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SERIES G: TRANSMISSION SYSTEMS AND MEDIA, DIGITAL SYSTEMS AND NETWORKS

Digital transmission systems – Digital networks – Telecommunications management network

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Subnetwork connection management information viewpoint

ITU-T Recommendation G.853.2

(Previously CCITT Recommendation)

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For further details, please refer to ITU-T List of Recommendations.

ITU-T RECOMMENDATION G.853.2

SUBNETWORK CONNECTION MANAGEMENT INFORMATION VIEWPOINT

Summary

This Recommendation provides the information viewpoint of all the already defined management services relevant to subnetwork connections established across a subnetwork.

Source

ITU-T Recommendation G.853.2 was prepared by ITU-T Study Group 15 (1993-1996) and was approved under the WTSC Resolution No. 1 procedure on the 8th of November 1996.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. The 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 Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 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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As of the date of approval of this Recommendation, the ITU had/had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

CONTENTS

Recommendation G.853.2

SUBNETWORK CONNECTION MANAGEMENT INFORMATION VIEWPOINT

(Geneva, 1996)

1 Scope

This Recommendation provides the information viewpoint of all the already defined management services relevant to subnetwork connections established across a subnetwork.

2 References

The following ITU-T Recommendations 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 are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations. A list of the currently valid ITU-T Recommendations is regularly published.

ITU-T Recommendation G.851.1 (1996), *Management of the transport network – Application of the RM-ODP framework.*

ITU-T Recommendation G.852.1 (1996), *Management of the transport network – Enterprise viewpoint for simple subnetwork connection management.*

ITU-T Recommendation G.853.1 (1996), *Common elements of the information viewpoint for the management of a transport network.*

3 Definitions

To be extended if needed.

4 Abbreviations

To be extended if needed.

5 Subnetwork connection management information viewpoint

This Recommendation provides the information viewpoint of all the already defined management services relevant to subnetwork connections established across a subnetwork.

Each management service information viewpoint is presented in an annex.

This Recommendation presents in:

– Annex A: the information viewpoint for the simple subnetwork connection management;

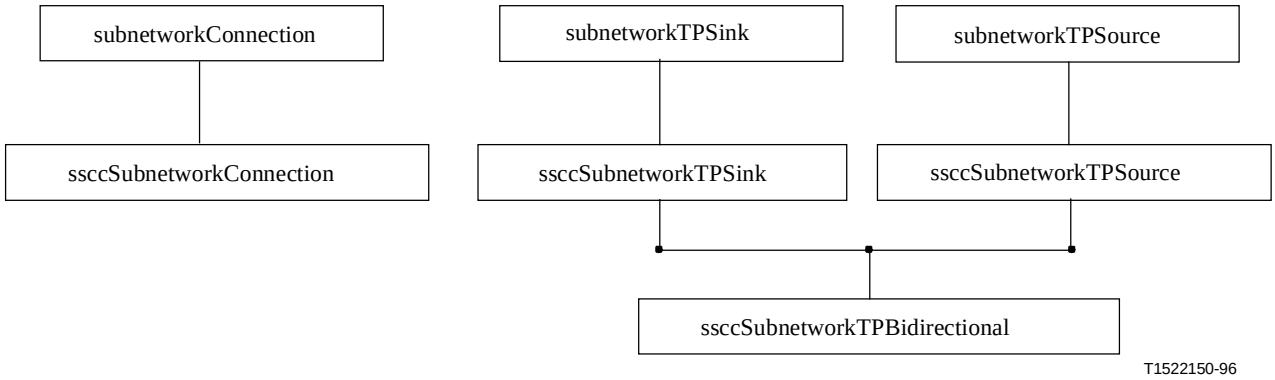
– Annex B: the information viewpoint of the simple failure monitoring service;

– Annex C: the information viewpoint for the simple monitored subnetwork connection management.

