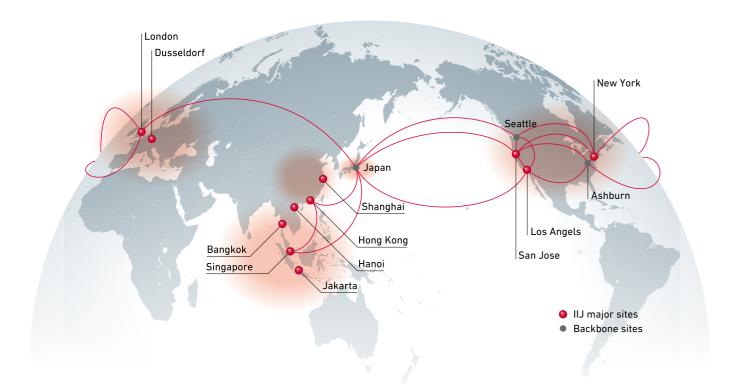Special Guest Interview

Yoshiyuki Kasai
Central Japan Railway Company

Topics

The Globalization of Information & Technology

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Special Guest Interview

Topics

In our special guest interview feature,
we call upon distinguished leaders in various industries
to share some insight into their wealth of specialized knowledge.
For our tenth guest we invited Yoshiyuki Kasai,
Representative Director and Chairman Emeritus
of Central Japan Railway Company (CJR).

Yoshiyuki Kasai
Representative Director and Chairman Emeritus
Central Japan Railway Company

Eijiro Katsu
President and COO
Internet Initiative Japan Inc.

Photo: Shigeki Watanabe

A Unique Family Environment

Katsu: In addition to your work as an executive, you've acted with firm conviction in areas as diverse as economics, politics, society, and education. If you don't mind, I'd like to start off by asking about your childhood.

Kasai: The family environment I grew up in may have been quite unique. My father's side of the family had ancestors of medical doctors and scholars of Chinese classics in Sado, Niigata. My father was a schoolteacher who was passionate about teaching. He taught me Japanese and Chinese writing by repeatedly quoting lines from classic literature little by little from the time I was very small.

My maternal grandfather was a teacher of the Jodo Shinshu sect of Buddhism. He was an ardent patriot. In fact, I heard that he investigated trends in Russia and supplied the information to the Japanese army when he was spreading the teachings of Buddhism in the mainland. I also heard that he played an active role during the Russo-Japanese War, borrowing weapons from the army and occupying Kaiba (Moneron) Island, where he opened a fishing ground.

Katsu: Apparently your father was a very strong presence in your formative years.

Kasai: My father was not good at compromising, easily accommodating his opinion to others, or paying close attention to people's faces. I think I inherited these characteristics from him.

I was born in 1940, and my earliest memories are from 1945 when Japan was defeated in the war. At school, some said they were glad we lost the war, and that the U.S. Armed Forces had set Japan free, but there were also teachers who did not change their beliefs. Our textbooks said Japan should follow Denmark's example to be a dairy farming nation. But when the Korean War began, the United States changed the policy to industrialize Japan.

Katsu: So you are saying that your way of thinking remained the same despite the changes in your surroundings and the social environment?

Kasai: Many of those who renounced wartime Japan and praised MacArthur after the Second World War switched to become anti-America, in favor of the Soviet Union and Communist China after the Korean War. The only thing that remained consistent was their rejection of Japan. I therefore promised myself never to behave like them.

Joining JNR as It Sank into the Red

Katsu: You spearheaded the reform of JNR, which had been called an impossible task. Can you tell us a bit about your time there?

Kasai: I joined JNR in 1963. JNR slipped into the red from the following year, and continued to languish until it was broken up and privatized. Of my 24 years at JNR, we were running at a loss for 23 years (laughs).

Katsu: Those must have been hard times.

Kasai: The first task I was involved in at the head office of JNR was the drafting of reorganization plans. Next, I was transferred to the Budget, Finance & Accounting Department, which handled budget requests and implementation. Seeing that fares, wages, and capital expenditure were all determined by the Diet as products of compromise, I felt strongly that the process was unworkable.

After that, I was involved in workforce management at the Shizuoka and Sendai Railway Operation Divisions.

Katsu: Do you have any stories from that time that you can talk about now?

Kasai: There is one that comes to mind.

Right after I moved to Sendai, I inspected a freight yard. It was considered a place we needed to keep an eye on, because they were very lax with discipline. Employees would leave the workplace at their own convenience to go to the doctor saying they hurt their back at work. I immediately instructed supervisors to issue work orders to such employees, and to cut their pay. However, one of the supervisors raised his hand, and asked me to promise that he wouldn't be betrayed and left stranded as a result of obeying my instruction. He said "your predecessor gave us the same instructions. I immediately gave out orders to cut the pay of those who deserted their post. But then during a roll call an employee came up and called me 'a monkey in a show', showing a brown envelope." According to this supervisor, this employee claimed that my predecessor handed the same amount of money that was cut in the envelope to the chairman of the local branch of the National Railway Workers' Union, asking to return the money to the employee. He explained how he was made fun of in front of everyone. When I told the supervisor not to worry, saying I would never allow that to happen, more and more orders were given out from the next day.

It wasn't only the on-site labor or management that had caused the lack of discipline. There was the corruption of elite career officers, who explained to the head office that they had cut employees' pay, then handed off-the-book money to the local branch of the National Railway Workers' Union to keep them happy. As a result, subordinates below those elite career officers were left to bear the consequences. Such disputes occurred here and there on a daily basis.

Katsu: There must have been many situations that were hard to deal with.

Kasai: When you handle issues decisively, the labor union will back down. However, if you want to be appreciated by the labor union, respected by your subordinates, and well-recognized by the head office at the same time, it only causes JNR to suffer in the end.

Katsu: Did these experiences make you keenly aware of the

need to reform JNR?

Kasai: As we had become used to making reorganization plans knowing that they wouldn't work, and creating budgets imagining that the deficit might increase further, we reached the point where there seemed to be no way forward. This is the result of the government, the ruling and opposition parties, and JNR management and employees postponing hard decisions for so long, remaining in cozy relationships.

The Incredibly Difficult Task of Reforming JNR

Katsu: I hear you decided to stake your professional life on this matter (JNR reforms) when you returned to the head office at the age of 40.

Kasai: In 1981, the Second Administrative Reform Committee (SARC) was established with the goal of "fiscal reconstruction without tax increases," and in the same year we started the final reorganization plan for JNR. Two bills regarding the SARC and Reorganization of JNR were passed in an extraordinary session of the Diet one after another.

