



# Innovation

## The Power To Develop Your Own IVR Systems



**IVR Application Generator • Linux • MySQL**



# Features

## The Matrix<sup>2</sup> is an IVR applications Generator

developed for MCCT's MATRIX<sup>2</sup> IVR Platform. Create your own IVR Applications, Configure IVR ports, View the Real Time Display of call activity, Administer IVR systems, users and plans. Although the Matrix<sup>2</sup> IVR is a Linux based workhorse, MCCT understands that most people have Windows™ on their local PC. MCCT's front end Windows™ applications communicate with the Linux applications using the standard ODBC interface and TCP/IP sockets.

### A Partial list of features:

- Security and user rights. Allows assigning / revoking different applications' rights to a user.
- The front-end Windows™ applications and back-end Linux applications interact using the standard ODBC interface and TCP/IP sockets.
- Configurable port number for socket communication between the Windows™ client and backend display server.
- Uses a multi-threaded display server daemon to provide the line display and prompts maintenance functionality to the front-end windows applications, so as to reduce load on the CPU and provide faster response time.



- A Matrix Plan is a group of Matrix commands which can be used to develop custom IVR applications. Plan development is made easy by adding options such as moving, copying and inserting of a single / group of commands anywhere in the plan.
- Commands organized in logical groups.
- Allows user to create prompts on the Linux backend simultaneously while editing a plan.
- Allows use of any standard prompt format (e.g. PCM8U, PCM8A) for playing prompts. Automatically selects and plays a .wav prompt irrespective of the prompt format.
- Prompts to be played / recorded can be from any directory. These just need to be specified in the requisite system variables before playing / recording prompts.
- Allows use of MySQL expressions to set values of plan variables.
- A user can pre-assign values to the system variables as well as pre-define user variables outside the plan.
- Allows use of most characters for user variable and prompt name (except for certain reserved keywords).
- Use of Labels to signify locations to transfer control in an execution of a plan. The flow of control can jump to a label in the same plan, to a different plan or to a label in a different plan.

# Generate IVR Applications

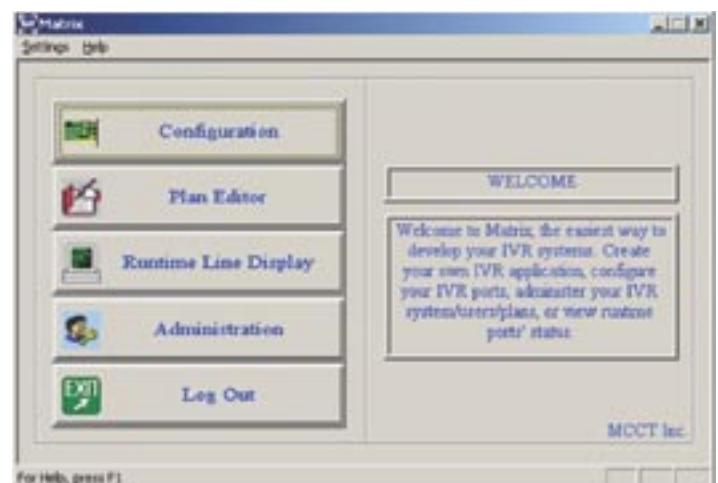


- Text-to-Speech commands are available to be used for Text-to-Speech conversion. Text-to-Speech conversions are also automatically done from text files while playing prompts if a prompt file of suitable format is not found.
- Database commands for building database functionality for any telephony application.
- Complete set of Voice Chat commands for building a Voice Chat application.
- Allows users to write and call custom C++ functions (hooks).
- Extensive and easily accessible help for all commands.
- Allows user to copy a plan (fully or in parts) from one machine to another plan (append or overwrite) on a different machine.
- Allows the user to remotely restart a line or disconnect all users from the front-end Real Time Display Application.
- The Real Time Display Application provides additional debug info as the user can view shared memory values or plan variable values during runtime.
- The Windows™ applications save user settings from the previous user session.



