

# Solutions Supporting the Utilization of Smart Devices: System Introduction Case Studies

ASANO Tomohiko, NAKAGAWA Kenji, YAJIMA Sonomi  
SAJI Issei, SAITO Tsuguharu, HIROKAWA Masaki

## Abstract

Smart devices such as smartphones and tablet terminals, which have disseminated under the leadership of general consumers, are beginning to be used as IT devices within enterprises. They not only meet the simple need for the replacement of mobile phones, but their abundant features such as light weight, mobility, low price, intuitive usability, a camera, a permanent network connection and location information make them applicable to actual cases of paperless and IT business operations that were not possible with devices in the past. On the other hand, the use of smart devices poses new issues that IT departments must solve, such as the need for security at the PC level and measures against short product cycles. This paper introduces three case studies in which smart devices have actually been applied along with some solutions for these issues.

## Keywords

smart device, Mobile Device Management (MDM), security

## 1. Introduction

Consumerization - the increasing use of new IT devices incorporating Android and iOS for general consumers, such as smartphones and tablets, and the services based on them - is becoming active among enterprises. This does not simply mean the replacement of mobile phones with smartphones. It is because of advantages such as “lighter weight, slimmer size and higher mobility” than PCs, “larger screen and better visibility” than mobile phones and “a touchscreen panel enabling intuitive operations” that the dissemination of smart devices such as smartphones and tablet terminals is accelerating in various business environments.

In the initial stage of dissemination, the majority of enterprises regarded smartphones as a replacement for mobile phones or as a communication tool for mailing and scheduling. However, some advanced enterprises noticed added-value functions such as a camera, a permanent network connection and location information and tackled utilization for business purposes such as sales activities and field maintenance.

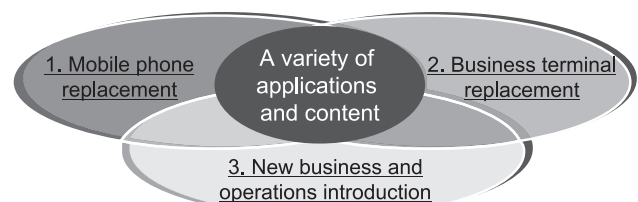
According to a survey by Fuji Chimera Research Institute, Inc., the number of smart devices used in the corporate sector in 2016 is expected to grow to about 5 times that of 2010, and the total number disseminated in the enterprise market is predicted to be 1.3 million units. This means that more than 80%

of the mobile subscriptions of enterprises will be replaced by smart devices.

## 2. Trends in Utilization by Enterprises

Current utilization of smart devices can roughly be classified into three trends ( **Fig. 1** ): “replacement of mobile phones” for replacing mobile phones, “replacement of business terminals” for replacing business-dedicated terminals used for specific purposes and “introduction of new business and

Recent trends demand not only “replacement of mobile phones” but also “replacement of business terminals” and “introduction of new business and operations”.



The smart device market is shifting to meet the demand for products that are “low cost”, “light weight” and “easy to use”.

Fig. 1 Trends in smart device utilization.

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operations” aiming at using smart devices in business reform, the introduction of IT and the creation of new business.

### (1) Replacement of mobile phones

Issues involved in introduction include transition plans for the functions used with mobile phones, settings information, on-premise wireless LANs and PBXes and the required new security measures accompanying replacement with smart devices.

### (2) Replacement of business terminals

Although there are many advantages to this replacement, such as reduced costs for terminal purchase and maintenance and application development, it is necessary to modify applications to implement smart device compatibility and to introduce advanced security and terminal management systems matching business usage.

### (3) Introduction of new business and operations

Studies should be done, not to mention business targets and operation plans prepared, on an investment recovery program, the development of new applications and the establishment of trial plans involving end users. In particular, with utilization studies that begin by thinking about nothing other than using smart devices and in business fields where paperless work and the introduction of IT have been difficult, it is necessary to elaborate scrupulous execution plans and effective evaluation processes.

