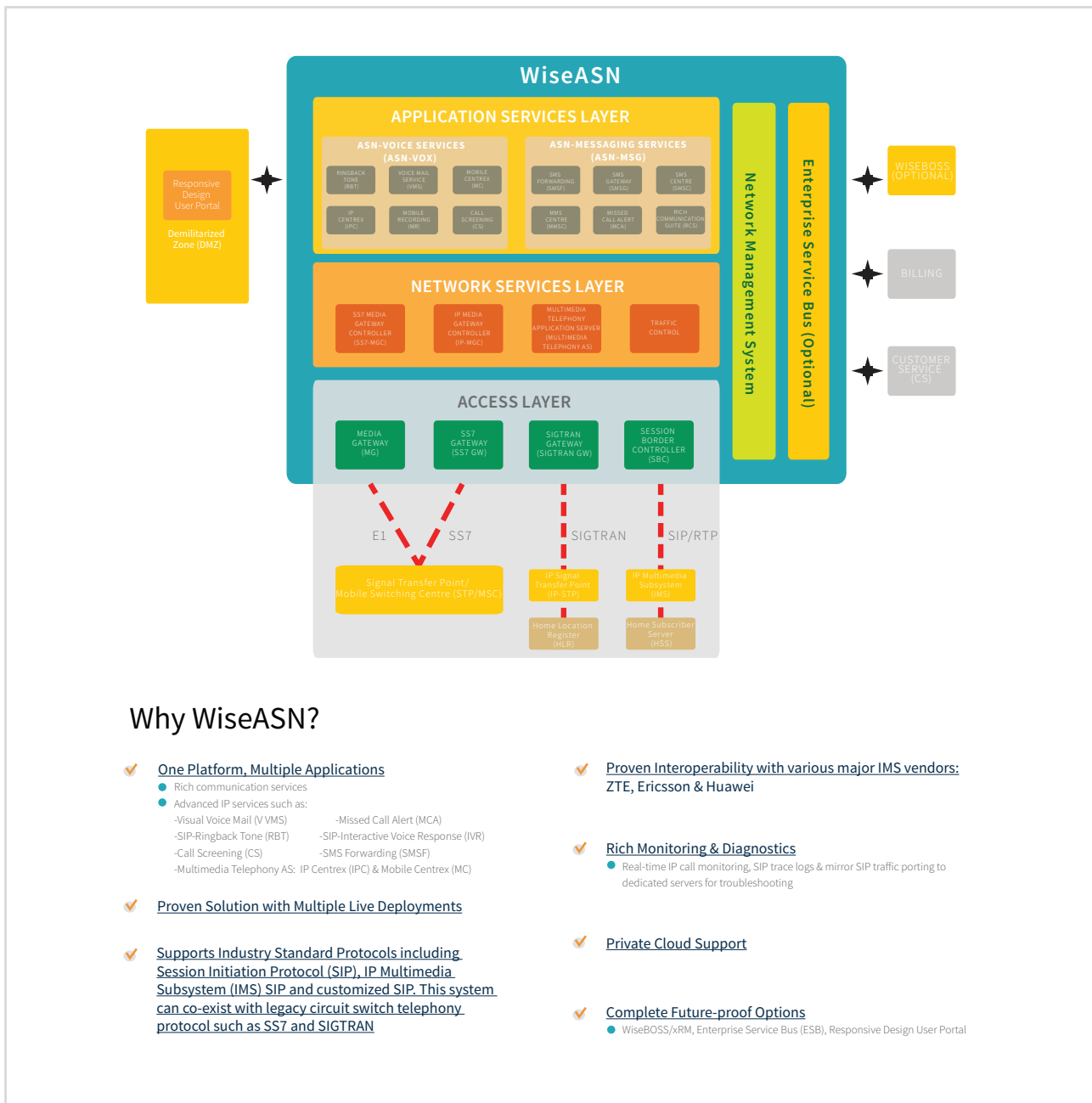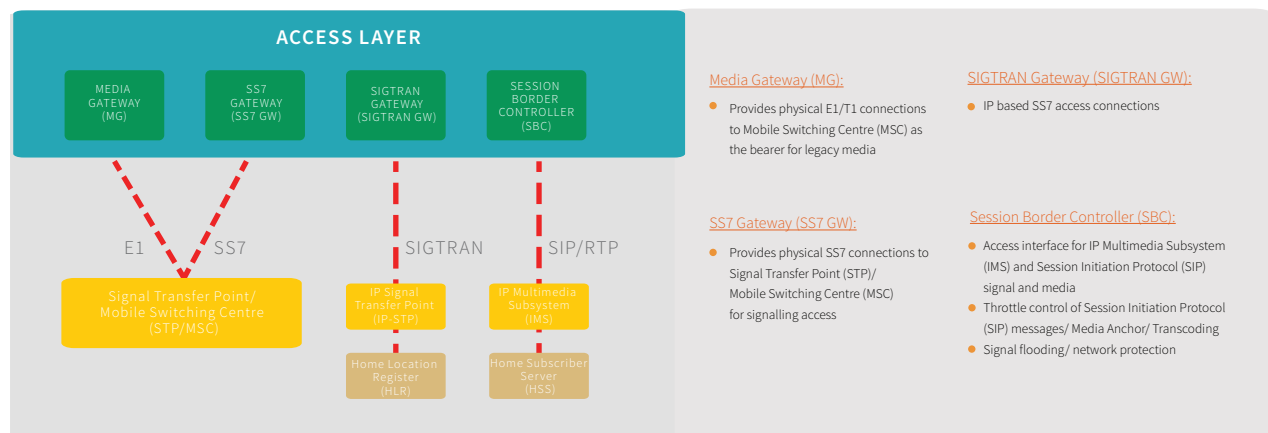