

## ABOUT CALLHANDLER (CT - COMMUNICATIONS SERVER)

- Supplied as complete PC/NT Chassis, or Components
- One platform hosting multiple simultaneous solutions – Conferencing, Voice, FAX, WEB Connectivity, Call Me Back, Call Centre etc
- Modular - integrate combinations of voice, fax, and data and networking on one scalable, cost-effective platform, merged with standard PC technology such as the web, databases, graphical user interfaces, and more.
- Industry Standard Windows NT based using COM\* Object model
- Rapid application development using Visual Basic.
- 4 to 2,400+ lines/chassis, to thousands with Clustering
- Dial-Up remote diagnostics & support
- Scalable across analogue and digital lines
- Web based system monitor & maintenance, operator interfaces
- Economical cost per line
- Single hardware supply for improved reliability
- World-wide telecom standards support

\*Note: COM is a standard software module Interface. It provides an environment where you can have modules written in different languages all of which will communicate with each other. e.g. C++ can be used for the core technology, with Visual Basic, or Java being used for the custom application layers, such as scripting.

## GENERAL FUNCTIONS:

### Call Routing and Queuing Module

*What it is:* When an incoming call is detected it is transferred to the relevant functional module, if there is capacity available. If there isn't, the call is queued until there is capacity available.

*How it works:* When a caller dials the CallHandler system, the last few digits of the number they dialled can be used to determine what service the caller requires.

E.g. this module can be configured to pass call to:

- Interactive Voice Menu, which plays pre-recorded voice, files in response to telephone key presses.
- FAX, Voice Mail, Data Receive, Password Entry or Other modules as required

### Interactive Voice Response (IVR) Module:

*What it is:* When a caller is transferred to the Interactive Voice response Module (IVR), they are greeted by a pre-recorded voice message. The voice message invites the caller to select from a number of options using the keys on the telephone.

*How it works:* The CallHandler Administrator can configure the IVR module using a Rapid Application Development tool. The tool allows the administrator to record voice prompts, set-up menu options, and call transfers to other modules.

### Internet Monitoring & Control

*What it is:* The CallHandler status and configuration can be monitored and altered remotely from a web browser such as Microsoft Internet Explorer.

*How it works:* The Control and set-up screens for the CallHandler are written as ActiveX Objects which means they can be uploaded into a web browser and used for both monitoring and control of the CallHandler.

## VOICE FUNCTIONS

### Audio Conference Module:

*What it is:* A virtual room, which connects a group of people together via the telephone, and allows them to chat, exchange information, debate and vote on topics, etc.

*How it works:* The CallHandler NT system is connected to Analogue, Basic Rate, or Primary Rate ISDN telephone lines – up to 2,000+ lines per chassis. The system has a built in bookings diary and associated personnel database which allows telephone conferences to be managed. The conferences can be created and controlled via a LAN/WAN/WEB based graphical interface that enables: autodial, manual dial, dial-in, caller mute/volume set, voting, move to side area for one-to-one discussions, disconnection etc.

### Voice Mail Module:

*What it is:* When a call is transferred to the Voice Mail system an auto-attendant invites the caller to record a message into a Voice Mailbox, with the option to listen to, or re-record the message.

*How it works:* When a caller leaves a message, the audio file containing the message is saved in the mailbox owner's folder. The owner can retrieve their messages by either dialling into the Voice Mail module or by directly playing the messages from the mailbox folder.

### Voice Broadcast – Message Alert:

*What it is:* Ability to dial out predefined telephone numbers and then to play a pre-recorded voice file to each of the recipients. This can either be done one at a time, or simultaneously, depending upon the number of lines available. This message can be triggered in response to some external event. E.g. Computer error on LAN/WAN based machine.

### Telephone Extension Connect

*What it is:* There are two options:

Option 1: Additional hardware module in the CallHandler enable telephones handsets to be connected directly to the system providing a Call Centre capability.

Option 2: The incoming trunks for the corporate Telephone Exchange first pass through the CallHandler enabling calls to be routed through on request.

*How it works:* A caller dials in, is greeted by the Interactive Voice Scripts whereby they can be connected to a live operator on the corporate Telephone exchange.

### Voice Over IP

*What it is:* A system that transmits real-time speech (usually in both directions) as data over the Internet. This gives the ability to pass voice and data over the same telephone line.

*How it works:* A voice over IP module is located at each end of the communications chain. E.g. a portable PC could be used to dial into the CallHandler and control a conference graphically - at the same time the user can talk to members of the conference via a headset, all using a single line.

### Text To Speech

*What it is:* The automatic translation of a Text file into spoken words. For example an email could be 'read' back to a caller.

*How it works:* A speech interpreter program runs on the CallHandler, or LAN/Wan connected computer. Any proprietary system can be used. E.g. Lucent and Aculab.

### Speech Recognition

*What it is:* Two options are available

Option 1: Simple Yes No etc recognition that comes standard with the Aculab based systems. The recognised speech elements operate CallHandler functions.

Option 2: More comprehensive recognition engines that can be located either on the CallHandler, or on a remote computer via the LAN/WAN where complete speech can either be interpreted, or made to operate CallHandler events.

## PBX Module

*What it is:* An incoming call can be routed to any one of a number of telephone extensions connected to the CallHandler system. Outgoing calls can be made from any one of the extensions.

