



Embracing 'IT as a Service'  
*Avoiding the pitfalls of 'Accidental Architecture'*

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*Transforming your IT organisation into either an efficient 'Everything as a Service' provider or a mature service manager that can effectively and securely consume services from the cloud will take time. But despite CxO pressure to get moving, it's not necessarily prudent to move everything now. You can step into this world with smaller projects and focused investments; but you must know your end state goal if you are to ensure that you do not fall victim to 'accidental architecture'.*

### Understanding the mismatch between resource consumption and business importance

In most organisations, functional units drive many IT investments in areas such as procurement, operations, and service delivery resulting in a diverse range of IT systems built to meet locale or 'point in time' requirements. These narrowly-focused technology investments have resulted in mature or legacy information systems which are simultaneously business assets and business liabilities. Of course, this problem is not new: a paper by the University of Kent released ten years ago described the evolution of IT architectures over time, and coined the term **Accidental Architecture**<sup>1</sup> to describe these legacy systems and the complex management challenges that they present. In the modern world, where IT continues its rapid evolution towards utility computing, the impact of this accidental approach is being felt more than ever. Driven by rapid changes in technology, cost pressures, focus on time to market, and user empowerment initiatives, today's CIO is being challenged to deliver on the promise of cloud computing where everything is delivered 'as a Service'.

The abstraction of compute, network, and storage infrastructure through virtualisation is the foundation of this approach where IT is delivered as a service (ITaaS). In this model, the infrastructure is a service, and its components must be readily accessible and available to the immediate needs of the application stacks it supports. The traditional application silos within the data centre are removed, which introduces a new level of flexibility and scalability to the IT organisation. This carefully architected and integrated approach to service deployment also allows new levels of automation and security to be implemented to successfully achieve application stack autonomy and customer business objectives.

Achieving these goals can have a profound, positive impact on profitability, productivity, and product quality. However, many organisations are experiencing significant challenges in transitioning to this new model and in managing its co-existence with legacy systems (that were built around the silo approach). This is not to say that each individual solution is not well-architected, nor that it fails to meet the defined business need, but rather that at an enterprise level the architecture became accidental – in essence, IT decisions were made without evaluating their full impact on the enterprise and without keeping an eye on the bigger picture, thus creating gaps in the value chain.

<sup>1</sup> Lauder, A. and S. Kent (2000). *Legacy System Anti-Patterns and a Pattern-Oriented Migration Response*, University of Kent at Canterbury, UK.

See further: <http://www.cs.kent.ac.uk/pubs/2000/981/content.pdf>

### The good news

However, over the past year or two, organisations have made substantial investments in server virtualisation and automation tools such as live migration and these have led to a level of standardisation and consolidation for most. Your virtualisation initiatives should have, and in most cases have, delivered your organisation significant benefits through capital cost reduction and avoidance – while accelerating time to market by deploying virtual machines (VMs) in just minutes.

But, to be truly ready to deliver on the promise of ITaaS, you now need to bridge the gap between the legacy state (where you are now) and the target state (where you want to be) where services are standardised, highly repeatable and highly automated.

Most highly virtualised organisations lack consistent processes for tracking VM deployment, usage and ownership. Add to that, management of issues such as patching and licensing fall through the cracks. The ease of VM deployment has often led to more server sprawl and many organisations have suddenly been faced with ballooning administrative costs and strained virtual pool resources in the absence of effective capacity planning.

Added to this complexity is the fact that many organisations are unable to put an accurate figure on actual costs for IT services, which transforms return on investment (ROI) and total cost of ownership (TCO) calculations into guesswork. IT departments, therefore, need to understand the real cost of existing services, the deployment of new technologies, service delivery models, or energy-conservation efforts to make intelligent decisions.



## Dimension Data's Virtualisation Service

Dimension Data's approach to addressing the challenges presented by both legacy infrastructure and highly virtualised services is to develop a clearly defined enterprise architecture that sets the rules for deployment and operating services in this new world of ITaaS.

- Begin with the end in mind – define the target state architecture based on a fully-virtualised infrastructure with a defined set of enterprise standards that promote interoperability, repeatability and automation.
- Complete a current state assessment that maps the application value chain – identifying desired service levels, service components and points of failure.
- Assess the applications' fulfilment of business need, agility and complexity and right size investments based on tiering of applications against desired business outcome and importance.
- Assess the level of technical obsolescence and the risk this represents.
- Define the service catalogue and associated service chargeback or showback model.
- Record resource consumption to benchmark against other applications.
- Standardise common operating procedures for both physical and virtual components including image creation, patch management, etc.

There are two final critical elements in preparing for this change, firstly, prepare your business units for the concept of shared infrastructure – for ITaaS to make economic sense, it has to have high utilisation – idle infrastructure destroys the return on investment. And finally, you must change your management mindset from “managing the VM” to managing the resource pool to enable effective capacity planning and to right-size infrastructure investments with desired service levels.

To learn more about our virtual data centre architecture and delivery services, visit our website, <http://www.dimensiondata.com/IndustryInsights/Virtualisation> and learn how Dimension Data can help you evolve from 'Accidental Architecture' to an effective, highly virtualised, service driven organisation able to clearly demonstrate the value of your investment in IT.

### About the author

David Hanrahan is responsible for owning and driving Dimension Data's Virtual Data Centre strategy in Australia – an initiative that spans across the company's Consulting, Data Centre Solutions, Security, Connectivity, Microsoft Solutions and Managed Services lines of business.

David's current focus is on the implementation of the next generation data centre and addressing the growing adoption of cloud-based services by Dimension Data's Australian client base.

Building on his previous experience as the General Manger of the Microsoft Solutions line of business, David also brings deep experience to the areas which are key to the success of the virtual data centre including enterprise architecture, systems management, identity management and virtualisation of servers, networks and storage. He also has previous experience designing and implementing data centre facilities including mechanical, electrical, cabling and services management infrastructure.





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