JGC Corporation

Creates hybrid communication infrastructure combining on-premises IBM Notes and Domino software with IBM Connections Cloud services

Customer Information

JGC Corporation

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Founded in 1928 as the first engineering company in Japan, JGC Corporation grew into a globally recognized engineering contractor by 1965. It has demonstrated strong results with core competencies in Engineering, Procurement and Construction (EPC) for many sectors, including oil refining, petrochemical, liquefied natural gas (LNG) and modular plant constructions. JGC has constructed plants for around 30 percent of the world's LNG production. Through the years, the company has expanded into diverse fields of business, including pharmaceutical factory and hospital construction. The current JGC business strategy is to become more competitive in the energy industry, expand further into non-energy industries and develop new competencies in the EPC business.

A world-leading engineering contractor and the number one engineering company in Japan, JGC Corporation is reconstructing the communication infrastructure that connects its global partners, construction sites, engineering bases and branch offices. To facilitate the reconstruction process, JGC is using a hybrid system that combines IBM® Notes® Domino® software and IBM Connections Cloud services. This system is recognized for software asset longevity, the scalability to accommodate skyrocketing demands and the flexibility to handle future megaprojects. JGC is also constructing new infrastructure to enhance communications quality.

Innovation of communication infrastructure helps global business

JGC plans expansion into diverse fields of business and in new marketplaces in Asia, the Middle East, Africa, South America and Eastern Europe. With approximately 10,000 employees, JGC is now doing business in more than 70 countries and has completed in excess of 20,000 plants and petrochemical complexes, including many for national projects. JGC's annual consolidated turnover is about USD6.8 billion in fiscal year 2012, and 80 percent of sales comes from overseas.

"Communication infrastructure is one of the most important parts of mission-critical IT systems that support the company's business," says Mr. Masayuki Yasuoka, Associate Executive Officer, Senior Manager of ICT Management Office.

"Large-scale plant constructions increase drastically, so projects that cost more than USD15 billion and extend over 5 or 10 years are not exceptional. In the past, we contracted those projects alone, but recently we joined with other companies in most cases. Hundreds of partners can engage in one project, complicating communication paths. In those situations, Japanese-style nonverbal communications are no longer efficient. Changes in designs equal additional costs. Therefore, it is important to update documents constantly and to prevent errors and discrepancies. Project management tasks are more important than ever, so if the email system is disrupted for any reason, project damage could be severe," says Mr. Masayuki Yasuoka.

"Japanese engineers have a very strong sense of responsibility, discipline and refinement that rivals engineers in any other country. I think we can more fully realize the benefits of those inherent characteristics by moving engineers from one-way email to real-time interactive communication."

Mr. Masayuki Yasuoka
Associate Executive Officer,
Senior Manager of ICT Management Office
JGC

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Mr. Sigeaki Suzuki
Senior Deputy Manager of
Corporate IT Office, Corporate
Administration Department,
JGC

IBM Notes and Domino software has supported JGC's global communications since 1996. Currently, JGC operates version 8.5.3, using email systems and more than 1,300 Domino applications developed in-house. However, the maintenance contract for servers running the company's Notes and Domino platform ends in 2014. JGC has been planning to renew its global communications infrastructure since early 2012. "In comparison to the last time we replaced systems, we are doing more business worldwide, so we have a greater need for a global and agile communications infrastructure that can accept extensive demand for information systems when a large project starts. We think cloud is the solution for those needs, and we explored vendor solutions from scratch," says Mr. Sigeaki Suzuki, Senior Deputy Manager of Corporate IT Office, Corporate Administration Department, JGC.

High score – hybrid system replication facility integrates on-premises and cloud

After extensive reviews, JGC adopted the proposal from IBM to move to a hybrid system for application servers and local email servers using Notes and Domino software on-premises and IBM Connections Cloud (formerly known as IBM SmartCloud for Social Business) services as the global communications infrastructure.

With IBM Connections Cloud services, JGC employees and contractors can share and edit documents, collaborate, and conduct meetings on the cloud. "IBM Connections Cloud has many benefits for us: it ensures scalability and flexibility, cuts labor costs, and accepts many browsers and mobile devices easily," says Mr. Suzuki.

"In addition, it helps assure applications support and data compatibility in the long term," says Mr. Suzuki.

"EPC processes for plant construction are very long. A 10-year term is not rare, and the maintenance period after construction is also extensive. Therefore, if software asset maintenance stops, our costs for transition could be prohibitive. We have been using many Domino applications and data for over 15 years now, and we believe IBM's proposal is the best solution," says Mr. Yasuoka.

