

New Network Vision of OKI



Hidetoshi Saigoh

Executive Officer and General Manager
Carriers Business Division

At OKI we are currently undertaking structural reforms of the communication business under the banner of “New Network Vision”. The New Network Vision indicates the orientation that the communication business at OKI should start assuming hereafter, with the understanding of the changes that are anticipated to take place during the next three years and beyond in the business environment.

A view of the current communications market environment shows tendencies of saturation with the market growth gradually slowing down, although optical implementations continue in the fixed broadband market. The tendencies of the market imply a period of maturation, with the number of subscribers in the mobile market exceeding a hundred million and the net increase in the number of subscribers dropping to about half that number during the growth period. Due to such changes in the market environment the current situation shows that communication carriers and communication equipment vendors, including OKI, are undergoing a trial and error period to prepare themselves for the next growth. In spite of such an environment, however, expansion of the internet and technological innovations of information and communications continue globally with no end in sight. The market as a whole appears to have the potential for significant changes in the near future.

This paper has a description of the New Network Vision of OKI and an explanation of the activities intended for future growth.

New Network Vision of OK

OKI's New Network Vision portrays the concept of the communication business for the future and indicates the kind of environmental changes that will occur with all customers using communications from the year 2012 onwards. It also illustrates how OKI will be contributing in order to deal with such changes, how the convenience of customers will be enhanced and how OKI will grow with the customers (**Fig. 1**). Specific action taken will include the offering of network equipment and unified communication technologies for the three points of contact with customers, referred to as network edges, according to the policy of “Contribute to provide a

convenient communication environment that spans from the home to the office, through the supply of foundations for network services and cutting edge unified communication technologies”. Furthermore, technologies are collected for orchestrating the realization of seamless network migrations, while attempts are being made to realize equipment and systems that will comprise the core of such efforts, to facilitate the evolution of the networks in the future.

OKI is also currently proceeding with activities that take advantage of the collective strengths of the entire communication group at OKI, involving the optimization of the value chain and enhancement of sales capabilities as the pivoting factors, in order to provide the products and services required by our customers in the business areas of concentration through the “Network One-stop Service” .

So far, the communication business at OKI has been based on high performance and highly reliable network technologies and know-how, cultivated in the markets of customers, such as communication carriers, service providers, business enterprises, etc., responding in recent years to new market needs, for example IP telephony, video distributions and unified communications. However, we believe that it is essential for us to secure strong trust from our customers as business partners more than ever before, clearly emphasizing our areas of strength and the value we offer, as well as by rapidly solving the business issues of our customers, in view of the fact that intense market changes involving further segmentation and diversification of needs are anticipated in the future.

In other words, OKI's New Network Vision is a new undertaking by OKI, which involves gaining a perspective of the future from the customer's viewpoint.

Carrier network migration activities

OKI is undertaking a variety of activities intended to contribute to the migration of customers from existing services and networks to those of the next generation by taking advantage of legacy and carrier grade technologies and know-how for the carrier network infrastructures in

