MULTI-OPERATOR ACCESS TO A NETWORK MANAGEMENT SYSTEM

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***Abstract*—This paper reports on research that has been performed into a Java and CORBA based Network Management System (NMS). The research involved the building of a prototype system which used a CORBA object abstraction layer to model network elements with a Java-based operator interface layered on top.**

The operator interface is a Graphical User Interface (GUI) through which the network may be monitored and controlled. This implies that the data displayed by the operator interface should be able to be both viewed and edited as the operator desires. The system had to allow for multiple distributed operator interfaces being used simultaneously and asynchronously.

One of the major issues that this work focused on was the mechanism by which the operator interfaces would be able to maintain consistency between the data displayed by the distributed operator interfaces while still providing efficient read and write access to the data.

An overview of the NMS architecture is described initially, before focusing on the high-level requirements of the work that was done. The design and implementation of the approach that was adopted is then explained and discussed in the context of the requirements.

A prototype implementation of the architecture using the approach was developed for a simple SDH application. This paper discusses the efficiency of the approach as it is implemented in the prototype and the areas where the design can be extended.

The paper concludes that the approach used fulfils the defined requirements whilst still keeping a simple, extendable architecture.

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1 SYSTEM ARCHITECTURE

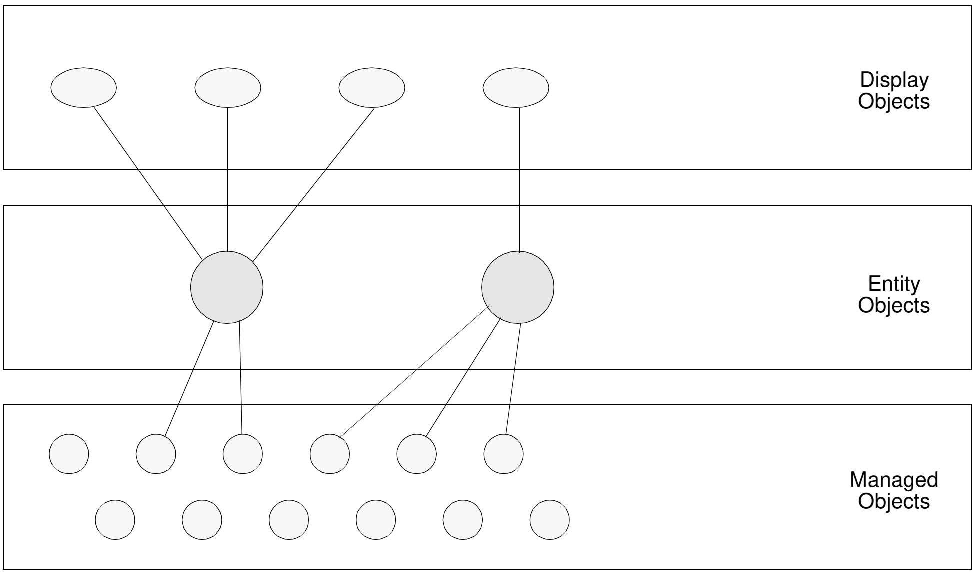

Figure 1: System Architecture

The context of this paper is a network management system (NMS) which provides a graphical interface for one or more operators to view and edit the state of various network elements. The architecture of the NMS was broken into three layers.

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