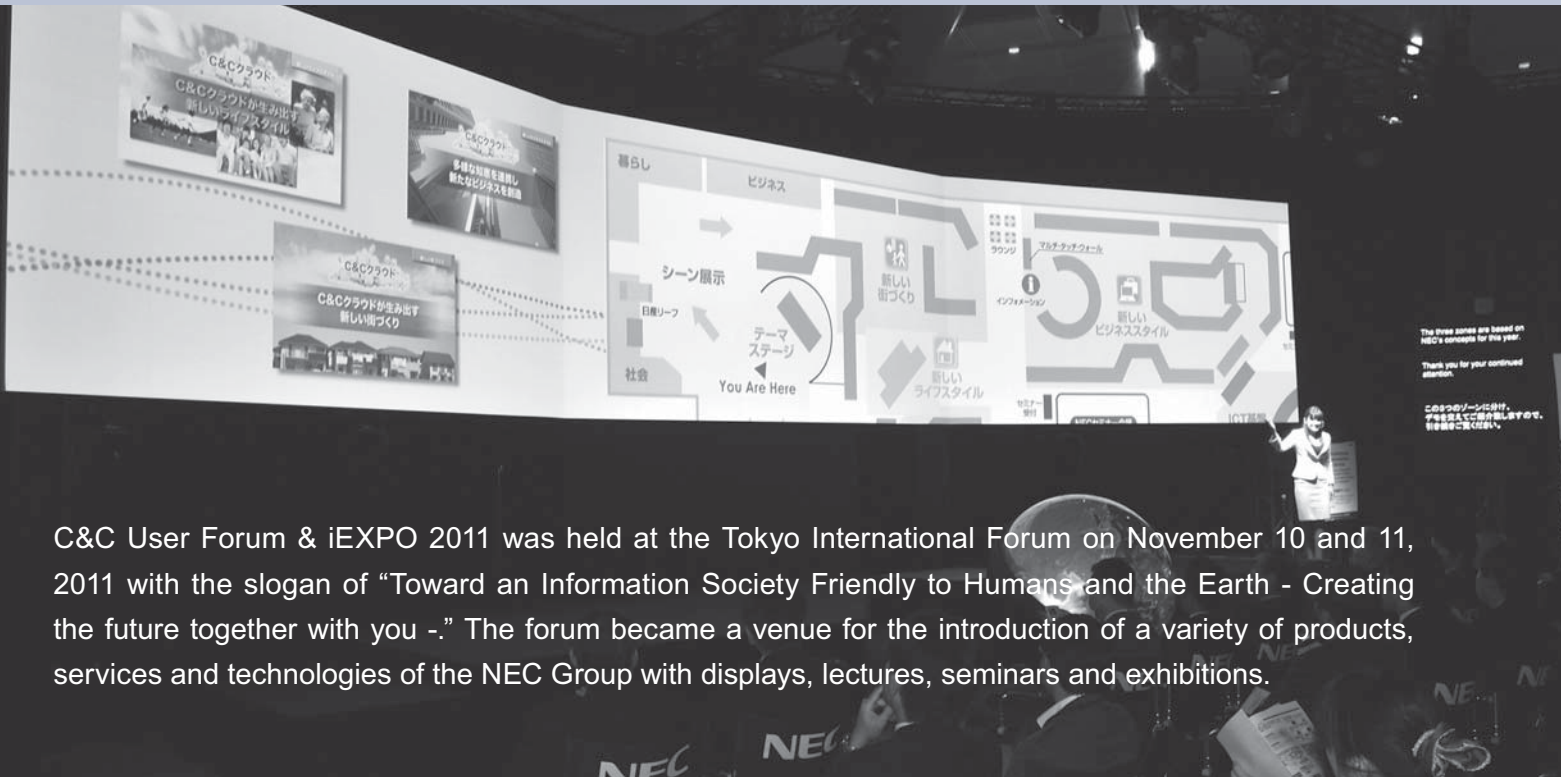


Toward an Information Society Friendly to Humans and the Earth –Creating the future together with you–



C&C User Forum & iEXPO 2011 was held at the Tokyo International Forum on November 10 and 11, 2011 with the slogan of “Toward an Information Society Friendly to Humans and the Earth - Creating the future together with you -.” The forum became a venue for the introduction of a variety of products, services and technologies of the NEC Group with displays, lectures, seminars and exhibitions.

