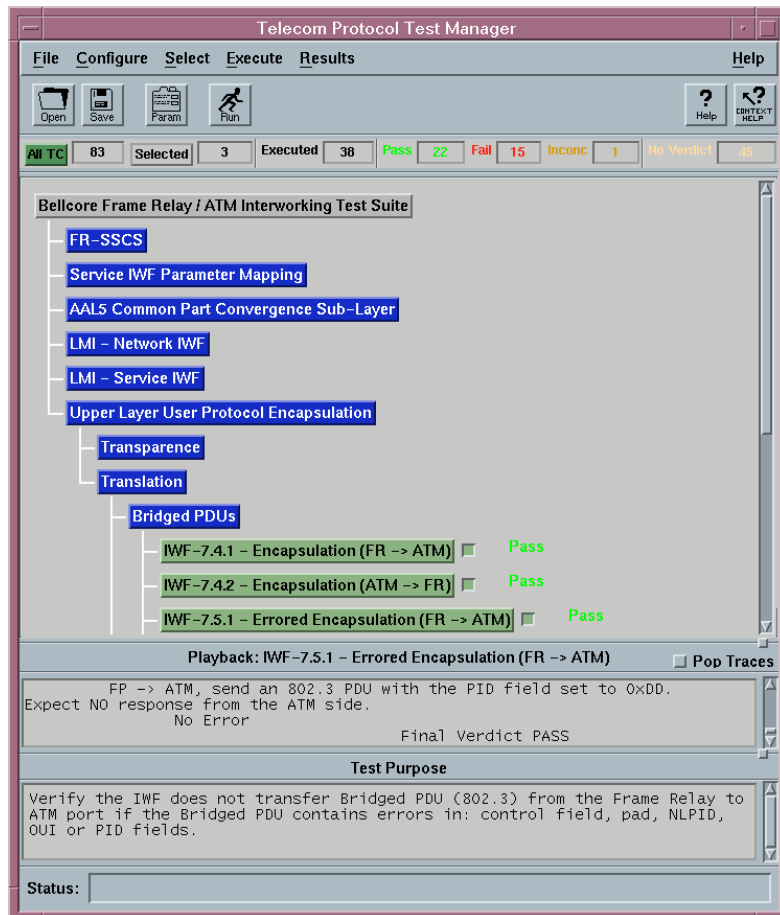


Bellcore Frame Relay Over ATM Service and Network Interworking Test Suite - HP E7840A

Technical Data

**For the HP Broadband
Series Test System**



The Test Manager user interface that runs on the BSTS tester displays all relevant information about the test campaign at the top. The test suite browser displays a collapsible/expandable tree structure. Further down, trace and test case purpose windows provide detailed data.

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1. Product Overview

General Description

The Hewlett-Packard E7840A Bellcore FR/ATM Interworking Test Suite is designed to verify both Network and Service FR/ATM PVC Interworking functions.

Based on Bellcore's SR-3989 test plan, the test suite consists of 83 test cases divided among six groups, that cover service and interworking functions.

Typical Applications

Frame Relay has become the technology of choice for providing WAN service, and ATM is the technology of choice for the WAN backbone. Interworking is crucial to network operators, and to the equipment manufacturers that supply them.

Network Equipment Manufacturers (NEM) and network operators can quickly and accurately verify the conformance of their products and implementations prior to market introduction with this new automated test suite.

ATM NEMs typically lack the time to develop their own executable tests. Now they can benefit from a Bellcore-based off-the-shelf automated executable test suite that can significantly reduce their testing efforts and time to market.

Hewlett-Packard is among the first to offer the capability of FR/ATM interworking testing, taking full advantage of the Frame Processor module (see section 5 for more information) running on the industry-leading BSTS protocol tester. This test suite also complements a growing family of ATM and Frame Relay protocol testing applications.

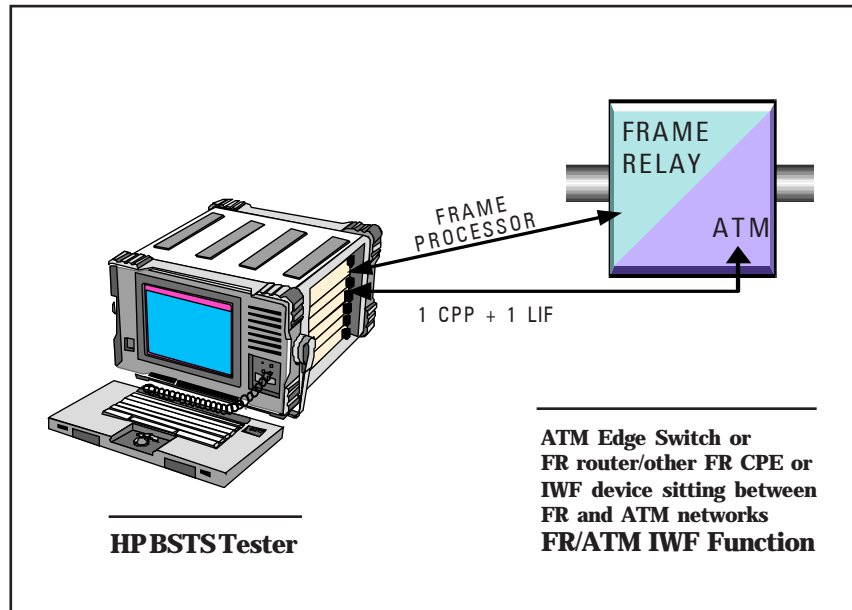


Figure 1. Intended Test Configuration, FR/ATM Network and Service Interworking Function

