Michael Lane

Mike is a respected technology professional with nearly 20 years experience, having held senior manager positions in Information Technology, Communications and Consulting.

Over his career he has managed a vast number of Telecoms, IT, Business and Consulting projects and programmes, and the associated global cross functional teams, with a strong track record of results. Mike is a specialist in many aspects of information technology, including infrastructure, architecture, systems development, business processes, service management, policies and standards, leadership, governance and management.

With the burgeoning advent of the Internet of Things (IoT), one could easily be forgiven for thinking that everything can be done over or on the Internet, and more efficiently and effectively too. Well, truth be told, everything can… almost! The perpetual transformation IT into a continuously evolving core service fabric within the contemporary organization is fueled by both rapidly advancing technology and hugely dependent demand from all business quarters. It was Arthur C. Clarke who said: "Any sufficiently advanced technology is indistinguishable from magic".

In the midst of multiple IT service options sits the Cloud, no doubt still seen by some as rather mystical in its workings. It should come as no surprise, that with ever increasing frequency, we hear of the Cloud based delivery of any and every essential IT service, from infrastructure, to applications, to business process, and that's only the tip of the iceberg. There is no doubt that when it comes to providing and consuming IT services, cloud computing technology and solutions are setting the pace, and arguably becoming a de facto standard for the majority of organizations (and consumers) around the world.

So with more and more enterprises making, or at least contemplating, the decision to move all or part of their IT service delivery into the Cloud, one of the key questions being asked is "Can we practice IT Service Management (ITSM) in this new Cloud model and can we still adopt ITSM best practices?" This is where the IT Infrastructure Library (ITIL) comes in.

ITSM in the Cloud with ITIL

Before we consider ITSM in the Cloud, let's take a look at what Cloud computing is, by definition. The National Institute of Standards and Technologies define Cloud computing as follows:

> *"Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction."*

> (http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf)

Conceptually, Cloud computing can be traced back more than half a century, however it is since the turn of the century that there has been a real metamorphosis and evolution into what we know as the Cloud of today. Typical Cloud service providers were initially IT and Telecoms companies, who offered limited services based on their core business offerings. Fast forward to today, and the new breed of Cloud service providers include some of the world's biggest names like Google, Amazon, and Microsoft, and offer every IT service imaginable – to business customers and consumers alike. Software as a Service (SaaS), Infrastructure as a Service (IaaS), Platform as a Service (PaaS)…, nowadays it's a case of Anything as a Service… even the Cloud itself! With more and more Cloud service providers and services becoming available, and expanding tangible evidence suggesting that the pros of 'going into the Cloud' clearly outweigh the cons, the prolific adoption rate of Cloud-based IT services can be easily rationalized. And if Gartner's predictions are a suitable yardstick, we can confidently expect this growth to continue unabated into the future.

So what does Cloud computing mean for IT Service Management? The answer is that the fundamentals of ITSM are the same whether your IT Services are delivered via Legacy IT, Traditional IT, Cloud based IT or a hybrid of these. ITIL defines ITSM as follows:

> *"The implementation and management of quality IT services that meet the needs of the business. IT service management is performed by IT service providers through an appropriate mix of people, process and information technology."*

> (https://www.axelos.com/Corporate/media/Files/Glossaries/ITIL_2011_Glossary_GB-v1-0.pdf)

The definition of an IT Service in ITIL further refers:

> *"A service is a means of delivering value to customers by facilitating outcomes customers want to achieve without the ownership of specific costs and risks."*

> (https://www.axelos.com/Corporate/media/Files/Glossaries/ITIL_2011_Glossary_GB-v1-0.pdf)

ITIL is arguably the most widely accepted and in use best practice framework for IT service management on a global basis. ITIL can be described as a fully comprehensive framework, providing for the full lifecycle management of all of an organization's IT Services, and enabling effective and efficient delivery and management of these by the enterprise. ITIL is sector and industry vertical independent, applicable to public or private sector entities, and for use in any industry. What is important to remember when considering ITIL and Cloud computing, is that ITIL is also wholly platform and technology agnostic, and if we look back at ITIL's ITSM definition we note "…an appropriate mix of people, process and information technology." The fact that the Cloud has come into play by no means renders the processes, functions and roles within ITIL null and void, or reduces their value. To the contrary – ITIL can not only help you manage your IT Services in the more complex and demanding world of the Cloud, but your migration (Service Transition) to the Cloud too.

