

Overview of Enterprise MediaGateway (EMG)

An overview of
Opticon IPECS



Telkom

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Enterprise Media Gateway (EMG) Overview

IP/TDM Hybrid Communications Platform for SMB



The Enterprise Media Gateway (EMG) adopts VoIP technologies running in the optimised IP/TDM hybrid switching platform. The ability to communicate seamlessly over IP networks delivers advantages over existing hybrid technologies permitting SMBs to access efficiency and productive applications with EMG in a simple and cost-effective manner.

IP/TDM Hybrid Communications Platform for SMB

|  Voice |  Apps |  Unified comms & mobility |
|---|---|---|
| <p>Max 16 IP extensions, including Wi-Fi Max 24 DECT Max 31 SLT/Fax (Analogue) Max 24 Digital 8 Built-in VoIP channels, up to max 16 channels *Not all maximum capacities can be achieved simultaneously</p> | <p>IP Call Recording IP Attendant (PC based operator console) Contact Centre Solution TEMS and Budget Control Management</p> | <p>Voicemail Conferencing Desktop and Mobile UCS App</p> |

Seamless expandability for SMBs

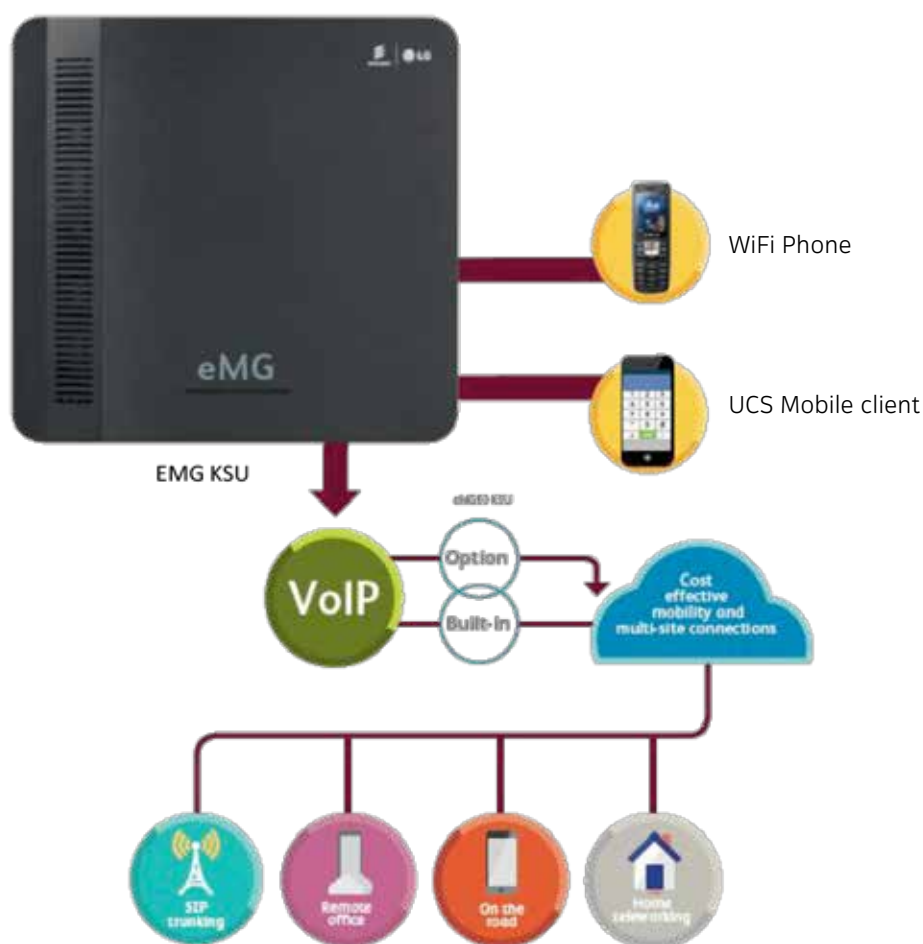
With the EMG, you can start small with 8 to 12 users and grow seamlessly to 32 extensions, based on configuration. Employing a modular architecture that allows your business needs to be configured with a dynamic system. The EMG delivers cost effective communications to small and growing businesses with affordable expandability.

