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Run your Data Center as a Business – DCaaB: From DCIM via DCSO to IT Factory

InterComms talks to Eric Brabänder, Chief Marketing Officer, FNT, about the ongoing digitization and the changes of business models that are evolving rapidly and forcing IT to respond quickly and flexibly. IT and data center managers are becoming increasingly focused on secure, efficient, and flexible deployment of demand-based IT services.

Eric Brabänder, Chief Marketing Officer, FNT

Q: Enterprise data centers, telecommunication service providers and external data center providers alike – along with ISPs, co-location, managed service, and hosting providers – find themselves in a highly challenging competitive environment. How can the different providers react to these challenges?

A: Service providers have to react with fast-changing product portfolios addressing their target group with value-added services. The optimum management of power, cooling, and floor space is essential in this context for efficient operation of the data center and a balanced product portfolio. Accordingly, this capability has become part of the standard repertoire.

It is therefore imperative that independent data center operators find ways of differentiating themselves in the marketplace, e.g., through additional value-added services or by repositioning themselves as full-service providers. Additional services include comprehensive SLA reporting, integrated current/power measurement, pay-per-use billing, and an extended connectivity portfolio within one facility or across all locations.

Enterprise data centers likewise need to make strategic decisions on which services to provide in-house and which to outsource and combine with the in-house portfolio. In other words, IT managers are evolving into IT service brokers who, in addition to running their own infrastructures, also have to provide cost-optimized management of hybrid IT environments. Faced with increasing cost pressure, the key objective for internal infrastructure service providers is to maximize operational efficiency.

Q: What are typical tools that can be used by service providers to provide flexible and specific value-added services?

A: In order to acquire the necessary data center resources and provide the services people need, operators have to be able to plan their IT, network, and physical infrastructure in detail and maintain full transparency across all data center assets.

The software created to help them do that is grouped under the heading "data center infrastructure management" (DCIM). The principal role of DCIM software is to manage infrastructure components within the data center – from IT systems through to power supply, climate control, and building services. However, since it is limited to the technical management of infrastructure components, DCIM is no longer able to meet the emerging needs of a rapidly evolving ►

market. Technologies, such as cloud computing, software-defined networking (SDN), server virtualization, and network functions virtualization (NFV), or the parallel provision of data, voice, and video services over a single network connection, known as "triple play," require a highly flexible IT infrastructure.

To achieve maximum efficiency when delivering services, it is vital that enterprise IT departments and data centers focus on their core areas of expertise. To do that, they need combined management tools that encompass both the data center infrastructure and the services provided via the infrastructure.

Since many companies now use an increasingly hybrid mix of traditional in-house IT, outsourcing, and cloud-based applications, the challenge is to create coherent and marketable business services that offer genuine value to users and customers, i.e., that either contribute to internal business processes or benefit internal or external customers. From a business perspective, it is totally irrelevant how these services are created – provided they comply with all contractual obligations, i.e., service-level agreements (SLAs). In addition to performance, availability, and security classes, most SLAs include details on costs and pricing. The questions now facing IT departments and data center suppliers are as follows: How to provide business services within the limits of fixed IT budgets; which external components to include in those services; and how to ensure that the service commitment is fulfilled. In addition, customers expect a high degree of personalization, i.e., that services are tailored to their specific requirements.

Q: What methodology is needed to design tailorable and personalized value-added services?

A: Every IT service is created and hosted in a data center – and that is unlikely to change. If we examine the supply chain for a typical IT service, e.g., a CRM application, we see that it is created by an application team as a managed service ("M-APP") and delivered to an end user. In order to create that managed service, the application team requires a preconfigured database, which is usually sourced as a managed database ("M-DB") from a database team, i.e., the application team is itself an (internal) customer. Similarly, in order to create the database, the database team sources a preconfigured server as a managed OS service ("M-OS") from a server team. The server team sources its physical server infrastructure either as an external service from a data center provider or as a managed server ("M-SRV") from an internal data center. Each team in the chain that creates the finished service (in this case, a CRM application) are both customers and suppliers. They also have to provide their service in the most efficient and standardized way.

In other words, there is a customer/supplier relationship between all adjacent participants and there are SLAs/OLAs, costings, and pricing for their respective services. The key factors influencing the end-product delivered by an IT or infrastructure service provider are therefore not only the business service itself but also goal-optimized management of the entire service delivery chain, including the relevant deliverables from the various internal and external suppliers. The structuring, transparency, and management of this chain offer considerable scope for improving efficiency, agility, and quality – this is what we call Value-driven service management. The service delivery chain also represents the IT value creation chain through which the business service is provided.

Figure 1: Typical IT service delivery chain in the IT factory

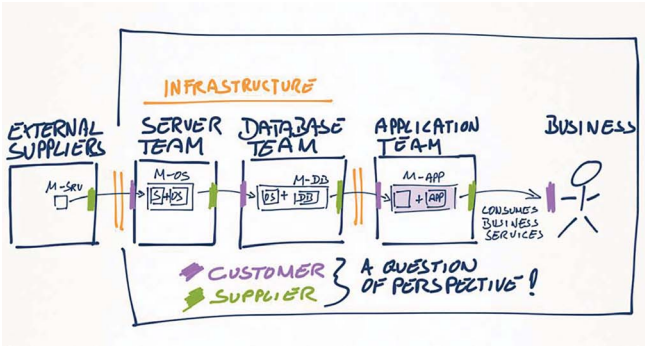
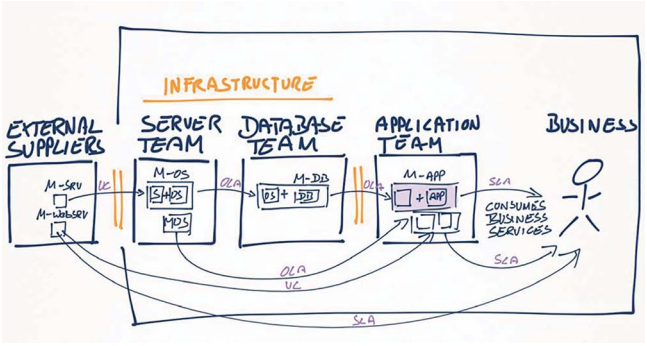


