AGILE CLOUD: ORCHESTRATING VIRTUAL DATA CENTER SERVICES

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Guidance to creation of an Agile Cloud strategy for mobile world is provided through a series of three Techaisle research white papers,. This document covers "**Orchestrating Virtual Data Center Services**".

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Executive Summary

Too often, the debate about IT is dominated by a narrow focus on near-term objectives: shrill cries claim that the business will stop (or fail) if a feature isn't added to the ecommerce site, if the mobility platform isn't improved, if the network and compute back end aren't upgraded, if storage and database performance isn't accelerated. Often, these changes are truly essential, and demand immediate attention. However, midmarket firms can't assemble a meaningful strategy from point responses to near-term issues. Increasingly, midmarket enterprises are finding that continued operational success requires an "agile-cloud" – an agility-oriented, cloud-based IT strategy that addresses the three core changes faced by midmarket firms: *the changing nature of business infrastructure*, *the accelerating pace of change in business*, and *the expanding scope of IT*.

Each of the three issues presents challenges and opportunities. Changes in business infrastructure require both IT and process evolution, but promise greater responsiveness. The increasingly-rapid shifts in business environment demand greater agility, but open new market opportunities. And the expanding scope of IT strains traditional infrastructure management approaches, but allows the midmarket business to empower customer-facing staff in new and important ways. To navigate these changes, midmarket businesses need to move beyond point requirements and build out the core capabilities that support the business as a whole.

Other white papers in this three-part series are:
- Managing the Empowered User
- Navigating the transition to managed IT

The application virtualization imperative

Application virtualization is an essential step in moving from traditional to advanced infrastructure solutions. Simply deciding to embrace cloud doesn't automatically enable current applications to capitalize on the benefits of the infrastructure: businesses need to ensure that their applications are able to run in a "virtual everything" (processor, storage, network, etc.) environment.

As midmarket companies move from treating cloud as a low-cost extension of current resources to a new option offering compelling benefits, application virtualization will become a significant issue. Figure 1 provides some context for the magnitude of this challenge: in it, we see that midmarket companies are using an average of 8-11 "software-as-a-service" (SaaS) cloud applications – and that they are planning to roughly double their number of cloud applications. And this expansion isn't limited to a handful of applications. Techaisle survey found that midmarket firms have near-term adoption plans spanning *22 discrete application categories.* These firms will need to find applications that are or can be virtualized, and suppliers capable of optimizing the performance of these applications across many different configurations of virtual and hybrid platforms.

Figure 1
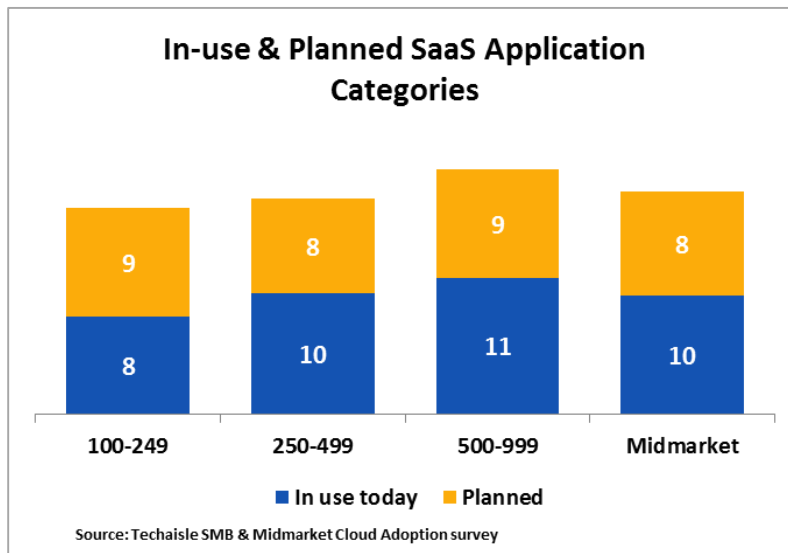
The importance of cloud orchestration

In cloud terms, "orchestration" has two distinct meanings: the ability to connect technical processes to achieve greater consistency and much higher throughput, and the ability to connect different applications together to automate across tasks. Both are important to an agile-cloud approach.

