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THE PACKAGE MULTISERVICE SERVICES IN NGN

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ABSTRACT

This article is about multi-service NGN. The article discusses the possibilities of organizing multiservice services. In addition, this article analyzes the main types of requirements for the NGN network.

Keywords: Next generation networks, multi-services, requirement for the multi-services.

INTRODUCTION

In recent years, telecommunications operators have not only been working to improve the quality and distribution of traditional communication services, but also actively offer new services, which are becoming the most important point of growth in companies' turnover in the face of intense competition in the market. At the same time, the implementation of various services requires the appropriate development of communication networks and, in particular, their transport infrastructure. The global telecommunications community has come to the conclusion that it is necessary to create next generation networks, the so-called NGN (Next Generation Networks).

METHODOLOGY

The question “NGN: fashion or necessity” posed two years ago looks completely irrelevant today - there is no need to talk about any fashion now, leading telecommunication operators are successfully not only introducing fragments of next generation networks, but also completely forming their infrastructure according to the principles of NGN. For example, the company "TransTeleCom" reported that its long-distance and international communication network operating throughout the country is built on the basis of NGN.

“Over the past two years, the concept of NGN has been finally comprehended and there has been a noticeable progress in the production of equipment for IP

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networks," says Vitaly Moseev, General Director of the Classic Company. - The possibilities and benefits of creating an infrastructure for NGN networks have been identified, a commercial component of these projects has appeared, that is, there has been a transition from an enthusiastic presentation of new technologies to their commercial implementation. At the same time, NGN becomes the leading basis for the implementation of Triple Play services (voice, data transmission and video services over one subscriber line. - Ed. Note)".

Main features of NGN. The International Telecommunication Union (ITU/ ITU) Recommendations define the Next Generation Network as follows: "NGN is a packet-switched network capable of delivering telecommunications services through broadband transport technologies supporting quality of service (QoS), in which service functions are independent of the transport technologies ".

DISCUSSION

A distinctive feature of the NGN model offered by the ITU-T sector is its functional division into a service layer and a transport layer. The latter provides the function of exchange of discrete information of any type between any two geographically dispersed points.

The first level implements application functions related to in-demand services, for example, organizing the transmission of voice and video images separately or in combination. In accordance with ITU-T recommendations, NGN should converge data, voice, video, audio and visual data services in individual, multicast and broadcast modes.

According to the documents of the Ministry of Information Technologies and Communications of the Russian Federation, "... NGN networks should provide an unlimited set of services with flexible capabilities for their management, personalization and creation of new services due to the unification of network solutions".

The main properties of NGN are also defined there:
"Multiservice", which means the independence of service delivery technologies from transport technologies;

"Broadband", that is, the ability to flexibly and dynamically change the speed of information transmission in a wide range, depending on the current needs of the user;

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"Multimedia" - the ability of a network to transmit multicomponent information (speech, data, video, audio) with the necessary synchronization of these components in real time and using complex connection configurations;

"Intelligence", which means the ability to control a service, call and connection by the user or service provider;

"Invariance of access", or the ability to organize access to services regardless of the technology used;

"Multi-operator" - the participation of several operators in the process of providing a service and the division of their responsibilities depending on the area of their activities.

DISCUSSION

Based on the analysis of existing conceptual documents and expert assessments, it can be concluded that NGN is a universal multipurpose network designed for the transmission of voice, images and data using packet switching technology. Its foundation is a multi-protocol / multiservice transport communication network that provides the transfer of heterogeneous traffic over various transmission protocols.

The NGN concept provides for the support of an unlimited set of services with flexible management capabilities, the implementation of a universal transport multi-protocol network with distributed switching, and integration with traditional communication networks. The basic principle of NGN is the separation of the functions of transfer and switching, call control and service control.

Instead of the channel paradigm adopted in traditional networks, within which connections between subscribers are based on the point-to-point principle, NGN is implementing a transition to the ideology of virtual private networks (VPNs), organizing the delivery of services to the end user over IP.

NGN technology opens up many possibilities for building superimposed services on top of a universal transport environment - from packet telephony (VoIP) to interactive television and Web services. It is characterized by the availability of services regardless of the location of the client and the interfaces used by him (Ethernet, xDSL, Wi-Fi, etc.). Thus, any service created anywhere in the NGN becomes available to any consumer[1].

