CORBA Security in a Telecommunications Environment

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Abstract

The telecommunications industry has a strong interest in CORBA because object oriented middleware can provide a common communications platform for future end user services (e.g. e-commerce services) across a heterogeneous telecommunications infrastructure. Also, products for end user access to the services can be homogenized through CORBA. The Telecommunications Information Networking Infrastructure (TINA) is a standardisation effort which identified the need for a middleware component, the so-called Distributed Processing Environment (DPE), which could be developed in compliance with the CORBA standards.

At the current stage of the specification, telecommunications providers become increasingly aware of the specific security requirements for future services. In particular, providers predict a strong need for fine-grained audit and non-repudiation functionality for services where complex billing systems are required (e.g. Quality-of-Service dependent billing) or where denial of actions must be prevented (e.g. on-line auctions). The current CORBA Security Services specification (v1.5) specifies the required functionality only partly as its original version was based on a different environment with different security requirements.

The first part of this presentation will outline the environment for future telecommunications services and shows where CORBA fits in. Then the basic security requirements for such enironments will be outlined and compared to the security functionality provided in the CORBA Security Services specification. Based on the experience of the authors, some of the practical problems of applying the CORBA Security Services to these new applications will be indicated and, if possible, will indicate some potential solutions. The presentation will conclude with an attempt to predict the future of CORBA security in the telecommunications industry.