocking" required by FCC for all calls. Users are able to dial a CPPO FFC code (e.g. *82 for DTMF or 1182 for DIP) defined for the CPPO feature, to ensure that their telephone number and name are displayed on a receiving telephone across the Public/Private Network if the originating set has a class of service of CLBA (Calling Line Blocked Allowed - Release 21 Calling Party Privacy feature).

This feature is available to the international market.

Distinctive Ringing by DN

The Enhanced Executive Distinctive Ringing (EEDR) feature enhances EDRG feature with two functionalities. The functionality of NDRG feature remains unchanged.

- **Distinctive Ringing by call source, per DN-key**. The distinctive ringing given to the called set is determined by the call source (calling set). This functionality is same as that of EDRG, except that now it is DN-key based instead of set based.

- **Distinctive Ringing by call destination, per DN-key.** The distinctive ringing given to the called set is determined by the call destination (called set).

With the enhancements, a DN-key can be configured to give a distinctive ring to the terminating set, when it originates the call (call source), and get a distinctive ringing (call destination), when it receives a call.

A new class of service EERA/(EERD) is added for MMT sets. The set is marked 'executive' when CLS is EERA. New prompts are introduced at the DN-key level to define the distinctive ringing cadences for both, call source and call destination. The responses to these prompts will determine the distinctive ringing.
The enhancements are applicable to MMT sets only. The existing functionality of EDRG feature for non-MMT sets remains unchanged.

This feature is available to the international market.

Flexible DID

The Flexible DID feature allows the temporary assignment of a DID number to a Hotel Guest Room DN by the hotel/motel staff via the Property Management System (PMS) as well as the Background Terminal (BGD).

When a hotel guest checks in at the front desk and requests a direct line to their room, the hotel staff enters the request onto the Property Management System (PMS) and a PMS message is sent to the Meridian 1 to set up a Direct Inward Dialing line into the guest's room phone set.

When a guest checks out, a PMS message is sent to the M1 to cancel the Direct Inward Dialing number associated to the guest's room phone set. This unassigned DID DN will then be returned to the system DID DN pool to be re-used for another guest.

A call to an unassigned DID DN is routed to the Attendant so that the caller can be informed that the guest has checked out.

This feature requires that the Hotel's Property Management System (PMS) support this functionality as well.

This feature is targeted for the global market and specifically for the Hospitality market segment.

Message Waiting Indicator by DN

Meridian1 X11 Global Release 24 feature provides greater flexibility in presenting Message Waiting Indication (MWI) on a Meridian Modular Telephone (MMT) set. Following are the various functionalities offered by this feature:

Multiple Message Waiting Indications.
There are several limitations to the operation of message waiting indication today. Currently, if a set has more than one DN with associated mailbox, the M1 software provides the capability to turn ON/OFF the same message waiting key/lamp pair (MWK) and Red LED for all the mailbox DNs. Further, if there is more than one appearance of a DN, the message waiting indication can only be turned ON/OFF on only prime appearances of that DN.

The Meridian1 X11 Global Release 24 feature provides greater flexibility in presenting message waiting indication for more than one mailbox DN on a set and also on multiple appearances of a DN on different sets.

Multiple Message Waiting Indications on One set.
According to the existing functionality of message waiting indication, if one set has more than one DN with associated mailbox, the message waiting indication is canceled after retrieving all the new voice messages from just one mailbox. In order to support a flexible work environment, if there is one message waiting indication, it should stay ON until all the new messages from all the mailboxes are retrieved, or have a separate message waiting indication for each of the mailboxes on the set.

The Meridian1 X11 Global Release 24 feature facilitates the user to have a separate message waiting indication for each of the mailbox DNs. This feature introduces a new feature key called Extended Message Waiting Key (XMWK) which can be configured separately for each of the Mailbox DNs for message waiting key functions. The XMWK key is configurable via service change in overlay 11 and is not user configurable. It is mandatory that the DN to be associated with this key is configured as non-PDN on the set on which it is being configured.

The XMWK key starts FLASHING whenever any new voice message is received for the DN associated with this key. Once all the new voice messages have been retrieved, the indication on the XMWK key associated with that DN, is canceled.

Pressing the idle DN key and then the XMWK key will autodial the Message Center DN associated with it. Pressing the display key (DSP) and then a XMWK key would display the Message Center DN and the associated mailbox DN.

Application / Scenarios :

- Office environment where a secretary needs to monitor the phones of several managers. There is a need to have message waiting indication for the DN appearance of each manager on the secretary's MMT set.
- University environment where several students with individual DNs and associated voice mailboxes share the same telephone.

Multiple MWIs for One mailbox on Many sets.
In an environment where multiple users share a common Mailbox, a XMWK key can be configured for that mailbox DN on each user's set for message waiting key functions. For this, the DN associated with the common mailbox need to be configured as non-PDN on all the users sets.

When a new voice message is received for the DN associated with the common mailbox, all the XMWK keys configured on all the users sets and associated with this DN start FLASHING.
Once all the new messages from the common mailbox have been retrieved by any of the users, the indication on all the XMWK keys associated with the general mailbox DN is canceled.

Application / Scenarios :

- ACD Call Center / Customer Service / Sales Representatives office with number of staff sharing a general need to be notified of diverted / unanswered customer calls that go to a general mailbox.

Remote Propagation of Message Waiting Indication to MMT set.

According to the existing functionality, if a user wants to know whether he/she has received any new voice message or not, he/she has to either see the message waiting indication lamp on his/her set or he/she has to login to his/her mailbox from any remote set.

The Meridian1 X11 Global Release 24 feature enables the user to monitor the status of his/her Mailbox from a remote set without logging into his/her set. This feature introduces a new feature key called Remote Message Waiting Key (RMWK) through which the user can remotely monitor his/her mailbox. When a new message arrives to the mailbox DN being monitored, the indication is propagated to the RMWK key. The RMWK key can only be used to monitor those DNs which have at least one primary appearance.

The RMWK key can be service changed through overlay 11. During service change the Message Center DN is mandatory but the Mailbox DN is optional. The Mailbox DN is also user programmable from the set.
When the RMWK key is programmed to monitor a DN, it starts FLASHING if any new voice message exists for the associated mailbox DN, if not the RMWK key remains steadily LIT.
Cancellation is done by pressing the RMWK key when it is LIT or FLASHING.

Application / Scenarios :

- Guest MMT set user in an office or business suite. This enhances the utility of the Phantom TN feature by providing an RMWK key for the temporarily assigned physical TN.
- Scenarios like professor in a class or an engineer in a Lab, who redirects his/her calls can also monitor his/her mailbox remotely.

One Mailbox supporting Multiple DNs.

According to the existing functionality, three DNs can be associated with one mailbox; however there are several constraints on the message waiting indication. The message waiting indication is only on the set on which one of the three DNs sharing the mailbox is configured, while there is no indication on the sets on which the other two DNs are configured.

The Meridian1 X11 Global Release 24 feature extends the indication to all the three sets on which the DNs sharing the mailbox are configured provided the Voice Mailbox Administration (VMBA) package is equipped.

Application / Scenarios :

- Group with common function wherein each member has own DN but sharing a common mailbox.
- End user with more than one set with different DNs can have a message waiting indication for his/her one mailbox on each set regardless of the type of DN appearance.

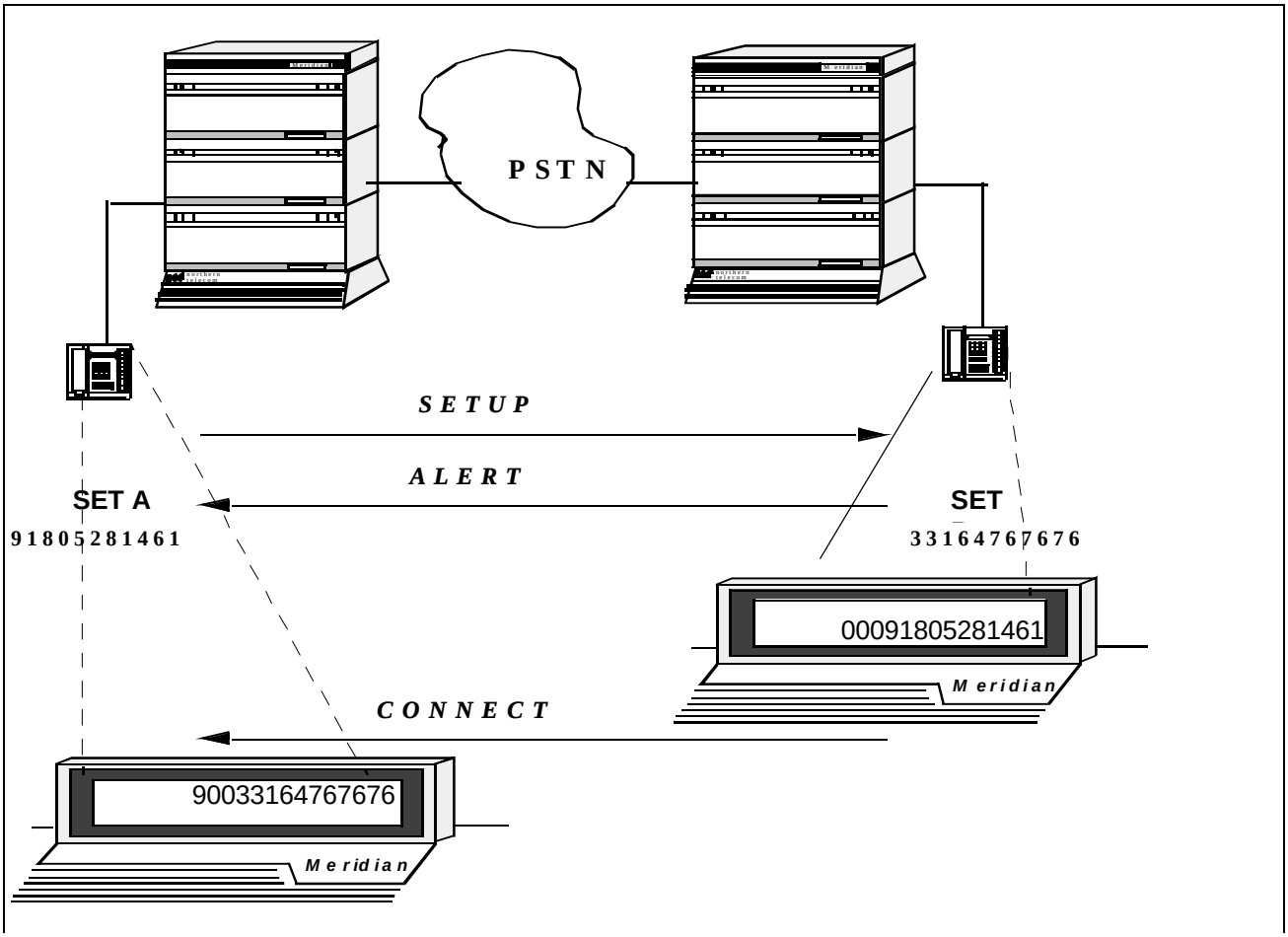
This feature is available to the international market.

Display of Access Prefix on CLID

The purpose of the new feature 'Display of Access Prefix on CLID' is to enhance the content of the set display which can be used by applications such as ORION 'Call Log'. The Meridian 1 applications ORION 'Call Log' are used to call back some stored numbers which are either calling or called numbers. Both applications store these numbers directly from individual set's display.

The Access Prefix is added to the normal CLID/CONN# display. The Prefix is obtained from a table maintaining values for all the allowed NPI and TON combinations. The feature is supported for MDT sets, mobile sets and ATT console. The feature is not supported on analog 500 and 2500 sets, but the feature is supported on mobile sets (Companion, MDECT) which are identified as part of 500 series sets. If the CLID is not available then the trunk access code and the member number are displayed as per the existing operation.

The new feature, as the old ADDP feature, should be enabled from the route data block at the modified prompt DAPC. The feature should also be enabled from the set or ATT data block for a set or an ATT display respectively. A prefix table is associated with the Route Data Block when the feature is enabled. This table has Access Prefix values for the various allowed NPI and TON combinations. Based on the values of NPI and TON of the incoming trunk call, Access Prefix to be displayed is retrieved from the associated table and prefixed for both the CLID and CONN# display. The Access Prefix display is supported for all ISDN routes.



Display of Access Prefix added to the CLID and CONN# display.

The figure illustrates the Access Prefix display in both the calling set A (91805281461) and called set B (33164767676). The prefix display for set A is 900 and in set B is 000. The digit 9 in set A and the first digit 0 in set B corresponds to trunk access number in the respective PABX and the remaining 00 corresponds to international number.

This feature is available to the international market.

Boss/Secretary Filtering Enhancements

This feature allows filtering of calls to a set designated as a “Boss set”, by a set designated as a “Secretary set” which then has the option of transferring the call to the boss. The main intent of the feature is to transfer the manipulation responsibilities from the boss to the secretary. This feature is an enhancement of existing Call Forward Busy Status feature (BFS). The existing BFS feature is used for CAS (Central Answering position). The BSFE feature has no impact on the CAS feature. BSFE feature is associated on a set basis. To have the BSFE feature, all the boss’s and secretary’s sets should have this feature configured at set basis.

Boss Sets: A boss’s set should be a Digital/Aries/Sl1 set. When there is an incoming call to the boss, the “BFS” key lamp of the boss’s set will operate as a normal DN key in non-ringing mode and the display of the boss’s set will be updated with the calling party’s details. It is possible for the boss to override this filtering and accept a call by pressing the “BFS” key.

Secretary Sets: A secretary set should be a Digital/Aries/Sl1 set. A secretary will have a key lamp pair which is used to monitor the status of the boss’s set. The lamp indicates the status of the boss’s set. The secretary can autodial boss DN using the BFS key. The secretary can override filtering and place a call to the boss using the “BFS” key of boss on its set.

Existing Feature Operation:

If there is a call to the boss, the call will be forwarded to the secretary if BFS feature is active on boss’s set. Secretary has to use the transfer key to transfer the call back to the boss.

The BFS key has a functionality of an autodial key, if the secretary’s set is receiving dial tone or special dial tone.

To activate the filtering of calls, the boss has to use the Call Forward key to activate BFS. Pressing the Call Forward key again deactivates the call forward and the calls are presented to the boss’s set.

A Secretary can activate BFS feature on the boss’s set by pressing the BFS key of the boss on its set. This will lit the Call forward key lamp on the boss’s set. All the calls coming to the boss’s set will be forwarded to secretary’s set for filtering. Secretary can deactivate BFS call forward on boss’s set by pressing the BFS key of the boss on its set for the second time.

The modification of the BFS status can be done only by the boss and the secretary to which the boss has activated BFS. All the secretaries can override BFS feature and call the boss by pressing the BFS key of the boss on their sets, irrespective of whether BFS feature is active on boss’s set or not. The boss’s set has no visible indication on its set if there is any incoming call to it when the BFS feature is active. It is not possible for the secretaries to know to which set the boss has activated BFS.

Configuration of the lamp status on the LCD indicator according to the status of the boss is not possible.

New Feature Operation

If there is a call to the boss, the call will be forwarded to the secretary if BSFE feature is active on boss's set. The secretary can transfer the call to the boss by using the BFS key. The secretary can complete the call transfer by pressing the BFS key on his set for the second time, or the boss can take the held call on the secretary's set by pressing his BFS key. In this new feature the BFS key will have an additional functionality of a transfer key in addition to an auto dial key. There is no need to use the transfer key to transfer the call to the boss. If desired, it is still possible to transfer the call using the transfer key.

BSFE feature can be activated or deactivated on the boss's set, using BFS keys on Boss/ Secretary sets.

Boss and any of the secretaries which come under this Boss-Secretary configuration can modify the filtering from their respective sets by pressing the BFS key of the boss on their sets. By this, the calls to the boss's set are now forwarded to the new secretary who has pressed the BFS key on his set.

If BSFE feature is active on boss's set, the boss's set display will be updated with the calling party's number/name when there is an incoming call to it. The BFS key lamp indicator on boss's set will operate in non-ringing mode. The boss can accept the call by pressing the BFS key.

Pressing of DSP key and then the BFS key of the boss on any set which come under this configuration will provide the information to which target secretary DN the boss's set has BSFE call forwarded in the format "Forward To DN xyzu" and blank screen if BSFE feature is not active on the boss's set.

Configuration of the lamp indication for boss states, on the LCD indicator is possible in customer data block.

This feature is available to the international market

Information Notification Service for Japan

(This feature is under controlled release in Japan)
This feature is designed in order to receive Calling party Number over Analog trunks. Feature is specific for Japan only. The calling party number will be received over an FSK modem in terms of tones, then calling party digits will be sent to Meridian SI1 software by SSD messages.

This feature is available to the Japan market only.

Make Set Busy Improvement

The Make Set Busy Improvement feature offers the ability to provide an audible notification (e.g., ringing, buzzing, etc.) to non-ringing keys when all the ringing appearances of the same DN have activated Make-Set-Busy. The non-ringing keys can be either Single Call Non-Ringing (SCN), Multiple Call Non-Ringing (MCN) or Private Line Non-Ringing (PVN).

Typically, the Boss-Secretary configuration implies that the DN on a secretary phone is ringing while it is non-ringing on the boss phone. Thus, incoming call directed to the DN key receives audible notification only on the secretary phone, while on the boss phone the DN key only flashes.

The MSBI feature allows the secretary phone to change the non-ringing operation of the boss phone by activating Make Set Busy on the secretary phone. In this case, incoming call directed to the DN key receives audible notification on the boss phone.

This feature is available to the international market.

Call Centre

Multiple Queue Assignment Enhancement (Release R24B and later)

The MQA Enhancement extends the Default login functionality currently available today to sites using Meridian Link Set Feature Invocation Login message in conjunction with MQA.
The current operation of the MQA feature allows agent roaming so agents have the flexibility to use any ACD set. MQA allows agents to service up to five ACD directory numbers simultaneously. Agents must dial in an Agent ID followed by a sequence of queues. It also allows the agent to select a priority associated with each queue and to select the supervisor ID with whom they wish to be associated.