## Matrix<sup>2</sup> Application Screen

This is the launching pad for all Matrix<sup>2</sup> applications. All Matrix<sup>2</sup> functions can be accessed easily from this screen. Also, multiple instances of all Matrix<sup>2</sup> applications can be opened from here to allow for easy lookups for building a telephony application



# Plan Editor

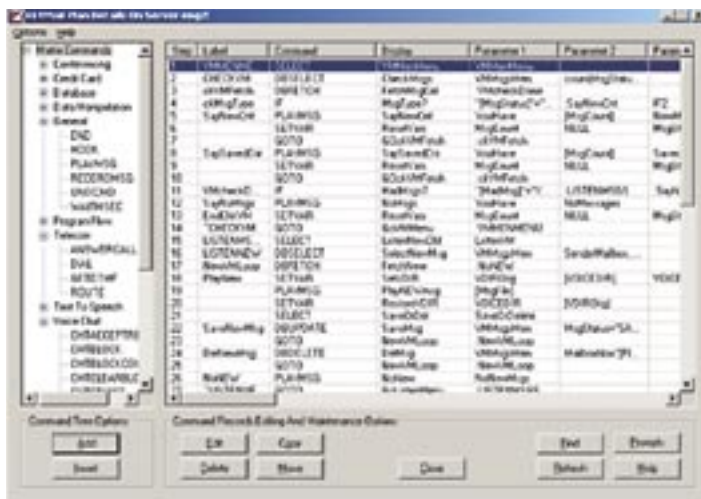
## A Matrix<sup>2</sup> Plan is a group of Matrix<sup>2</sup>

commands which can be used to develop custom IVR applications. Plan development is made easy by adding options such as moving, copying and inserting a single or group of commands anywhere in the plan.

## Commands are broken into logical groups

such as Program Flow, Conferencing, Database, Chat, Telecom, Text to Speech and others. Each command has an extensive and easily accessible help feature. The Matrix<sup>2</sup> command set is very powerful and will continue to grow. In addition, custom C++ functions can be written by a user and called within the plan.

## PlanEditor App Main Screen & Command Line Commands



**Prompts can be entered** while creating or editing a plan and named anything the programmer desires. The Text-to-Speech mechanism allows the programmer to immediately test his application without having to record voice files. Once the programmer is satisfied with the prompts, the text of the prompts can be retrieved for professional recording.

**Voice files can be played or recorded** in several formats including PCM8U, PCM8A, ADP6 and ADP8. The play commands will determine the format of the voice file and play it appropriately. In addition, if a recorded voice file does not exist, the text file of the prompt will automatically be played by the Text to Speech engine.

**Variables can be created by the Matrix<sup>2</sup>** programmer which can be manipulated by a powerful set of expression operators. These operators include Arithmetic, Comparison, Logical, Text Manipulation, Pattern Matching, Bit Level, Boolean, Date and Time. Variables can be created within the plan, or pre-assigned based on a DNIS number or both. These variables can be named anything the programmer desires with the exception of a few reserved keywords.

**Call flow is not limited to a single plan.** Plan execution can continue at any step desired in any plan with a simple GOTO command. In addition, the JUMPOUT and JUMPBACK commands are useful for plan sequences that may be used repeatedly in your application.

## Typical help screen.

Below is a snapshot of a typical help screen for a command. Pressing the F1 key while editing, adding or inserting commands pops up the help screen for that command.



# Real Time Display • Configuration • Administration

## REAL TIME DISPLAY

Watch the real time activity of calls with the ability to disconnect callers and restart lines.

**Gives the ability to view System Variables,** user defined Variables and Shared Memory. This information is invaluable to a plan developer while testing or debugging a new application.

## CONFIGURATION

Configure the Telephony Interface with the Port Configuration Screen. Many protocols are supported including E-1, T-1, ISDN and Analog lines.

**Has the ability** to run a plan on a specific port that is provided as well as the ability to specify a plan to run when a specific DNIS is received.

**DNIS specific variable sets** can be used within a plan to customize a plan for a specific DNIS number.

## Port Configuration Listing Screen.

This displays the information about each port in a list format.