ANNEX A

Information viewpoint for the simple subnetwork connection management

A.1 Diagrams of information object and relationship classes



Inheritance diagram

A.2 Label references

Full label reference	Local label reference
<"Rec. G.853.1",INFORMATION_OBJECT: subnetwork>	<subnetwork>
<"Rec. G.853.1",INFORMATION_OBJECT: subnetworkConnection>	<subnetworkConnection>
<"Rec. G.853.1",INFORMATION_OBJECT: subnetworkTPSink>	<subnetworkTPSink>
<"Rec. G.853.1",INFORMATION_OBJECT: subnetworkTPSource>	<subnetworkTPSource>

A.3 Import

<"Rec. G.853.1",INFORMATION_RELATIONSHIP:subnetworkIsDelimitedBy>

This information concept is related to the following enterprise entities:

<"Rec. G.852.1",COMMUNITY:sscc,PURPOSE>
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,OBLIGATION:OBLG_1>

<"Rec. G.853.1",INFORMATION_RELATIONSHIP:
subnetworkConnectionIsTerminatedByPointToPoint>

This information concept is related to the following enterprise entities:

<"Rec. G.852.1",COMMUNITY:sscc,PURPOSE>
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,OBLIGATION:OBLG_2>
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,OBLIGATION:PROH_1>

<"Rec. G.853.1",INFORMATION_RELATIONSHIP:subnetworkHasSubnetworkConnections>

This information concept is related to the following enterprise entities:

<"Rec. G.852.1",COMMUNITY:sscc,PURPOSE>
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,OBLIGATION:OBLG_3>
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,OBLIGATION:OBLG_4>

<"Rec. G.853.1",ATTRIBUTE:userLabel>

This information concept is related to the following enterprise entities:

<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,OBLIGATION:OBLG_3>
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,OBLIGATION:PERM_1>
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,OBLIGATION:OBLG_4>
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc2,OBLIGATION:OBLG_2>

A.4 Information object class definitions

A.4.1 ssccSubnetwork

This information concept is related to the following enterprise entity:
<"Rec. G.852.1",COMMUNITY:sscc,ROLE:sn>.

A.4.1.1 Informal description

DEFINITION
"This object class is derived from subnetwork."
RELATIONSHIP
"<subnetworkIsDelimitedBy>,
<subnetworkHasSubnetworkConnections>"

A.4.1.2 Semi-formal description

ssccSubnetwork INFORMATION OBJECT CLASS
DERIVED FROM G.853-1: subnetwork;
CHARACTERIZED BY
ssccSubnetworkPackage PACKAGE
BEHAVIOUR
ssccsubnetworkBehaviour BEHAVIOUR
DEFINED AS
"<DEFINITION>,
<subnetworkIsDelimitedBy>
<subnetworkHasSubnetworkConnections>"
;;

A.4.1.3 Formal description

ssccSubNetwork_Static

$ssccSubNetwork : \mathbf{F}\ OBJECT$
$subNetwork\_Static$

$ssccSubNetwork \subseteq subNetwork$

ssccSubNetwork_Dynamic

$\Delta\ ssccSubNetwork\_Static$
$subNetwork\_Dynamic$

A.4.2 ssccSubnetworkConnection

This information concept is related to the following enterprise entity:
<"Rec. G.852.1",COMMUNITY:sscc,ROLE:snc>.

A.4.2.1 Informal description

DEFINITION
"This object class is derived from subnetworkConnection."
ATTRIBUTE
userLabel
"This attribute value is used to identify the ssccSubnetworkConnection."
RELATIONSHIP
"<subnetworkIsDelimitedBy>,
<subnetworkConnectionIsTerminatedByPointToPoint>,
<subnetworkConnectionHasTSC>,
<subnetworkHasSubnetworkConnections>"