Around that time, I was working on correcting bad practices among labor and management in Sendai. Then, the union asked the JNR head office to transfer me from my position as Director of the Administrative Department of the Sendai Railway Operating Division, and I was assigned to a position that was a promotion on paper, but with neither personnel nor budget power. My new post was Deputy Director-General at President's Secretariat, in charge of matters relating to the SARC.

The new reorganization plan had already received the approval of the Minister of Transport based on a law passed in the Diet, whereas concrete deliberation of the SARC had yet to take place. Many in JNR believed that the SARC would not have any say on Japan National Railway (JNR) issues. In other words, many thought that the post of Deputy Director-General at President's Secretariat in charge of the SARC did not have any substantial tasks.

There was a sense of crisis at that time throughout Japan that the country would not be sustainable unless changes were made. Therefore, I thought we had no choice but to seize the chance to drastically reform JNR. Both the government and the Liberal Democratic Party had said that if the reorganization plan for JNR did not work, the only option would be to break up and privatize it. However, they did not want to take the heat for carrying this out, and JNR would do anything they were asked to avoid the reform. Taking advantage of this, they thought all they had to do was inch forward on the issue. Then I thought I should surprise everyone by proposing the breakup and privatization from the JNR side, thereby reversing the offensive and defensive positions. I explored this idea as I returned from Sendai to the Head Office.

Katsu: I imagine these reforms required a considerable amount of preparation, did they not?

Kasai: At the SARC, I first met with Ryuzo Sejima. I

explained that JNR's plans were a failure from the start, and that the privatization of the three public corporations, including JNR, would be the greatest achievement of the SARC. I believe I made these points clear to him. I think that Yasuhiro Nakasone, who was the minister in charge of the SARC, also wanted achievements that would attract the public's attention as a stepping stone on his path to be the Prime Minister. So while attending official interviews by the SARC, I explained behind closed doors that the plans of JNR had already failed.

Katsu: I bet there was a lot of resistance on the JNR side.

Kasai: People within the JNR initially thought there was no way the Committee would have any impact.

Katsu: How were you able to change things despite this?

Kasai: Everyone thought that the reorganization plan would only postpone the issue. So I brought together promising young "Senior Assistant to Director" class staff for study sessions. At these meetings we studied possible drastic measures, how JNR could be split in case break-up was realized, and other specific ideas.

Katsu: How did upper-level management react to that?

Kasai: These sessions were kept secret. After all, there were many people who thought privatization was unavoidable, but rejected the break-up. But if JNR was privatized without breaking it up, the nationally uniform fare and wage system would remain. This would allow our competitors to eat up our market share, while business fields that should be terminated would be appearing healthier than they were. We needed to break up JNR, in order to create fare and wage systems that matched each region.

Katsu: What was the biggest contributing factor to the success of the reforms?

Kasai: I would say that losses and debt were our allies. JNR already had 16 trillion yen of debt, and this figure was increasing by 2 trillion yen each year. Labor productivity was less than half that of private railways. It was clear the labor unions were spoilt under the LDP-JSP system. Newspapers and public opinion skewed toward blaming the JNR management for how bad things had become, saying that a drastic downsizing of the workforce was required.

Katsu: Where were the results of the reforms apparent?

Kasai: Before the breakup and privatization, it took 85 yen worth of labor costs to produce 100 yen of income. Now, at Central Japan Railway Company (JRC) this is under 15 yen, so you can imagine how low the labor productivity was back then.

The timing was very fortunate for improvements. Shortly after the Second World War, JNR employed railway workers from the South Manchuria Railway and Chosen Railway, as well as demobilized soldiers. As a result, there was a chronic excess of labor forces. However, by the beginning of the 1980s, the generation representing the central bulk of these labor forces had reached retirement age, and they were leaving JNR at a rate of around 30,000 workers per year.

By freezing new recruitments at this point, we were able to cut down labor costs. This was the most important factor.

Katsu: Service also improved after the breakup and privatization, didn't it?

Kasai: People noticed changes in employees' faces.

Katsu: I'd like to ask you a few things about the present day. JRC's Chuo Shinkansen Line using Superconducting Maglev technology is gathering a lot of attention now, isn't it?

Kasai: The development of Superconducting Maglev technology began right after the breakup and privatization. At first, there was some uncertainty as to whether it could be put to practical use, but developments progressed steadily through the construction of a test line in Yamanashi, etc., and the technological aspects have reached the stage of completion.

Next came the issue of funding, and in this regard the era of zero interest rates has been of great help. The project started to

Yoshiyuki Kasai
Mr. Kasai was born in 1940. In 1963, after graduating from the University of Tokyo Faculty of Law, he joined Japanese National Railways (JNR). In 1969, he received a master's degree in economics from the University of Wisconsin in the United States. After working in positions such as Deputy Director-General of the JNR Staff Administration Department, he was appointed as Director and Director General of Corporate Planning Division at JRC upon its establishment in 1987. He was appointed President in 1995, Chairman in 2004, and then to his present post of Chairman Emeritus in 2014. Outside JRC, he serves as Chairman of the Committee on National Space Policy, and as an Extraordinary Commissioner for the Fiscal System Council. He has authored several books including "Unfinished JNR Reform: the Collapse and Revitalization of a Vast Organization," "The Truth of JNR Reform: Management Transformation and Outreach Campaign," and "The Challenge for Transformation: From the Tokaido Shinkansen to Superconducting Maglev."

progress all at once, when we made a projection that JRC would be able to shoulder the full cost of maglev construction, while paying back JNR's debt.

In the future, I'd like to introduce our maglev system to the United States, in order to connect Washington DC and New York in an hour. Hopefully this will be a symbol of Japan-US cooperation.

Katsu: I imagine that tourists will want to ride on the Maglev Chuo Shinkansen Line as well.

Kasai: Well, there's no other way to experience traveling at a speed of 500 kilometers an hour on land, after all.

The Future A Message for Younger Generations

Katsu: You obviously have strong feelings about our nation. What direction do you think Japan should go in the future?

Kasai: Japan is an island nation in the Pacific that is facing China and Russia. We have to ally with the United States, another island nation of the Pacific, and cooperate with India to ensure regional security and stability. I believe that the structure of the international community will be still based on "nation-states" in the 21st century.

On that premise "identity" will be important, and "language" and "history" will be the foundation for identity. Populations are increasing rapidly in Asia and Africa, and the pressures of immigrants and foreign workers heading to Japan is likely to increase. I think it will be crucial for us to protect the "language" of Japan to preserve our cultural unity, as we face a situation we have never faced before in our history.

