Multimedia session control and transfer protocols stack for 3G video

The ITU-T H.324 recommendation was initially issued to specify a suite of standards for sharing video, voice and data simultaneously over modem connections on PSTN (Public Switched Telephone Network). It defines a control protocol (H.245) and multiplexing mechanism (H.223) as well as audio and video codecs used for real-time multimedia streaming over an established switched circuit connection.

3G-324M has been derived from H.324 standards by 3GPP and 3GPP2 standardization bodies to specify multimedia communication in mobile switched circuit environments.

3G-324M set of protocols is well suited for delay sensitive applications like video phone, video conferencing, TV broadcasting, and video-on-demand. Such applications could not be satisfactorily operated using currently deployed mobile packet technology due to high packet transmission overhead, high BER, and variable transit delay.

Enea H324m-Bricks
Enea® H324m-Bricks is a portable implementation of this set of standards compliant with:
- ITU-T H.324 (09/2005) including mobile support specified in Annex A, C and K (Note 1)
- 3GPP & 3GPP2 specifications: TS 26.111 (V6.01), TS 26.110 (V6.00), and TS 26.911 (V6.00)
- ITU-T H.223 including Annex A, B, C and D (Note 1)

Enea H324m-Bricks consists of the following:
- ITU-T H.245 version 11 (backward compatible) including support for H.223 Annexes A, B and C required for mobile communications
- ITU-T H.223 multiplexing protocol including:
  - Adaptation layer procedures for data (H.223 AL1), audio (H.223 AL2) and video (H.223, AL3)
  - H.223 basic multiplexing protocol also called level 0
  - H.223 multiplexing protocol extensions for low bit rate multimedia mobile communication over low error-prone channels also called level 1 mobile H.223 extensions as specified in H.223 Annex A
  - H.223 multiplexing protocol extensions for low bit rate multimedia mobile communication over moderate error-prone channels also called level 2 mobile H.223 extensions as specified in H.223 Annex B

Enea is a global software and services company focused on solutions for communication-driven products. With 40 years of experience Enea is a world leader in the development of software platforms with extreme demands on high-availability and performance. Enea’s expertise in real-time operating systems and high availability middleware shortens development cycles, brings down product costs and increases system reliability. Enea’s vertical solutions cover telecom handsets and infrastructure, medtech, industrial automation, automotive and mil/aero. Enea has 750 employees and is listed on Nasdaq OMX Nordic Exchange Stockholm AB. For more information please visit enea.com or contact us at info@enea.com.
H.223 multiplexing protocol extensions for low bit rate multimedia mobile communication over highly error-prone channels also called level 3 mobile H.223 extensions as specified in H.223 Annex C and D (Note 1)

**Note 1:** support of ITU-T H.324 Annex K and H.223 Annex C and D will be part of future releases

**Enea H324m-Bricks features**
- Flexible support of various H.245 control messages according to requirements
- Modular architecture to ease protocol selection according to targeted equipment
- High level of flexibility thanks to dynamic configuration/reconfiguration procedures
- Enhanced flow control procedure for easy stream management by application
- Low footprint for embedded systems
- Fast call setup time with supports for H.324 Annex K (MONA–Note 1) and WNSRP
- Easy integration with other signaling protocols from Netbricks: MEGACO-Bricks, SIP-Bricks, MGCP-Bricks, Enea ISDN-Bricks

Enea H324m-Bricks is based on Enea's field proven portable architecture using object-oriented design and a message passing mechanism for inter-entity communication. Interfaces to many commercial operating systems are provided including Linux, Microsoft Windows®, VxWorks®, Nucleus®, Enea OSE®, PSOS+®, Thread-X®, Unix®,VRTX®, and many others.

The Enea H324m-Bricks package consists of source code (including build files and application examples), documentation (English), training, warranty and support period.

Enea H324m-Bricks can be easily combined with other Enea signaling protocols (Enea SIP-Bricks, Enea Megaco-Bricks, Enea ISDN-Bricks) providing a unique protocol base to develop Multi-media Mobile User Equipments (Cell phones, Smartphone, PDAs), Gateways, Interactive Video Responders, H.324-compliant video phones, and video-streaming servers. It can also be easily integrated with Enea's softmodem product (Enea Softmodem-Bricks) for implementing H.324 compatible PSTN terminals.

Enea H324m-Bricks has been designed from the ground up for the OEM market. Enea can develop any custom product based on Enea H324m-Bricks technology according to customers' specifications.