

Building the Core Foundations for Cloud at Scale

A secure, sustainable and strategic approach to launching your efforts on public cloud whilst building a foundation for future success.



sourced
cloud at scale™

A Seemingly Small Step for IT; A Giant Leap for the Enterprise

The move to cloud computing by companies both large and small is inevitable. The pace of innovation enabled by cloud computing ensures that those who ignore, or are slow to adopt it, will quickly find themselves disrupted by competitors who can benefit from greater speed to market, business agility and cost effectiveness.

However, for large enterprises, frequently burdened with strict regulatory requirements, adopting cloud at scale is not a simple or minor consideration. Enterprises can miscalculate the organisational impact of cloud computing by not viewing it holistically or strategically. Whilst cloud services can be (and often are) procured with the simple swipe of a credit card, this can result in countless challenges as the enterprise's central IT function loses control of critical infrastructure and the organisation's security and compliance posture is compromised. Taking advantage of all that cloud has to offer, securely and efficiently, ultimately requires deploying cloud at scale with the support of central IT, not in small, independent or one-off initiatives.

Whilst a cloud journey may begin with a single step, even the best organisations can get off on the wrong foot when deploying cloud at scale, leading to false starts, stalled efforts, expensive technical debt, or even worse, creating security holes exposing sensitive data.

“You can do everything in the cloud you can do on premise, plus 50 per cent of things you could never do.”

~ CONSULTING PRACTICE LEAD,
SOURCED GROUP

Cloud adoption must be carefully considered, mapped, and aligned to the enterprise as a whole. In this paper, we look at the dangers of early cloud missteps, best practices for building cloud at scale, and an approach to starting an enterprise cloud journey that creates a foundation for future success.

Not Another Proof of Concept

Enterprises should not need to conduct a proof of concept (POC) for a cloud initiative. Cloud is a proven technology platform, with security and reliability far greater than any one organisation can implement or maintain itself. Still, the first step many organisations take remains a POC to assess the feasibility of cloud. As a result, businesses often remain stuck at this stage, whilst the world of cloud computing advances rapidly around them.

Based on almost a decade of experience implementing cloud solutions in large, highly regulated enterprises, our contention is that organisations should stop focusing on whether cloud is feasible and secure and start focusing on how they can quickly adopt an enterprise-wide cloud computing framework to gain a competitive advantage.

Cloud Unchecked: Growing Pains and Risks

Cloud computing at scale can be deeply disruptive and is very different from the way traditional IT has been performed. To maximize its value, a culture shift must take place in IT (and throughout the organisation) that embraces the new model and new approaches to IT infrastructure and application development.

Cloud places all the resources needed to develop, test and launch new applications and services just a few clicks away. But for large enterprises, especially those in highly-regulated industries like financial services, healthcare and telecom, this is precisely what introduces the biggest risks. Cloud consumption can quickly spiral out of control and, without proper operational controls and processes, so too can security and compliance.

As well, despite its maturity, there remains confusion across industries around cloud computing, IaaS, and the way cloud platforms such as AWS Cloud, Microsoft Azure and Google Cloud Platform work. Often, cloud is adopted with an app-centric or one-off approach that doesn't serve the larger organisation, and the risks of which are not always recognized or well known. In addition, cloud is adopted without a recognition of how other processes must change across the enterprise to achieve success.

Shadow IT

Shadow or rogue IT is nothing new, but cloud computing has brought about a new wrinkle. The ease at which lines of business can procure IT resources through the cloud makes it extremely appealing. However, operating outside central IT complicates and puts at greater risk the security, audit and compliance posture of the enterprise, especially in highly-regulated environments. In addition, with lines of business acting on their own, it becomes virtually impossible to deploy cloud at scale. Organisations can easily underestimate the amount and impact of shadow IT.

It's a likely bet today that large enterprises who think they aren't using cloud services, do in fact have shadow workloads on one or more public cloud platforms.

Unsecured Data

Cloud opens the door to tremendous opportunities to innovate. However, if mismanaged, it opens the door to dangers and risks as well. For example, containerisation allows memory or storage instances to be spawned in microseconds, but it is not uncommon for containers to be mislabeled. Suddenly, the bucket of storage that the line of business just deployed has a dozen holes poked in it, leaking company (or worse, customer) data across the Internet. This is bad for any business, but a nightmare for the heavily-regulated, security-conscious enterprise.