A.4.2.2 Semi-formal description

ssccSubnetworkConnection INFORMATION OBJECT CLASS
DERIVED FROM G.853-1: subnetworkConnection;
CHARACTERIZED BY
ssccSubnetworkConnectionPackagePACKAGE
BEHAVIOUR
ssccSubnetworkConnectionBehaviour BEHAVIOUR
DEFINED AS
"DEFINITION,
<subnetworkIsDelimitedBy>,
<subnetworkConnectionIsTerminatedByPointToPoint>,
<subnetworkConnectionHasTSC>,
<subnetworkHasSubnetworkConnections>"
ATTRIBUTES
userLabel;
;;

A.4.2.3 Formal description

_____ ssccSubNetworkConnection_Static _____

$ssccSubNetworkConnection : \mathbf{F}\ OBJECT$
$subNetworkConnection\_Static$
$userLabel\_Static$

$ssccSubNetworkConnection \subseteq subNetworkConnection$

$ssccSubNetworkConnection \subseteq \mathbf{dom}\ userLabel$

_____ ssccSubNetworkConnection_Dynamic _____

$\Delta\ ssccSubNetworkConnection\_Static$
$subNetworkConnection\_Dynamic$
$userLabel\_Dynamic$

A.4.3 ssccSubnetworkTPBidirectional

This information concept is related to the following enterprise entity:
<"Rec. G.852.1",COMMUNITY:sscc,ROLE:port>.

A.4.3.1 Informal description

DEFINITION
"This object class is derived from ssccSubnetworkTPSink and ssccSubnetworkTPSource."

A.4.3.2 Semi-formal description

ssccSubnetworkTPBidirectional INFORMATION OBJECT CLASS
DERIVED FROM ssccSubnetworkTPSink, ssccSubnetworkTPSource;
CHARACTERIZED BY
ssccSubnetworkTPBidirectional PackagePACKAGE
BEHAVIOUR
ssccSubnetworkTPBidirectional Behaviour BEHAVIOUR
DEFINED AS
"DEFINITION"
;;

A.4.3.3 Formal description

ssccSubNetworkTpBidirectional_Static

$ssccSubNetworkTpBidirectional : \mathbf{F}\ OBJECT$
$ssccSubNetworkTpSink\_Static$
$ssccSubNetworkTpSource\_Static$

$ssccSubNetworkTpBidirectional \subseteq ssccSubNetworkTpSink \cup ssccSubNetworkTpSource$

ssccSubNetworkTpBidirectional_Dynamic

$\Delta\ ssccSubNetworkTpBidirectional\_Static$
$ssccSubNetworkTpSink\_Dynamic$
$ssccSubNetworkTpSource\_Dynamic$

A.4.4 ssccSubnetworkTPSink

This information concept is related to the following enterprise entity:
<"Rec. G.852.1",COMMUNITY:sscc,ROLE:port>.

A.4.4.1 Informal description

DEFINITION
"This object class reflects is derived from subnetworkTPSink."

RELATIONSHIP
"<subnetworkIsDelimitedBy>,
<subnetworkConnectionIsTerminatedByPointToPoint>"

A.4.4.2 Semi-formal description

ssccSubnetworkTPSink INFORMATION OBJECT CLASS
DERIVED FROM G.853-1: subnetworkTPSink;
CHARACTERIZED BY
ssccSubnetworkTPSinkPackagePACKAGE
BEHAVIOUR
ssccSubnetworkTPSinkBehaviour BEHAVIOUR
DEFINED AS
"DEFINITION,
<subnetworkIsDelimitedBy>,
<subnetworkConnectionIsTerminatedByPointToPoint>."
;;

A.4.4.3 Formal description

ssccSubNetworkTpSink_Static

$ssccSubNetworkTpSink : \mathbf{F}\ OBJECT$
$subNetworkTpSink\_Static$

$ssccSubNetworkTpSink \subseteq subNetworkTpSink$

ssccSubNetworkTpSink_Dynamic

$\Delta\ ssccSubNetworkTpSink\_Static$
$subNetworkTpSink\_Dynamic$

A.4.5 ssccSubnetworkTPSource

This information concept is related to the following enterprise entity:
<"Rec. G.852.1",COMMUNITY:sscc,ROLE:port>.