This feature is available to the international market.

ACCL Enhancements

In the existing ACCL feature user used to receive 10 burst of dial tones followed by a steady dial tone. The existing ACCL feature is modified so that user should be able to receive a steady dial tone rather than receiving 10 burst of dial tones. This steady dial tone is configurable in overlay 88.

So, the user will dial
Address digits + RAN Message to the user (if configured) + Steady dial tone
+ ACCL digits.

This feature is available to the international market.

ACD: Activity Codes for Not Ready

This feature is known as Activity Codes for Not Ready State. Before the introduction of this feature, an agent was able to use the Activity Code key (ACNT) during ACD calls only, to indicate which call-associated tasks the agent was carrying out whilst servicing the ACD call. There was no means of tracking the activities being carried out (post-call) when the agent was in the Not Ready state.

With the introduction of Activity Codes for Not Ready State, the agent is able to use the existing ACNT key to enter a four digit code to track (customer defined) activities to a MAX system. When the Not Ready key is activated by the agent, the ACNT key will wink, with display indication, to enter an activity code for the work presently being carried out. When the agent has finished entering the four digit code, the ACNT key is pressed again and an Activity Code message is sent via the High Speed Link to the MAX system. The agent can also change the ACNT code subsequent to the first activity whilst still in the Not Ready state, to indicate further activities, until the Not Ready key is deactivated and normal call answering resumes.

This feature will support the 32 digit entry which is possible with the Symposium product, as does the existing Activity Code feature. It will also support new AML messaging for Symposium Meridian Link and Symposium TAPI server software.

This feature is available to the international market.

Network

QSIG Channel ID coding PI (Release R24B and later)

This product improvement provides, for QSIG GF interfaces, the capability of configuring the mapping between the channel number field in the Channel ID IE and timeslot number for the timeslot 17 to 31 on a PRI2 loop. The way the timeslot 1 - 15 are coded in the channel id is not changed.
Two configurable options on per D-channel basis are available:
The channel number of the CHID IE matches the timeslot number. In other words, timeslot 17 - 31 are coded channel 17 - 31. It is the previous behavior on M1.
The channel number of the CHID IE matches the internal channel number. In other words, timeslot 17 - 31 are coded channel 16 - 30.

This feature is controlled release in Asia Pacific.

1.5/2.0 Mbps ISDN Gateway

A 1.5 / 2.0 Mbps Gateway refers to a digital trunk connectivity to allow interworking of T1 and E1 connections, for ISDN PRI/DTI trunks. This feature supports 2.0 Mbps (E1 connections) in addition to 1.5 Mbps (T1 connections) on the same Meridian 1 switch in North America. The connections will be programmable as either A-law or m-law. Thus the Meridian 1 switch will function as a gateway between a North American Network and an International network.

International 1.5 / 2.0 Mbps Gateway Functionality is a X11 International Phase 7 packaged (Pkg167, GPRI pkg) feature. The feature was not intended for the North American market and was never deployed in North America.

The purpose of this feature is to formally introduce the Gateway functionality, both hardware and software, to the North American market. This feature also packaged under package 167 (GPRI pkg).

This feature is available to the international market.

DPNSS Message Monitoring

Existing monitoring formats
When monitoring a specific DPNSS1 link, incoming and outgoing messages (long format) are monitored.
The format for incoming DPNSS1 signalling messages is :
DPI :R/V <DDCS#> <U_CHANNEL> <CHANNEL_STATE> <message type> <message contents>
The format for outgoing DPNSS1 signalling messages is :
DPO :R/V <DDCS#> <U_CHANNEL> <CHANNEL_STATE> <message type> <message contents>
When monitoring on a DASS2 link, the format for the messages is the same. Only DP is replaced by DA.
Two output formats of the signalling messages are available : the short one and the long one.

New monitoring format
A new output format of the signalling messages is available for DPNSS1: the decoded one. The decoded format is a more understandable format for all the users to have the decoded names of the strings in signalling messages. The first part of the message does not change. Only the part <message contents> changes. The decoded format is the implementation of these changes.

New commands are added in the Overlay 75, which are able to enable or disable the monitoring of the DDSL, and are able to enable/disable the monitoring of incoming/outgoing messages.

This feature is controlled release in Asia Pacific.

ISDN QSIG/ETSI GF Enhancements

This feature enhances the existing ISDN QSIG/ETSI Generic Functional (GF) transport platform.

This ISDN QSIG/ETSI GF transport platform provides the means to exchange signaling information for the control of Supplementary Services (SS) over a Private/Public Integrated Services Network.

The ISDN QSIG/ETSI GF transport platform and its enhancement are compliant to ISO/IEC DIS 11582, ETS 300 239 and ETS 300 196-1.

The improvement of ISDN QSIG GF transport platform consists in:

- Allowing Call Independent gateways from QSIG to EuroISDN, MCDN and DPNSS signaling protocol. In particular, QSIG Call Independent GFT- Control is modified so that at these gateways, the CONNECT message is not “systematically” sent after receipt of a QSIG SETUP message, but the control is left up to the Supplementary Service using ISDN QSIG GF. This Supplementary Service can then take appropriate action regarding its particular standard definition and implementation, thus allowing the complete gateways support.

- Providing the capability on transit QSIG node to intercept or not facility IE carried in call related SETUP message with NFE set to EndPinx and deliver it to the appropriate Supplementary Service or ANF.

- Compute the exact length available for Facility IE on a per message basis based on the presence and exact length of other Information Element rather than on the maximum length taken up by other mandatory and optional IEs supported in the given message. The improvement of ETSI GF transport platform consists in:

- Compute the exact length available for Facility IE on a per message basis based on the presence and exact length of other Information Element rather than on the maximum length taken up by other mandatory and optional IEs supported in the given message.

Note: the ISDN QSIG/ETSI GF transport platform does not by itself control any Supplementary Service but rather provides a generic transport platform that supports QSIG/ETSI compliant Supplementary Service. Procedures for the control of individual Supplementary Service based on these generic procedures are defined in individual Supplementary Service specification or may be manufacturer-specific, and they are outside of the scope of the ISDN QSIG/ETSI GF transport platform and its enhancement.

This feature is controlled release in Asia Pacific.

QSIG/EuroISDN Call Completion Enhancements

All gateways ETSI-T/QSIG-Q/MCDN/DPNSS are supported. In the Figure below, a user located anywhere in the network can activate Ring Again on Busy to any other user of the network.

All EuroISDN countries including Master Mode are allowed to support EuroISDN Call Completion.

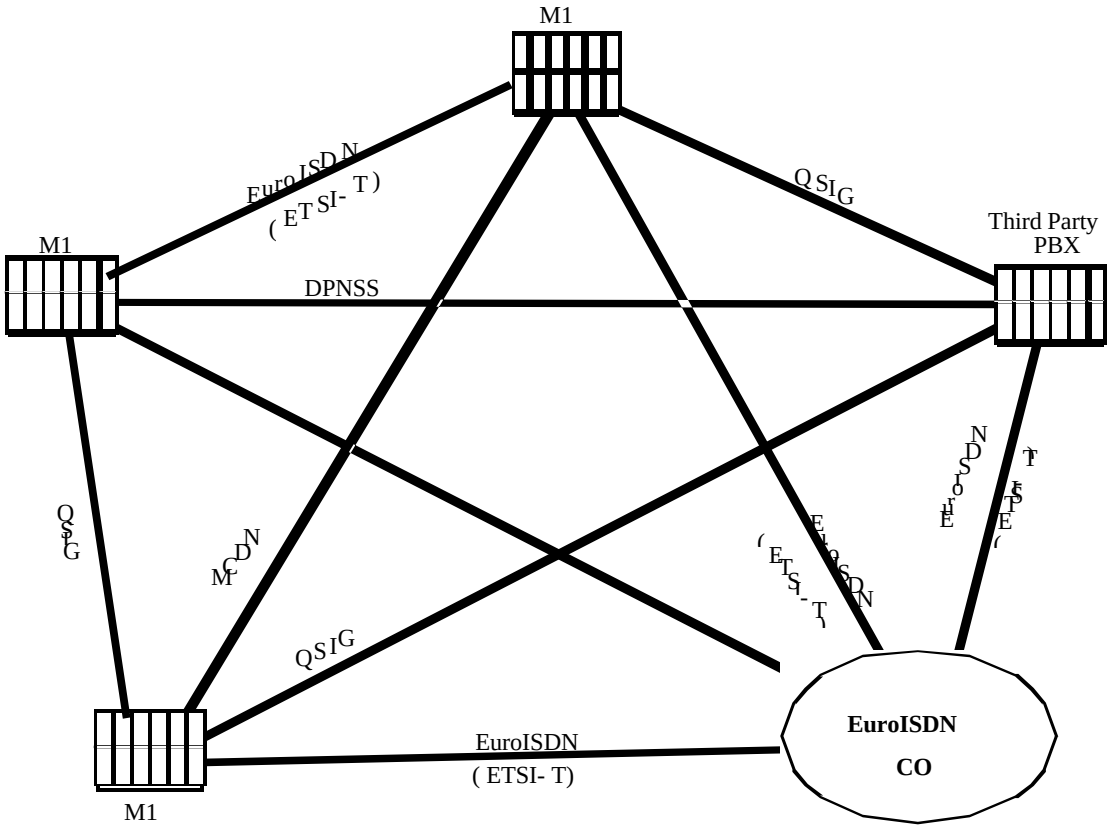


Figure 3: DPNSS/MCDN/QSIG/EuroISDN gateways

This feature is controlled release in Asia Pacific.

QSIG Alternate Routing

This feature provides the capability of rerouting a call progressing on a QSIG (ETSI or ISO) network and rejected during its establishment due to a congestion. The next free alternate route is used for the alternate call at the node where a call clearing message with a congestion information is received.
More generally, this functionality is configurable on any route and activable on any UIPE based ISDN protocol. However, usage of the feature for an ISDN other than QSIG would require further verification.

An example of Qsig Alternate Routing operation is illustrated in the following figure:

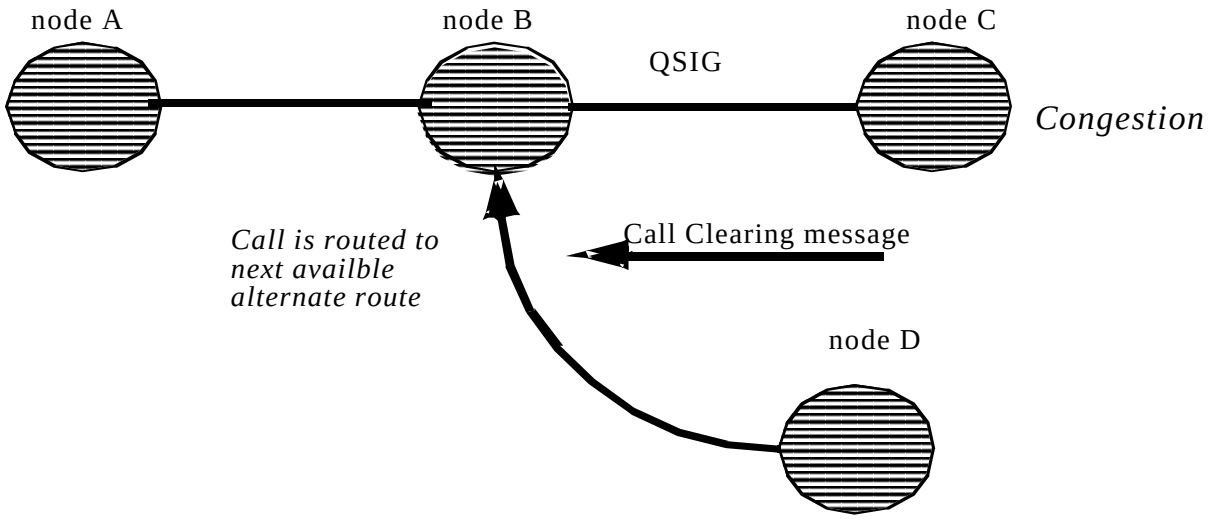


Figure 4: Alternate Routing example

Before this feature, alternate routing on QSIG was only provided at the time the route is seized. When all the trunks of the first choice route in the route list are busy, the second choice is used to route the call, but no alternate routing occurred when a call clearing message with congestion information was received. Only a retry mechanism, existed on receipt of a RELEASE COMPLETE message with cause 44 " requested channel not available " or 82 "identifier channel doesn't exist" to find another idle trunk in the same route.

As per configuration in each entry of the route list, the alternate route can now be taken from any node after a congestion is encountered.

Qsig Alternate Routing is achieved in both enbloc and overlap dialing on receipt of DISCONNECT or RELEASE COMPLETE message if the clearing cause is configured to trigger it.

Two configurable options in the route list (ESN data) exist for the clearing causes supported by this feature:

Option 1 cause values are:

- cause 34 " No channel / circuit available"
- cause 38 " Network out of order"
- cause 42 "Congestion"

Option 2 cause value are:

- cause 27 " Destination is out of service"
- cause 34 " No channel / circuit available"
- cause 38 " Network out of order"
- cause 42 "Congestion"

Note: Causes 38 and 42 are not defined in QSIG standards but in Q931.

This feature is controlled release in Asia Pacific.

QSIG Call Diversion Enhancements

The Release 23 feature QSIG Call Diversion Notification allows the Meridian 1 to support the notification of originating and diverted-to users within three different services: Call Forwarding Unconditional (CFU), Call Forwarding Busy (CFB) and Call Forwarding No Reply (CFNR).

These services allow a user to forward incoming calls to his/her set to a different set. This forward can be triggered by different reasons:

- Unconditionally for CFU, i.e. as soon as a call reaches the forwarding set. On the Meridian 1, this is known as Call Forward All Calls,
- When the forwarding DN is busy for CFB, i.e. when the forwarding set is already in use. On the Meridian 1, this is known as Hunt,
- When the forwarding set user does not answer for CFNR, i.e. after a given number of rings occurred. On the Meridian 1, this is known as Call Forward No Answer.

Providing the Call Diversion Notification on a QSIG private network basis allows the originating and diverted-to parties to be notified that a diversion occurred. Notification of these parties is provided on their display.

QSIG diversion notification was introduced in Release 23. In Release 24, this feature will be enhanced by providing MCDN and DPNSS gateways. The originating and diverted to user will now be notified of the redirection even if they are connected through an heterogeneous network using QSIG, MCDN and DPNSS links.

This feature is controlled release in Asia Pacific.

QSIG Integer vs Object ID: QNDS & QCC

QSIG Name Display and Call completion SS introduced in Release 22 only supported ETSI object ID coding method. Now with this feature in Release 24, the ISO integer coding method will also be supported. The development will introduce changes both in QSIG SS Name display feature and QSIG SS Call completion feature.

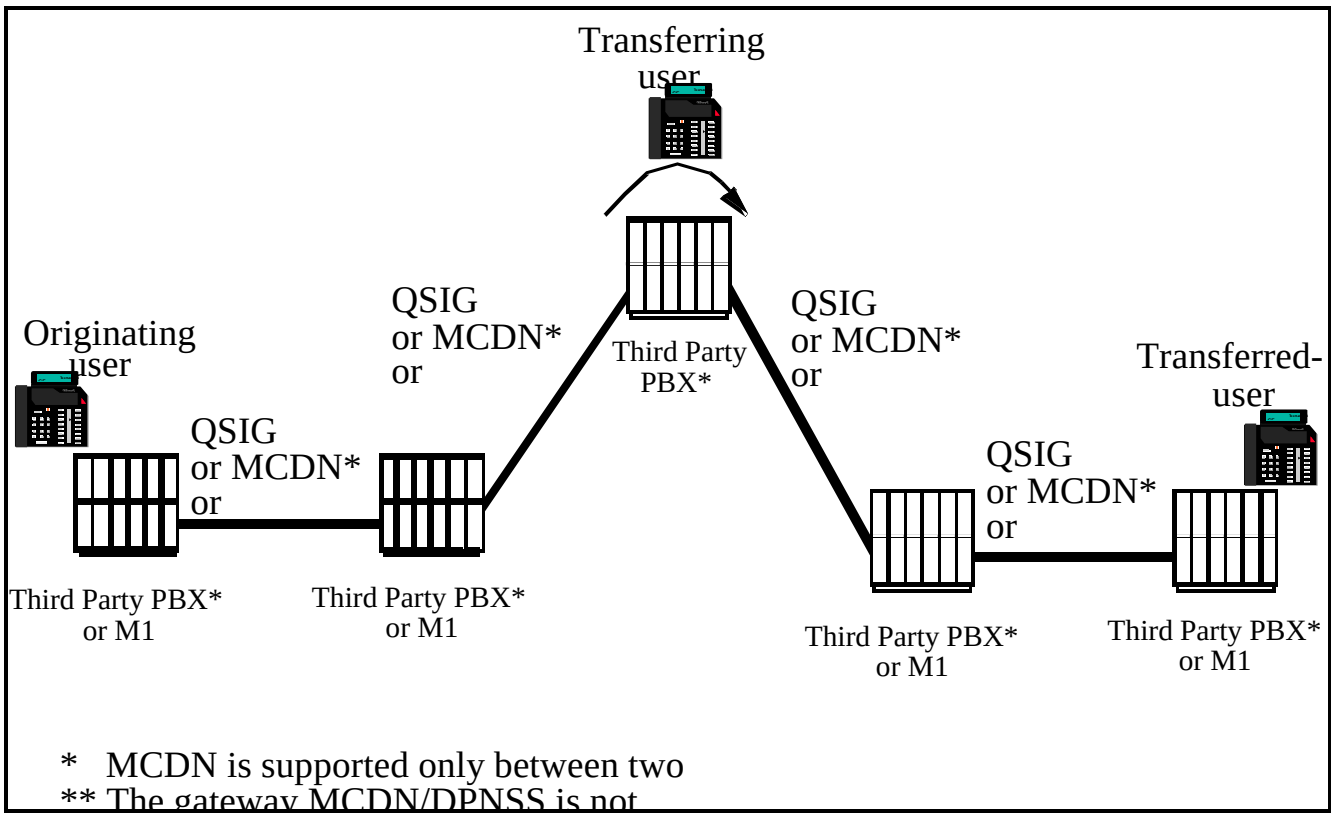
This feature is controlled release in Asia Pacific.