Outline

Under the slogan “Toward an Information Society Friendly to Humans and the Earth - Creating the future together with you -,” C&C User Forum & iEXPO 2011 introduced the future of the cloud computing systems and the efforts being made by the NEC Group through lectures and seminars as well as exhibitions and demonstrations categorized into “Smart Cities,” “Smart Lifestyles,” “Smart Business,” etc.

Adjacent to the entrance, a stage was installed with the collaboration of Prof. Shinichi Takemura, Kyoto University of Art and Design. Here were presented, global environmental simulations entitled “Touch the Globe” and a stage show using three 200-inch display panels based on the show theme. These exhibits were admired and enthusiastically received by visitors.

This year, many visitors also paused to enjoy the “Scenic exhibition” that introduced NEC’s capabilities in the context of various scenarios that included society, daily life and business.

Smart Cities

In this category, it introduced products and solutions such as energy management, disaster control, public safety, convenience/comfort and the like that are aimed at the implementation of “smart cities.”

• Energy management

One of the typical energy management measures available for households is the home energy management system (HEMS) that projects the energy consumption situation of a household per room and per time zone to contribute to energy saving without adversely affecting life styles. HEMS was developed jointly by NEC and Sekisui Chemical Co., Ltd., and it is already installed as a standard component called “Smart Heim Navigation” in the “Smart Heim” series of Sekisui’s next-generation houses. In the future, it is expected to be provided for a wider range of housing manufacturers. The household energy storage system launched in July 2011 (**Photo 1**) stores



Photo 1 Household energy storage system.

the electricity generated by solar panels in households and the low-priced night time electricity in storage batteries and utilizes the stored electricity effectively for power consumption peak shifting and to enable reductions to electricity charges. The energy storage system was commercialized as a system fusing NEC's proprietary technologies, including the lithium-ion battery technology featuring high safety and long lifespan and power control technology based on ICT.

Energy management in offices and commercial buildings is supported by the building energy management system (BEMS). It interconnects a security system and a visual display system with an integrated equipment monitoring system to control air conditioning and illumination automatically and it eliminates wastage in energy use. This exhibition corner also introduces the "ePMsolution," a SaaS type solution offering energy management of multiple buildings.

Strategies aimed at the implementation of the next-generation energy society were also introduced, including participation in social demonstration experiments such as the Yokohama Smart City Project and Honjo Smart-Energy Town Project and in the Digital Grid Consortium for studying electricity infrastructures based on the new concept of fusing information technologies and electrical energy systems.

• Disaster control

In relation to disaster control, products and technologies for dealing with emergencies as identified from the experience



Photo 2 Field terminal for field visualization solution.

of the 2011 Tohoku Earthquake were introduced. Expected to be applicable to rescue reporting for disaster locations is the "field visualization solution" using portable audio/visual distribution terminals (**Photo 2**). This system can build a wireless relay network using satellite communications for the real-time exchange of voice, image and location information between field workers and HQ. A "generation/storage integrated communication system" was also shown as a reference exhibit in support of the disaster control system. This is an independent power supply combining solar cells and lithium-ion rechargeable battery cells that serves to secure communications, including for disaster emergency broadcasting as well as for surveillance.

• Public safety

A system exhibited as a reference related to public safety was the "monitoring camera image analysis system," which is used to identify a specific person from camera images and to analyze the person's behavior by tracking his or her movements (flow line). NEC's image analysis technology applied to this system is highly regarded worldwide, and a new product incorporating the technology, "NeoFace for personal ID reader" is scheduled to be shipped in March 2012. This product targets the need for personal identification and record keeping in financial institutions, etc.

• Convenience/comfort

The exhibits of this display corner included the "CONNEXIVE," NEC's M2M (Machine-to-Machine) solutions

for measuring, visualizing and for sensors and controllers by collecting information from them and linking it with the cloud computing system. With very wide applications including agriculture, traffic, logistics, environment, energy and healthcare, this solution can be positioned as one of the fundamental technologies for improving convenience and comfort in lifestyles. A total solution for bus companies was also proposed in this corner. This is the system that handles information accompanying the bus business such as bus timetable organization, location information identification and business management. Proposals made this year called for further improvement of the convenience of bus users by making use of information and ICT.