Technical Debt

Whilst for many lines of business there can be a significant “win” in being the first to the cloud, it quickly creates future challenges. When cloud efforts are not implemented strategically, the initiatives become isolated from the larger enterprise’s goals, regulatory requirements and operational objectives. When the enterprise does make a more strategic move to the cloud, these technology “islands” may need to be redesigned to adhere to the standards and services being adopted. Technical debt accrued from acting early without a strategic plan, or not in step with central IT, increases costs as applications, security configurations and services need to be reworked and redeployed later. The barrier created by pre-existing technical debt can leave IT spending more time and money cleaning up past mistakes, rather than building the foundation for new services and future innovation that drive competitive differentiation.

Consumption Woes

Cloud makes it simple and easy to procure and consume IT resources. However, if these resources are not deployed strategically early on, many enterprises quickly learn that not all consumption is good consumption. Misguided consumption can ultimately lead to poor customer satisfaction. If 80 per cent of an organisation’s applications run on Microsoft SQL server, then spending the initial time, effort and money moving Oracle Database server to the cloud will achieve lower value and produce only disappointment. It may seem obvious, but far too often cloud investments are made in bleeding-edge areas that are technically interesting but produce less overall, ongoing business value.

“As enterprises place more services in public cloud and as the public cloud providers introduce more infrastructure and platform services directly into the hands of developers, it is becoming increasingly complex and time-consuming to answer the seemingly straightforward question “Are we using these services securely?” and “Does the configuration of my cloud services represent excessive risk?”

~ GARTNER, ‘INNOVATION INSIGHT FOR CLOUD SECURITY POSTURE MANAGEMENT’, NEIL MACDONALD, DISTINGUISHED VP ANALYST, 25 JANUARY 2019

Best Practices: Well Begun is Half Done

Cloud computing has changed the underlying principles of how to build and run IT applications. To succeed in the adoption of cloud at scale, it's crucial to ensure the fundamentals are in place as early as possible to avoid sprawling technical debt.

It's one thing to migrate a single application to cloud, but another to achieve cloud at scale, with the elasticity for more traffic ("scaling out"), the ability to increase compute resources and improve application velocity, to avoid bottlenecks and, ultimately, customer dissatisfaction ("scaling up"). Again, for the greatest advantages of cloud to be fully realized, it must be seen through the lens of how it transforms and impacts the entire enterprise, as well as its security posture, governance and compliance requirements.

Based on Sourced's extensive experience helping some of the world's largest and most security-conscious organisations migrate to cloud, we have established several best practices to deploying cloud at scale:

Adopt a Cloud-Native, Everything-as-Code Approach

Today, every aspect and layer of IT is becoming software-defined. Achieving repeatable success in the cloud requires embracing the concept of Infrastructure as Code (IaC) that use templates and machine-readable files to build a virtual data centre on demand. All aspects of the cloud should be deployed using automated, pre-defined templates and consumables that contain the enterprise's security, compliance and deployment opinions, not by using the cloud provider's console. This eliminates human error and enables the ability to deploy infrastructure quickly and securely.

This approach also allows the best practices of software development to be applied to infrastructure management. Rather than undertaking a one-off development of an application-specific infrastructure, the enterprise can build a reusable foundation on which to run

that application, as well as the next one, and so on. Tools exist to provide automation capabilities and create a Continuous Integration/Continuous Delivery (CI/CD) pipeline to build a sustainable infrastructure (again, on demand) that has the security and scalability needed to accelerate cloud adoption throughout the enterprise, not on isolated islands within different lines of business.

"Through 2024, workloads that leverage the programmability of cloud infrastructure to improve security protection will suffer at least 60% fewer security incidents than those in traditional data centers."

- GARTNER, 'INNOVATION INSIGHT FOR CLOUD SECURITY POSTURE MANAGEMENT', NEIL MACDONALD, DISTINGUISHED VP ANALYST, 25 JANUARY 2019

Select the Right Workload

Selecting the first “masthead” application or workload for the enterprise’s cloud journey is vital to igniting change and ensuring buy-in from the organisation. This application will differ based on the business DNA of each organisation but should possess several important common characteristics. It must be:

- Client-impacting – the application should not be trivial, but meaningful to the success of the business
- The app should carry both internally and externally recognizable branding
- Application and support teams must be supportive of the change
- The workload is currently experiencing scale, cost or agility constraints that cloud computing can help overcome
- Migrating the app generates valuable lessons around security, compliance and technology
- The application possesses some cloud-native characteristics
- It has a relatively low level of technical complexity

Training that takes place during this initial stage, as well as the documentation developed, strengthens the foundation for future applications. This measured, iterative approach to bringing applications to production is the key to overcoming the challenges of cloud adoption — many of which stem from a decentralized approach.