Port ID	Speed	Ports	Protocol	Plan	Main Call Back	Extension	Trunk Code	Line Group
22	0	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
23	0	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
24	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
25	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
26	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
27	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
28	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
29	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
30	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
31	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
32	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
33	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
34	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
35	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
36	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
37	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
38	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
39	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
40	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
41	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
42	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
43	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
44	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
45	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40
46	30	ade	localnet	DMS	ade	1234	1807	2802-05-30-95-27-40

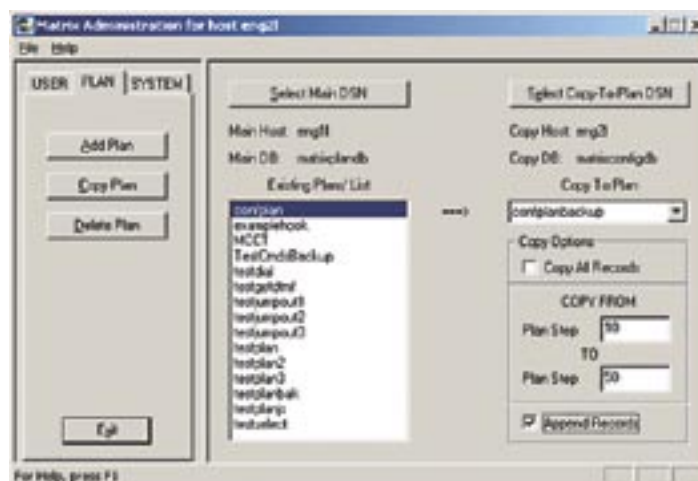
## ADMINISTRATION

Plans can be copied in their entirety or in sections to another plan. This eliminates the need to re-write or re-enter common features of an application.

**Add users and passwords** as well as assign/ revoke functions those users have access to.

**Define variable groups** that can be configured for use with specific DNIS numbers.

## Admin Create/Edit Plan Screen



## Admin Create/Edit Variables' Groups Screen

Variable Name	Value	Type
DISCONREASON		SYSTEM
DISCONSOURCE		SYSTEM
DNIS		SYSTEM
ERRLOG	/usr/Mats/errlog/mats_err	SYSTEM
HUPSTEP	hupsp	SYSTEM
LINE_NO		SYSTEM
MOXTIME	0000	SYSTEM
DISCONHUPSTEP	end	SYSTEM
PLANNAME		SYSTEM
PLAYPRIORITYA	POMBU,ADPE,ADPS,POMBU,DD	SYSTEM
PLAYPRIORITYB	POMBA,ADPE,ADPS,POMBA,DD	SYSTEM
PLAYPRIORITYC	POMBU,ADPE,ADPS,POMBU,DD	SYSTEM
RECORDRATE	POMBU	SYSTEM
SAVECURRENCY	FORMAL	SYSTEM
SAVEDATE	DDMM/YY	SYSTEM
SAVETIME	120000	SYSTEM
START_TIME		SYSTEM
SYSTEMSOUR	/usr/Mats/system/english/	SYSTEM

# Text to Speech (TTS)

**Looking to deploy powerful** and unique value-added services that drive adoption, retention and revenue? Want to develop applications that increase your revenue, differentiate your products and attract new customers? Because of the enormous growth in contact center deployment and the increasing demand for Customer Relationship Management (CRM) applications, there has never been a better time to capitalize on the speech recognition explosion.

**TTS technology** is now a powerful alternative whenever a computerized application needs to communicate with a customer or user and so especially useful in telephone services. Though recorded material still provides the highest quality, recordings are often impractical due to cost or time constraints.

**MATRIX<sup>2</sup> Text-to-Speech** commands are available to be used for Text-to-Speech conversion. Text-to-Speech conversion is also automatically done from text files while playing prompts if a prompt file of suitable format is not found.



**Rather than recording** voice files, with **MATRIX<sup>2</sup>** the developer can type in a script and the TTS (Text-to-Speech) software will convert it on the fly and play it back to the customer over the phone.

## Let Your IVR Application Speak For Itself! Text-to-Speech commands available to be used for Text-to-Speech conversion.

**With US \$700 billion at stake**, the call center market is becoming increasingly competitive. Companies need to aggressively improve customer service to maintain profits and preserve customer loyalty. Customers want personalized service 24 hours a day, seven days a week and they want to access such services via the phone or the Web. A Voice-Enabled Internet Call Center allows companies to integrate a broad range of exciting new services designed to increase sales, cut costs and improve customer service.