Extension variety

The EMG offers a host of different extension instruments ranging from wireless DECT handsets, wireless WiFi handsets, a full range of IP Terminals, Digital Terminals, Analogue telephones, soft clients such as UCS Mobile and UCS desktop client.

VoIP

The EMG platform includes advanced VoIP technology supporting low cost SIP trunking, on- and off-premise mobility, remote connectivity and multi-site networking with minimal cost to overcome geographical boundaries.



Start with built-in VoIP capability and grow your system with VoIP expansion for future use.

Setup simplicity

The EMG adopts advanced HTML5-based web admin, which is an intuitive simple solution to system configuration and maintenance. The Web Manager Install Wizard presents the basic installation in a series of simple steps for easy installation.

Features and applications

The rich feature set spans all the basic features and functions of a modern communications platform such as Transfer, Caller Id, MOH, etc. and delivers advanced functions, including an integrated multi-level auto attendant and voicemail with both mobile and email notification.

Value proposition

The EMG platform ensures teams stay connected to each other and to customers at all times. Key EMG features include:

- Ease of use
- Integrated voicemail and auto attendant
- Mobile working
- Voice conference rooms and multiparty calling
- Remote and home-based working
- OptiCon integrated applications
- SIP ready
- Wide range of handsets, smartphone app and specialist phones
- Voicemail to email
- On-demand or specialist call recording
- IP, digital or SLT options to suit your business at your pace

All of this delivered at a cost you can afford.



What you get

The EMG system employs a converged digital and IP architecture to deliver an affordable and flexible telecommunications platform targeting the SMB market.

The EMG feature set spans all the basic features and functions of a modern communications platform and supports advanced functions such as integrated multi-level auto attendant and voicemail functionality, to name but a few.

Interfacing with the outside world, the EMG supports analogue exchange lines, ISDN exchange lines (Basic Rate and Primary Rate ISDN connectivity) and SIP trunks. For flexibility and ease of use, an array of user terminals are available, including E-LG proprietary Digital and IP Terminals, as well as standard SLTs and 3rd party SIP terminals.

Mobility is provided via DECT extensions, WiFi handsets as well as smartphone soft client support on the Android and iOS platforms.

In addition, the EMG is compatible with Ericsson-LG advanced communication applications such as the UCS and IPCR solutions.

Features

Integrated Auto Attendant/Voicemail

The integrated AA/VM application is provided through the Voice Store and Forward (VSF) Gateway incorporated in the KSU main board, and includes an application processor, four access channels and one hour of storage. Further, the MEMU option expands the storage to 16 hours of voice and the VVMU option provides an additional four channels and 16 hours of storage.

IP-Attendant (Office/Hotel)

The IP-Attendant is a Windows-based PC application that provides a visualisation of the Attendant functionality to simplify Attendant control of features and functions, including displays of call, user and system status. The IP-Attendant utilises the PC mic and speaker for audio so that a separate desktop phone is not required.

Centralised Attendant

When you place an Attendant call (dial "0") from a station in any networked system, the call may be routed to a Centralised Attendant. The local System Attendant activates Attendant DND, which routes local Attendant calls to the Central Attendant.

Email Notification

When the system stores a new voice message, it will check the notification settings for your mailbox. If Email notification is configured, the system will send you an Email notification. If configured, the voice message is attached as an *.wav file.

Centralised Voicemail

An external Voicemail may be attached to a system in a network to provide centralised voicemail services to the stations of all systems in the network.

Personal Groups

A Personal Group consisting of your master station and group member stations (maximum 32, including your master station) can be configured by the system Administrator. When your master station receives a call, all members also receive the call and when placing a call using the master station number, access and dialling restrictions can be used. Each member can still receive calls to their individual stations.

Automatic Call Distribution (ACD)

EMG ACD provides flexible incoming call routing, real-time agent monitoring and supervision, and call record statistics as well as ACD event messages for management reporting. The caller may receive announcements then route to an available agent. When no agent is available, calls queue to the group awaiting a free agent. Should the calls overflow based on the number of queued calls or queued duration, the calls can be routed to an alternate destination.

Web Call Back

The Station User Web portal offers a Web Call Back feature. In the portal, you may be permitted to request the system to establish a telephone call between two telephone numbers. The call is subject to the dialling restrictions of the station number associated with the portal access. An SMDR record is generated with the station number that accessed the portal identified.

