FUJITSU

Future Approaches for Connecting to the Cloud: The Ideal of Hybrid Cloud

With the expansion of digital business, "bimodal" the concept put forward by Gartner is attracting attention and the core of the bimodal is the hybrid cloud. However, the approach to hybrid cloud may change dramatically in the near future. Hybrid cloud foundation is expected to shift from mainly on premise configurations to more of a public cloud-based. Let's take a look at a closer look at hybrid cloud that is becoming the core of public cloud.

New ICT systems are being built one after another as the digital business revolution marches on. Still, there are ICT systems that have hardly changed from convention. Amidst this conflux, Gartner`s bimodal concept is garnering much attention. With the bimodal approach, ICT systems will require two modes in the future.

The first mode (Mode 1) is for conventional ICT systems. Conventional ICT systems which represent core businesses fall under this category, known as Systems of Record, or SoR, in recent years. Mode 1 systems require reliable processing that is stable, trustworthy, and can handle transactions.

The other mode (Mode 2) stresses speed. Development must be agile, necessitating the DevOps approach of quickly releasing a product and making frequent improvements. These Mode 2 systems are called Systems of Engagement, or SoE. SoE responds quickly to changes in external environment to expand markets and customers.

Digital business cannot exist with just one of these. Both modes must work together, utilizing their mutual strengths to create new business value. This is what makes the bimodal concept so important.

The system platform must support bimodal operation to work with both modes. Public cloud is suited to the speed required of SoEs, while current SoRs are mostly on-premise or private cloud systems. SoRs should be shifted to cloud computing in the future. However, for the time being, a realistic choice is a hybrid cloud which combines an on-premise system and public cloud.

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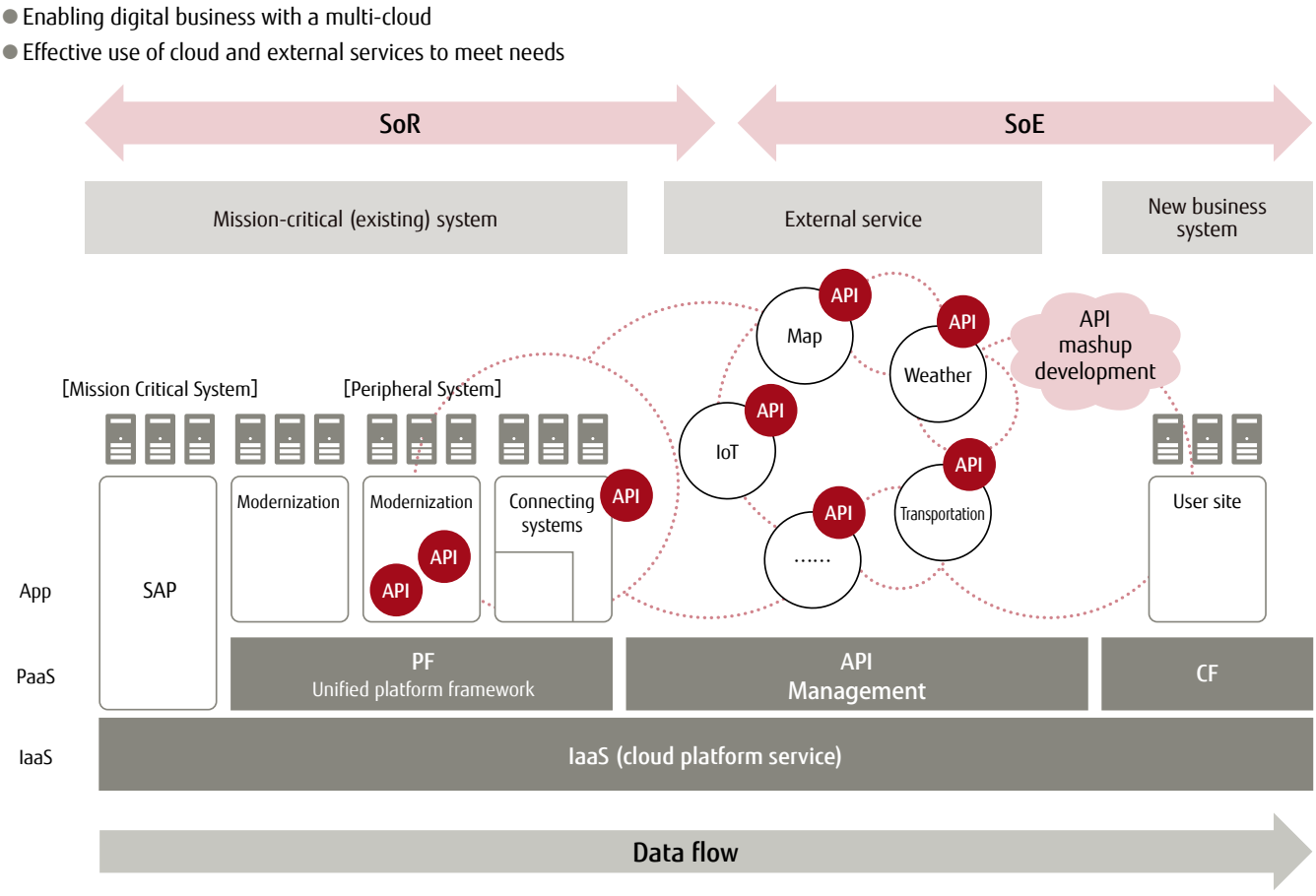

