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Cloud Services and the Imperatives for an Ecosystem of Platforms Approach

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Abstract

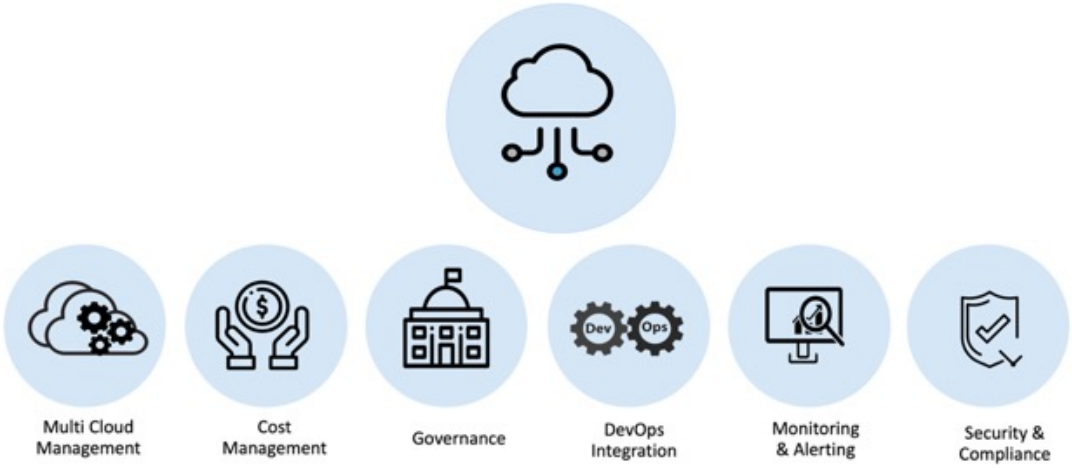
Cloud ecosystem of platforms, a mesh of integrated cloud services holistically delivering user experiences that are supported by integrated fit-for-purpose platforms. From migrations driven by cost and or innovation initiatives, to tools proliferation and service complexity – cloud ported, cloud native or cloud ready has become the fabric of most services in either operation or in development today.

Problem Statement

Cloud services play a pivotal role in how users utilize infrastructure, software, and solutions that are delivered by numerous third-party providers – from the simple use of email to the complex operation of corporations' or government agencies' mission critical solutions.

While cloud services have in many ways simplified the consumption of infrastructure, software, and solutions to end-users, it has changed the levels of complexity and intercorrelation of back-end "systems" that support this delivery and consumption model.

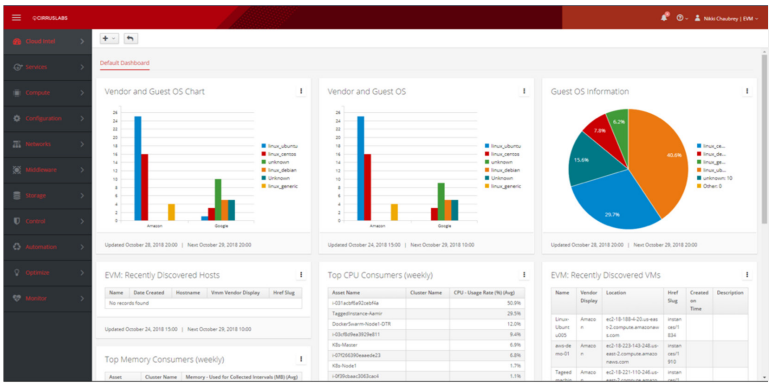
Services can no longer be managed, operated, or consumed in siloed functional areas or one-off solutions. The complexities in integrations, billing, reporting, governance, service delivery, and many areas of inter-dependencies, have in a lot of ways, tested the efficacy of cloud services programs – and will continue to challenge adoption when not correctly planned for and holistically implemented.



