

# “ICM”

## Integrated Communications Manager

IDENTIFYING LICENSING PARTNERS



Offices: Delhi – Bangalore – Pune – California

# Presentation Plan

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# Introduction to “ICM”

- ❑ Integrated communications manager “ICM” is a device which manages communication system whether voice or data, of a user according to requirements and make configuration of communication easy and user friendly.
- ❑ ICM dynamically controls the number of communication channels required for a user as per his communication requirements, which usually depends on voice and data transfer traffic.

# Understanding Complexities

## Present Scenario

- ❑ In present scenario of communication industry, due to continuous technical advancements and R&D, new technology arrives even before the previous one is merely used. This trend of technical advancement is often quite cumbersome for customers who have nothing to do with so called 3G or 4G telecom services, they simply want a simple and efficient network to transmit voice/data from one end to other.
- ❑ A number of communication platforms are available for customers. For example in voice communication, we have PSTN, ISDN, GSM, and CDMA technologies and in data communication we have GPRS, EVDO, LTE, WIFI, Wi-max and many more technologies

# What to use ?

## Confusions

- ❑ The presence of these high end technologies often confuses the customers to select the most efficient communication service, which fulfils his requirements of data or voice transfer.
- ❑ Most of the technologies are service specific, which means some of them are suitable for voice communication and other are good for data communication. Technologies which support both voice and data traffic also exists but they are not much efficient as required.
- ❑ Also reliability on a single platform often results in breakdown of communication system, in case of some technical faults or outage of network.

# Present Scenario

## System Integrators

- ❑ System integrators are used to handle these plethora of communication services. System integrators are good enough in assembling more than one technologies, but they have their own limitations given as follows:
- ❑ The system integrators have fixed capacity in terms of channel requirements i.e. they not dynamic.
- ❑ The hardware presently being used are of fixed capacity and are not configurable as per user requirements.
- ❑ The high cost associated with the change of hardware to increase capacity and to integrate new technology feature attached is non desirable to any enterprise.

# “ICM” Simplifying Communication

## Configurable

- ✓ Allowing the user to personally configure the required number of data and voice communication channels in accordance with traffic needs

## Dynamic

- ✓ User can simply enjoy the voice or data transfer without being worried about channel capacity

## Future Ready

- ✓ The device is future technology compliant so new communication technologies can simply be used without additional changes in hardware

## Efficient

- ✓ Single processing unit ensures minimal power and hardware requirements, thus lowers financial expenditures

