AlbatrOSS

Architecture for Location Based Application of Third geneRation Operation Support Systems

AlbatrOSS Trial - 3G Service Roaming, QoS, and Charging

Introduction

The IST project AlbatrOSS is specifying a 3rd generation operations support system (3G OSS) architecture applicable to an open 3G mobile telecommunications environment. It is developing a set of loosely coupled OSS components to support the delivery of innovative services for roaming end users in a personalised mobile data service environment.

The project is validating the architecture and components through the operation of trials. The second phase trial of the project consists of three subtrial systems, each of which is intended to validate solutions to a number of 3G OSS issues identified by the AlbatrOSS project. The 3G Service Roaming, QoS and Charging subtrial is presented below.

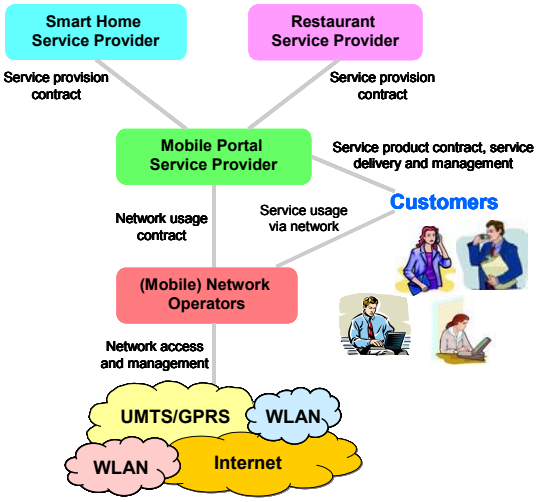
Goal

The 3G Service Roaming, QoS and Charging subtrial represents the joint work of six partners in the AlbatrOSS consortium and is focusing on:

- Location-based service provisioning and monitoring
- Service access and roaming
- Service usage mediation and charging
- QoS reporting and SLA violation management

The subtrial is concerned with evaluating OSS components for Mobile Portal Service Providers offering third party services to roaming users. The subtrial comprises the Restaurant Service (a location-based service), a Smart Home service, and the OSS components providing OSS support to the stakeholders involved in the subtrial, as shown in the figure below.

The aim of the subtrial is to test the integration of the components and to evaluate the OSS functionality provided by the OSS components in service usage scenarios.



Subtrial Context

Scenarios

The following scenarios are being shown in this subtrial:

Provision of a 3G service product via the Mobile Portal: This aspect demonstrates the packaging of the Restaurant Service, together with the Smart Home service in a service product and provisioning of the product through a Mobile Portal.

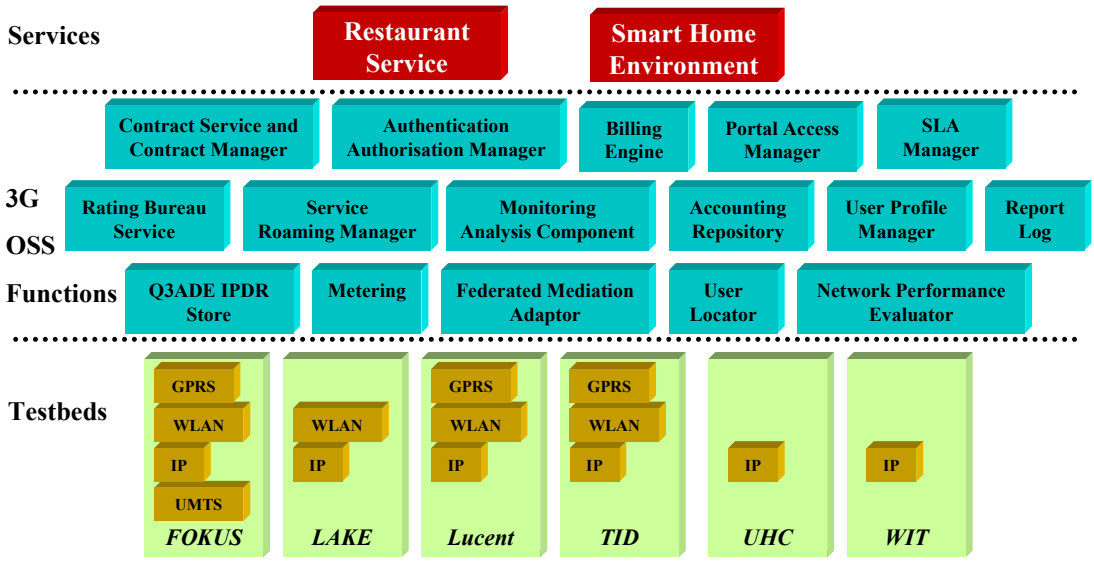
Use of a location-based service in mobile networks: This scenario examines usage of a location-based service in mobile networks. End users can roam in mobile networks and use a service that is customised by the location at which it is provided.

End-to-end QoS reporting and SLA management: This aspect demonstrates generation of QoS reports that show the quality of service delivered to the end user on UMTS technologies and how such reports are used for monitoring SLA violations. Service quality and network performance are measured in terms of standard-based indicators.

Federated mediation and charging of a 3G service product: This demonstrates usage mediation and charging for a service package consisting of the Restaurant and Smart Home services. It also demonstrates that the end users can be presented with a single itemised bill for all services used.

Secure Access via WLAN to access Portal and Service: This scenario shows that end users can be provided with secure access to the Mobile Portal via WLANs.

Subtrial System



Subtrial Architecture

This subtrial incorporates the following components developed by partners or reused from existing partner products and prototypes.

Restaurant Service: Provides information about restaurants in the proximity of the user

Smart Home Environment: Allows mobile online access to Smart Home features

Customer, Service and Contract Manager: Manages customer, service and contract data

Authentication and Authorisation Manager: Authenticates and authorises users

Billing Engine: Presents the bill on the Web

User Profile Manager: Manages user profile information

Portal Access Manager: Allows end users and administrators to access the Mobile Portal

SLA Manager: Receives QoS warnings and alarms and reports SLA violations

Rating Bureau Service: Collects usage records, applies tariff, and calculates charge

Service Roaming Manager: Enables roaming users to use their home services in a visited network

Monitoring Analysis Component: Analyses performance and reports on service quality

Accounting Repository: Stores charge details

Report Log: Allows the Portal provider to browse through quality reports

Q3ADE IPDR Store: Mediates service and network usage data into IPDR documents for Rating Bureau Service

Metering: Collects network usage data and sends it to the Q3ADE IPDR Store

Federated Mediation Adaptor: Generates usage records and transfers them to the Rating Bureau Service

User Locator: Locates users roaming in mobile networks

Network Performance Evaluator: Monitors performance and aggregates usage data

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