Achieving enhanced management speed through implementation of SAP HANA
Creating new value in the era of IoT and big data

Overview

Establishing NEC’s vision for Digital Transformation

Digitalization centered on new technology such as the Internet of Things (IoT), clouds, big data, and artificial intelligence (AI) is proceeding at an incredible pace. To sustain growth in the harsh global market under these conditions, it is vital to actively utilize various types of digital data to create new values. The NEC Group has been reforming its IT systems since 2010 to achieve this goal, and has recently been pushing ahead with full-scale digitalization of its business processes. As this digitalization progressed, however, it started to become clear that the company needed to implement faster and more efficient management. NEC therefore decided to adopt a database platform that would enable high-speed processing of large quantities of data with the goal of establishing a foundation for Digital Transformation while at the same time reducing TCO.

As a result of its reforms, NEC created an environment in which wide range of real time business information can be used to quickly implement management PDCA cycles at all levels of the company—executive, management, and operations. This high-speed data platform has led to an increase in business productivity and real-time data provision for management decision-making.

Challenges

Accelerating the speed of management cycles for each position

As digitalization rapidly accelerates, companies are facing the question of how to sustain growth in ever-harsher global markets. Understanding that the active utilization of various types of digital data to create new values would be a key differentiator in this new era, NEC has been implementing various initiatives starting with a project to reform its IT systems launched in 2010. However, issues still remain.

“As a result of our reforms, we can now obtain highly accurate management and operations data, enabling us to make speedy decisions in response to changes in the business environment,” explains NEC’s Takehisa Sekime. “Recently, however, environmental changes have become increasingly severe and there is a powerful need for real-time information to use for our PDCA cycles.”

Various types of data must be collected and organized before it can be effectively...
Various types of data must be collected and organized before it can be effectively utilized. Although NEC has already accumulated tremendous quantities of data in many different categories, including ERP, the system until now has required substantial amounts of time for processing. This reduces flexibility for users and may result in the loss of business opportunities. "To keep pace with rapid changes in the environment, it is essential to further accelerate management of PDCA cycles, based on utilizing extensive and timely information on each of the executive, management, and operations levels," says Sekime.

NEC selected SAP HANA as its new database platform to accelerate management cycles in accordance with their role by utilizing more extensive and timely information. SAP HANA is a database platform for processing large amounts of data at high speeds. Its most distinctive feature is its high-speed processing that uses in-memory technology. This technology carries out all data processing operations in the memory, yielding a level of performance several thousand to several hundred thousand times faster than hard disk databases. "We selected this technology not only for its high speed, but also for its capabilities for real-time integration with the SAP ERP that has been used by NEC up to this point, and for utilizing and analyzing various types of data," explains NEC Management Partner’s Gensei Ogawa.

NEC was also impressed with the platform’s ability to handle not only structured data but also many types of unstructured data, such as geospatial and social data, as well as its ability to process data in real time. "We will now be able to seamlessly link the many different types of data accumulated in the NEC Group as well as our diverse systems to the platform," says NEC Management Partner’s Koichi Matsumoto. "This will allow us to create an environment in which we can utilize data even more effectively by eliminating constraints for users, such as those related to time, place, and differences in data." NEC has begun implementation of SAP HANA at its group companies. Its application has already been completed in Japan and its full implementation at overseas locations is scheduled to be completed by November 2016.

**NEC’s Vision for Digital Transformation of Business Management**

Creating new value in the era of IoT and big data

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**Solution**

Adopt a leading-edge database platform to bring greater flexibility to users

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**Results**

Created an environment in which users can instantly analyze and utilize several hundred million data

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The results of this system are already evident at domestic locations where it has been fully implemented. Management cycles have accelerated, which was one of the initial goals of the project. Matsumoto explains the benefits gained by implementing the new platform. "For example, let’s assume that you need to obtain actual sales figures and forecasts," says Matsumoto. "Although we have established a management platform to visualize actual sales figures by area, product, month, or partner, we still cannot perform "what-if" analysis. With SAP HANA, we will be able to analyze various scenarios in real time, such as "What if a competitor penetrates our market with a middle-range product?" SAP HANA allows us to analyze how our market position could change by taking advantage of not only our company’s actual sales information, but also information on our competitor and market trends in each area. We can then use this information to develop a strategy such as changing the position of our high-end product line by differentiating its price or performance." High-speed processing has also been achieved, bringing improvements in business productivity. One example is a "credit reconciliation" function which links deposits received from customers to internal credit data. "Until now, we had huge amounts of deposit data entered into the system from various divisions and locations linked to huge amounts of credit data, processing it centrally on a monthly basis, which led to slow responses and long waiting times," reports Ogawa. "This type of processing has become much smoother by adopting the SAP HANA high-speed data platform." The ability to handle such large-volume and high-immediacy data can also lead to faster management decisions. "We are now able to analyze more than several hundred million business results and forecasts, and to audit more than several hundred million accounting details, all in real time. Providing such information to the company executive without delays enables more accurate management decisions to be made," says Sekime. SAP HANA has also enabled TCO to be reduced, thanks to its storage capacity compression function and storage consolidation facilitation. "Not only is the data compressed, but the resulting dramatic improvement in performance is also helping to reduce TCO," says Ogawa. "For example, in the past, when approaching the end of a fiscal period, our busiest time, we would verify beforehand whether we could ensure sufficient performance for batch processing and other functions. If we had any doubts, we would make additional tuning adjustments each time. But the implementation of SAP HANA has significantly reduced the need for tuning work." NEC will continue to incorporate various types of data, including information obtained through IoT, into SAP HANA as the company works toward achieving its vision for Digital Transformation. NEC also plans to share the expertise and knowledge gained from this information throughout the entire company and make the fullest use of this system to provide solutions to customers and create new value.

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**About**

NEC Corporation is a comprehensive IT vendor offering a full selection of business-oriented products ranging from terminal devices to network equipment, computer equipment, software products, and service platforms, as well as extensive solution services based upon these products.