Katsu: You have stood on the front lines as an executive for a long time. Could you share some of your management philosophy with us?

Kasai: When managing a railway, your strategy should be divided into 3 time spans of "daily," "near future," and "future," to which management resources will be allocated accordingly.

The "daily" challenge is to consistently provide safe and stable transportation. The Tokaido Shinkansen has had zero fatalities caused by train accidents for 52 years. Next, the "near future" strategy is around 20 years ahead. For example, it took around 17 years to increase the speed of the Shinkansen from 220 to 270 kilometers per hour. We had to upgrade all our rolling stock for 270 kilometers per hour speed operation, and renew the entire system, including civil engineering, electric, and operation management facilities. For railways, the "future" strategy is around 50 years ahead. Therefore, the Chuo Shinkansen Line using maglev technology is in fact a "future" strategy. Implementing a maglev line requires 20 years for technological development, and 30 years for construction. Given that the Tokaido Shinkansen is close to its transportation capacity right now, we want to pass on the fares we receive from Shinkansen passengers now to future passengers through our maglev project.

I have taken steps forward, taking into consideration our day to day realities to head for the peak of a distant mountain, with the principles of rationality and correctness as my guideline. This has been my management philosophy.

Katsu: Finally, could you share with us a message for the younger generations who will carry Japan forward?

Kasai: As information and communications technology develops further, it will be even more important to have sensitivity and the ability to express yourself in relationships with others. I'd like to see young people build strong friendships and accumulate experience in interpersonal relationships. Then, I would like them to learn what Japan and its people have experienced, through studying the history of politics, diplomacy, warfare, and biographies. I also want young people to learn from studies of human beings in a broader sense, developing imagination through literature.

Katsu: That message is loud and clear. Thank you so much for sharing some of your precious time with us today.
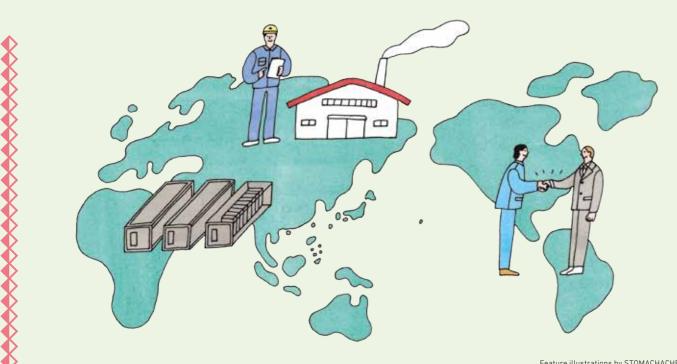
The Globalization of Information & Technology

These days, as the fluidity of information increases, and the standardization of technology progresses on a global scale, it seems that many Japanese companies may be feeling uneasy about their position, as they remain unable to assess the outlook for the future.
In this special feature, I would like to look at ways to change the shift toward globalization into a positive when considering the services that are in demand today.

Feature illustrations by STOMACHACHE.

The Mission of Global Business

For IIJ, supporting global companies and globalizing our service structure are two inseparable halves, and we are proceeding withmultilateral and multifaceted development.

Koichi Maruyama
Director of Global Business Division
Executive Officer

Each year, around the time when the buds of the cherry blossoms begin to swell, I get more inquiries from people overseas seeking consultations or meetings. In many cases, they organize a schedule that enables them to see the cherry blossoms in Japan. This period in which we usher in the new fiscal year is a time to look back over the previous 12 months, and firm our resolve and expectations toward the year ahead. In this global feature, I will discuss the endeavors we worked on in the previous fiscal year, and touch upon our plans for the future.

IIJ's global business mission, which is now in its seventh year, is focused on two areas: supporting Japanese companies developing their business overseas, and expanding our overseas business domains based on the technology and know-how that IIJ has cultivated.

According to a "Survey of Japanese-Affiliated Firms Expanding Overseas" carried out by the Ministry of Foreign Affairs, as of October 1, 2015, the total number (offices) of Japanese firms who have expanded overseas reached a record high of 71,129, representing an increase of around 14 percent in the past five years. Over the same period, IIJ has accelerated its development of overseas bases of operation, and we are currently able to offer our services in 11 cities around the world [1].

Market Expansion
Deepening of Services

IIJ has provided both "offensive" and "defensive" support to Japanese companies that continue to pursue business overseas. IoT is a topic of interest right now, and it could be called a core technology that will transform business and social life. It has diverse fields of application, such as industry (manufacturing), social infrastructure (energy, transportation, logistics, etc.), and personal products (wearable devices, connected and autonomous cars, partner robots, etc.). In response to changes like this, the IIJ Group will answer "offensive" needs by quickly preparing solutions that utilize IoT device SIMs also usable overseas.

Data usage continues to grow along with the spread of technology such as the Internet, cloud solutions, and big data. From May 25 next year, the EU General Data Protection Regulation will come into force in Europe. This will have a major impact on companies expanding into Europe, so IIJ will also meet the "defensive" needs of customers by providing solutions that support IT policies, minimizing management risk.

Providing the technology and know-how for constructing and operating large-scale, full-fledged cloud services is another pillar of our global business. Over the past few years, the ASEAN region has been the main battlefield in our project for introducing environmentally-friendly modular data centers. In April this year, we launched the first full-scale cloud service "FPT HI GIO CLOUD" in Vietnam. Following on from Singapore, Indonesia, and Thailand, this is the fourth ASEAN country in which we have constructed cloud infrastructure. In three of these countries, excluding Singapore, we have formed partnerships with local operators, aiming to take the top share in cloud services for the local market. At the end of last year we also finished implementing a modular data center that serves as Laos's first environmentally-friendly government-managed data center. Coupled with economic growth, the IT environment in the ASEAN region has shown remarkable progress, and we plan to continue expanding into new areas of business for IIJ while focusing on issues such as security technology.

In addition to "expanding" the market, we have also been working on "deepening" our services. The IIJ Group currently provides cloud services in nine cities [2] around the world, and we have been working on developing solutions both within the company and with partners to promote further utilization and create added value. In China, we have developed virtual desktop solutions that have had tremendous support, especially among customers in the financial sector. In Singapore, we developed a disaster recovery solution with Dell EMC. We are also moving forward with the development of services and solutions that match the IT situation and needs in each country, such as construction of global management infrastructure, and financial technology.

IIJ will continue striving to support not only Japanese companies, but also businesses worldwide, as a global business partner.