Here are some specific challenge areas for cloud services adoption and management:

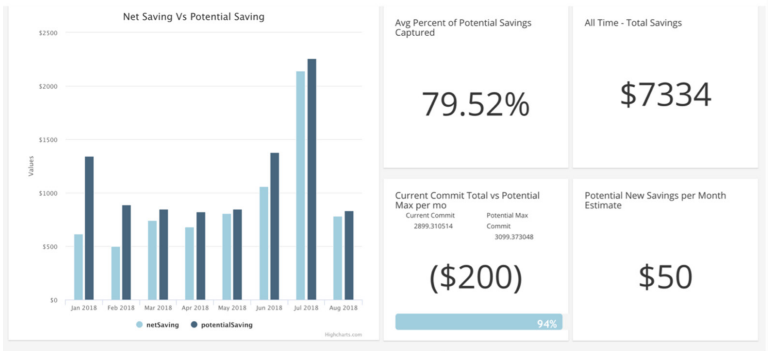
Multi-Hybrid cloud management complexity

With workloads across multiple models including private, public, hybrid, while also integrated by or with differing “XaaS” consumption methods – and across multiple vendors. The normalization or “single-pane of glass” of management capabilities is still a contested approach, but more and more, developments on this front are allowing simplified reporting and visibility of services that could one day, pave the way to a management platform across all service provision.



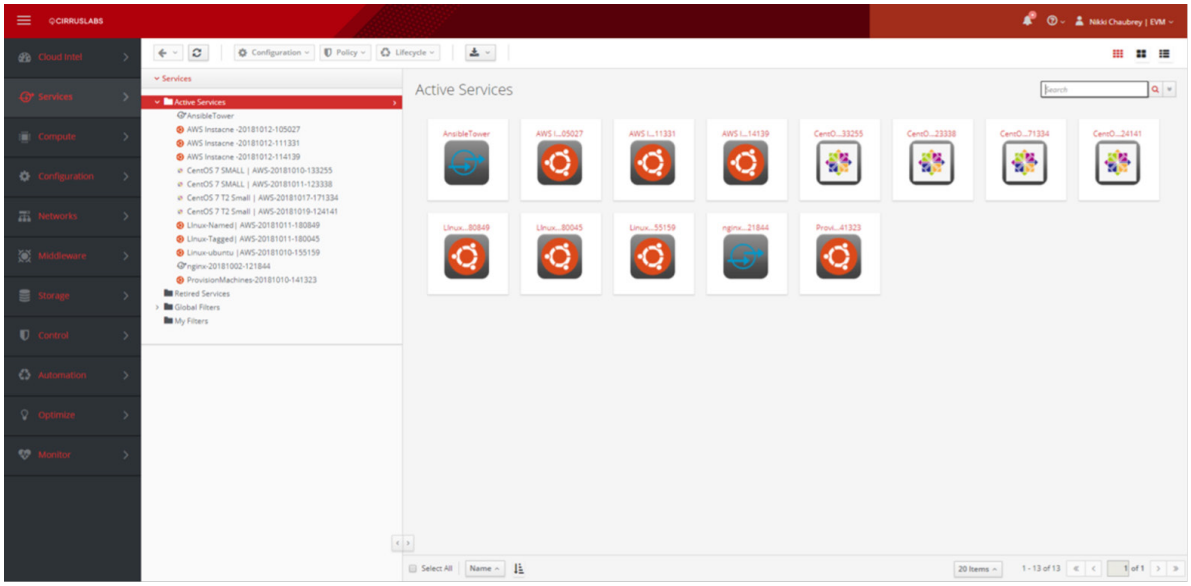
Cost management challenges

with lack of visibility, predictability, and control over multiple cloud billing types, usage patterns, and budget intricacies. This is another area that still presents a struggle for companies and or institutions that look for clarity in ROI and TCO commitments tied to their cloud services programs. Reporting and optimization tools are still vendor or platform centric, while ROI and TCO calculations still lack the full spectrum of workloads and related costs: pre-cloud, migratory costs, post migration, and future-ready workloads.



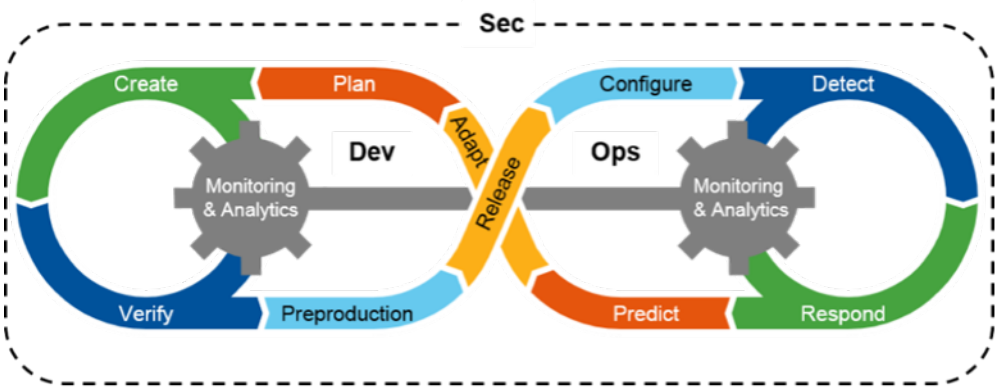
Governance requirements

Governance requirements around policy and controls that span compute, storage, network, applications, and user management. At enterprise complex levels, governance requirements that were designed for large monolithic internally controlled systems – now have to be adapted or rewritten to be relevant across platform and distributed services managed by multiple parties and consumed as needed.