The heterogeneity of infrastructure, growing competition and declining sales of basic services, according to Western experts, today can be viewed as the main threat to the telecommunications industry. Network operators are looking to rethink their

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business models and transform their infrastructure into an all-IP-based platform, i.e. NGN. The main goal and main motivation for the transition to NGN is to reduce costs and create new sources of income.

Some experts also give a broader interpretation of this process. According to Aleksey Toritsyn, director of the telecommunications department at ISG, a situation has developed in the market in recent years that paved the way for the promotion of NGN. The following conditions have formed in the communications market :

-open competition between operators, which was a consequence of the privatization of communications enterprises and the weakening of state regulation of the market;

-convergence of telecommunication networks and information and computer networks, development of information and communication networks;

-explosive growth in digital traffic, mainly due to increased use of the Internet;

-high demand for mobile communications and new multimedia services;

convergence of operators, networks, terminals, telecommunication services / services.

These factors create prerequisites for the introduction of a wide range of new services by operators. According to operators' statistics, income from one user of new telecommunication services is several times higher than from a subscriber of traditional telephony.

NGN - the base for Triple Play. From a technological point of view, there is no shortage of NGN equipment from manufacturers on the market. In addition, domestic system integrators have long been actively proposing projects in the field for both corporate users and telecom operators. Such solutions are able to ensure the introduction of Triple Play services in the shortest possible time.

The implementation of Triple Play solutions makes it possible to add video transmission services and various kinds of content services to the traditional ones - voice and data transmission. As a rule, they support not only traditional services of cable TV networks, but also unique services that are possible only in packet networks [4].

Despite some weakness of the regulatory framework and a significant risk of mastering complex systems, dozens of NGN structures have already been implemented in the country. At the same time, the leading Russian fixed-line operators (RTOs of Svyazinvest, large alternative operators) are betting heavily on the provision of Triple Play.

“Compared to traditional telecommunication networks, networks built using NGN technology are better suited for the provision of converged services, in which it is the interaction and interpenetration of basic telecommunication services that creates a

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new consumer quality," said Sergey Mishenkov, Deputy General Director of FSUE MGRS. "Today, both private and corporate users need such services, and the demand for them will continue to grow in the future." Space communications providers are also trying to compete with fixed-line and cable operators in the "triple game": IPNet, the Russian satellite communications operator VSAT, has just announced its readiness to provide a Triple Play package for private users in the country.

Meanwhile, there is still no well-functioning and proven business model for the provision of converged services in the Russian market, and telecom operators, introducing new services to the market, are forced to act by trial and error. So it is worth talking very carefully about the massive introduction of next-generation networks and converged services based on them.

Foreign experience can be a definite confirmation of this. Even there, user interest in converged services is not yet universal. Indicative are the large European studies of the analytical company Forrester Research, conducted in 2006, during which 26 thousand users were interviewed in France, Germany, Italy, Holland, Spain, Sweden and the UK.

Approximately 35% of attendees said they were interested in offering Triple Play services that combine voice, video and data. However, about 44% of users were not interested in such services. Moreover, the requirements for telecommunication services in different countries differ markedly.

Demographic and consumer characteristics of users interested in receiving Triple Play services are presented in the table. The average age of subscribers surveyed by researchers is very high and is 40 years old. It can be assumed that the younger generation will show more interest in Triple Play, because older people tend to be negative about change and prefer to maintain the status quo.

CONCLUSION

The survey showed that the decisive factors in the choice of a European user of Triple Play services are savings on monthly payments, a single payment for all services, higher quality, the possibility of a three-month trial use of services and the presence of a contract with one partner. Meanwhile, some analysts question the telecom companies' ability to profit from Triple Play services. Forrester Research's Lars Godell explains that while users find Triple Play offerings attractive because they are, on average, cheaper than individual connections, people may not necessarily want to pay more for add-on services. I would also like to note that operators of fixed networks, introducing NGN, pursue another goal - to reduce capital costs and

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operating expenses by creating a single multi-service transport environment for the transmission of heterogeneous traffic.

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