*1 **IIJ Group overseas offices:** USA (New York, Los Angeles, San Jose), United Kingdom, Germany, China, Hong Kong, Singapore, Indonesia, Thailand, Vietnam.
*2 **Nine cities with cloud infrastructure:** New York, Los Angeles, Shanghai, London, Singapore, Jakarta, Bali, Bangkok, Ho Chi Minh.

Notes and Countermeasures for the EU General Data Protection Regulation (GDPR)

The GDPR will come into effect in about a year,
and this will have a major impact on companies operating in Europe.
In this article we provide an overview and introduce some major points of note.

Shimpei Ogawa

Corporate Planning Division, IIJ
General Manager, Business Risk Consulting Department

A new EU regulation related to the protection of personal data could be a heavy burden to your business. This is the EU GDPR (EU General Data Protection Regulation, hereinafter GDPR). The GDPR consists of rules that will be applied evenly across the 28 EU member states, coming into force about a year from now, on the 25th of May, 2018. It stipulates clauses related to the "processing" and the "transferring" of personal data.

The most important point to note is that if rules are violated, it can lead to a fine of up to 20 million Euros, or 4% of your global annual turnover for the previous fiscal year. For example, if a company had sales of one trillion yen, the maximum administrative fine would be 40 billion yen. However, the system allows for this fine to be reduced by implementing appropriate countermeasures for the processing and the transferring of personal data.

Background to the Adoption of the GDPR

The EU Data Protection Directive adopted in 1995 did not take into account the current situation, in which personal data is circulated across borders due to the use of the Internet for business, so there were calls for it to be revised. Also, due to the Snowden incident there were rising concerns regarding the protection of privacy, directed mainly at the United States, and this is thought to be another factor behind the establishment of the GDPR. Although EU officials have not explicitly criticized the United States, I, working in the EU,

keenly feel that the GDPR has been targeted at U.S. companies by the EU.

To comply with the GDPR, countermeasures must be implemented in both the legal and IT areas. Below, we will primarily look at IT countermeasures.

Specific Countermeasures

Firstly, countermeasures related to "processing" must be implemented mostly in the operational and IT areas. Specific countermeasures to implement on the operational side include impact analysis of personal data leakage, establishing procedures for handling inquiries from individuals, and putting in place operational procedures for the appropriate protection of personal data. Other examples are limiting the number of people who process personal data, establishing reporting and documenting procedures for contacting a supervisory authority when a personal data breach occurs, and setting up an organization for responding to inquiries from the supervisory authority.

On the IT side, countermeasures include the appropriate system permission settings, storage and protection of personal data access logs, encryption of backups, regular vulnerability inspections, and installing mechanisms to detect malware infections.

Secondly, regarding the "transfer" of data, while it is stipulated that personal data can be circulated freely within the EEA (European Economic Area), its transfer outside that

zone is not permitted as a general rule. For example, this means it would be a violation to share the personal data of EU customers between a local subsidiary in Germany and your headquarters in Japan. However, as this does not constitute business activity, exceptions are allowed.

Exceptions Regarding "Transfer"

At this stage, there are two methods for establishing an exception for the transfer of personal data. Concluding a contract between the EU-based company and the company outside the region in compliance with SCC (Standard Contractual Clauses), or obtaining approval from the supervisory authority for personal data protection after submitting BCR (Binding Corporate Rules).

SCC are an easy-to-use set of contractual clauses you can download in template form from the website of the European Commission. These contractual clauses are intended to obligate companies outside the region to commit to implementing appropriate personal data protection before such data is transferred to them, because once transferred outside the EEA, personal data cannot be protected under EU law. The contract itself is comparatively easy to organize, being made between the local subsidiary in the EU region and the Japanese headquarters (controller - controller), or between the local subsidiary in the EU region and an IT service vendor outside the zone (controller - processor), but there are two issues.

The first is that contracts compliant with SCC need to be concluded for each set of personal data that is processed for a different purpose. Even a single set of human resource data could contain account information shared for IT system management, and human resource data related to the evaluation of local staff for global talent management. Depending on the company, information regarding an employee's health, religion, or family may also be stored for some other processing purpose. In any case, when data will be processed for different purposes, a contract must be concluded for each. These contracts must be concluded between individual corporations, so if a company has many local subsidiaries in the EU region, it will be necessary to put together a large number of contracts. Also, if you use external vendors such as cloud services during

the process, the amount of paperwork will increase further. As a result, the first issue is the vast quantity of processing that is involved when concluding contracts.

The second issue is the fact that the conclusion of a contract compliant with SCC does not guarantee that personal data will be handled with an appropriate level of protection. This is easy to see when comparing with BCR.

For BCR, internal rules regarding the protection of personal data within a corporate group are explicitly stated, and then relevant documents demonstrating that these rules are complied with are submitted to the supervisory authority for personal data protection established in each EU nation. Approval is ultimately granted once these have been reviewed and revised. BCR are authorized by a supervisory authority, which confirms that the level of personal data protection at that corporate group is appropriate in light of EU rules. This is the biggest difference compared to SCC.

Consequently, companies that receive BCR approval are extremely unlikely to be subject to inspection by a supervisory authority. Of course, this would not be the case if an incident such as a large-scale leakage of personal data occurred, but under normal circumstances this is an effective method for avoiding administrative fines. Obtaining BCR approval incurs commensurate costs, but it could be said that the larger the company, the more worthwhile investing in BCR approval will be.

What IIJ Did

IIJ provides a wide variety of IT services, including Internet services and the "IIJ GIO" cloud computing services, so we handle personal data as a "processor." For this reason, the IIJ Group elected to obtain BCR approval, and these are already undergoing review by the supervisory authority.

Once IIJ obtains BCR approval, customers can enjoy a dramatic reduction in the burden and cost of complying with the GDPR when they transfer personal data outside the EEA utilizing our cloud computing services. For more information, please see IIJ's GDPR Solutions page*.

With less than a year before the GDPR comes into effect, full compliance is not a realistic goal. However, if no countermeasures are taken, there is a risk of incurring the maximum administrative fines. To anticipate the risks that could occur, and gain the maximum effect for minimal costs, the first step towards complying with GDPR is to accurately gauge the current circumstances, and formulate a plan for compliance with official company approval.

Personally, I believe the GDPR was originally targeted at U.S. companies. Just as with our company, I wouldn't want to see Japanese corporations operating in Europe fall foul of rules such as these. IIJ has been working on complying with the GDPR before the others, so please feel free to contact us if you have any questions.

*http://www.iij.ad.jp/biz/gdpr/ (Japanese text only.)

