

Global Efforts toward Unified Communications

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Abstract

NEC has been actively deploying new products and solutions worldwide since it announced plans for the deployment of business integrated solutions in UNIVERGE360. In accordance with this policy, its major overseas affiliates are locally developing Unified Communications (UC) solutions with the aim of supporting migration from existing business systems. NEC is promoting this business deployment by treating it as a business opportunity by which it may demonstrate its requisite IT and network technologies.

Keywords

Unified Communications (UC), presence, IT/network fusion, mobility, wireless

1. Introduction

NEC held a global symposium of analysts in the United States at the end of 2007, which introduced the concept of UNIVERGE360 as a global vision. Its PR department made this vision public by announcing it globally in March 2008.

The primary concept of UNIVERGE360 is to be aware of the “human” factor in enterprises and to provide solutions for business improvements based on the integration of IT and network technologies by implementing the optimum means of communication according to the roles and business processes conducted by humans.

In this paper, we explain our global efforts to promote UC business.

2. Global Deployment of UNIVERGE360

At NEC, we will implement the UNIVERGE360 vision by applying the following elements and also provide solutions for customers globally by promoting their management and total integration.

- Provision of UC solutions for enterprises.
- Provision of IT infrastructures and solutions.
- Provision of both vertical and horizontal business applications and solutions.
- Policy of “One NEC” including our local affiliates.
- Global and strategic partnerships.
- Global provision of services.

Although our business deployment is based on a commonly held basic strategy, it will also emphasize specific charac-

teristics in order to match the peculiarities of each region.

In the following sections, we review the deployment of the solutions that are being applied in North America, Europe and Australia.

3. Solutions Deployment in North America

NEC Unified Solutions, Inc, which is an NEC Group affiliate in charge of enterprise network business in North America, has newly developed the core applications of UC for Enterprises (UCE) as enterprise-oriented solutions based on the concept of UNIVERGE360.

The UCE suite consists of the OpenWorX applications deployed in North America to which unified messaging, mobility and desktop telephony applications have been added. They are thus provided with both desktop and mobile clients (**Fig. 1**).

UCE envisages linkages with Microsoft^(R) LCS (Microsoft^(R) Live Communications Server 2005)/OCS (Microsoft^(R) Office Communications Server 2007) and with IBM Lotus Sametime as well as with NEC voice servers. It improves the efficiency and ease of operations by unifying the user interface covering Client and O&M (Operation & Maintenance) (**Fig. 2**).

The UCE elements include voice servers, terminals, the OW5000 Open Application Platform, the UA5200 Attendant Console product, the UM8500 Unified Messaging product, the MA4000 O&M tool and video linkage products as well as the UC700 Integrated Desktop Client, the MC530 Mobility Client Application and mobility gateways. It also provides UC solutions based on the above linkages.

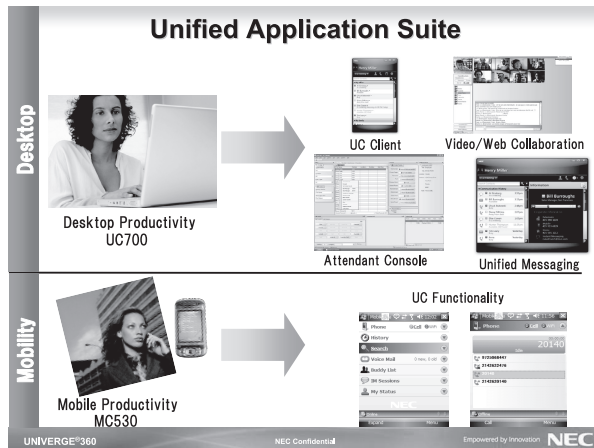


Fig. 1 UC-Integrated Applications Suite for enterprises.

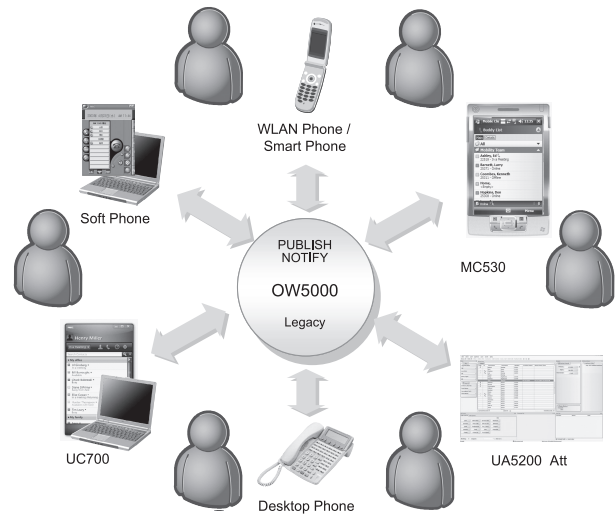


Fig. 3 Provision of integrated Presence information.

