JF-NMF017.01
Leased Circuit Service - Configuration Management Ensemble

1. INTRODUCTION

Ensembles provide a top down view of a particular solution to a management problem. In order to focus on the solution to this management problem, specific restrictions are placed upon particular referenced definitions.
The concepts and format of Ensembles are described in the "NM Forum Ensemble Concepts and Format"[1] specification document.
Each Ensemble contains general text in each section that is common to all Ensembles. By convention this common text is portrayed in bold italic characters.
This Ensemble, wherever possible, references documents which define the components of the Ensemble.

The management problem is identified as a set of requirements and constraints. In defining the solution to this management problem, the resources to be managed, the functions to be applied, and the scenarios describing the interactions are all identified. The Ensemble references base standards and International Standardized Profiles (ISPs). It also references libraries containing definitions expressed by GDMO (Guidelines for the Definition of Managed Objects[2]) templates.

The purpose of this document is to collect management information definitions and profiles, and show how they can be applied to manage the resources identified in this Ensemble.

This document is organized as follows:
- Section 1 "Introduction", provides a high level overview describing the Ensemble and the structure of the document.
- Section 2 "Management context", identifies the managed resources and management capabilities of the Ensemble.
- Section 3 "Management Information Model", specifies all management information components of this Ensemble.
- Section 4 "Ensemble conformance Requirements", provides or references statements of conformance for this Ensemble. The managed Object Conformance Statements (MOCS) Proformas, specific to the Ensemble are provided in Annex B.

1.1 UNIQUE IDENTITY

The unique identity is a registered object identifier used to identify this Ensemble.

{itu-t(0) administration(2) japan(440) ms(9) ensemble(50) lcs-cm(1)}

1.2 GENERAL DESCRIPTION OF THE ENSEMBLE

The Leased Circuit Service : Configuration Management Ensemble (LCS-CM) specifies the managed objects and the application functions that define a management interface between a telecommunications service provider and a user. The capabilities provided by these managed objects allow a manager to configure and reconfigure circuits changing circuit routing and division of bandwidth. The managed objects used at this interface define a high level abstraction of a Leased Circuit Service (LCS). In the complex cases a LCS consists of several units of bandwidth called component circuits that can be combined to form end-to-end leased circuits. In the simplest case this Ensemble can be used to manage a conventional dedicated leased point to point line.

In this Ensemble the service provider plays the OSI management agent role, while the user plays the manager role.

1.3 SCOPE AND PURPOSE

Ensembles represent specific solutions to particular problems. Thus, an Ensemble is the complete description of the problem and the solution to that problem.

This section describes the requirements of the problem. It includes the definition of the information model that represents the solution to a problem. These definitions comprise references to one or more management information libraries which contain definitions of managed object classes expressed in GDMO templates, packages, attributes, name bindings, etc. Also, included in the Ensemble definition are statements of conformance and suitable proformas.

This Ensemble specifies the management interface between the service provider domain and the service user domain. It is based on an abstract view of the resources underlying a particular service, a view that shields the service user from knowledge of the specific technical implementation that supports the service. The specific resource managed by this Ensemble is a leased circuit service.

The leased circuit service can be thought of as a connection through a leased circuit network. The edges of the leased circuit network are points those are provided to the service user . A connection through the leased circuit network from one point on the edge to another point on the edge is provided to the service user. This connection transports a digital signal through the leased circuit network without regard to how the transport happens, or the data content being carried; the bit stream may carry any data communications protocol, including encoded voice. From the service user perspective, bits are poured in at one point of the leased circuit network, and they pop out at another selected point. In OSI terminology, this is the physical layer, where connections are controlled through external management actions.

The management of this service is concerned, at a high level, with how connections are established within the leased circuit network. This Ensemble defines a model and the management capabilities that provide connection management, using a pool of resources (component circuits and end points, as described in Section 2.3). The functions available to manage connections, such as connection assembly using a set of component circuits and end points, are described in Section 2.4.

This Ensemble is intended to aid product developers in the design of management systems, and to help procurers in the specification of system requirements.

1.4 RELATIONSHIPS WITH OTHER ENSEMBLES

This section describes the relationship between this Ensemble and other Ensembles which will be developed by TTC.

For the Leased Circuit Service, following four Ensembles are identified.

The Leased Circuit Service - Configuration Management (LCS-CM)
The Leased Circuit Service - Alarm Surveillance (LCS-AS)
The Leased Circuit Service - Trouble Management (LCS-TM)
The Leased Circuit Service - Security Management (LCS-SM)

Note 1: The later two ensembles are subjects for further study.

This Ensemble can be used in conjunction with the LCS-AS Ensemble in particular implementations. The combination of both Ensembles enables the service user to be notified of urgent failures of the components of the LCS through the Alarm Surveillance Ensemble, and to act on this information, through the Configuration Management Ensemble, so that critical connections can be rerouted.
Note 2: As a rerouting of the critical connections is a subject to be addressed at the phase 2 implementation (see the section 2.2.2), the description for the subject is incomplete in the phase 1.

This Ensemble can also be used in conjunction with the LCS-SM Ensemble. When security of the service

is violated or is expected to be violated, an appropriate notification from the service provider enables the service user to take a suitable action at this situation. This may be considered to be an extension of the alarm reporting.

This Ensemble can also be used in conjunction with the LCS-TM Ensemble. When service failures occur, the service user can get the most recent information on the problem resolution status by looking into the related trouble reports produced by the service provider. The service user can also get information on the maintenance schedules planned by the service provider.