Developments in Vietnam and Laos

Although ASEAN countries have experienced remarkable growth,
the current state of IT in each nation is different, and presents unique challenges.
Here we discuss IIJ initiatives in Vietnam and Laos.

Ryo Matsumoto
General Director
IIJ Global Solutions Vietnam Company Limited

Isao Kubo
Service Infrastructure Division, IIJ
Director of Data Center Technology Department

Vietnam

Do you know which country in Southeast Asia has a population of more than 90 million, an annual GDP growth rate exceeding 6%, and a per capita GDP of more than 5,000 dollars in urban areas, with stable economic growth expected to continue in the future? You may be thinking of Thailand a little while back, or Malaysia, but this is just a portion of the data showing the remarkable development of Vietnam.

Foreign brands such as Starbucks and FamilyMart have expanded into Ho Chi Minh City and Hanoi, and the sight of many young people using smartphones at stylish cafes is just like scenes in Japan. Expectations towards further economic growth and an optimistic outlook towards the future are the driving forces behind the growing number of business opportunities in this country. Over 1,500 Japanese companies have established offices in Vietnam, including IIJ, which opened its local subsidiary in November 2016. I feel that the expansion of business into Vietnam is really taking off.

Collaboration with FPT Telecom

In October last year, IIJ announced a cloud business collaboration with major Vietnamese telecommunications carrier FPT Telecom. In April 2017, we launched the first full-scale cloud service in Vietnam, FTP HI GIO CLOUD. In Vietnam, where people are gradually coming to accept the shift from "owning to using," there are great expectations for FPT HI GIO CLOUD, and we plan to continue expanding this service.

FPT Telecom is a subsidiary of FPT Corporation, which is engaged in a wide variety of development in areas such as the software business, communications, retail, and education. It is the only private telecommunications carrier in Vietnam (all others are state-owned). It has data centers in four locations around the country, and the latest data centers established in Ho Chi Minh City and Hanoi have both obtained Tier 3 certification. It also has optical fiber networks both in Vietnam and abroad, as well as large volumes of interconnection with overseas telecommunications carriers. The FPT Telecom network boasts one of the highest levels of quality and stability in Vietnam. Upon IIJ and FPT Telecom launching this cloud service, we implemented direct interconnectivity, substantially improving connections from Japan.

Although IIJ and FPT Telecom adopted IIJ-developed cloud infrastructure that is already offered in countries such as Indonesia and Thailand, many functions and operational aspects were customized to meet the requirements of companies in Vietnam. While the main service offering is built around public cloud services that can be easily accessed from an online portal, we also support private connectivity and various type of contracts that make it possible to meet a wide variety of requirements, from startup companies to large enterprises in fields such as finance and manufacturing.

In recent years there had been increasing demand for enterprise-oriented cloud services in Vietnam, but no cloud service was able to offer sufficient stability and expandability, or accommodate Vietnam's unique business practices. For example, physical distance and network latency are bottlenecks for the U.S. cloud services in Singapore or Hong Kong.

FPT HI GIO CLOUD is constructed in Vietnam and provided over FPT Telecom's excellent network infrastructure, resolving all these issues at one fell swoop. We aim for FPT HI GIO CLOUD to contribute to improving IIJ's service support capability in the ASEAN region, and also serve as key IT infrastructure supporting the economic development of Vietnam.

Laos

I visited Lao People's Democratic Republic (Lao PDR) for the first time in February 2014 to propose our modular data centers to the Lao PDR government. During the dry season, in particular from December to February, there are days when the temperature at night drops as low as 15 degrees Celsius, so at that time it was not as hot as I would have imagined it to be. I had a real feeling that data centers using outside-air cooling system could be adopted in Lao PDR. However, I later realized that the sunlight after May is extremely intense, and unlike Japan, it is a country with a tropical monsoon climate.

I continued to visit Lao PDR frequently to make proposals and perform surveys (a total of 25 times!), and because there are no direct flights, I had to spend a night in the airport lobby in Bangkok on the way. Also, when I visited Bangkok for a meeting on the way home one time, I was caught up in the Thai military coup that took place in May 2014 (that said, because the military had shut down the public trains, I was taken to a hotel by taxi, but there was no major disorder in the city).

Data Center Project in Lao PDR

In July 2015, we were commissioned by the New Energy and Industrial Technology Development Organization (hereinafter "NEDO") as part of its Global Warming Mitigation Technology Promotion Project, and work on implementing data centers began proceeding at full tilt. In January 2016, we were able to sign an implementation document with the Ministry of Science and Technology of the government of Lao PDR.

Following consultation with the Lao PDR government, power companies, and telecommunications carriers, as well as preparations such as drawing up plans, work began at a site in Vientiane in May 2016. After about seven months of construction, Lao PDR's first environmentally-friendly government-run data center was completed in November 2016. The opening ceremony was attended by many stakeholders, including members of the Ministry of Science and Technology of the government of Lao PDR, the Japanese Embassy in Laos, and NEDO.

When we began construction in May 2016, it was the start of the rainy season, and I was concerned that this would affect the strength of the concrete foundations, but fortunately there was not that much rain, and construction proceeded according to plan. When the ASEAN summit was held in Lao PDR in September 2016, during the height of construction, I ended up changing my schedule to visit because city traffic was restricted to ensure the safety of VIPs, and hotels were fully booked with people attending the summit. There were also several unexpected events, such as having to consider widening the road because the trailer for transporting the modular data center was larger than what we had expected, although in the end the trailer was able to go through by making a very tight turn. Thanks to the efforts of those involved, we were able to complete the project on schedule. I'll never forget the taste of the Beerlao (a local brand of Lao PDR beer with a domestic market share of over 90%) that I drank while watching the sun go down over the Mekong River after construction was finished.

Trial operation of the data center has already begun from December 2016. Going forward, we will move ahead with JCM* project registration and approval procedures, and measure, report, and verify the reduction of greenhouse gasses, while operating the center using Web, file sharing, and email services.

Japan assisted Lao PDR with building an international airport, constructing a bridge connecting Thailand and Lao PDR over the Mekong River (this is also featured on a banknote), and improving its public transportation (buses with the national flag of Japan on them are frequently seen in the city). However, it is clear that the economic impact of China is also significant there, and signs for Chinese construction firms can be seen on tall buildings that are under construction.

I hope that this project will help the development of Lao PDR and increase Japan's presence there. IIJ also aims to popularize our modular data centers in other countries based on the experience we have gained through this project.

The Continued Evolution of the IIJ GIO CHINA Service

About a year has passed since the Virtual Platform VW Series was added to the IIJ GIO CHINA service lineup in January 2016. The service has steadily gained traction over this period, and this spring we expanded our service infrastructure.

