



**XMUCOM+**

**Application Programming Level 1**

**Training Session**

**XMUCOM+**

**Application Programming Level I**

**Training Session**

**Interalia Course # 70005**

# Overview of the Course

- ▶ **Module 1: XMU+/SBX Product Overview & Architecture**
- ▶ **Module 2: XMUCOM+ Software Interface**
- ▶ **Module 3: XMUCOM+ Configuration Design**
- ▶ **Module 4: Application Workshop**



# Course Objectives

**This course will permit you to understand:**

- ▶ **The basic hardware components**
- ▶ **The line card population rules, sizing and capacity**
- ▶ **The installation and connection to host equipment**
- ▶ **The upgrades, system backup and restore procedures**
- ▶ **The access to Interavia Field Installation support**



## Why bother with learning SBX/XMU+

- ▶ **Compatible to all technology platforms**
- ▶ **Supports your customers with a huge variety of applications and functions, such as:**
  - **ACD/UCD Announcements**
  - **Interactive Call Processing**
  - **Pre-recorded scheduled or event-base Messages**
  - **Pre-recorded paging and repetitive Broadcasts**
  - **Music and Marketing-On-Hold**
  - **Redundancy for primary call processing system**
  - **Emergency Messaging**
  - **Information Lines**
- ▶ **Pre-requisite to Application Programming Level 2 Training Session**



# Module 1 – SBX/XMU+ Product Overview & Architecture



# Module 1: Objectives

**After completing this Module, you will be able to:**

- ▶ **Understand the three chassis options**
- ▶ **Understand the system components**
- ▶ **Understand the control card and line cards**



## *Interalia XMU+ and SBX Announcers*

- ▶ **Both the XMU+ and the SBX have a solid state designed microprocessor that offers a solution for small to large sized corporations**
- ▶ **They offer major advantages in processing customer calls for a broad range of customer needs**
- ▶ **Deliver high quality ACD (RAN) announcements**
- ▶ **Interactive auto attendant functionality**
- ▶ **Music On Hold**





## *Interalia XMU+ and SBX Announcers*

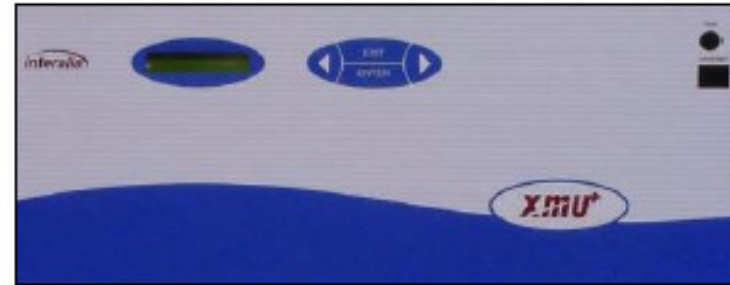
- ▶ **Pre-recorded announcements that play to assigned lines when the unit is activated by an incoming call**
- ▶ **Ability for users to navigate through different levels of messages by entering commands with a touch-tone telephone**
- ▶ **Flash memory that ensures configuration, statistics and messages are not lost in the event of a power failure**
- ▶ **Internal modem and Ethernet port for remote administration**



# XMU+ Review Hardware Components

**XMU+ offered in two styles:**

▶ **XMU+ Large Chassis**



XMU+ Large Chassis

▶ **XMU+ Small Chassis**



XMU+ Small Chassis

- ▶ **Both come with 8 minutes of Standard record time expandable to 16,24,40,68,128 or \*360 minutes**
- ▶ **Both use the same type control card**
- ▶ **Both accept the same types of line cards that are offered**

\* 360 Minutes must be special ordered in advance



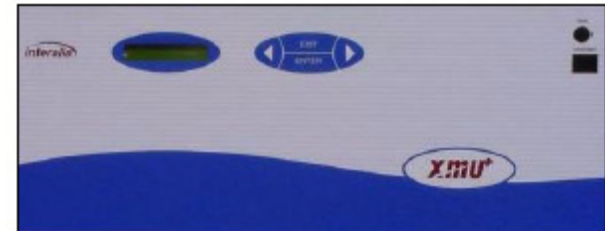
# XMU+ Review Hardware Components

## XMU+ Large Chassis:

- ▶ The XMU+ large chassis handles up to 8 Analog/MOH line cards for Call Processing, Audio Text, ACD Announcements and Music On-Hold (MOH)
- ▶ With a Music-On-Hold card installed, it can also act as a music/messaging on-hold system with two music inputs and four different outputs
- ▶ Redundant (Dual) power available

Provides a flexible configuration:

- 64 Analog channels
- 48 T1 channels
- 8 MOH cards (with dual power supply)



XMU+ Large Chassis



# XMU+ Review Hardware Components

## XMU+ Small Chassis

- ▶ The XMU+ small chassis handles 1 line card for call processing, audio text, ACD announcements, auto attendant or Music on Hold (MOH)
- ▶ With a Music-On-Hold card installed, it can also act as a music/messaging on-hold system with two music inputs and four different outputs

Provides a fixed configuration:

- ▶ Only one line card:
  - 4 or 8 Low Impedance channels
  - 4 or 8 Analog channels
  - 24 T1 channels
  - 1 MOH card



# XMU+ Review Hardware Components

## XMU+ Control Card

### ▶ Modem

- Download firmware remotely
- Remote Administration
- Download canned & system prompts remotely

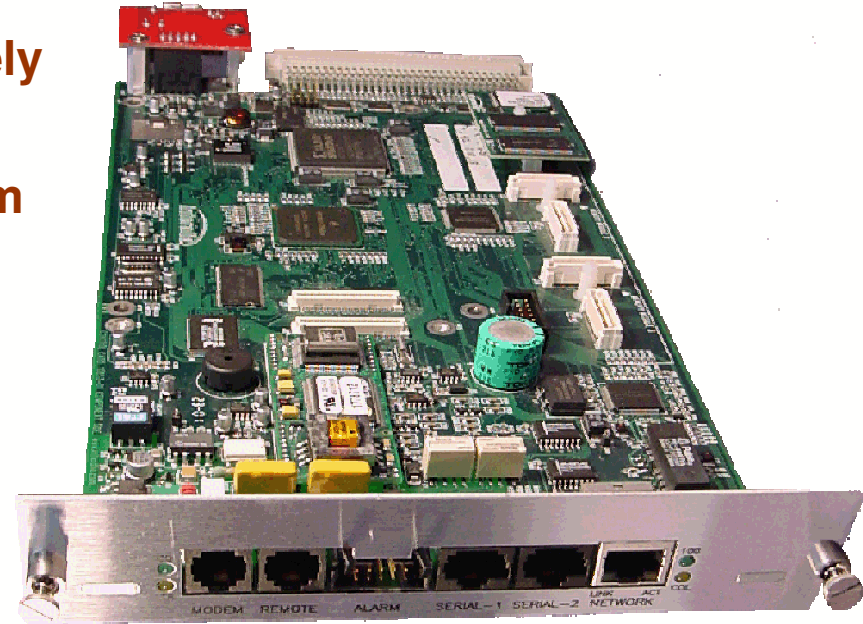
### ▶ Remote Access

### ▶ Alarm

### ▶ Serial port 1

### ▶ Serial Port 2

### ▶ Network Interface



**Flash Memory (up to 6 hours)**



# XMU+ Review Hardware Components

## XMU+ Card Population Rules

### ▶ The XMU+ small chassis:

- Has one slot for placement of only one card of any type

Small Chassis



### ▶ The XMU+ large Chassis:

- Max 8 Low impedance cards
- Max 8 Hybrid cards
- Max 8 MOH cards (dual power supply)
- Max 2 T1 cards (1<sup>st</sup> and 5<sup>th</sup> slot)

