CT

PICS   ATS

GOSIP

IUT   PIXIT

ISO/OSI

TTCN

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CONFORMANCE TEST

- Overview

- Documentation Definition

- Testing Methodology

- Testing Strategy

- Summary

CONFORMANCE TEST DOCUMENTATION

- ISO/IEC 9646 -1
  CT General Concepts

- ISO/IEC 9646 - 2
  CT Abstract Test Suite Specification

- ISO/IEC 9646 - 3
  CT Tree and Tabular Combined
  Notation

- ISO/IEC 9646 - 4
  CT Test Realization

- ISO/IEC 9646 - 5
  CT requirements on test laboratory
  and clients for the conformance
  assessment process

CONFORMANCE TEST IS:

- testing a single system against a defined reference standard to verify the degree to which the system conforms to that standard.

CONFORMANCE TEST IS NOT:

- testing the performance or reaction to stress or similar tests, as these criteria are usually not stated as requirements in the base standard.

INTEROPERABILITY TESTING IS:

- testing several interconnected systems to ensure that they can perform in a homogeneous environment. This testing is designed to test the systems ability to perform with other similar systems at the capacity of the system design.

CONFORMANCE TEST

vs

INTEROPERABILITY TEST

CONFORMANCE TEST DOES NOT

ENSURE THAT THE SYSTEM

UNDER TEST IS INTEROPERABLE

ALSO INTEROPERABILITY DOES

NOT ENSURE THAT THE SYSTEM

UNDER TEST IS CONFORMANT

PICS PROFORMA

- Protocol Implementation Conformance Statement is a document , in the form of a questionaire, which lists all mandatory and optional capabilities of a specific OSI Standard.
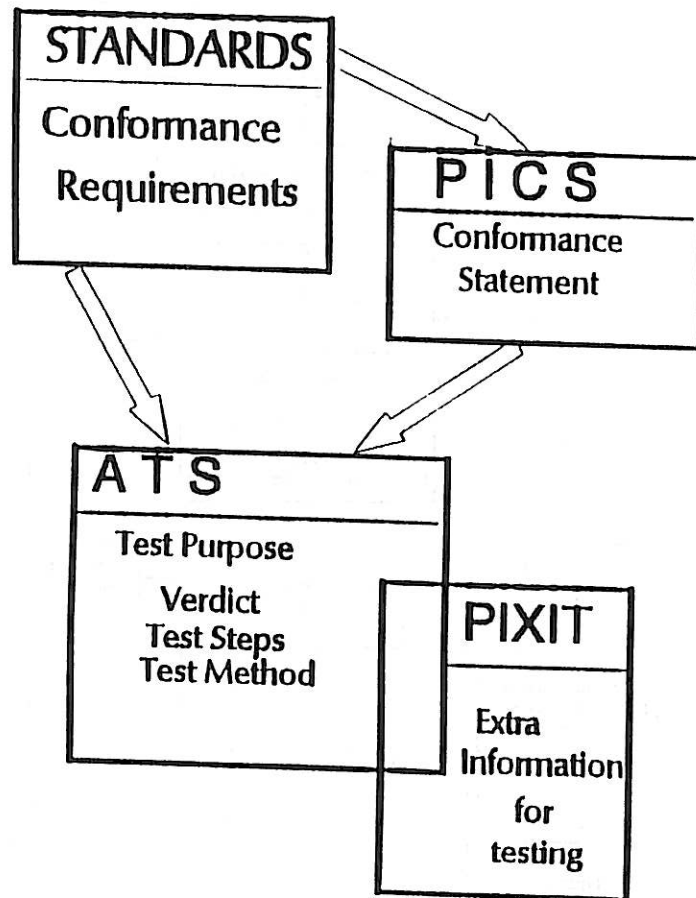
PIXIT PROFORMA

- Protocol Implementation eXtra Information for Testing is a document, in the form of a questionaire, which requests information, not contained in the PICS, but, pertinent to the IUT and the testing environment, that is needed to support testing.

