Remarks for Special Issue on the "Network of Things"

On behalf of NEC, I would like to express our deep appreciation for your continued support and trust on our products.

Compared with Europe or the USA, the development of the Japanese M2M market has made a later start. However, as a consequence of the steady progress of automation of various facilities and equipment in Japan, the market shift towards M2M has begun. Regarding the scale of the M2M market in Japan, the number of connections for embedded mobile M2M applications is forecast to reach 9 million connections by 2014. One of the reasons for the expansion of the M2M market is the reduction of 3G module and connection costs. These circumstances have eased entry into the M2M market for a variety of companies.

Up to now, M2M has been mainly pursued in the domain known as machine communications, which consists of the control and management of "vertically integrated" things (devices and machines) using ICT. Because this represents the construction of M2M solutions limited to units of services and/or systems, only major enterprises that possess their own service platform could participate, hindering the expansion of the M2M market.

Paving the way for M2M market expansion, NEC is realizing the "Network of Things" - a world in which everything, everywhere is connected anytime, safely and securely by aiming at the creation of the M2M Cloud which facilitates mutual connectivity of devices and services, shifting the model from "vertically integrated" machine communications to a "horizontally integrated" model.

One of the activities essential to Cloud development, which will in turn make the "Network of Things" a reality, is standardization. NEC has been playing an active role in many international standardization organizations and projects including 3GPP, IETF, Broadband Forum, OMA and ZigBee Alliance, and is contributing to the formulation of technology protocols. Also in the case of regional standardization organizations such as ETSI, TTC and ARIB, we continue to be active in many areas of technology. Other activities include the establishment of the New Generation M2M Consortium with the aim of paving the way for the creation of new M2M services. Currently the Consortium boasts a membership of approximately 70 companies.

The final objective of NEC's cloud business is the realization of the "smart city" and "smart community." Exploiting ICT and other cutting-edge technologies, the "smart city" is an environment-friendly urban development model that boasts enhanced energy efficiency and pursues energy savings wherever possible. By improving power management capabilities through the deployment of systems such as the Energy Management System (EMS) - which manages not only the supply of electric power from solar power generation, storage batteries or other core technologies that are already entering operation, but also the utilization of various devices located in homes and buildings - and by working in concert with electricpowered vehicles which represent next-generation transportation systems, NEC will contribute to the development of a "smart city" that achieves overall optimization of energy utilization. For the realization of a "smart city" that truly optimizes energy utilization, the construction of a system that can collect, visualize and analyze data on how each building and home is using energy and finally reflect this information in the management of power will be indispensable. Through the integrated application of ICT and storage battery technologies honed over the years of development, NEC will make the "smart city" a reality.

This special issue will introduce readers to NEC's approach to our M2M business and services as well as the devices and essential technologies that support them. Fully leveraging NEC's advanced technologies, skills and know-how, we will further expand M2M functionality and pursue the global development of our M2M business. In the future, I hope that you will provide us with your continued support and encouragement.



TEJIMA Shunichiro Senior Vice President

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Remarks for Special Issue on the "Network of Things" NEC's Approach to M2M Business

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M2M Cloud Computing for Realization of Inter-Business Solutions

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 $\label{thm:continuous} \textbf{Research and Development of the "ZigBee" Short-Range Wireless Communication Standard Standard$

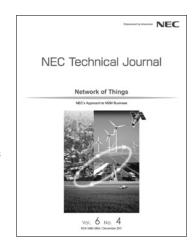
 $\label{lem:condition} \mbox{Device Products Supporting M2M Services - Their Actual Applications}$

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