SaaS over NGN from NTT Communications—BizCITY for SaaS Providers

Mikimasa Nakayama†

Abstract

A joint project to develop a service platform for software as a service (SaaS) providers was launched by NTT Communications (NTT Com), NTT DATA, and NTT on September 2, 2008. This article introduces NTT Com's approach to SaaS over the Next Generation Network (NGN).

1. Introduction

A joint project to develop a service platform for software as a service (SaaS) providers was launched by NTT Communications (NTT Com), NTT DATA, and NTT on September 2, 2008. Providing SaaS over the Next Generation Network (NGN) has many interesting facets. For example, NTT Com and NTT DATA will combine their respective strengths to develop a SaaS-platform business, NTT Information Sharing Platform Laboratories will provide technology, and the features of the NGN will enhance the SaaS functions [1]. Here, the role of NTT Com is to provide the infrastructure-related portion of the SaaS platform (**Fig. 1**). This portion, called "BizCITY for SaaS Providers", supports the type of business activities that SaaS providers perform.

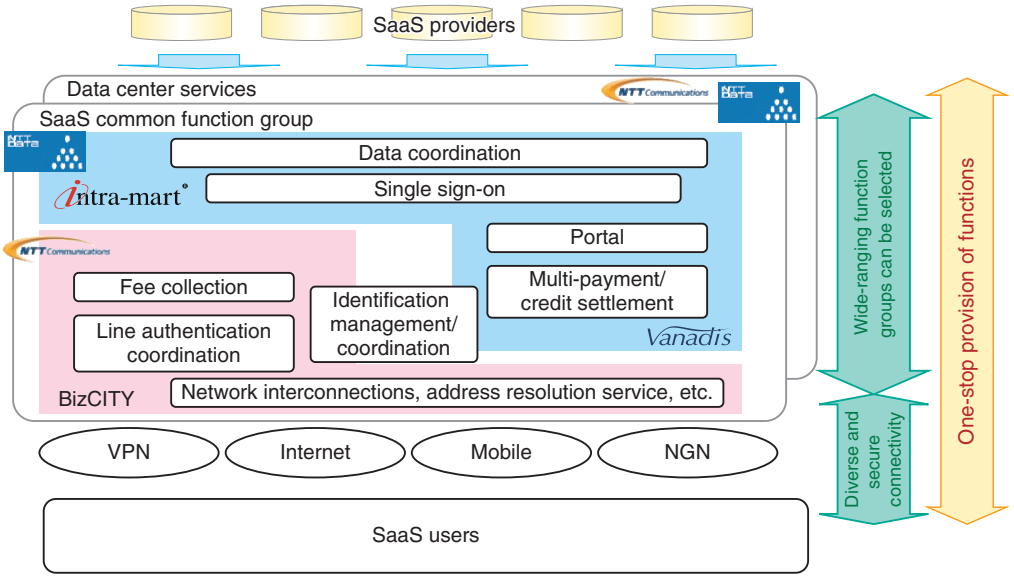
2. Secure SaaS platform

Various communications operators and system integrators have been providing SaaS platforms since 2007, but the strong point of the SaaS platform to be provided by NTT Com is the *provision of a secure network environment as part of SaaS*. Although SaaS generally refers to the use of various types of applications over the Internet, companies are often reluctant to transfer important information over the Internet and may prohibit the use of SaaS as a company security policy. This is especially true in the Japanese corporate world. Of course, there are many SaaS services that make good use of Internet features and many applications that find new meaning by being used over the Internet. Nevertheless, if the data in question includes customer information, the fact remains that many companies will refrain from introducing SaaS if that requires use over the Internet. Against this background, NTT Com is proposing that SaaS be used not over the Internet but over a closed network such as the NGN, an Internet protocol virtual private network (IP-VPN), or broadband Ethernet to achieve, in essence, a *secure SaaS* environment.

BizCITY for SaaS Providers is a platform that connects directly to various VPN services provided by NTT Com such as ArcstarIP-VPN, eVLAN, and GroupVPN. It enables SaaS providers to provide their applications in a secure network environment to corporate end users of NTT Com VPN services. And for corporate end users, it provides a network environment in which SaaS applications can be used in a seamless manner just as if the SaaS servers were deployed inside their own company.