## 3. Smart Device Life Cycle Management and MDM

Smart devices are being introduced to meet various needs, including those of business. For IT departments, the most important factors determining evaluation and selection are security measures and terminal management functions (MDM: Mobile Device Management) together with OS selection and terminal/circuit procurement. Since smart devices are most often used on public networks such as the mobile network and the Internet, they require the preparation of secure network environments that are different from those of PCs, which are mainly used on intranets. In addition, the advantage of high mobility also means a higher risk of information leak by theft or loss than with PCs. Considering the design differences between each mobile carrier and device manufacturer and the need to deal with frequent OS version upgrading, it is indispensable to establish a security policy with a comprehensive perspective of entire product life cycles.

- A wide range of integration options are available, from terminals to applications to infrastructure.
- Consultation options are also provided to support customers in introducing smart devices.



Solutions to support the use of smart devices throughout customers' business environment.

Fig. 2 NEC's coverage in the smart device business.

In addition, to improve the effectiveness of an introduction, it is necessary to select the terminal optimum for the business of each enterprise, to study and build an efficient business operations system and to prepare an operation and maintenance system covering fault countermeasures. However, under the current circumstances in which the product life cycles, specification change cycles and price drop cycles of smart devices are very short, it is not a good idea to do all of these exclusively using the resources of an enterprise.

At NEC, therefore, we provide a wide range of solutions to meet the needs described above. Specifically, we provide solutions to support the use of smart devices throughout their useful life cycle, from “consulting” to clarify the purpose of introducing smart devices for each customer, operation methods and security policy to a “proposal of optimum terminals and applications” for solving issues in the customer’s business, “kitting” for smooth introduction, “preparation of network environments” such as wireless LANs or VPNs, “security measures” and “device management” including linkage of users ( Fig. 2 ).

Providing integrated solutions covering everything from devices to communications environments, service platforms and business-specific applications, our “smart device utilization solutions” explore every issue in an introduction study and the actual operations of each customer and contribute to the enhancement of sales abilities, the improvement of operational efficiencies and the creation of new business for the customer through the utilization of smart devices.

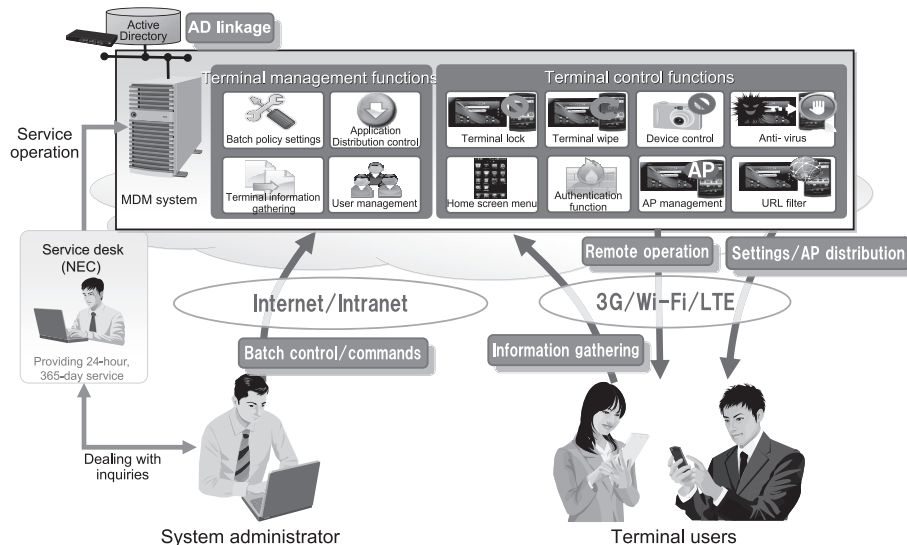


Fig. 3 “Smart Device Management Service,” an MDM service provided by NEC.

For business purposes, we provide the Smart Device Management Service, a cloud-based MDM service featuring advanced information security measures and highly convenient device management functions. It is a highly flexible cloud-based service capable of linkage with existing systems. In addition to batch settings for all terminals, it is capable of “terminal management” and “terminal control” functions such as restricting distributed applications at a per-user level and remote password change or terminal data wipe in case of theft or loss. It also features rich operational functions required for business use, such as delegation of authority according to organizational layer or department ( Fig. 3 ).