# MySQL - Linux



## MySQL

The MySQL Database Server is the world's most widely used open source database. Its ingenious software architecture makes it extremely fast and easy to customize. Extensive reuse of code within the software and a minimalistic approach to produce functionally rich features have resulted in a database management system unmatched in speed, compactness, stability and ease of deployment.

## Database Management System

A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network.



Since computers are very good at handling large amounts of data, database management plays a central role in computing, as stand-alone utilities or as parts of other applications.

## Relational Database Management System

A relational database stores data in separate tables rather than putting all the data in one big storeroom. This adds speed and flexibility. The tables are linked by defined relations making it possible to combine data from several tables on request. The SQL part of "MySQL" stands for "Structured Query Language" the most common standardized language used to access databases.



## Linux Operating System

Linux has proven to be a tremendously stable and versatile operating system, particularly as a network server. When Linux is deployed as a web server or in corporate networks, its down-time is almost negligible. There are cases when Linux servers have been running for more than a year without re-booting and then only taken down for a brief period for routine maintenance. Its cost effectiveness has sold itself more than anything else.

**Linux can be installed** on a home PC as well as a network server for a fraction of the cost of other companies' software packages. More reliability and less cost - it's ideal. Linux is in the UNIX family of operating systems.

UNIX is primarily designed to be used by professionals. Most major versions of Linux are designed to be as user-friendly and as easy to install as any other operating system on the market today.



**In addition to being cost-effective**, it is constantly being updated and refined with the latest technologies. As Linux gains greater acceptance throughout the computing industry, more and more companies are supporting Linux via both application and hardware compatibility.

# MCCT's MATRIX<sup>2</sup> IVR

## Interactive Voice Response

An IVR System automates the handling of calls by interacting with one or more online databases. Popular IVR applications include bank-by-phone, flight-scheduling information and automated order entry and tracking. IVR allows callers to interact with your communications system over the telephone to retrieve information from a database, enter information into a database or both. IVR streamlines information exchange, reducing the clerical load on employees and allows for increased attention to more complex customer service issues.

## How It Works

An IVR system talks to callers following a recorded script. It prompts them to respond either verbally or by pressing a touchtone key and supplies them with the information they need, as indicated by their responses. The MCCT built MATRIX<sup>2</sup> like its earlier predecessors, TITAN II and TITAN III has a proven uptime of 99.9% backed by MCCT's 24 hours per day, 365 days per year world renowned warranty.



The MATRIX<sup>2</sup> Series, a value packed IVR, has the capacity of 10 inbound ISDN PRI Lines or 8 EuroISDN trunks yielding 240 ports of voice processing power utilizing one Single Board Computer (SBC).

## MATRIX<sup>2</sup>

If you have sophisticated IVR requirements, MCCT can adapt a solution for your business. The MCCT goal is shipping products, like the new MATRIX<sup>2</sup>, that work and are the best value for our customers.



# IVR Applications-Features



**The MATRIX<sup>2</sup> IVR** is capable of 240 ports of voice processing power utilizing one Single Board Computer (SBC). The MATRIX<sup>2</sup> allows for high-density ports in one system.

## **MATRIX<sup>2</sup> IVR Applications Support**

IVR applications can be developed to turn the touch-tone phone into a virtual computer terminal that can access and retrieve database information.

## **MATRIX<sup>2</sup> IVR Applications**

- Internet Phone
- Fax Servers
- Teleconferencing
- SMS Messaging
- Audiotext Information
- Fax on Demand
- Call Routers
- Universal Messaging of Voice-Fax & E-mail
- Speech Recognition
- Prepaid Calling
- Speaker Verification Modem
- Paging Call/Contact Center Applications



## **Features of the MATRIX<sup>2</sup> IVR Platform:**

- Comprehensive voice-processing capabilities designed to scale from small to large size businesses.
- Power to develop custom IVR applications that are ideal for your size and type of business.
- Integration with your existing telephone and computer systems whether they're state-of-the-art or legacy systems.
- Modular architecture allows your IVR system to be easily adapted to new industry-standard hardware and operating systems as they're introduced.
- The MATRIX<sup>2</sup> IVR system is manufactured with the finest components and state-of-the-art technologies, allowing MCCT to back your system with the industry's most competitive warranty.