QSIG SS Call Transfer **Notification**

The QSIG Call Transfer Supplementary Service is developed as described in the ETSI specifications as well as ISO standards.

It enables a user to transform two of that user's calls into a new call between the other two users of these two calls. The QSIG Call Transfer Supplementary Service is implemented with the **transfer by join** method.
Note that after completion of the transfer by join, QSIG Path Replacement can be triggered, if configured, in order to obtain a more efficient connection if necessary.

Since Release 20, QSIG call transfer by joining together the connections of the primary and the secondary QSIG calls at Transferring PINX is available, but there is no protocol message exchange between the nodes to indicate the call transfer notification.
This present feature provides the notification of the transfer to the Originating and to the Transferred-to parties. This information is used by the Meridian 1 for the display and for the CDR record features.
As equivalent services are supported on MCDN and on DPNSS, the gateways QSIG/MCDN and QSIG/DPNSS are also implemented.



This feature is controlled release in Asia Pacific.

MCDN Alternate Routing

This feature provides the capability of re-routing a call progressing on a MCDN network and rejected during its establishment due to congestion. This feature provides automatic re-try capabilities both at the Originating Node and at the Tandem Node.

This feature is available to the international market.

MCDN End to End Transparency

MCDN network services developed by Nortel are based on proprietary specific ISDN signaling. In order to extend the life cycle of these MCDN applications and their market reach, we need to provide a way to convey MCDN proprietary services over a standardized interface. This is called

MCDN End to End Transparency (MEET). The figure below describes MEET principle.

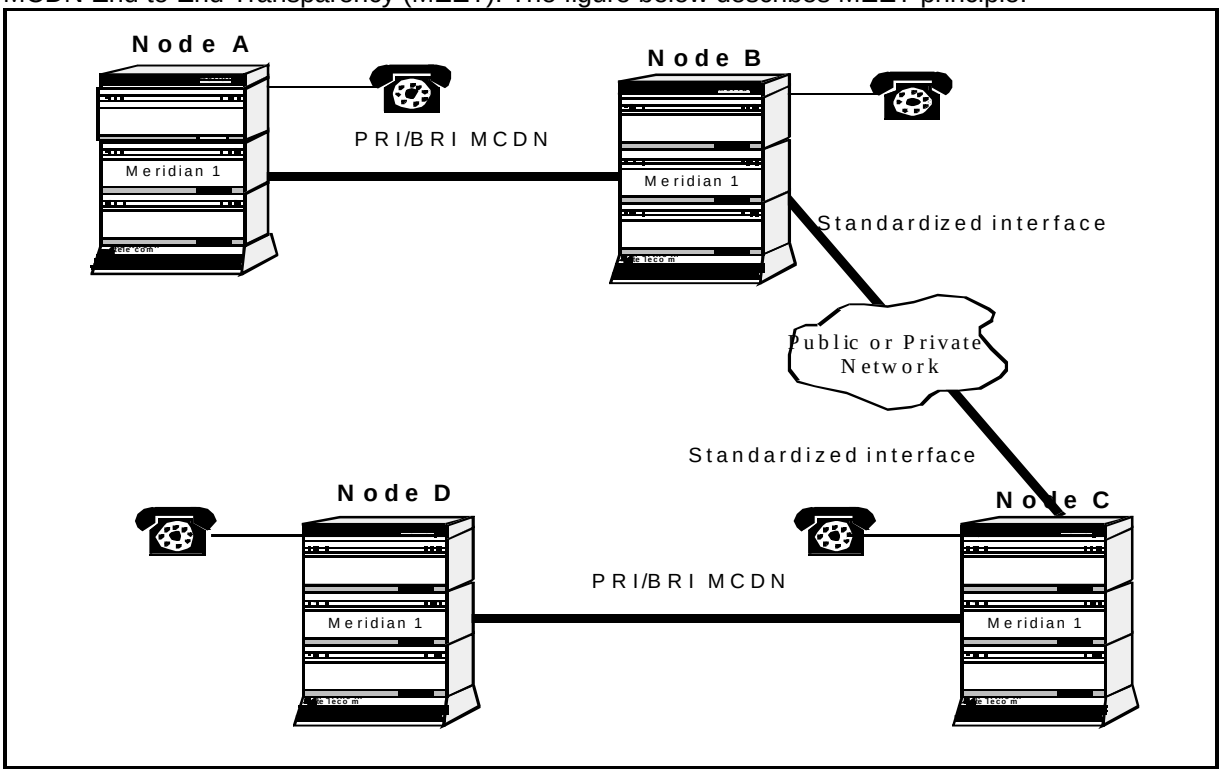


Figure 6: Generic principle of the MCDN End to End Transparency

Three standardized interfaces: DPNSS, EuroISDN (DSS1) and QSIG could meet these requirements. DPNSS defines a private network signaling system used between PABXs and already offers a number of MCDN features in either a DPNSS or mixed MCDN/DPNSS network. DSS1 defines an access protocol to public networks and is in the way to be modified for VPN (Virtual Private Network) applications. QSIG defines a private network signaling system used between PABXs from multiple vendors and allows Nortel to carry its proprietary signaling system **transparently** either in a QSIG network or in a mixed MCDN/QSIG network.

In a first part of the project, only MCDN End To End Transparency (MEET) within QSIG will be implemented.

On another hand, it must be noted that each time a new standardized QSIG supplementary service will be implemented on the Meridian1, it will have priority on the corresponding encapsulated MCDN supplementary service (if it exists). The MEET feature supports both ETSI QSIG and ISO QSIG standards.

MEET within QSIG development is made of four distinct parts:

- an enhancement of the generic MCDN QSIG conversion tool to provide the MCDN QSIG gateway for the MCDN Supplementary Services (SS) which are encapsulated,
- encapsulation of MCDN Network Attendant Service (NAS) feature within QSIG,
- encapsulation of MCDN Network ACD (NACD) feature within QSIG,
- encapsulation of MCDN Network Message Service - Message Center (NMS-MC) and Network Message Service - Meridian Mail (NMS-MM) features within QSIG.

This feature is controlled release in Asia Pacific.

Euro ISDN Compliance Update

The EuroISDN ETS 300-403 Compliance Update feature provides the ISDN Primary and Basic Rate Interfaces to central offices that comply with **ETS 300 403-1** ETSI standard (modifications of ITU-T Recommendation Q.931-1993 for layer 3 protocol). The main enhanced functionalities are:

- Supporting the signaling procedures for bearer capability and High Layer Capability selections by means of providing repeatable Bearer capability, High layer compatibility IEs in SETUP message. ALERT, CALL PROCEEDING, CONNECT, and PROGRESS messages can be used by the called user to confirm the selected Bearer Capability / High Layer compatibility. These changes aim at providing higher quality bearer services or teleservices with alternate bearer capability or high layer compatibility in case of fallback.
- Supporting Basic telecommunication service identification. In fact, each basic telecommunication service has the required Bearer capability IE encoding and, if applicable, the required High Layer compatibility IE encoding defined for that service. The requested teleservice is identified by taking the presented Bearer capability and High layer compatibility information elements in all combinations. If there is no valid combination, the presented Bearer Capability IE is considered in order to identify a bearer service.

This feature is controlled release in Asia Pacific.

Asia Pacific ISDN Phase III - Hong Kong - India - Philippines - Singapore - Taiwan

This feature is required to develop Q.931 ISDN protocol on Primary and Basic rate interfaces for India, Taiwan and Philippines; and to develop enhancements to Hong Kong and Singapore.

Hong Kong, Taiwan and Singapore ISDN interface are generally released. **Basic Rate is generally released in India, however, Primary Rate is under controlled released. Philippines ISDN, both Basic and Primary Rate are under controlled released.**

Australia ETSI

This feature is designed in order to comply with the ETSI ISDN requirement for Australia. The supplementary services, Advice of charge and Malicious Call Trace will be provided.

This feature is available to the Australian market only.

Taiwan R1 MF

Taiwan R1 Modified Signaling is one of the major signaling systems in Taiwan, which is widely accepted as a standard for interconnection between Customer Premises Equipment (CPE), Central Office (CO), and Carriers. In line with our continuous market penetration and business development in the tier 1 M1 Core and Application market, we have the need to support Taiwan R1 Modified Signaling which has the capability to carry CLID across the public or private network. The CLID feature is becoming a MUST for the Call Center application. Furthermore, Taiwan R1 Modified Signaling will provide M1 the opportunity to grow in other vertical markets such as Banking and Finances, Military industry, Paging and Wireless Interconnection. Taiwan R1 Modified Signaling will be utilized as M1's market positioning in the next few years until Taiwan ISDN matures to full swing in the market.

This feature supports the Taiwan R1 Modified Signaling (TWR1) protocol with CLID supported for local/national calls over DTI trunks. The CLID received is displayed on the answering terminal and made available to applications such as ML, CCR, MM, MMAX, ACD MAX via the Application Module Link (AML), Application Processor Link (APL) and High Speed Link (HSL).

The Taiwan R1 Modified Signaling feature supports the M1 operation as a Stand-alone PBX or as a Network PBX.

A new version of the existing DTI cards is needed to support this protocol. The firmware for the DDP NT5D12AA card for large systems and the DTI/PRI (1.5MB) NTAK09BA card for the Option 11C system need to be changed to send a timed wink.

The following areas are handled as part of the feature development to support the M1 as a Stand-alone PBX:

1. The various line signaling and register signaling timing requirements of the Taiwan R1 Modified Signaling system

2. Taiwan R1 Local/National Call with CLID request

   - For an incoming local/national call, this includes:
     - Receiving the called number
     - Sending the CLID request wink signal
     - Receiving the CLID digits

   - For an outgoing local/national call, this includes:
     - Sending the called number
     - Receiving and validating the CLID request wink signal
     - Generating the CLID information and sending it

3. Taiwan R1 International Call

   - For an incoming international call, this includes:
     - Receiving the called number
     - Sending the CLID request wink signal. Incoming international calls are treated the same as incoming national calls. The CLID request wink is sent to the far end, but no CLID is available; instead CLID failure indication is received.

   - An outgoing international call uses two stage outpulsing of the called number. The first stage includes the international call access code and the second stage includes the country code and the subscriber number. The second stage of outpulsing is started by the M1 when the “second stage outpulsing request” wink signal is received from the CO.

     For an outgoing international call, the areas of development include:
     - Sending the international access code as the first stage of outpulsing
     - Receiving and validating the “second stage outpulsing request” wink signal
     - Sending the country code and called number as the second stage of outpulsing

In order to support the M1 as a Network PBX in Taiwan R1 Modified Signaling system, the following areas are handled in addition to the above mentioned areas for the feature development:

1. DTMF or DP -> TWR1
   For an DTMF or DP trunk incoming tandem call using DTMF or DP signaling, since no CLID is received, CLID failure indication is sent to the outgoing TWR1 trunk.

2. TWR1 -> DTMF or DP
   For a TWR1 trunk incoming tandem call, the CLID received is not sent to the outgoing DTMF or DP trunk.

3. MCDN/QSIG -> TWR1
   For an MCDN/QSIG trunk incoming tandem call, the received CLID is extracted and sent to the outgoing TWR1 trunk.

4. TWR1 -> MCDN/QSIG
   For a TWR1 trunk incoming tandem call, the received CLID is extracted and sent to the outgoing MCDN/QSIG trunk.

5. Taiwan ISDN -> TWR1
   For a Taiwan ISDN trunk incoming tandem call, the received CLID is extracted and sent to the outgoing TWR1 trunk.

6. TWR1 -> Taiwan ISDN
   For a TWR1 trunk incoming tandem call, the received CLID is extracted and sent to the outgoing Taiwan ISDN trunk.

This feature is available to the Taiwan market only.

Application

NGen R2/MCE Connectivity (from Release 23C)

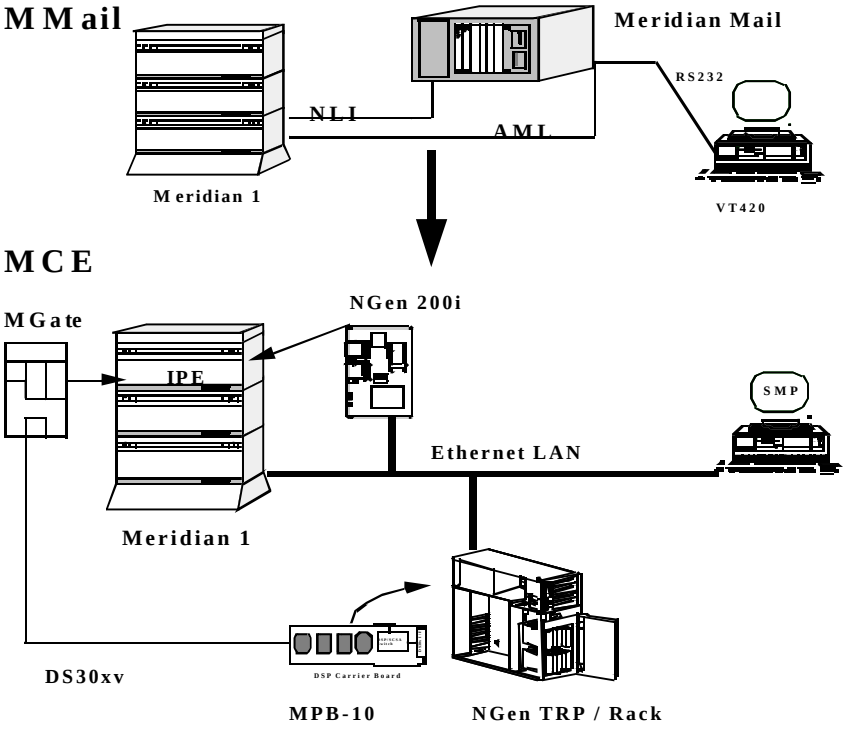
This feature supports the next generation messaging system. This involves new hardware, and changing the switch messaging call model.

New Hardware:
The new hardware includes Nortel 200I series server for next generation messaging that is integrated into the switch, and Nortel Mgate card for off-switch messaging configurations where the messaging system is resident in a tower or rack platform

New Switch Messaging

The MMail messaging call model is switch-centric. Call presentation to MMail DSPs is controlled from the switch using ACD queue(s). The objective of this development is to provide a call-center type call model which will provide for integration of Symposium Call Center Server and MCE as some time in the future. Callers to MCE now terminate on a CDN, giving MCE more flexibility in terms of which multimedia port to direct the call towards and what type of flexible treatments are available to callers during MCE services such as thru-dial.

This feature is available to international market.



N Digit DNIS

In telemarketing environments, Dialed Number Identification Services (DNIS) can reduce the time needed to serve a call. The DNIS number represents product lines or services. The DNIS number can be used to route the call to the appropriate Automatic Call Distribution (ACD) Directory Number (DN) and then can be used on the agent's display or screen to show what service or product the caller wants. The ACD agent can then answer incoming calls with the correct responses.

N digit DNIS is to modify the number of digits currently supported, from 1-7 digits, to up to 31 digits. This change in information is to be preserved across call modification as per X11 Release 19 and the digits are sent across the Applications Module Link (AML).

With N digit DNIS feature in case the DNIS number dialed is very long, the number of digits that is displayed depends on the display capacity of the terminating set type. Example: If the DNIS digits dialed are 1234567890123456789 and the terminating set is an Aries set then only underlined digits i.e., 890123456789 will be displayed.

This feature is available to international market.

Companion

Meridian Companion Enhanced Capacity

This feature is introduced to increase the capacity of an MCMO (Meridian Companion m Mobility option) or MC DECT (Meridian Companion DECT) cordless system by allowing an increased number of sets to be provisioned on the relevant linecard.

Currently, both the MCMO and the MC DECT linecard appear to the host M1 system as a standard analog linecard when it is installed. Using the same messaging interface between the M1 and the linecard allowed the MCMO (and subsequently MC DECT) system to be developed as an integrated product with minimum X11 changes. The software changes required to control the cordless call by means of the radio basestation were implemented on the linecard itself by interpreting the received call processing messages.

Due to power consumption limitations, the standard analog linecard (XALC, XFALC, XMLC etc.) is limited to a maximum of 16 sets, and up to 16 can be provisioned on any linecard. Because of the different hardware architecture for mobility linecards, this power limitation is not relevant.

The MC32 feature will allow up to 32 cordless sets to be provisioned on a single mobility linecard, effectively doubling the capacity. The changes are mobile specific and are transparent to existing analog linecards; in other words, they will still be limited to 16 units per linecard.

This feature is available to the International market MCMO systems using CT2Plus and PCI protocols only and Meridian Companion DECT will support this feature. In both cases changes to the relevant mobility linecards will be needed to support the increased density. For DECT this will be a software upgrade to the DECT cards, but for MCMO a hardware change to the lincecards is required.

Software Conversion

As X11 Global Release 24 will be deployed Internationally, automatic conversion will be available for X11 International software streams.

Direct conversion path exists from Release 16G (Phase 7C), Release 18H (Phase 8), Release 20, Release 21, Release 22, and Release 23 to Release 24 and apply to all Opt 11, and Opt 51-81C machines.