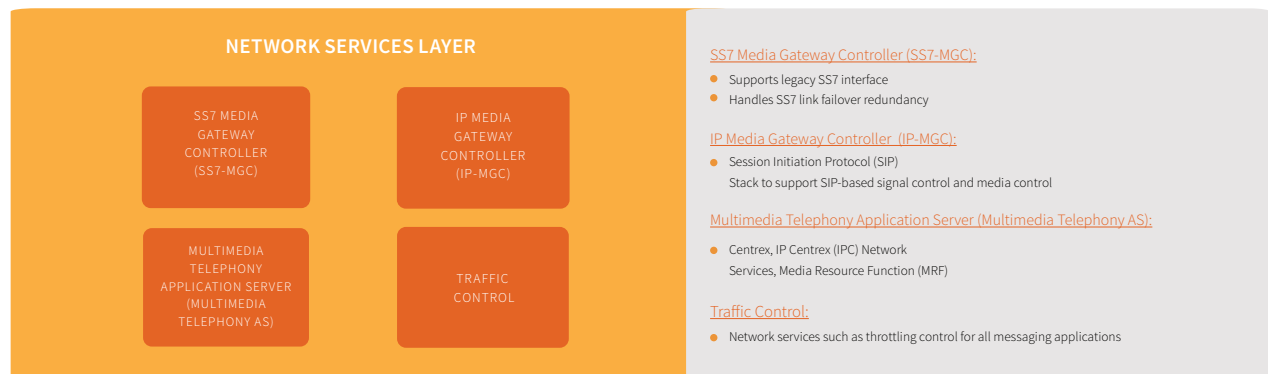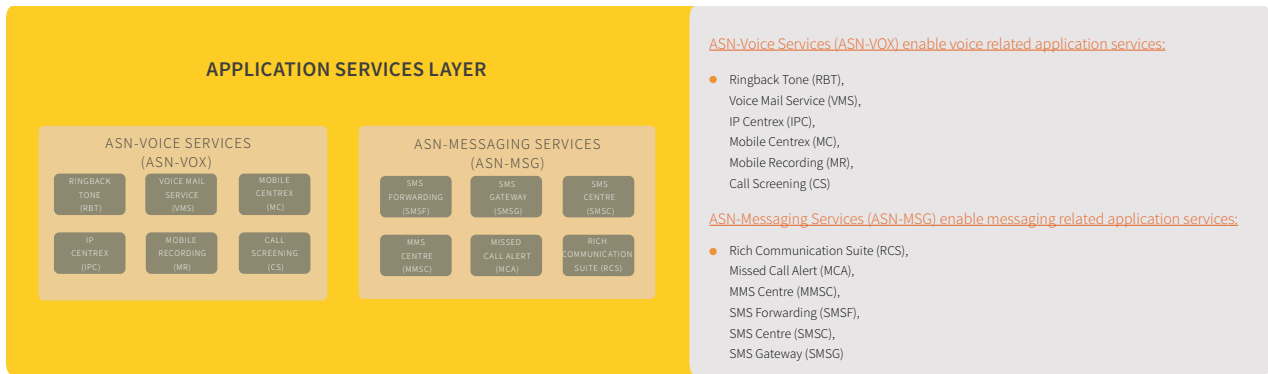# WiseASN