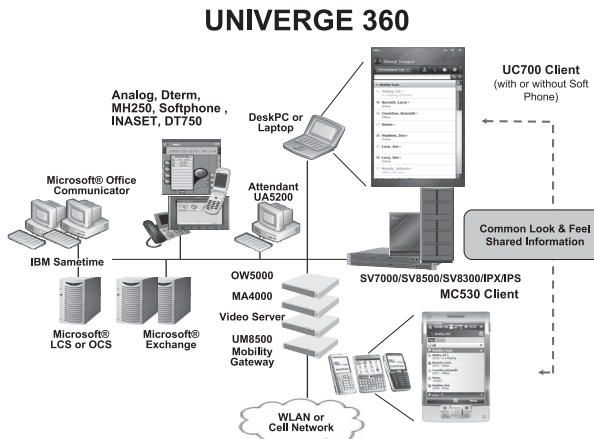


Fig. 2 UCE configuration.

UCE Features



Fig. 4 UCE features and UC700.

The MC530 and UC700 use a common user interface, so the unification of operability and functionality in both desktop and mobile environments is expected to improve the work efficiencies of the users.

The OW5000 provides an open API (Application Program Interface) to enable linkages with the applications of third parties. It is through this API that future connectors will implement the linkages with Microsoft (R) OCS or IBM Lotus Sametime.

The Presence function of the OW5000 supports both the SIP terminals and traditional analog/digital terminals and is therefore capable of configuring and referencing Presence information from various contact devices. Presence information may thus be acquired by users in accordance with the means of contact available from their specific circumstances. This will

enable the possibility of referencing integrated Presence information from various applications and will achieve improvements in the convenience of operation, facilitation of management and unification of information (Fig. 3).

The UC700 is equipped with a newly developed intuitive user interface. As the desktop client of UCE, it works as a portal for providing the following features (Fig. 4).

The UC700 makes the following procedures available: easy setting and referencing of Presence information; extension of the Presence, enabling rules setup for each individual; registration and revision of the contact list; various search functions; referencing, setting, and customization of status infor-

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Univerge Mobile Client



- **Single number access**
 - Simultaneous Alert
 - Desk Phone Rings
 - MC Screen Pop
- **Dual-mode operation**
 - Cellular and WLAN
- **Application integration**
 - Corporate directory
 - Contact/buddy list
 - Presence status and setting
 - Instant messaging
 - Single VM message store
 - VM indication
 - Conferencing

Fig. 5 Mobile Client MC530.

mation; call control functions covering videophone; voice conference management; Instant Messaging (IM); and access to referencing of the communication history log.

The MC530 enables the use of interfaces and functions equivalent to those available in the desktop environment, providing access to: Presence information, Instant Messaging, voice mailing, contact information, directory information and call logs. In addition, it also implements single-number access (a service enabling use of the desk phone, Softphone and cellular phone using a single phone number) and dual mode operation of cell phone and in-house WLAN phone (Fig. 5).

The functions created with the UA5200 include status-dependent transfer and Presence-interlocked speed dialing.

UCE will be released first in North America as a NEC world-leading product, but it will also be deployed worldwide as an enterprise-oriented UC solution of UNIVERGE360 by applying measures that are specific to regions and will thus expand its solutions range.