From a platform perspective, the technical definition is the most appropriate starting point for an evaluation of orchestration benefits. In theory, orchestration could be deployed in many different environments, including in conventional on-premise infrastructure. In reality, though, orchestration tools are rarely deployed in the fabric of in-house data centers. Despite offering the promise of fast and predictable connections between related technical tasks – which reduces gaps that can cause errors, and eliminates inter-process delays that affect total system performance – corporate IT staffs are generally not focused on orchestrating their environments.

Cloud is a different story. In many cases, cloud represents a 'fresh start', which offers an opportunity to implement best practices that might have been omitted from previous SOPs (standard operating procedures). More importantly, though, cloud/hosting providers need to establish and live up to service level agreements (SLAs) that can only be achieved through consistent operations, and their financial models are at least in part predicated on having more efficient operations than their clients can achieve through in-house resources. This combination of a 'clean slate' encouraging best practice adoption and SLA and economic drivers rewarding consistency and efficiency provide a perfect storm for orchestration in the cloud.

Figure 2 provides a depiction of orchestration. At the top of the process, we see a series of customer-facing applications that are connected, presumably through API links, to become part of a workflow automation stream within the business.

Beneath the client-facing applications, we get a high-level look at the technical level of orchestration. The configuration management database (CMDB) provides a single-source view of IT assets, and the service catalog provides a similar perspective on the ways in which these assets are assembled and delivered to meet customer requirements. The orchestration layer receives input from the CMDB and service catalog and ensures that the promised services are built, connected and delivered correctly. Information from the orchestration layer feeds into an accounting/chargeback system that ensures that delivered services trigger appropriate payment demands; the outputs are also fed into the SLA management system so that the service provider can identify the extent to which it is meeting or not meeting SLA requirements, and communicate appropriately to customers and to IT management. This latter group in turn can use tools to further optimize the activities and the surrounding processes: middleware tools to connect discrete assets and systems, and domain tools to ensure that key system components (servers, storage, and networking) are functioning in the best possible way.

Figure 2

Cloud Orchestration Framework
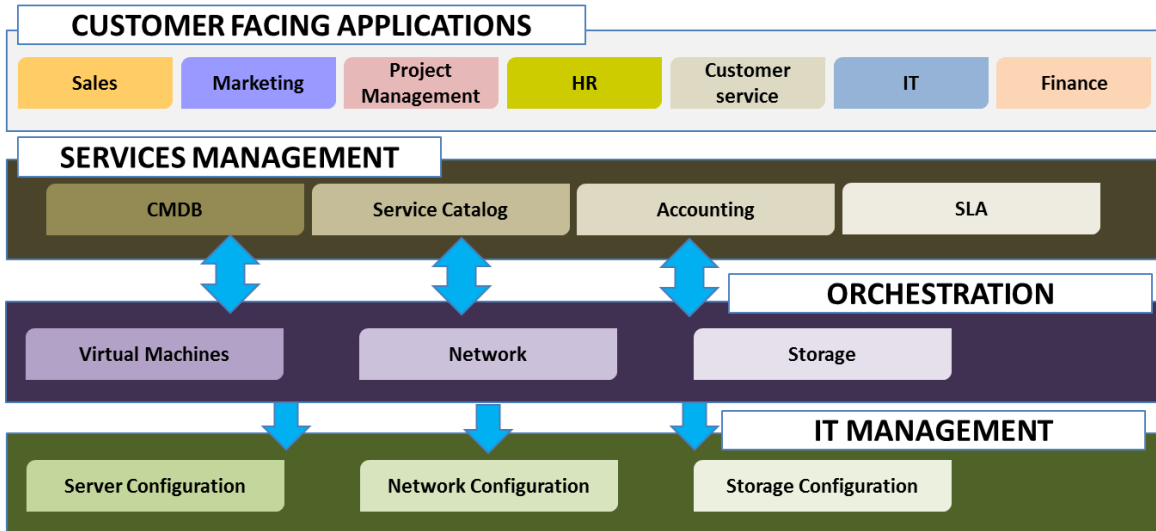
Reviewing the whole diagram, it is easy to see how the business service management layer can feed into customer applications, and orchestrate data exchanges between and escalations across these systems. It's also apparent that the assets and activities shown in the Figure aren't inherently unique to cloud – they *could* be deployed via other IT approaches. However, the figure is labeled "*Cloud* Orchestration Framework" for a reason: this is the approach that cloud providers use to ensure efficient and consistent delivery and reporting to clients who are entrusting them with their IT operations.