The 5 Lifecycle Stages of the ITIL Service Lifecycle are:

- **Service Strategy** – how to design, develop and implement service management as a strategic asset, essentially marrying services to business outcomes and customer demand

- **Service Design** – designing and developing high quality, cost effective services and service management processes

- **Service Transition** – development and improvement of capabilities necessary to transition new and or changed services into operations

- **Service Operations** – ensuring value is realized for the customer by achieving effectiveness and efficiency in the delivery and support of services

- **Continual Service Improvement** – sustaining the creation and maintenance of customer value through better design, introduction and operation of services and improvements & enhancements to them

Each one of these Lifecycle stages is valid and applicable for organizations which utilize Cloud computing as a technology or solutions option to deliver their IT Services. As with every framework, the processes, functions and roles within ITIL will require a degree of customization or enhancement for your organization's specific IT Service delivery model, however when it comes to ITIL, these can be seamlessly applied in any Cloud computing environment.

In terms of Cloud computing models specifically, the National Institute of Standards and Technology indicates that there are:

- Essential Characteristics such as:

    o On-demand self-service (For provisioning computing capabilities like network storage)

    o Broad network access (For standards based access from any device)

    o Resource pooling (For serving multiple tenants)

    o Rapid elasticity (For scaling up and down as needed)

    o Measured service (For resource optimization and control)

- 3 Service Models (SaaS, IaaS, PaaS)

- 4 Deployment Models:

    o **Private** – dedicated and operated solely for a single organization

    o **Community** – shared by multiple organizations within a common community

    o **Public** – available and utilized by all in the general public, business and consumer

    o **Hybrid** – a combination of two or all of the above

Whilst each of these models comes with different emphasis of foci, for example security and governance will receive more critical attention in a Public versus a Private deployment model, the ITIL framework still includes everything required for best practice ITSM in any Cloud computing model. The benefits to be realized from a shift to Cloud computing for the delivery of IT services are unique, as are the challenges faced by organizations. What this means for organizations is that where necessary, ITIL processes, functions and/or roles, and other business functions (eg. Finance – to cater for the payment of variable demand driven IT Service operating costs) may need to be adapted to support the Cloud-based delivery of one or more services. Best practice ITSM in the Cloud is arguably more important than in any other model, and fortuitously ITIL makes it not just possible, but a reality. How long will it be before we see ITILaaS…?

Conclusions

Cloud computing demonstrates a solid Return on Investment (ROI), affording organizations the opportunity to take advantage of technology and solutions that in days gone by simply would have been out of reach. For most enterprises, it's not a case of "Will we go into the Cloud" or "When will we go into the Cloud", it's an inevitable case of "Which of our services will we migrate to Cloud based delivery and which, if any, should we potentially keep in-house?"

For organizations to give themselves the greatest chance of success in transitioning to and managing their IT services in any Cloud computing model, it's imperative that a foundation of best practice ITSM is in place. And when we're talking best practice ITSM frameworks ITIL is the one that springs to mind every time. Counter intuitively many enterprises have voiced their concerns around whether ITSM, and ITIL specifically, can be utilized in Cloud computing domains (when they get there) with their unique models and service offerings. The answer is not just an unequivocal Yes, but in fact organizations should have ITIL in their stable before embarking on their Cloud journey.

Maintaining control of the delivery, quality, utility and warranty of IT services in any Cloud computing service and deployment model is paramount to its success or failure. With ITIL, organizations are able to formulate a robust, Cloud inclusive service strategy, design services for unique Cloud-based delivery, and transition these into (service) operation in the Cloud – ensuring that maximum value is realized for the customer by achieving optimal effectiveness and efficiency in the delivery of their IT services. If that wasn't enough, ITIL provides for continuous Service Improvement, to sustain and increase customer value through ongoing evaluation of the service strategy, better design, introduction and operation of services, as well as improvements and enhancements to them – all particularly critical in the dynamic domain of Cloud computing where service agility and technological change go hand in hand.

Organizations are constantly in pursuit of competitive advantage and the infinite creation of value. With IT shaping strategic direction and opportunity, and empowering its execution, enterprises are actively seeking revolutionary technologies and solutions to help them achieve their ambitions more economically, efficiently, and effectively than their competition. Cloud computing has become the option of choice for many organizations for those very reasons, and it's only going to become an even bigger part in the years to come. Choosing Cloud as part of your IT service delivery model in no way limits the ability and capability of implementing ITSM best practices like ITIL to manage, assure and govern your organization's IT services investment. Going Cloud? ITIL – for the Cloud, and beyond!

Additional Reading

www.orbussoftware.com/governance-risk-and-compliance/itil/

www.axelos.com/itil

If you're looking for a solution to enable your organization to align with, adopt and leverage industry best practice with ITIL 2011, Orbus Software provide a detailed IT Service Management solution, which comprises the ITIL best practice service management framework. This framework has been captured in iServer as detailed and intuitive BPMN 2.0 process models allowing it to be referenced, reused and benchmarked against, and providing essential capabilities such as Change Management, Compliance, Continual Service Improvement and Reporting and Analysis

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