Machine Type	From	Via	To	Comments
Option 11	Phase 7A/B/C	------	Release 24.2x	Upgrade to Option 11C required
Option 11	Phase 8B.0/1/2	------	Release 24.2x	Upgrade to Option 11C required
Option 11E	Release 20	------	Release 24.2x	Upgrade to Option 11C required
Option 11E	Release 21	------	Release 24.2x	Upgrade to Option 11C required
Option 11C	Release 22	------	Release 24.2x	New flash daughterboard required
Option 11C	Release 23	------	Release 24.2x	New flash daughterboard required
Option 51	Phase 7A/B/C	------	Release 24.2x	Upgrade to Option 51C required
Option 51	Phase 8B.0/1/2	------	Release 24.2x	Upgrade to Option 51C required
Option 51	Release 20	------	Release 24.2x	Upgrade to Option 51C required
Option 51	Release 21	------	Release 24.2x	Upgrade to Option 51C required
Option 51C	Release 20	------	Release 24.2x	Some CE components upgrade required
Option 51C	Release 21	------	Release 24.2x	Some CE components upgrade required
Option 51C	Release 22	------	Release 24.2x	Some CE components upgrade required
Option 51C	Release 23	------	Release 24.2x	Some CE components upgrade may be required
Option 61	Phase 7A/B/C	------	Release 24.2x	Upgrade to Option 61C required
Option 61	Phase 8B.0/1/2	------	Release 24.2x	Upgrade to Option 61C required
Option 61	Release 20	------	Release 24.2x	Upgrade to Option 61C required
Option 61	Release 21	------	Release 24.2x	Upgrade to Option 61C required
Option 61C	Release 20	------	Release 24.2x	Some CE components upgrade required
Option 61C	Release 21	------	Release 24.2x	Some CE components upgrade required
Option 61C	Release 22	------	Release 24.2x	Some CE components upgrade required
Option 61C	Release 23	------	Release 24.2x	Some CE components upgrade may be required

Machine Type	From	Via	To	Comments
Option 71	Phase 7A/B/C	------	Release 24.2x	Upgrade to Option 81C required
Option 71	Phase 8B.0/1/2	------	Release 24.2x	Upgrade to Option 81C required
Option 71	Release 20	------	Release 24.2x	Upgrade to Option 81C required
Option 71	Release 21	------	Release 24.2x	Upgrade to Option 81C required
Option 81	Release 20	------	Release 24.2x	Some CE components upgrade required
Option 81	Release 21	------	Release 24.2x	Some CE components upgrade required
Option 81	Release 22	------	Release 24.2x	Some CE components upgrade required
Option 81	Release 23	------	Release 24.2x	Some CE components upgrade may be required
Option 81C	Release 21	------	Release 24.2x	Some CE components upgrade required
Option 81C	Release 22	------	Release 24.2x	Some CE components upgrade required
Option 81C	Release 23	------	Release 24.2x	Some CE components upgrade may be required

Software Packaging

Note. The information in this section should not be used to order software. Please use regional order forms already provided.

New Package Numbers Introduced

FEATURE	Mnemonic	Option Pkg	Avail in Int'l	Supported on Opt 11C	Package on Cont Release
NGenR2/Meridian Communications Exchange Connectivity (Call Pilot)	NMCE	364	Yes	Yes	-
Meridian Companion Enhanced Capacity	MC32	350	Yes	No	-
Data Buffering and Access	DBA	351	Yes	Yes	-
Flexible DID	FDID	362	Yes	Yes	Yes
MCDN End To End Transparency	MEET	348	Yes	Yes	Yes
Information Notification Service for Japan	ACLI	349	Japan only	Yes	-
Taiwan R1 Modified Signaling	TWR1	347	Taiwan only	Yes	-

Note. Packages on controlled release are available in some International countries. For all packages in controlled release a Product Release Authorisation needs to be in place prior to order fulfilment. Please contact your local Nortel office for further details.

New Feature Packaging

Following is a list of the new features, the package in which they are to be found. and the pre requisites needed to obtain full feature operation. For technical pre requisite dependencies, please refer to "Software Package Reference" in this document.

FEATURE	MNEM	NUM	New Feature Pre requisites
Dual signaling on analog trunks	Base	0	
Ringing instead of buzzing	Base	0	
OHT increase			126
MQA Enhancement			50,51,114,297
OHAS Half Disconnect Enhancement	Base	0	
QSIG-BC & QSIG-GF Compliance update			ISDN PRI2 QSIG : 145,154,202,222, 263, 305 ISL QSIG : 145,147,154,222, 263,305 ISDN BRIT QSIG : 145, 216,222,233,263,305
QSIG Channel ID coding			ISDN PRI2 QSIG : 145,154,202,222, 263, 305
TDMI on Option 11C			75,222
Inventory reporting			
End-to-end Signaling Display Enhancement	EES	10	
Option 11C Line Size Expansion Phase I			
Support Tool Enhancements : Bug 105 Enhancements NACD Source Table viewer			
Taurus Phase I			88,170
NI-2 / QSIG Compliance			ISDN PRA QSIG : 145,146,154,202,222,263 ISL QSIG : 145,146,147,154,263,(222 - for PRI only) ISDN BRIT QSIG : 145,216,222,233,263 PRA NI-2 Interface : 145, 146,222,291
510 Trunk Route Member Expansion	BASE	0	None
A/P ISDN Connectivity Phase III			19,75,145,154,202,216,222,233,283
ACD: Activity Codes For Not Ready	ACNT	155	With MAX : 50,51,114 With Symposium : 311
Automatic Hold	BASE	0	
Bearer Capability in CDR			4,5,234
Boss/Secretary Filtering Enhancements	BASE	0	
CALA ACCL Enhancements			Mandatory : 25,32,57,58,63 Optional : 07,22,59,125,131,162,327
Call Capacity Report Enhancement	BASE	0	
Call Redirection By Day	BASE	0	
CAS/AOP on Option 11C (from Release 23C)			No restriction on 26,27,56 co-existence
CLASS : Calling Number & Name Delivery (from Release 23C)			CNUM : 332 CNAME : 333,95
CLASS : Visual Message Waiting Indicator (from Release 23C)			46,332 or 333
CP4 software (from Release 23C)	BASE	0	
CTI Enhancements	ICCM	311	40,77,324,(50 - for Activity code in non SCCS Environment)
Data Buffering and Access	DBA	351	296
Display of Access prefix on CLID	ISDN	145	None
Distinctive Ringing by DN			125,185 over ISDN : 74,145,161
DPNSS Monitoring			123,124
ETSI Australian ISDN			145,146,154,184,202,216,222,233,261 (81,99,101,131 - for AOC),(81,107,131,139,159,161,162 - for MCT)

FEATURE	MNEM	NUM	New Feature Pre requisites
EuroISDN ETS300-403 Compliance Update	EURO	261	PRI : 19,145,154,161,202,222 BRI : 19,145,161,202,203,216,233 OVLP : 184 (OVLP dependancies : 14,32,154,160,(57or 58 if UDP),(59if CDP)) EuroISDN interface : 283, 284 CDR : 4,5,118,234
Flexible DID	FDID	362	49,81,99,100,113 with PMS : 103
Information Notification Service for Japan	ACLI	349	97, (package UK(190) incompatible)
Instant Incremental Software Management			
ISDN QSIG SS : Name display Enhancement	QSIG-SS	316	ISDN PRI : 145,146,222,263,305 ISDN PRI2 : 145,154,202,222,263,305 ISDN BRIT : 145,216,222,233,263,305 Name display : 19,95,139,301,(131for presentation restriction)
ISDN QSIG/ETSI GF Enhancement			ISDN PRI QSIG : 145,146,222,263,305 ISDN PRI2 QSIG : 145,154,202,222, 263, 305 ISL PRI QSIG : 145,146,147,222, 263,305 ISL PRI2 QSIG : 145,147,154,222, 263,305 ISDN BRIT QSIG : 145, 216,222,233,263,305
Make Set Busy Improvement	MSB	17	for analog 500/2500 telephones : 99,139
MAT R24 Concurrency			164,242,296 Alarm management & Maintenance Windows : 246
MCDN Alternate routing			57,58,59,145,146
MCDN End To End Transparency	MEET	348	ISDN PRI : 145,146,148,222,263,305 ISDN PRI2 : 145,148,154,202,222,263,305 ISDN BRIT : 145,148,216,222,233,263,305 For NAS : 14,28,32,58,59,61,86,148,159,161,192 incompatible : 26,27,56 For NACD : 14,19,28,32,40,41,58,148,178,207, (57 or 59) For NMS-MC : 46, 148, 175 (with ACD 40,41,42,45) For NMS-MM : 10,35,40,45,46,77,148,175
Meridian Companion Enhanced Capacity	MC32	350	240 (Not for Option 11C)
Message Waiting by DN	MW	46	90, 246
MSLD/DDP Enh. :Status Enquiry Message Throttle	MSDL	222	145, 146, 147, 154
MSLD/DDP Enhancements :Idle Code Selection	DTI or PRA	75 or 146	(145 - for ISDN)
MSLD/DDP Enhancements :Port Overload Counter	MSDL	222	
N Digit DNIS	DNIS	98	19,45,113 DNIS N° > 4 digits : 234
NGenR2/Meridian Communications Exchange Connectivity (Call Pilot)	NMCE	364	41,46,77,95,153,164,214,215,218,242,247,243,254,296,324 Optional: For Networked Messaging: 175
North America 1.5/2.0 Mbps Gateway	GPRI	167	75,129,145,146,154,202
Process Notification for Networked Calls	MFC	128	(7,125 optional)
QSIG Alternate Routing	QSIG	263	57,58,59
QSIG Call Transfer Notification	QSIG-SS QSIG GF	316 305	ISDN PRI : 145,146,222,263 ISDN PRI2 : 145,154,202,222,263 ISDN BRIT : 145,216,222,233,263 Notification Display : 19,95 DPNSS gateway for call transfer : 122,123,231
QSIG SS Call Diversion Enhancements	QSIG-SS	316	ISDN PRI : 145,146,222,263,305 ISDN PRI2 : 145,154,202,222,263,305 ISDN BRIT : 145,216,222,233,263,305 Notification Display : 19,95 CDP,UDP : 57,58

FEATURE	MNEM	NUM	New Feature Pre requisites
QSIG/EuroISDN Call Completion Enh :			
QSIG Call Completion			ISDN PRI : 1,19,57,58,59,145,146,160,222,263,305,316 ISDN PRI2 : 1,19,57,58,59,145,154,160,202,222,263,305,316 ISDN BRIT : 1,19,57,58,59,145,160,216,222,233,263,305,316 For OVLP : 184
EuroISDN CCBS			ISDN PRI : 1,19,57,58,59,145,146,160,161,222,263,323 ISDN PRI2 : 1,19,57,58,59,145,154,160,161,202,222,263,323 ISDN BRIT : 1,19,57,58,59,145,160,161,216,222,233,263,323 For OVLP : 184 For MCDN EuroISDN CCBS : 159
Taiwan R1 Modified Signaling	TWR1	347	160

R24 Software ISM Parameters

The following table lists the new ISM limits available on X11 Release 24B. Not all of them will be applicable to your market. Please contact your Nortel representative for further details.

Note. This should not be used for software ordering. For country specific order forms please contact your local Nortel representative.

ISM	Description	Default Option 11C for Asia Pacific	Default Large System for Asia Pacific	Maximum
LOOP LIMIT	Loop Limit	N/A	0 (c)	1023
TNS	System TNs	32000	32000	32767
ACD AGENTS (former AGNT)	ACD Agents	0	0	32767
ACDN	ACD DNs	300	300	24000
AST	Associate Telephone Sets	1000	1000	32767
BRI DSL	Digital Subscriber Loop	64	64	32767
LTID	Logical Terminal Ids (ISDN BRI)	64	64	32767
DCH	D-Channels Handlers	64	64	64
AML(a)	Application Module Links	N/A	0	16
MPH DSL	M1 Packet Handlers – Digital Subscriber Loop (ISDN BRI)	N/A	0	32767
RAN CON	RAN Connections	0	0	32767
RAN RTE	RAN Routes	128	128	32767
MUS CON	Music Broadcast Connections	0	0	32767
BRAND	Brand line display option	0	0	2
MOPT	Meridian Mail Option	0	0	2
DIGITAL TELEPHONES	Digital telephones	0	0	32767
ANALOGUE TELEPHONES	Analogue Telephones	0	0	32767
TMDI D-CHANNELS	TMDI D-channels	64	64	32767
WIRELESS TELEPHONES (former MOBTNS)	Wireless telephones	0	0	32767

(a) AML is pre-set as a fixed value for Opt 11C. The user will not be prompted for its value in Overlay 143.
(b) Not allowed
(c) unlimited number allowed

R24 Software Package Dependency Reference

The following table lists all packages available on X11 Release 24B Not all packages will be applicable to your market. Please contact your Nortel representative for further details.

Note. This should not be used for software ordering. For country specific order forms please contact your local Nortel representative.

NEW PACKAGES ARE HIGHLIGHTED IN BOLD

PKG	MNEM	Description	Technical prerequisites	Market Availability
0	BASIC	Basic System Features	1	9.30A
1	OPTF	Optional Features	0	9.30A
2	CUST	Multi Customer		9.30A
4	CDR	Call Detail Recording	5	9.30A
5	CTY	Call Detail Recording, Teletype Terminal	4	9.30A
7	RAN	Recorded Announcement		9.30A
8	TAD	Time and Date		9.30A
9	DNDI	Do Not Disturb Individual	16	9.30A
10	EES	End To End Signalling		9.30A
11	INTR	Intercept Treatment		9.30A
12	ANI	Automatic Number Identification	13	9.30A
13	ANIR	Automatic Number Identification, Route Selection	12	9.30A

14	BRTE	Basic Routing	32	9.30A
15	RPE1.5	1.5 MB RPE (not Opt 11)	Not with 165 (RPE2)	9.30A
16	DNDG	Do Not Disturb Group	9	9.30A
17	MSB	Make Set Busy		9.30A
18	SS25	Special Service for 2500 sets	73	9.30A
19	DDSP	Digit Display		9.30A
20	ODAS	Office Data Administration System		9.30A
21	DI	Dial Intercom		9.30A
22	DISA	Direct Inward System Access		9.30A
23	CHG	Charge Account	52,24	9.30A
24	CAB	Charge Account/Authorisation Code Base	23,52	9.30A
25	BAUT	Basic Authorisation Code	23,24,52	9.30A
26	CASM	Centralised Attendant Service, Main (not Opt 11)	Not With Pkg 56 (AOP)	9.30A
27	CASR	Centralised Attendant Service, Remote (not Opt 11)	Not With Pkg 56 (AOP)	9.30A
28	BQUE	Basic Queuing		9.30A
29	NTRF	Network Traffic		9.30A
32	NCOS	Network Class Of Service		9.30A
33	CPRK	Call Park		9.30A
34	SSC	System Speed Call	32	9.30A
35	IMS	Integrated Message Services	40, 45, 46, 109	9.30A
36	ROA	Recorded Overflow Announcement	7	9.30A
37	NSIG	Network Signalling	32	9.30A
38	MCBQ	Network Call Back Queuing	14, 28, 32, 37, 57 / 58 / 59, 61	9.30A
39	NSC	Network Speed Call	14, 28, 32, 34, 57 / 58 / 59, 61	9.30A
40	BACD	Basic Automatic Call Distribution		9.30A
41	ACDB	Automatic Call Distribution, Package B	40, 45	9.30A
42	ACDC	Automatic Call Distribution, Package C	40, 41, 45	9.30A
43	LMAN	Automatic Call Distribution, Load Management Reports	40, 41, 42, 45	9.30A
44	MUS	Music	7	9.30A
45	ACDA	Automatic Call Distribution, Package A	40	9.30A
46	MWC	Message Waiting Centre	40	9.30A
47	AAB	Automatic Answer back		9.30A
48	GRP	Group Call		9.30A
49	NFCR	New Flexible Code Restriction	32	9.30A
50	ACDD	Automatic Call Distribution, Package D	40, 41, 42, 45, 51	9.30A
51	LNK	ACDD Auxiliary Processor Link	~~40, 45, 50~~	9.30A
52	FCA	Forced Charge Account	23, 24	9.30A
53	SR	Set Relocation		9.30A
54	AA	Attendant Administration		9.30A
55	HIST	History file		9.30A
56	AOP	Attendant Overflow Position	Not with 26, 27	9.30A
57	BARS	Basic Alternate Route Selection	14, 32	9.30A
58	NARS	Network Alternate Route Selection	14, 32	9.30A
59	CDP	Co-ordinated Dialling Plan	14, 28, 32, 57 / 58	9.30A
60	PQUE	Network Priority Queuing	14, 28, 32, 58, 61	9.30A
61	FCBQ	Flexible Call Back Queuing	14, 28, 32,	9.30A
62	OHQ	Off Hook Queuing	14, 28, ~~29~~, 32, 61 *optional: 29 (on main and/or remote)*	9.30A
63	NAUT	Network Authorisation Code	14, 23, 24, 25, 28, 32, 52, 57 / 58 / 59, 61	9.30A
64	SNR	Stored Number Redial		9.30A
65	TDET	Tone Detector (not Opt 11)		9.30A
67	NXFR	Network Transfer	32, 37	9.30A
70	HOT	Enhanced Hotline		9.30A
71	DHLD	Deluxe hold		9.30A
72	LSEL	Automatic Line Selection		9.30A
73	SS5	500 Set Dial Access to Features	18	9.30A
74	DRNG	Distinctive Ringing		9.30A
75	PBXI	1.5 MB DTI		9.30A
76	DLDN	Department Listed Directory Number		9.30A
77	CSL	Command Status Link		9.30A
79	OOD	Optional Outpulsing Delay		9.30A