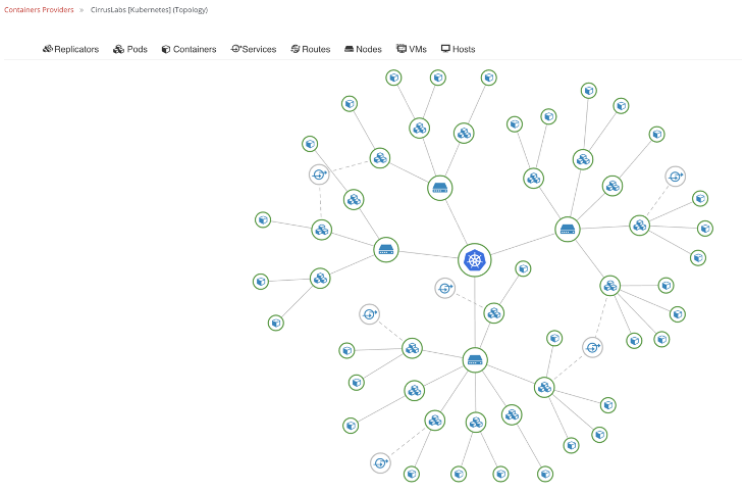
Development tooling, automation, and process integration

Development tooling, automation, and process integration and a rich new set of DevSecOps capabilities and new requirements are in the forefront of workforce reskilling, continuous training, and capacity management in the delivery of new solutions. Development efforts continue to encounter build vs partner vs buy decisions that have long term implications in a company or institution cloud vision and strategy.



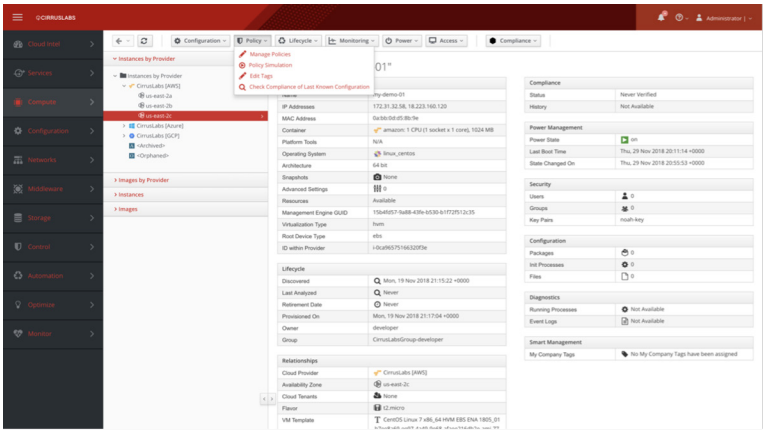
Monitoring and alerting complexities

Monitoring and alerting complexities in the need to predict, assess, and react to anomalies in services or workloads proactively. Cloud operations require new levels of instrumentation, new service level management models that include multiple vendors with differing SLOs and SLAs all managed in cohesive and orchestrated ways.



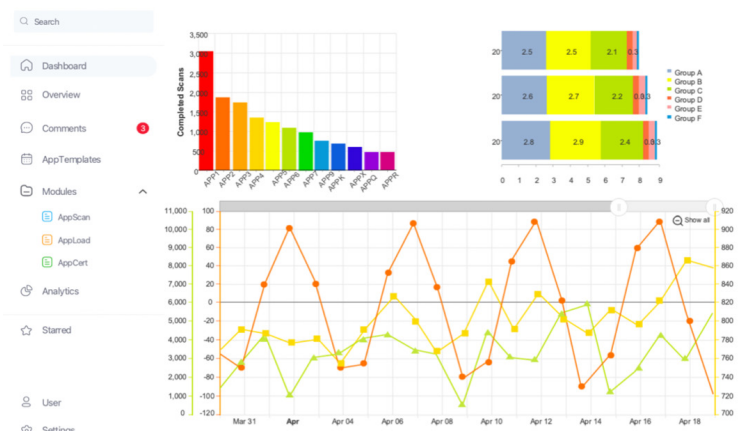
Security and compliance

Security and compliance evolving requirements around protection, response, and auditability of user, service, and application data pose another complex area of investment to ensure new and integrated services are properly covered.



