

# New architecture for network-wide optimization of ICT platforms

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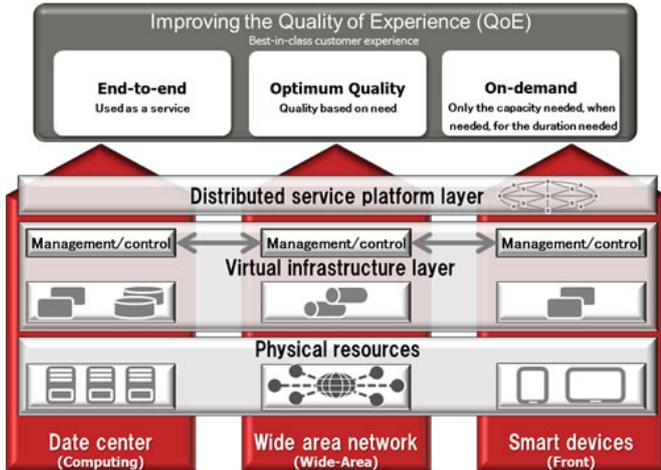


Figure 1: Overview of the Three Domain ICT Platform Architecture.

Fujitsu today announced the development of FUJITSU Intelligent Networking and Computing Architecture, a new architecture for network-wide ICT platform optimization based on the principles of software defined networking (SDN).

The new architecture employs a software-based approach to intelligently and flexibly enable optimized control over three unique ICT domains: datacenters, wide area networks, and [smart devices](#). In doing so, it extends the core concepts of SDN beyond networks to the entire ICT platform.

In the initial phase, Fujitsu will be offering the following products based on this architecture starting today: an updated version of unified administration and control software for server, storage and network resources, a new switch that supports network virtualization, and a new virtual appliance platform.

Going forward, the company plans to develop

additional solutions based on FUJITSU Intelligent Networking and Computing Architecture, including solutions in the wide area network and smart device areas that incorporate industry-standard open interfaces.

The new products will be on display at Fujitsu Forum 2013, to be held May 16-17 at the Tokyo International Forum in Tokyo.



Figure 2: Converged Fabric Switch.

In order to accommodate the explosive pace of smart device growth and heavy [Internet traffic](#) in recent years, progress has been made in expanding the size of datacenters while making further speed and capacity improvements to wireless and optical wide area networks. Going forward, networks will come into even greater use in connecting a wide variety of systems and [social infrastructure](#), and it is expected that huge volumes of diverse information will be able to be processed in real time. When this occurs, if data processing continues to be over-concentrated in datacenters, slow response times and service disruptions are

likely to result in the near future. To prevent these issues, computing environments will need to be distributed across different ICT categories, which must be made to dynamically coordinate with each other. For this to be achieved, a technology that can optimally connect distributed computing resources across a network is required.

The newly developed FUJITSU Intelligent Networking and Computing Architecture can virtualize resources in three ICT areas - datacenters, wide area networks, and smart devices - each of which features different characteristics and requirements. By administering and controlling these virtualized resources on two layers, a "virtual infrastructure layer" and a "distributed service platform layer," the technology is able to achieve optimal service levels while improving the quality of experience for the end user.



Figure 3: PRIMERGY Converged Fabric Switch.

As the first group of products based on the FUJITSU Intelligent Networking and Computing Architecture, Fujitsu will be offering the following datacenter products.

1. Updated FUJITSU Software ServerView Resource Orchestrator solution for unified management and control of server, storage, and

network resources with new added functions

FUJITSU Software ServerView Resource Orchestrator is a resource management software solution that performs unified management of multiple server, storage, and network ICT resources for virtualized consolidation, integration and private cloud applications. The software allocates resources as needed and automatically sets parameters, thereby implementing SDN in datacenters. Based on the new architecture, the solution has been updated in terms of its management and control functionality for network devices, including a new switch that supports network virtualization and a new virtual appliance platform.

- Following a system template for business systems that incorporates a Three-Tier Web Architecture model (presentation layer, application layer and data layer), the solution automatically provisions and sets parameters for virtual servers, virtual storage, and virtual networks.
- Works with the new converged fabric switch, which supports network virtualization, to automatically set network parameters when adding, deleting, or migrating a virtual server.
- Works with the new IPCOM VX series virtual appliance platform to allocate firewalls and load balancers to each system when provisioning virtual systems.



Figure 4: FUJITSU Network IPCOM VX Series.

## 2. New converged fabric switch, with support for network virtualization

When performing a live migration of a virtual server, this network virtualization switch automatically configures and modifies virtual network parameters. Using the new switch, network administrators are able to pre-configure networks for each virtual system and modify network settings when adding, replacing or migrating servers, thereby sidestepping the troublesome task of network operations.

- Can easily connect to existing customer networks.
- Implements path redundancy and high-speed communications by connecting all switches along the shortest possible route using a mesh structure.
- Obviates the need for an administrative network to control switches, thereby making it possible to perform unified control of multiple switches using a single switch.

## 3. New FUJITSU Network IPCOM VX Series virtual appliance platform

This virtual appliance platform virtualizes the IPCOM [network](#) server, which integrates functions such as firewalls and load balancers, and can run multiple instances of virtual IPCOM on a single piece of hardware. Unlike in the past, where a separate IPCOM would have to be provisioned for each virtual system, the new IPCOM VX Series allows a single piece of hardware to handle multiple virtual systems, obviating the need for additional IPCOM hardware when adding virtual systems. This, in turn, delivers greater speed and flexibility.

- Can modify parameters without affecting the performance or functionality of other systems running on the same hardware.
- Pre-installed with templates for different performance, functionality, and capacity requirements, making scaling easy.

- Employs hardware I/O virtualization technology to minimize performance deterioration when running multiple operations.

**More information:** [www.fujitsu.com/](http://www.fujitsu.com/)

Provided by Fujitsu

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