80	SCI	Station Category Indication		9.30A
81	CCOS	Controlled Class Of Service		9.30A
82	RSDB	Resident Debug (only for non C_machine)		9.30A
83	CDRQ	Call Detail Recording, Queue Record	4	9.30A
84	ATM	Automatic Trunk Maintenance (not Opt 11)	65	9.30A
86	TENS	Multi-Tenant Service		9.30A
87	FTDS	Fast Tone & Digit Switch		9.30A
88	DSET	M2000 Digital Sets		9.30A
89	TSET	M3000 Digital Sets	88	9.30A
90	LNR	Last Number Redial		9.30A
91	DLT2	M2317 Digital Sets	88	9.30A
92	PXLT	Pre translation		9.30A
93	SUPV	Supervisory Console		9.30A
95	CPND	Calling Party Name display	88 / 89 / 91 / 140 / 170	10.10B
97	JPN	Japan Central Office Trunk		9.30A
98	DNIS	Dialled Number Identification Service	40, 45	10.10B
99	BGD	Background Terminal		10.10B
100	RMS	Room Status	81, 99	10.10B
101	MR	PPM / Message Registration	131	10.10B
102	AWU	Automatic Wake-Up	7, 81, 99	10.10B
103	PMSI	Property Management System Interface	81, 99, 100 / 101 / 102	10.10B
104	OPAO	Outpulsing of "*" and "#"		10.10B
105	LLC	Line Load Control		
107	MCT	Malicious Call Trace	4	10.10B
108	ICDR	Internal CDR	4	10.10B
109	APL	Auxiliary Processor Link	40, 45	10.10B
110	TVS	Trunk Verification From Station		10.10B
111	TOF	Automatic Call Distribution, Time Overflow Queuing	40, 41, 45	10.10B
113	IDC	Incoming Digit Conversion	32, 49	14.41D
114	AUXS	Automatic Call Distribution, Package D, Auxiliary Security	40, 41, 42, 45, 50, 51	14.41D
115	DCP	Direct Call Pick Up		14.41D
116	PAGT	Automatic Call Distribution, Priority Agent	40, 45	14.41D
117	CBC	Call by Call Service	145, 154 / 147	14.41D
118	CCDR	Calling Line ID in CDR	4, 145, 154 / 147	14.41D
119	EMUS	Enhanced Music	7, 44	14.41D
120	PLDN	Group Hunt / DN Access to SCL	32, 34, 81, 131,139	15.58F
121	SCMP	Station Camp-On	131	14.41D
122	IDA	Integrated Digital Access	129	16.87G
123	DPNSS	Digital Private Network Signalling System 1	122, 148,~~129~~, 14, 28, 32, 57/ 58/ 59, 61, 145, 154 / 147	16.87G
124	DASS2	Digital Access Signalling System 2	122, 123,148,~~129~~, 14, 28, 32, 57/ 58/ 59, 61, 145, 154 / 147	16.87G
125	FTC	Flexible Tones and Cadences	74	9.30A
126	OPCB	Operator Call-back (China #1)	131, 107 / 127 / 128 (if 107 then 4 is required)	14.41D
127	BKK	Attendant Break-In / Trunk Offer		9.30A
128	MFC	Multi-Frequency Compelled Signalling		9.30A
129	DTI2	2MB Digital Trunk Interface		10.10B
131	SUPP	International Supplementary Features		9.30A
132	TBAR	Trunk Barring		10.10B
133	ENS	Enhanced Night Service		14.41D
134	AFNA	Attendant Forward No Answer	Not with Pkg 174	14.41D
135	MFE	Multi-Frequency Signalling for Socotel		10.10C
136	JDMI	Japan Digital Multiplex Interface (not Opt 11)		14.41D
137	LSCM	Local Steering Code Modifications	58 / 59, 61	10.10C
138	DTD	Dial Tone Detector		10.10C
139	FFC	Flexible Feature Codes	81 required for Electronic Lock feature	14.41D
140	DCON	M2250 Attendant Console	88	15.56F
141	MPO	Multi-Party Operations		14.41D
143	ICP	Intercept Computer Interface	7, 17, 35, 40, 45, 46, 81, 109, 131, 139	10.10C
144	ABCD	16 Button Digitone/Multi frequency Telephone		14.41D
145	ISDN	Integrated Services Digital Network		14.41D

146	PRA	1.5 MB Primary Rate Access	75, 145	14.41D
147	ISL	ISDN Signalling Link	145	14.41D
148	NTWK	Advanced ISDN Network Services	14, 28, 32, 58, 61, 145, 129&147/154/183/233	14.41D
149	IEC	Inter Exchange Carrier	75, 145, 146	14.41D
150	DNXP	DN Expansion (7 Digit)	151 required if CDR equipped	14.41D
151	CDRE	CDR Expansion (7 Digit)	4, 150	14.41D
153	IAP3P	ISDN-AP for 3rd Party Vendors	77	14.46E
154	PRI2	2MB Primary Rate Access	145	14.46E
155	ACNT	Automatic Call Distribution, Activity Code	40, 41, 42, 45, 50, 51, 114	14.46E
157	THF	Trunk Hook Flash (Centrex)		14.46E
158	FGD	Feature Group D	57, 58, 59, 151	18.20H
159	NAS	Network Attendant Service	14, 32, 58, 145, 161, 129&147 /154 /233 57 required for NAS Equi-repartition 59 required for NAS routing Not with Pkg.'s 26, 27, 56	14.46E
160	FNP	Flexible Numbering Plan	14, 28, 32, 58, ~~59~~	14.46E
161	ISDNS	ISDN Supplementary Features	14, 28, 32, 58, 145, 129&147/ 154& opt 202/ 233 (202 for call cx limitation, DID to network, L1/isdn gateway)	14.46E
162	SAR	Scheduled Access Restrictions	25	15.56F
163	MINT	Message Intercept	125, 74	15.56F
164	LAPW	Limited Access to Overlays		15.56F
165	RPE2	2MB Remote Peripheral Equipment (not Opt 11)	Not with 15	15.56F
167	GPRI	International 1.5 / 2.0 MB Gateway (DTI released PRI deferred)	146, 154, 145 opt 75	18.20H
168	TMON	Traffic Monitoring (not Opt 11)		
169	COOP	Console Operations		14.46E
170	ARIE	Aries Digital Sets	88	14.41D
171	JTDS	Japan Tone & Digit Switch	74	14.41D
172	CPGS	Console Presentation Groups	86, 162	15.56F
173	ECCS	Enhanced Controlled Class of Service	81	15.56F
174	AAA	Attendant Alternative Answer	Not with Pkg 134	15.56F
175	NMS	Network Message Services	14, 28, 32, 46, 58, 148, 202&154 / 129&147 /233 (10 required for Mmai)l	15.56F
176	DTOT	DID to Tie	Japan only	16.87G
178	EOVF	Automatic Call Distribution, Enhanced Overflow	40, 41, 45, 111	15.56F
179	HVS	Meridian Hospitality Voice Services	7, 10, 17, 35, 40, 45, 46, 77, 109, 180	15.56F
180	DKS	Digit Key Signalling	7, 10, 17, 35, 40, 45, 46, 77, 109	15.56F
181	SACP	Semi-Automatic Camp-On		15.56F
182	TFM	Trunk Failure Monitor		15.56F
183	VNS	Virtual Network Services	58, 32, 14, 145, 147, 148, 161 154 required for PRI2	16.67G
184	OVLP	Overlap Signalling	14, 32, 58	15.56F
185	EDRG	Executive Distinct. Ringing	58 , 32, 145, 161	16.67G
186	POVR	Priority Override / Forced Campon	81, 139, 141	15.56F
187	RPA	Radio Paging	81, 139	15.58F
188	L1MF	X08 to X11 Gateway	14, 28, 32, 57/ 58/ 59, 61, 128, 145, 147 / 154, 159, 161	15.56F
190	UK	UK Program	203, 204, 205	16.87G
191	SECL	Series Call		15.56F
192	ORC	Originator Routing Control (Dropback Busy)	145, 148, 61	18.20
193	RCK	Ringing Change Key		15.56F
196	OHOL	On Hold On Loudspeaker		20.06
197	FRTA	French Type Approval	131	15.59
198	FTCSF	Boss Secretary Filtering (FCC activation)	139	15.56F Note 1
200	AINS	Automatic Installation	Option 11 only	
202	IPRA	International Primary Rate Access(CO)	145, 154	15.56F
203	XPE	Meridian 1 XPE	131, 204, 205	15.56F
204	XCTO	M1 Enhanced Conference, TDS & MFS	205	15.56F
205	XCT1	M1 Superloop Administration (LD 97)	204	15.56F
206	MLWU	Multi-Language Wake-Up	7, 81, 99, 102	16.67G

207	NACD	Network Automatic Call Distribution	14, 28, 32, 37, 40, 41, 45, 58/ 59, 61, 111, 145, 148, 154 / 147, 178	15.56F
208	HSE	Hospitality Screen Enhancement	170	18.20H
209	MLM	Meridian Link Module	7, 8, 10, 17, 19, 35, 40, 45, 46, 77, 109, 153, 180	16.67G
210	MAID	Maid Identification	81, 99, 100, 103	18.20H
211	MLIO	Multi-Language In-Output	88,95	16.67G
212	VAWU	VIP Auto Wake Up	102	18.20H
214	EAR	Enhanced ACD Routing	41	18.20H
215	CCR	Customer Controlled Routing	77, 214 247 from Release 20 on	18.20H
216	BRI	Basic Rate Interface	203	18.20H
218	IVR	Hold in queue for IVR	215	18.20H
219	MWI	MWI Interworking with DMS		20.06
221	CIST	CIS Digital Trunk Interface	125, 131, 160, 203 DTI = 129, 204, 205 3WIRE = 87, 182	21.1x
222	MSDL	Multi-Purpose Serial Data Link	145, 154 (for ISDN functionality) 227 (for SDI) - Release 20 onwards	18.20H
223	FC68	FCC Compliance for DID Answer Supervision	not with 97	18.20H
224	M911	M911	19, 40, 41, 45, 214, 225	20.06
225	CWNT	Call Waiting Notification	19, 40, 41, 45, 214	20.06
227	MSDL SDI	MSDL Serial Data Interface (not Opt 11)	222	20.06
228	STA	Single Terminal Access (not Opt 11)	222, 227	20.06
229	SSAU	Station Specific Authorisation Codes	25	20.06
230	MDP	Manufacturing Delivered Patches (not Opt 11)		20.06
231	DNWK	DPNSS Network Services	14, 28, 32, 57/ 58/ 59, 61, 122, 123, 129, 13,148, 145, 154 / 147 optional MCDN Gateway 131, 145, 148, 159 optional 161	16.90G
232	PEDM	Pulsed EAM (French Colisee) (No MFE functionality)	129, 18, 73, 131, 127, 128, 101	18.20H
233	BRIT	ISDN BRI Trunk Access	216, 203, 145	18.20H
234	FCDR	New format CDR	4, 5	18.20H
235	BRIL	BRI line application	145, 203, 216	18.20H
236	ACRL	AC15 Recall	Reminded timer & Norstar transfer 131 M1 transfer 258	20.19
240	MCM	Meridian 1 Companion	18, 139	20.19
242	MUL	Multi User Login (not supported on Option 11)		20.06
243	ALF	Meridian 1 Fault Management	55	20.06
245	SML	System Message Lookup	55	20.06
246	VMB	M Mail Voice Box Administration		20.06
247	CALL	Call Identification		20.06
248	MPH	Meridian 1 Packet Handler (not Opt 11)	203, 216, 145, 154	20.06
250	DPNA	Direct Private Network Access	7, 22, 25, 63	21.1x
251	SCDR	Station Activity Records	4,5	20.19
252	KD3	Spanish KD3 DID/DOD Interface	14, 18, 58, 59, 61, 113, 126, 129, 131, 160	20.06
253	ARFW	Attendant & Network Remote Call Forward	1, 139, 81 (18, 73 - for 500/2500) (145, 58, 59 - for NWK)	20.06
254	PHTN	Phantom TN Operation	139 - for RCFW	20.06
255	INBD	Japan D70 PRI nB+D	19, 75, 145, 146, 202, 222	20.06
256	ADMN	Administration Set	164, 242, 139 Option 11 : 200 Admin Set : 19, 88, 170 CPND : 95 Digit Display : 19	21.1x
258	ATX	AutoDial Tandem Transfer	10	20.06
259	CDRX	CDR Enhancement Phase 1	4, 5, 234	20.19
261	EURO	EuroISDN	19 (for CLID), 145, AOC: 4, 81, 101, 131, 161 PRI: 154, 202, 222 BRI: 203, 216, 233 OVLP : 19 (for CLID), 184, 160, 57/58	20.06
262	SAMM	Standalone Meridian Mail	122, 123, 175	20.19

263	QSIG	ECMA QSIG	19 (for CLID), 145, 202 PRI: 154, 202, 222 BRI: 203, 216, 233 OVLP : 19 (for CLID), 184, 160, 57/58 Name Display: 19, 95, 305	20.19
279	MLMS	Multi-Language Messages	211,245	20.06
283	UYGW	Universal ISDN Gateway	154 122, 123, 124 for DPNSS Interworking	20.06
284	DPNSS 1891	Enhanced DPNSS1 Gateway	122, 123, 154	20.06
285	CHINA	M1 IPE Loss Plan for China	126,131	20.06
286	REMOTE--IPE-PKG	Remote IPE (not Opt 11)	203 (required), 1.5 MB RPE = 15 2.0 MB RPE - 165 (mutually exclusive)	Rls 22.08
288	DPNSS-ES	Enhanced DPNSS Services	Attendant Consoles = 127 DPNSS Network = 122, 123, 131, 145, 154 DPNSS Sup Services = 231 DPNSS - MCDN = 148, 159, 161	21.1x
289	ADSP	ACD Loop Start Trunk		20.19
290	CCB	Collect Call Blocking		21.1x
291	NI2	North America National ISDN Class II Equipment	145, 146, 222	21.1x
292	CHTL	China Toll	128, 129, 131	21.1x
294	BTD	Busy Tone Detection	203	21.1x
296	MAT	Network access to M1 management	164, 242 optional 243	Rls 22.08
297	MQA	Multiple Queue Assignment	40, 42, 45, 50, 51, 88, 170 For Agent Priority : 116 For Auto Forward of IDN calls :254	21.19
298	CPIO	Option 81 (not Opt 11)	Not with 299	21.19
299	CORENET	Option 81C (not Opt 11)	Not with 298	21.19
301	CPP	Calling Party Privacy	139	21.19
302	MOSR	Mobility Server	216, 254,303	Rls 22.08
303	MMO	Mobility Microcellular	302, 216, 254	Rls 22.08
304	ARDL	Automatic Redial (not Opt 11)	65	Rls 22.08
305	QSIGGF	QSig GF Transport	263	Rls 22.08
306	CPRKNET	Call Park Networkwide	33 For Network Call Park - 159	Rls 22.08
307	PAGENET	Call Page Networkwide		Rls 22.08
309	MASTER	EuroISDN Master Mode	EuroISDN: 261	Rls 22.08
310	CPCI	Called Party Control	107	Rls 22.08
311	NGCC	New Generation Call Center (ICCM) include Queue to NACD for ICCM	41,42,43,50,114,115,214,215,218,247,324	Rls 22.08
312	TAT	Trunk Antitromboning	145, 154, 147, 148 (recommended)	21.1x/Rls 22.08
313	ISPC	Australian SPCs	202, 145, 154, 203, 222, 129, 147	Rls 22.08
314	MMSN	Mobility Multisite Nwk	216, 254,302,303	Rls 22.08
315	SNMP_ALARM	SNMP Alarm Integration		Rls 22.08
316	ISDN_SS	QSig Sup Services Call Completion	305, 1, 263, 59,160 optional 184	Rls 22.08
321	QTN	Queue to NACD (NCCR) for CCR.	207, 215	Rls 22.31
323	EURO-SS	EuroISDN Supplementary Services	261, 1, 59, 160	Rls 22.08
324	NGEN	New Generation foundation	77,153,164,242,243,296	Rls 22.08
325	*DMWI*	*DPNSS Message Waiting*	*122,123,231,10,46*	*Rls 23.12A*
326	*CISMFS*	*CIS MF Shuttle Signalling*	*125,129,131,160,221*	*Rls 23.12A*
327	*RANBRD*	*RAN Broadcast*	*7,11*	*Rls23.12A*
328	*MUSBRD*	*Music Broadcast*	*7,44*	*Rls 23.12A*
329	*ESA*	*Emergency Services Access*	*12, 20, 95, 145*	*Rls 23.12A*
330	*ESA_SUP*	*Emergency Services Access Supplementary*	*329*	*Rls 23.12A*
331	*ESA_CLMP*	*Emergency Services Access Calling Number Mapping*	*329*	*Rls 23.12A*
332	*CNUMB*	*CLASS: Calling number delivery*		*Rls 23.12A*
333	*CNAME*	*CLASS: Name Delivery*	*95*	*Rls 23.12A*
334	*CBC_PKG*	*NI-2 call by call service selection*	*291,145,146,222*	*Rls 23.12A*

335	*JTTC*	*Japan TTC Common Channel Signalling*	*145,146/154 ,202,216,233*	*Rls 23.12A*
344	**reserved**			
345	**UWIN**	**Universal Wireless Interactive Networking**	**234,302,303,(314 - for MMSN)**	**Rls 24.2x**
346	**SMS**	**Universal Wireless Interactive Networking**	**234,302,303,(314 - for MMSN)**	**Rls 24.2x**
347	**TWR1**	**Taiwan R1 Modified Signaling**	**160**	**Rls 24.2x**
348	**MEET**	**MCDN End To End Transparency**	**ISDN PRI : 145,146,148,222,263,305 ISDN PRI2 : 145,148,154,202,222,263,305 ISDN BRIT : 145,148,216,222,233,263,305 For NAS : 14,28,32,58,59,61,86,148,159,161,192 incompatible : 26,27,56 For NACD : 14,19,28,32,40,41,58,148,178,207, (57 or 59) For NMS-MC : 46, 148, 175 (with ACD 40,41,42,45) For NMS-MM : 10,35,40,45,46,77,148,175**	**Rls 24.2x**
349	**ACLI**	**Information Notification Service for Japan**	**97, (package UK(190) incompatible)**	**Rls 24.2x**
350	**MC32**	**Meridian Companion Enhanced Capacity**	**240 (Not Option 11C)**	**Rls 24.2x**
351	**DBA**	**Data Buffering and Access**	**296**	**Rls 24.2x**
353	**reserved**			
362	**FDID**	**Flexible DID**	**49,81,99,100,113, with PMS : 103**	**Rls 24.2x**
364	**NMCE**	**NGenR2/Meridian Communications Exchange Connectivity (Call Pilot)**	**41,46,77,95,153,164,214,215,218,242,247,243,254,296,324 Optional: For Networked Messaging: 175**	**Rls 24.2x**

Note 1: This package was introduced on 15.59F and is not available on 16.67G, 16.87G, and 16.90G

Key : **,** indicates AND for option prerequisites

/ indicates OR for option prerequisites

Not Opt 11 indicates package not supported on option 11C

[] indicates optional feature packages for full feature functionality

Mut. Exc.. Mutually Exclusive

NEW PACKAGES ARE HIGHLIGHTED IN BOLD, Updates from previous release are in Italic.