WiseSpot's WiseASN is a standard compliance, IMS-based application server system that helps telecom service providers create advanced multimedia telephony services for IP Multimedia Subsystem(IMS) LTE, and backward compatible to 3G and 2G networks.



## Why WiseASN?

✓ One Platform, Multiple Applications
- Rich communication services
- Advanced IP services such as:
  - -Visual Voice Mail (V VMS)          -Missed Call Alert (MCA)
  - -SIP-Ringback Tone (RBT)          -SIP-Interactive Voice Response (IVR)
  - -Call Screening (CS)          -SMS Forwarding (SMSF)
  - -Multimedia Telephony AS:  IP Centrex (IPC) & Mobile Centrex (MC)

✓ Proven Solution with Multiple Live Deployments

✓ Supports Industry Standard Protocols including Session Initiation Protocol (SIP), IP Multimedia Subsystem (IMS) SIP and customized SIP. This system can co-exist with legacy circuit switch telephony protocol such as SS7 and SIGTRAN

✓ Proven Interoperability with various major IMS vendors: ZTE, Ericsson & Huawei

✓ Rich Monitoring & Diagnostics
- Real-time IP call monitoring, SIP trace logs & mirror SIP traffic porting to dedicated servers for troubleshooting

✓ Private Cloud Support

✓ Complete Future-proof Options
- WiseBOSS/xRM, Enterprise Service Bus (ESB), Responsive Design User Portal

# WiseASN Solution Architecture

## APPLICATION SERVICES LAYER

### ASN-VOICE SERVICES (ASN-VOX)

- RINGBACK TONE (RBT)
- VOICE MAIL SERVICE (VMS)
- MOBILE CENTREX (MC)
- IP CENTREX (IPC)
- MOBILE RECORDING (MR)
- CALL SCREENING (CS)

### ASN-MESSAGING SERVICES (ASN-MSG)

- SMS FORWARDING (SMSF)
- SMS GATEWAY (SMSG)
- SMS CENTRE (SMSC)
- MMS CENTRE (MMSC)
- MISSED CALL ALERT (MCA)
- RICH COMMUNICATION SUITE (RCS)

**ASN-Voice Services (ASN-VOX) enable voice related application services:**

- Ringback Tone (RBT),
  Voice Mail Service (VMS),
  IP Centrex (IPC),
  Mobile Centrex (MC),
  Mobile Recording (MR),
  Call Screening (CS)

**ASN-Messaging Services (ASN-MSG) enable messaging related application services:**

- Rich Communication Suite (RCS),
  Missed Call Alert (MCA),
  MMS Centre (MMSC),
  SMS Forwarding (SMSF),
  SMS Centre (SMSC),
  SMS Gateway (SMSG)

## NETWORK SERVICES LAYER

- SS7 MEDIA GATEWAY CONTROLLER (SS7-MGC)
- IP MEDIA GATEWAY CONTROLLER (IP-MGC)
- MULTIMEDIA TELEPHONY APPLICATION SERVER (MULTIMEDIA TELEPHONY AS)
- TRAFFIC CONTROL

**SS7 Media Gateway Controller (SS7-MGC):**

- Supports legacy SS7 interface
- Handles SS7 link failover redundancy

**IP Media Gateway Controller (IP-MGC):**

- Session Initiation Protocol (SIP)
  Stack to support SIP-based signal control and media control

**Multimedia Telephony Application Server (Multimedia Telephony AS):**

- Centrex, IP Centrex (IPC) Network
  Services, Media Resource Function (MRF)

**Traffic Control:**

- Network services such as throttling control for all messaging applications

## ACCESS LAYER

- MEDIA GATEWAY (MG)
- SS7 GATEWAY (SS7 GW)
- SIGTRAN GATEWAY (SIGTRAN GW)
- SESSION BORDER CONTROLLER (SBC)