4. Solutions Deployment in Europe

NEC Philips Unified Solutions is the affiliated NEC Group affiliate in charge of enterprise network business in the EMEA region (Europe, the Middle East and Africa). It has been responsible for developing Business ConneCT (BCT), an integrated communication application that make full use of the advantages of the latest communications technology. BCT offers sophisticated UC functions and enables highly efficient communications that are based on the various roles adopted in the business operations of employees. Some of its biggest fea-

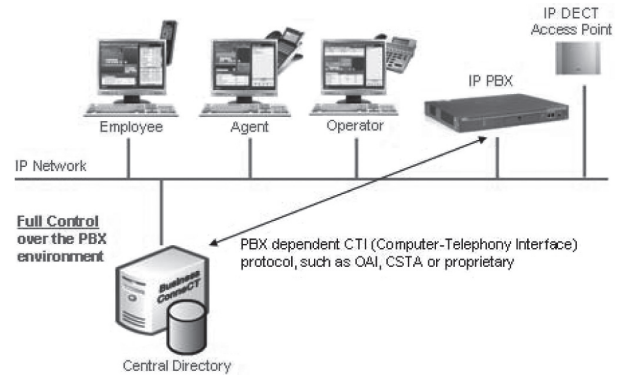


Fig. 6 BCT system configuration.

tures include the sophisticated use of wireless devices and particularly the integration with DECT technology (Digital Enhanced Cordless Telecommunications standard established by ETSI, the European Telecommunications Standards Institute, for digital cordless phones) and VoIP technology (Fig. 6).

BCT is positioned as the UC solutions for SMB (Small/Medium Businesses) of UNIVERGE360.

(1) Facilitation of Operation by Multi-tasking

BCT makes the call control functions linked to the enterprise communications servers (PBX, etc.) via the PC, and allows various levels of employees to select the optimum means of communication according to their circumstances. The user can easily select the optimum means of communication for the moment by choosing the available communication device according to the location such as in the office, on the move or in-house. For instance, an operator or contact center agent can benefit from BCT by initiating a 3-party call to collaborate with another colleague for dealing with the customer or the person calling the center, transfer the operation to the appropriate staff or transfer the call to voice mail. In such cases, BCT automatically provides the effective additional information such as the availability of operators and agents so that the resulting improvement in the work efficiency contributes to reducing the waiting time of the users.

BCT offers effective information including name, caller number, call log, call origination history and voice mail messaging history.

Operations such as callback, voice mail playback and 3-party conferencing calls are possible with single-click operations. When a call is received, the PC screen immediately shows a pop-up display. Any of the employees authorized by the system may work as the operator and execute call trans-

fers, message relaying and staff assignments.

BCT functionality is logically grouped for three types of job roles: for regular office employees for the call center agents and for the operators. The user interface is unified so that concentration and effective utilization of resources are possible by means of concurrent assignment of jobs or the reshuffling of personnel.

In the contact center mode operation, BCT automatically leads the caller to the optimum agent, thereby contributing to a reduction in the wait time and transfer time of the caller.

(2) Intuitive User Interface

The user interface of BCT has been designed with the aim of enabling intuitive, easy operations. BCT is also provided with compatibility for various languages (Fig. 7) and currently supports 13 languages.

(3) Presence

One of the key features of UC is Presence management not only in combination with the voice but also with multimedia. The real-time Presence information allows users to identify the status of the other party of a call before starting a communication. In addition, detailed information schedules such as “Meeting till 11:30” and “Holiday until June 15” can be set easily and referenced easily from the user screens. Presence information can be synchronized with the calendar in Microsoft (R) Outlook (R) to centralize Presence management.

Users are also allowed to access various directories. In addition to information provided by the directory system of the enterprise, each user can create an individual contact list (Fig. 8).

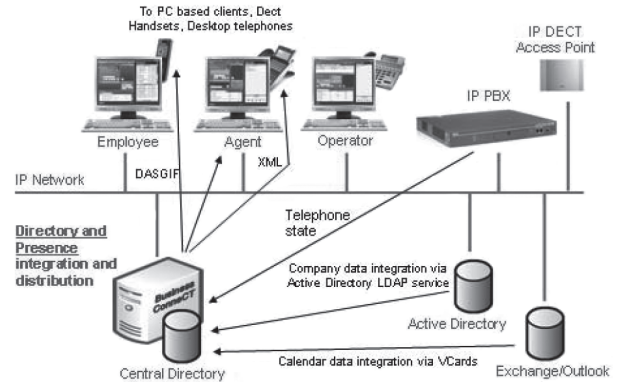


Fig. 8 Integration of Presence and Directories.

Integration of directories that have external web interfaces is also easy. LAN communications between client and servers and all of the associated communications services are implemented entirely in IP protocol, so integration and construction are very easy.

(4) Message Reception for Mobile Workers

The linkage of BCT with wireless terminals offers similar convenience to the above as well as to those mobile workers who are permanently mobile.