Hardware / Firmware

With the Release 24 programme new hardware and firmware will be introduced. This new hardware / firmware is either introduced to support specific features developed for Release 24B, can be existing hardware / firmware modified to support Release 24B features, or can be new and / or modified hardware / firmware introduced with Release 24B programme but independent of any Release 24B feature.

Note. The hardware vintage/release listed in this Document reflects the minimum that is required to run Release 24B. It does not necessarily reflect the vintage/release of hardware that is currently shipping.

CP68060E Processors

The CP68060E Call Processor card expands the Meridian 1 real time performance range for large or application rich switches. The CP68060E card is based on the Motorola 68060 microprocessor, which will provide a 1.5 times improvement in real time performance over the CP68060 card. CP68060E is not being introduced as a hardware breakpoint; this processor is an orderable option.

Note. The CP68060E introduces three new machine generics 2811, 2911, and 3011 for Opt 51C, 61C and 81/81C respectively.

Packaging

Package 298 and 299 are as with release 21, 22 and 23 required for Option 81 and 81C respectively.

Hardware

CP68060E cards are compatible as a replacement for CP68030, CP68040, or CP68060 cards on Option 51C, 61C, 81, and 81C machines.

Hardware Breakpoints

The 68030 Call Processor is not supported with Release 24 due to real time and memory constraints.

The minimum supported processor is 68040 64MB on Option 51 and 61C and 80MB on Option 81C for the Asia Pacific market. However, all new system orders will be equipped with 68060E 128MB for Option 51C/61C/81C.

An IODU/C NT6D61 is required for software delivery. Release 24 is supported on CD-ROM only.

New Systems

R24B introduces a new system called Option 11C Mini. This system is targeted at the 16 ~ 80 lines segment of the market. Details of this product will be covered in a separate document.

System Enhancements

With R24B, Option 11C system have the capability of expanding up to 4 expansion cabinets, bring the line size supported to about 700 ports. This is done through the introduction of new fibre daughter-boards, each supporting 2 expansion cabinets. The SSC on the Option 11C needs to be modified (can be done in the field) to allow the new fibre daughter-boards to work correctly.

Feature Hardware Dependencies

Feature		Product	Code
CP68060E/128		NT5D03FB	A0786052

New Introduction Hardware - Miscellaneous

Programme	Product	Code	Description	System	Market
CP68060E	NT5D03FB	A0786052	CP68060E/128	81C	All
Tawain R1 MF	NTAK09DA	A0741110	2Mb Digital Trunk	11C	All
Tawain R1 MF	NT5D12AD	A0769186	2Mb Digital Trunk	51C ~ 81C	All
DXUTJ	NT5D39AA	A0724741	INS for Japan	11C ~ 81C	All
Line Size Expansion	NTDK20DA	A0768013	System Core Card (For dual fibre or dual IP)	11C	All
Line Size Expansion	NTDK84AA	A0745219	10m Dual Fibre Daughter-board	11C	All
Line Size Expansion	NTDK85AA	A0745460	3km Dual fibre Daughter-board – Multi Mode	11C	All

Firmware Upgrades

Programme	Product	Code	Description	System	Market

Machine Types Supported

X11 Release 24

X11 Release 24 supports the following machine types :

Note. Not all machine types are supported in all markets. Please contact your local Nortel office for product availability in your market.

Type	Software Generic with CP68040	Software Generic with CP68060	Software Generic with CP68060E
Option 11C	2111	N/A	N/A
Option 51C	2211	2211	2811
Option 61C	2311	2311	2911
Option 81	1911	1911	3011
Option 81C	1911	1911	3011

Base System Requirements

This section provides the base system requirements for X11 Release 24.

Opt ion 11C

PEC	Description	CPC
	Software Elements	
	3 Mb PCMCIA Card - Blank	A0660403
	40Mb PCMCIA Card - Blank	A0633651
NTDK57AA	Security Device	A0648781
	Keycode	P0834606
NTDK81AA	Blank Software Daughterboard (40Meg)	A0725773
NTDK30AA	Database Upgrade Tool	A0637669
	Core 11C Cards/Equipment	
NTAK02BC	SDI/DCH Card	A0774629
NTAK03DA	TDS/DTR CARD	A0401238
NTDK20AB	System Core Card (Hardwire Version)	A0652418
NTDK20DA	System Core Card (For dual fibre) – supports 5 cabinet	A0768013
NTDK26AA	Backwards Compatible Daughterboard	A0630722
NTAK92BA	OPS Module	A0396572
NTDK19AA	SSC Upgrade kit	A0771982
	Power Equipment	
NTDK78AA	AC/DC Power Supply (Global) – Current	A0721022
NTDK72AA	DC/DC Power Supply - Current	A0671997
NTAK28AB	DC Junction Box	A0618157
NTAK75AB	2 Hour Battery Backup	A0627513
NTAK76AB	15 min Battery Backup	A0627514
	Replacement Batteries for NTAK75 (order 4)	A0620100
	Replacement Batteries for NTAK76	A0380797

	Fibre	
	10m Plastic Fibre Cable	A0632902
NTBK80AA	Grounding Bar (co-locating cabs in same room - 1 per sys)	A0620889
	Multiple Fibre Routing Guide	P0888475
NTDK22AA	10m Fibre Daughterboard	A0630718
NTDK84AA	10m Dual Fibre Daughterboard	A0745219
NTDK23AA	10m Fibre Receiver Card	A0630719
NTDK24AB	3km Fibre Daughterboard – Multi Mode	A0655169
NTDK85AA	3km Dual fibre Daughterboard – Multi Mode	A0745460
NTDK25AB	3km Fibre Receiver Card – Multi Mode	A0655172
NTDK79AA	3km Fibre Daughterboard – Single Mode	A0721608
NTDK80AA	3km Fibre Receiver Card – Single Mode	A0721609
	Fibre Extension Cable (Multi Mode)	A0775251
	Fibre connector	A0346816
	DTI/PRI/BRI	
NTAK09DA	1.5 Mb DTI/PRI Card	A0741110
NTAK10DC	2.0 MB DTI Card	A0775331
NTAK79BC	2.0 MB PRI Card	A0654343
NTAK93AB	DCHI Daughterboard	A0395451
NTBK50AA	2Mb DDCH PRI Card	A0403391
NTBK51BA	DDCH Daughterboard (1.5Mb)	A0637752
NTBK22AA	MISP BRI Processor	A0396969
NTAK20BD	Clock Controller (Stratum 4)	A0654341
	Cabinets	
NTAK27AA	Cabinet Pedestal	A0375630
NTAK11BD	Option 11C Main/Expansion Cabinet	A0651437
NTDK18AA	Meridian Option 11C Cabinet Upgrade Kit	A0771981

	Cables	
NTDK48AA	Main Cabinet Cable Kit Contains: NTAK1104 Aux Cable, NTDK27AA Ethernet Cable, NTBK48AA 3 Port SDI Cable, Modem Eliminators	A0647870
NTDK49AA	Expansion Cabinet Cable Kit Contains: NTAK1118 1 Port SDI Cable, NTAK1104 Aux Cable, Modem Eliminators	A0647871
NTAK1104	Auxiliary Cable (PFTU/Console Power)	A0371089
NTAK1118	1 Port SDI Cable	A0403886
NTAK19EC	2 port Cable (used with NTAK03)	A0403539
NTAK19FB	4 port Cable (used with NTAK02)	A0403540
NTAK97AA	UK Power Cord Kit	A0391682
NTAK98AA	NA Power Cord Kit	A0391686
NTBK02CA	Australia/New Zealand Power Cord Kit	A0401051
NTBK04AA	1.5MB DTI/PRI Cable	A0394216
NTBK05CA	2 MB DTI/PRI Coax Cable	A0397000
NTBK05DA	2 MB DTI/PRI Twisted Pr Cable	A0402043
NTBK48AA	SDI Interface Cable (3 port)	A0402754
NTDK27AA	Ethernet Adapter Cable	A0630723

NOTE. Several country specific and general core marketing packages have been designed for Option 11C. Please refer to your regional Option 11 Marketing Packages Bulletin.

Option 51C

Product	**Engineering Code**	**New Rls 24**
Call Processor CP68040/64 OR Call Processor CP68060/64 OR Call Processor CP68060E/128	NT9D19CB See Note 1 NT5D10CA See Note 1 NT5D03FB See Note 2	 Yes

Note 1 . These cards / modules will not be supplied with new or upgrade orders

Note 2. Call processor CP68060E/128 is the standard processor for new Option 51C/61C/81C Release 24 systems or hardware upgrades to Release 24B.

Option 61C

Product	Engineering Code	New Rls 24
Call Processor CP68040/64 OR Call Processor CP68060/64 OR Call Processor CP68060E/128	NT9D19CB See Note 1 NT5D10CA See Note 1 NT5D03FB See Note 2	 Yes

Note 1 . These cards / modules will not be supplied with new or upgrade orders

Note 2. Call processor CP68060E/128 is the standard processor for new Option 51C/61C/81C Release 24 systems or hardware upgrades to Release 24.

Option 81 (Note 1)

Product	Engineering Code	New Rls 24
Call Processor CP68040/80 OR Call Processor CP68060/80 OR Call Processor CP68060E/128	NT9D19EB See Note 1/Note 2 NT5D10EA See Note 1 NT5D03FB See Note 3	 Yes

Note 1 . These systems / cards / modules will not be supplied with new or upgrade orders

Note 2. NT9D19AB/CB (CP68040/48 or 64MB) must be upgrade to 80MB as part of upgrade to Release 24.

Note 3. Call processor CP68060E/128 is the standard processor for new Option 51C/61C/81C Release 24 systems or hardware upgrades to Release 24.

Option 81C

Product	Engineering Code	New Rls 24
Call Processor CP68040/80 OR Call Processor CP68060/80 OR Call Processor CP68060E/128	NT9D19EB See Note 1/Note 2 NT5D10EA See Note 1 NT5D03FB See Note 3	 Yes

Note 1. These cards / modules will not be supplied with new or upgrade orders

Note 2. NT9D19AB/CB (CP68040/48 or 64MB) must be upgrade to 80MB as part of upgrade to Release 24.

Note 3. Call processor CP68060E/128 is the standard processor for new Option 51C/61C/81C Release 24 systems or hardware upgrades to Release 24.

Machine Hardware Upgrades Supported for Release 24 (Asia Pacific)

(Please refer to the current Asia Pacific Price manual for current packaging order codes)

TO **FROM**	***Power Plus***	***Power Plus (Redundant CPUs)***
MSL-1 M, MS, S, SN… etc.	Option 51C NTWB10CA	Option 61C NTWB11CA
MSL-1 LE, N… etc.	Option 51C / 61C NTWB10CA or NTWB11CA	Option 61C NTWB11CA
MSL-1 VLE, XL, XN…etc.	Option 61C / 81C NTWB11CA or NTWB12CA	-
MSL-1 ST, STE	Option 51C NTWB10CA	Option 61C NTWB11CA
MSL-1 NT	Option 61C NTWB11CA	-
MSL-1 XT	Option 81C NTWB12CA	-
M-1 Option 11	Option 11C NTVS6008, NTVS6009, NTVS6001 or NTVS6003	Option 61C NTWB11CA
M-1 Option 11E	Option 11C NTVS6008, NTVS6009, NTVS6001, NTVS6003, NTVS6005 or NTVS6007	Option 61C NTWB11CA
M-1 Option 51	Option 51C NTWB10EA	Option 61C TBD
M-1 Option 61	Option 61C NTWB11EA	-
M-1 Option 71, 81	Option 81C NTWB12EA	-
M-1 Option 51C with CMDU	Option 51C with IODU/C NTWB11JA + Memory	Option 61C NTWB11GA
M-1 Option 61C with CMDU's	Option 61C with IODU/C's NTWB10GA + Memory	Option 81C NTWB12KA or NTWB12GA
M-1 Option 81 with CMDU's	Option 81 with IODU/C's NTWB10GA + Memory	-
M-1 Option 81C with CMDU's	Option 81C with IODU/C's NTWB10GA + Memory	-

Meridian 1 Options Capacity Matrix (New System)

	Option 11C	**Option 51C**	**Option 61C**	**Option 81/81C**
Max. Ports	480 ports	1,000 ports	2,000 ports	10,000 ports
No. of CPUs	1 (Motorola 68040)	1	2	2
Word Size	32 bit	32 bit	32 bit	32 bit
CPU/ Memory Size	32Mb (CP68040) 32Mb prog store - 8 file sys	128MB (CP68060E) 64Mb prog store 64Mb database sys	128MB (CP68060E) 64Mb prog store 64Mb database sys	128MB (CP68060E) 64Mb prog store 64Mb database sys
Mass Storage Media **CD-ROM**	N/A	Input/Output drive unit with CD-ROM equipped with Hard disk+2mb Floppy disk+CD-ROM	Core IODU/C with Hard disk+2mb Floppy disk+ CD-ROM Redundant Core IODU/C with Hard disk+2mb Floppy disk+ CD-ROM	Core IODU/C with Hard disk+2mb Floppy disk+ CD-ROM Redundant Core IODU/C with Hard disk+2mb Floppy disk+ CD-ROM
I/O Ports	16 (1 utilised for CPU)	64	64	64
Switching Network	30 card slots	16 loops	32 loops	160 loops

System Capacity Guidelines

This section provides maximum number of lines for the defined market models.

Memory Capacity requirements for Release 24

Option 11C System Memory requirements

The following table compares the Option 11C Flash and DRAM requirements for Release 23 and 24

Flash (Flash EPROM)	**23**	**24**	**Capacity**	**Growth 23->24**
Resident + Overlay + OS + Aux. OS Code Size (MB)	22.75	24.25		7%
Program Store (DRAM)				
SL-1 Data (Udata, Pdata, Call registers) OS Reserved - Fixed Data and Patch Area OS Dynamic Memory	7.9375	8.8750		11%

Option 51C, 61C, 81 and 81C System Memory requirements

The following table compares the Flash and DRAM requirements for Option 51C, 61C, 81 and 81C Release 23 and 24 systems and processors

Machine Type & Configuration Option	**23**	**24**	**Capacity**	**Growth : 23 to 24**
CP68040, CP68060 and CP68060E machines : Flash EPROM (program store)				
All CP68040 and CP68060 machines and configuration options	22.7500	24.250	32MB	7%
CP68040 machines DRAM (Data Store)				
Option 51C :	13.1702 no mobility 20.2952	14.7254 no mobility 22.8504	16MB 32MB	11% 12%
Option 61C :	13.1702 no mobility 22.7049	14.7254 no mobility 25.5017	16MB 32MB	 12%
Option 81/81C :	31.9030	Not given	32MB	
CP68060 and CP68060E machines DRAM (Data Store)				
Option 51C :	21.3103	23.9672	32MB	12%
Option 61C :	24.5232	27.5024	32MB	12%
Option 81/81C :	42.3916	44.9666	48MB	6%

In order to meet the above requirement the following processor memory configurations are supported in Asia Pacific on Option 51C, 61C and 81C on Release 24.

Engineering Code	**FLASH**	**DRAM**	**Total Memory**	**Application**
NT9D19CB CP68040/64	32 MB	32 MB	64 MB	Option 51C / 61C
NT9D19EB CP68040/80	32 MB	48 MB	80 MB	Option 81/ 81C
NT5D10CA CP68060/64	32 MB	32 MB	64 MB	Option 51C / 61C
NT5D10EA CP68060/80	32 MB	48 MB	80 MB	Option 81/ 81C
NT5D03FB CP68060E/128	64 MB	64 MB	128 MB	Option 81/ 81C

Real Time Upgrade Factors

This section provides the guidelines to ensure “safe” upgrades to Release 24.

Upgrades to Later Releases - Real Time Consideration:

The table below shows the real time degradation expected when upgrading to Release 24

This value does not include the impact of new applications or features.

The table applies to Thor Systems Call Processors going back as far as Release 18. CP68040 going back as far as Release 21B. 11C systems going back as far as Release 22. CP68060 systems going back as far as Release 23 and CP68060E systems going back as far as Release 24.

Ranges - the width of the ranges compounds as the number of releases traversed increases.

Note: These factors reflect the release to release degradation as experienced in various real time model. They may disagree slightly with release to release degradation for basic calls or other sets of real time measurements that are described in other documents.

Release-by-release Real Time Cost of Software Upgrade

From/TO	18	19	20B	21B	22	23	24
18		4-6%	23-31%	33-47%	49-75%	55-91%	69-124%
19			18-24%	27-39%	42-65%	48-80%	62-112%
20B				8-12%	21-33%	26-45%	38-70%
21B					12-19%	16-30%	27-53%
22						4-9%	14-28%
23							9-18%

To use the table, multiply “percent CPU utilisation” on the present system, (obtained from the TFS004 traffic report) and column “to” destination by 1 + a percent within the range shown in the table cell that is located at row “from” present release.

From the table the real time cost for a Release 22 to 24 Software upgrade is 14-28%.

Example: If TFS004 indicates 60% CPU utilisation. Impact of cost of upgrade ranges from: 60*1.14% = 68.4% to 60*1.28% = 76.8%.

A range rather than a single number is specified because the real time effect varies significantly according to the site configuration. The range expresses the range of effects seen when looking at various market models and also at the effect on different call types - the basic calls, and the more widely used featured calls.

As a user of the table, you have the option of picking any single number within the range or of replacing all the ranges with single numbers and doing the multiplication accordingly (if you are traversing multiple releases.)

Machine to Machine Real Time Conversion Table

Machine types - the information from the real time cost of software upgrade table and the machine-to-machine conversion table can be combined.

The table below shows the machine to machine real time conversion factors. This can be used in conjunction with the table above in the case where one wants to upgrade to a different machine / processor when converting to Release 24.