A.4.5.1 Informal description

DEFINITION
"This object class reflects is derived from subnetworkTPSource."
RELATIONSHIP
"<subnetworkIsDelimitedBy>,
<subnetworkConnectionIsTerminatedByPointToPoint>"

A.4.5.2 Semi-formal description

ssccSubnetworkTPSource INFORMATION OBJECT CLASS
DERIVED FROM G.853-1: subnetworkTPSource;
CHARACTERIZED BY
ssccSubnetworkTPSourcePackagePACKAGE
BEHAVIOUR
ssccSubnetworkTPSourceBehaviour BEHAVIOUR
DEFINED AS
"DEFINITION,
<subnetworkIsDelimitedBy>,
<subnetworkConnectionIsTerminatedByPointToPoint>"
;;

A.4.5.3 Formal description

ssccSubNetworkTpSource_Static

$ssccSubNetworkTpSource : \mathbf{F}\ OBJECT$
$subNetworkTpSource\_Static$

$ssccSubNetworkTpSource \subseteq subNetworkTpSource$

ssccSubNetworkTpSource_Dynamic

$\Delta\ ssccSubNetworkTpSource\_Static$
$subNetworkTpSource\_Dynamic$

A.4.6 serviceCharacteristics

This information concept is related to the following enterprise entity:
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,PERMISSION:PERM_3>.

A.4.6.1 Informal description

DEFINITION

"This object class reflects all the characteristics associated with the requested quality of the transport service relevant to the subnetwork connection establishment.
This object class will be refined due to the technological dependent characteristics. "

RELATIONSHIP

"<subnetworkConnectionHasTSC>."

A.4.6.2 Semi-formal description

serviceCharacteristics INFORMATION OBJECT CLASS
DERIVED FROM networkInformationTop;
CHARACTERIZED BY
serviceCharacteristicsPACKAGE
BEHAVIOUR
serviceCharacteristicsBehaviour BEHAVIOUR
DEFINED AS
"DEFINITION,
<subnetworkConnectionHasTSC>.";;

A.4.6.3 Formal description

_____ serviceCharacteristics_Static _____

serviceCharacteristics : **F** *OBJECT*
networkInformationTop_Static

---

serviceCharacteristics $\subseteq$ *networkInformationTop*

_____ serviceCharacteristics_Dynamic _____

Δ *serviceCharacteristics_Static*
networkInformationTop_Dynamic

A.5 Information relationship definitions

A.5.1 subnetworkConnectionHasTSC

This information concept is related to the following enterprise entity:
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,PERMISSION:PERM_3>.

A.5.1.1 Informal description

DEFINITION
"The subnetworkConnectionHasTSC relationship type describes the association between a subnetwork connection and the related quality of transport service characteristics."
ROLE
transportQualified
"Played by instances of the ssccSubnetworkConnection information object class and subclasses."
transportQualifier
"Played by an instance of the serviceCharacteristics object class."
INVARIANT
inv_1
"Several objects playing the transportQualified role may be involved in the relationship."
inv_2
"Only one object playing the transportQualifier role may be involved in the relationship."

A.5.1.2 Semi-formal description

subnetworkConnectionHasTSC RELATIONSHIP CLASS
BEHAVIOUR
subnetworkConnectionHasTSC Behaviour BEHAVIOUR
DEFINED AS
"DEFINITION";;
ROLE transportQualified
PERMITTED-ROLE-CARDINALITY-CONSTRAINT (1..N)
COMPATIBLE WITH ssccSubnetworkConnection and SUBCLASSES;
ROLE transportQualifier
PERMITTED-ROLE-CARDINALITY-CONSTRAINT (1..1)
COMPATIBLE WITH serviceCharacteristics;