In a sense, this newfound ability to use SaaS applications in a safe, secure, and stress-free manner is like opening up a bridge to a small island on which important data is stored. This data, which could previously be transported only by boat, can now be transferred in person by simply walking across the bridge.

† NTT Communications
Chiyoda-ku, Tokyo, 100-8019 Japan



VPN: virtual private network

Fig. 1. SaaS platform achieved through coordination between NTT Com and NTT DATA.

This advantage of using SaaS over a closed network should also apply to its use on the NGN. For this reason, a study on connecting BizCITY for SaaS Providers to the NGN is now underway. However, there is another reason why SaaS over NGN is so appealing: the wealth of features unique to the NGN will become available. We envision a SaaS platform that can provide a wide variety of sophisticated SaaS applications in a safe and secure manner.

3. Extensive platform functions

In addition to gateway functions to enable applications to be provided on a VPN, the SaaS platform will provide a server-hosting function using virtualization technology to facilitate the provision of applications. It will also provide hardware such as routers, firewalls, and load balancers, data-backup and system-management services, and fee-collection services that can collect application services fees additional to NTT Com VPN services. There are also plans to add other key functions such as user authentication, single sign-on, and billing services (**Fig. 2**).

4. Mobile SaaS support

There is a growing need to use SaaS applications outside the office via a mobile terminal. However, while the office side benefits from a VPN environment, an outside location in an Internet environment may not be satisfactory to customers. Taking this into account, NTT Com is proposing a solution called "Secure Mobile" that enables SaaS to be used in a closed, mobile environment without going through the Internet (**Fig. 3**).

5. Applications being provided

5.1 Applications from business partners

A number of SaaS applications are already being provided to corporate end users via BizCITY for SaaS Providers. Three applications provided by business partners are outlined below.

(1) Salesforce over VPN (from salesforce.com [2])

This is the VPN version of Salesforce, a well-known name in SaaS. Salesforce over VPN is the first service in the world that enables Salesforce products to be used outside the Internet. It is not unusual for Salesforce customers who place a great deal of importance on security, such as those in the banking business, to switch to Salesforce over VPN (**Fig. 4**).

(2) FoodFrontia Pro (from NEC Infrontia, Inc. [4])

FoodFrontia Pro, which targets the food-service industry, enables systems that use point-of-sale (POS) data to be used over VPN. It has already been introduced in major fast-food chains and has received