Smart Lifestyles

This category introduced new lifestyles made possible by the “LT” Android-based cloud communicator and smart phones by showing specific deployment scenarios. It also featured advanced technologies associated with the “Elderly watch support service,” remote medical consulting and healthcare.

• Healthcare

The usage of cloud computing in lifestyles attracting the highest attention from the general public is in the field of healthcare. The exhibits this year included the introduction of the specific mechanism of home watch support for the elderly using the well-known communication robot “PaPeRo” as well as the “e-Mimamori” elderly watch support cloud service that was marketed in October 2011 for use by local governments and nursing care businesses (**Photo 3**).

This service monitors changes in the living activities of elderly persons compared with the usual rhythm, which is obtained by detecting usage or opening/closing data of the electric appliances and doors on which sensors are installed. If any change is detected, a notification e-mail is sent to a family member of the elderly person or the local government person in charge.

• Mobile cloud computing

One of the symbols of modern “Smart Lifestyles” is the smart phone that is rapidly gaining widespread acceptance. NEC introduces the “Mobile Smart Cloud,” via a series of cloud-based service platforms for providing smart phones



Photo 3 Elderly watch support using sensors and PaPeRo.

with added applications. The service platforms provide the communication carriers with customized services covering security including authentication and ID management, content delivery and billing and a “Social Graph” information platform for activating user communications via the cloud computing system. As an example of a unique application of this service platform, the “Locomo” location information sharing service for smart phones was introduced within the framework of an R&D project in collaboration with the Graduate School, Tsukuba University.

Smart Business

This category introduced: usage of C&C Cloud to reinforce business continuity and management infrastructures, solutions for creating new businesses and enhancing existing businesses, next-generation stores and reform of work styles, together with energy-/power-saving ICT equipment.

• Next-generation stores

The exhibition corner displaying the theme of the “Next-generation stores” showed actual machines and systems to familiarize visitors with the actual images of the introduced systems. The exhibits included the TWINPOS5500Fi, a compact, face-to-face service type POS system featuring hands-free, speedy payment via a cash register released as a new model



Photo 4 RFID Smart Shelf.



Photo 5 Cloud communicator "LT-B."

of the NEC POS system that has already been approved in many business environments, and the TWINPOS G5, a POS system oriented for the global market that is already being delivered to Alfamart, a major convenience store chain in Indonesia. In addition, a series of rental product sale/inventory control systems using RFID tags was exhibited. These solutions based on the UHF-band RFID tags attached to merchandise combine real-time inventory control using antenna-equipped display shelves "RFID Smart Shelf" (Photo 4), self-checkout using the "RFID Self POS" capable of batch readout of multiple RFID tags and the illegal take-out detection system using "RFID Smart Gate." One such system has already been introduced in the Daikanyama shop of the TSUTAYA BOOK STORE opened in December 2011. This example was of Japan's largest scale, using 800,000 RFID tags.

• **New business creation, reinforcement of existing businesses**

The product attracting the most attention in this display was "LT-B" (Photo 5), a new model for the LT products. The new model features a stylish flat design and multi-touchscreen panel for intuitive fingertip operation. The visitors were also interested in actual examples of solutions using LT products in the fields of health care, real estate and education.

The reference exhibit "AR/image/voice recognition cloud service" proposed the utilization of cloud computing terminals. The demonstrations of AR (Augmented Reality) applications included virtual interior coordination for sampling images

of building materials from a catalog that are applied to real building photographs taken by a camera installed in the cloud computing terminal. Likewise, a user can search and acquire requisite information about a product by taking a photo of it.

• **Business continuity plan**

Successive occurrences of earthquakes, planned electricity outages and floods in the year 2011 highlighted the importance of business continuity for enterprises and consequently the displays in the category of the BCP (Business Continuity Plan) attracted the attention of many visitors. One display that typically reflected the "age of the smart phone" was "MOCHIDASHI MAI DESUKU (My portable desk)" that allows portable terminals including smart phones to use the in-house environment of an enterprise. The system is free of security-related problems because it transfers data on the desktop screen to the terminals after the data is encrypted.