Tianyi Li
Vice President and Manager of the Technology Management Department
IIJ Global Solutions China Inc.

Looking back, 2016 was an important year for China's cloud market, to the point where it could be called the first year of enterprise user-oriented cloud services there. With the domestic economy in China facing an uncertain outlook, a change started to occur in the cloud utilization trends of enterprise users, based on the recognition that while holding on to the ideal of "aggressive IT" for business expansion, the benefits of not having infrastructure are essential.

New Cloud Utilization That Suits Your Every Need

Only a limited number of IT personnel in China can speak Japanese, and IT managers and executives at Japanese companies have actively looked into and pushed for the utilization of reliable cloud services, aiming to break free from the cumbersome operation of in-house infrastructure. Some of the reasons they give are the desire to avoid blackboxing by locally-hired IT staff, along with the associated management risk, as well as wanting to assign their finite number of talented staff to more creative work.

For enterprise users, the operation of IT infrastructure can be broadly categorized as either "server side" or "client side." Our VW Series was designed to improve the operation of infrastructure on the server side, but the local subsidiary in China has developed a new virtual desktop solution for the IIJ GIO CHINA service focused on client side operation (hereinafter "chi GIO VDI Solution").

Utilizing this chi GIO VDI Solution enables the client-side IT operation that had been a concern up until now to be implemented more reliably.

Solution Features

1. Enhanced security level
The thin client for the chi GIO VDI Solution can handle privilege management and obtain access logs through integration with internal authentication systems, without leaving data or other information in the hands of users. It is also possible to prevent unauthorized information leaks.

2. Improved operational efficiency
On-site computer maintenance work by IT staff is no longer necessary.

3. Improved usability
Usability improvements include better work efficiency, and synergy with the VW Series. Regarding the improvements to work efficiency, up until now we have taken the approach of dividing computers into those that are permitted to access the Internet, and those that are not. This protects confidential information in areas such as the financial and manufacturing industries. However, this led to disadvantages such as snowballing maintenance costs due to the increased number of computers required, and users also found it inconvenient to have to use two computers concurrently.

In contrast, when using the chi GIO VDI Solution, you merely assign different virtual desktop accounts to the end user based on the security level, resolving issues such as those mentioned above.

Next, I will touch upon synergy with the VW Series. In general, most internal applications are used by end users who access servers hosted in data centers from a company computer. However, when utilizing the chi GIO VDI Solution along with a private cloud service, the exchange of information between virtual desktops and servers is carried out within the same data center. This makes access feel faster, and dramatically improves the level of security, as confidential data is no longer sent over a WAN line.

Given the advantages above, use of the chi GIO VDI Solution is gaining momentum at Japanese companies, as well as at Chinese firms in industries such as finance and securities. We anticipate that the number of companies implementing this solution will continue to rise going forward.

IoT Device SIMs Supporting Global Utilization

There are many hurdles to the borderless use of IoT services. In light of this current situation, IIJ launched a service that offers a one-stop solution for global IoT utilization.

Shinichiro Nakamura
Global Business Division, IIJ
Deputy General Manager

IoT is a small word, but it encapsulates a wide variety of technological components. As an example of one way of looking at this, let us divide IoT into four parts.

(1) Obtaining information from things.
(2) Accumulating information in the cloud via a mobile network.
(3) Analyzing information.
(4) Utilizing analysis results to improve productivity.

Each of these parts requires multiple technologies, components, and services, so you could say it is extremely difficult to combine them optimally to achieve a specific goal.

Meanwhile, business development and business models have been globalized at many Japanese companies, and more and more overseas businesses are also beginning to consider the proactive use of IoT. However, in other countries you cannot always expect to have an environment with sufficient infrastructure and human resources like Japan. IIJ is familiar with IT infrastructure and networks around the world, so we launched a new service to support the implementation of IoT overseas.

Up to now, with regard to part (2) above, it was not easy to implement IoT abroad due to issues with the quality of connectivity, limited coverage areas, and expensive communication costs. The IoT device SIM we are offering now satisfies requirements such as the ability to communicate worldwide, high scalability, and low cost Internet communications. IIJ achieves this by providing the mobile services of the global carrier Vodafone, as well as major Chinese telecommunications carrier China Mobile, enabling us to cover the communication functions required to implement IoT uniformly across the globe. Also, regarding the accumulation of information, through combined use with IIJ's cloud services that we provide in seven countries around the world, it is possible to securely connect routes via a private network, from information gathering devices, to mobile communications, and ultimately to the cloud.

Providing a One-Stop Solution for IoT Services

When using communication services for IoT abroad, you must take heed of permanent roaming regulations, as well as the regulation of map information in China.

Permanent roaming regulations indicate the limitation of SIM usage periods in a roaming state in the corresponding countries. For example, one of the countries to which these regulations apply is Brazil, where you are required to use a local line. As Vodafone has a partnership with a local provider in Brazil, local lines can be procured through this provider.

Next, the regulation of map information refers to the restrictions on taking map information outside of China, which mean it is necessary to use local lines and perform data processing locally. Even in such cases, because IIJ has a cloud environment in China, you can utilize IIJ's cloud services to install applications or accumulate data.

Vodafone's IoT SIMs can be used almost anywhere in the world, and various billing plans with a wide variety of options are available, as well as flexible services. SIM Management can also be performed easily using a browser. In addition, we can offer an e-SIM (embedded SIM) to those who wish to embed a SIM into devices to be shipped overseas from the manufacturing stage.

When implementing IoT overseas, in addition to procuring communication lines, there are other major issues such as device authentication and SI quality. Regarding these, we can organize the procurement of devices and routers optimal for each objective, requirement, and area, along with providing SI services.

China has particularly unique circumstances, and it is extremely difficult for customers to construct IoT systems there unassisted. In these cases, the IIJ Group will make use of the business know-how we have built up in China, and provide a one-stop solution for the entire system, including communications lines, cloud services, and network SI.
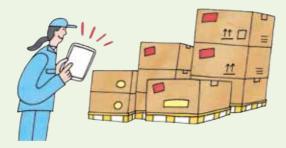
Digital Transformation in the Global Era

With the onset of the global era, what sort of strategies should Japanese companies use to win out over international competition?
Here we will examine the keyword "digital transformation."

Akira Akaishi
Executive Officer, Principal
Head of the Process & Technology and Digital Transformation Business Units
ABeam Consulting Ltd.