Large Chassis



Both sizes require a control card and at least one power supply



# XMU+ Review Hardware Components

## Low Impedance Card

- ▶ Supports passive applications only – ACD/RAN announcements
- ▶ Connect up to 24 UTC ports on a Nortel PBX for 24 concurrent RAN announcements with out RAN Broadcast
- ▶ 4 or 8 ports



**For ACD/RAN Announcements Only**



# XMU+ Review Hardware Components

## Hybrid Card

- ▶ Supports both **Passive (ACD/RAN) and Interactive (Auto Attendant)** applications on a per port basis
  
- ▶ **Interactive Applications:**
  - **Audio text/Information Lines**
  - **Auto Attendant/Call Processing**
  
- ▶ **ACD**
  - **RAN Announcements**
  
- ▶ **4 or 8 ports**



**For ACD/RAN Announcements and Interactive Applications**

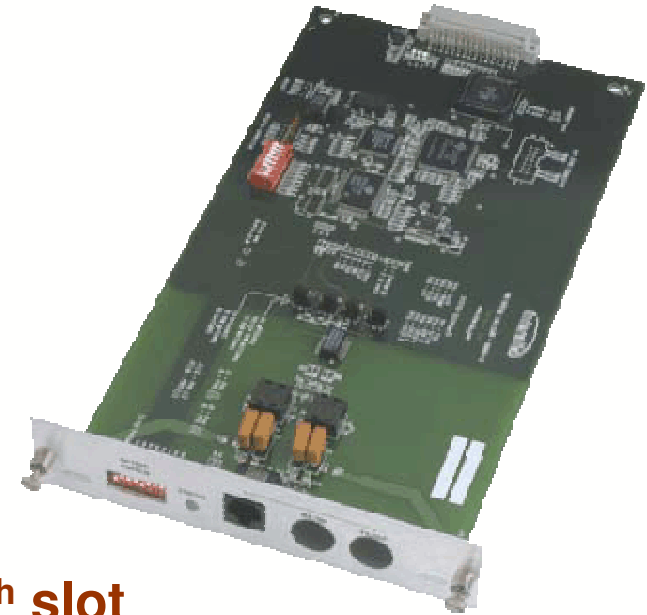




# XMU+ Review Hardware Components

## Digital (T1) Card

- ▶ **T1 (line side T1 – 24 ports)**
  - **Signaling: Loop start or E&M**
  - **Line coding: AMI, B8ZS**
  - **Framing Format: SF/D4 or ESF**
- ▶ **1 Card max. on Small Chassis**
- ▶ **2 Card max. on Large Chassis**
- ▶ **Should only be installed in the 1<sup>st</sup> or 5<sup>th</sup> slot**
- ▶ **Only for call processing/audio text applications**
- ▶ **CAT5 cable to connect RJ-45 port on the T1 line card directly to the RJ-45 on the line side T1 card of the PBX**



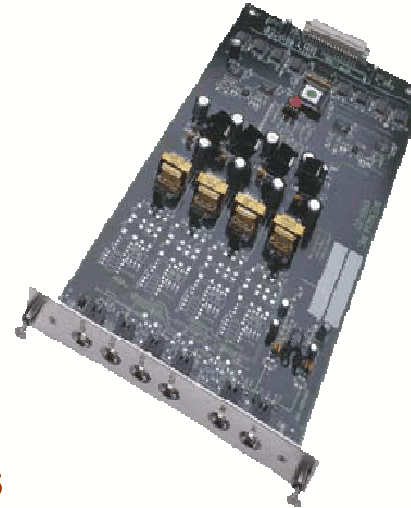
**For Interactive Applications Only**



# XMU+ Review Hardware Components

## MOH Card

- ▶ 4 MOH outputs
- ▶ 2 Music source inputs
- ▶ Configurable fade times
- ▶ Configurable volume levels
- ▶ Combines music and messages
- ▶ Change messages “on the fly” using remote message access



PABX Signal	Input 1	Input 2	Output 1	Output 2	Output 3	Output 4
External	grn	grn				
External	red	red				
MOH Input			grn	grn	grn	grn
MOH Input			red	red	red	red

**For MOH Applications**



# SBX Review Hardware Components

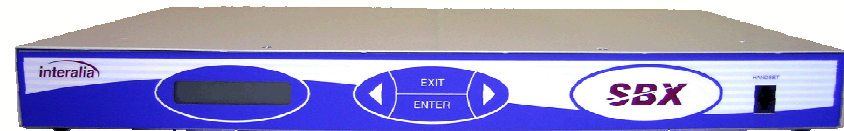
## SBX Applications

- ▶ The SBX can be used for:
  - Auto attendant/Call processing
  - Audio text/Information lines
  - ACD (RAN) Announcements
  - Music on Hold (Optional)

## SBX Options

- ▶ SBX options:
  - 8 Standard /16/32/60 minutes of memory
  - 4 or 8 analog channels
  - 2 MOH outputs (Optional)
  - 1 MOH input (Optional)

**Flash Memory (up to 1 hour)**



**interalia**

# SBX Review Hardware Components

## SBX Chassis

- ▶ Alarm
  - Download firmware remotely
  - Remote Administration
  - Download canned & system prompts remotely
- ▶ Modem
- ▶ Serial port 1
- ▶ Network Interface
- ▶ MOH Output 1
- ▶ MOH Output 2
- ▶ Audio Input
- ▶ Remote Access
  - Message security
- ▶ Analog ports 1- 8



# Module 1: Objectives

**After completing this Module, are you able to:**

- ▶ **Understand the three chassis options?**
- ▶ **Understand the system components?**
- ▶ **Understand the control card and line cards?**