ATS

- An Abstract Test Suite is a document, developed by the appropriate standards body, that contains all the abstract test cases defined by the PICS PRoforma and the standard. An ATS is usually written in Tree and Tabular Combined Not.ition (TTCN).

DOCUMENT RELATIONSHIP

STANDARDS

Conformance Requirements

PICS

Conformance Statement

ATS

Test Purpose

Verdict
Test Steps
Test Method

PIXIT

Extra Information for testing

PICS/ATS NOTATION

- ## PICS for MAC Example

6.5.3   Data Frames

Item	Item Name	Refs	STD Range			Support		
			Tx	Rx	Fd	Tx	Rx	Fd
MAC3.1	MAC Beacon (FC = 1L00 0010)	8.3.3.4	m	m	m	Y[]N[]	Y[]N[]	Y[]N[]
MAC3.2	MAC Claim (FC = 1L00 0011)	8.3.3.4	m	m	m	Y[]N[]	Y[]N[]	Y[]N[]
MAC3.3	SMT Next STN Address (FC = 0100 1111)	8.3.3.1	m	m	m	Y[]N[]	Y[]N[]	Y[]N[]
MAC3.4	Asynch LLC Frame (FC = 0L01 rPPP)	8.1.4.2	m	m	m	Y[]N[]	Y[]N[]	Y[]N[]
MAC3.5	Synch LLC Frame (FC = 1L01 0000)	8.1.4.1	c	c	m	Y[]N[]	Y[]N[]	Y[]N[]
MAC3.6	Implementer Frame (FC = CL10 rxxx)		.	.	m	Y[]N[]	Y[]N[]	Y[]N[]
MAC3.7	Strip Function	8.1.3	.	m				Y[]N[]

- ## ATS for MAC Example

Test Case Dynamic Behaviour

Reference:fddi/MAC/CLAIM_TOKEN/Higher_Claim
Identifier:Higher_Claim
Purpose:Verify that the IUT receives a claim frame with a higher precedence from another station(SA = Others) and then repeats this frame.
Default:

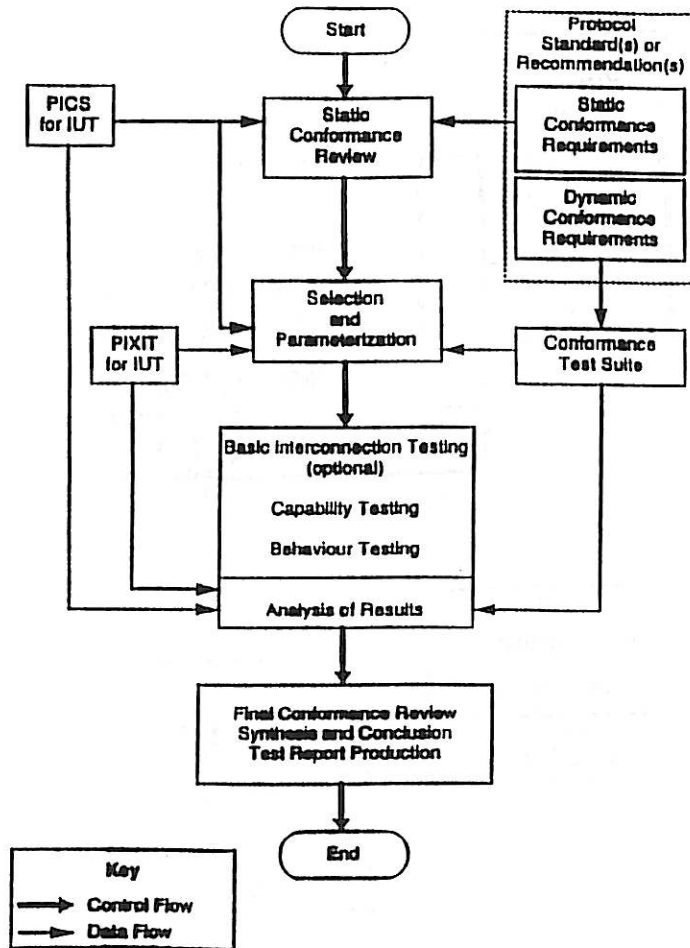| Behaviour Description	Label	Constraints Reference	V	Comments
+INIT_RING ?CLAIM		CLAIM_TESTER (HIGHER_T_BID)		(1)
START Timer_TRT ?CLAIM	L0	CLAIM_TESTER (HIGHER_T_BID)	P	(2)
?TIMEOUT Timer_TRT +UNEXPECTED GOTO L0			r	
+SEND_FILLS GOTO L0				(3)
?OTHERWISE			r	