Kazuhiro Tokita
Senior Executive Officer, IIJ

Akira Akaishi
After working at a business firm, Mr. Akaishi joined ABeam Consulting in 2000. He built up his career working in the Strategy Division, and has been engaged in supporting the implementation and global rollout of ERP for over 10 years. With the launch of ABeam Cloud he took on a central role there, and he is currently responsible for the overall management of service lines (business/IT).

(Photography: Shigeki Watanabe)

Tokita: First of all, please tell us about the fields of business you work in.

Akaishi: I'm in charge of the Process & Technology business unit at ABeam Consulting. I oversee many different areas of business, including accounting, SCM (purchasing/production/logistics/sales), CRM (including aftermarket), HCM (personnel/human resources management), RI (Research & Innovation), and ITMS (including IT outsourcing). At the same time, I also support the reorganization of our corporate activities as a whole, by providing solutions that utilize systems such as ERP (Enterprise Resource Planning).

In recent years, as our activities related to digitization rise in importance, I have also served as head of our Digital Transformation business unit. This business unit promotes enterprise-oriented digital transformation in areas such as BI (Business Intelligence) and AI (Artificial Intelligence), IoT, and digital marketing, as well as sports and entertainment.

Tokita: Could you give a brief explanation of digital transformation?

Akaishi: We have been involved in the digitization of companies for a while, but in 2015 we defined our initiatives for supporting the comprehensive digitization of corporate value chains as the "Digital Value Chain," and launched this business unit as a dedicated organization. We intend to provide even more support for the digital transformation of companies going forward.

Tokita: Do you feel that Japanese companies are becoming acclimatized to digitization?

Akaishi: Yes, I think so. But looking at Europe and the United States, responsibilities for areas of business are clear, and data can also be handled according to the authority of the person in charge. On the other hand, in Japan there is still some ambiguity with regard to who manages or takes responsibility for using and sharing certain data. Owing to this background, in recent years a new title called the Chief Digital Officer (CDO) has emerged, fulfilling a slightly different role than the Chief Information Officer.

Tokita: The CDO's primary job is to determine and manage those who administer or are responsible for data, is it not?

Akaishi: That's right. Data flows laterally across an organization, so as long as protocols for utilization are not established, I don't think an attitude of "let's connect using IoT" will develop either.

Issues for Japanese Companies

Tokita: With the advent of the digital age, European and US manufacturers are proactively hiring IT engineers, and pushing ahead with initiatives such as AI. How should Japan compete with companies around the world as global expansion progresses? Also, what do you think are the issues that Japanese companies face?

Akaishi: I believe there are issues in the areas of structure and human resources. First, with regard to structure, there is the question of whether companies that have expanded overseas are discussing figures based on common definitions. For example, take the concept of inventory. Each local subsidiary may not necessarily be accurately providing the inventory data that the head office wants to know about. This is because the structure of operations has not been unified, and there are few companies using ERP on a global scale.

Tokita: Are there actually cases in which each local subsidiary overseas uses a different data management system?

Akaishi: The criteria for recognition of revenue is given as "goods received" under the IFRS (International Financial Reporting Standards), but methods for recognizing revenue differ even at companies with this common understanding, and there are still areas where no progress has been made with standardization.

Tokita: In terms of IT literacy, how are Japanese managers compared to their counterparts in Europe and the United States?

Akaishi: This is also related to issues in the area of human resources. It is not always the responsibility of management, but I think the concept of "leave all IT related work to outsourcing" is mainstream in Japan. On the other hand, companies in Europe and the United States have internal engineers, and handle IT in-house.

What is more important is whether or not management itself is aware of the challenge of identifying how to transform the company's business using IT. In this sense, it may be necessary for Japanese firms to work on establishing IT literacy in their offices.

Tokita: Are there any other issues at Japanese companies?

Akaishi: Now and then there are cases in which a company has a certain amount of ambiguity, but also rigid vertical divisions that make the sharing of information between departments impossible. The Industry 4.0 initiative that originated in Germany has popularized moves to connect the upstream and downstream of production via digital solutions, but companies here don't seem to have kept pace with this trend. There is currently a gap between retailers and manufacturers in Japan, and I don't think that Western-style data-driven management can be achieved until this gap is filled.

Of course, Japanese companies also have a variety of strengths, but in some cases areas thought to be strengths aren't really strengths at all. For example, companies that consider their highly accurate forecasting of demand to be a strength are engaged in procuring components in a timely manner, making production more efficient, and reducing the stock they have on hand. If their entire value chain was connected, a plan would still be required, but wouldn't it be fair to say that expensive demand forecasts would no longer be necessary? Similarly, with regard to in-house coordination, when the purchasing department, production department, and even the sales department perform forecasts, in some cases data may not be coordinated between each forecast.

Tokita: That's not the way to win on the global stage.

Akaishi: If companies don't have the earnest intent to connect with each other, Japan's overall competitiveness won't improve.

Tokita: There is a desire to exchange data between companies as well, but we don't seem to be making much progress, do we?

Akaishi: I believe that the structure and concept of cloud computing will change that. I think the hurdle is lower when you connect by shifting systems that were previously on premises to the cloud, even if to a private solution instead of a public one.

Tokita: I guess you could say that the use of cloud solutions is the first step toward open innovation.

The Benefits of Using the Cloud

Tokita: What points do you take into consideration when supporting Japanese companies?

Akaishi: When proceeding with global standardization in the 21st century, you are dealing with overseas local subsidiaries that vary in size, from factory locations with several thousand workers, to sales companies with just a few dozen staff. The process of standardization starts by implementing the same structure, and fostering an understanding of business rules. However, I have often heard from local staff that they are begrudgingly following the lead of the head office, but they don't feel they need such an involved structure. They tell me they would prefer something faster, cheaper, and usable more easily.

Overseas, the person in charge of IT may merely be responsible for maintaining the network and Windows PCs. As a result, when you bring in an advanced system and ask that person to serve as the primary support desk and leader for implementation, they are put in an awkward position. Tasks such as license agreements, hardware procurement, and post-implementation operation and maintenance all add up to a considerable workload.

In light of these issues, we provide a service called "ABeam Cloud." We take knowledge accumulated worldwide, and organize it into templates for the customer patterns and administrative structures in each industry. This is then placed on cloud infrastructure such as IaaS or PaaS, and offered as a one-stop solution. We supply both the applications and licenses, which makes it possible to reduce the workload associated with contracts and other tasks.

By introducing this easy-to-implement system at the kinds of overseas offices where they still manage things using Excel spreadsheets, and using the same ERP as the head office in Japan, it will be easy to coordinate data. If you implement this based on the business rules of the head office, the "figures" for aspects such as inventory will have a universal meaning.