# Module 2 – XMUCOM+ Software Interface



## Module 2: Objectives

**After completing this Module, you will be able to:**

- ▶ **Understand the XMUCOM+ Toolbar**
- ▶ **Understand the XMUCOM+ Menu Bar and Functions**
- ▶ **Understand the XMUCOM+ Site Setup**
- ▶ **Understand the XMUCOM+ Communications**



# XMUCOM+ Software Interface

**XMUCOM+ is a windows-based configuration and communication software program for the both the XMU+ and SBX product lines.**

**The software uses a simple “point and click” interface to help administrators directly manage 1000 or more XMU+/SBX systems via LAN (Network), Modem, or Direct RS-232 connection.**





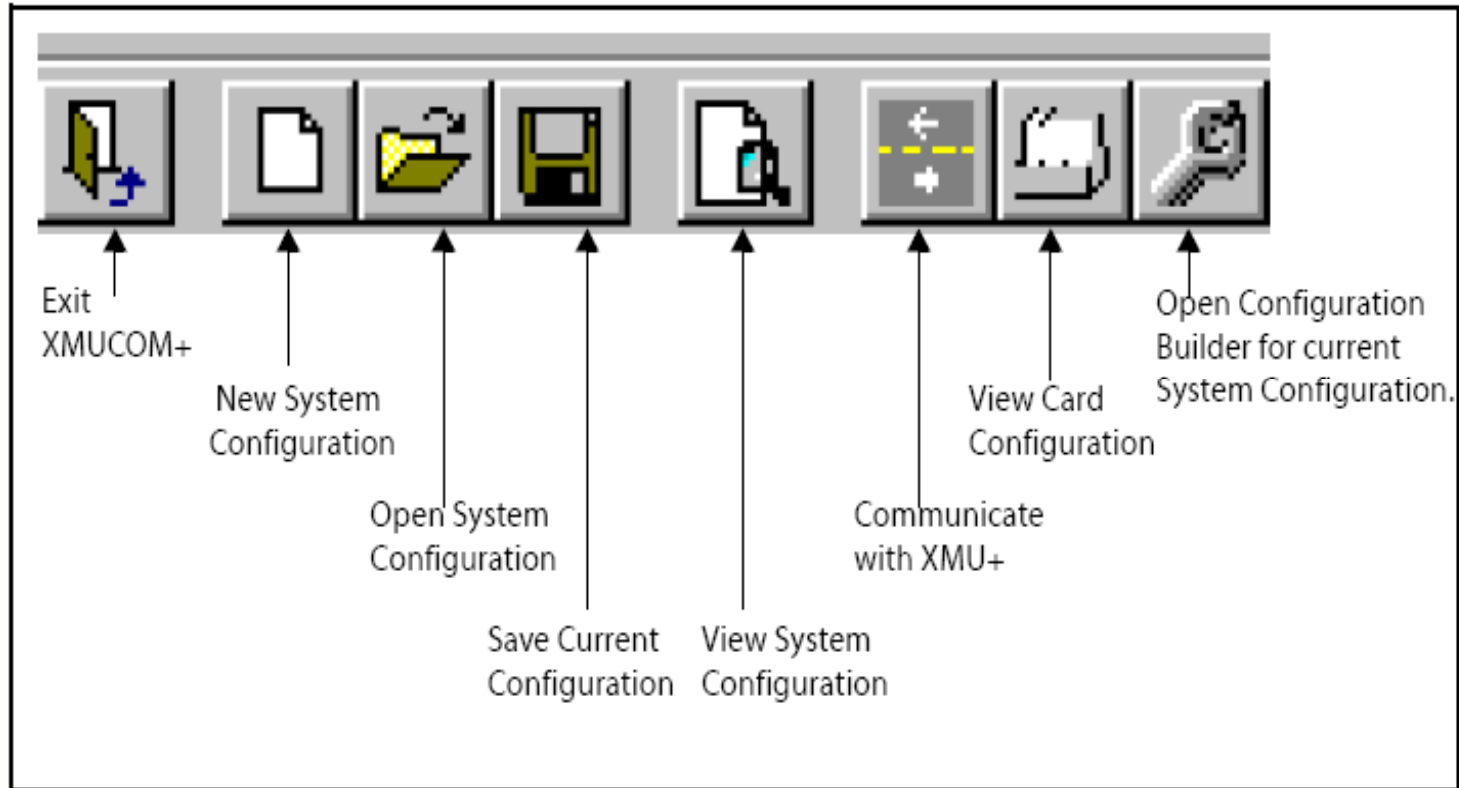
# XMUCOM+ Software

The screenshot displays a Windows XP Professional desktop environment. At the top, a window titled "XMUCOM+ Version 7.23" is open, showing a menu bar with "File", "Tools", and "About" options. The main content area of the window features a world map with the "interalia." logo overlaid in red. On the left side of the desktop, the Start menu is open, listing various system utilities and applications. The "Programs" menu item is selected, revealing a sub-menu with the following items: "Accessories", "XMUCOM+", "ICAS", "Google Earth", and a separator line. The "XMUCOM+" item in the sub-menu is highlighted, and a tooltip below it reads "Shortcut to XMUCOM+ executable". The desktop background is a light blue gradient with a partial view of the XMUCOM+ window's content.

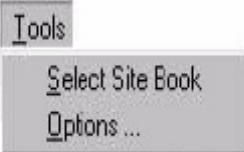


# XMUCOM+ Toolbar

The *XMUCOM+ Toolbar* provides quick access to commonly used commands and tools. The Toolbar remains accessible through all XMUCOM+ functions and screens.



# XMUCOM+ Menu Bar - Tools



## This command...

## Is used to...

Select Site Book

Choose a site book stored on the local drive of your PC, or one saved onto a network drive if shared access is required.

Options

Enable, disable or modify the Auto Save feature, the User Login feature, and notify unprocessed completed tasks.



# XMUCOM+ Menu Bar - File



This command...	Is used to...
New	Create a new XMU+ system configuration.
Open	Open an existing system configuration.
Close	Close current configuration.
Save	Save the current program or system configuration to the database.
Save As	Save the current system configuration under a new file name.
Recent Files	Open the nine most recently used configurations.
Exit	Exit the XMUCOM+ application.

# XMUCOM+ Menu Bar - Communications

- Communication
  - Site Book
  - Import Site Book
  - Export Site Book
- Communicate
  - Completed Scheduled Tas
- Delete Partition
- Synchronize
- Launch ReScheduler
- Launch Telnet Session

This command...	Is used to...
Site Book	Manage and enter site specific information such as site name, site ID, connection methods, file handling standards, and configuration and statistic file handling guidelines.
Import Site Book	Import previously stored site information to a new or existing version of XMUCOM+. Imported site information is stored in the XMUCOM+ database. This process will overwrite any existing entries.
Export Site Book	Export site information from the current version of XMUCOM+ into a backup file.
Communicate	Enter and manage uploads and downloads of configurations to and from the XMU+. These tabs allow you to identify the elements to be downloaded or uploaded, and lets you set schedules for certain activities, such as generating statistics.