E1    SS7        SIGTRAN    SIP/RTP

- Signal Transfer Point/ Mobile Switching Centre (STP/MSC)
- IP Signal Transfer Point (IP-STP)
- Home Location Register (HLR)
- IP Multimedia Subsystem (IMS)
- Home Subscriber Server (HSS)

**Media Gateway (MG):**

- Provides physical E1/T1 connections
  to Mobile Switching Centre (MSC) as
  the bearer for legacy media

**SS7 Gateway (SS7 GW):**

- Provides physical SS7 connections to
  Signal Transfer Point (STP)/
  Mobile Switching Centre (MSC)
  for signalling access

**SIGTRAN Gateway (SIGTRAN GW):**

- IP based SS7 access connections

**Session Border Controller (SBC):**

- Access interface for IP Multimedia Subsystem
  (IMS) and Session Initiation Protocol (SIP)
  signal and media
- Throttle control of Session Initiation Protocol
  (SIP) messages/ Media Anchor/ Transcoding
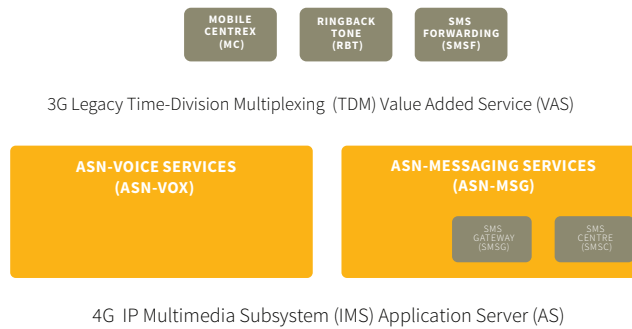- Signal flooding/ network protection

# Case Study:  From 3G Legacy to 4G VoLTE

**Scenario:** An operator wishes to migrate their 3G Voice, Messaging & Value-added Service (VAS)  services to become IP Multimedia Subsystem (IMS) Voice over LTE (VoLTE) ready

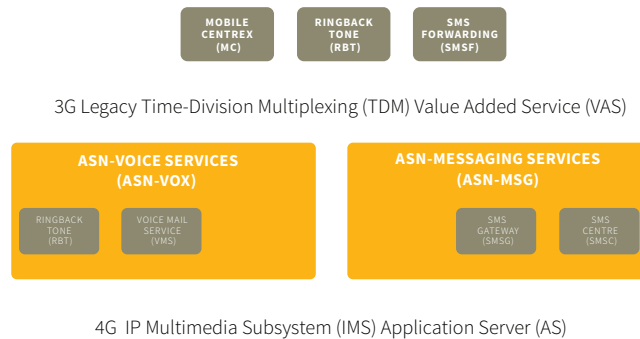**Deployment Strategy:**
a 3-Phase and 2-Stream approach

**PHASE 1**

## EXISTING DEPLOYMENT

| MOBILE CENTREX (MC) | RINGBACK TONE (RBT) | SMS FORWARDING (SMSF) |
|---|---|---|

3G Legacy Time-Division Multiplexing  (TDM) Value Added Service (VAS)

| ASN-VOICE SERVICES (ASN-VOX) | ASN-MESSAGING SERVICES (ASN-MSG) |
|---|---|
| | SMS GATEWAY (SMSG) · SMS CENTRE (SMSC) |

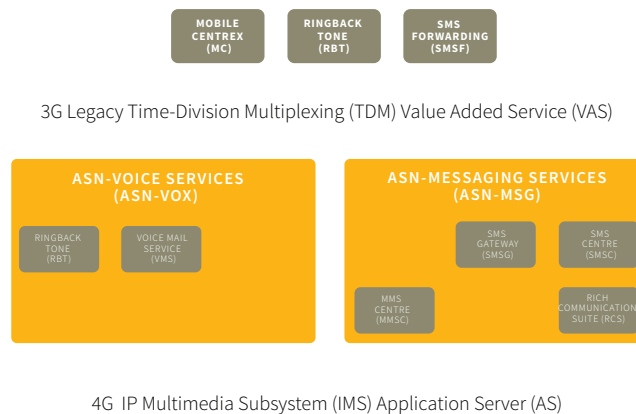4G  IP Multimedia Subsystem (IMS) Application Server (AS)

