FROST & SULLIVAN

TATA COMMUNICATIONS

2022 COMPANY OF THE YEAR

Indian Managed
Multicloud Industry

Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Tata Communications excels in many of the criteria in the managed multicloud space.

AWARD CRITERIA	
Visionary Innovation & Performance	Customer Impact
Addressing Unmet Needs	Price/Performance Value
Visionary Scenarios Through Mega Trends	Customer Purchase Experience
Implementation of Best Practices	Customer Ownership Experience
Leadership Focus	Customer Service Experience
Financial Performance	Brand Equity

Rising Managed Multicloud Adoption

As the cloud industry matures, enterprise customers realize the importance of having a cloud infrastructure tailored to their unique needs and business priorities. This trend is accelerating multicloud adoption, where enterprises can choose between various cloud resources, including public cloud (hyper-

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- Benoy C S VP & Head, ICT Consulting Practice (South Asia) scalers/regional), private cloud (hosted/on-premises), and bare metal (colocation/on-premises).

However, as many applications and workloads move to different types of cloud from multiple vendors, managing this hybrid environment becomes challenging due to the complexities involved in application migration, orchestration, and integration. Security, compliance, clarity regarding the cloud resource utilized, and cost allocation are some major operational challenges in a multicloud environment.

As a result, managed multicloud services, in which the

provider offers a comprehensive orchestration layer, become critical for an enterprise. This allows enterprises to view and manage multiple clouds on a single dashboard as well as migrate and replicate workloads seamlessly from one cloud environment to another.

Application Modernization Inevitable in Digital Transformation

Digital transformation has made it imperative for all enterprises to find effective ways to modernize legacy systems to remain competitive and relevant. As such, enterprises have been seeking ways to accelerate cloud adoption and update applications to reduce costs, gain efficiencies, and improve customer experience. Application modernization means transforming an application from a legacy and monolithic environment to be more agile, elastic, and highly available. The modernization process' biggest challenge is weighing the cost, risk, and reward. To modernize legacy applications, enterprises must choose between rearchitecting, rebuilding, or complete replacement. While rearchitecting has medium costs and risks, rebuilding or replacing involves higher costs and risks. Depending on the associated risks, costs, and rewards, every enterprise needs to chart a strategy and roadmap to modernize all its applications.

Through its multiple cloud delivery options, Tata Communications facilitates cost-effective and rapid application modernization while enabling agile and resilient modern architecture. The company allows the creation and maintenance of a robust cloud environment by preserving customers' core infrastructure assets. Depending on the maturity stage and application criticality, Tata Communications helps customers take an optimal path for modernization. For instance, if a customer uses a legacy, monolithic, and stateless application in a virtualized environment and wishes to continue in the same environment because they do not see many benefits in deploying it in Kubernetes or container environment but wants an option to scale for seasonal needs. Tata Communications offers customers scalability in this scenario by enabling auto-scaling in a visualized cloud platform. This means the customer gains auto-scale capability in an application deployed in a legacy, virtualized environment while preserving its capital investments.

In another scenario, if a customer uses a legacy, virtualized, and monolithic application and wants to move slowly into a container-based application, Tata Communications supports them through its IZOTM Cloud Platform for Kubernetes solution. The platform allows customers to build, for example, a Kubernetes cluster and deploy a microservice-based application for test and development on top of the cluster. This is a critical yet latent need of a customer in transition. They would require a test and development environment with a Kubernetes setup to perform thorough testing before fully moving the application into a container-based environment.

The IZO™ cloud platform also enables customers to conduct the test and development in one platform and the deployment in another. For example, they can develop an application on Amazon Web Services (AWS) or Microsoft Azure and seamlessly switch to a third-party private cloud or another public cloud platform later. This prevents vendor lock-in and allows customers to choose the best cloud infrastructure, move it around, and optimize it according to their changing needs. Tata Communications launched its Dev cloud platform to further support application modernization, onboarding many popular independent software vendors into its cloud environment. This facilitated the smooth integration of the ISVs' software-as-a-service (SaaS) applications with other core applications of enterprise customers deployed in the private or public cloud through an application programming interface (API) gateway. This solves and simplifies many application integration challenges customers face with SaaS applications of these independent software vendors (ISVs).

