

**Q&A Session for Telecom Carrier Business Mid-Term Growth Strategy Presentation**

Date/Time: October 22, 2013 (Tuesday) 13:30-14:30

Location: Otemachi Sankei Plaza

Presenter: Shunichiro Tejima, Executive Officer, Telecom Carrier BU

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**Questioner A**

*Q. Which companies are your benchmarks? How does your 10% operating margin target for the fiscal year ending March 31, 2016 (fiscal 2016) compare with your benchmark companies? Will your benchmarks change as you develop new businesses, such as Software-Defined Networking (SDN) and Telecom Operations & Management Solutions (TOMS)?*

A. In SDN, we expect IT vendors to become our competitors, in addition to conventional network vendors. In response, NEC will take full advantage of its development capabilities, specifically its ability to build-in high-quality technologies and products for telecom carriers, which it has developed to date. We will also leverage our integrated organization and strengths combining both network and IT capabilities. Looking at profitability, IT-related profitability is higher than the profitability of conventional network hardware sales on a global basis. Our 10% operating margin target assumes higher projected sales in the IT field, as well as future investment in SDN and other new areas.

*Q. The bulk of sales growth from fiscal 2013 through fiscal 2016 has and is expected to come from TOMS and SDN. Assuming your profitability has so far been higher in the domestic business, do you expect the profitability of TOMS and SDN to increase as you head toward fiscal 2016? Meanwhile, what is your outlook for domestic profitability?*

A. Given that domestic capital investment is projected to grow only slowly at best or decline slightly, we plan to increase overall sales primarily in our global business. The main thrust of our new mid-term growth strategy is to grow TOMS and SDN, where we can make the most of NEC's strengths.

We have factored in an improvement in overseas business into our profitability outlook. With TOMS, we have already achieved double-digit profitability, which is higher than average profitability of Telecom Carrier Business Unit, and we intend to maintain this profitability. Until next fiscal year, SDN will remain in an upfront investment period. In fiscal 2014, we are projecting a loss in SDN due to development outlays, and we expect to finish fiscal 2015 with a breakeven result or a loss. However, we expect SDN to start contributing to earnings from fiscal 2016. Profitability in the domestic business was slightly high in fiscal 2013 due to brisk demand from customers. Compared with the previous fiscal year, we expect profitability to worsen this fiscal year, and to hold steady thereafter.

*Q. What is your take on improvement in the overseas base station business?*

A. In the overseas base station field, NEC is focusing on small cell solutions. Our major competitors have been supporting customer needs for migration from GSM to 3G and LTE by replacing the software of existing base stations, specifically large base stations called macro cells. In this climate, NEC has struggled to enter the macro cell sector.

Therefore, NEC has been working on compact, lightweight and extremely fast small cell solutions from an early stage. Although the small cell solution market has been slow to come to the fore until now, recent surveys predict that demand will emerge in earnest from around fiscal 2015. In fiscal 2014, we have won several commercial orders for small cell solutions.

#### **Questioner B**

*Q. Could you please provide your target for the number of TOMS customers in fiscal 2016? As the number of customers increase, will you really be able to maintain steady double-digit profitability?*

A. We have not set a clear numerical target for the number of customers. However, we aim to increase sales from the TOMS business to several billion yen in fiscal 2016, by applying the platform of our U.S. subsidiary NetCracker Technology Corp. to the custom-base TOMS field in Japan. Overall, we seek to attain our sales targets mainly by generating higher sales from existing customers and winning new customers other than telecom carriers. TOMS is based on a business model where we incorporate customer demands to provide long-term support. Accordingly, we expect to steadily maintain the current level of profitability.

*Q. NEC is forecasting SDN sales of 100 billion yen in fiscal 2016. What is your projected ratio of SDN sales in Japan and overseas, and the ratio among developed and emerging countries?*

A. We are forecasting an overseas sales ratio of around 40% in fiscal 2016. We will start out by providing SDN services to global telecom operators, especially customers in developed countries, and then expand services to telecom operators in emerging countries. We will provide services to several customers each in developed and emerging countries. The combined total number of customers should therefore be in the upper single digits. On average, we expect to develop businesses of around several billion yen with each customer.

#### **Questioner C**

*Q. NEC's SDN equipment has been commended highly. What are the main points behind this strong evaluation? You noted that NEC will compete with SI vendors. How will you set NEC apart from them?*

A. As shown on page 23 of the presentation materials, we participated from an early stage in standardization activities for OpenFlow, a key SDN technology, and released the first commercial products using OpenFlow technologies. We are therefore recognized as one of the global leaders in this field. We believe that our strengths lie in our lead in this area, such as controller technology. In terms of differentiation, we have seen a variety of vendors enter the SDN market, including network vendors and IT vendors. NEC's strengths lie in its capabilities in both IT and network technologies, and its ability to integrate both technologies. We believe that the SDN field is one where we can maximize our ability to fine tune and integrate carrier grade real-time capabilities and reliability, including for IT servers, software and platforms. There are fields where IT vendors excel, and fields where network vendors provide hardware. Our strengths are differentiated in terms of our positioning between these IT and network vendors, particularly in our ability to build-in carrier grade technologies.