The short message service (SMS) using DECT terminals and communications via IM are possible by simply clicking on a name on the display, entering the message and clicking on Send. When an employee is going to relocate in-house, the employee simply has to switch BCT to use the DECT terminal; this allows the employee to receive messages from the operators and receptionists notifying of an incoming call or of the arrival of a guest even while talking on his mobile. Integration of the directory of the corporate telephone system with the DECT, IP-DECT, WLAN and/or GSM suite enables mobile workers to place phone calls by referring to the directory as well as to access real-time Presence information. Moreover, BCT facilitates the use of such integrated services (Fig. 9).

(5) Other

BCT is an application with a client/server configuration that uses Microsoft (R) .NET technology to implement optimum performance and flexibility. The Client can also run on Windows Vista™. NEC Philips Unified Solutions will continue to provide new functions such as data input/output based on web services.

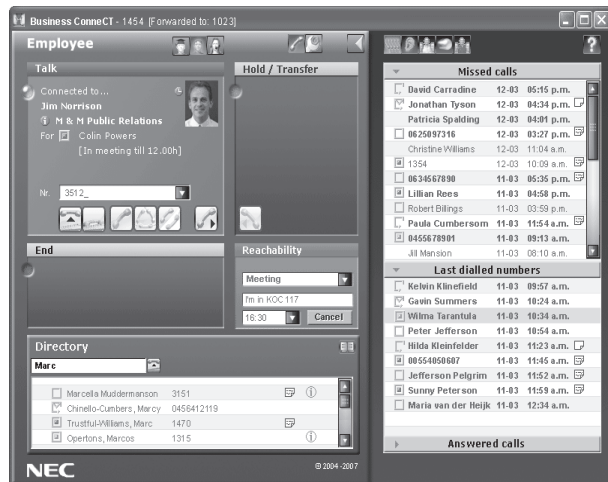


Fig. 7 Image of BCT display screen.

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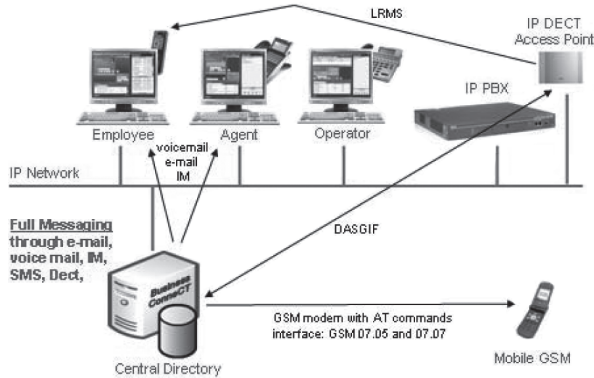


Fig. 9 Features of BCT Integrated Services.

5. Solution Deployment in Australia

NEC Australia Pty. Ltd. is the affiliated NEC Group in charge of enterprise network business in Australia. It is advancing solutions deployment step by step along the lines of the UNIVERGE360 concept. As of July 2008, the focus is being placed on a combination of third-party UC products with NEC's voice platform. However, introductions of UCE and UC for SMB are also scheduled for the future. The Australian market has a relatively large number of customers interested in UC solutions based on linkages with Microsoft^(R) and IBM. The business of NEC Australia began with trial measures in support of such customers and is currently advancing step by step to a massive deployment in UC businesses. Its aim is to combine the managed and outsourcing services and to provide consistent services that also the support operations.

6. Conclusion

In the context of the progress of task process efficiency improvement based on IT investment, the concern of enterprise management is shifting toward the improvement of "human-dependent processes" which cannot be solved with IT alone. This trend is leading to the UC solutions that are the targets of UNIVERGE360. Thanks to its unique strength, which is its supremacy in both IT and network technology, NEC is one of the few solutions vendors that can respond to these expectations at the global scale.

In the future, NEC local affiliates as well as the Japanese office will deploy the UC solutions by applying cooperative

efforts under the unified concept of UNIVERGE360. As the ability to enhance the provision of IT solutions overseas is now urgent, the overseas local affiliates will achieve this aim by linkages both among domestic staffs and with IT S1er (a system integration company that provides total solution services to customers for IT construction). We expect that this policy as declared in our "One NEC" slogan will also further improve the status of NEC in the global market.

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