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Figure 1 - Conformance assessment process overview

CT REQUIREMENTS

- STATIC TEST REQUIREMENTS. These requirements define the allowed minimum capabilities of the IUT to facilitate internetworking.

- DYNAMIC TEST REQUIREMENTS. Defines all requirements, which specify what observable behaviour is permitted by the standard.
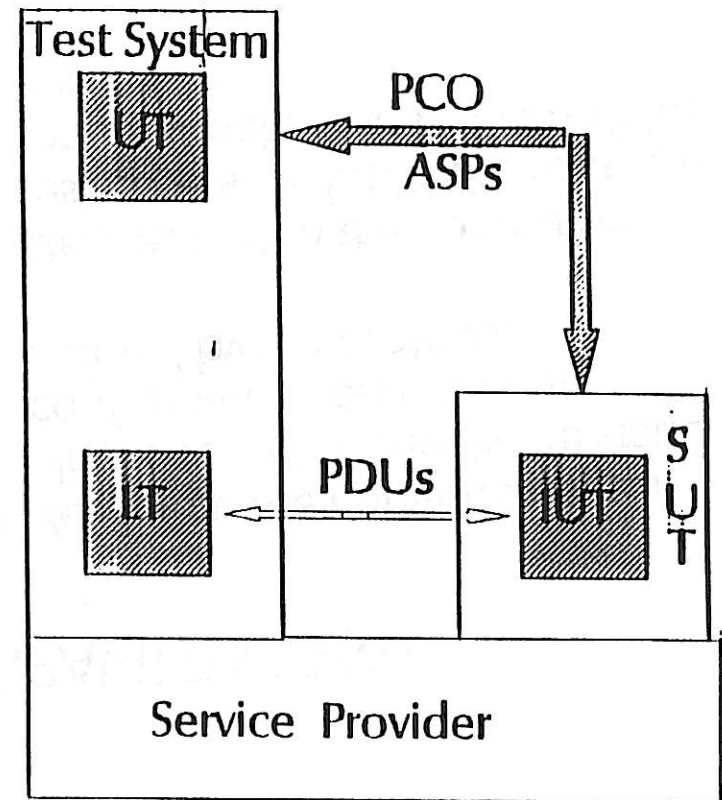
BASIC CONNECTION TEST:

- Not complete enough to claim conformance test to the base standard.

- Optional

- Can be used to determine if further testing is warranted.
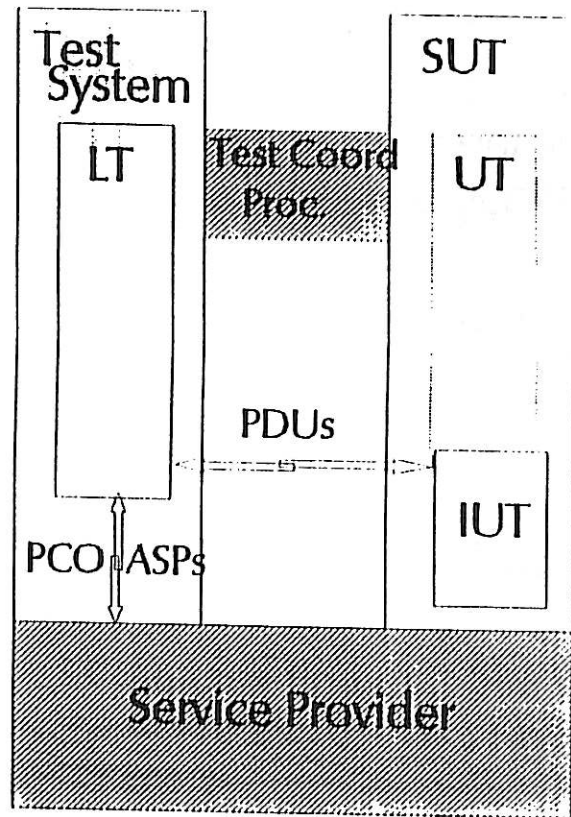
CAPABILITY TEST:

- Verify that the Implementation Under Test (IUT) meets the static conformance requirements as defined by the protocol.

- Defines part of the conformance test capability, but more testing is required before an IUT can claim conformance.
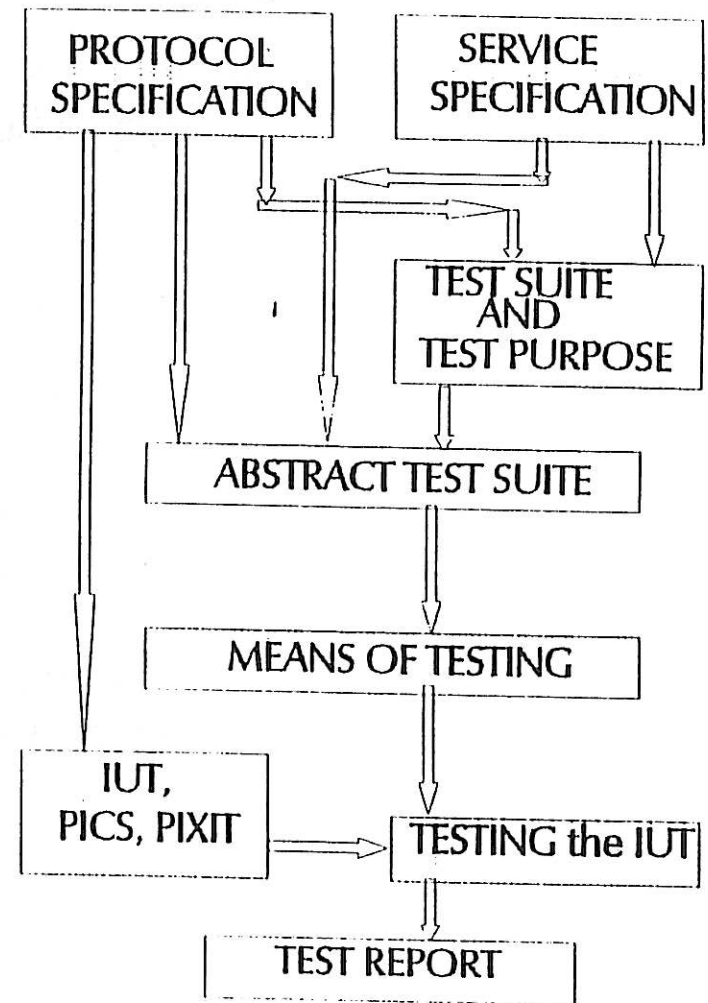
BEHAVIOUR TEST:

- Verify that the IUT meets the Dynamic conformance requirements as defined by the protocol.

- Combined with the Capability test, the conformance of the IUT can be assured.

Local Test Method

Remote Test Method (left diagram)

Test System

SUT

LT

Test Coord Proc

UT

PDUs

IUT

PCO ASPs

Service Provider

Remote Test Method

(right diagram)

PROTOCOL SPECIFICATION

SERVICE SPECIFICATION

TEST SUITE AND TEST PURPOSE

ABSTRACT TEST SUITE

MEANS OF TESTING

IUT, PICS, PIXIT

TESTING the IUT

TEST REPORT

SUMMARY

- Conformance Test is testing an IUT against a known reference.

- Conformance test is based on the ISO 9646 standards

- Conformance test documents should be developed by the IUT's standards committee.

- Methods of testing are developed by the testing facility in consonance with the supplier of the IUT.