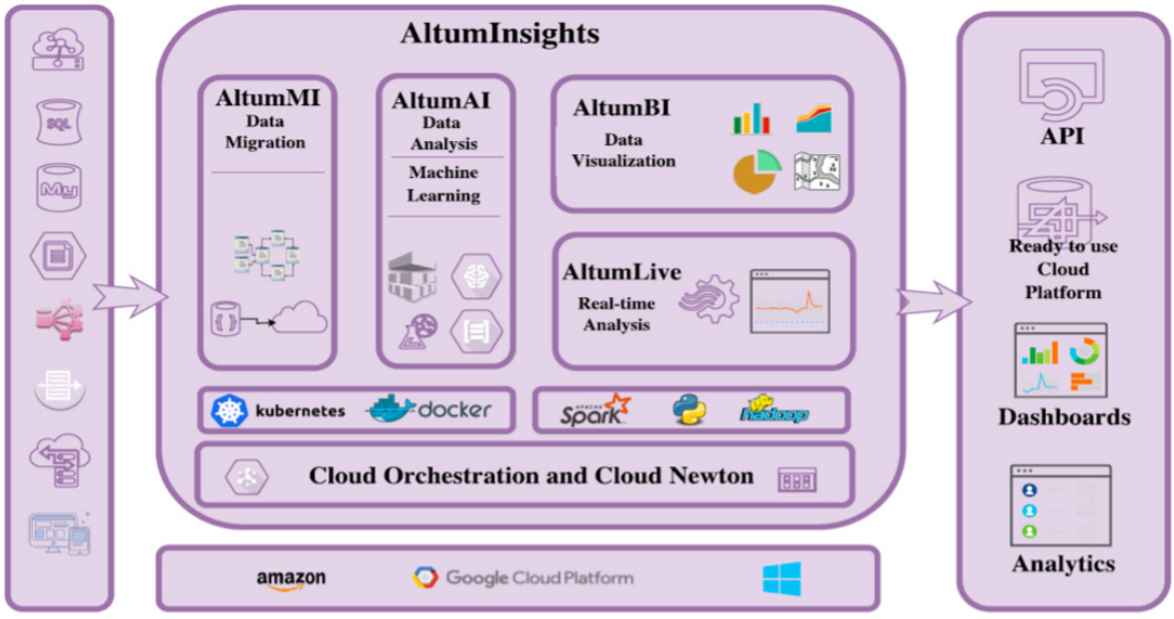
Application management challenges

Application management challenges that span beyond infrastructure-type models that now require governance and controls at application layers or application workloads. In most cases, application data, application controls, and application users are actually more critical to security and compliance controls than infrastructure components.