Figure 1: Worldview of K5 according to Oishi. K5 aims to become the core by creating a multi-cloud that fuses three worlds: backbone systems moved to IaaS and modernized existing systems (SoR), systems for new business (SoE), and external services to support these systems.

The current approach to a hybrid cloud is generally to add or connect a public cloud around an existing on-premise system. In the near future, public clouds are highly likely to become the core of hybrid clouds.

In all truth, a public cloud with the potential to form the core of a hybrid cloud has already been created.

Hybrid Cloud -The Fundation of Bimodal Platform–

That public cloud is the FUJITSU Cloud Service K5. Announced by Fujitsu in May 2015, the K5 platform will bring about a digital revolution for business processes and new business creation. By combining the latest open technology with the knowledge and expertise of Fujitsu, K5 allows both SoR and SoE to be implemented on one cloud. It can also answer realistic user needs to keep existing systems on premises. K5 is designed assuming a hybrid cloud configuration and offers several optional features and services for implementing a hybrid cloud.

"Prior to K5, Fujitsu provided the S5 cloud service, where we handled a number of integrations linking on-premise systems," as told by Takuya Oishi, a director of Fujitsu's Digital Business Platform Unit. More and more, users want multi-clouds that connect to other cloud services or connect to data centers. Approximately 30 percent of K5 users have built a hybrid cloud of some sort.

Oishi points out that ICT will make way for three major worlds. The first is the world of SoR with backbone systems. In this world, transitions will be made to IaaS, modernization using PaaS, and more core applications to differentiate businesses. The second is the world of SoE for new businesses. Lastly, the third is the world of external services to modernize SoR and improve the startup efficiency of SoE (Figure 1).

"Fujitsu is aiming to build a multi-cloud that integrates all three of these worlds. Preferably at the core of everything is a K5 public cloud." (Oishi)

Providing Network Options that Connect to Various Environments

K5 offers a few specific features and services in order to implement a hybrid cloud.

To start, Oishi lists the network services (Figure 2). K5 provides connections to seven types of networks. In addition to internet connections, it can connect to closed networks that are secure with low latency, a Fujitsu data center, customer sites, and other clouds. This permits quick implementation for hybrid cloud environments that connect to existing hosting and housing environments.

When actually building a hybrid cloud, you must decide which cloud service and data center to use as well as how to link them. Oishi mentions how Fujitsu leverages its vast expertise by also providing consulting and integration services for individual projects to support this process. "I highly recommend using K5 for modernizing or migrating SoR to a cloud, or for implementing a SoE that requires strict data management. In some cases though, customers need to work with other cloud services. Ideally, Fujitsu aims for a hybrid cloud that can selectively use multiple clouds according to the application requirements. I don't think there are too many cloud businesses that offer this level of proposition and integration."