**The details are what makes the MCCT MATRIX<sup>2</sup> one of the Telecom Industry's best performing IVR's**

## **MATRIX<sup>2</sup> IVR Support**

MCCT has a professional staff of certified hardware, software and support engineers to service and support the MATRIX<sup>2</sup> Platform. MCCT provides unparalleled support with the sale of every MATRIX<sup>2</sup> System. This includes 24 hr. emergency tech support worldwide, with an average 10-15 minute response time. Each MATRIX<sup>2</sup> system comes with 1 year renewable warranty and advance replacement.

# Vendetta Conference Bridge

**MCCT is an industry leading reseller** of Real Time Systems, Inc. Vendetta Series, VND32, VND128 & VND256 Port Conference Bridge Boards.

**Vendetta Series** Conferencing resource boards provide for a wide range of building solutions that vary from small to mid-size party conferences for call centers to small business applications and chat lines to large systems, including collaboration servers, Internet-based audio conferencing systems and business audio conferencing solutions.

**The Vendetta Series Conferencing Bridge** provides 32, 128 or 256 non-partitioned conferencing ports. Conferences of any size may be formed, including empty conferences. The Vendetta is ideal for business conferencing and chat line applications. The Vendetta series of conferencing products guarantees that you will always be able to add another party to any conference at any time up to 256 conferences. Every function in the API (Application Programming Interface) executes in real time; the programmer does not need to be signaled that a function has completed.

## Features

- All conferences dynamically configured with/without maximum or minimum number of monitors or conferences
- DTMF clamping on all channels prevents tones from bleeding into conference
- Music On Hold audio jack accepts audio input from CD players, radios, etc.
- Programmable entrance and exit chimes
- Available for SCSA



- Background Noise Reduction improves conference quality by muting ambient noise
- Talker Activity Levels allows monitoring/control of conferees
- Input and Output Volume independently adjustable per line
- Call Monitoring Capability allows any line to participate on a listen-only basis in any conference
- Broadcast feature allows system operator to talk to any or all channels
- User-programmable single tone clamping on all channels.
- Coaching feature allows one talker to talk into another conferee's "ear". Other parties cannot hear the talker.
- Optional echo suppression for difficult conferencing environments
- Supports u-Law and A-Law data
- Unix, Linux drivers
- Cascade multiple boards to form 256 to 2048 line conferencing systems
- The Vendetta card incorporates a noise reduction algorithm that reduces background noise from callers. Dialogic's DCB Board does not.
- The conference size is increased by the Vendetta card to up to 256 seats. Dialogic's Board is still limited to 32 seats in a conference.
- The Vendetta card allows for dynamic configurations of conferencing therefore not wasting valuable DSP resources. The Dialogic DCB board can consist of blocks of 32 seats therefore can only be statically allocated. An example would be if a DCB/960SC was configured for nine conferences of ten seats each than 2 seats per block or a total of 6 seats would be lost.
- Conference volume is configurable on any level with the Vendetta. The coach volume can be configured independently of the overall conference volume. The DCB series by Dialogic/Intel has no such features often resulting in echo, reverberation and noise to be interjected to the conference at any given time. By far, the Vendetta series of conference cards provides far superior sound quality over the DCB series of conference cards.
- The Vendetta card allows prevention of a caller from entering a conference if there is not a minimum number of operators or callers. The DCB board does not.
- The Vendetta has the ability to automatically remove a caller from a conference room and return him to the application when a predefined action occurs. Such a trigger event is that the number of operator or callers drops below a predefined threshold. The DCB board does not allow for any such routines and is cumbersome and slow in such actions. Once again the Vendetta proves to be highly flexible versus the DCB series.
- The Vendetta card can take advantage of optional echo cancellation without eating valuable resources of Dialogic tables/processes. The DCB board must have one voice resource per conference seat to be allocated thereby dramatically reducing node port capacity and overall system performance.

# MATRIX<sup>2</sup> Conferencing



**MCCT's New Matrix<sup>2</sup> Conferencing Program** allows for up to 240 conferences each being configurable from 2 to 240 seats.