# XMUCOM+ Menu Bar - Communications (Cont.)

Completed Scheduled Tasks	View a list of completed scheduled tasks. This menu lets you determine which scheduled communication tasks are completed and can be processed.
Delete Partition	Delete a selected partition from the XMU+ configuration
Synchronize	This feature allows the user to cross reference the PC software configuration with the one currently residing on the XMU+ . A list of nodes/messages existing on the XMU+, but not found in the PC software file will be displayed and can be deleted from the XMU+ at this time if required.
Launch ReScheduler	Open an application which tracks all tasks scheduled and/or repeated in the future before submitting them to SchedulerPlus to be executed.
Launch Dashboard	Open the communication dashboard which displays progress and status on a scheduled event.
Launch Telnet Session	Start a diagnostic session with an XMU+ via Telnet.

# XMUCOM+ Menu Bar - Configuration

Configuration

Card Configuration  
Configuration Builder

View Configuration

## This command...

## Is used to...

Card Configuration

Open the *Card Configuration* window so that you can configure and set options for the various cards in the XMU+ unit. This includes:

- ◆ Specifying the types of cards on your XMU+ unit.
- ◆ Identifying the program configuration (start nodes) that are to run from each line and partition.
- ◆ Setting Line and Partition behaviors.

Configuration Builder

Open the *Config Builder* window, where you can design, edit, modify, or delete program configurations, their associated nodes, and their partition settings.

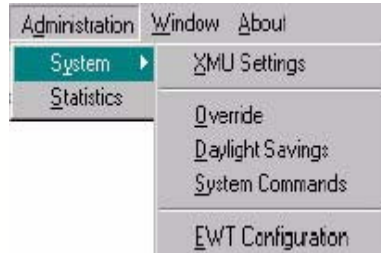
Developers can create the program configuration on the XMUCOM+ (independent of the XMU+ unit) and download them using the **Communications** command when they are ready to test and implement them.

View Configuration

Display a text-based view of your current system configuration. This file provides summary information about all the partitions, cards, default nodes, program nodes, commands, and messages that make up your current system configuration.



# XMUCOM+ Menu Bar - Administration



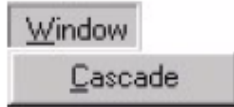
This command...	Is used to...
System	<p>Set XMU system settings, access codes, session limits, partitioning, and other XMU+ options. The four main sub-menu options are:</p> <p><b>XMU Settings:</b> Use this window to set access codes, session limits, enable partitioning, modes of operation, and language of operation.</p> <p><b>Override:</b> Use this window to set the start node for the override configuration (for each line on each card) of an XMU+ unit.</p> <p><b>Daylight Savings:</b> Use this window to set the start and stop dates for daylight savings. This command is only required for those parts of the country that implement daylight savings.</p> <p><b>System Commands:</b> Lets you set, retrieve, and send date, time, and firmware related information to the selected XMU+ unit. These tasks are not commonly used. Most of these tasks can also be performed directly from the Front Panel of the XMU+ box.</p>
Statistics	<p>Retrieve and view statistics for a specific site and partition of the selected XMU+ unit. Users can also choose to view existing or already retrieved statistics.</p>





# XMUCOM+ Menu Bar – Window/About

## Window Menu.



This command...	Is used to...
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Cascade	Cascade open windows for easy access.
---------	---------------------------------------

## About Menu.



This command...	Is used to...
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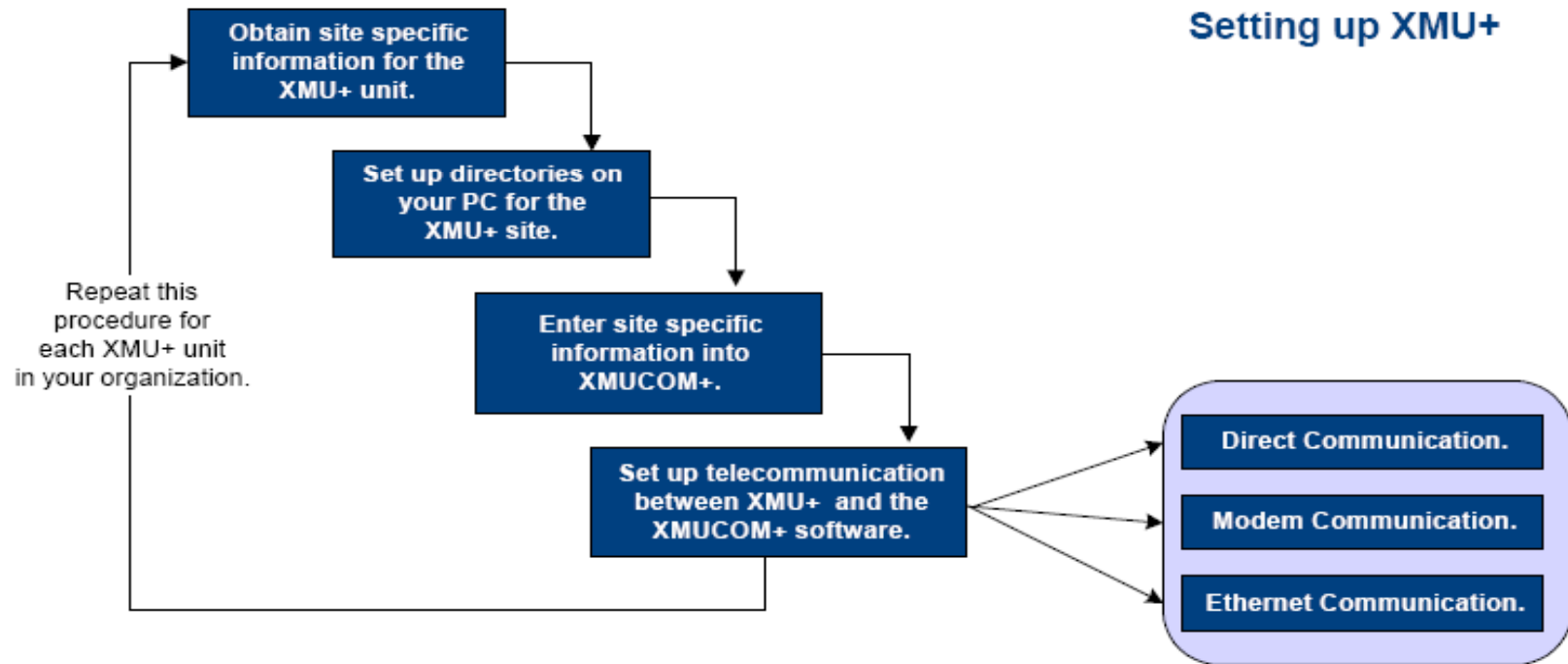
About Interavia's XMUCOM+	Provide general information about the XMUCOM+ application, its version, and contact information.
---------------------------	--