Green Power Save

The system can disable the power to LDP phones and SLTs (Single Line Telephone) connected to the system at predetermined times such as at night or during holidays when no one will be using the phones. In addition to the automatic control, power to the phones can be manually controlled from the Web Admin.

Applications

Every business has different communications needs and meeting these needs is critical for your business communications solution. The EMG offers various applications and mobile clients for your business to fulfil different communication needs and requirements.

IPECS UCS

A powerful multimedia collaboration and productivity enhancing tool.

- Real-time presence information displaying user status at a glance
- Selecting the best communications method based on the user presence information; via voice, email, Instant Messaging or video
- Mobile UC enabled
- Multi-party video conferencing among up to six users
- 1:1 video call on mobile phone



IPECS UCS Client (PC & Mobile)

IPECS Attendant

An IP Attendant solution which includes a soft phone function, Office and Hotel features.

- Operating without an external phone
- Call recording/call statistics/call history
- Check in/out, wake up call, room status, room cut off



IPECS Attendant (PC)

IPECS IPCR

A call recording and monitoring solution tightly integrated with IPECS call platforms and contact centres.

- Centralised or distributed call recording
- Encryption-enabled call recording
- Multi-party conference call recording, up to 13 party access



IPECS IPCR (PC)

User Devices

Analogue Terminal

Model and Specifications

Basic Analogue Phone

Model: LKA-200

Simple SLT
3 memory buttons
Redial/volume control



Analogue Wireless Terminal

Model and Specifications

Enhanced Analogue Phone

Model: AP-3000D Analogue Cordless Telephone

Cordless DECT Handset (GAP compliant)
Outdoor range – approx. 250m with clear line of sight
Indoor range – approx. 50m (depending on the obstacles between the base and handset)
Speakerphone for hands-free conversations
Caller Line Identification (CLI) supported



IP Terminals

Model and Specifications

Entry Level IP Terminal

Model: LIP-9002

2-line grey graphic with backlit (128x32)
4 programmable feature keys with 3 colour LED
2 LAN ports (10/100 Base-T)
Narrow band speaker phone PoE(802.3af)
LLDP-MED/802.1x security support
Open VPN support



IP Terminals

Model and Specifications

Standard Gigabit IP Phone

Model: LIP-9020

4-line grey scale graphic with backlit (320x80)
10 programmable feature keys with 3 colour LED
2 Gigabit LAN ports (10/100/1000 Base-T)
Wide band speaker phone PoE (802.3af)
LLDP-MED/802.1x security support
Open VPN support



Standard Gigabit IP Phone

Model: LIP-9030

6-line grey scale graphic with backlit (320x112)
24 (8x3page) programmable feature keys with 3 colour LED
2 Gigabit LAN ports (10/100/1000 Base-T)
Wide band speaker phone PoE(802.3af)
LLDP-MED/802.1x security support
Open VPN support



Professional Gigabit IP Phone

Model: LIP-9040

8-line grey scale graphic with backlit (320x144)
36 (12x3page) programmable feature keys with 3 colour LED
2 Gigabit LAN port (10/100/1000 Base-T)
Wide band speaker phone PoE(802.3af)
LLDP-MED/802.1x security support
Open VPN support



High-end IP Video Phone

Enhanced Touch Screen IP Video Phone

Model: LIP-9071

7-inch LCD with touch screen
HD video call
3-way audio conference MCID through XML service
Built-in camera
Bluetooth and WiFi dongle support
Built-in HDMI interface
NFC tagging support
3rd party Android applications



IP Terminal Accessories

Note: All DSS units are compatible with the LIP-9020 model and higher.