# “ICM” Working



User Interface

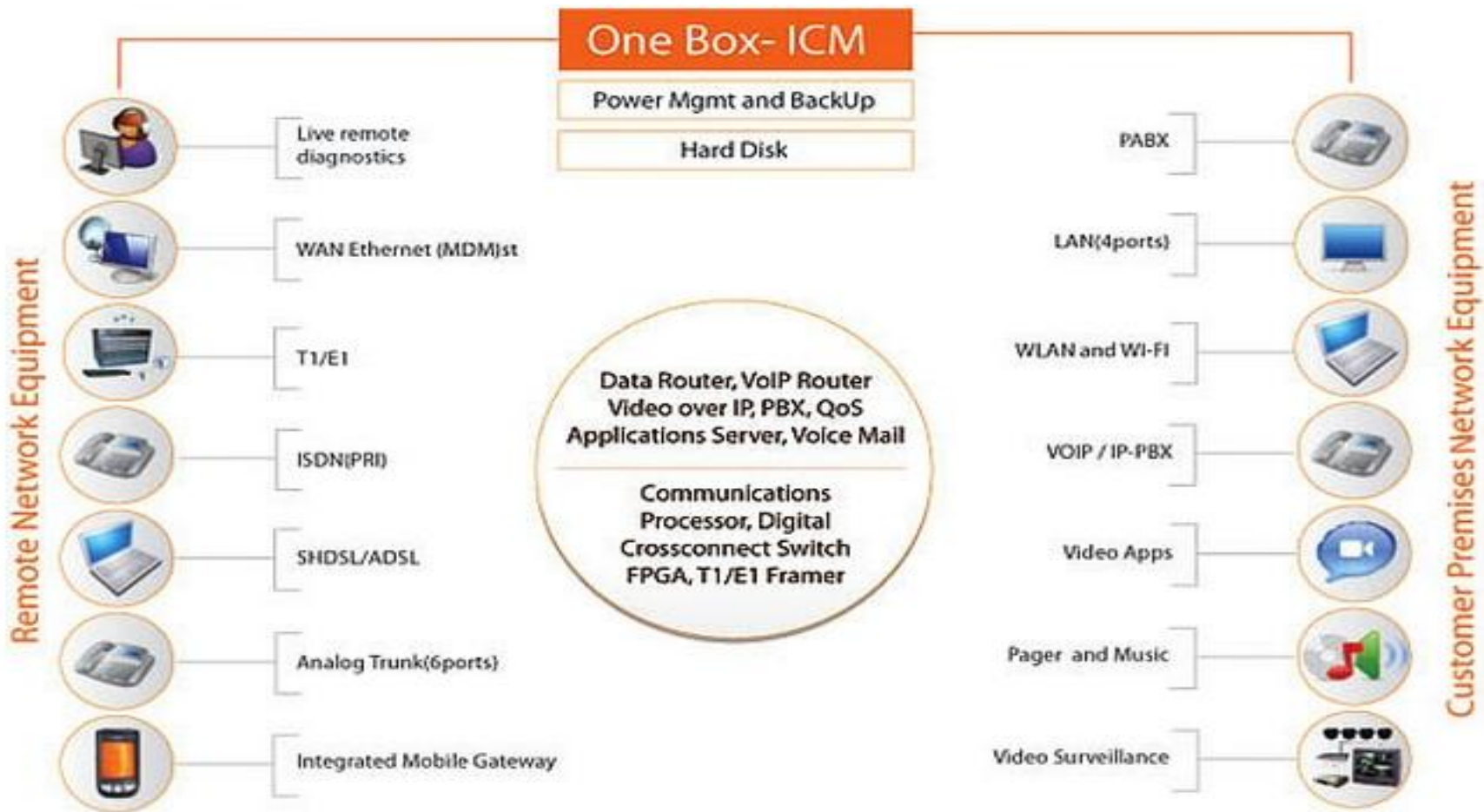
Operating System

Memory

Processor

- ❖ ICM is a fully configurable device. It has a processor, which executes the software instructions stored within the memory. Processor is used to communicate data to and from the memory, and to generally control operations of the ICM pursuant to the operating system and user interface.
- ❖ Communication channels and other services are configurable according to traffic requirements





Interconnection of remote network equipment and customer equipment via ICM.

# “ICM” Specifications

## Processor

- 32 Bit RISC central processing unit.

## Chassis

- 19 inch rack mount with 6U height.

## Mechanical

- 266mm x 482.6mm x 300mm
- Weight 8.25Kg

## Environmental

- Operating Temperature- 0 to 50 Deg C.
- Humidity- 0 to 90% RH.

## Power Supply

- 85-264V AC, 47-63 Hz 150 Watts.
- Optional redundant power supply.

## Telco Links

- 1E1/ISDN PRI or leased line(SHDSL)/ADSL/Last mile Ethernet.
- Channel 30B+D.
- Line Encoding –HDB3
- Framing- CEPT1 for E1.
- Physical connection-RJ45

Telco Links

- 6 Analog Trunks.
- Off hook AC Impedance—600
- Pulse Dialling—10PPS
- DTF dialling—ITU-T Q.23, Q.24
- DTMF reception---ITU-T Q.23, Q.24
- Caller Line ID—DTMF
- Over voltage/current Protection

# Endless Features

## Ports

- 3 WAN/LAN Ethernet ports.

## Switching

- Automatic Switching on failover.
- Automatic fallback on analog trunk on power down

## Load Sharing

- Dual WAN Load balancing.
- Inbound load balancing with DynDNS.

## Security

- Router with NAT.
- Firewall.

## Extensions

- Up-to 78 analogue extensions connected through MDF.
- Auto attend messages support.
- Self Diagnostics

# Endless Features

# Cntd...

- ◆ User / password based privileged system access
- ◆ Field upgrade of software and programs
- ◆ Feature Selection without software upgrad
- ◆ Easy to use command interface on the RS; console port & Telnet / SSH
  - ▶ Simultaneous access on all tenants
- ◆ Multi tenant configuration
  - ▶ Up to 10 tenants
  - ▶ CUG dialing supported
- ◆ Front panel LED Indication – sync and alarm and Ethernet Ports
- ◆ Connections for 3 pager ports
- ◆ Connections for 3 external Music ports
- ◆ Full fledged junction testing
- ◆ LAN Port
  - ▶ IEEE 802.3 compliant Ethernet
  - ▶ RJ45 connector
  - ▶ 10/100/1000 Mbps auto sensing
- ◆ Event Logs
- ◆ Configurable speed call
- ◆ Single key operator access
- ◆ Global memory pool
- ◆ Inbuilt auto attendant support
- ◆ Dynamic call control
- ◆ Call barring
- ◆ Call screening
  - ▶ Pass / Block
  - ▶ Selective / unconditional
- ◆ Call return
- ◆ Secretarial Intercept
- ◆ Do not disturb
- ◆ Automatic ring back
  - ▶ Extension / Trunk Access
- ◆ Follow me
- ◆ Call forward
  - ▶ Selective
  - ▶ On Busy
  - ▶ Unconditional
  - ▶ No answer
- ◆ Hotline service
- ◆ Call waiting
- ◆ Music on hold
- ◆ Call transfer – blind / attended
- ◆ Barge in
- ◆ Pin based dialing
- ◆ Configurable holiday list
- ◆ Subscriber answering circuit
- ◆ Distinctive ringing
  - ▶ External / Internal calls
  - ▶ Ring transfer
  - ▶ Operator extension
  - ▶ Ring back
  - ▶ Privileged extension
- ◆ Called subscriber hold (CSH)
- ◆ DTMF detection on the ISDN trunk
- ◆ Call Camp On
- ◆ Call pick Groups
- ◆ Easy dial plan configuration for the extensions
- ◆ DTMF Detection – ITU-T Q.24
- ◆ CLI Presentation – DTMF
- ◆ Emergency Number Dialing
- ◆ Time based call control
- ◆ Pre-Configured number dialing
- ◆ Conference support
  - ▶ 3 way conference
  - ▶ 5 simultaneous groups
- ◆ Can use modem / fax / analog telephones
- ◆ Terminated on ICM using 64 pin EURO connector
- ◆ Connectivity Using MDF
- ◆ Operator Console