# XMUCOM+ Site Setup

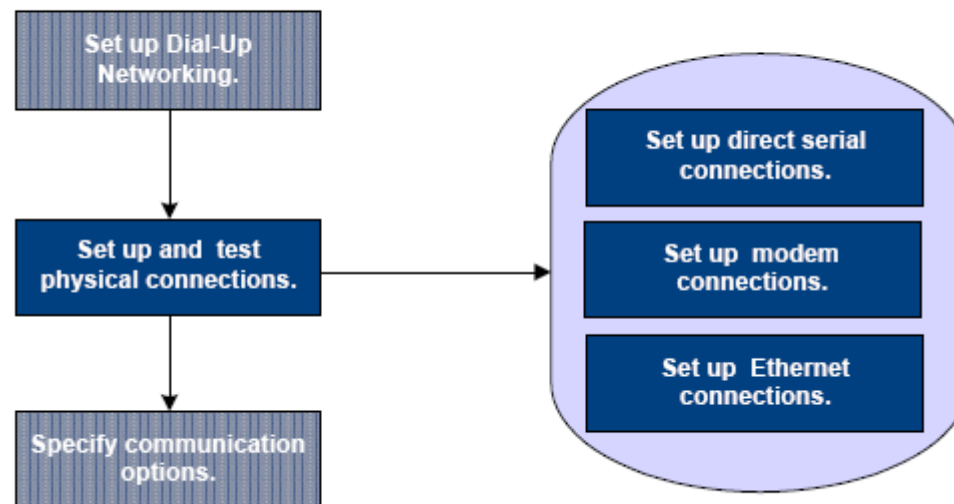
## Overview - Site Preparation

XMU+ units can be installed at multiple sites or locations. Organizations that choose to install XMU+ at multiple sites must properly organize, document, and prepare site specific information. XMUCOM+ site management features let you manage multiple XMU+ sites from a single location.



# XMUCOM+ Site Setup

## Set up Physical Communication to XMU+



# XMUCOM+ Communications

Communication

Site Book

**New Site**

**Site Information**

Site Name: Company XMU+

Site ID: Minneapolis

XMUCOM+ Access Code:

Chassis Type: UNKNOWN

**Connection**

Connect Method: LAN

IP Address: 192 . 168 . 100 . 2

Dial-up Connection: Modem

Number to Dial:

**FTP Security**

Enabled

**File Handling**

**Message Files**

Default Path: C:\Program Files\XMUCOM+\MSGS\ ...

**Configuration Files**

Overwrite

Auto Increment

Default Filename: config.xmp

Default Path: C:\Program Files\XMUCOM+\CONFIGS\ ...

**Statistic Files**

Overwrite

Auto Increment

Default Filename: stat.csv

Default Path: C:\Program Files\XMUCOM+\STATS\ ...

OK Cancel Apply



# XMUCOM+ Communications

- Communication
  - Site Book
  - Import Site Book
  - Export Site Book
- Communicate
  - Completed Scheduled Tasks
- Delete Partition
- Synchronize
- Launch RgScheduler
- Launch Telnet Session

**Communication** [Minimize] [Maximize] [Close]

Step1: Operations | Step2: Site/Schedule

**Send to XMU+/SBX**

**Send Configurations**

- Send Entire Configuration
  - Integrity Check
  - Synchronize
- Send Partition in Configuration
- Send Node(s) in Configuration

**Send Messages**

- Send All Messages
- Send Message(s) in Partition

**Receive from XMU+/SBX**

**Receive Configurations**

- Receive Entire Configuration

**Receive Messages**

- Receive All Messages
- Receive Message(s) in Partition

**Statistics**

**Single Partition**

- Receive Statistics
- Reset Statistics
- Receive Reset Statistics

**Select Nodes**

Available Node(s) | Selected Node(s)

View XMU+/SBX

Add >>

<< Remove

Close | Apply



# XMUCOM+ Communications

**Communication**

Step1: Operations      **Step2: Site/Schedule**

**Select Site**

**Available Site(s)**

Site Name	SiteID	Method	Chassis Type
-----------	--------	--------	--------------

**Selected Site(s)**

Site Name	SiteID	Method	Chassis Type
Company ...	Minn...	LAN	XMU+

Add >>

<< Remove

**Select Schedule**

Option:

Close      Apply



## Module 2: Objectives

**After completing this Module, are you able to:**

- ▶ **Understand the XMUCOM+ Toolbar?**
- ▶ **Understand the XMUCOM+ Menu Bar and Functions?**
- ▶ **Understand the XMUCOM+ Site Setup?**
- ▶ **Understand the XMUCOM+ Communications?**



# Module 3 – Configuration Design Nodes





## Module 3: Objectives

**After completing this Module, you will be able to:**

- ▶ **Understand the basic XMUCOM+ Configuration Nodes**
- ▶ **Understand how the modules interrelate / interconnect**
- ▶ **Ready to program**



# Configuration Design Nodes

## **NODES:**

**A Node consists of a group of commands or XMU+/SBX settings. Nodes are building blocks that are linked together to create a program/configuration to control the actions that the XMU+/SBX performs. The actions performed by each node are based on specific commands and parameters that are coded within that node.**

**Nodes are used as steps within a call flow, to add menu choices, play additional messages. Add time/date screening, provide user interaction and responses, transfer calls, or allow branching to new actions**