Figure 2: Service levels and customer-supplier relationships in the IT factory supply chain



Value-driven service management can already be found in a number of other sectors, such as the automotive industry. Car companies have spent years developing cost-efficient solutions for industrialized production with manageable levels of complexity. Today, these solutions are highly sophisticated and successfully deployed. The basic principles of industrial production are now being transferred and applied to the industrialization of IT. The most important of these principles are standardization of processes and products, modularization, and increased outsourcing to allow a focus on core competencies.

While the IT Infrastructure Library (ITIL) – the de facto international standard in IT service management – has made enormous progress with regard to standardization of processes, the industrialization of IT services is still very much in its infancy. Industrialization requires the breaking down of standard services into their constituent parts (modularization) and the integration of external service providers (outsourcing and focus on core competencies), i.e., the basic prerequisites for value-driven service management.

Q: What will be the effect of the trend mentioned above for the respective software and tools for service providers?

A: There is a trend that has already been documented by technology analysts at Gartner, IDC, Forrester and 451 Research. They have also identified the necessary tools, i.e., a combination of DCIM software and IT service management (ITSM) solutions. According to Gartner analysts April Adams and Federico De Silva, the ability to combine a DCIM solution with existing change management or integrate with ITSM software will soon be a key requirement among data center operators who want greater value from their DCIM solution.

In particular, that value includes the ability to generate work orders and semi-automated workflows from within the software in support of all installation processes, as well as moves, adds, and changes, while providing detailed instructions for the technician. A typical work order indicates the rack and rack position where a device is to be installed, specifies the devices and ports it will be connected to (e.g., power, LAN, and cables), and links to the relevant applications and/or services, which may be provided from a server in the data center. Rhonda Ascierto, an analyst at 451 Research, has gone one step further, identifying a transition to integrated data center service optimization (DCSO). DCSO expands the scope of DCIM beyond the physical infrastructure to include logical and virtual resources and thus enables end-to-end data center management processes, including income/cost analysis and planning data center services. DCSO vendors are therefore set to offer additional tools and analysis options that enable integrated management and evaluation of data center data with regard to service delivery. Ultimately, the concepts inherent in DCSO will enable integrated, end-to-end management across the entire IT value chain.

Q: What is FNT's strategy and positioning within this challenging market environment for data center providers?

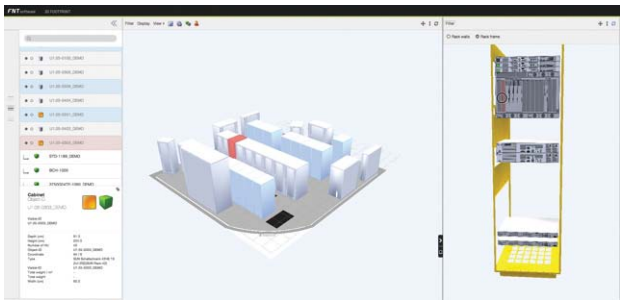
A: The combination of DCIM data and ITSM information can improve performance and availability throughout the data center and make it possible to evaluate new information in greater depth, e.g., to make accurate calculations of the cost of running an IT service. IT managers can then decide where to run the service – in which data center, in which room, and even in which rack. It is even possible to specify a desired IP network range as a selection criterion when identifying the optimum location. In addition, managers can calculate when a service must be provided to meet specified business requirements and whether the criticality of the service requires it to be run in-house or in one or more external data center. Using this and other information from an integrated and comprehensive data model, it is possible to calculate planned and incurred costs as well as pricing and service levels for every IT service.

However, in order to replicate the entire IT supply chain, it is essential to have a single data management system covering all IT components and all interaction from the physical infrastructure in the data center to the applications and IT services. For this reason, FNT Software is pursuing an integrated strategy that offers both DCIM and ITSM functionality via a single integrated data model that could also connect easily with existing ITSM solutions from other providers when they are already in place.

IT analysts and ITSM professionals agree that combining IT service management (ITSM) with data center infrastructure management (DCIM) will become a key discipline for IT and data center managers who want to tailor their resources quickly and cost-efficiently to actual business needs. Unfortunately, business services are still somewhat neglected and the integrated management functions required for these services have not yet been adopted to any great extent in the software currently available. FNT has a readymade control center for product portfolio and service management: FNT ServicePlanet. This product can be used to define IT services and to manage and monitor them throughout the entire service lifecycle. With its standardization of IT services and their components, FNT ServicePlanet enables managers to combine all product and service-related information in a single database. As a result, FNT ServicePlanet contains all the information required for optimum support of service management processes. All service and customer information is available centrally in FNT ServicePlanet with comprehensive and traceable integration to the logical and physical assets required for deployment. This is a fundamental requirement for extensive automation of IT processes and the development of an IT factory.

The service delivery chain offers enormous potential for improving efficiency, flexibility, and cost control. Those who fail to consider this potential are at risk of suffering major friction losses between the various IT or infrastructure units, e.g., infrastructure operations, business operations, and service operations teams. With its integrated and central database FNT provides a holistic solution that integrated DCIM and ITSM and avoids friction losses between all units.

Figure 3: Capacity analysis and 3D footprint in a data center providing IT infrastructure data and ITSM data



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