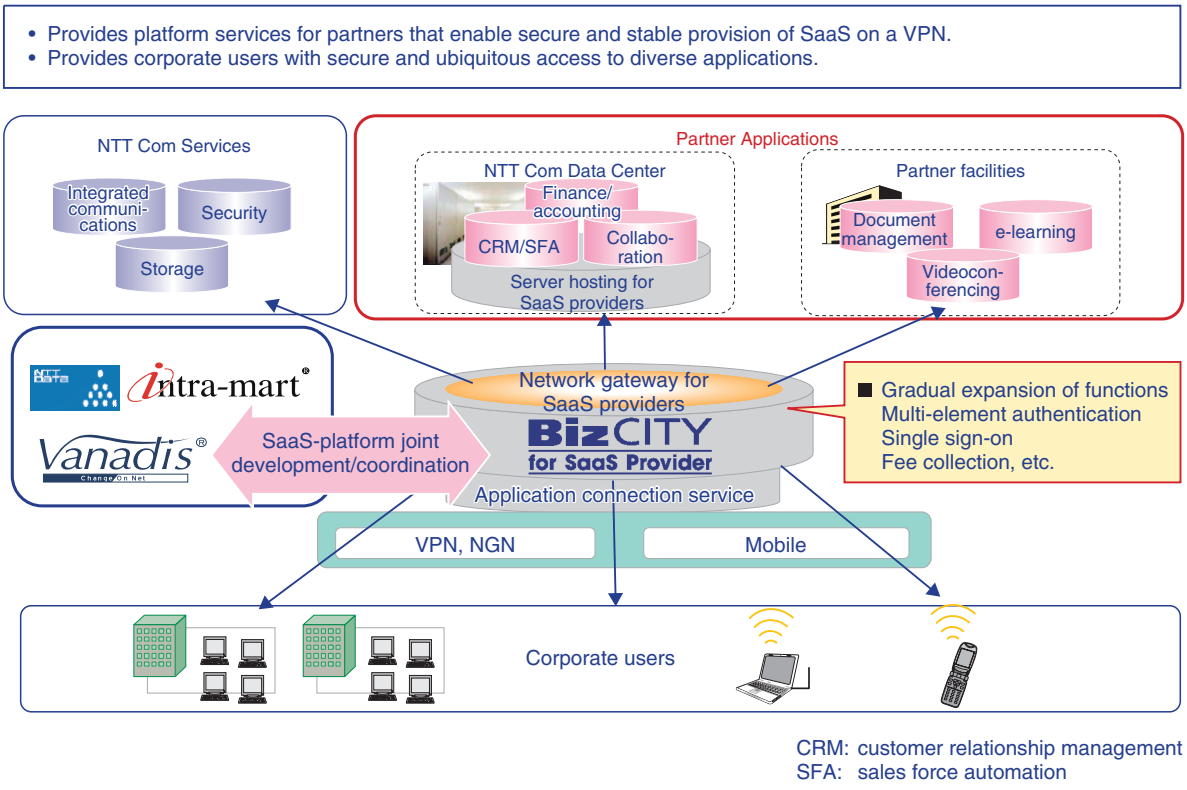


Fig. 2. BizCITY for SaaS Providers—SaaS platform services.

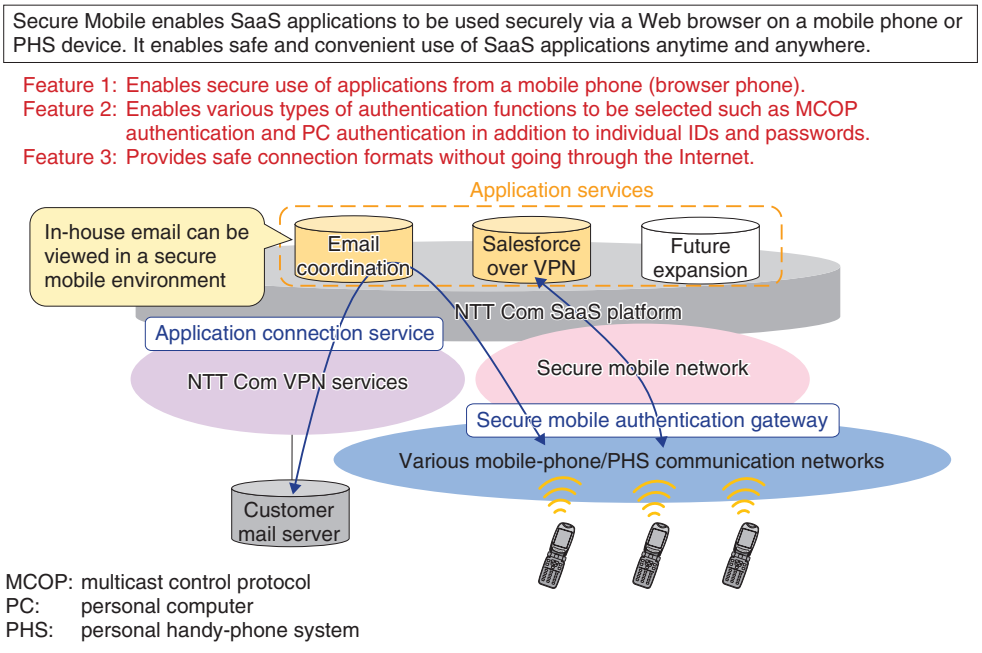
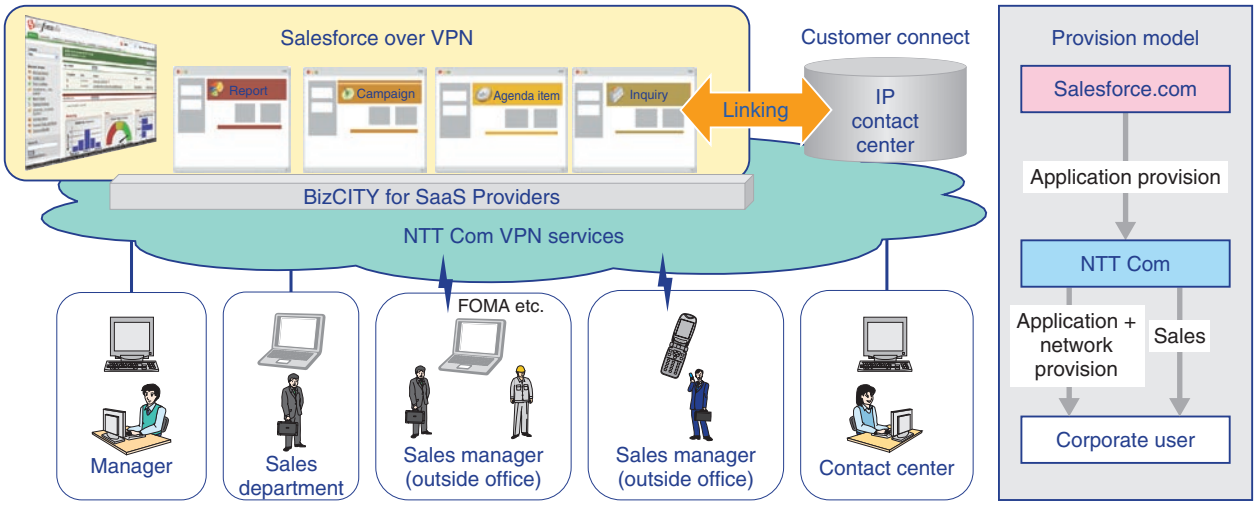