#### 4. Case Studies

Some advanced enterprises are already using smart devices freely by addressing the above issues. In the following, we will introduce three cases of advanced introduction for which we provided support.

##### 4.1 Introduction as an Information Sharing Promotion Tool

One enterprise introduced MEDIAS smartphones as tools

for promoting information sharing when employees are away from the office. The possibility of using a single unit, not only for phone calls and e-mail but also for business applications, has eliminated the traditional need to use a PC and mobile phone separately according to each required action. High portability and speedy startup have also improved the ease of international communications.

In this case the Smart Device Management Service was also used, so that the resulting possibility of the integrated management of login authentication and application usage restrictions makes possible secure operations and simple operability without imposing burdens on IT departments. The particular wishes of this enterprise were to reduce roaming costs even when users are overseas and to enable the use of applications even without connecting to the network. To meet these customer needs, we provided a local cache function to enable the use of applications and security functions even without connecting to the network, thereby reducing roaming costs.

##### 4.2 Introduction as a Business Support System

The next case is an introduction to the Sawayaka Shinkin Bank, which built a sales support system using smartphones under our guidance. This system has made it possible to per-

form operations that used to be done using handwritten forms and mobile phones - such as visit management, customer information inquiries and temporary receipt issues for bill collection and passbook keeping - more securely and smoothly. The information associated with these operations is processed in real time and managed by the server and, in addition, temporary receipts can be issued immediately by printing them on a mobile printer connected to the smartphone through Bluetooth communication, so that sales staff can serve customers accurately and quickly even outside the office. In addition, the GPS function of smartphones will be linked to a map information system so that they can also be used as tools to confirm the safety of sales staff in case of disaster.

#### 4.3 Introduction as Sales Tools

The last case study deals with enterprises that tackle business reform by means of smartphones. One such enterprise is Itochu Enex Co., Ltd., a general energy sales enterprise developing community-based business in Japan. This enterprise introduced NEC's LifeTouch series of tablet terminals and the Contents Director, NEC's cloud-based content distribution service, and built a mechanism for the timely distribution of sales tools, including product catalogs and product demonstration movies. These are selected by headquarters according to the department to which each sales engineer belongs, the promotions situation in his or her territory and the inventories of the products handled. This service can improve the efficiency of sales activities because the sales engineer does not have to print sales tools on paper and can view a list of only the sales tools required for him or her by simply opening the terminal. Furthermore, it also allows headquarters to identify the browsing history of each sales tool and use this data to review these tools and the deployment of sales promotion measures.

also propose the optimum mode of smart device utilization for each customer and offer strong support for business reform.

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#### Authors' Profiles

##### ASANO Tomohiko

Senior Expert  
Cloud Infrastructure Strategy Division  
Service Operation Unit

##### NAKAGAWA Kenji

Manager  
Cloud Infrastructure Strategy Division  
Service Operation Unit

##### YAJIMA Sonomi

Assistant Manager  
Cloud Infrastructure Strategy Division  
Service Operation Unit

##### SAJI Issei

Assistant Manager  
Service Delivery Division  
Service Operation Unit

##### SAITO Tsuguharu

Assistant Manager  
Service Delivery Division  
Service Operation Unit

##### HIROKAWA Masaki

Service Delivery Division  
Service Operation Unit

## 5. Conclusion

As seen in the above, the use of smart devices in business allows enterprises to benefit from important advantages, including reduced terminal and application prices and improved business efficiency, as well as the construction of new business models. However, to make this possible, it is important to select the optimum solutions capable of solving the associated issues. At NEC, we not only provide terminals but also support their effective use throughout their life cycles. We

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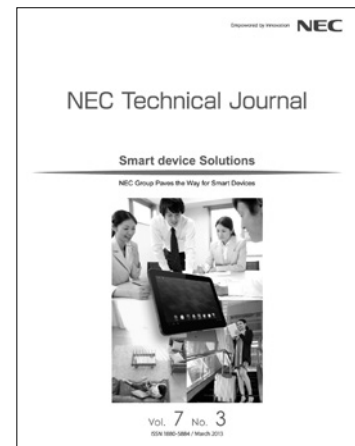
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