Machine to Machine Real Time Conversion Table

From / To	11C	51C/61C/81/81C CP68040	51C/61C/81/81C CP68060	51C/61C/81/81C CP68060E
11C	1.00	0.79	0.58	0.39
51C/61C/81/81C CP68030 (CP1)	0.81	0.64	0.47	0.31
51C/61C/81/81C CP68040 (CP2)	1.27	1.00	0.73	0.49
51C/61C/81/81C CP68060 (CP3)	1.72	1.36	1.00	0.67
51C/61C/81/81C CP68060 (CP3)	2.58	2.04	1.5	1.0

Note. Due to rounding, compounded conversions FROM / TO may not always equal the equivalent single conversion. E.g. 51C -> 61C CP68030 -> CP68040 -> 81C CP68060 is 0.64 * 0.73 = 0.46, but 51C -> 81C CP68060 is 0.43. The table is intended for single conversions.

To project the impact of a CPU upgrade: multiply the real time utilisation by the old CPU to new CPU factor found in the table above.

NOTE: The machine-machine conversion table shows only the ratios for the current release (Release 24). If the system is going up a release(s), get the cost range for upgrading to Release 24 first, then do the conversion on this range.

Example:

If in Release 22 on a CP68040 real time use is 60%, and the cost range for moving up to Release 24 is 14-28%. That would mean that when you upgrade software on this CP68040 you could expect to use from 1.14 * 60% to 1.28 * 60% of real time (69-77%).

If there has been a hardware upgrade to CP68060E, and the machine-machine ratio is 0.49 from CP68040 to CP68060E (Table in the Real Time Upgrade factor section) then the real time use in release 24 on the CP68060E is .49 * (69-77%) or 34-38% CPU use.

Call Processor Expansion

If a customer wishes to implement an expansion then Call Processor CP68060E should be used.

Memory Upgrade Factors

Upgrades to Option 11C:

A customer upgrading to Release 24 on an 11C (from 11E) may do so without considering the memory requirements for his particular configuration. That is, if it fits on 11E, then it fits on 11C.

Upgrades to Option 51C/61C/81C:

Upgrades to Thor machines (Options 51C/61C/81/81C, CP68040, CP68060, CP68060E):

A customer upgrading to Release 24 from an Omega (Options 51/61/71) or Thor system to a Thor system (CP68040, CP68060 or CP68060E) must consider the size the SL-1 database.

With this knowledge it can then be determined if the Call Processor is adequate or, if upgrading to CP68060 or CP68060E, which size system and how much DRAM will be required.

To make this determination, take the following steps:

Use MEMAVAIL display in SL-1 database user interface to determine the size of the SL-1 customer database on the system being upgraded from. The “USED” field in the MEMAVAIL display, returned by the SL-1 user interface after loading any service change overlay that can add or delete data (e.g., overlay 11), gives the present size (in memory) of the SL-1 customer data base in SL-1 words. (This quantity will be referred to as “SL1DB-words”.)

Compare the SL1DB-words with the limits shown in the table below to see if the memory requirement is small enough to be able to upgrade to Release 24 on the desired machine type.

Machine being upgraded TO : (columns) **Release being upgraded from: (rows)**	**CP68040 machines with 16MB DRAM 51C, 61C ,81/81C**	**CP68040, CP68060, 68060E with 32MB DRAM 51C / 61C**	**CP68060, 68060E with >=48MB DRAM 81C only**
Upgrading from OMEGA (Options 51/61/71) machines			
Release 20	1,448,000	2,446,000	4,770,000
Release 21	1,593,000	2,690,000	5,248,000
Upgrading from Thor (Options 51C/61C/81/81C) CP68030 and CP68040 machines			
Release 20	1,086,000	1,834,000	3,578,000
Release 21	1,194,000	2,018,000	3,936,000
Release 22	1,302,000	2,1999,000	4,289,000
Release 23	1,423,000	2,404,000	4,690,000

If the customer database size is too large to upgrade to the desired machine type and/or DRAM size, it may be possible to make it fit by configuring fewer call registers. (This is done in Overlay 17 - the configuration record user interface - with the NCR prompt after answering “Yes” to the PARM (change system parameters) prompt. Note that the system must be re-initialised in order to make the call register count change take effect.).

The Table below shows the recommended call register counts for each machine type, and corresponding claims on SL-1 customer database memory.

This should be used as a guide to try for an optimal call register count. (As shown in the table, call registers use memory at a rate of 219 words per call register.).

Recommended Call Register Count

Memory Required (SL-1 words)				
CP68040	**11C**	**51C**	**61C**	**81/81C**
Recommended Call Register Count	1000	1,500	3,000	7,500
Memory Required (SL-1 words)	219,000	328,500	657,000	1,642,000
CP68060/E		**51C**	**61C**	**81/81C**
Recommended Call Register Count	N/A	2,000	4,000	10,000
Memory Required (SL-1 words)	N/A	438,000	876,000	2,190,000

Mass Storage

Option 11C

8Mb ROM "Disk Emulator": This daughter board stores SL-1 Pdata, PSDL, patches, package and network data and SL-1 logging.

40Mb PCMCIA hard drive / FLASH card : This card is used for software and patch delivery, as well as for optional feature data, report database and error message translation.

Option 51C/61C/81/81C CP68040, CP68060 and CP68060E

IODU/C CD-ROM : With Release 24 software the system is loaded from CD-ROM. Loading from floppy is not supported.

Hard Disk: Hard disk is divided into a protected 60MB partition and an unprotected 30MB partition. Space (in MB) used on these is as shown below.

Hard Disk Requirements CP68030, CP68040, CP68060, CP68060E	**23**	**24**
Options 51C/61C/81/81C CP68030 *, CP68040, CP68060, CP68060E Protected	36.441	39.599
Option 51C CP68030 Unprotected	16.619	16.704
Option 61C CP68030 Unprotected	17.184	17.326
Option 81/81C CP68030 Unprotected	19.726	20.122
Option 51C CP68040 Unprotected	17.043	17.170
Option 61C CP68040 Unprotected	17.890	18.103
Option 81/81C CP68040 Unprotected	21.703	22.296
Option 51C CP68060, CP68060E Unprotected	17.462	17.631
Option 61C CP68060, CP68060E Unprotected	18.589	18.871
Option 81/81C CP68060, CP68060E Unprotected	23.661	24.450

* CP68030 not supported on Release 24

System Management

Meridian Administration Tool

Meridian Administration Tool (MAT) Release 6.5 will be required to administer Release 24B systems. System supported on this release includes Option 11C Mini, Option 11C, Option 51C, Option 61C and Option 81C. Modules in this release are as follows:

- Common Services
- Maintenance Windows
- Alarm Management
- ESN Analysis and Reporting Tool (ART)
- Station Administration
- Traffic Analysis
- Call Tracking

New Features and Feature Enhancements
A number of new features and feature enhancements have been added to applications offered with MAT Release 6.5. These changes have been made to the existing applications, which means that if you already have the application, you will receive the new features and feature enhancements when you upgrade your applications to MAT 6.5. The following is a list of the changes made to each of the MAT applications:

MAT Common Services Enhancement

MAT 6.5 adds the following new features and feature enhancements:

Meridian X11 Release 24B Concurrency support

MAT 6.5 has been updated to support X11 Release 24B.

List Manager

The List Manager feature is available on Meridian Administration Tools (MAT). It provides a simple to use GUI to manage lists on the PBX. Using this tool one can

- Retrieve the lists from the switch
- Create single or multiple lists
- Delete existing lists
- Edit list properties
- Edit list contents by Adding, Deleting, Editing an entry
- Associate one or more stations to a list
- Transmit the changes back to the switch
- Associate a station to a list from the Station Administration Application

For more details, see the MAT User Guide Station chapter, List Manager section.

IP Telephony Gateway : M1 IP Line (IP Telecommuter)

This new application allows the user to configure and maintain the IP Telephony Gateway IP Line card in the Meridian 1. The IP line application in the Meridian 1 provides users with an H.323 based IP version of their desktop digital set and with which the users can access the voice network from any point of presence on their enterprise intranet. The initial application is targeted for casual telecommuters, For detail of configuration and maintenance of IP Telephony Gateway IP Line, please refer to ITG IP Telecommuter User Guide NTP.

Option 11C Linesize Expansion support

The Option 11C Line Size Expansion project increases the Option 11C line capacity from the current three to a maximum of five cabinets providing more room for growth for small/medium users. In the initial offering, the Option 11C will be able to support additional 20 IPE cards through 2 additional fibre expansion cabinets.

Station Administration support for Meridian Desktop Evolution 3900 Series telesets

The Meridian Desktop Evolution Terminals are introduced in Meridian X11 Global Release 24. The Meridian Desktop Evolution Terminals have five types:

- M3901 - Digital Entry Set
- M3902 - Basic Set
- M3903 - Enhanced Set
- M3904 - Professional Set
- M3905 - Call Center Set

System Inventory support

The Inventory Reporting feature takes advantage of the intelligence built into the Meridian 1 PBX to provide an automated tool for customers and support personnel to produce an inventory report. This report will list the cards and telesets installed in the switch for business and support purposes. The Inventory Reporting feature will run on the Meridian 1 PBX using the evolved Graphical User Interface (GUI) for System Management or using a TTY device providing a Command Line Interface (CLI) to the switch.

The Inventory Reporting feature will allow a user to download inventory information from a file resident on the PBX hard-drive to the PC for manipulation in a PC resident database. Many End-Users have inventory tools and applications for asset management but currently, they must manually enter inventory data into their inventory tool.

Uses for this feature include but are not limited to:

- Upgrade Engineering
- Inventory Control
- Fault Isolation

This feature is enabled only if Maintenance Windows is enabled.

Option 11C Mini support

Similar to Option 11C, this release of MAT will be required to provide the necessary MMI interface for OA&M.

Auxiliary Product Support

The following products **are not** supported in all markets and **not** all are market released. For information on **market availability,** please contact your local Nortel Networks representative.

Call Centre Applications

Product / Feature	Rls 20	Rls 21	Rls 22	Rls 23	Rls 24
Meridian Max 6	X	X	X	X	X
Enhanced Day / Night Call Abandon Report	X	X	X	X	X
Meridian Max 7 (IPE and SNN Only)	-	X C machines	X	X	X
MAXcaster (MAX 6 and later only)	X	X	X	X	X
MTE6 (Introduced with MAX 6)	N/A	N/A	N/A	N/A	N/A
MTE7(Introduced with MAX 6)	N/A	N/A	N/A	N/A	N/A
Meridian Max 8	X	X	X	X	X
Fast View 1.0 and 1.6	X	X	X	X	
Symposium Call Center Server 1.0				X	
Symposium Call Center Server 1.1				X	X
Symposium Call Center Server 3.0					X
Symposium Agent[4]			X	X	X
Symposium IVR 2.5	X	X	X	X	X
Symposium IVR 4.0	X[1;2]	X[2;3]	X	X	X

1) Not EuroISDN or Qsig 2) Not IPML 3) Not Lineside E1 4) Need TAPI SP for M1

CCR, Link & CoRes

Product / Feature	Rls 20	Rls 21	Rls 22	Rls 23	Rls 24
LINK 4B MVME167 & IPE Support	X	X	X	X	
LINK 4B CCR/LINK Co. Res	X	X	X	X	*
LINK 4B HER	X	X	X	X	*
Link 4B HEVP	X	X	X	X	*
LINK 4B Unique Call ID	X	X	X	X	*
LINK 5 Fast Transfer		X	X	X	X
LINK 5 Network Call ID Across ACD		X	X	X	X
LINK 5 Multiple Access Registration	X	X	X	X	X
LINK 5 TCP/IP	X	X	X	X	X
LINK 5 Enhanced Event Reporting			X	X	X
LINK 5 Enhanced Set Feature Notification			X	X	X
LINK 5 Hold / Unhold Feature			X	X	X
LINK 5 ISDN Progress Message for Outgoing Calls			X	X	X
LINK 5 Network Call ID			X	X	X
CoRes Rls6.03 (CCR3B IPE/AM)	X	X	X	X	X
CoRes Rls6.4 Redundancy		X	X	X	X
CoRes Rls6.4 Dual VASID				X	X
CoRes Rls6.4 Activity Code Reporting for Not Ready					X

**** Note: The features which were introduced with Meridian Link Rls4B will continue to be supported with X11 Rls24 as part of the Link5 (CoRes RRls6.03) or CoRes Rls6.4 releases. However, the Meridian Link Rls4B product, not being Y2k compliant will not be supported.***

CTI Enablers

Product / Feature	Rls 20	Rls 21	Rls 22	Rls 23	Rls 24
TAPI Service Provider for M1, Rls2 (Link connectivity)			X	X	X
TAPI Service Provider for M1, Rls2 (Link & IVR/Networking connectivity)			X	X	X
TAPI Service Provider for M1[1], Rls2 (Direct connectivity)				X	X
TAPI Service Provider for M1[1], Rls2 (Direct & IVR/Networking connectivity)				X	X

1) Need X11-packages: 324;

Desktop Applications

Product / Feature	Rls 20	Rls 21	Rls 22	Rls 23	Rls 24
Symposium Call Manager 5.0 [1]	X	X	X	X	

1) CM5.0 software will work with all X.11 releases but customers need to check compatibility with chosen Telephony Connectivity devices work (e.g. MCA and TAPI Server).

Messaging Applications

Meridian Mail Release 10

Product / Feature	Rls 18	Rls 20	Rls 21	Rls 22	Rls 23	Rls 24
Card Option	X	X	X	X	X	X
ST/NT/XT	-	-	-	-	-	-
Modular Option (68K)	-	-	-	-		
Modular Option (MMP40)	X	X	X	X	X	
Enh Capacity (68K)	-	-	-	-	-	-
Enh Capacity (MMP40)	X	X	X	X	X	X

Meridian Mail Release 11

Product / Feature	Rls 18	Rls 20	Rls 21	Rls 22	Rls 23	Rls 24
Card Option	X	X	X	X	X	X
EC11	-	-	-	X	-	X
Modular Option (68K)	-	-	-	-		-
Modular Option (MMP40)	X	X	X	X	X	
Enh Capacity (68K)	-	-	-	-	-	-
Enh Capacity (MMP40)	X	X	X	X	X	X

Note: Release 22 is required for full functionality.

Meridian Mail Release 12

Product / Feature	Rls 18	Rls 20	Rls 21	Rls 22	Rls 23	Rls 24
Card Option	X	X	X	X	X	X
EC11	-	-	-	X	X	X
Modular Option (68K)	-	-	-	-		-
Modular Option (MMP40)	X	X	X	X	X	
Enh Capacity (68K)	-	-	-	-	-	-
Enh Capacity (MMP40)	X	X	X	X	X	X

Symposium Messenger

Product / Feature	Rls 18	Rls 20	Rls 21	Rls 22	Rls 23	Rls24
Symposium Messenger 3.0	MM10 or 11	MM10 or 11	MM10 or 11	MM10 or 11	MM10 or 11	MM10 or 11
Symposium Messenger 4.0	MM11 or 12	MM11 or 12	MM11 or 12	MM11 or 12	MM11 or 12	MM11 or 12

Call Pilot

Product / Feature	Rls 18	Rls 20	Rls 21	Rls 22	Rls 23	Rls24
Call Pilot 1.0	-	-	-	-	-	X

NTP Information

Order Codes for Release 24B Documentation

Coincident with X11 Release 24B market release, the Meridian 1 and Option 11 NTP libraries will be updated.

Meridian 1 Documentation CD-ROM

X11 documentation is contained on the latest release of the CD-ROM

Order Code	Description	Release	Eng Code
A0771979	CD-ROM - Meridian 1 Option 11C NTPs, English, R24B	24B	NTDK76AD
A0785254	CD-ROM - Meridian 1 Reference Library, International, R24B	24B	NT5F3402

Option 11C

Option 11C documentation has been updated to reflect Release 24B functionality. The documentation described below is available from your normal ordering channel using the following order codes :-

Individual order codes for Base Package Documentation

NT6R78AD **A0772159** Meridian 1 Option 11C NTP- Coil Bound Package, R24B

Order Code	Description
P0891456	Opt11C Planning & Installation Guide,
P0891458	Opt11C Fault Clearing Guide,
P0891460	Opt11C Central Answering Position Guide,
P0891463	Opt11C Customer Config Back-Up & Restore Guide,
P0891465	Opt11C Upgrade Procedures Guide,
P0891467	Opt11C X11 Administration & Maintenance II/O Guide,

NT6R77AD **A0772158** Meridian 1 Option 11C NTP-Binder Package, R24B

Order Code	Description
P0891452	Opt11C Planning & Installation Guide,
P0891453	Opt11C Post Installation Activities Guide,
P0891454	Opt11C X11 Administration & Maintenance I/O Guide,

Codes for optional documentation

Optional documentation is global, therefore no country/regional variants are offered.