| Model and Specifications | |
|---|---|
| <p>DSS (Direct Station Select) modules</p> <p>Models available: LIP-9012DSS, LIP-9024DSS, LIP-9048DSS, LIP-9024LSS LIP-9012DSS: 12 button paper underlay type DSS LIP-9024DSS: 24 button paper underlay type DSS LIP-9048DSS: 48 button paper underlay type DSS LIP-9024LSS: High-end LCD underlay type unit</p> <p>The LIP-90xxDSS/LSS unit connects to the side of the LIP-9020, LIP-9030 and LIP-9040 terminals via a dedicated connector.</p> <p><i>The LIP-90xxDSS/LSS units can't be cascaded, thus only a single unit can be connected to a terminal. The LIP-9048DSS can be cascaded to a maximum of 3 per terminal.</i></p> |  |
| <p>Bluetooth Module</p> <p>Model: LIP-9000BTMU</p> <p>Optional module Bluetooth V2.1+EDR Speaker phone or handset calls on smartphone and bluetooth headset</p> |  |
| <p>EHSA (Electronic Hook Switch Adapter)</p> <p>Model: EHSA</p> <p>EHSA is a module that connects the DECT headset to the terminal. It enables customers to answer and end calls away from their desks.</p> <p>Compatible with Plantronics DECT Headsets.</p> |  |

Digital Terminals

Model and Specifications

Standard Gigabit IP Phone

Model: LDP-9208D

Two-line x 24-character LCD (without backlit)
8 flexible buttons (dual LED)
Half duplex speaker phone
No DSS & LSS support



Professional Digital Terminal

Model: LDP-9224DF

192 x 36 resolution graphic LCD (with backlit)
24 flexible buttons (dual LED)
Full duplex speaker phone
Support DSS (LIP-9012DSS, LIP-9024DSS and LDP-9248DSS)
Support EHSA



Advanced Digital Terminal

Model: LDP-9240D

320 x 144 resolution graphic LCD (with backlit)
12 x fixed flexible buttons (2 pages x 12 = 24 total) (dual LED)
Calendar display
Full duplex speaker phone
Support DSS (LIP-9012DSS, LIP-9024DSS and LDP-9248DSS)
Support EHSA



Digital Terminal Accessories

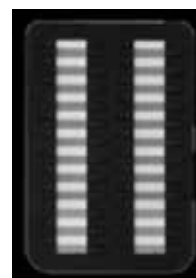
Model and Specifications

Digital DSS Console

Model: LDP-9248DSS

48 flexible buttons can be programmable
Can be programmed as feature buttons, stations or lines
Two-level foot stand

The LDP-9048DSS is not compatible with the LDP-9208D terminal.



DEC Terminals and Accessories

| Model and Specifications | |
|--|--|
| <p>Full featured and cost-effective IP DECT HANDSET Model: GDC-800Bi</p> <p>Feature-rich 2-inch full colour LCD Polyphonic ringtone 25 call list storage capacity 100/200 phonebook (Local/Central) Duplex speaker phone Headset jack (3.5mm) Voice encoding: G.711/G.722 Standby 180hrs/talking 16hrs</p> |  A black IP DECT handset with a 2-inch full color LCD screen, a circular navigation pad, and a numeric keypad. It is shown standing on a black charging base. |
| <p>Full featured and cost-effective IP DECT BASE STATION Model: GDC-800Bi</p> <p>Base station for GDC-800 8 simultaneous calls, 300m RF distance Scalable from 1 to 40 bases in a zone Software Upgrade Over the Air-sync (SUOTA) IP security TLS, sRTP Statistics (Call data, System data, DECT data)</p> |  A black, rectangular IP DECT base station with a small display at the top and a yellow indicator light at the bottom. |
| <p>Full featured and cost-effective IP DECT REPEATER Model: GDC-800Bi</p> <p>Professional DECT repeater with extended call Up to 6 repeaters per base station Up to 3 repeaters in daisy chain Range (Open/Building) : Up to 300/50m</p> |  A black, square-shaped IP DECT repeater with a central vented area and a small yellow indicator light at the bottom. |
| <p>Value featured TDM DECT Solution TDM DECT HANDSET Model: GDC-500H</p> <p>Ruggedised design for advanced functionality Feature rich 2-inch full colour LCD Bluetooth headset support Serial port for software upgrade and direct charging Different ring tones, up to 9 Speaker phone Scanning 5 base stations as candidates for handover Standby 100hrs/Talking 10hrs 2.5mm ear mic jack</p> |  A black TDM DECT handset with a 2-inch full color LCD screen, a numeric keypad, and a speaker. It is shown standing on a black charging base. |

DEC Terminals and Accessories

Model and Specifications

Value featured TDM DECT Solution TDM DECT BASE STATION

Model: GDC-600BE

Base station for GDC-500H
GDC-480H
6 simultaneous calls
300m RF distance
3 LED indicators