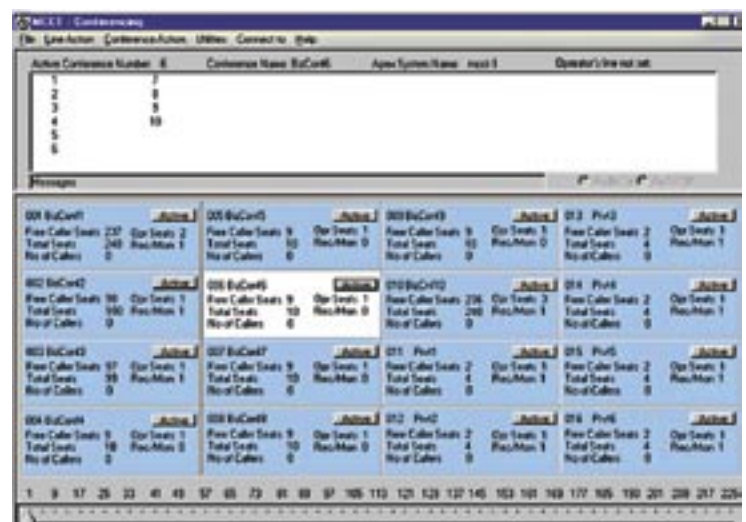
**Conferences are dynamically** allocated requiring considerably fewer resources than previous versions of MCCT's Matrix<sup>2</sup> Conferencing due to the use of the new Vendetta conferencing cards. You can allocate as many as 240 seats in as many of the 240 conferences as you like. When your caller limit is reached (240) the distribution of conferences in use will depend on the assigned seats per each conference that you have set up. If you observe that there are some conferences that are filling up consistently, you can increase the number of seats in the applicable conference number without worrying about available resources.

**MATRIX<sup>2</sup>**, the new version of MCCT Conferencing, maintains all of the features in the previous versions which include:

- Using the mouse to "Grab" a caller and move him from one conference to another.
- The ability to mute callers using the right click to bring up the Conference Action menu.
- Using the Conference Action menu you can make one of the callers a "Coach".
- You can record all of the voice in any conference that you desire by assigning one of the seat resources as "Record".

**A new Conference Configuration** utility allows for easy set up of Conference Names, the number of seats, the number of monitors and the ability to record the conference. To change any of the values in any conference simply re-run the setup for the appropriate conference. You are asked to:

- Provide the Conference Number.
- Type in the Conference Name which will become the new name.
- Enter the number of seats for the conference based on the range provided.
- Enter the number of monitors.
- Enter a "1" to be able to record the conference.



# VoIP

**VoIP stands for -Voice over IP** - voice delivered using the Internet Protocol. In general, this means sending voice information in digital form in discrete packets rather than in the traditional circuit-committed protocols of the Public Switched Telephone Network (PSTN). A major advantage of VoIP and Internet Telephony is that it avoids the tolls charged by ordinary telephone service.

## VoIP - Surging Growth

Forecasts that service provider revenues for "Web Talk" or live voice applications that leverage the Internet will surge at a compound annual growth rate of 200 percent from \$208 million in 2000 to \$16.5 billion by year-end 2004.

## Reasons for this rampaging growth

- Lower equipment costs, especially service providers.
- Greater compression - efficiently packet switched not circuit switched.
- Ability to leverage Enhanced Services including; Unified Messaging, GUI based call control, IP Centrex, multiple line appearances and Video Conferencing.
- E-commerce - click to talk
- General Long-Distance



**Forecasts from Yankee Group** predict that IP-PBX sales will exceed traditional legacy PBX sales by 2005 and that Voice over packet shipments at 400,000 extensions in 2000 will grow to almost 12 million extensions by 2005. **VoIP Equipment Sales Projected 2004 \$17 Billion**

## IP LAN Technology

With IP LAN Telephony systems, users can connect IP phones directly to the same LAN (Local Area Network) that serves their personal computers. By 2004, more than 90% of businesses with more than 500 employees will install IP LAN telephony. 17 percent of U.S. businesses began implementation of IP LAN Telephony in 2000 replacing their existing phone systems. Within four years the percentage will increase to more than 80 percent. 43% of industry experts anticipate that 15-20% of total voice traffic will run over data networks within a two-year time frame. That number jumps to a staggering 91% when the time horizon is expanded to 3-5 years.