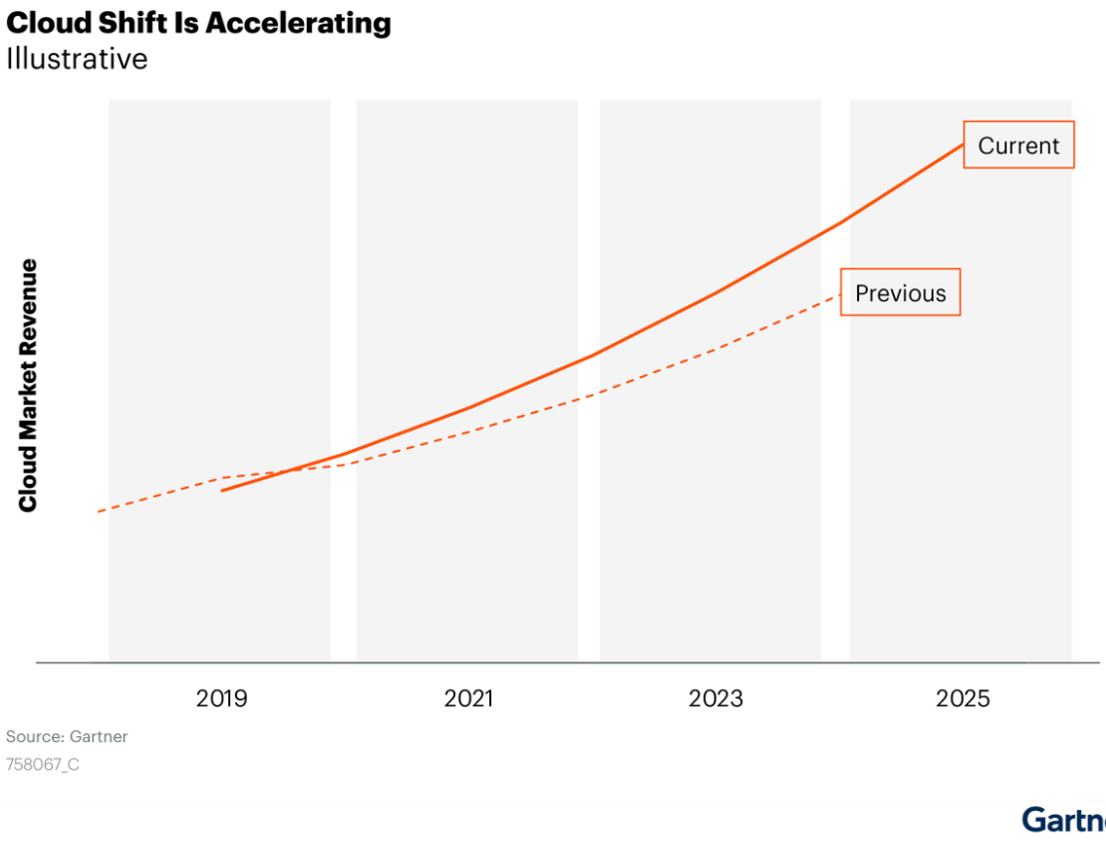
Emerging tech exploration and adoption challenges

Emerging tech exploration and adoption challenges that continuously test development, implementation, and the future proofing of already ongoing cloud initiatives. A framework is needed to ensure that new technological developments, new platforms, and new services can integrate or coexist with existing solutions.



Background

Business and digital transformation agendas, company or institutional innovation imperatives, and external, global, or geopolitical pressures continue to push the speed and breath of adoption of cloud solutions.

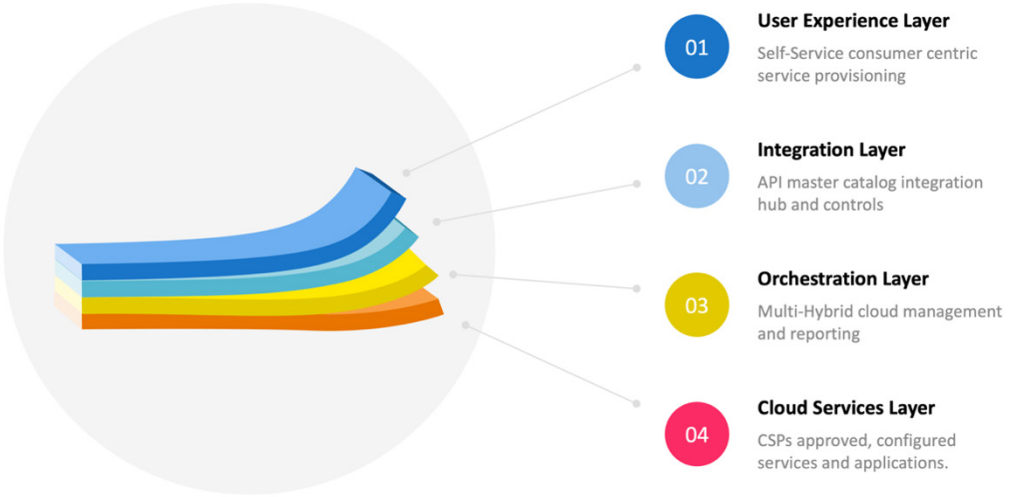


Cloud services, whether adopted natively or migratorily, continue to evolve at a very rapid pace. Pushed by provider competition and technological evolution, these services are almost always requiring to be integrated with existing capabilities, while breaking new ground in new areas. Examples can be seeing in the fast adoption of AI models and old data sets, or web3 and existing platforms.

A holistic approach to the adoption, implementation, and use of cloud services is required to not only recognize the benefits of the same, but to also future-proof or future-ready them. This holistic approach needs to account for an end-to-end view covering: user, how the services are consumed; integration, how services are co-dependent; orchestration, how work flows; and management, how services are holistically managed.