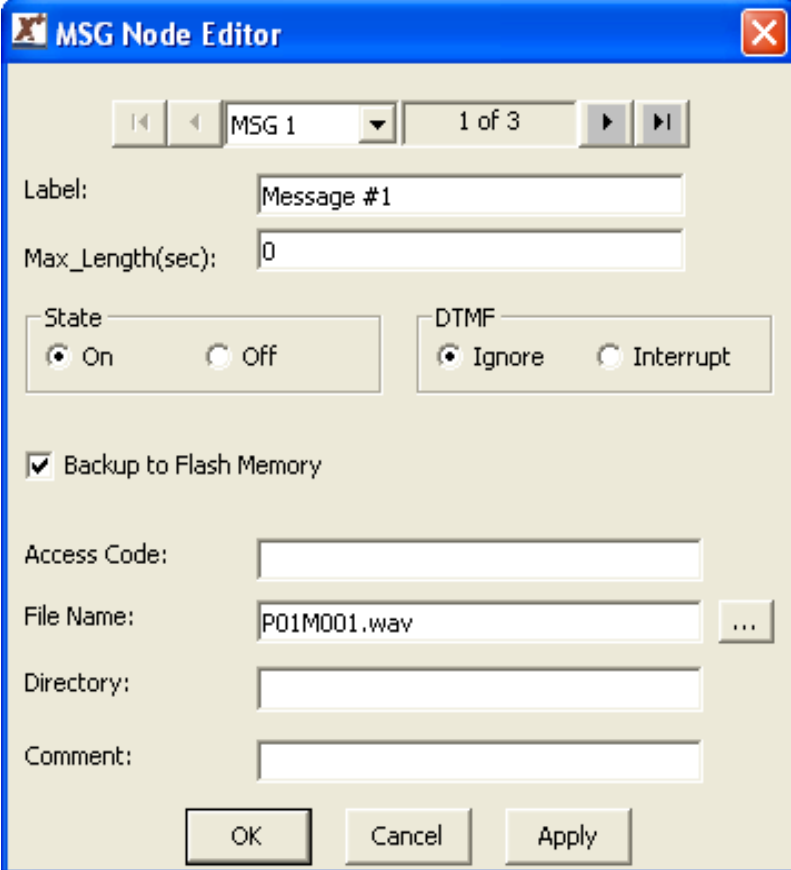


# Nodes

## Message Node:

Used to identify and store message file information.

Each message node, with its associated message or music file, can be re-used in multiple locations within a single program configuration.



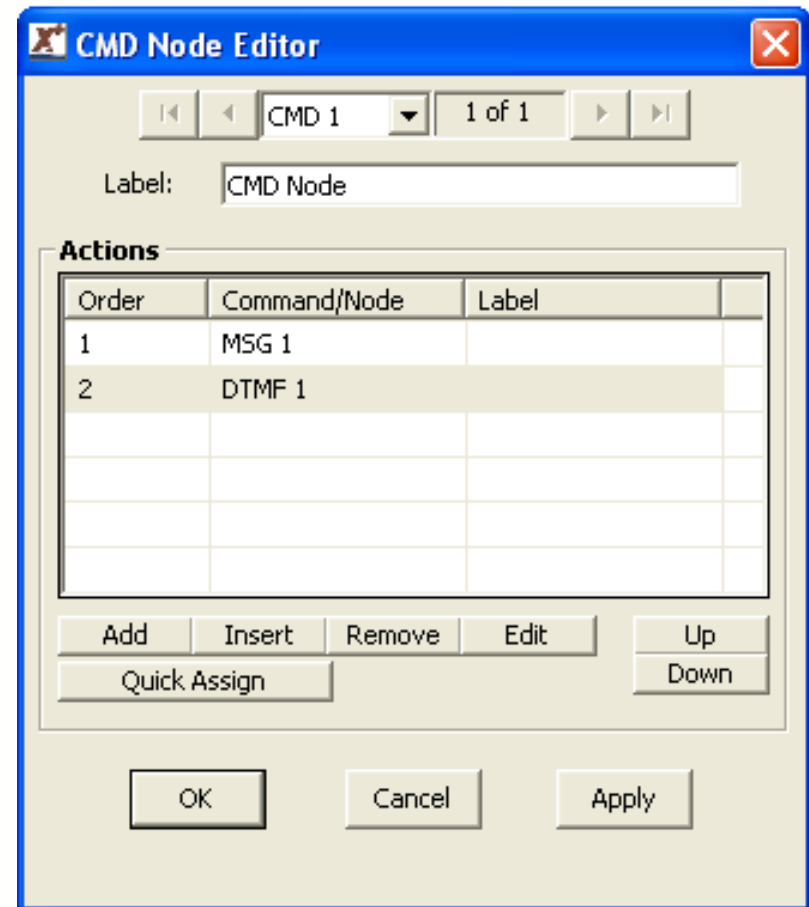
The screenshot shows the 'MSG Node Editor' dialog box. At the top, there is a title bar with the text 'MSG Node Editor' and a close button. Below the title bar, there is a navigation area with a dropdown menu showing 'MSG 1' and '1 of 3' pages. The main area contains several fields and controls: 'Label:' with a text box containing 'Message #1'; 'Max\_Length(sec):' with a text box containing '0'; 'State' with radio buttons for 'On' (selected) and 'Off'; 'DTMF' with radio buttons for 'Ignore' (selected) and 'Interrupt'; a checked checkbox for 'Backup to Flash Memory'; 'Access Code:' with an empty text box; 'File Name:' with a text box containing 'P01M001.wav' and a browse button (...); 'Directory:' with an empty text box; and 'Comment:' with an empty text box. At the bottom, there are three buttons: 'OK', 'Cancel', and 'Apply'.

# Nodes

## CMD Node:

Contain other commands and nodes to group a related set of commands.

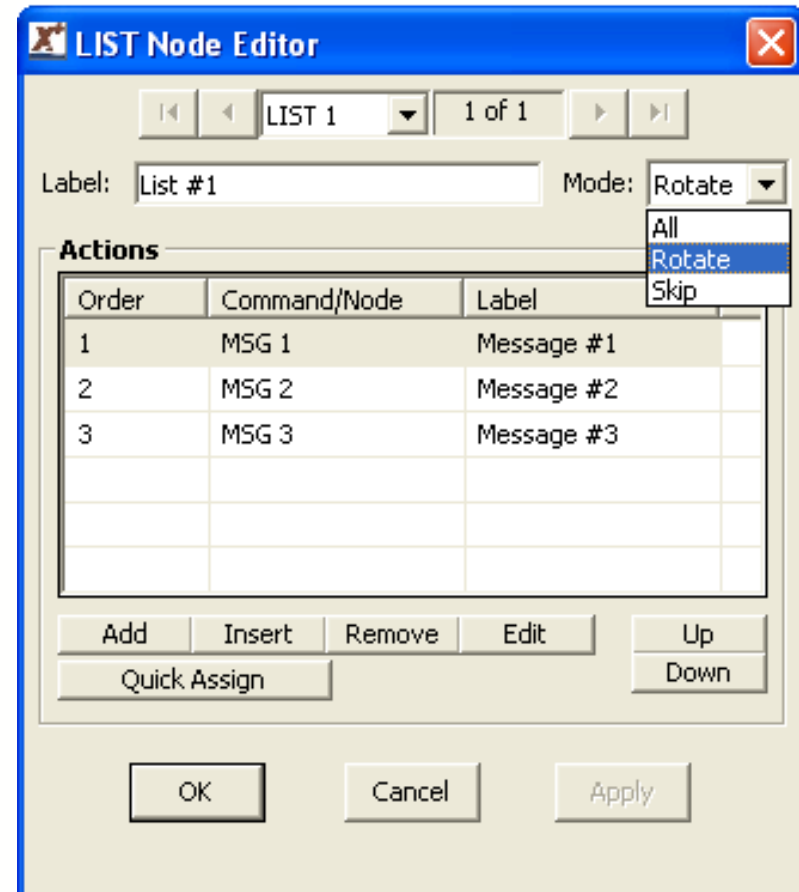
It is typically used to execute a series of commands that can send the caller to various destinations.