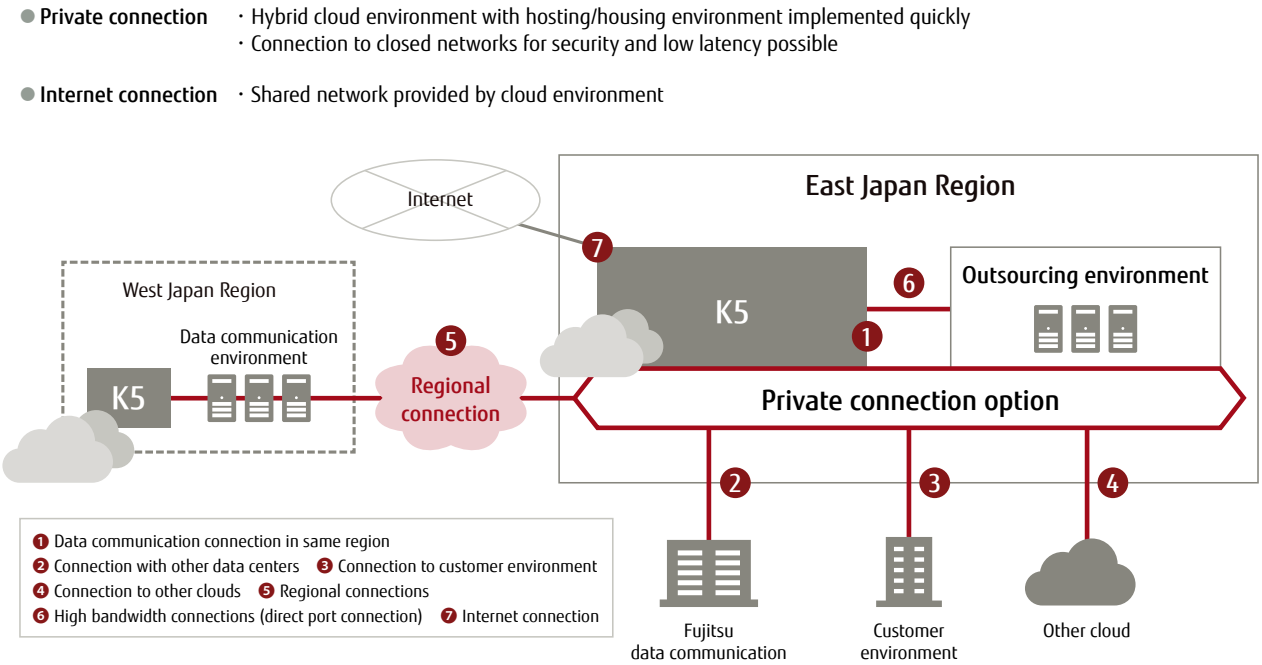

Figure 2: Network services provided by K5. Includes internet connection and closed network connections that are secure with low latency. Hybrid cloud environments can be implemented quickly.

When using multiple cloud services and connecting to data centers, however, security becomes important. In part, the level of security depends on the providers for connected services. To combat this, K5 ensures a high level of safety with security countermeasures in place around the clock, all based on support from the Fujitsu Cloud CERT team. CERT teams establish Security Operation Centers (SOC) to scan for vulnerabilities daily and monitor traffic by collecting, analyzing, and managing vulnerability data as well as unauthorized access, enabling them to respond immediately to any problems that occur.

Integrated Management Portal for Hybrid Clouds in Planning

The possibilities for hybrid clouds utilizing K5 are best illustrated with a representative case, as introduced by Oishi. In Oishi`s example, the system will use separate environments for the production and development of SAP.

The production environment is kept on premises as before, but the development environment is migrated to K5, with both modes linked to enable efficient life cycle management. "It isn't efficient to keep development servers on premises; the development environment isn't always running. By moving the server to the cloud, resources can be secured as needed to lower overall costs. Because SAP has many peripheral systems, the production environment can be optimized by migrating systems to K5 in order." (Oishi)

Another approach is to leave only the database on premises and migrate everything else, including the SAP web server, to K5. Databases are backbone systems and the most difficult to replace. K5 does have bare metal servers in its lineup for operating an Oracle Database or SAP HANA. Services can also be migrated to these when updating servers. Fujitsu also offers another database service with PostgreSQL and Oracle Database functionality as a PaaS. Putting all system elements onto the cloud, including databases, is gradually getting easier and easier.