# System Compatibility :- Voice Traffic

## CLASS A PBX FEATURES

- ◆ TDM based Digital Switching Engine
  - ▶ 100% Non Blocking
- ◆ Supports DID
- ◆ Auto Attend Support
- ◆ Caller ID generation and detection
- ▶ PC based operator console
  - Easy to use GUI interface
  - Call Transfer / Forward
  - Phone book
  - Dialer
  - Fast Dial
  - Online Extension Status Indicator
  - Online Trunk line status Indicator
  - Call Records
- ▶ Can work without a dedicated console
  - Up to 4 extensions configurable as operator group
  - Separate group for night mode operators
  - Operator hunt – Regular / Circular
- ▶ Separate console on each tenant
- ◆ Configurable day/night mode
- ◆ CDR based call reporting
  - ▶ Storage more than a year
  - ▶ Retrieval of CDR
    - Any extension
    - Date / month range
    - All extensions ...etc...
  - ▶ Interfacing to call billing software
- ◆ Easy configuration through the telephone set
  - ▶ Simple easy to use key combinations
  - ▶ Privileged command access
- ◆ Find me services



# System Compatibility:-Data Traffic



## NETWORK MANAGEMENT

- ◆ Web based management interface
  - ▶ Configuration / Control
  - ▶ Local / Remote Management
  - ▶ Dashboard for real time monitoring
- ◆ Command Line Interface
  - ▶ Telnet
  - ▶ SSH

# Protocols Supportability For Data Traffic

## PROTOCOLS

- ◆ PPP, ARP, TCP/IP, UDP, PPPoE
- ◆ DNS relay
- ◆ HTTP/HTTPS, Telnet, SSH
- ◆ Firewall Functionality support
  - ▶ Virtual Server
  - ▶ DMZ host support
  - ▶ Handling DoS attacks
  - ▶ Intrusion detection
- ◆ QoS
  - ▶ 802.1q, Port based
  - ▶ DiffServ, IP address
  - ▶ TCP/UDP, Application
- ◆ NAT/PAT
  - ▶ Easily configurable rules
  - ▶ All standard application Hooks
    - FTP, IRC, SIP
- ◆ Routing Protocols
  - ▶ Static routing
  - ▶ RIPv1, RIPv2
  - ▶ OSPFv2
  - ▶ BGP4
- ◆ Access restrictions on LAN
  - ▶ IP address based
  - ▶ Protocol / Port based
  - ▶ Destination address
  - ▶ Domain name based
  - ▶ Trusted Node
- ◆ Static global IP address to LAN device
- ◆ DHCP
  - ▶ Server for LAN nodes
  - ▶ Relay Agent
- ◆ Internet Proxy (HTTP Proxy)
  - ▶ Cache management
  - ▶ Transparent / Bypass proxy support
- ◆ Content Security Management (CSM)
  - ▶ Category based filtering
- ◆ Mail alerts for unauthorized access
- ◆ Network Diagnostics
  - ▶ Ping
  - ▶ Traceroute
- ◆ SNMPv1/v2
  - ▶ Standard MIBII (RFC 1213)
  - ▶ Private MIB
- ◆ Bandwidth Manager
  - ▶ Bandwidth reservation based on groups
  - ▶ Bandwidth usage can be monitored graphically using line / bar / pie graphs.
- ◆ VPN Support
  - ▶ IPSec, L2TP/IPSec & SSL - VPN



# Patent Status

Granted US Patent: [7948972](#) with Three Independent Claims.

US Published Patent 20060052133, has been examined and is allowed for issuance of Patent with one Independent Claim.

PCT Application No: PCT/IB2008/003849

Applied/Granted Patents: USA(Patent No. [7,948,972](#)), US20060052133(Pending), India, Europe, Africa, China, Australia, Korea.

# About Company:



## Profile

- ❖ “Signal Networks” was established in year 2003 and is a Research & Innovation driven telecom product enterprise based at Bangalore. Company deals with product development in the Broadband access domain, covering Voice, Data & Video communication device.
- ❖ “Signal Networks” is offering world-class design and technology development Services & Products to Telecom majors globally in the areas of Wired and Wireless Products & Solutions.

## Achievements

- ❖ TEC the technical wing of the Department of Telecommunications, Government of India has certified the product to be used in any of the DoT telecommunication Networks.
- ❖ Airtel has evaluated the performance of the product for all the features incorporated in ICM and has approved to be offered to their customers.

# Expectations

- ❑ Company seeks alliance with Potential Licensees to assign Licensing Rights to Market already developed product “ICM” on exclusive/non-exclusive basis.
- ❑ Company is also interested in sale of the Granted/Issued Patents.

# Contact Us

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