Tokita: Utilizing cloud solutions does make management, changes, and other procedures dramatically easier.

Akaishi: Even from our perspective as outsourcees, while on-premise solutions were completely tailor-made on the operations side, standardization through the cloud has reduced the number of patterns involved compared to on-premises, despite the differences of each vendor. Regarding performance, once the hardware is installed for an on-premise solution you have to use the same devices during the period of amortization. However, for cloud solutions the vendor will introduce the latest versions from time to time, and there is also no need to worry about scalability. On the operational side of infrastructure, the fact that cloud vendors will take of things for you is a significant benefit.

Tokita: Things that were static with an on-premise solution have become more dynamic with the advent of the cloud, haven't they?

Iterative Fine-Tuning

Tokita: What do you need to be careful about on the system infrastructure side when implementing ERP or digital transformation for a global management base?

Kazuhiro Tokita (left)

Akaishi: When introducing a common system, information such as data definitions is unified, but that alone is not enough. We take the approach of further refining and reorganizing business tasks. We track data using KPI (Key Performance Indicators), and from these numerical values we manage day to day tasks and issue alerts, following an iterative PDCA cycle.

To give a rudimentary example, if a requisitioned item arrived in the evening, and the site staff decided to delay data entry until the next day, the system would show the item is a day late even though it arrived on schedule. From the perspective of KPI for supplier management, this would have to be called a negative. When the site conducts operations incorrectly, the nighttime MRP (Material Requirements Planning) processing results in the assumption that there is an item shortage. Based on this information, the factory will issue an additional order, so it is easy to imagine excess inventory being generated.

Tokita: Kind of like a bug in the operations.

Akaishi: Exactly. To identify issues like this, we provide a service called "Operational Excellence" as part of our operation and maintenance. This examines data based on tasks and applications, and provides appropriate information to customers.

Aiming for an Industry Ecosystem

Tokita: Last of all, can you share a message for Japanese companies as we approach the age of digital transformation?

Akaishi: I think that Japanese companies need learn more about one another, and work together going forward. You cannot prevail in a global environment by trying to play to your individual strengths. I think that they should share the image of "ALL Japan," and take advantage of each other's strengths, building platforms for their business across entire industries. Japanese companies need to lead the way by creating an "Industrial Ecosystem" that companies from other countries feel they need to join if they want to survive. To achieve this, it will be essential to strengthen coordination by sharing the details of what each company has to offer, using a data-based approach. We will also strive to earn the patronage of companies who wish to use ABeam Cloud as a business innovation platform that serves as a foundation of this.

Tokita: Coordination will no doubt be seen as a matter of course in the future, and more importance will be placed on deeper connections between companies. Thank you very much for your time today.

Dell EMC × IIJ
Developing a Disaster Recovery Market in the ASEAN Region

Now more than ever, enterprises in ASEAN countries require data security. A new solution has been proposed through a collaboration between Dell EMC, the world's largest developer of storage equipment, and IIJ.

Sandeep Shirodkar

(Speaker)
General Manager
Alliance and Service Provider Business, Asia Pacific and Japan
Dell EMC

Osamu Ono

(Interviewer)
Managing Director
IIJ Global Solutions Singapore Pte. Ltd.

Ono: What do you view as being the biggest challenge for IT systems at enterprises in Singapore?

Sandeep: We know that many customers depend on their IT systems to operate their business and generate revenue. However, a lot of small and medium sized enterprises do not have secondary data centers, nor do they have the time and money to manage complex set of equipment at their secondary site, even if this will protect them from disasters, problems, virus attacks, or data loss. Also, in the age where we see a sharp rise in security vulnerabilities such as internet hacking and ransomware virus, there is an ever increasing need for IT systems that function correctly at all times.

Disaster Recovery Measures

Ono: What sort of things do you think companies need to exercise caution with?

Sandeep: The Singaporean government has set forth financial guidelines called Technology Risk Management (TRM), which requires companies with an office in Singapore to keep data for a long period of time, to adhere to the governance rules laid down by the government. And this does not only mean data loss caused by human error, but also data losses caused by hacking and improper IT practices.

So, the Singaporean government has clear guidelines set forth to improve how a company should be dealing with its data, and these are updated daily. All enterprises and public government affiliated companies must protect their data completely, and make it possible to return to any point in the past.

For this purpose, combining the "Dell EMC RecoverPoint for Virtual Machines" disaster recovery solution that Dell EMC offers with the cloud services that IIJ provides will enable easier and more affordable disaster recovery.

Strategy in the ASEAN Region

Ono: The IIJ group is expanding their cloud infrastructure throughout the ASEAN region. Meanwhile, major U.S. players aren't going into markets beyond Singapore. How do you think we should expand the cloud-based solutions offered by Dell EMC and IIJ into ASEAN countries other than Singapore?

Sandeep: Within Southeast Asia, the current two key markets for us are Singapore and Indonesia.

The IT market in Indonesia is poised for growth, and demand for disaster recovery is expected to rise going forward. For this reason, we would like to further discuss how we can work together in Indonesia.

The important strategy we take is not to compete with major U.S. providers such as Amazon and Microsoft, who are strong in the public cloud market. We often see that public cloud competition is not necessarily the best way to go.

Ono: Tell us why Dell EMC partnered with IIJ.

Sandeep: First and foremost, IIJ offers reputable services, and in Singapore in particular, the fact that you have government certified cloud infrastructure is very important. Having government certification is essential as a service provider, and if you weren't certified, you wouldn't be accepted by the enterprise market here in Singapore.

More importantly, IIJ showed real passion for partnering together with Dell EMC. Neither of us offers a single service, so there will be areas in which we compete. IIJ recognizes its strengths, and unlike other service providers, it doesn't spread itself too thin. Dell EMC aims to be number one in the ASEAN region together with our partners, so we are honored you selected us as a partner for expansion into the ASEAN region.

Last of all, and most crucially, I'd like to mention the great people at IIJ, who made our partnership happen.

Cover Message "Cherry Blossoms"

Cherry blossoms are stunning in full bloom, but I feel the way they scatter after such a fleeting existence is another aspect of their beauty. It is difficult to fully express the range of feelings that people have about cherry blossoms, but many artists have tried. Performing an image search on the Internet for keywords such as "cherry blossom oil painting," "cherry blossom Japanese-style painting," and "cherry blossom ukiyo-e" will bring up paintings of cherry blossoms using each of these techniques, and it is surprising just how many results there are compared to other flowers.
Shino Suefusa

IIJ.

Internet Initiative Japan