



The Great Migration

The proof is in the pudding. The world's best companies are building complex cloud, multi-cloud and hybrid cloud environments to orchestrate all the data, applications, resources and services that make them great. The cloud can support a greater scale than purely on-premise systems, the cost of maintenance is lower and flexibility is extensive. Global businesses and organizations need global collaboration, and the cloud is definitively the direction they're moving to achieve this. Standing up, moving or adding cloud systems is happening all the time.

Obstacles to a Smooth Migration

A successful cloud migration is characterized by identifying trusted, governed data and effectively transporting it to the cloud in an accurate and timely manner. But this is quite the challenge when you're working at enterprise level. Moving data to the cloud can be resource intensive and command too much time and effort on the part of subject matter experts. Migrations that bog companies down are often caused in large part due to a poor understanding of existing data environments. Having to move reservoirs of data which are poorly understood, both in their contents and relationships can create murky cloud environments that obscure real knowledge. Here are just a few of the most common challenges companies face stemming from this when conducting cloud migrations.

1. Lack of Migration Plan creating Anarchy

Deciding to move to the cloud is easy. Putting a proper plan together for how this should be done is a lot more difficult. When companies migrate to the cloud, they're porting all their most critical information assets, applications and business processes to the cloud. Many



companies make the mistake of assuming adopting a single migration strategy is the simplest or most effective way to go. But take for example the 'lift and shift' approach. Sure, it's fast, because you're 'lifting' your applications and associated data and 'shifting' them to the cloud with virtually no changes. But this inevitably leads to inaccuracies, and misses a golden opportunity to significantly optimize the structure of data and application environments.

2. Inability to Manage and Navigate Complexity

Modern enterprise data and IT systems are increasingly complex. Big Data is flowing into the cloud at unprecedented levels which are only projected to increase massively. IDC Research expects data growth to rise by 61% by 2025. Most companies are still reliant on legacy technologies and processes in order to store and use the data inundating their systems. The data deluge is driving companies to adopt increasing numbers of disparate technologies and applications on top of these legacy tools, making complete, accurate and timely analysis almost impossible to reliably achieve.

3. Data Security and Compliance Risks

More data means more regulations surrounding data privacy, security and use. Naturally, the fast growth in regulations around data necessitates that companies rapidly develop compliance in order to avoid hefty fines and reputational losses. The SANS 2019: The State of Cloud Security report found that 56% of respondents indicated that they are extremely concerned about cloud security when migrating to the cloud. This isn't an overreaction. Most companies still overwhelmingly rely on manual data security analysis and procedures



in order to administer policy. These operations are performed by a select few subject matter experts and not effectively reproduced or scaled across the business.

To avoid costs ballooning and streamline time-to-value, new cloud operations must be immediately useful. Companies need a way to understand what data represents, where it is, who has access to it and how they use it and whether it can be trusted both before and after migration. To achieve this, data lineage is required.

Data Lineage Accelerated Cloud Migration

There are a multitude of factors that make data lineage an essential part of any cloud migration. Before looking at these, it's necessary to briefly outline just what data lineage really is. Data lineage is a visual representation of data origins and transformations and movements it undergoes over time. It enables the tracing of errors back to their root cause in rapid and simple fashion, and can reveal internal system and application dependencies.

How Lineage Addresses Migration Challenges

With respect to cloud migration projects, the value of data lineage is profound. The ability to map out data flows, view downstream impacts and assess relationships between assets and applications is vital for planning a logical migration. Without accurate and dynamic lineage, it is virtually guaranteed that dependencies and transformations in the home system are broken over the migration, making heavy remediation work necessary in the new cloud. This costs money and demands time and resources, massively reducing the cost effectiveness of a new cloud platform. Gartner projects that through 2024, 60% of I&O leaders will encounter public cloud cost overruns



that negatively impact their on-premises budgets. Without proper visibility into your existing environments, no migration can avoid significant quality issues. Objects will go missing, connections will be severed and knowledge about specific data and processes will be lost.

Why Alex Lineage?