WiFi Terminal

Model and Specifications

WiFi Handset

Model: WIT-400HE

2-inch TFT colour LCD
IPECS protocol-based system terminal
802.11 b/g compatible, 802.11e for WLAN QoS
Standby 50hrs/Talking 3hrs
WEP, WPA-PSK, WPA2-CCMP
G.722 wideband voice codec
PTT, SMS, volume control
3-way conference, system hold, call back, linked pair
and more system call features



Conference Terminals

Model and Specifications

Basic Analogue Conference Terminals

Model: Konftel 250

Analogue model
Expandable with additional microphones
Recording on memory card
Guide for multi-party calls
Two-year warranty
Meeting size: up to 20 people
OmniSound®



Conference Terminals

Model and Specifications

SIP Conference Terminal

Model: Konftel 300IP

SIP Model
Built-in bridging function
Zero Touch Installation
Meeting size: more than 20 people
OmniSound® with HD audio
Recording on memory card



SIP Conference Terminal

Model: Konftel 300Wx

Wireless DECT – Utilise an analogue port on the PBX
Battery with 60 hours of call time
USB for collaboration
Meeting size: up to 20 people
OmniSound® with HD audio



Konftel Expansion Microphones

To use with Konftel 300 Conference terminals

Model: Terminal Expansion Microphones

Increase the voice pickup range from 30m² up to 70 m²



Headsets

Model and Specifications

Basic Headset for Terminals and Softphone Clients

Can be used with Terminal or Softphone, depending on the Bottom Cord Type

Model: SH230

Acoustical foam ear cushion effectively channels sound into ear
Detachable headband for easy upgrading to ear clip model



Call Centre Headset for Terminals and Softphone Clients (incl. Noise Cancellation)

Can be used with Terminal or Softphone, depending on the Bottom Cord Type

Model: SH330

ActiveGard® safeguards the user from the damaging effects of sudden, loud acoustic bursts
Self-adjusting ball-mounted speaker capsule allows perfect fitting to the head
300° adjustable microphone boom allows the mic to be positioned exactly for optimal speech clarity.
Superb sound, whether using the leatherette or foam ear pad (both included)



Plantronics CS540

The Plantronics CS540 is a DECT-based wireless headset system

Lightweight design ear model headset
Hands-free operation
One-touch answer/End operation Auto answer function
Volume control mute function
Noise cancelling microphone
Easy configuration
Eliminates interference from WiFi networks



Plantronics SAVI WS740

The Plantronics SAVI W740 is a DECT-based, multi-device wireless headset system.

One headset to manage calls between PC, mobile and desk terminal.
Conference in up to three additional headsets.
Advanced wideband audio using CAT-iq technology for high definition voice quality
Voice-dedicated DECT technology eliminates WiFi interference
Noise-cancelling microphone reduces background noise interruptions
Enhanced Digital Signal Processing (DSP) provides more natural voice sounds



Headsets

Model and Specifications

Bluetooth Headset (in-ear)

Can be used with IP Terminals, requires Bluetooth Module (LIP-9000BTMU)

Model: Voyager Legend (Plantronics)

Smart sensor technology
Best noise & wind cancelling
Call announce & voice-answer
Snap-fit magnetic



Softphone and UC Clients

Model and Specifications

Phone System Operator Software Client

Software package including PC. Available in 2 options: Office or Hotel

Model: IP Attendant

Embedded IP softphone functions

- Various call features without an external desktop phone
- High-quality voice communication using a PC or laptop

Simple directory and database management

- Local phonebook import and export
- Database and system component backup to the local hard disk drive
- Multiple local database interface
- Supports MS Outlook integration
- Phone book management: Register, edit, delete, 17 database fields, dynamic search, sort, filter

More productivity enhancement features

- Dialling options: Keypad dialling, click to call from the phonebook, station icon, log view and speed dial
- Video call, conferencing, call recording, text messaging, Email notice, paging, emergency call monitoring, etc.



Softphone and UC Clients

Model and Specifications

Desktop (PC) Unified Communications Client – UC

Available in Standard and Premium packages.

Available in UCS + Voice (no desk phone needed), and UCS only (no voice features, only UC).