Optional Documentation - Coil Bound

Order Code	Description
P0891468	NTP, Technical Reference Guide, English, R24B
P0891469	NTP, 1.5 Mbs DTI/PRI GUIDE, ENGLISH, R24B
P0891470	NTP, 2.0 Mbs DTI/PRI GUIDE, ENGLISH, R24B
P0891472	NTP, Basic Rate Interface Guide, English, R24B
P0874305	International Feature Document, English, R23
P0875863	Country Specific IPE Circuit Card Guide, English, R23 – A/P– (R24 N/A)
P0875865	Country Specific IPE Circuit Card Guide, English, R23 - India– (R24 N/A)

Meridian 1 Options 51C - 81C

Option 51C to 81C documentation has been updated to reflect Release 23 functionality. The documentation described below is available from your normal ordering channel using the following order codes :-

NTWB13AA A0759985 Release 24 Meridian 1 New System NTP Documentation Package

Eng Code	CPC Code	Description
NTRA78AA	A0762326	NTP, Installation And Maintenance Guide (2 books),
NTRA83AA	A0762331	NTP, International Software Features Guide, (3 books)
NTRA84AA	A0762332	NTP, Input Output Software Features Guide (3 books),
NTRA81AA	A0762329	NTP, Planning And Engineering Guide (3 books),
NTRA85AA	A0762333	NTP, Software System Management Guide (1 book),
Optional	P0685112	6 Inch Wide Sleeve For 2 NTP Binders (6 sleeves for 12 NTPs)

NTWB13BA A0759986 Release 24 Meridian 1 Upgrade System NTP Documentation Package

Eng Code	CPC Code	Description
NTRA78AA	A0762326	NTP, Installation And Maintenance Guide (2 books),
NTRA86AA	A0762334	NTP, M1 Upgrade System Install & Procedures (4 books?),
NTRA83AA	A0762331	NTP, International Software Features Guide (3 books),
NTRA84AA	A0762332	NTP, Input Output Software Features Guide (3 books),
NTRA85AA	A0762333	NTP, Software System Management Guide (1 book),
Optional	P0685112	6 Inch Wide Sleeve For 2 NTP Binders (6 sleeves for 13 NTPs)

NTWB13CA A0759987 Release 24 Meridian 1 International NTP Library Package

Eng Code	CPC Code	Description
NTRA75AA	A0762322	NTP, Automatic Call Distribution Feature Guide (1 book),
NTRA76AA	A0762323	NTP, DPNSS1 Feature Guide (1 book),
NTRA77AA	A0762324	NTP, Hospitality Feature Guide (1 book),
NTRA78AA	A0762326	NTP, Installation And Maintenance Guide (2 books),
NTRA79AA	A0762327	NTP, ISDN Basic Rate Access Feature Guide (1 book),
NTRA80AA	A0762328	NTP, Meridian Data Service Feature Guide (1 book),
NTRA81AA	A0762329	NTP, Planning And Engineering Guide (3 books),
NTRA82AA	A0762330	NTP, Remote Services Product Guide (1 book),
NTRA83AA	A0762331	NTP, International Software Features Guide (3 books),
NTRA84AA	A0762332	NTP, Input Output Software Features Guide (3 books),
NTRA85AA	A0762333	NTP, Software System Management Guide (1 book),
NTRA86AA	A0762334	NTP, M1 Upgrade System Install & Procedures (3 books),
NTRA94AA	A0762368	NTP, M1 NETWORKING GUIDE (2 Books) (was ISDN PRI in R21),
Optional	P0685112	6 Inch Wide Sleeve For 2 NTP Binders (12 sleeves for 24 NTPs)

Recommended R24 CONDENSED REFERENCE GUIDEs and INSTALLERS NTPs

P0889434 Coil Bound - International l Software Input/Output Administration Guide, English

P0889435 Coil Bound - International Software Input/Output Maintenance Guide, English
P0889436 Coil Bound - International Software System Messages Guide, English
P0889437 Coil Bound - International System Installation & Maintenance Guide, English
P0889439 Coil Bound - International System Security Guide, English

Optional R24 CONDENSED REFERENCE GUIDEs and INSTALLERS NTPs

P0889438 Coil Bound - International Network Feature Document, English
P0889440 Coil Bound - International Software Conversion Procedures Guide, English
P0889441 Coil Bound - International Call Detail Recording Features Guide, English

Training

Training courses will be available from the Nortel CPE Training Centre in Singapore.

For course details and reservation / confirmation, please contact the centre at (65) 380 8758.

(For most current details, please refer to the Asia Pacific Price Manual)

Software Ordering

X11 Release 24 software is market released for a number of Asia Pacific countries. Please contact your Nortel prime for further information on product status and availability in your country.

Replacement Orders
When ordering identical software as is currently running on the switch, or if going from one issue to another with no change in feature content you may order software to suit your current hardware configuration. It is necessary to be specific on the order as to what is required.

Large Systems - Software Ordering

General considerations

As with earlier software releases, two software packages were used to differentiate the Option 81 from the Option 81C systems. All Option 81 systems must be provisioned with the Call Processor Input/Output (CPIO) # 298 software package. All Option 81C systems must be provisioned with the Core Network Module (CORENET) # 299 software package. The two software packages are mutually exclusive.

CD-ROM Media

Release 24 software for new systems and hardware upgrades will be supplied in a generic format on a CD-ROM disk. Software features and ISM parameters are controlled by means of a Security device (NTDK57) and Keycode. Additional functionality within a software release can be added by requesting a new Keycode.

A software upgrade order should also be submitted.

Security Devices are used together with a Keycode to customise software installation for a specific system. A Keycode can only be validated and “unlocked” by the Security Devices for which it was made. Security Devices are produced as part of the software order. One Security Device is required for each IODU/C card.

Once a Security Device is installed it never needs to be replaced. Therefore, Security Devices are only provided with the first order for CD ROM based software, and when upgrading from a single CPU system to a dual CPU system. Only Keycodes are provided with subsequent software orders.

Security Devices are supplied as part of the Software Install Kits. The number of Security Devices provided is determined based on the type of order, and the number of Security Devices previously provisioned.

Keycodes

A Keycode is generated as part of the customer software order. The Keycode is customised based on the following unique parameters:

- a specific release and issue of X11 software
- a specific software generic (representing the combination of system type and Call Processor type)
- a specific set of feature packages and ISM limits
- a specific set of Security Devices

A new Keycode is required whenever any of these parameters are changed.

4MB Diskette Media

4MB diskette media is not supported on Release 24. An upgrade to IODU/C is required.

Option 11C - Software Ordering

Software delivery remains the same as Release 23 i.e. new systems will have the software factory installed on the Flash daughterboard (NTBK81AA) prior to shipment. Installed base Opt 11C systems can upgrade the software via a Personal Computer Memory Card International Association (PCMCIA) card. It should be noted however, that Release 24 requires 32 Mb of program store i.e. Flash daughterboard NTDK81AA. This daughterboard was introduced with Release 23B for new systems. If upgrading from systems with NTDK21AA daughterboard, they must be replaced by the new version. If uncertain which daughterboard is installed in the system it can be checked by overlay 135 (LD 135). The software Feature Set options and ISM parameters are controlled via Keycodes.

Software for New 11C Systems, or Upgrades to 11C Release 24

The following are the components of a new system software order:

Must-Have components (one per system)

- Regional Software Daughter board (Software will be Factory Installed)
- Security Device
- Regional Feature Set with Default Data and ISM Parameters

Optional Components

- Additional ISM parameters (i.e. additional TN blocks)
- In addition, a Keycode is required to activate the options selected above.
- New Codes are assigned to each NEW Market Release and issue of software.

Optionally Orderable Packages or ISM parameters

- Additional ISM parameters (i.e. additional TN blocks)
- Regional Software Daughter boards - NTDK81AA with software factory installed (Required For New Systems).

Software Upgrades

There are two basic types of software upgrade orders:

1. Same Release Software Upgrade:
One or more of the following items will be ordered:

- New Feature Set (i.e. from General Services to Networking Services)
- Additional ISM parameters (where applicable), most countries have default values set which do not require changing.

Each order must also include a Keycode

2. New issue of software – e.g. Release 23.35 to Release 24.24
For a new issue of software a Feature Set must also be ordered:

- New Feature Set (i.e. General Services, etc.)
- Additional ISM parameters (where applicable), most countries have default values set which do not require changing.

It should be noted however, that Release 24 requires 32 Mb of program store i.e. Flash daughterboard NTDK81AA. This daughterboard was introduced with Release 23. If upgrading from systems with NTDK21AA daughterboard, they must be replaced by the new version. If uncertain which daughterboard is installed in the system it can be checked by overlay 135 (LD 135).

Each order must also include a Keycode

Note. A software upgrade card (PCMCIA) will be required by the installer to perform a software up-issue (e.g. 23.35>24.24), but is not required to add features on the same release of software. The software upgrade card (PCMCIA) can be used to perform multiple installations, so it is not necessary to order a card for every site.

Regional Programmed PCMCIA Cards (Used for Software Up-Issues Only)

Asia Pacific Regional Feature Set Listing

The following are the feature set codes for each region - Release 24:

Asia / Pacific (including Australia and New Zealand)

Ordering Code	CPC Code	Description
NTSK03AK	A0768516	A/P Software Daughterboard
NTSK03BK	A0768517	R24B Software Delivery PCMCIA – A/P
NTVS8008	A0779572	General Services Software Package - D
NTVS8009	A0779573	Enhance Services Software Package - E
NTVS8018	A0779574	Call Centre Services Software Package - F
NTVS8019	A0779576	Enhance Call Centre Services Software Package - G
NTVS8024	A0779577	Networking Services Software Package - H
NTVS8025	A0779578	Enhance Networking Services Software Package - I
NTVS8026	A0779579	Enterprise Services Software Package - J
NTVS8027	A0779580	Unified Network Services Software Package - K

Japan

Ordering Code	CPC Code	Description
NTSK15AK	A0768534	Japan Software Daughterboard
NTSK15BK	A0768535	Software Delivery PCMCIA
NTSK15CK	A0768536	Feature Set C (Reserved For Common Services)
NTSK15DK	A0768537	General Services Feature Set D
NTSK15EK	A0768538	Enhanced Services Feature Set E
NTSK15FK	A0768539	Call Centre Services Feature Set F
NTSK15GK	A0778385	Enhanced Call Centre Services Feature Set G
NTSK15HK	A0778386	Networking Services Feature Set H
NTSK15IK	A0778386	Enhanced Networking Services Feature Set I
NTSK15JK	A0778387	Enterprise Services Feature Set J
NTSK15KK	A0778388	Unified Network Services Feature Set K

Hardware Ordering

Asia Pacific Core Option 51C - 81C system packages

The following are the Asia Pacific Product package codes for Release 24

Option 51C Packages

Ordering Code	CPC Code	Description
NTWB10AA	A0759979	Meridian 1 DC Option 51C New System Package
NTWB10CA	A0760275	SL-1 M/S/MS/SN Modular Upgrade to Option 51C, R24
NTWB10EA	A0760277	M-1 Option 51 to Option 51C Cardcage Upgrade Package
NTWB10GA	A0760279	M1 Single Multidisk Unit (MDU) Upgrade to IODU/C, Rls 24

Option 61C Packages

Ordering Code	CPC Code	Description
NTWB11AA	A0759981	Meridian 1 DC Option 61C New System Package
NTWB11CA	A0760281	SL-1 LE/N/NT Modular Upgrade to Option 61C, R24
NTWB11EA	A0760282	M-1 Option 61 to Option 61C Cardcage Upgrade Package
NTWB11GA	A0760287	M-1 Option 51C (NT5D21) to Option 61C Upgrade Package
NTWB11JA	A0760289	M1 Dual Multidisk Unit (MDU) Upgrade to IODU/C + IODU, Rls 24

Option 81C Packages

Ordering Code	CPC Code	Description
NTWB12AA	A0759983	Meridian 1 DC Option 81C New System Package
NTWB12CA	A0760292	SL-1 VLE/XL/XN/NT Modular Upgrade to Option 81C, R24
NTWB12EA	A0760293	M-1 Option 71/81 to Option 81C Cardcage Upgrade Package
NTWB12GA	A0760295	M-1 Option 61C (NT6D39/NT9D11s) to Option 81C Upgrade Package
NTWB12KA	A0760299	M-1 Option 61C (NT5D21s) to Option 81C Upgrade Package
NTWB11JA	A0760289	M1 Dual Multidisk Unit (MDU) Upgrade to IODU/C + IODU, Rls 24
QCA4196B	A0725071	Option 81 Full Network Group 1 Package
QCA4197B	A0725073	Option 81 Full Network Group 2 Package
QCA4198B	A0725075	Option 81 Full Network Group 3 Package
QCA4199B	A0725077	Option 81 Full Network Group 4 Package
QCA4202C	A0682985	Option 81C Full Network Group 2 Package
QCA4203C	A0682986	Option 81C Full Network Group 3 Package
QCA4204C	A0682987	Option 81C Full Network Group 4 Package

Asia Pacific Core Option 11C system packages

Asia Pacific AC Packages

Ordering Code	CPC Code	Description
NTVS1000	A0661354	Meridian 1 Option 11C Single (Main 1ST) Cabinet AC package
NTVS2006	A0775595	Meridian 1 Option 11C 10m Fibre Expansion (2ND/3RD/4TH/5TH) Cabinet AC pkg
NTVS2008	A0775597	Meridian 1 Option 11C 3Km Fibre Expansion (2ND/3RD/4TH/5TH) Cabinet AC pkg

Australia/New Zealand AC Packages

Ordering Code	CPC Code	Description
NTVN1000	A0781075	Meridian 1 Option 11C Single (Main 1ST) Cabinet AC package
NTVN2000	A0781076	Meridian 1 Option 11C 10m Fibre Expansion (2ND/3RD/4TH/5TH) Cabinet AC pkg
NTVN2002	A0781077	Meridian 1 Option 11C 3Km Fibre Expansion (2ND/3RD/4TH/5TH) Cabinet AC pkg

Asia Pacific/Australia/New Zealand DC Packages

Ordering Code	CPC Code	Description
NTVS1002	A0661377	Meridian 1 Option 11C Single (Main 1ST) Cabinet DC package
NTVS2007	A0775596	Meridian 1 Option 11C 10m Fibre Expansion (2ND/3RD/4TH/5TH) Cabinet DC pkg
NTVS2009	A0775598	Meridian 1 Option 11C 3Km Fibre Expansion (2ND/3RD/4TH/5TH) Cabinet DC pkg

Glossary / Abbreviations

ACD	Automatic Call Distribution
AC	Activity Code
AMBase	Application Module Base
AML	Applications Module Link
ANI	Automatic Number Information
AOC	Advice Of Charge
API	Application Programming Interface
APL	Applications Processor Link
A/P	Asia/Pacific
ATD	Attendant Through Dialing Networkwide
BARS	Basic Alternate Route Selection
BCAP	Bearer Capability
BCS	SL1 and Digital sets
BRI	Basic Rate Interface (2B+D)
BTNR	British Telecommunications Network Requirement
BVW	Belleville (Nortel) Development location
CBT	Core Business Team
CBWF	DPNSS Call Back When Free
CBWNU	Call Back When Next Used
CC	Control Center
CCBS	Call Completion to Busy Subscriber
CCNR	Call Completion on No Reply
CCR	Customer Controlled Routine
CDP	Coordinated Dialing Plan
CDR	Call Detail Recording
CFNA	Call Forward No Answer
CFWAC	Call Forward All Calls
CLID	Calling Number Identification
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
CLS	CLasS
CIS	Commonwealth Independent State
CMF	CT2 Mobility Features
CNND	Calling Number and Name Delivery
CNI	Calling Number Identification (R2MFC)
CNIP	Calling Name Identification Presentation
CNIR	Calling/Connected Name Identification Restriction
CO	Central Office

COLP	COnnected Line identification Presentation
COLR	COnnected Line identification Restriction
CORWAN	Corporate Wide Area Network
CPE	Customer Premises Equipment
CPU	Central Processing Unit
CRTOD	Call Redirection Time Of Day
CTI	Computer Telephony Interface
DASS	Digital Access Signaling System
D/B	Daughter Board
DID	Direct InwarD system access
DISA	Direct Inward System Access
DN	Directory Number
DNIS	Dialed Number Identification Services
DPNA	Direct Private Network Access
DPNSS1	Digital Private Network Signaling System 1
DTI	Digital Trunk Interface
DTMF	Dual Tone MultiFrequency
ECF	Engineering Change Facility
EPROM	Erasable Read Only Memory
ESA	Emergency Service Access
ESDI	Enhanced Serial Data Interface
ETSI	European Telecommunications Standards Institute
ETSI GF	ETSI Generic Functional Protocol
FFC	Flexible Feature Codes
FIAT	Feature Integration Acceptance Testing
FIC	Feature Interactions Chart
FNP	Flexible Numbering Plan
FTC	Flexible Tone and Cadence
GCM	General Call Monitoring
GLW	Galway (NORTEL) Development location
ICCM	Integrated Call Center Manager
IDC	Incoming Digit Conversion
IE	Information Element
INT	INTernal
IPE	Intelligent Peripheral Equipment
IRR	Interim Release Review
ISDN	Integrated Services Digital Network
ISL	Integrated Signaling Link
ISM	Incremental Software Management
IVR	Integrated Voice Response

kHz	Kilo Hertz
MCDN	Meridian Customer Defined Network (Meridian 1 implementation of Q931)
MCMO	Mobility Control card for M1
MFC	Multi Frequency compelled Signaling
MFE	Multi Frequency signaling for Socotel
MLV	Marne la Vallée (NORTEL) Development location
MMT	Meridian Modular Telephone sets
MPK	Mission Park (NORTEL) Development location
MSDL	Multipurpose Serial Data Link
MSN	Mobility Multisite Networking
MWFB	Message Waiting Forward Busy
NACD	Network Automatic Call Distribution
NARS	Network Alternate Route Selection
NAS	Network Attendant Service
NPI	Numbering Plan Identification
NRAG	Network Ring Again on MCDN
NRANA	Network Ring Again on No Answer on MCDN
OA&M	Operation, Administration and Maintenance
PDATA	Protected Data Store (Page 1 RAM)
PI	Product Improvement
PPM	Periodic Pulse Metering
PRD	Product Requirements Document
PSDL	Peripheral Software DownLoad
PSTN	Public Service Telephone Network
QSIG	Q Reference Signaling Point
RCI	Remote Carrier Interface
RCLS	Route Class (Ovl 16)
RM	Release Management
RO	Route Optimization
ROM	Read Only Memory
RPC	Request for Project Change
RPOP	Remote Point Of Presence
SAMM	Stand-alone Meridian Mail
SIC	Service Indicator Code
SPC	Semi Permanent Connection
SSD	Scanning and Signal Distribution
TAT	Trunk Anti Tromboning
TBD	To Be Defined
TDS	Tone and Digit Switch
TFM	Trunk Fail Monitor

TSA	Three Party Services Allowed
TTY	Teletype
UDATA	Unprotected Data Store (Page 0 RAM)
VDN	Virtual Directory Number
VNS	Virtual Network Services