In the future, Fujitsu plans to create a comprehensive management portal (MetaArc Portal) that covers K5 and our other cloud services and hosting/housing environments. Oishi says, "By modernizing and putting SoR on the cloud, the number of on-premise systems is expected to go down. In turn, this will increase the links to other clouds, data centers, and external services, which should increase need for hybrid clouds." The MetaArc Portal can efficiently operate such environments and will eventually become an important platform (Figure 3).

With K5 at its core, Fujitsu aims to expand the worlds of multi-clouds and hybrid clouds to make customer business systems more flexible.

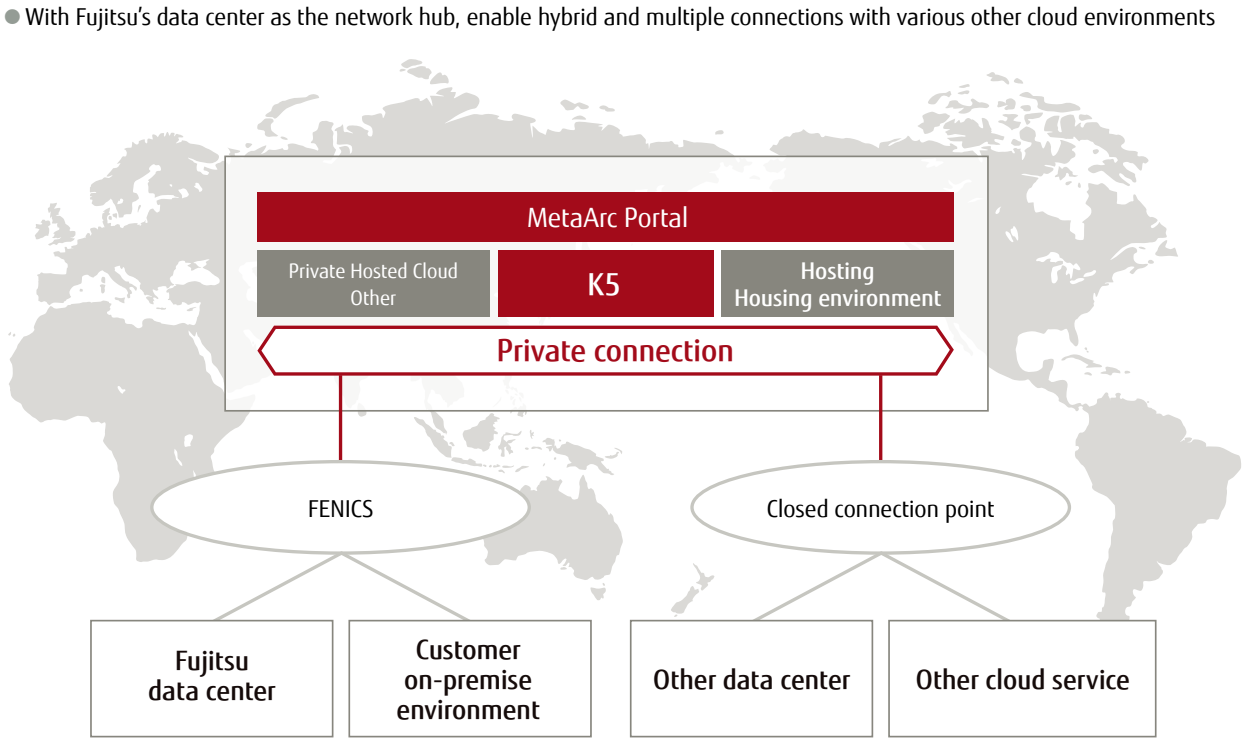

Figure 3: Comprehensive management portal (MetaArc) planned by Fujitsu. Efficiently manage hybrid clouds by covering other cloud services and hosting/housing environments.

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