Model: UCS Desktop (Standard, Premium, With Voice, Without Voice)

Integrated Presence

- Instant decision on reachability by status colour
- Save time and cost through real-time communications with people who are available for collaboration
- Integrated DND setting is available for both IPECS UCS client and desktop phone at the same time

Instant Messaging, SMS and Note

- Various chatting mode (1:1, 1:N, Ad-hoc, Meet-me)
- Inviting others by drag and drop
- Packet encryption by AES
- Send and receive text message to other internal IPECS system or external SMS users
- Leave a note for offline IPECS UCS users

Audio Call & Conference

<Audio Call>

- Call popup: Display caller's information based on CID
- MS Outlook popup: Display caller's contact information in MS Outlook based on CID
- Call memo: Noting important information during a call

<Audio Conference>

- Based on built-in audio conference system
- Easy conference building by graphical user interface and drag and drop
- Conference control features: Invite, Remove, Mute, Changing Master, Record

Video Call & Conference

- Build face-to-face conference any time, anywhere
- Maximum 9-party, 8-group video conference
- Video resolution: QCIF, CIF, VGA, 4CIF (704 x 480/576)
- Ad-hoc conference
- Meet-me conference and email notification
- Application sharing during conference
- Remote monitoring, still shot
- Presentation mode (1:32)



Softphone and UC Clients

Model and Specifications

Smart Phone Unified Communications Client – UC

Available for iOS and Android smartphones.

Model: UCS Mobile

Audio Call/Conference

- Call popup shows caller's information based on CID
- Outlook popup shows caller's contact information in Outlook based on CID
- Call-memo available during a call
- GUI based Audio Conference Manager
- Based on built-in audio conference system
- Easy conference building by graphical user interface and drag & drop
- Features for conference control (Invite/Master change/Mute/Lock/Record)

Video Call/Conference

- One-to-one video call from UCS Desktop and Mobile client
- QCIF, CIF, 4CIF video resolution
- Face-to-face conference any time and anywhere
- Max. 6-party, and 8 group video conference (Support only 1:1 on Mobile)
- QCIF, CIF, 4CIF video resolution
- Ad-hoc Conference
- Meet-me conference and email notification
- Application sharing during conference
- Remote monitoring, still shot, recording
- Presentation mode (1:32)

Instant Messaging, SMS and Note

- Various chatting mode 1:1, 1:N, Ad-hoc, and Meet-me
- Inviting others by drag & drop
- Packet encryption by AES
- Send and receive text message to other internal IPECS system or external SMS users
- Leave a note for offline UCS users

