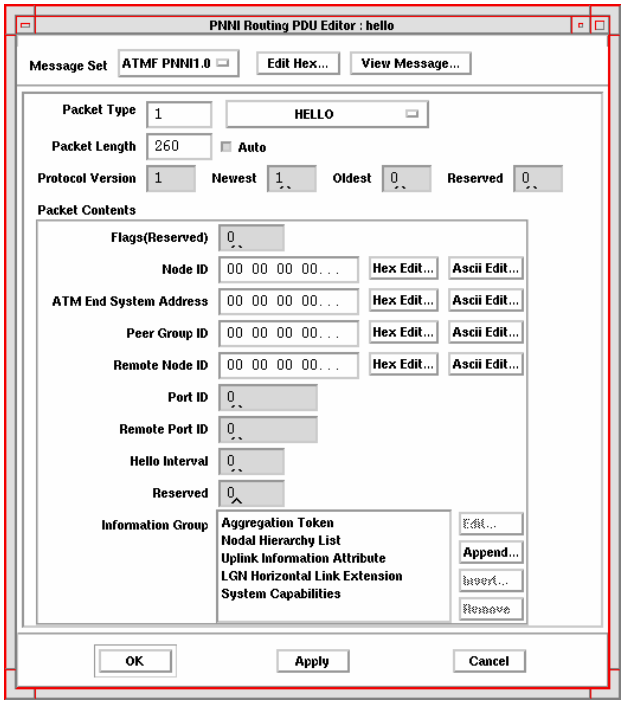
PNNI Signalling Test Software

Agilent Technologies Broadband Series Test System

E6280A



PNNI Routing PDU builder facilitates quick construction of routing messages

Product Features

- PNNI signalling and routing protocol decode and display
- PNNI signalling and routing protocol builders
- Complete application programming interface for building custom PNNI tests and testing routines
- Integrated with Agilent's E4214 B-ISDN UNI Signalling Test Software for stimulus at the UNI

The Agilent Technologies E6280A PNNI Test Software is a licensed software application for testing Private Network to Network Interface (PNNI) protocol implementations.

Designed for Agilent's widely used Broadband Series Test System (BSTS), the product facilitates analysis and verification of both the PNNI routing protocol, used to distribute network topology and routing information between ATM network switches, and the PNNI signalling protocol, used to relay B-ISDN signalling requests and responses within private ATM networks.

The E6280A allows developers to:

- Observe and track the PNNI signalling and routing messages passed between switches
- Evaluate the correct operation and implementation of PNNI protocols
- Create routines and scenarios to test the behavior of PNNI networks.

The product complements the comprehensive family of available BSTS ATM signalling applications and conformance test suites.

Agilent Technologies
Innovating the HP Way

Key Features

Decode and Display

PNNI signalling and routing messages can be decoded and displayed in real time or captured for detailed off-line analysis. All decode errors are automatically reported on-screen. PNNI routing packets utilize type-length-value (TLV) encoding and may contain multiple, nested Information Groups (IGs), as well as generic headers. The E6280A provides full decoding of PNNI routing packet contents and IGs, as well as PNNI signalling messages.

Simulation using PDU Builder

Both valid and invalid PNNI routing and signalling PDUs can be easily created, edited, stored and retrieved using the product's graphical PDU Builder. A separate PDU editor menu is provided for PNNI signalling and routing PDUs.

Both PNNI signalling and routing PDUs, as defined in the ATM Forum's PNNI Version 1.0 specification, can be transmitted and received from the equipment under test, using a few, simple commands. PNNI signalling PDUs are passed to the SSCOP protocol layer and encapsulated in SSCOP PDUs for transmission. PNNI routing PDUs are passed to the AAL5 protocol layer and encapsulated in AAL5 PDUs for transmission.

Illegal signalling messages and routing packets can be easily constructed using the PDU editor. For example, users can enter invalid values into Information Element and Information Group fields to test the response of the equipment under test to invalid PDU types.

User Programming Environment (UPE)

The product includes an Application Programming Interface (API) for the BSTS User Programming Environment (UPE). The API and UPE provide users with complete access to all product functionality, and provide the tools needed to write and execute customized scripts and scenarios for automation of testing routines.