A.5.1.3 Formal description

subnetworkConnectionHasTSC_Static

$subnetworkConnectionHasTSC : \mathbf{F}\ RELATIONSHIP$
$transportQualified : RELATIONSHIP \rightarrow \mathbf{F}\ OBJECT$
$transportQualifier : RELATIONSHIP \rightarrow \mathbf{F}\ OBJECT$
$ssccSubNetworkConnection\_Static$
$serviceCharacteristics\_Static$

$subnetworkConnectionHasTSC \subseteq \mathbf{dom}\ transportQualified$

$subnetworkConnectionHasTSC \subseteq \mathbf{dom}\ transportQualifier$

$\forall\ R : subnetworkConnectionHasTSC \bullet$
$transportQualified(R) \subseteq ssccSubNetworkConnection \wedge$
$transportQuantifier(R) \subseteq serviceCharacteristics$

$\forall\ R : subnetworkConnectionHasTSC \bullet \#(\ transportQualified(R)) \leq 1$

subnetworkConnectionHasTSC_Dynamic

$\Delta\ subnetworkConnectionHasTSC\_Static$
$ssccSubNetworkConnection\_Dynamic$
$serviceCharacteristics\_Dynamic$

$\forall\ R : RELATIONSHIP \mid R \in subnetworkConnectionHasTSC \cup subnetworkConnectionHasTSC' \bullet$
$transportQualified'(R) = transportQualified(R) \wedge$
$transportQualifier'(R) = transportQualifier(R)$

A.6 Static schemas

A.6.1 ssccNotConnected

This information concept is related to the following enterprise entities:
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,OBLIGATION:OBLG_2>,
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,OBLIGATION:PROH_1>,
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc2,OBLIGATION:OBLG_2>.

A.6.1.1 Informal description

DEFINITION
"The ssccNotConnected schema defines a schema type with two non-connected subnetworkTPinformation objects subtypes candidates to the point to point connection management service."

ROLE

involvedSubnetwork

"Played by an instance of the ssccSubnetwork information object type or subtype."

potentialAEnd

"Played by an instance of the ssccSubnetworkTPSink, ssccSubnetworkTPSource or ssccSubnetworkTTPBidirectional object types or subtypes."

potentialZEnd

"Played by an instance of the ssccSubnetworkTPSink, ssccSubnetworkTPSource or ssccSubnetworkTTPBidirectional object types or subtypes."

INVARIANT

inv_1

"The objects playing the potentialAEnd and potentialZEnd roles are involved in an instance of the subnetworkIsDelimitedBy relationship type with the object playing the role involvedSubnetwork."

inv_2

"The object playing the potentialAEnd role is not involved in any instance of the subnetworkConnectionIsTerminatedByPointToPoint relationship type and subtypes."

inv_3

"The object playing the potentialZEnd role is not involved in any instance of the subnetworkConnectionIsTerminatedByPointToPoint relationship type and subtypes."

A.6.2 ssccConnected

This information concept is related to the following enterprise entities:
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,PERMISSION:PERM_3>
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,PERMISSION:PERM_1>
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,OBLIGATION:OBLG_3>
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1,OBLIGATION:OBLG_4>.

A.6.2.1 Informal description

DEFINITION

"The ssccConnected schema defines the schema type of two connected ssccSubnetworkTPinformation objects candidates to the point to point connection management service."

ROLE

involvedPointToPointSubnetworkConnection

"Played by an instance of the ssccSubnetworkConnection object type or subtype."

connectedAEnd

"Played by an instance of the ssccSubnetworkTPSink, ssccSubnetworkTPSource or ssccSubnetworkTTPBidirectional object types or subtypes"

connectedZEnd

"Played by an instance of the ssccSubnetworkTPSink, ssccSubnetworkTPSource or ssccSubnetworkTTPBidirectional object types or subtypes"

involvedServiceCharacteristics

"Played by an instance of the serviceCharacteristics object type or subtype"

involvedSubnetwork

"Played by an instance of the ssccSubnetwork object type or subtype"