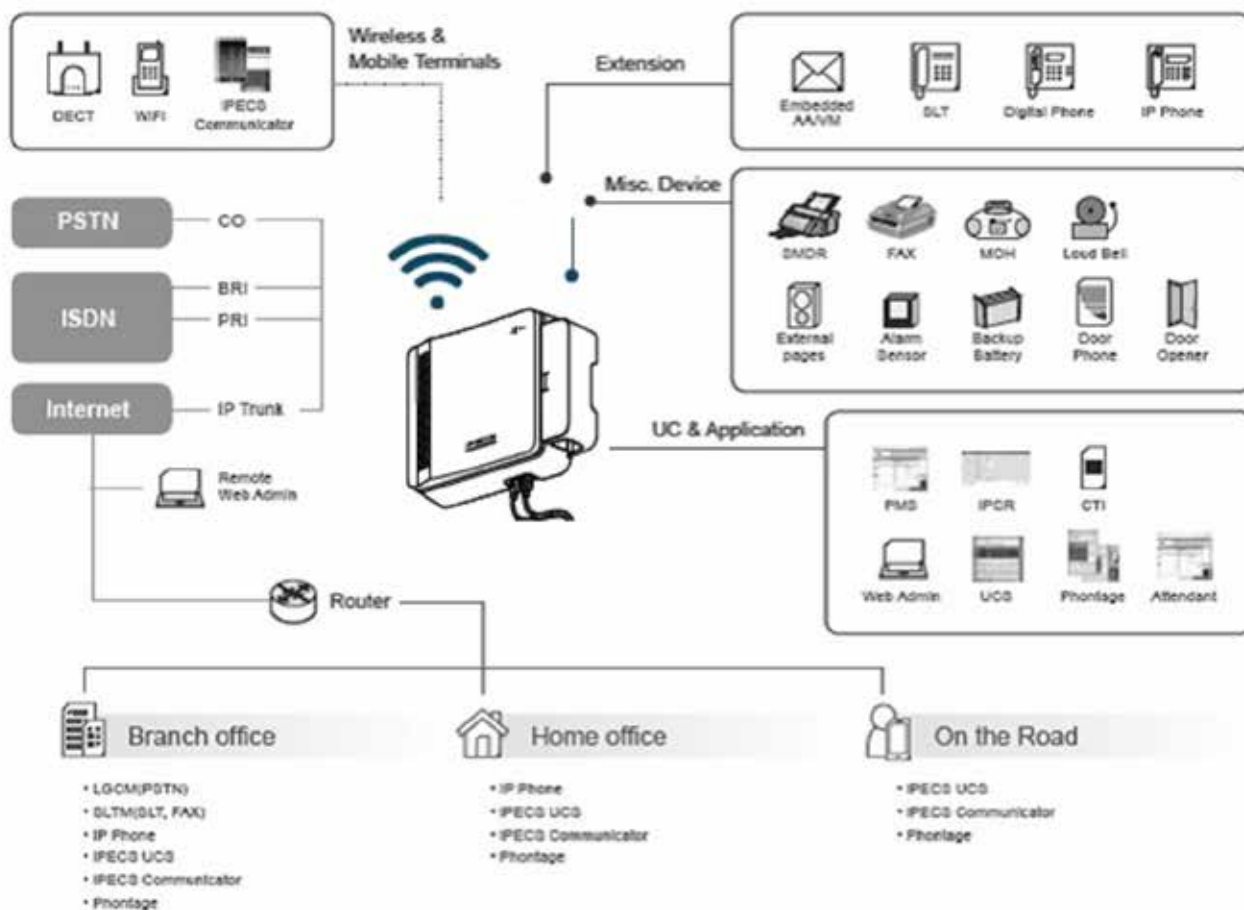
Call Control

- Instant decision on reachability by status colour following traffic signal
- Save time and costs through real-time communication with people who are available, collaboration
- Integrated DND setting is available for UCS and phone at the same time
- Call control, in-bound desktop phone on UCS desktop client
- Most call control function can be executed by one click or drag & drop
- Answer/Drop/Deny/Transfer/Hold/Park



EMG Specifications and Technical Information

Configuration Diagram and Service Applications



Configuration Diagram and Service Applications

| Model and Specifications | | |
|--------------------------|--|--|
| 1 | Main Cabinet | Yes |
| 2 | System Ports | 60 |
| 3 | Stations | std (1 x LIP-9030D or LDP-9224DF) std 2 x UCS Standard with voice std 2 x UCS mobile std 2 x ClickCall std 7 x Hybrid (SLT or DKT) |
| | | max. 32 |
| 4 | CO Lines | Std. 4 PSTN + std. 2 VOIP |
| | | max. 28 |
| 5 | Max. RSGMs | N/A |
| 6 | Attendants | 4 |
| 7 | Serial Port (RS-232C) | 1 |
| 8 | USB Host port (for maintenance purposes) | 1 |
| 9 | Alarm/Door bell | 1 |
| 10 | External Control Relays | 1 |
| 11 | Music Source Inputs | 1 |
| 12 | Power Fail Circuit | 1 std. (max. 3) |
| 13 | External Page Port | 1 |
| 14 | System Speed Dial | 3000 |
| 15 | Station Speed Dial | 100 |
| 16 | Last Number Redial | 10 |
| 17 | Save Number Redial | 1 |
| 18 | DSS Consoles/Station | 3 |
| 19 | SMDR buffer | 5000 |
| 20 | CO Line Groups | 20 |
| 21 | Station & Hunt Groups | 40 |
| 22 | Pickup Groups | 50 |
| 23 | 3-party Voice Conferencing | Yes |
| 24 | Executive/Secretary pairs | 36 |
| 25 | Authorisation Codes: Station | 140 |
| 26 | Authorisation Codes: System | 360 |
| 27 | Auto-Attendant & Voicemail | Std. 1 Hour (max. 31 Hours) |
| | | 2 std. (max. 8) |
| 28 | VoIP/SIP channels | 16 |
| 29 | Redundancy | No |

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