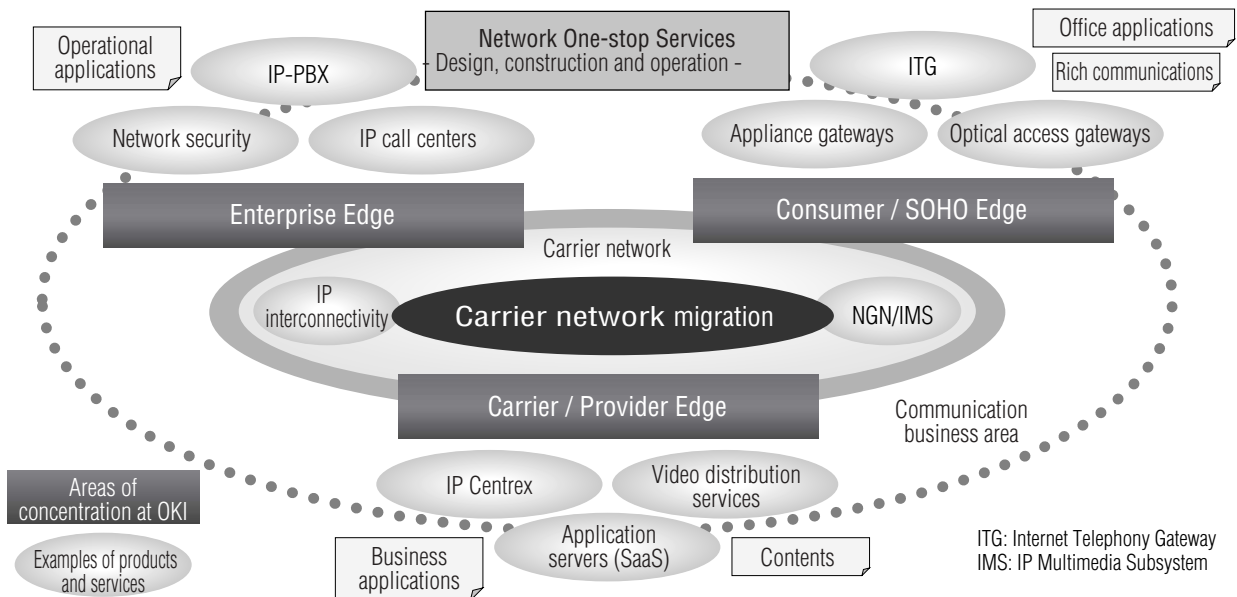


Fig. 1 New Network Vision of OKI

OKI's possession, as well as our knowledge and know-how of customer networks.

Key areas of the main activities pertaining to the migration of carrier networks offered by OKI are described below.

- Migration region from existing services (fixed line telephone, ISDN, leased line, etc.) to next generation services
- Migration region from existing networks to next generation IP networks

Activities in the migration region for next generation services are intended to achieve a stable continuation of various existing services, as well as the accomplishment of migration to next generation multimedia services, based on the IP Multimedia Subsystem (IMS) technology, developments for which OKI has been proceeding with since very early on.

OKI achieves migrations in ways unique to the company by utilizing technologies available to OKI as a manufacturer in addition to OKI's SI know-how in the migration region for next generation IP networks to solve the problems of customer migrations to the next generation communication infrastructure and to accomplish this with smooth transitions. This is attained through the leveraging of OKI's SI past performances, which are

considered to be among the best in Japan, through the continuously procuring and provision of optimally suited equipment to customers.

For instance, once the conversion of networks to IP networks progresses to a certain level, the need for a continuity of services between different networks as well as interconnections of networks for securing security begin to manifest themselves. OKI will provide new solutions for resolving interconnectivity issues between the networks of our customers, based on the hardware and software development technologies of carrier grades for performing real-time communication protocol translations, voice and video media conversions and IPV4/V6 conversions.

Activities pertaining to three network edges

The "point of contact", where communication carrier networks and persons who feed the network with information (such as end users and service operators) meet, we named "Network Edge". The following are the "Three Network Edge Regions" considered by OKI:

- Carrier / Provider Edge
- Enterprise Edge
- Consumer / SOHO Edge

Great values definitely exist at points of contact between the users and communication networks with a potential for great innovations in the future. We believe it

is possible to facilitate further growth for both parties by safely and accurately realizing such value. OKI aims to become an enterprise that offers customers the maximum value in these "Three Network Edge Regions".

Carrier / Provider Edge

Remarkable progress is occurring with the network infrastructure provided by communication carriers, with transmission speeds accelerating and bandwidths broadening due to technological innovations. Furthermore, data centers provided by communication carriers or service providers are becoming larger in scale. A diverse range of services and applications that use such data centers are created, resulting in the formation of a large scale social infrastructure, which can be used by customers in a variety of ways.

This point of contact of the network with services and applications is the Carrier/Provider Edge conceived by OKI. At OKI we believe that it will be possible to offer our customers even more advanced services very quickly by realizing a common platform for developing, linking and providing various services in this region in short periods of time.

What OKI is aiming to achieve with regards to the Carrier/Provider Edge is the provision of highly value added services through the network edge by various service providers, including OKI, to facilitate growth of the new business model and the business of communications.

One of the main activities to be implemented comprises the enhancement and expansion of video solutions using platform functions with the Carrier/Provider Edge. Video services optimally suited to customers will be delivered through a linkup on the platform of various services, such as video conferencing, digital signage and the like, in addition to raising the level of sophistication for solutions of IP-based multi-cast video distribution and Video on Demand (VoD), which are part of the technical field on which OKI in particular is focusing. Another main activity entails voice and information service solutions that utilize virtualization technologies and consolidation technologies involving servers and clients. More specifically, this will be an activity involving the functional fulfillment of positioning information services already provided as ASP businesses by the OKI Group, as well as the construction of partnering and licensing business models that have at the core the IP contact center functions, which are highly proven in the business markets and the principal strengths of OKI.