Alex Automated Data Lineage allows you to avoid this remediation slippery slope. Alex is the only platform that can show you impact analysis from any piece of data, anywhere in your entire enterprise landscape, at any time. Analysis can be done at the columnar, table and report level, and every potential upstream or downstream impact of a change can be shown. Alex provides an end-to-end view of data and all its transformations from source to reporting. Alex builds trust in data for decision-making by telling you if it's up to date, accurate and complete. With Alex, you'll know what data is worthwhile even taking to the cloud, allowing you to streamline the process and reduce your cloud footprint, keeping hosting costs low.

Alex Automated Data Lineage combats the growing complexity of the modern enterprise data landscape. The richness and granularity of Alex's metadata capture capabilities enables the graphical representation of the entire system. Alex can automate close to 95% lineage out of the box. In one implementation, this involved a highly complicated warehousing environment with more than 200,000 moving objects across several RDBMS, ETL, Custom Scripts, BI tools and ad-hoc usage. A traditional cloud migration approach was estimated to require 6 months. With Alex Automated Data Lineage, start-up time was less than one week, and the entire migration requires less than three weeks. A clear understanding of your system's data, its lifecycle and how it needs to be migrated can begin to be formed at the



press of a button. Interdependencies, relationships, transformations and aggregations of all data objects are captured from end-to-end, but represented in an easy to navigate, beautiful lineage visualization. Lineage makes proper migration planning and execution possible.

Securing your Migration and new Cloud Platform

Accurately and efficiently migrating to the cloud is critical to the enterprise, but so is data security and associated risks. As Big Data grows, so do the associated risks of data breaches, with regulations around privacy and security becoming more stringent. Laws like CPG 235, BCBS 239, CCPA and GDPR are rolling onto the books in jurisdictions around the world, and enforcement is becoming harsher and more regular. Repeated record fine amounts are being set in the EU, where almost no companies are exempt from data privacy regulations. More data than ever is flowing into complex cloud environments, making compliance unmanageable without significant automation. There also needs to be trusted visibility and real knowledge of the systems and data in play.

Alex Automated Data Lineage is being used by some of the largest global financial institutions to report their entire dataflow to the regulator. This is because Alex can operate at any existing scale, with no system too big or disparate to catalog and connect with automated graphical lineage. It's not just that data flow and dependencies between systems and applications can be immediately visualised after implementation. Unique identifiers can be assigned to Critical Data Elements that make them identifiable and searchable across systems. Automated monitoring of sensitive data, including usage and permissions heatmaps identifies data and systems at risk of exposure. Alerts are triggered to notify responsible people, who can rapidly



diagnose issues and take remedial action via one-click lineage. Data security policies can be stored in the Alex Intelligent Business Glossary, allowing teams to design and kick off workflows that clarify and automate privacy processes. With trusted categories of sensitive data and risks, and the ability to collaborate in a single platform across all relevant processes, Alex makes policy reality. Alex's visualisations are so accurate and beautiful that they can be directly reported to regulatory authorities in order to show compliance with any manner of legislative requirements.

Bottom Line

When considering the full breadth of benefits Alex provides to enterprise cloud migration projects, it's clear that starting a migration without Alex will produce suboptimal results. Adopting Alex as a core, single analysis and action tool that can support every phase of migration and resulting cloud operations is Data Intelligence. Alex's rapid, light-touch cloud deployment with out-of-the-box templates minimise start-up times and costs. Establishing sustainable benefits by enabling repeatable analysis reduces days of effort to just hours or minutes. Sustained maintenance of both the legacy and target environments allows a true analysis to be conducted on the extent of value extracted from the new cloud platform. If shortfalls are occurring, strategic changes can be devised based on previously unseen insights from Alex, which also expedites their implementation.

Alex is designed to be a foundational pillar of any enterprise's cloud data strategy. Get in touch to find out how Alex Solutions can accelerate your cloud migration today! contact@alexsolutions.com.au

Visit www.alexsolutions.com.au to learn more about our services.