



NETBRICKS ATM-BRICKS

INTRODUCTION

NETBRICKS *ATM-BRICKS* is a portable software package implementing the signaling protocols in endpoints equipment (User side) and in Switches (Network side and Private Network to Network), of Asynchronous Transfer Mode Networks (ATM).

ATM-BRICKS is fully compliant with ITU-T recommendations : Q.2931 and Q.2110 (SSCOP) and with ATM Forum specifications UNI 3.0, 3.1, 4.0 and P-NNI 1.0

ATM-BRICKS implements Interim Local Management Interface (ILMI) compliant with ATM Forum specifications UNI 3.1, 4.0.

ATM-BRICKS architecture is based on NETBRICKS architecture using object oriented design and a message passing mechanism for inter-entity communication. *ATM-BRICKS* is designed to process a rough synchronous byte stream or to support HDLC controller. Interfaces to most of commercial RTOS are provided : AMX, Nucleus, PSOS+, RTC, VRTX, WxWorks, ...

ATM-BRICKS supports a companion stack for the user plane LEC-BRICKS (LAN Emulation Client) and an AAL type 2 signaling stack in conformance with ITU-T Q.2630 and Q.2150.

ATM-BRICKS is addressed to the OEM market. Netbricks can develop any custom product based on *ATM-BRICKS* technology according Customer's specifications.

ATM-BRICKS FEATURES

ATM Signaling ATM Adaptation Layer :

- ❑ ITU-T Q.2130 Service Specific Coordination Function at UNI (SSCF-UNI)
- ❑ ITU-T Q.2140/Q.2144 Service Specific Coordination Function at NNI (SSCF-NNI) for support of MTP3b
- ❑ ITU-T Q. Specific Connection Oriented Protocol (SSCOP)

ATM Signaling and Management :

- ❑ Signaling protocols compliant with :
 - ❑ ITU-T Q.2931(User and Network side)
 - ❑ ATM Forum UNI 3.0, 4.0, 4.1
 - ❑ ATM Forum P-NNI V1.0
- ❑ Interim Local Management Interface ILMI compliant with :
 - ❑ ATM Forum UNI 3.0 and V4.0

ATM-BRICKS support several signaling variants, UNI and NNI in the same system with selection at provisioning time.

An ATM user Call control is provided for controlling the semantic of calls.

PROTOCOL ENTITIES

ATM-BRICKS consists of the following main software entities :

- ❑ AALCP : ATM Adaptation Layer Common Part,
- ❑ SSCOP : ATM Data Link with UNI and NNI SAPs,
- ❑ ANS : ATM Network Signaling,
- ❑ ACC : ATM Call Control.

SSCOP implements the following functions :

- ❑ Q.2130 SCCF UNI SAP,
- ❑ Q.2140/2144 SCCF NNI SAP,
- ❑ Core SSCOP,
- ❑ Error correction,
- ❑ Provisioning and Re-provisioning,
- ❑ APIs,
- ❑ Standards : ITU-T Q.2110,

ATM Network Signaling (ANS) implements the following functions :

- ❑ Access on demand,
- ❑ Q.2931 syntax encoder decode,
- ❑ Q.2931 Finite State Machine,
- ❑ Provisioning and Re-provisioning,
- ❑ APIs.
- ❑ Standards : ITU-T Q.2931, ATM Forum 3.0, 3.1, 4.0.

ATM Call Control (ACC) implements the following functions :

- ❑ Management of call parameters,
- ❑ Provisioning and Re-provisioning,
- ❑ APIs,
- ❑ Standards : ITU-T Q.2931, ATM Forum 3.0, 3.1, 4.0.

- ❑ System management entity SM.

- ❑ Physical layers
 - ❑ MAALCP Management for AAL5 CP

 - ❑ AALCP AAL 5 CP

- ❑ ATM stack :
 - ❑ ILMI ATM ILMI entity

 - ❑ MAAL ATM Adaptation Layer Management entity

 - ❑ SSCOP entity

 - ❑ MANS ATM Network Signaling Management entity

 - ❑ ANS Network Signaling entity

 - ❑ ACC Call Control entity

ATM-BRICKS SOFTWARE ARCHITECTURE

