ENEA® DCOD-BRICKS 3G 324

For decoding 3G multimedia calls

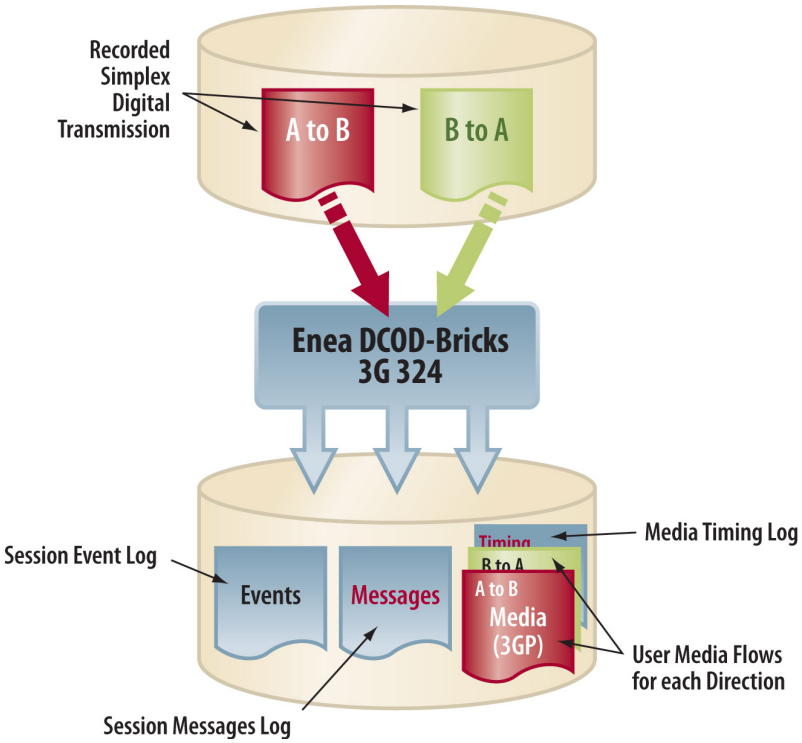
Enea® DCOD-Bricks is a suite of software products designed and marketed by Enea® that provide powerful capabilities for non-intrusive analysis. They operate over recorded digital communications in order to extract user data that are transmitted using a wide variety of telecommunication protocols. Enea® DCOD-Bricks 3G 324 is part of Enea DCOD-Bricks suite of products and enables decoding of multimedia calls over 3G networks.

Enea® DCOD-Bricks is composed of several modules that perform one specific protocol monitoring and decoding in order to extract transported user data.

Enea® DCOD-Bricks 3G 324 is a software library designed to operate in on-line or off-line processing of digital multimedia sessions (typically DS0 64Kbps channel) between 3G mobiles or 3G mobile and servers. Its functions include:

- Monitoring session control protocols defined in ITU-T H.245 and ITU-T H.324.
- Generation of event log files that includes all events related to multi-media session control: master/slave determination, terminal capabilities negotiation, logical channel opening, multiplex entry exchange, etc. This event log file provides a global view of the session progress.
- Generation of message log files that detail content of all H.245 messages that have been exchanged during the session. This report includes decoded ASN 1 part of such messages to give access to all features of the recorded multimedia session.
- Media flow extraction. De-multiplexing of logical channels combined in the recorded session is performed in accordance with ITU-T H.223 to restore media (audio and video) flows transmitted in both directions. For each direction, media flows are stored in one 3GP file or in separate audio (AMR) and video (H.263, MPEG4) files for possible subsequent processing. A timing log file is also generated providing time stamping on start and stop of media flows.

ENEA DCOD-BRICKS 3G 324 – WORKING FLOWS



The ITU-T H.324 recommendation was initially issued to specify a suite of standards in order to allow sharing video, voice and data simultaneously over modem connections on PSTN (Public Switched Telephone Network). It defines control protocols (H.245) and multiplexing mechanisms (H.223) as well as audio and video codecs to be used for real time multimedia streaming over an established switched circuit connection. 3G-324M has been derived from the H.324 standards by 3GPP

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and 3GPP2 standardization bodies to specify multimedia communication in mobile switched-circuit environments. It is used for video calls between 3G mobiles or 3G mobile and servers.

Enea DCOD-Bricks 3G 324 processing is based on the following list of standards:

- ITU-T H.324 (09/2005) including procedures of Annex A (SRP/NSRP/WNSRP), Annex C for mobile communications (CCSRL and H.223 levels procedures) and K (MONA– future release)
- 3GPP & 3GPP2 TS 26.111 (V6.01), TS 26.110 (V6.00), and TS 26.911 (V6.00)
- ITU-T H.245 V.11
- ITU-T H.223 as well as its Annex A (level 1 extensions), B (level 2 extensions), C and D (level 3 extensions ñ future release).

Enea DCOD-Bricks 3G 324 – deliverables

Enea DCOD-Bricks 3G 324:

- Is fully written in ANSI C using a modular framework to provide a high level of portability.
- Can be easily integrated in non-intrusive analysis applications thanks to a robust and simple API.
- Addressed to OEM market, Enea DCOD-Bricks 3G 324 is sold under a source code license package comprised of source code (including make files and application examples), documentation (English), training, warranty and support.

Enea can develop customized variations this technology according to customers' specifications. A complete 3G H.324 protocol suite is also available from Enea.