Design and Implementation of Value-Added Services Based on Parlay/OSA API*

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Abstract. Development of value-added services in traditional telecommunication network has some problems, such as high costs and long period. API which hides the protocol details of the underlying network is used in NGN nowadays to speed up service creation and deployment. This paper describes a key development technology of value-added services—Parlay, analyses the architecture of Parlay/OSA API, and then presents a detailed design of “SMS Filter” service and “Positioning and Calling” service, so as to resolve problems of spam messages and user location respectively. At the end of this paper, the two services are implemented in the Ericsson NRG simulator.

Keywords: Parlay/OSA API, SMS Filter, Positioning and Calling, Ericsson NRG.

1 Introduction

The traditional service framework is not an open platform for service creation, because development is related to specific communication protocols and signaling[1]. So, open service access and integration with existing network resources and technologies for service creation and deployment have been gaining attention recently. NGN (Next Generation Network) [2] is a business-driven network, with the characteristic of separation of service layer, call control and underlying bearer. It is a packet-based network that can provide voice, data, multimedia and other services. The major feature of NGN services is the use of object-oriented API (Application Programming Interface) [3], which allows third party application developers to have access to network resources to create all

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kinds of value-added services, thus accelerating the development of NGN services.

The conception of service creation using API is to abstract the underlying network capabilities to a range of standard software interfaces that the application developers can use, so that it is not necessary for the developers to know the details of network technologies and protocols. It is only necessary for them to focus on service logic. Thus, service layer is separated from basic call control layer. Parlay Group[4][5] is a forum of many important organizations both in telecommunications and computer industry. The objective of the Parlay Group is to define network API to support creation of services. In this paper two new value-added services based on Parlay/OSA (Open Service Access) API are designed and implemented in Ericsson NRG (Network Resource Gateway) platform.

2 Architecture of Parlay/OSA API

The architecture of Parlay/OSA API is composed of applications, application server, Framework, Service Capability Server (SCS) and core network element, as shown in Fig 1.

Applications: Applications refers to some specific services, like short message service, multimedia service, multi-party call control service.

Application Server: Application server is where service logic runs on, and it gains access to the underlying network by means of standard API provided by Parlay gateway.

Framework[6]: Authentication occurs between applications and Framework and also between SCS and Framework. The Framework is used to establish the identity of each entity involved. Once the mutual authentication is successful, the