# Nodes

## List Node:

Used to insert a series of messages into an XMU+/SBX program configuration



# Nodes

## Date Node:

Will execute a set of commands on a specific date or day, or within a range of dates.

DATE Node Editor

DATE 1 1 of 1

Label: Date 1

Mode:  Day  Date

Start: Saturday Stop: Sunday

Order	Command/Node	Label
1	MSG 1	Message #1

Buttons: Add, Insert, Remove, Edit, Up, Down, Quick Assign, OK, Cancel, Apply

# Nodes

## Time Node:

Will execute a group of commands when a call is received within a specific time range.

TIME Node Editor

TIME 1 1 of 1

Label: Time Node

Start: 17 : 00

Stop: 08 : 00

Order	Command/Node	Label
1	MSG 1	Message #1

Add Insert Remove Edit Up Down Quick Assign OK Cancel Apply

# Nodes

## XFER Node:

**Group settings and commands that allow the XMU+/SBX to perform call transfers.**

XFER Node Editor

XFER 1 1 of 1

Label: Transfer 1

Dial: 0

Style: STYLE 1 <Default>

	Command/Node	Label
Hold	MSG 1	
MOH	NOOP	
Busy 1	MSG 1	Message #1
Busy 2	MSG 1	Message #1
No Answer	MSG 1	Message #1
Answer	MSG 1	Message #1

Edit Default

OK Cancel Apply



# Nodes

## STYLE Node:

Settings that ensure the XMU+ unit will perform transfers in a manner compatible with the PBX (hook-flash duration etc.)

**STYLE Node Editor**

STYLE 1 1 of 3

Label: Transfer Style 1

**Supervised**

BLIND  PARTIAL  FULL

DIALCONTINUE  ENHANCED

Hook Flash (msec): 500

Transfer: !

Disconnect:

Threshold: Low

Retrieve: !

Busy Retry (sec): 4

Num Retries: 3

Ring Limit: 5

Busy On (msec): 500

Busy Off (msec): 500

Ring On (msec): 2000

Ring Off (msec): 4000

OK Cancel Apply

*interalia*

# Nodes

## DTMF Node:

Used to present menu selection prompts to a callers, and to execute specific actions depending on the digits entered by the caller.

Each action has a pre-defined target such as playing a message, transfer to an extension or sub-menu.

The screenshot shows the 'DTMF Node Editor' window. At the top, there are navigation buttons and a dropdown menu set to 'DTMF 1', with '1 of 1' displayed. The 'Label' field contains 'DTMF 1'. The interface is divided into several sections:

- Prompts:** A table with columns 'Order', 'Command/Node', and 'Label'. It contains one row: Order 1, Command/Node MSG 1, Label Message #1. Below the table are buttons for 'Add', 'Insert', 'Remove', 'Edit', 'Up', 'Down', and 'Quick Assign'.
- Exceptions:** A table with columns 'Command/Node' and 'Label'. It contains three rows: Timeout NOOP, Invalid NOOP, and Abort XFER 1 (Label Transfer 1). Below the table are 'Edit' and 'Default' buttons.
- Actions:** A table with columns 'Key Press', 'Command/Node', and 'Label'. It contains three rows: Key Press 2, Command/Node MSG 2, Label Message #2; and Key Press 3, Command/Node MSG 3, Label Message #3. Below the table are buttons for 'Add', 'Insert', 'Remove', 'Edit', 'Up', 'Down', and 'Quick Assign'.
- Configuration Fields:** A series of dropdown menus: 'Number of Digits' (1), 'Terminating Digit' (No), 'Retry Limit' (1), 'Selection Time Out(sec)' (5), 'Digit Time Out(sec)' (2), and 'DTMF Clear' (Yes).
- Buttons:** 'OK', 'Cancel', and 'Apply' buttons are located at the bottom of the window.

# Nodes

## AUTO Node:

Used to develop Auto-Attendant program applications.

Allows you to provide a menu that allows callers to dial Both extension ranges and single key press options in the same menu (no need to “press one to dial by extension”).

**Prompts**

Order	Command/Node	Label
1	MSG 1	Message #1

**Actions**

Entry	Command/Node	Label
1000-9999	XFER 2	Transfer 2
0-0	XFER 1	Transfer 1

**Exceptions**

	Command/Node	Label
Timeout	NOOP	
Invalid	NOOP	
Abort	XFER 1	Transfer 1
*	NOOP	
#	NOOP	

Number of Digits: 4  
Terminating Digit: No  
Retry Limit: 1  
Selection Time Out(sec): 5  
Digit Time Out(sec): 2

# Nodes

## VOX Node:

Used to provide a menu that responds to caller's voice prompts instead of DTMF prompts.

The screenshot shows the 'VOX Node Editor' window. At the top, there are navigation buttons and a dropdown menu set to 'VOX 1', with '1 of 1' displayed. The 'Label' field contains 'VOX 1'. The interface is divided into several sections:

- Prompts:** A table with columns 'Order', 'Command/Node', and 'Label'. It contains one entry: Order 1, Command/Node MSG 1.
- Exceptions:** A table with columns 'Command/Node' and 'Label'. It contains three entries: Timeout MSG 1, Abort MSG 1, and DTMF MSG 1.
- Actions:** A table with columns 'Prompt', 'Command/Node', and 'Label'. It contains one entry: Prompt MSG 1, Command/Node MSG 2.

Below each table are buttons for 'Add', 'Insert', 'Remove', 'Edit', 'Up', and 'Down'. There is also a 'Quick Assign' button. On the right side, there are four settings with dropdown menus: 'Beep' (Yes), 'Threshold' (6), 'Wait(sec)' (2), and 'Retry Limit' (3). At the bottom of the window are 'OK', 'Cancel', and 'Apply' buttons.

# Nodes

## MOH Node:

**Allows the XMU+ (with MOH interface card) to be used as a Music on Hold source for delivering a combination of messages and music to callers on hold.**

MOH Node Editor

MOH 1 1 of 1

Label: MOH 1

Fade Time: 2.5

Music Level: 6

	Command/Node	Label
Voice	CMD 1	CMD Node
Music	MSG 1	Message #1

Edit Default

OK Cancel Apply

# Nodes

## PAAS Node:

Used to activate a message or a series of messages to be played over a Public Address Announcement System.

PAAS Node Editor

PAAS 1 1 of 1

Label: PAAS 1

Card: 1

Line: 1

Priority: 0

Interrupt: Yes

**Actions**

Order	Command/Node	Label
1	MSG 1	Message #1

Add Insert Remove Edit Up Down Quick Assign OK Cancel Apply

# Nodes

## TABLE Node:

Used to carry out an action based on a user defined schedule.

This schedule can be activated using the following modes: Time, Date, Month, Day, (Day of) Week, Hourly, Monthly and Calendar year.

