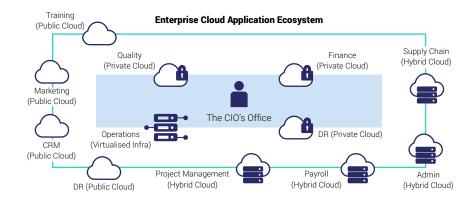
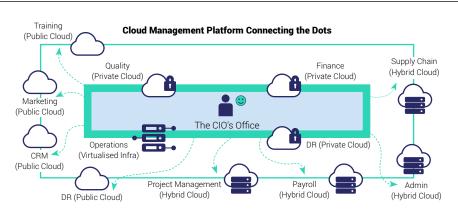


As CIOs grapple with a pervasive and disparate ecosystem of cloud computing technologies, they need to find a structured approach to govern their information assets. A cloud management platform can go a long way in helping them achieve this goal.

A large number of businesses today see cloud-based applications as an effective way to optimize IT costs, by leveraging their pay- as-you-go model. They also recognize that the traditional model of centrally provisioned IT may not be agile enough to meet rapidly changing customer needs. Companies have been astute enough to liberalize IT deployment and management, so that departments can take the initiative and have their own cloud developments. Today, cloud-based platforms are used to manage diverse departmental needs such as project management, notification systems, data





sharing and collaboration. They are also used across a wide number of industry-specific needs such as analytics, reporting, big-data processing and data interchange, in sectors such as banking, telecom, automotive and e-commerce.

At the same time, the approach of having a deregulated, cloud-based IT ecosystem has also created new challenges for the CIO – around managing cost, compliance, information and enterprise IT performance. To address these challenges, enterprise IT teams need to radically alter their approach to enterprise IT and information management. A robust cloud management platform (CMP) gives them the ability to handle a complex and fast-changing cloud-based environment.

Simplifying cloud application management

Essentially, a cloud management platform is a consolidated platform with an extensive set of APIs to deploy, optimize, integrate and scale the enterprise cloud computing ecosystem, both within and outside the firewall. A CMP allows multiple clouds (different cloud infrastructure vendors, architectures and data types) to be integrated seamlessly, with a structured approach for governing and securing data.

The platform advantage

For any organization that plans to have a diversified and disaggregated cloud technology strategy, a cloud management platform provides unmatched simplicity and use-of use for a variety of enterprise stakeholders, including operations personnel, R&D teams, analytics and reporting teams, and business decision makers.

A good cloud management platform can enable ClOs to understand the state of their cloud infrastructure by aiding in presenting information into meaningful and contextual information. This is supplemented by providing controls to quickly respond to events.

This standardized way of looking at information ensures that organizations can understand and measure the performance of every cloud asset, irrespective of the provider or technology used. CIOs can also use the dashboard to view compliance information. Costs can be analysed with respect to provider, application or region. This can be used to gain insights into spends and utilization of cloud assets.

Getting cost clarity

Most SaaS based applications are extremely easy to deploy and scale. Configuring and provisioning an application for dozens of users may take only a few hours (for enterprise applications like CRM or reporting) and sometimes a few minutes (for example, workflow management or mass emailing software). With cloud applications that can ramp up or down this quickly, ClOs have little or no visibility in terms of current and future IT expenditure.

The challenge for IT departments is to forecast the hardware and software needs of various departments, and provision IT resources cost effectively.

The platform advantage

Having the right cloud management platform in place allows IT infrastructure managers to understand resource needs as well as assign resources using a single, consolidated interface. Since resource utilization can be tracked in real time, IT teams can take calculated decisions around cost and resource allocation. CIOs can setup an allocation cost by project or department using a user-friendly dashboard. Enterprises can even setup thresholds to ensure that cloud costs do not escalate. Infrastructure managers can track spend limits and analyse usage patterns to forecast resource needs and manage their costs more effectively.

Simplifying compliance

A cloud application ecosystem tends to be rather unstructured in many respects - workflows, data architectures, deployment styles, payment models, and reporting tools. With different data models and reporting systems, CIOs can find it hard to get a single view of performance and compliance information. IT teams will need to put in hundreds of hours each month in finding, collecting, standardizing, aggregating, processing, and eventually analysing performance and compliance data from across the enterprise. Needless to say. real time reports are impossible to get. and IT teams more often than not will be unprepared when an audit takes place.

The platform advantage

Most enterprise-class cloud management platforms provide powerful strong data and performance management features that allow IT managers to generate reports in real time. By centralizing log and performance data across multiple cloud service providers, it makes compliance information available to IT, finance, and other teams whenever required.

 $^{{\}it ^2http://ieeexplore.ieee.org/document/47738/?reload=true}$

 $^{^3\,}http://www.theverge.com/2016/4/25/11492102/bill-gates-interview-education-software-artificial-intelligence$

Handling information overload

To ensure that the cloud technology investments have the desired impact, IT teams need to track and analyse enormous amounts of system and application performance data every day. The challenge multiplies when we have:

- hundreds of siloed departmental applications
- · spread across dozens of locations
- running on different cloud platforms and data structures
- using a diverse spectrum of parameters, terminologies and standards
- reported using different types of nonstandard formats and layouts

The resultant data environment ends up being very complex and difficult to govern. IT teams may end up dedicating a large number of resources just to keep the data updated and manage the performance tracking process. And once the information is aggregated and organized, getting the right information to the right decision maker, and in the right visual format, is a different challenge altogether.

The platform advantage

Cloud management platforms have the ability to aggregate, standardize, process and, log performance data across physical and virtual resources, throughout the enterprise. The entire process of managing system and application information is automated. To get the right information to the right people or teams, such platforms provide an extensive set of pre-built dashboards and customization options. Users can be given access to specific features and data, depending on their roles.

Staying aligned to long-term enterprise IT goals

While the benefits associated with having a deregulated, cloud -based IT ecosystem are apparent, CIOs cannot afford to lose sight of the long-term enterprise IT roadmap. Departments, after all, have their own near-term interests in mind when they choose to develop or deploy a cloud application. Often, enterprise-level concerns are overlooked when making a department level decision.

For example, certain application customizations to the database structure of a mass emailing application may impact the enterprise-wide CRM application (that may be on-premise or also on cloud). Other issues such as service duplication, insufficient DR mechanisms, network performance, and security protocols need to be addressed enterprise-wide rather than at a department level.

The platform advantage

One of the biggest advantages of using a cloud management platform is to get complete visibility into resources, performance metrics, and spend, in a uniform manner. By leveraging performance analytics, IT managers can identify usage trends, deep-dive into core technology bottlenecks and resolve implementation or integration issues before they can make a significant impact. This allows IT decision makers to get a complete picture of cloud investments across the organization, track key metrics, and make necessary interventions where needed.

Eventually, enterprise IT teams that take a proactive approach to optimize their cloud ecosystems stand to gain in the long run from reduced complexity, lesser operational overheads, and better resource utilization. For companies that have already gone far down the cloud path, the problem of managing a scattered and heterogeneous mix of cloud applications may take more time and effort to overcome. By using standardized ways of presenting data, enterprises can view consistent information across different service providers.

Implementing a robust, enterprise-class cloud management platform should provide a great amount of structure, direction and governance to enterprise and departmental cloud initiatives.