“All aspects of the cloud should be deployed using automated, pre-defined templates and consumables that contain the enterprise’s security, compliance and deployment opinions.”

Build a Centre of Excellence

As the organisation’s cloud journey matures, a valuable best practice is the establishment of a Cloud Centre of Excellence. This centre of high-performers and forward-thinkers from within the organisation, along with the cloud consulting partner, can steer cloud efforts throughout the organisation, maintain momentum, and advocate for adoption. It can evaluate the workloads that are well-suited to move to the cloud and centralize the cloud strategy, ensuring an agile, iterative, horizontal capability.

Communication is key, and so is having a communication plan in place. When cloud initiatives fail, it is almost never a technology failure, but one of the organisation’s processes and culture. **There’s not a single IT problem that cloud technology cannot solve.** Typically, cloud providers already have a feature to solve it, and if they don’t, they can build it. The challenge cloud providers cannot solve is one of people and processes, and that is where the development of a Cloud Center of Excellence becomes crucial.

Start with a Cloud Foundation that Scales

To ensure compliance, security, governance and operational readiness, organisations should build in the cloud a secure, compliant enterprise-grade foundation that acts as a virtual data centre.

To enable cloud at scale and compliance, this platform should be managed through automation, and use the same authentication and security policies as the existing on-premise or hosted data centres. Once again, by adopting an everything-as-code approach, configuration and maintenance can be automated to eliminate human involvement — and human error.

This virtual data centre becomes the foundation on which the entire cloud journey is built and grows — from a single workload, to 10, to 100 and beyond. However, it must be approached from the very beginning with scale in mind, and operational capabilities must be prepared to mature and evolve alongside the cloud platform for it to succeed.

Sourced has developed a proven solution to help enterprise clients launch their cloud initiatives based on these best practices. It's designed to achieve early wins but keep a steady eye on current and future enterprise requirements. Called the **Cloud at Scale™ Core Foundations**, this solution allows large enterprises adopt cloud quickly, whilst ensuring strict regulatory compliance and security.

“While enterprises can leverage the cloud in many areas, challenges often exist in adapting an enterprise’s culture and skills, as well as its management, integration and vendor management strategies. These include security, risk management, governance, compliance and disaster recovery. They are sometimes barriers, and these challenges vary by factors such as geography, culture, company size and vertical industry. Some challenges are external (for example, compliance and regulations), but many are internal. Most challenges are nontechnical and related more to attitudes, fears and trust issues.”

- GARTNER, ‘CLOUD COMPUTING PRIMER FOR 2019’, DAVID SMITH, DISTINGUISHED VP ANALYST, 24 JANUARY 2019

Your Best Foot Forward: Cloud at Scale™ Core Foundations

From day one, cloud must be viewed as not just a technology solution, but one that encompasses people, tools and processes. Sourced's Cloud at Scale™ Core Foundations offering provides the groundwork for this broader, holistic approach. It gives organisations the tools to quickly launch a cloud adoption program whilst enabling a multi-year cloud at scale strategy. At the heart of the solution is a Sourced-built secure and compliant, enterprise-grade virtual data centre in the cloud, along with an initial set of pre-defined consumables (templates). This platform accelerates cloud adoption by supporting all the most common needs, whilst laying the groundwork for further business-specific customisation. Cloud at Scale™ Core Foundations uses our proven methodologies and approach to cloud, so that in as little as 12 weeks enterprises can begin adopting cloud in a compliant manner that avoids the typical risks and mis-steps — quickly and cost-effectively.

