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Q.822.1

Amendment 1
(03/2003)

SERIES Q: SWITCHING AND SIGNALLING
Q3 interface

CORBA-based TMN performance management
service

**Amendment 1: Generic transport performance
management**

ITU-T Recommendation Q.822.1 (2001) – Amendment 1

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ITU-T Recommendation Q.822.1

CORBA-based TMN performance management service

Amendment 1

Generic transport performance management

Summary

This amendment provides a new object class that can be used to represent Performance Management data for a physical port or endpoints of transport connections. This new Generic Transport PM object class is intended to be applicable across different technologies, architectures and services. The IDL model describes the new GenericTransportPmCD object class and all the interfaces associated with it.

Source

Amendment 1 to ITU-T Recommendation Q.822.1 (2001) was prepared by ITU-T Study Group 4 (2001-2004) and approved under the WTSA Resolution 1 procedure on 29 March 2003.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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ITU-T Recommendation Q.822.1

CORBA-based TMN performance management service

Amendment 1

Generic transport performance management

1 Scope

This amendment provides a new object class that can be used to represent Performance Management data for a physical port or endpoints of transport connections. This new Generic Transport PM object class is intended to be applicable across different technologies, architectures and services. The IDL model describes the new GenericTransportPmCD object class and all the interfaces associated with it.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- [1] ITU-T Recommendation Q.816 (2001), *CORBA-based TMN services*.
- [2] ITU-T Recommendation Q.816.1 (2001), *CORBA-based TMN services: Extensions to support coarse-grained interfaces*.
- [3] ITU-T Recommendation X.780 (2001), *TMN guidelines for defining CORBA managed objects*.
- [4] ITU-T Recommendation X.780.1 (2001), *TMN guidelines for defining coarse-grained CORBA managed object interfaces*.
- [5] ITU-T Recommendation M.3100 (1995), *Generic network information model*, plus Amendment 2 (2000).
- [6] ITU-T Recommendation Q.822.1 (2001), *CORBA-based TMN performance management service*.
- [7] ANSI Standard T1.231-1997, *Digital Hierarchy – Layer 1 in-Service Digital Transmission Performance Monitoring*.

3 Overview of the Generic Transport PM Data information model

This amendment provides the definition of a new Generic Transport PM Data object class. This new object class is used for collection of performance data related to the GenericTransportTTP (the termination of a generic transport connection). GenericTransportPmCDValueType and GenericTransportPmHDValueType contain placeholders for current and history data values for counters within the physical transport protocol monitoring grouping.

The GenericTransportPmCD object class is subclassed from the CurrentData object class defined in ITU-T Recs Q.822 and Q.822.1. Inherited methods from CurrentData provide for retrieval of the SuspectFlag, retrieval of the ElapsedTime, activating or deactivating HistoryRetention, associating threshold data with a current data instance, and activating or deactivating the suppression of counters having all-zero counts. Additional inherited methods from Scanner provide for the setting of AdministrativeState, retrieval of OperationalState, and setting of Granularity Period. Similarly, GenericTransportPmHD is subclassed from the HistoryData.

For some digital signals, performance primitives in the incoming direction are reported to the far-end via special messages embedded within the signal format. Examples include: the Performance Report Message (PRM) in DS1 ESF, Far-End Block Error (FEBE) indicators in DS3 CC-bit applications, and Remote Error Indicators (REI) in SDH. With such a capability built into a transmission signal, reporting of transmission performance parameters observed at the far-end can be provided at the near-end. For this reason, the managed entity used to hold Generic Transport TTP performance management data contains placeholders for both near-end and far-end data.

The GenericTransportPmCD object attributes are arranged into six packages: near-end path, near-end line, near-end section, far-end path, far-end line, and far-end section. Only the near-end path package attributes are mandatory. Other packages may be used whenever they are deemed relevant to the underlying transport technology being modelled.

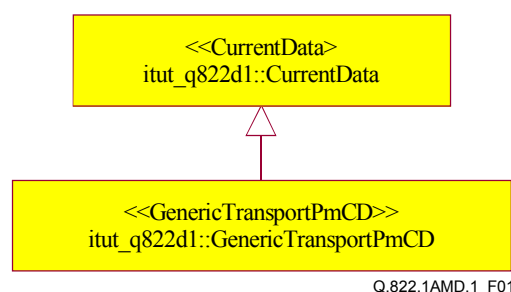
Clause 4 defines a set of CORBA IDL interfaces for the GenericTransportPmCD and GenericTransportPmHD objects. These interfaces are specified following the TMN CORBA framework and guidelines given in ITU-T Recs Q.816 and X.780 for fine-grained CORBA interface.

In addition to the fine-grained interfaces in 4.4, a companion set of Façade interfaces are defined in 4.5. These façade interfaces are defined according to the coarse-grained framework and guidelines given in ITU-T Recs Q.816.1 and X.780.1 for supporting coarse-grained CORBA interface. The name of these façade interfaces is the name of the corresponding fine-grained interface appended with "_F" (an underscore followed by a capital "F").

This amendment IDL is an integral part of ITU-T Rec. Q.822.1. This implies that all definitions (object classes, type, structure, ...) defined in ITU-T Rec. Q.822.1 are in the same IDL module and can be referenced without the module identifier.

The IDL in this amendment has been compiled successfully without syntax error. The compiler used claims CORBA 2.3 compliance, which includes value type and M4 macro capabilities.

Figures 1 and 2 show the inheritance, containment, and association relationships of the CORBA interfaces defined in this amendment. Note that façade interfaces follow the same inheritance hierarchy relationship as the corresponding fine-grained interfaces.



Q.822.1AMD.1_F01

Figure 1/Q.822.1/Amd.1 – Inheritance relationship