**By January 2006, 166 million Internet users worldwide will be regular users of PC-to-Phone VoIP telephony**

## Why IP Telephony

Cost savings and remote networking headed the list of reasons why businesses plan to purchase IP Telephony. Most decision-makers believe that one system that can handle both voice and data will cost less than separate systems. One IP Telephony system can handle the communications requirements of multiple sites. Companies can install one of these systems at a central location, and use it to serve IP phones at remote locations over an IP network, this is one of the key economic advantages of IP Telephony.

# SS7 • Call Control, Remote Network Management



**The Public Switched Telephone Network (PSTN)**, which has been around since the early part of the century, may be vast, but it isn't very bright. It does its job by doing what it is told. The intelligence that makes today's fast, efficient and cost-effective communication possible comes from a different entity: **Signaling System No.7 (SS7)**, which connects with and instructs the public switched network.

**As in any hierarchical organization**, intelligence and decision making are distributed throughout the SS7 network. This is part of the reason that it can be so efficient. Decisions regarding call routing and handling are made on the fly, based on timely local information. Calls can be routed around failures and traffic jams while data is collected and passed to other segments of the network for use in their own decisions.

**Nodes on the system** provide a variety of services from switching, to database lookups, to management of signaling sensors and voice response capabilities. What all these nodes have in common is the need to interface with the SS7 network according to its own strict protocols. How efficiently this is done affects not only today's operations but the future effectiveness of that node in the face of growing demands.

**The number of companies and applications** that are connecting to the telephone network is in the middle of an explosive growth around the world. End users are increasingly taking advantage of automated systems to conveniently check account balances, place orders and communicate with specialized agents in call centers. Both network elements and service provider systems are reacting with increased needs for network connections.

**SS7 provides three basic types of services.**

- **Call Control:** SS7 provides fast and reliable common channel or "out-of-band" signaling for call control and circuit switching. At the heart of the SS7 call control function is a network of ultra-reliable packet switches called Signal Transfer Points (STPs).
- **Intelligent Network:** The SS7 network enables the implementation of IN/Advanced Intelligent Network (AIN) services. SS7 messages traverse STPs and enlist the use of System Control Points (SCP), Service Switching Points (SSP), and Intelligent Peripherals (IP) to deliver these services to the user.
- **Mobile/Wireless:** SS7 provides the capabilities for public mobile communications, such as roaming registration, location management, and short messaging.

**The SS7 Signaling System is a Packet-Switched Data Network that forms the Backbone of the International Telecommunications Network.**

Support for Linux, Unix

# Septel • SS7 from Dialogic

## Applications

The Dialogic Septel SS7 product family offers a modular open architecture to build functional, reliable and cost-effective public network applications and services. In addition, the Dialogic SS7 platforms enable building Intelligent Network platforms including Service Control Points (SCP), Intelligent Peripherals (IP), Service Nodes (SN), Service Switching Points (SSP) and Mobile Switching Centers (MSC). These platforms can be used in both wireless and wireline networks.

## Common Applications Include:

- Voice Portals • Least-cost routing/telecom resale
- Follow-me/one-number services • Caller ID
- Voice Mail and Unified Messaging
- Short Messaging Service • Local Number Portability
- 800/Freephone • Virtual Private Network
- IS-41 and GSM-MAP home location register
- Prepaid phone/calling card • Network Call Center
- SS7-IP signaling gateway • Voice Activated Dialing
- Call completion applications • Protocol Conversion
- Mobile Short Messaging • Intelligent Networking



## SS7: Important Terms and Concepts

**Links** - Signaling data links are used to connect SS7 signaling points. In most countries, these links are 56/64 Kb/s data facilities. The physical interface to an intelligent peripheral is either a T-1/E-1 interface or a V.35 connection.

**Link Sets** - Links are grouped into link sets. All links in a link set must connect to a single point code. Up to 16 links can be assigned to a single link set.

**Point Codes** - Point codes define the address of SS7 network nodes. Each switch, SCP, STP, and IP has a unique point code in the SS7 network. In some respects, point codes are analogous to IP addresses defined by the Internet Protocol.

**CIC** - The circuit identification code (CIC) refers to a single port or time slot on a T-1 or E-1 interface.

**Sub-System** - A processing component addressable through SCCP; for example, a wireless Home Location Register or an 800 number translation database.