Applicable Standards

- The Agilent E6280A conforms to the ATM Forum's PNNI Specification Version 1.0 (PNNI 1.0).

Copyright 2000 Agilent Technologies

Configuration & Use With Other BSTS Line Interfaces, Hardware Modules & Test Software

The E6280A PNNI Test Software requires a minimal Broadband Series Test System configuration of a chassis, E4209A or E4209B Cell Protocol Processor, and any ATM cell-based line interface. Two cell protocol processor/line interface pairs are recommended for monitoring a bi-directional stream; two receivers are required to capture both sides of the protocol exchange across the PNNI. The E6280A requires the E4212A AAL Test Software.

A related product, the E4217B NNI Signalling Test Software is used to test the B-ISUP and MTP-3b protocols at the network-node interface within public networks. Also, the E4214B B-ISDN UNI Signalling Test Software product provides reference emulations, decode and display, PDU builders and a user programming environment for the Signalling ATM Adaptation Layer, and for the UNI 3.0/3.1/4.0 and Q.2931 signalling protocol layers.

Warranty & Support Options

Agilent Broadband Series Test System software and firmware products are supplied on transportable media such as disk, CD-ROM or integrated circuits. The warranty covers physical defects in the media, and defective media is replaced at no charge during the warranty period. When installed in an Agilent Broadband Series Test System, the software/firmware media has the same warranty period as the product.

This test software has no components requiring calibration.

Product Numbers

- **E6280A** PNNI Test Software
- **E4217B** NNI Signalling Test Software
- **E4214B** B-ISDN UNI Signalling Test Software

Copyright 2000 Agilent Technologies

Agilent Technologies Broadband Series Test System

The Agilent Technologies BSTS is the industry-standard ATM/BISDN test system for R&D engineering, product development, field trials and QA testing. The latest leading edge, innovative solutions help you lead the fast-packet revolution and reshape tomorrow's networks. It offers a wide range of applications:

- ATM traffic management and signalling
- Packet over SONET/SDH (POS)
- switch/router interworking and performance
- third generation wireless tesing
- complete, automated conformance testing

The BSTS is modular to grow with your testing needs. Because we build all BSTS products without shortcuts according to full specifications, you'll catch problems other test equipment may not detect.

www.Agilent.com/comms/BSTS

United States:
Agilent Technologies
Test and Measurement Call Center
P.O. Box 4026
Englewood, CO 80155-4026
1-800-452-4844

Canada:
Agilent Technologies Canada Inc.
5150 Spectrum Way
Mississauga, Ontario
L4W 5G1
1-877-894-4414

Europe:
Agilent Technologies
European Marketing Organisation
P.O. Box 999
1180 AZ Amstelveen
The Netherlands
(31 20) 547-9999

Japan:
Agilent Technologies Japan Ltd.
Measurement Assistance Center
9-1, Takakura-Cho, Hachioji-Shi,
Tokyo 192-8510, Japan
Tel: (81) 426-56-7832
Fax: (81) 426-56-7840

Latin America:
Agilent Technologies
Latin American Region Headquarters
5200 Blue Lagoon Drive, Suite #950
Miami, Florida 33126
U.S.A.
Tel: (305) 267-4245
Fax: (305) 267-4286

Asia Pacific:
Agilent Technologies
19/F, Cityplaza One, 1111 King's Road,
Taikoo Shing, Hong Kong, SAR
Tel: (852) 2599-7889
Fax: (852) 2506-9233

Australia/New Zealand:
Agilent Technologies Australia Pty Ltd
347 Burwood Highway
Forest Hill, Victoria 3131
Tel: 1-800-629-485 (Australia)
Fax: (61-3) 9272-0749
Tel: 0-800-738-378 (New Zealand)
Fax: (64-4) 802-6881

UNIX is a registered trademark in the United States and other countries, licensed exclusively through X/Open Company Limited.
Copyright ©2000 Agilent Technologies

Specifications subject to change.

5965-9079E 02/00 Rev B

Agilent Technologies
Innovating the HP Way