*How it works:* The CallHandler system can be configured to have a number of telephone extensions by fitting extension cards in the CallHandler chassis. The PBX module supports extension-to-extension calls, call hold, transfer, park and divert functions etc. The PBX system comes with a complete statistics package for monitoring call-centre performance, along with conversation recording for training and other purposes.

## Operator WorkStation Module

*What it is:* Using the workstation, the operator can receive and control calls, with screen popped information retrieved from a caller's CLI.

*How it works:* The CallHandler supports telephone extensions, which are linked to a workstation. When a call is transferred to the operator extension, the call details (CLI) are used to look up information from a database. There is also a Call Control screen, which allows call control: call transfer, hang-up, call hold etc.

## **FAX FUNCTIONS**

### One and Two Call FAX On Demand Module:

*What it is:* One Call Fax on Demand is when a caller dials in from their fax machine, they are greeted by a recorded voice which guides the caller through a voice menu, at the end of the menu the caller selects a document, then presses the start button on the fax machine, the fax they selected is printed out by their fax machine. Two Call Fax on Demand is similar to One Call except the caller calls from any phone, and when they select the document they enter their fax telephone number and hang-up. A short time later the document is faxed to their fax machine.

*How it works:* The system administrator uses the Interactive Voice Response (IVR) development utility to set up a Voice Menu (see IVR Module). The IVR utility has a software plug-in, which allows FAX image mailboxes to be added to the Voice Menu. FAX mailboxes can be configured as One or Two Call. The One Call faxes are transmitted to the caller's fax machine on the same call. The Two Call fax option works with the Automated Fax Transmission Module (AFTM), the fax images are copied to the AFTM's outbox folder.

The standard FAX transmission speed is 9.6 KB/sec on a four line analogue card.

*Optional Extras:* 14.4 KB/sec FAX transmit  
ISDN 8 – 120 Lines per chassis.

### Automated Fax Transmission Module (AFTM)

*What it is:* When a user copies a fax image file to the AFTM's outbox folder, the fax is sent out, simple as that!!

*How it works:* When a user transfers a fax image file into the fax outbox folder. The Automated Fax Transmission Module periodically checks the fax outbox folder, when it finds a fax image file, it dials the telephone number attached to the file, then sends the fax image. It is also possible to group files so that they are all sent to the same number, it is also possible to have a single fax file that is sent to a list of numbers (fax broadcast).

### Automated FAX Reception Module (AFRM)

*What it is:* A caller sends a fax; the fax reception module receives the fax and places it in an inbox folder.

*How it works:* When the fax is received the AFRM can be pre-configured to put the fax image into a single inbox folder, an inbox folder determined by the call DDI and/or CLI, and/or an inbox folder across a network. From the inboxes the FAX to Email service can pickup the image files and email them to the recipients.

## **MISCELLANEOUS**

### Call Recording

*What it is:* The Call Recording module records every incoming or outgoing calls with call information such as the time the call was made, call duration, the number called etc.

*How it works:* When the CallHandler is fitted with the Passive Monitor card it is possible to 'tap into' E1/T1 phone connections without interfering with the operation of the line. The Call Recording module then just records all telephone conversations on the line to the Hard Disk and maintains a database of all the recorded conversations.

### Credit Card Booking Module

*What it is:* When the caller is transferred to the Credit Card Booking module, they are greeted by a voice, which leads them through the process entering their credit card details, confirming the details, and then confirms if the payment has been accepted.

*How it works:* When the caller's credit card details are entered, the details are authenticated and validated in real-time via a secure Internet connection to the Credit Card agency.

### TCP/IP Communications Module

*What it is:* A resident TCP/IP Module that enables cross connectivity from a LAN/WAN based WEB server to the CallHandler Operational Code. For example a user could enter a FAX number on a Web page to receive a FAX, either via the WEB, or via normal telephone lines. They could also enter a telephone number, which then prompts an operator to call them back.

*How it works:* The active web page is located on a WAN/LAN Based WEB Server. Input from the web page is transferred to an application specific software module on the CallHandler via the TCP/IP Module, which then interprets this information in a pre-defined manner.

### Other Customisation

The CallHandler is based on Windows NT and can therefore operate with a very large number NT compatible software packages, including databases, interpreters, languages, applications and specialist Input output, etc.

All the Supplied Functional modules are written in Visual Basic 6.0. Applications are easily developed in Visual Basic and interfaced to other programs such as databases, email, web etc. The system is readily customisable for different languages.

### Complete Development Kit

*What it is:* A complete development kit for developing CallHandler Application Modules. The kit consists of:

- Telephony Card Analogue/Basic Rate
- Complete CallHandler COM API Documentation
- Developers Edition CallHandler (with full debug log tracing)
- Microsoft Visual Basic 6.0 Enterprise Edition
- Analogue/ISDN Handset
- Example Source Code for working examples

To run the developers kit you need a PII 200, 1GBHD, 128MB RAM and Windows NT4.0 Workstation SP5



Chelston Call Systems Ltd., 49 Dove Park, Chorleywood, Rickmansworth,  
Hertfordshire, WD3 5NY, England.  
Tel: +44 1923 286501, Fax: +44 1923 286498,  
Email: info@chelston.co.uk, Web: www.chelston.co.uk