## STREAM ASN-VOICE SERVICES

- Deployment of Voice Mail Service (VMS)/ Ringback Tone Application Server (RBT AS)
- 3G and 4G Ringback Tone (RBT) co-exist

| MOBILE CENTREX (MC) | RINGBACK TONE (RBT) | SMS FORWARDING (SMSF) |
|---|---|---|

3G Legacy Time-Division Multiplexing (TDM) Value Added Service (VAS)

| ASN-VOICE SERVICES (ASN-VOX) | ASN-MESSAGING SERVICES (ASN-MSG) |
|---|---|
| RINGBACK TONE (RBT) · VOICE MAIL SERVICE (VMS) | SMS GATEWAY (SMSG) · SMS CENTRE (SMSC) |

4G  IP Multimedia Subsystem (IMS) Application Server (AS)

## STREAM ASN-MESSAGING SERVICES

- Deployment of Rich Communication Suite (RCS)/ Multimedia Messaging Service Centre (MMSC)

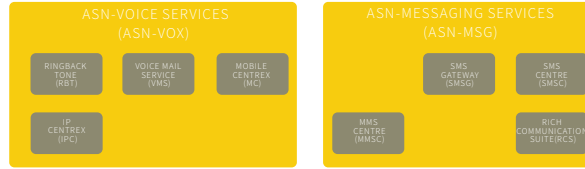| MOBILE CENTREX (MC) | RINGBACK TONE (RBT) | SMS FORWARDING (SMSF) |
|---|---|---|

3G Legacy Time-Division Multiplexing (TDM) Value Added Service (VAS)

| ASN-VOICE SERVICES (ASN-VOX) | ASN-MESSAGING SERVICES (ASN-MSG) |
|---|---|
| RINGBACK TONE (RBT) · VOICE MAIL SERVICE (VMS) | SMS GATEWAY (SMSG) · SMS CENTRE (SMSC) · MMS CENTRE (MMSC) · RICH COMMUNICATION SUITE (RCS) |

4G  IP Multimedia Subsystem (IMS) Application Server (AS)

## STREAM ASN-VOICE SERVICES

• Deployment of IP Centrex (IPC) / Mobile Centrex (MC) Application Server (AS)

| MOBILE CENTREX (MC) | RINGBACK TONE (RBT) | SMS FORWARDING (SMSF) |
|---|---|---|

### 3G Legacy Time-Division Multiplexing (TDM) Value Added Service (VAS)

**ASN-VOICE SERVICES (ASN-VOX)**
- RINGBACK TONE (RBT)
- VOICE MAIL SERVICE (VMS)
- MOBILE CENTREX (MC)
- IP CENTREX (IPC)

**ASN-MESSAGING SERVICES (ASN-MSG)**
- SMS GATEWAY (SMSG)
- SMS CENTRE (SMSC)
- MMS CENTRE (MMSC)
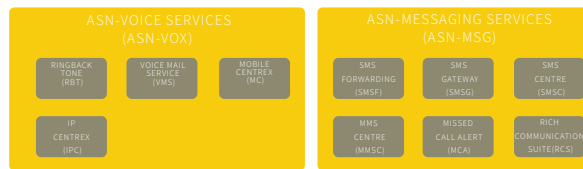- RICH COMMUNICATION SUITE (RCS)

### 4G IP Multimedia Subsystem (IMS) Application Server (AS)

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## STREAM ASN-MESSAGING SERVICES

• Deployment of Missed Call Alert (MCA)/ SMS Forwarding (SMSF)

| MOBILE CENTREX (MC) | RINGBACK TONE (RBT) | SMS FORWARDING (SMSF) |
|---|---|---|

### 3G Legacy Time-Division Multiplexing (TDM) Value Added Service (VAS)

**ASN-VOICE SERVICES (ASN-VOX)**
- RINGBACK TONE (RBT)
- VOICE MAIL SERVICE (VMS)
- MOBILE CENTREX (MC)
- IP CENTREX (IPC)

**ASN-MESSAGING SERVICES (ASN-MSG)**
- SMS FORWARDING (SMSF)
- SMS GATEWAY (SMSG)
- SMS CENTRE (SMSC)
- MMS CENTRE (MMSC)
- MISSED CALL ALERT (MCA)
- RICH COMMUNICATION SUITE (RCS)