“Cloud is fundamentally different from traditional IT. If you use the same processes and approach as you did on-prem, you won't achieve its true value.” - **MANAGING DIRECTOR - NORTH AMERICA, SOURCED GROUP**

What We Do: The Elements of a Perfect Start

Sourced has a proven, almost decade-long record of creating low-friction governance and compliance frameworks that address the most challenging enterprise requirements. Our highly trained consultants and project managers draw on that experience to provide the tools, templates and expertise to identify core needs and potential consumption challenges to maximize value through:

- 1 Consulting and integration services that deliver secure and robust templates whilst teaching how to best leverage cloud though a cloud-native and everything-as-code approach**
- 2 Training and documentation, including a complete user guide to begin building an in-house Cloud Centre of Excellence and setting the stage to build operational capabilities to support cloud at scale**
- 3 Project management services to ensure adherence to schedules and timelines**

Cloud at Scale™ Core Foundations

The Cloud at Scale™ Core Foundations platform embraces best practices already in use by Sourced clients across the globe to accelerate cloud adoption at scale, enhance value from cloud, remove barriers to success, and create early wins. It provides:



Security: Built with the architecture already trusted by some of the largest and most security-conscious organisations in the world



Rapid Time-to-Value: In as little as 12 weeks, start a cloud transformation journey on the right foot with enterprise-grade data centre templates



Price and Timeframe: One all-in cost and a tight project scope, managed by one of Sourced's highly-trained project managers, ensures on-time and on-budget delivery



Low Risk: A half-day workshop mitigates the risk of throw-away work and ensures an enterprise-grade platform that meets your needs today and for the future

Questions you should be asking before beginning a cloud journey:

- ☑ What are the implications of rapid business changes on your technology infrastructure?
- ☑ How do regulatory compliance issues influence your technology choices?
- ☑ How can you meet the need for business agility whilst ensuring security and compliance?
- ☑ What are your biggest challenges to meeting compliance standards?
- ☑ What do you consider to be the most important elements of a security strategy to reduce the risk in your business?
- ☑ What are the key motivators driving your company to pursue a cloud strategy?
- ☑ What are your executive team's objectives/expectations for your cloud initiatives?
- ☑ Who is driving your cloud initiatives?
- ☑ How do you ensure your IT team is connected to the business?
- ☑ How important is it for your organisation to "own" the technology infrastructure?
- ☑ What changes in customer attitudes and expectations are influencing your business/IT choices?
- ☑ Which technologies and trends are having the greatest influence on your business strategy?
- ☑ Which technologies and trends are you adopting to support the move to the cloud?
- ☑ Competition, information security, industry disruption, etc.: what do you see as the biggest risks to your business?
- ☑ What measures can you take to mitigate those risks?
- ☑ As businesses attempt to be more agile to meet today's challenges, how is IT responding?
- ☑ How do you envisage your IT infrastructure changing in your planning horizon?
- ☑ How do you meet the rapidly changing business demands for new applications and capabilities?
- ☑ What are the greatest obstacles to meeting business needs for new application capabilities?



Enable innovation. Ensure compliance.



About Sourced Group

Sourced Group is a global cloud consultancy that helps enterprises make the most of cloud services with a focus on security, governance and compliance. With offices in Australia, Canada and Singapore, Sourced provides professional services for securing, migrating and managing the cloud infrastructure of large enterprise customers. The company specializes in configuration management, automation, cloud computing and data management for a wide range of industries, including financial services, media, transport and telecommunications companies. Using Sourced's proven deployment frameworks and trusted design patterns, the company works with the largest and most security conscious organisations to unlock innovation and adopt cloud at scale.

Solutions Portfolio



CLOUD SECURITY

Proactive & Reactive Controls

Encryption

Network Security

Identity & Access



GOVERNANCE, RISK & COMPLIANCE

Control Audits & Delivery

CCOE Transformation

Executive Cloud Governance

Program Delivery

Cloud Project Health Checks



CORE FOUNDATIONS

Cloud Platform Architecture
Identity and Access Management
Infrastructure and
Application Pipelines
Multi-Cloud Strategy



WORKLOAD MIGRATIONS

Workload Assessment
Workload Migration Roadmap
Enterprise Applications including:
Pega BPM, MUREX,
Enterprise Databases,
Enterprise Content Management



DEVOPS ENABLEMENT

Workload Architecture & Migration
SDLC Enablement Via CI/CD
Configuration Management
Infrastructure as Code
Automation



DATA INTELLIGENCE

Big Data
Database Migration
Database Optimisation
Data Warehousing
Enterprise Data Lake
Business Intelligence

PLAN



BUILD



RUN

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