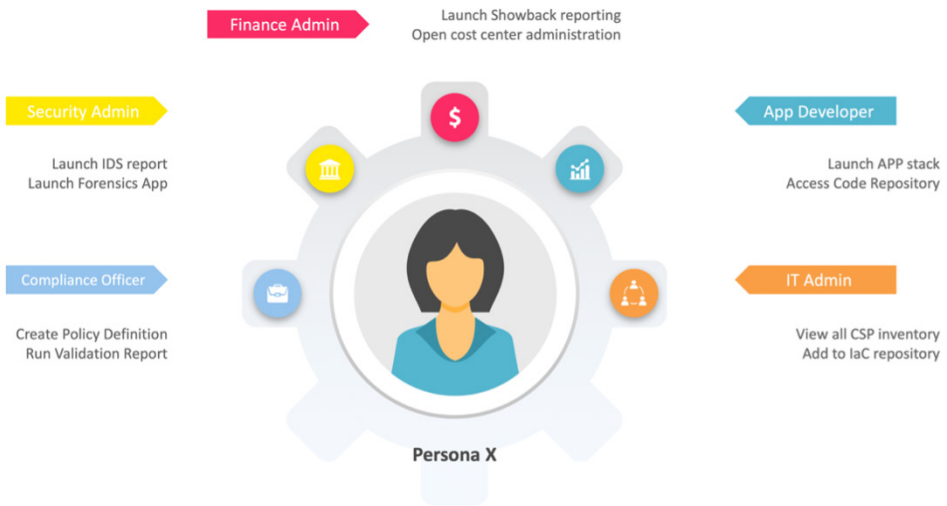
Solution

A cloud ecosystem of platforms, a mesh of integrated cloud services holistically delivering user experiences that are supported by integrated fit-for-purpose platforms. Broadly defining 4 platforms spanning the areas of user experience, integrations, orchestration, and service delivery.



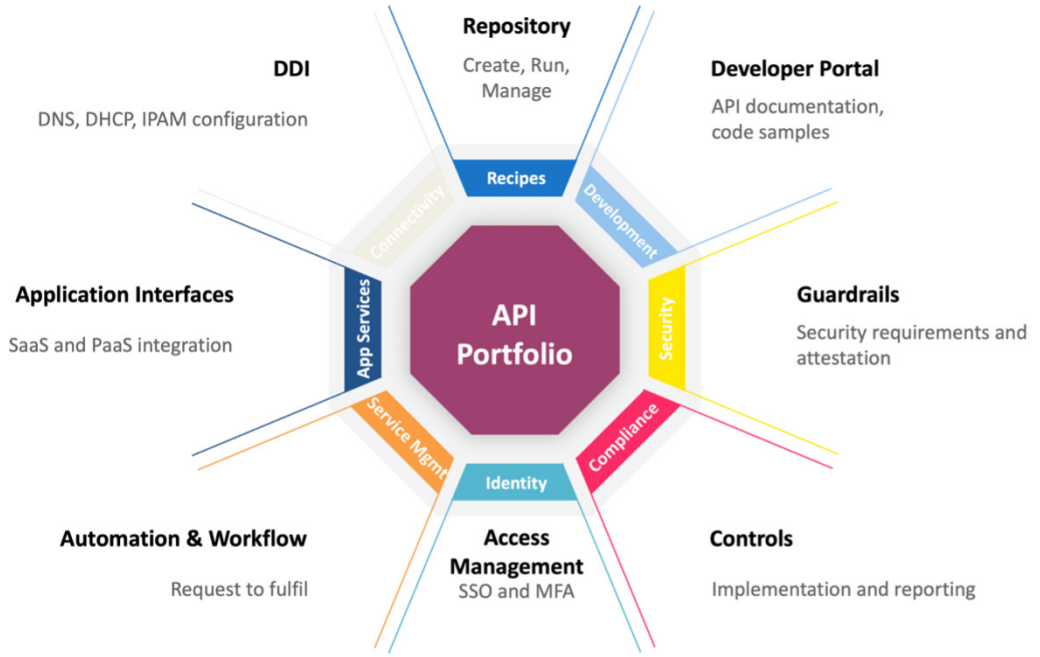
User Experience Layer – Persona-based workflow-driven user experience

Whether from the gamification of IT (no training, guided workflow, reward driven) or through simplified interactions (dashboards, no-code, click-through), this layer revolutionizes the user journey and fronts multiple other platforms or sub-systems.