Concluding observations

Despite the clear opportunity for more effective deployment of IT capability and more efficient IT management offered by cloud, most midmarket workloads are still managed on site. There is a clear trend towards greater use of managed services, and clear business benefit to embracing this hybrid IT model. The question isn't really "will we move our midmarket business to cloud/hybrid infrastructure?" but rather, "how quickly will we effect this transition, and how will we prioritize workloads and capabilities along the way?"

To keep pace with accelerating business cycles and capitalize on new IT/business infrastructure opportunities for improved business efficiency and customer engagement, midmarket companies today need to be working with technologies such as virtual data center services, application virtualization, cloud orchestration and hosted/virtual workspaces as they plot their own "agile-cloud" strategies. There is no one-size-fits-all template that can be used to create an action plan for development of a robust

cloud platform. By combining virtual data center services, application virtualization, cloud orchestration and hosted/virtual workspaces to support 'front line' staff, midmarket businesses can build a framework that can align their activities and investments with an agile-cloud strategy – one that will deliver an approach to IT that truly contributes to the success and viability of the enterprise.

About dinCloud

dinCloud is a Cloud Service Provider that helps organizations rapidly migrate their entire IT infrastructure to the cloud. Our Business Provisioning includes migration of desktops, servers, storage, networking and applications to a Virtual Private Data Center. dinCloud provides subscription-based services tailored to fit a range of business models resulting in reduced cost, enhanced security, control, and productivity.

For more information, see our case studies (https://www.dincloud.com/cloud-case-studies).

Related articles:

Related articles and content on **Orchestrating Virtual Data Center Services** from dinCloud, a leader in cloud orchestration with their portal dinManage, and a cloud services provider who helps ease migration to the cloud with turn-key services and support.

App Virtualization Overview
Benefits of App Virtualization
Benefits of Cloud Orchestration
Cloud Orchestration and IT as a Service

About Techaisle

Techaisle is a global SMB IT Market Research and Industry Analyst organization. Techaisle was founded on the premise that Go-to-Market strategies require insightful research, flexible data, and deeper analysis. Understanding the value of data consistency across markets to inform strategic planning, Techaisle has remained holistic in its approach to Insights and provides globally consistent SMB and Channels analysis across geographies. To achieve its objectives Techaisle conducts surveys with SMBs and channels to understand market trends, opportunities, buying behavior, purchase intent, and IT priorities. Besides covering emerging technologies such as SMB cloud computing, managed services, mobility, social media usage, virtualization, business intelligence, big data, collaboration, networking its channel research coverage provides in-depth understanding of resellers and channel partners globally. Techaisle's insights are built on a strong data-driven foundation and its analysts are conversant with both primary research and industry knowledge, which is a rare combination. Techaisle offers its clients: Syndicated Research, Custom Primary Research, Consulting Engagement, Competitive Intelligence, Segmentation and Predictive Analytics services. For more information, visit www.techaisle.com

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