## Features and Benefits

- Complete family of SS7 products ranging from board to server level that easily scale from 64 ports to over 16,000 ports
- cPCI, PCI, ISA and server solutions available
- Support for MTP, ISUP/TUP, SCCP and TCAP including many international variants
- Support for IN protocols - INAP
- Support for mobile/wireless protocols IS-41, GSM-MAP
- Reliable, load-sharing implementations provide the high degree of availability that public network applications demand
- Common API across the product line and protocols means faster application development and greater flexibility
- Worldwide deployment
- ITU, ANSI and ETSI standards compliant - multiple country variants supported
- Dual fault tolerant configurations available
- Supports up to 16 boards in a single chassis depending upon the configuration

# MCCT • Total Call Center Solutions



**MCCT, Inc. has partnered** with some of the most highly regarded names in the Telecom Industry.

- **From NEC**, State-of-the-art ISDN-compatible office communications networks, Integrated Voice Mail with Automated Attendant, feature rich business telephone systems as well as value packed small office/home office solutions.
- **From Engenius**, longest range cordless phone and 2-way radio system.



**MCCT, Inc. offers its customer's a full range** of Call Center Solutions with a strong emphasis on service and support. MCCT, Inc is a leader in the fields of Data and Voice Compression, Switching, Real Time ACD, Wireless Solutions, Voice Mail, CTI Integration Products, and IVR/VRU solutions.

**MCCT, Inc. has a long and distinguished** history of manufacturing some of the best IVR platforms in the Telecommunications Industry.

**The New MATRIX<sup>2</sup> IVR Platform** provides all the power IVR customers have become accustomed to: Fax, Voice Recognition, Conferencing along with an IVR Applications Generator where customers create their own IVR Applications, Configure IVR Ports, Administer IVR Systems, Users, and Plans, and view Runtime Ports' Status. If you have sophisticated IVR requirements, MCCT can adapt a solution for your business.

- **From Liebert**, Uninterruptible Power Supplies
- **From eOn**, next-generation communications systems, adjunct servers and software which integrate and manage voice, E-mail and Internet communications for customer contact centers and general business applications.
- **From Vodavi**, the **TRIAD Family** provides affordable and easy-to-use solutions starting as small as 3 lines and 8 stations with the capacity to grow up to 144 lines and 252 stations.
- **From VXI**, analog and USB headset systems for a broad range of voice-to-computer applications.
- **From Mitel**, Mitel Networks offers comprehensive solutions that simplify communications and networking while supporting smaller organizations with advanced applications and services that enhance user productivity, reduce costs and support customer relationships.
- **From WTI**, Western Telematic Inc. designs and manufactures data connectivity solutions.
- **From Dialogic**, voice and fax components used in voice, fax, data, speech recognition, synthesis center management and Internet Protocol (IP).

# MCCT TELECOMMUNICATIONS WORLDWIDE

## Technical Support

Technical Support is the centerpiece of MCCT's success in the Telecommunications Market. MCCT's certified hardware and software technicians, have more than a century of combined communications and computer technology experience. They troubleshoot, program and support our family of customers 24 hours per day/seven days a week, year round.

## History Over a Decade

Founded in August of 1992 MCCT is continually reinvesting it's revenue in research & development, manpower and equipment to better test, support and develop its Call Center Platforms. MCCT, Inc. has been delivering Call Center Solutions to companies like Intermedia, U.S. Networks, Gryphon Networks, New Hampshire Electric Co-op and more. At MCCT we are your business partner, not just your vendor.



MCCT, Inc. has made Technical Support the Centerpiece of its Success in the Telecommunications Market

**MCCT currently has an installed** user base in more than 72 countries worldwide with more than 500,000 ports serviced.

## Service

MCCT, Inc. backs all of it's products with a 24-hour per day/365 days per year warranty. MCCT, Inc. built it's reputation on service and will continue to put 110% in support of its customers and their investment. The value of service, its urgency, and the customers' individual needs are the number one priority of all those on the MCCT, Inc. Team.

## MCCT

P.O. Box 981, 550 Rte. 106, Opechee Plaza,  
Belmont, NH 03220 USA **1-800-GO-4-MCCT**  
Tel: 603-524-2214 Fax: 603-524-2304  
[www.mcct.com](http://www.mcct.com)