Enterprise Edge

The market environment for enterprises has been undergoing dramatic changes due to significant technological changes that have been taking place as a result of IP conversions and integrations since the year

2000. The IP-PBX systems, for example, have transitioned from the locally installed types to centrally hosting varieties. These systems are transforming into platforms that provide new unified communication functions, featuring unified directories and numbering systems, as well as messaging functions. Linkups with mission critical applications (such as CRM, HR or ERP) based on application servers, are also accelerating, which encourages the diversification of services.

The Enterprise Edge conceived by OKI is a point of contact for business customers with a communication carrier network that offers proposals for solutions and enhancement of the provided services, as well as an infrastructural platform for the convergence of information communication in a business. OKI is particularly interested in providing an organic connection between network resources, such as mobile devices (cellular phones and smartphones), IP (internet/NGN) and legacy networks of business customers who have individual business systems, for example financial or information systems, in order to provide a platform for realizing efficient IT services at a low cost.

Principal activities include enhancing the product line for application server functions (AP/Service edge node) suitable for the size of a customer's business, while continuing to provide solutions that can respond to a diverse range of requests at all times. We intend to continue expanding our business by engaging in long-term relationships with customers and winning their trust through such activities. Furthermore, we intend to contribute to reducing the expenditure for customers, through the delivery of universal services to be used internally by businesses at a low cost, by linking our carrier services and internet services with business platforms. These carrier and internet services have increased convenience, through the expansion of the Software as a Service (SaaS) operations, which is a new undertaking at OKI.

In addition, we intend to further intensify the sophistication of human interfaces that connect customers with systems by expanding and substantiating the unified communication client that has at its core Com@WILL[®]*1), the strategic client product of OKI.

Consumer / SOHO Edge

The environment of the market for the client to be connected to the Consumer/SOHO Edge, will be undergoing rapid diversification and sophistication, due not only to the provisions of support for the home common platform of the next generation home networks or conventional personal computers and mobile phones, but also the emergence of open terminals, as well as the popularization of network connections for household

*1) Com@WILL, e-Sound, e-Video are registered trademarks of Ok Electric Industry Co., Ltd.

appliances and game machines. Services available for individual persons and SOHO customers have been undergoing significant changes, with access lines being converted into high-speed, broadband and mobile routes. New services that utilize rich content or positioning information are being introduced one after another.

The Consumer/SOHO Edge conceived by OKI is the point of contact between individuals/SOHO and communication carrier networks. We envision the provision of ubiquitous services to individuals and SOHO customers through this network edge in the future, using appliance-type gateway as platforms. We recognize that Eco measures will be considered important for this Consumer/SOHO Edge, which will be quantitatively expanding in comparison with the edges of other regions in the future and we are therefore undertaking activities for practical implementation of these as well.

Main activities include the enhancement of terminal products, such as optical access products with extensive implementation track records in the Fiber to the Home (FTTH) market, appliance-type gateways and Internet Telephony Gateway (ITG) for SOHO customers. We will also be creating products that respond to the diversification of network edge products and thereby differentiate us from the rest by substantiating network element technologies (including such technologies as PON for optical or WiFi and WiMAX for wireless applications), IP-PBX technologies, as well as sound (e-Sound^{®1}) and video (e-Video^{®1}) technologies.

Activities for Network One-stop Service

As mentioned thus far, at OKI we intend to grow our communications business together with our customers by rapidly providing solutions to the customers' issues, which are made possible through the provision of products with typically OKI considerations for services in existing networks to next-generation networks, through the focusing of our endeavors on the "migration region in communication carrier networks" and the "three network edge regions".

In addition to the aforementioned provision of products, the collective strength of the entire OKI Group will also be utilized to enhance the organizational strengths, providing complete solutions and services that utilize networks, encompassing planning to construction, operations through to the maintenance. Such total services will be offered as a one-stop service, by the entire OKI Group in an attempt to improve customer satisfaction.

Conclusion

The world of communications is undergoing dramatic transformations to become a foundation of the social infrastructure, due to the rapidly occurring technological innovations and the emergence of new communication modes. Services offered through such platforms on the other hand, continue to undergo drastic changes. We believe many of these are increasingly becoming much more compact, with shorter life cycles than those of the past.

The basic concept of our New Network Vision is that such tendencies are promoting change everywhere in the communications industry and the communications business at OKI will adapt to such environmental changes.

OKI intends to contribute towards technological innovations and expand business in the communications market in the future by substantiating the product line comprised of network and infrastructural products intended for communication carriers to realize carrier network migrations, as well as service and application products, solution products for businesses, terminal products for individuals and SOHO customers, etc.