The Integration Layer – API and microservices managed as a platform

This layer acts as a platform critical to the inter-connectivity, inter-operability, and composability of many it not all services managed by the ecosystem.

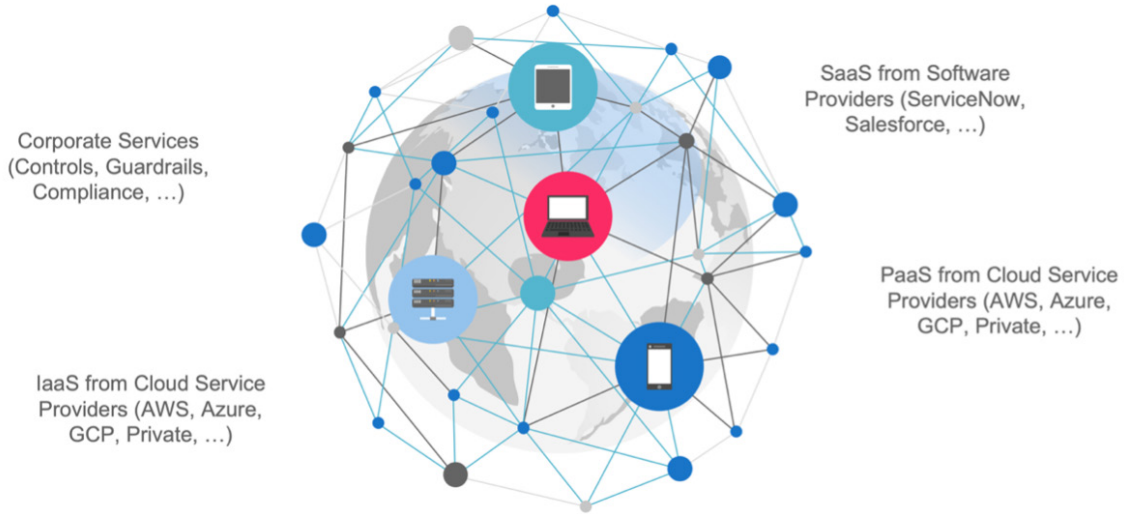


The Orchestration Layer – IAC and Workflow Management

This layer organizes, automates, and provide visibility to many of the service provision, service management, and reporting across all service or solution providers.

The Cloud Services Layer – Multi-Hybrid Cloud Service Console

This layer is the actual service provision platform, comprised of all providers, all service models, all service types – managed by a comprehensive cloud managed platform.



Solution Implementation

Such ecosystem of platforms is in most cases the deliberate outcome of a vision, followed by a strategy, executed via a framework. An outcome-based digital transformation framework that encompasses all aspects of people, process, and technology. A modular framework that allows for a total revamp of a company or institution business and technology strategy, or a partial implementation of a new capability. Choose a desired outcome, and work through structured steps to get there.

DIGITAL TRANSFORMATION FRAMEWORK

PILLARS	BUILDING BLOCKS	OUTCOMES
7 Product	Innovation | Digital Factory | Ecosystem | Product Portfolio	Competitive Advantage
6 Emerging Technology	XReality | Robotics | Web3 | Voice | Computer Vision	Future Readiness
5 A.I./Data	NLP | ML | Narrow/Deep A.I. | AIOps	Actionable Insights
4 Cloud	Assessment | Multi-cloud | Autonomous Tools | Data Lake | IaC	Performance & Scale
3 Modernized Technology	Tools | Software Delivery | DevOps | Security	Speed & Quality
2 Human Capital	Train | Coach | Scale | Digital Workforce | Remote | Mental Health	High Velocity Teams
1 Digital Strategy	Visioning | Strategy | BOD | Funding | Governance	Shared Vision

Conclusion

Cloud services' challenges around management, cost optimization, development tooling and processes, security & compliance, integrations, governance, or any other complexity related adoption or implementation of new capabilities will only expand as cloud capabilities expand.

Capabilities or functionality can be aggregated into platforms, and platforms can be managed as an integrated ecosystem. An end to end view encompassing foundational platforms, each with specialized capabilities but also deeply integrated all while focused on user-centric, persona-driven outcomes.

This transformative or innovative journey requires a framework that creates a roadmap for desired business and technology outcomes, a digital transformation framework that ensures the careful and methodical implementation of a company or institution vision and strategy.