Fig. 3. Secure Mobile.



FOMA: brand name of NTT DOCOMO mobile phone service [3]

Fig. 4. Salesforce over VPN.

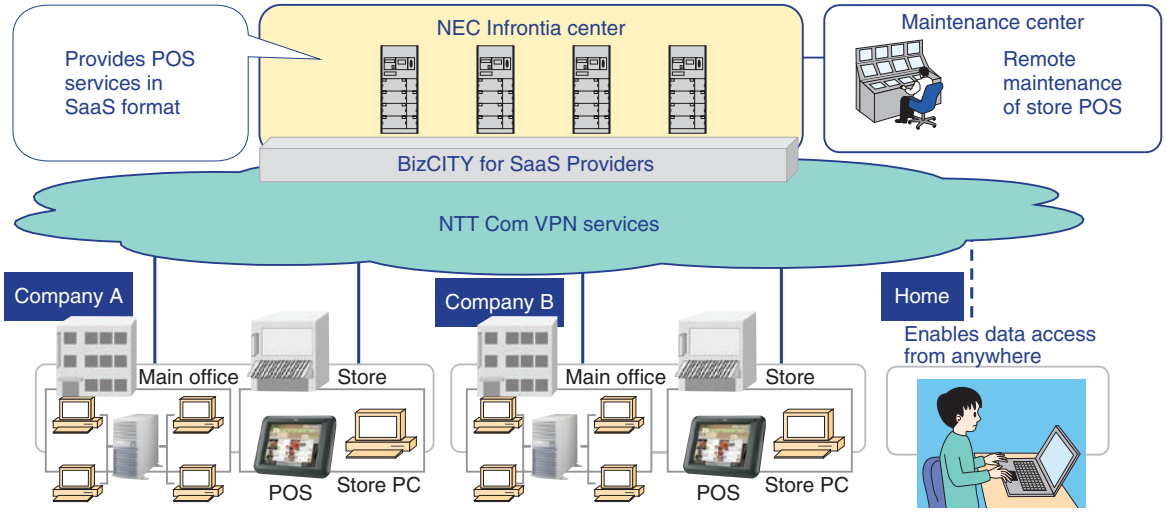


Fig. 5. FoodFrontia Pro.

high praise (**Fig. 5**).

(3) Multipoint connection server for high-definition videoconferencing system (from Polycom Japan [5])

This application places the customer's center server for videoconferencing on NTT Com's SaaS platform, enabling a stable connection environment on a VPN and efficient maintenance services (**Fig. 6**).

