



## Ehangcom Voice VAS Platform

### Introduction

The Ehangcom voice VAS platform is based on iSX1000 or iSX4000 Universal Application Platform. iSX1000 targets small to medium deployment up to 8E1 per system and iSX4000 targets high-density deployment up to 64E1 plus STM-1 per system. Its modular design offers low entry cost for small deployments, which makes it ideal for proof of concept for new VAS services. Its field upgradeable flexibility allows operators to expand capacity quickly for popular VAS services to capture market opportunities. Ehangcom voice VAS platform offers TDM interfaces to connect to legacy TDM networks and offers NGN interfaces to connect to the NGN/IMS networks.

The Ehangcom voice VAS platforms use the best-in-class, dedicated DSP technologies for IVR, conferencing and VoIP codec. In contrast to host based media processing solution which shares the same pool of resources as OS and applications, DSP technologies offer dedicated, predictable and scalable performance for resource-intensive functions like echo cancellation, voice quality enhancement (VQE) and VoIP codec. The DSP offers 128ms echo cancellation and voice quality enhancement

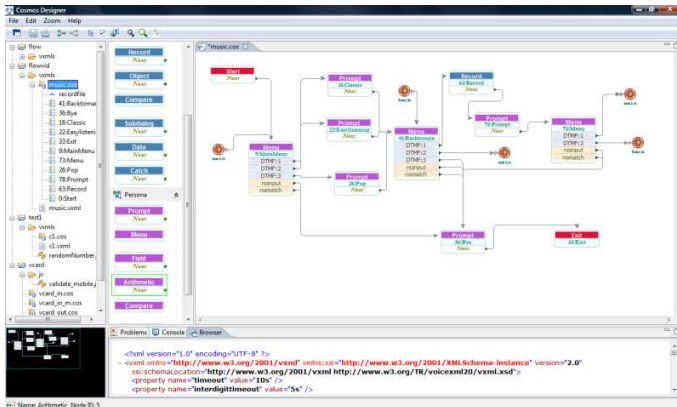
(VQE) on all voice resource channels. These features together deliver superior conferencing quality and typically produce 10% higher ASR accuracy than the technology without these two features.



**iSX4000 VAS Platform**

### Service Delivery Platform

The COSMOS Service Delivery Platform offers Drag-and-drop GUI Service Creation Environment (SCE) with the VXML 2.1 and CCXML 1.0 compliant interpreter, which enable development application developers to shorten voice and NGN application development cycle to quickly respond to today's fast changing market.



**COSMOS GUI Service Creation Environment**

Operators can deploy the Ehangcom voice VAS platforms in a centralized location to reduce OPEX and share the platforms to run applications developed by VAS companies in different locations.

Alternatively, VAS service providers can deploy applications in a centralized location to reduce OPEX with Ehangcom voice VAS platforms in different locations.

The compact 1U form factor helps operators to significantly save rack space and better utilize the expensive data center space and hence reduce total cost of ownership.

## Features & benefits

### Key Features

**Modular design, IMS ready**

**Multiple interfaces (T1/E1, STM-1, VoIP) and signaling protocols (ISDN, SS7, SIP)**

**Dedicated DSP media resources for IVR, conferencing and VoIP codec**

**Dedicated 128ms echo cancellation and voice quality enhancement (VQE) feature**

**Drag-and-drop GUI Service Creation Environment (SCE), VXML 2.1 and CCXML 1.0 compliant, GUI OAM interface, C++ APIs**

**Distributed system architecture**

**Compact 1U form factor**

### Benefits

Pay as you go, investment protection and migration path for IMS applications

Applications can be connected to different networks

More predictable and scalable voice and VoIP processing density than host based media processing technology

Superior conferencing quality and significant ASR accuracy improvement

Choice of reducing time to market or flexibility to develop complicated niche applications

Centralized platform to reduce OPEX for operators or centralized application to reduce OPEX for VAS service providers

Save rack space & reduce total cost of ownership

## Applications

- IVR
- Outbound dialer
- Caller Ringback Tone
- Call center
- Missed call alert
- Voice SMS
- Conferencing
- Voice portal with ASR
- Unified messaging

## Specifications

### Telephony interfaces

iSX1000: 8 T1 / E1 / J1

iSX4000: 64 T1 / E1 / J1, STM-1

### IP interfaces

LAN ports 4

### Signaling protocols

#### SSZ

64 kbps link	256
OPC	64
DPC	128
BHCC	1,440,000
Call processing capacity	100 cps
CIC Quantity	8,000

#### ISDN

D Channel	64
BHCC	1,440,000
Call processing capacity	100 cps

### SIP

Concurrent Channel	2000
Process capacity	20 cps
BHCC	2,880,000

### Media processing features

#### IVR

Support 256 channels for IVR for each module

Each channel can perform all these features:

- File Playback / Recording
- DTMF detection
- Conferencing
- 128 ms echo tail cancellation on all channels
- Voice Quality Enhancement (VQE)
- Integration with TTS & ASR engines

Conferencing

256 resources per DSP module

Up to 256 parties in one conference

Up to 256 conferences in one DSP module

Up to 16 DSP modules can be cascaded

128ms echo cancellation & voice quality enhancement (VQE) on all channels

Conferencing, DTMF detection, recording, broadcasting, DTMF clamping, listeners, per channel gain control

VoIP

Support various voice codecs

- G.711 aLaw/uLaw, G.711 Appendix I & II
- G.723.1, G.723.1 Annex A
- G.729 Annex A,B,E,G
- G.726 ADPCM 16-40 kbps
- G.728
- AMR-NB
- SMV
- CDMA QCELP 8K QCELP 13K
- EVRC

**Resource capacity – IVR, conferencing, VoIP**

Capacity	iSX1000	iSX4000
Available media resource slot	3	16
Maximum IVR/conferencing capacity	768	4096
Maximum G.711 channels	1212	6464
Maximum G.729 channels	504	2688
Maximum G.723 channels	384	2048

**Development environment**

C++ APIs or

COSMOS Service Delivery Platform (GUI SCE with VXML/CCXML interpreter)

**Management**

GUI OAM interface

SNMP traps

Signaling tracing, analysis & debugging