Customers already owning a BSTS will now be able to test according to Bellcore's test plan, which until now, was not made executable for HP's dedicated ATM test platform, the BSTS Series tester.

The test suite helps to ensure that customer implementations of Frame Relay Service over ATM backbones meets the requirements set out in the specifications.

Key Features

- Fully automated stimulus-response testing simplifies the verification process of ATM products at all phases of R&D. A complete, automated suite of tests in a single package can help reduce design cycle costs by producing results more quickly and with less operator intervention.
- Flexible test case selection translates into either exhaustive testing or tailoring test case selection to suit the specific functions under test.
- Clear verdict assignments for each test case run (such as PASS or FAIL) can help solve implementation errors.
- Diagnostic information in test case traces can help pinpoint errors.
- Troubleshoot interworking problems in ATM edge switches, FR routers or IWF devices sitting between FR and ATM networks.
- Flexible data recording and playback capabilities built-in to the interface's trace window simplify the review of frames and cells transmitted. The operator can either pop traces to a separate window or keep track of overall results by generating variable-detail test campaign summary reports. The full exchange of messages produced by the test cases is recorded for later analysis.

- Test repeatability is achieved by saving test session setups and results. This allows quick regression testing of product enhancements or bug fixes.
- Test campaigns are easily configured via interactive True/False or value setting questions for most PICS, PIXIT and other types of statements.
- Selecting test cases based on previously assigned verdicts helps concentrate on problem areas.
- The test suite follows an internationally recognized protocol testing standard methodology as defined in ISO 9646.

2. Applicable Standards or Specifications

- Frame Relay/ATM PVC Network Interworking Implementation Agreement (FRF.5).

3. Areas Tested

Table 1. Test Suite Structure

| Test Group | Specific To* | Number of Test Cases |
|---|--------------|----------------------|
| FR-SSCS (Service Specific Convergence Sublayer) | N | 22 |
| Service Parameter Mapping | S | 14 |
| AAL5 Common Part Protocol | B | 14 |
| PVC Management for Network IW | N | 6 |
| PVC Management for Service IW | S | 10 |
| Upper Layer User Protocol | | |
| Encapsulation and Translation (Same Group) | N S | 2 15 |
| Total Number of Test Cases | | 83 |

* Test Group Specific to: N = Network IW / S = Service IW / B = both

- Frame Relay/ATM PVC Service Interworking Implementation Agreement (FRF.8).
- ITU I.365.1 Frame Relaying Service Specific Convergence Sublayer (FR-SSCS).
- ITU I.555 Frame Relaying Bearer Service Interworking.

4. Abstract Test Suite Reference

Specification

The suite is based on the Bellcore "Frame Relay Over ATM Interworking Test Plan", Bellcore SR-3989, Vol. 1, July 1996.

There is no translation of this test plan into TTCN and the ETS (Executable Test Suite) was developed directly into "C".

Standard Body

Not applicable since the SR-3989 test plan is proprietary to Bellcore. No Frame Relay or ATM Forum approval of any abstract will be sought.

5. Configuration Requirements

Hardware Requirements

- 1 CPP + 1 LIF (any LIF).
- 1 Frame Processor T1/E1 (E4206A) or V Interface (E4207A).

Software Requirements

- Base System V3.02.

6. Ordering Information

| Product Number | Description |
|----------------|--|
| E7840A | Bellcore FR Over ATM Interworking Test Suite |

7. Software Package Contents

- ETS (on CD-ROM).
- ETS User's Guide.
- *NO ATS Manual (customers can purchase the Bellcore SR-3989 Test Plans from Bellcore) but mapping information is provided.
- Release Notice.
- Test Manager GUI (on CD-ROM).
- Test Manager User's Guide.
- Test Manager Release Notice.

8. Warranty Information

The warranty for this HP Broadband Series Test System software covers defects in the product for the stated length of the warranty. Defective media will be replaced free of charge during the warranty period.

For More Information

Please contact your local HP representative or call one of the numbers listed to the right.

You can obtain additional product information from the WWW at the following addresses:

The HP Broadband Series Test System home page:

<http://www.hp.com/go/bsts>

includes information on all software and hardware, including conformance and interop testing software and development tools.

Specific information about conformance and interoperability software and tools for the broadband tester may also be found at:

<http://www.ptc.canada.hp.com>

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