In addition, studies are now in progress on collaborating with some of the many software vendors that exist today. Our plan at NTT Com is to release new applications for the SaaS platform in an ongoing fashion. There is a lot to look forward to in this regard.

5.2 Applications from NTT Com

BizCITY for SaaS Providers includes several applications provided by NTT Com itself. Some of them are outlined below.

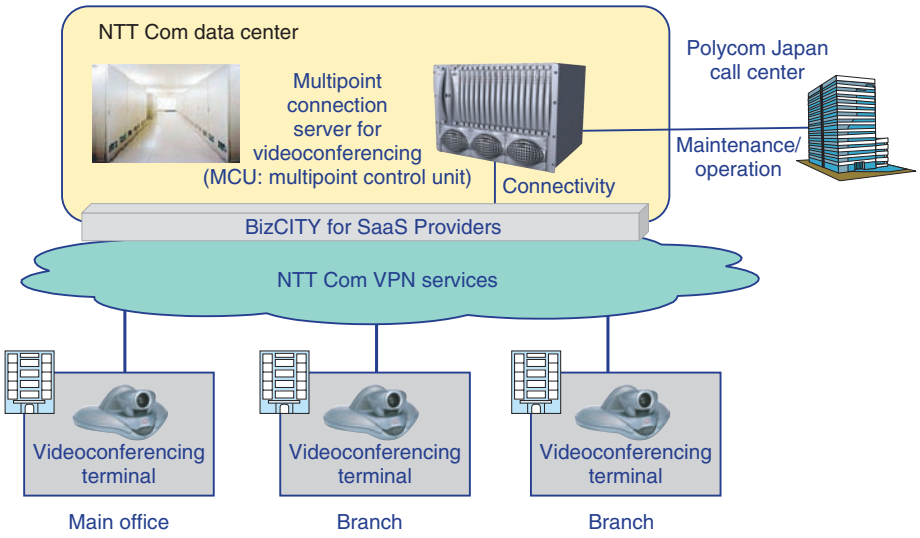


Fig. 6. High-definition videoconferencing system.

(1) VPN Security

This is a security service that enables security measures for in-house personal computers (PCs) to be deployed via a VPN. Two examples of such measures are PC Patrol and Quarantine Network.

(2) VPN Storage

This service enables online storage to be used within a VPN. It facilitates the backing up of file servers in a secure manner and the safe transfer of large files.

(3) Secure ICT over VPN

This service provides a variety of security measures for connecting to the Internet from a corporate environment with one-stop support (ICT: information and communications technology).

(4) Secure Email over VPN

This service provides functions like virus checking, spam filtering, and email archiving.

(5) Managed Security

This service provides security functions such as log monitoring via NTT Com's Security Operation Center.

6. Joint activities with MIJS

NTT Com recently announced that it will be conducting SaaS technology trials together with the Made in Japan Software Consortium (MIJS), which consists of 27 leading domestic software vendors. Of these 27 member companies, 13 will participate in these trials, which will begin with the verification of application operation and VPN connectivity on the BizCITY for SaaS Providers platform and will continue with the verification of platform functions such as virtual servers and single sign-on. Once the results have been analyzed and fed back to the development team, sales trials to corporate end users will begin.

7. Future developments

Preparations are also being made to form collaborative relationships with a variety of application providers. We expect a number of new applications designed for provision on BizCITY for SaaS Providers to be announced shortly. A diverse range of applications should make this SaaS platform increasingly attractive. We aim to achieve an environment in which an NTT Com VPN service user can access any application in a secure manner over his or her own VPN for a reasonable monthly fee (7000 yen, about $US75 per company). NTT Com plans to put a great deal of effort into the field of SaaS over NGN so that the abovementioned new business areas and existing VPN services can progress in a mutually beneficial cycle.

References

[1] http://www.ntt.com/release/monthNEWS/detail/20080902.html (in Japanese).
[2] http://www.salesforce.com/

[3] http://en.wikipedia.org/wiki/FOMA
[4] http://www.necinfrontia.com/
[5] http://www.polycom.co.jp/ (in Japanese).

Mikimasa Nakayama
Director, Business Network Services Division, NTT Communications.
He joined NTT Communications in 1990 and has been engaged in sales promotion and marketing for various VPN, cloud computing, and mobile services.