"A key decision criterion is that we can continue to use the replication features of the IBM Notes Domino server," says Mr. Tadaaki Akagi, Manager, Communication Technology Team, Group & Global ICT division, JGC Information Systems Co., Ltd. (J-SYS), who adopted the first Notes environments and is now a stakeholder for the Communications Infrastructure Renewal project.

"Plant construction sites are widely scattered and often in areas beyond the reach of normal communication infrastructure. We build satellite networks on our own and connect those sites to global networks, but bandwidths are very limited, no more than 1 – 2 Mbps. In those weak network environments, users must read and write emails and run application software. With Notes Domino replication features, people can use Notes database applications together with IBM Connections Cloud email services. And they can carry and synchronize their data in Notes clients. That way our people in the remote backcountry can execute tasks very efficiently," says Mr. Akagi

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JGC Information Systems Co.,
Ltd. (J-SYS)

Tighten security and drive contingency plan with IBM data centers designed to be hazard-proof.

In 2014, JGC began its phased transition to a new hybrid communications infrastructure based on integrated Notes Domino software and IBM Connections Cloud services.

"We anticipate many new megaplant projects, and along with those projects we expect exploding growth in user numbers and data quantity. By using the cloud, we can promptly scale to meet those changes. And we can exploit our software assets from any browser; this is a big advantage in helping us provide an enhanced user experience with minimal effort. The benefits for us include reduced TCO [total cost of ownership] and zero workload for transition," says Mr. Suzuki.

And Mr. Yasuoka cites the importance of security and contingency plans. "Some concerns existed about the communication data, especially email data stored on the cloud," says Mr. Yasuoka. "But we have confidence about the security of our IBM Connections Cloud solution because we can designate IBM data centers in Japan individually. And the cost for using our own data center and keeping up to date is very high. Also, our investment is limited. We compared IBM data centers and our own data center. IBM has the latest technologies and operation know-how. So we decided IBM data centers have more advantages. And IBM data centers are safer than our own for security and contingency plans. The answer is clear for us," says Mr. Yasuoka.

"IBM always replies with plain answers for our various technical questions. They are good advisors for us," says Ms. Yuka Yamamoto, IT Services Management, Communication Technology Team, Group & Global ICT division.

"The support level from IBM is valued highly. By close cooperation with IBM, our company's transition to the new system is now under construction," says Ms. Rui Kurokawachi, engineer in IT Services Management, Communication Technology Team, Group & Global ICT division.

Enhance communications quality and realize JGC's vision of "Core Japan" concept

Mr. Yoshihiro Sigehisa, Chairman Emeritus of JGC Group, proposed the "Core Japan" concept for future engineering business. In this concept, Japanese companies take the initiative for joint ventures with organizations abroad. For example, with Abenomics, Japanese businesses desire to go global to export infrastructure through collaboration with the government, but in Korea and China, cost structures are lower than in Japan, so "using only Japanese strategies makes it difficult to win the business."

However, with the Core Japan concept, "JGC has initiatives for projects, but construction parts are covered by local companies. Also, materials and facilities are procured worldwide," says Mr. Sigehisa. This is a winning strategy globally. In Core Japan, the basic concept is to get earnings to Japan.

From left to right: Mr. Suzuki (JGC),
Mr. Yasuoka (JGC), Mr. Akagi (J-SYS),
Ms. Yamamoto (J-SYS), Mrs. Kurogouchi (J-SYS)

Software components

● IBM Notes Domino

● IBM Connections Cloud (formerly known as IBM SmartCloud for Social Business)

The key to this vision is to make close communications constantly. Mr. Yasuoka says, "We plan to implement a mechanism that can enhance the quality of communication into the hybrid IBM solution. We don't think it is appropriate to accept the Western style of communication completely. Japanese engineers have a very strong sense of responsibility, discipline and refinement that rivals engineers in any other country. I think we can more fully realize the benefits of those inherent characteristics by moving engineers from one-way email to real-time interactive communication."

"Specifically, using the IBM Connections Cloud chat and online meeting services, we want to implement something such as 'virtual face-to-face.' Connecting all sites worldwide, between plant construction sites, engineering bases, partners and customers' sites, we control communication to help projects proceed smoothly, and every person's productivities and agilities will be higher than ever," says Mr. Yasuoka.

"Instructions on how to use the new communication tools often inspire questions from end users. To facilitate the initiatives, it is necessary to rephrase the instructions from a different angle," says Mr. Akagi. In the engineering sector worldwide, most companies use Notes Domino software-based communication infrastructure, so JGC's innovation of communication infrastructure will inspire all companies in these industries and help encourage a chain reaction to other companies.