INVARIANT

inv_1

"The information objects playing respectively the roles involvedSubnetworkConnection, connectedAEnd and connectedZEnd in a given instance of this relationship must simultaneously play respectively the roles transportEntity, A_end and Z_end in an instance of the relationship subnetworkConnectionIsTerminatedByPointToPoint."

inv_2

"The information object playing the role involvedSubnetworkConnection in a given instance of this relationship must simultaneously play the role transportQualified in an instance of the relationship subnetworkConnectionHasTSC."

inv_3

"The information objects playing respectively the roles involvedSubnetworkConnection and involvedSubnetwork and in a given instance of this relationship must simultaneously play respectively the roles element and container in an instance of the relationship subnetworkHasSubnetworkConnections."

inv_4

"The value of the userLabel of the information object playing the role involvedPointToPointSubnetworkConnection shall be unique and greater than zero in the context of the information object playing the role involvedSubnetwork."

A.7 Dynamic schemas

A.7.1 ssccNotConnected_ssccConnected

This information concept is related to the following enterprise entity:
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc1>.

A.7.1.1 Informal description

DEFINITION

"This dynamic schema expresses the transition of two non-connected extremities towards two connected extremities."

PRE-CONDITIONS <ssccNotConnected>;

POST-CONDITIONS <ssccConnected>;

A.7.2 ssccConnected_ssccNotConnected

This information concept is related to the following enterprise entity.
<"Rec. G.852.1",COMMUNITY:sscc,ACTION:sscc2>.

A.7.2.1 Informal description

DEFINITION

"This dynamic schema expresses the transition of two connected extremities towards two non connected extremities."

PRE-CONDITIONS <ssccConnected>;

POST-CONDITIONS <ssccNotConnected>;

ANNEX B

Information viewpoint for the simple failure monitoring

B.1 Diagrams of information object and relationship classes

None.

B.2 Label references

Full label reference	Local label reference
<"Rec. G.853.1",INFORMATION_OBJECT:networkInformationTop>	<networkInformationTop>

B.3 Import

<"Rec. G.853.1",ATTRIBUTE: operationalState>

This information concept is related to the following enterprise entities:
<"Rec. G.852.1",COMMUNITY:sfm,PURPOSE>
<"Rec. G.852.1",COMMUNITY:sfm,ACTION,sfm1>
<"Rec. G.852.1",COMMUNITY:sfm,ACTION,sfm2>

B.4 Information object classes definition

B.4.1 monitoredEntity

This information concept is related to the following enterprise entity:
<"Rec. G.852.1",COMMUNITY:sfm,ROLE:monitored_entity>.

B.4.1.1 Informal description

DEFINITION
"This object class reflects the ressource for which a monitoring service is defined."
ATTRIBUTE
operationalState
"This attribute reflects the operability of the monitored ressource in terms of transport aspects."
reportFailureStatus
"This attribute reflects the reporting failure status of the monitored ressource."
INVARIANT
inv_1
"The value enabled of the operationalState attribute means that the resource is able to perform partially or fully its transport function."
inv_2
"The value disabled of the operationalState attribute means that the resource is totally unable to perform its transport function."

B.4.1.2 Semi-formal description

monitoredEntity INFORMATION OBJECT CLASS
DERIVED FROM networkInformationTop
CHARACTERIZED BY
ms_monitoredEntityPACKAGE
BEHAVIOUR
monitoredEntityPackageBehaviour BEHAVIOUR
DEFINED AS
"DEFINITION";;
ATTRIBUTES
operationalState,
reportFailureStatus;;;

B.4.1.3 Formal description

monitoredEntity_Static

$$monitoredEntity : \mathbf{F}\ OBJECT$$
$$networkInformationTop\_Static$$
$$operationalState\_Static$$
$$reportFailureStatus\_Static$$

$$monitoredEntity \subseteq networkInformationTop$$

$$monitoredEntity \subseteq \mathbf{dom}\ operationalState$$

$$monitoredEntity \subseteq \mathbf{dom}\ reportFailureStatus$$

monitoredEntity_Dynamic

$$\Delta\ monitoredEntity\_Static$$
$$networkInformationTop\_Dynamic$$
$$operationalState\_Dynamic$$
$$reportFailureStatus\_Dynamic$$

B.5 Information relationships definition

None.