• **Business process/work-style reforms**

This exhibition corner featured displays of UNIVERGE-related products that are based on the advanced "WaaS (Workplace as a Service)" concept to provide a dynamic but secure cloud service by handling a large amount of data in real time. Many solutions linked to the smart phone were also introduced, for example one for allowing the smart phones carried by employees to be used as an in-house extension terminal of the (IP) internet phone.



Photo 6 Table-type tablet terminal “X-info Table.”

• Reinforcement of business infrastructure

This corner exhibited cloud-based solutions for supporting businesses and operations in various fields from fabrication to retailing, physical logistics and environmental control. For example, with “cloud” integration using NEC’s “Enterprise Gateway” server utilization service, the Enterprise Gateway is installed on the “Force.com” platform. Even users with relatively low development skills thereby may use its key systems such as the sale, production, inventory and personnel management systems.

The exhibit that most caught the eye of visitors was the “X-info Table,” a 52-inch table-type tablet terminal (**Photo 6**). This exhibit consists of a large touchscreen panel (composed of up to ten multi-touchscreen panels) combined with a table to enable a large number of people to collect, analyze and share the information on the table. It is expected to be used in a wide range of applications in the future.

• Energy-saving ICT products

This corner was mainly composed of new products of the VersaPro series of corporate-oriented PCs, such as a slate PC with touchscreen “Type VT” and the global specification model “Type VB.” Other products introduced included the “IPBird-2100” that switches PC power ON/OFF remotely for dealing with planned electricity outages and promotes energy saving, and the “NewCycle,” which is a bioplastic made from plant cellulose.

ICT Infrastructure

This category introduced IT, network, platform and various other advanced technologies supporting the C&C Cloud, such as the Data Center Solution and the ProgrammableFlow. The platform-related exhibit attracting particular attention was the UNIVERGE PF series featuring incorporation of the ProgrammableFlow developed based on OpenFlow that is one of the key technologies for the next-generation Internet. It was commercialized for the first time from a joint research project with Stanford University and is currently attracting interest by enterprises from both inside and outside Japan that wish to build private cloud computing systems.

Space Technologies

This category adopted panels and models to introduce the seven year trajectory of the asteroid probe “HAYABUSA” that returned to Earth in June 2010 and the advanced space system “ASNARO” using the NEXTAR standard satellite platform to be launched in December 2012 or later.

For “HAYABUSA,” the trailer of the movie carrying the same title was projected in cooperation with Shochiku Co., Ltd. and Toei Company, Ltd. Together with the life-size models of the “HAYABUSA” and its ion engine as used in the movie it attracted the attention of many visitors. The chronology of the satellite development that NEC has been engaged in was additionally displayed using a touchscreen-panel table to introduce the history of NEC’s space business.

Digital Signage/Image Solutions

The digital signage solution enables display of lively video and messages according to the season and individual customers. Such installations are being widely adopted for street and storefront displays. This category introduced the evolving digital signage and various other image solutions. The exhibits included the latest displays including full-color LED, touchscreen-panel, high image quality and ultra-slim type models, as well as a system that enables content change using a smart phone. Image

solutions that aroused the interest of many visitors included the linkage with the QCAST emergency earthquake alarm unit manufactured by Meisei Electric Co., Ltd., the “twit Theater” of Itoki Corporation that displays tweets from a twitter account by following the timeline, and the interactive media art system “KAGEMUSHA” developed in collaboration with Japan Electronics College.

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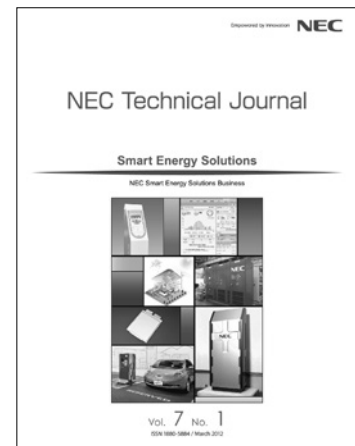
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