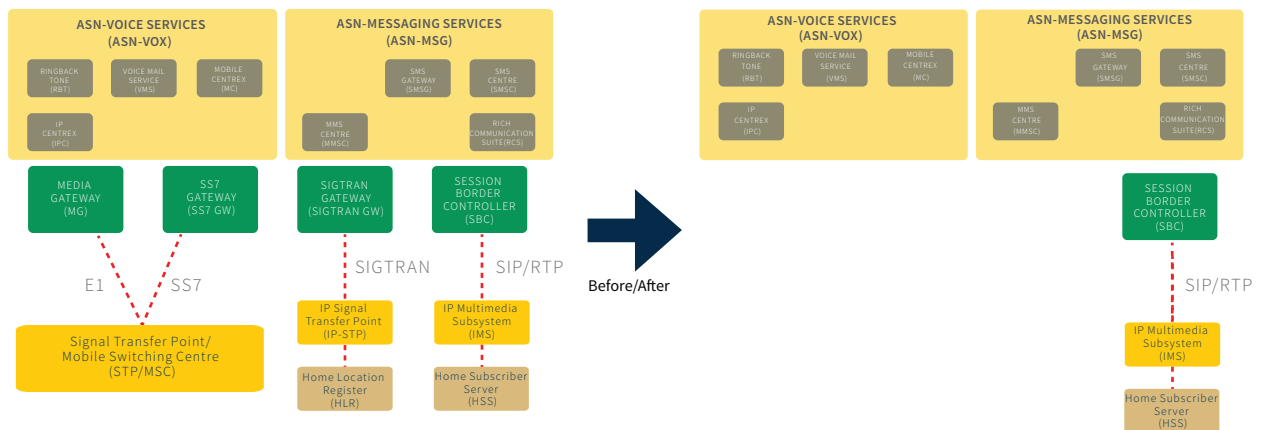### 4G IP Multimedia Subsystem (IMS) Application Server (AS)

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## RETIREMENT OF 3G VALUE ADDED SERVICE (VAS)

• All traffic should be going through the 4G IP Multimedia Subsystem (IMS)
• SS7 interface, so 3G can retire from the system

### 4G IP Multimedia Subsystem (IMS) Application Server (AS)

**ASN-VOICE SERVICES (ASN-VOX)**
- RINGBACK TONE (RBT)
- VOICE MAIL SERVICE (VMS)
- MOBILE CENTREX (MC)
- IP CENTREX (IPC)

**ASN-MESSAGING SERVICES (ASN-MSG)**
- SMS GATEWAY (SMSG)
- SMS CENTRE (SMSC)
- MMS CENTRE (MMSC)
- RICH COMMUNICATION SUITE (RCS)

- MEDIA GATEWAY (MG)
- SS7 GATEWAY (SS7 GW)
- SIGTRAN GATEWAY (SIGTRAN GW)
- SESSION BORDER CONTROLLER (SBC)

E1 / SS7 / SIGTRAN / SIP/RTP

- Signal Transfer Point/ Mobile Switching Centre (STP/MSC)
- IP Signal Transfer Point (IP-STP)
- Home Location Register (HLR)
- IP Multimedia Subsystem (IMS)
- Home Subscriber Server (HSS)

**Before/After**

### 4G IP Multimedia Subsystem (IMS) Application Server (AS)

**ASN-VOICE SERVICES (ASN-VOX)**
- RINGBACK TONE (RBT)
- VOICE MAIL SERVICE (VMS)
- MOBILE CENTREX (MC)
- IP CENTREX (IPC)

**ASN-MESSAGING SERVICES (ASN-MSG)**
- SMS GATEWAY (SMSG)
- SMS CENTRE (SMSC)
- MMS CENTRE (MMSC)
- RICH COMMUNICATION SUITE (RCS)

- SESSION BORDER CONTROLLER (SBC)

SIP/RTP

- IP Multimedia Subsystem (IMS)
- Home Subscriber Server (HSS)

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Why WiseSpot?

Headquartered in Hong Kong since 2001, WiseSpot Company Limited has become a leading developer of telecom solutions and system integrator with over 100 live installations covered by the 7x24x4 on-site support, spanning Greater China, Singapore, Australia, UK and USA. In addition to our dedicated product development center in Shenzhen and a full-service regional office in Taipei, we are a team that is well versed in the latest fixed, mobile and IP data technologies. Backed by an international network of best-in-class technology partners, we have a proven track record of successful implementation into live production networks with minimal risk of service interruption. Our experience ensures that the final solution ultimately installed is of uncompromising quality and meets both the business, technical and budgetary objectives.