B.6 Static schemas

B.6.1 inReportFailureOff

This information concept is related to the following enterprise entity:
<"Rec. G.852.1",COMMUNITY:sfm,ACTION:sfm3, OBLIGATION:OBLG_3>.

B.6.1.1 Informal description

DEFINITION
"The inReportFailureOff schema defines the schema type which reflects that a monitoredEntity has the value reportFailureOff."
INVARIANT
inv_1
"The value of the reportFailureStatus attribute is reportFailureOff."

B.6.2 reportFailureOnEnabled

This information concept is related to the following enterprise entities:
<"Rec. G.852.1",COMMUNITY:sfm,ACTION,sfm3>,
<"Rec. G.852.1",COMMUNITY:sfm,ACTION,sfm4>.

B.6.2.1 Informal description

DEFINITION
"The reportFailureOnEnabled schema defines the schema type which reflects that a monitoredEntity is under reportFailureOn and enabled conditions."
INVARIANT
inv_1
"The value of the reportFailureStatus attribute is reportFailureOff"
inv_2
"The value of the operationalState attribute is enabled"

B.6.3 reportFailureOnDisabled

This information concept is related to the following enterprise entities:
<"Rec. G.852.1",COMMUNITY:sfm,ACTION,sfm3>,
<"Rec. G.852.1",COMMUNITY:sfm,ACTION,sfm4>.

B.6.3.1 Informal description

DEFINITION
"The reportFailureOnDisabled schema defines the schema type which reflects that a monitoredEntity is under reportFailureOn and disabled conditions."
INVARIANT
inv_1
"The value of the reportFailureStatus attribute is reportFailureOff."
inv_2
"The value of the operationalState attribute is enabled."

B.6.3.2 Dynamic schemas

B.6.4 reportFailureOnEnabledToDisabled:

This information concept is related to the following enterprise entity:
"<"Rec. G.852.1",COMMUNITY:sfm,ACTION,sfm1>.

B.6.4.1 Informal description

DEFINITION

"This dynamic schema expresses the transition of the monitored entity from an enabled state to a disabled state under a report failure status condition"

PRE-CONDITIONS <reportFailureOnEnabled>;

POST-CONDITIONS <reportFailureOnDisabled>;;

B.6.5 reportFailureOnDisabledToEnabled:

This information concept is related to the following enterprise entity**:**
<"Rec. G.852.1",COMMUNITY:sfm,ACTION,sfm2>.

B.6.5.1 Informal description

DEFINITION

"This dynamic schema expresses the transition of the monitored entity from an disabled state to a enabled state under a report failure status condition."

PRE-CONDITIONS <reportFailureOnDisabled>;

POST-CONDITIONS <reportFailureOnEnabled>;;

B.7 Attributes

B.7.1 reportFailureStatus

This information concept is related to the following enterprise entities:
<"Rec. G.852.1",COMMUNITY:sfm,ACTION:sfm3>,
<"Rec. G.852.1",COMMUNITY:sfm,ACTION:sfm4>.

B.7.1.1 Informal description

DEFINITION:

"The reportFailureStatus attribute reflects the state concerning the report of failure."

STATE

reportFailureOn

"Any change in the failure status of the ressource shall be reported."

reportFailureOff

"No change in the failure status of the ressource shall be reported."

TRANSITION

reportFailureOnToReportFailureOff

"The value of the reportFailureStatus changes from reportFailureOn to reportFailureOff".

reportFailureOffToReportFailureOn

"The value of the reportFailureStatus changes from reportFailureOff to reportFailureOn".

