Research Methods to Provide Services in NGN

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Abstract. **Methods of telecommunication services providing in new generation networks are being analyzed and studied in the article.**

Keywords: **NGN, services, multi-service networks, open interfaces.**

I. INTRODUCTION

Revolutionary changes in technology of providing telecommunication services to multi-service networks require fundamentally new approaches to analysis and synthesis of multi-service networks. Public telephone, radio and data networks convergence arranges good conditions for the appearance of next generation networks (NGN), which will give the opportunity to deliver a wide range of telecommunication services in new simpler methods and thus provide a simple and transparent network structure. Many organizations and companies are now involved in creation of technology of services providing in NGN networks. The most significant ones are: OSA, SPAN, Eurescom Project, and Parlay.

II. MAIN BODY.

Technology of services providing in new generation networks is closely related to application programming interfaces (APIs), i.e. to the way, in which application allows to address another application to retrieve data or access specific functions. Main purpose of these interfaces is to organise interaction of different software components in order to provide different services. Figure 1 illustrates technology of services providing for NGN networks based on API interfaces.

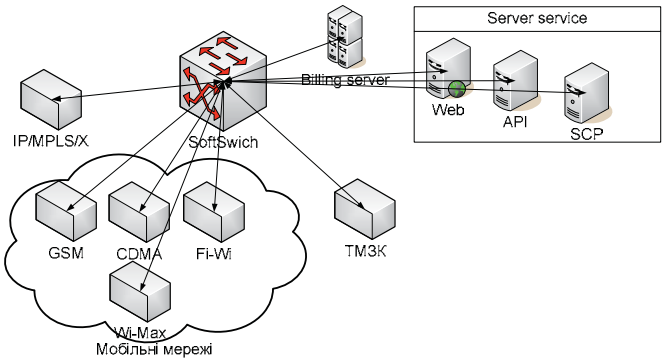

Fig. 1. Technology of services providing for NGN networks based on API interfaces.

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The main objects of the above model are services servers, databases and log servers, and network resources. Services servers provide authentication, access and applications functionality, the database stores information about the cost of service, whether the service is activitated or not, and other types of information, access networks provide users' access to services and log servers.

Thus, the system with API interfaces implementation allows using different operators' resources and separating services developing process from the field of application, increasing the amount of services provided and reducing the time of their application. The following network services can be provided by dedicated servers: call control, caller location, sending SMS, MMS, EMS, e-mail services and other web – based services, USSD-services etc.

Main task of the above interfaces is to organize interaction of different software components in order to provide various services and to create more complex systems, such as telephone operators' call centres and IVR systems. The proposed architecture can lead to appearance of a new player in the telecommunications market – a service provider. This provider will be completely exempted from the necessity to interact with the elements of the network. Through its open interface it will provide existing and introduce new services not thinking about real network technology. Third-party provider will have no access to the interfaces of network elements. This will allow providing identical services to subscribers of different networks.

What makes this approach special is the fact that it is based on not providing some new services, but on creation of architecture, which will simplify the mechanism for new services implementation, and allow third-party operators to provide innovative services.

III. CONCLUSION

Providing of network services based on open interfaces is one of the most effective and simple solutions for network operators, service operators and end users. However this technical solution based on the universality of API interfaces can lead to deterioration of the likely time-parameters compared to individual development of services for a particular operator or software -hardware services platform.

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