TABLE Node Editor

TABLE 1 1 of 1

Label: Table 1

Mode: Weekly

Invalid: TABLE 2

Continue: NOOP

Pattern:

Range	Command/Node	Label
Sat - Sun	MSG 1	

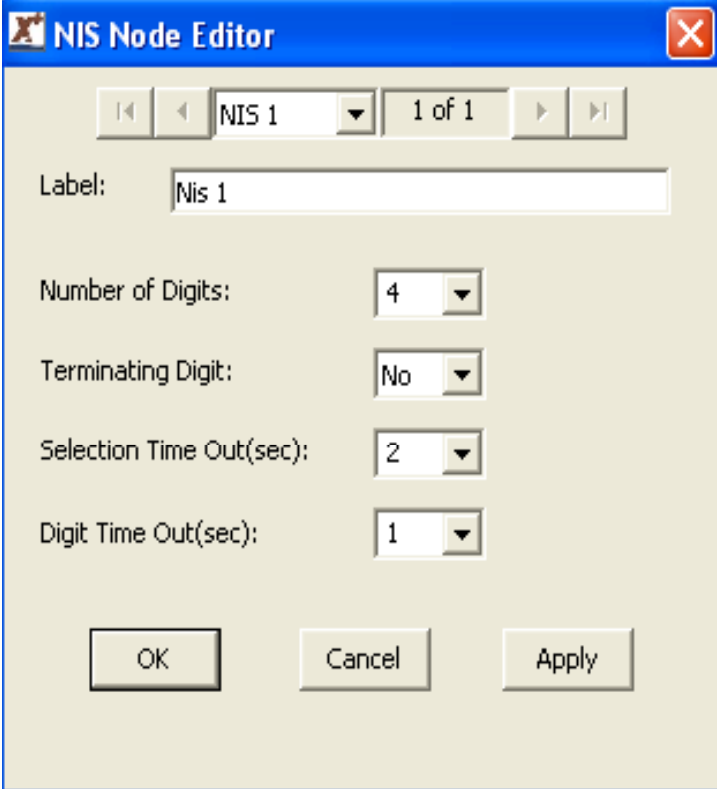
Add Insert Remove Edit Quick Assign Up Down OK Cancel Apply

# Nodes

## NIS Node:

**Used to carry out an action based on DTMF digits received after going off hook, such as DNIS/ANI digits.**

**Actions can be based on the whole DTMF string or sub sections within it.**



The image shows a software dialog box titled "NIS Node Editor". At the top, there are navigation buttons (back, forward) and a dropdown menu showing "NIS 1" and "1 of 1". Below this is a "Label:" field containing "Nis 1". There are four rows of settings, each with a label and a dropdown menu: "Number of Digits:" set to "4", "Terminating Digit:" set to "No", "Selection Time Out(sec):" set to "2", and "Digit Time Out(sec):" set to "1". At the bottom, there are three buttons: "OK", "Cancel", and "Apply".



# Nodes

## DBN Node:

Contains details used by the XMU+/SBX to perform Dial by Name applications.

DBN Node Editor

DBN 1 1 of 1

Label: Dial-By-Name 1

Greeting: NOOP

Directory: DIR 1

Method: Default Last Name

Language 1: English

Language 2: None

	Command/Node	Label
Valid Match	XFER 1	Transfer 1
Abort	MSG 1	Message #1
*	NOOP	
#	NOOP	
0	NOOP	

Edit Default

OK Cancel Apply

# Nodes

## DIR Node:

Used in conjunction with the DBN Node.

Contains the Directory of names and extensions used by the DBN Node.

DIR Editor

DIR 1 1 of 2

Label: DBN Directory

Access Code: Starting Prompt: MSG 11

Directory

CSV File format: LastName,FirstName,Extension

CSV Filename:

LastName	FirstName	Extension	Prompt
Gomez	Carlos	110	11
Kubel	Jason	120	12
Mauer	Joe	130	13
Nathan	Joe	150	15
Morneaw	Justin	140	14

Add Insert Remove Edit Save List Up Down OK Cancel Apply

# Nodes

The screenshot shows a 'Card Editor' dialog box with a dropdown menu set to 'Hybrid-01'. Below the dropdown is a table with 8 rows and 8 columns. The columns are labeled: Input, Partition, Starting Node, Volume, Mode, NIS Option, EWT Option, and Label. The rows contain data for inputs 1 through 8, all with 'Partition 1', 'MSG 1' through 'MSG 8', 'High' volume, 'R= 1' mode, and 'Disabled' options. At the bottom of the dialog are 'OK', 'Cancel', and 'Apply' buttons, and a status bar showing '1- Hybrid-01' and '1 of 8'.

Input	Partition	Starting Node	Volume	Mode	NIS Option	EWT Option	Label
1	Partition 1	MSG 1	High	R= 1	Disabled	Disabled	
2	Partition 1	MSG 2	High	R= 1	Disabled	Disabled	
3	Partition 1	MSG 3	High	R= 1	Disabled	Disabled	
4	Partition 1	MSG 4	High	R= 1	Disabled	Disabled	
5	Partition 1	MSG 5	High	R= 1	Disabled	Disabled	
6	Partition 1	MSG 6	High	R= 1	Disabled	Disabled	
7	Partition 1	MSG 7	High	R= 1	Disabled	Disabled	
8	Partition 1	MSG 8	High	R= 1	Disabled	Disabled	

## Starting Nodes:

Set the first action that the XMU+ must perform when a call is received at a specific port. This is a one step entry that must be performed on each XMU+ port.



## Module 3: Objectives

**After completing this Module, are you able to:**

- ▶ **Understand the basic XMUCOM+ Configuration Nodes?**
- ▶ **Understand how the modules interrelate / interconnect?**
- ▶ **Ready to program?**



# Module 4 – Application Workshops



## Module 4: Objectives

**After completing this Module, you will be able to:**

- ▶ **Understand the basic XMUCOM+ Configuration Nodes**
- ▶ **Understand how the modules interrelate / interconnect**
- ▶ **Ready to program**



# Application Workshop

**Develop applications and download the files to the XMU+**

**(See Workshop handout)**



## Module 4: Objectives

**After completing this Module, are you able to:**

- ▶ **Understand the basic XMUCOM+ Configuration Nodes?**
- ▶ **Understand how the modules interrelate / interconnect?**
- ▶ **Ready to program?**





## Course Review...

- ▶ **Module 1: XMU+/SBX Product Overview & Architecture**
- ▶ **Module 2: XMUCOM+ Software Interface**
- ▶ **Module 3: XMUCOM+ Configuration Design**
- ▶ **Module 4: Application Workshop**





**XMUCOM+**

**Application Programming Level 1**

**Training Session**

**Thank you for Attending**