B.7.1.2 Semi formal description

reportFailure ATTRIBUTE

BEHAVIOUR

DEFINED AS

"DEFINITION

STATE

<reportFailureOn>,

<reportFailureOff>

TRANSITION
<reportFailureOnToReportFailureOff>
<reportFailureOffToReportFailureOn>";;

B.7.1.3 Formal description

ReportFailureStatus ::= reportFailureOn | reportFailureOff

reportFailureStatus_Static

$reportFailureStatus : OBJECT \rightarrow ReportFailureStatus$

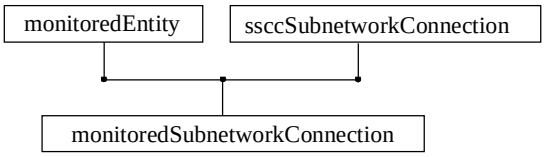
reportFailureStatus_Transition

$\Delta\ reportFailureStatus\_Static$

ANNEX C

Information viewpoint for the simple monitored subnetwork connection

C.1 Diagrams of information object and relationship classes



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Inheritance diagram

C.2 Import

<"Rec. G.853.1",INFORMATION_RELATIONSHIP:subnetworkIsDelimitedBy>
<"Rec. G.853.1",
INFORMATION_RELATIONSHIP:subnetworkConnectionIsTerminatedByPointToPoint>
<"Rec. G.853.1",INFORMATION_RELATIONSHIP:subnetworkHasSubnetworkConnections>
<INFORMATION_OBJECT:ssccSubNetworkTPSink>
<INFORMATION_OBJECT:ssccSubNetworkTPSource>
<INFORMATION_OBJECT:ssccSubNetworkTPBidirectional>
<INFORMATION_OBJECT:ssccSubNetwork>
<STATIC_SCHEMA:ssccConnected>
<STATIC_SCHEMA:ssccNotConnected>
<DYNAMIC_SCHEMA:ssccConnected_ssccNotConnected>
<DYNAMIC_SCHEMA:ssccNotConnected_ssccConnected>
<STATIC_SCHEMA:inReportFailureOff>
<DYNAMIC_SCHEMA:reportFailureOnEnabledToDisabled :>
<DYNAMIC_SCHEMA:reportFailureOnDisabledToEnabled :>

Those information concepts have to be related with the following enterprise concern:
<"Rec. G.852.1",COMMUNITY:smscc,PURPOSE>

C.3 Information object classes definition

C.3.1 monitoredSubnetworkConnection

This information concept is related to the following enterprise entity**:**
<"Rec. G.852.1",COMMUNITY:smscc, ROLE:monitored_snc >.

C.3.1.1 Informal description

DEFINITION
"This object class inherits from ssccSubnetworkConnection and monitoredEntity object classes."

C.3.1.2 Semi-formal description

monitoredSubnetworkConnection INFORMATION OBJECT CLASS
DERIVED FROM ssccSubnetworkConnection, monitoredEntity
CHARACTERIZED BY
monitoredSubnetworkConnectionPackage PACKAGE
BEHAVIOUR
monitoredSubnetworkConnectionBehaviour BEHAVIOUR
DEFINED AS
"DEFINITION";;

C.3.1.3 Formal description

monitoredSubnetworkConnection_Static

$monitoredSubnetworkConnection$: **F** $OBJECT$
$ssccSubNetworkConnection\_Static$
$monitoredEntity\_Static$

$monitoredSubnetworkConnection \subseteq ssccSubNetworkConnection$

$monitoredSubnetworkConnection \subseteq monitoredEntity$

monitoredSubnetworkConnection_Dynamic

$\Delta\ monitoredSubnetworkConnection\_Static$
$ssccSubNetworkConnection\_Dynamic$
$monitoredEntity\_Dynamic$

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