*Q. Wouldn't it be possible to implement a strategy of expanding business on a massive scale by partnering with third parties in this field?*

A. We believe that many different types of collaboration and partnership are possible. For example, we need more open environment and more participants for SDN platforms and products. In such fields, we would like to form partnerships.

*Q. Over the years, NEC has possessed high-quality technology on a world-class level, such as switching equipment for telecom carriers. Historically, however, NEC has struggled to grow its businesses overseas. NEC is now a frontrunner in a new field that is coming to the fore. However, do I need to be concerned that NEC may not be able to adroitly develop business on a global scale? How is today's NEC different from yesterday?*

A. The main global players have changed with every generation of technology, from switching equipment to IP, solutions and so forth. From the 1980s to the 1990s, NEC expanded business globally in the fields of switching equipment, and transmission and wireless infrastructure. Considering that NEC generated 40-50% of sales overseas at the time, it is not the case that NEC has never succeeded abroad. In the ensuing mobile era, Nordic companies took the initiative in standardization with GSM ahead of NEC. In the IP era that followed, NEC was unable to expand business globally because North American companies built the de facto industry standard.

SDN is a new development. NEC sees it as an opportunity to change the current balance of power in the industry. In fact, from around last year, NEC has started making proposals to global telecom carriers in Europe and North America and has found that there is extremely strong interest in the SDN field. We strongly believe that the time horizon for commercializing SDN technologies anticipated by telecom carriers has become shorter, particularly in recent times. Leveraging our lead in this field, NEC will proactively enter overseas markets.

In terms of making a success of business globally, we believe that the ability to develop solutions is both a priority and the key to success. NetCracker has a total workforce of almost 5,000 employees. Of this workforce, around 2,000 employees are engaged in solutions delivery. The company has a track record of global business expansion and the necessary infrastructure, as well as expertise in selling solutions that are not off-the-shelf. This is what sets us apart in terms of execution. One major difference with the past is that we have established a global solutions delivery framework in conjunction with bolstering personnel at NEC's five overseas regional headquarters.

*Q. The SDN business has just got started. Do you think that the competitive landscape is challenging?*

A. Rather than characterizing the competitive landscape as more challenging, I would say that the nature of competition will change as IT vendors join the fray. However, given that IT vendors cannot perform certain tasks, we believe that NEC can set itself apart by harnessing both network and IT capabilities.

## **Questioner D**

*Q. I assume that telecom carriers would be delighted to use virtualized Evolved Packet Core (vEPC) to achieve network functions on an industry standard Intel Architecture (IA) server. Where will the uptake of vEPC begin? Is there any likelihood that Japanese telecom carriers will adopt vEPC?*

A. NEC is already in talks with telecom carriers in Europe and North America, and is pressing ahead with field trials. While there are many different ways vEPC could be introduced, what is common to introducing vEPC is that total cost optimization benefits will be key. Activities aimed at commercialization are gathering pace. In fact, the technology is almost ready for commercial use based on progress with technical demonstrations and completion.

The Myanmar communication infrastructure development project is an example of a new initiative where we have paved the way for future systems expansion by introducing an advanced new system in an area where there is no actual pre-existing infrastructure, instead of deploying current technology. We believe that there will be many cases where telecom carriers in Europe and North America basically opt to upgrade their current purpose-built equipment based on verification of the total cost reduction benefits. There will also be cases where these carriers expand the scope of application after confirming the benefits of partially introducing the technology, starting with new services and services for business enterprises.

We have carried out field trials of vEPC with multiple customers. As a result, some customers have told us that they were not aware that the technology had advanced this far. As with the global market, we believe that there is a strong likelihood that activity aimed at commercialization will start gathering pace in Japan. NEC has entered into specific discussions on Network Functions Virtualization, integrated operation/management solutions and other matters with customers.

#### **Questioner E**

*Q. Eight potential customers are listed on page 30 of the presentation materials. I assume that NEC will generate sales of several billion yen per company. Does this mean that the sales forecast for the SDN business has been firmly set based mainly on your currently targeted customers?*

A. In terms of the overall flow, we intend to first build strong relationships with leading global telecom operators in Europe and North America as we work toward commercialization. We will then expand business to emerging markets. In fact, we are already conducting field trials with multiple customers in developed countries, and we believe that these efforts are highly likely to produce results going forward. We intend to horizontally develop these solutions in emerging markets. To this end, we are currently in talks with customers in Asia and other regions.

As you point out, our sales forecast is based on the companies shown in the presentation materials. Although we cannot guarantee that all projects will reach commercialization, we anticipate that a considerable number will do so. Naturally, we aim to win over new customers in the process. While we have yet to clearly determine when SDN will penetrate the market, we would like to achieve our 100 billion yen sales target for fiscal 2016, even if it takes us a little longer to reach it.

Note: Virtualized Evolved Packet Core (vEPC)

vEPC is a product solution that enables a variety of network operation functions to run on an industry standard server, instead of purpose-built equipment, through a virtualized Evolved Packet Core (vEPC), a core mobile network product. Running the network functions on a virtualized platform makes it possible for telecom carriers to flexibly operate and manage networks. Furthermore, because purpose-built equipment will no longer be needed, telecom carriers will be able to reduce equipment costs and procurement lead time.