Industry-specific Cloud Enables Better Compliance Management

The emergence of industry-specific cloud or community cloud is a notable industry trend. Enterprises see value in the community cloud as it reduces the hassle of ensuring compliance with changing regulations in every sector and region while addressing vertical-specific challenges.

Tata Communications recently launched two community cloud offerings for the government and banking, financial services, and insurance (BFSI) sectors. The IZOTM Financial Cloud is a dedicated, ready-to-operate cloud cluster that combines software, platform, and infrastructure-as-a-service capability to cater to the performance, security, and compliance needs of BFSI customers. The platform offers customers a more agile way to manage workloads; quickly implement changes based on data, compliance, or other segment- specific requirements; and standardize compliance reporting, a feature unique to Tata Communications. For example, the Securities and Exchange Board of India, the securities and commodity market regulatory body, mandates all BFSI companies to perform quarterly audits and reporting in all cloud environments.

Tata Communication through its Government Community Cloud (GCC) helps government enterprises to rise to the aspiration of Digital India through a fresh approach of digitisation. With its Cloud-Internet-Security-First approach, GCC brings together the power of connectivity, technology and complete compliance to ensure seamless, secure government services — even in the remotest areas. Tata Communications Government Community Cloud (GCC) is the bedrock from which public bodies can build and operate an efficient Digital Citizen Service Model, employing a Cloud-Internet-Security-First approach. GCC offers government bodies an enterprise-class, Infrastructure as a Service cloud which is designed using open architecture and keeping the API economy in mind.

Tata Communications MeitY empaneled and STQC audited & certified IZOTMPrivate Cloud offers peace of mind to government bodies by ensuring data privacy and sovereignty that safeguards government's extremely sensitive and valuable data - with both user data and control meta-data deployed, monitored, and managed completely in country and governed by the law of land. This cloud platform takes care of Data Sovereignty, Residency and Privacy requirement of critical citizen services data used by various Government of India ministries and departments.

Unlike traditional clouds, this industry-specific community cloud also provides value by leveraging innovative technologies and approaches, such as packaged business capabilities, composable tooling, and industry-aware data fabrics. Customers benefit from cross-industry innovations too. For example, suppose an insurance company implements artificial intelligence (AI)-based SaaS applications in partnership with an ISV to identify and report fraudulent practices. In that case, other insurance firms can easily use the same product for the same purpose. The community cloud can also enhance its capabilities by leveraging data input from other insurance firms using the service.

These community clouds accelerate cloud adoption by making it appealing to enterprise consumers beyond the early users of cloud infrastructure and platform technologies. Frost & Sullivan commends Tata Communications for identifying niche customers' needs and offering solutions that add value for all stakeholders.

Simplifying Cloud Management Improves Efficiency and Security

Legacy infrastructure's complexity and lack of interoperability with multi cloud environments continue to hinder cloud adoption. As business applications and workloads increase, IT teams find managing and supporting multiple systems and environments challenging. The IZO™ Cloud Command platform has a centralized dashboard that provides a single pane of management across multi cloud environments, enabling the continuous governance and proactive monitoring and operations of all managed cloud resources. This means customers do not require different skill sets to manage diverse workloads in multiple public cloud environments.

Tata communication through its consultative approach enable its customers with a clear strategy for multi

"The IZOTM Cloud Command platform enables customers to simplify the monitoring, management, and orchestration of operations in multicloud environments without worrying about the underlying cloud platform. Through this solution, customers can better manage security by protecting the cloud infrastructure with consistent and complete data security control and continuous security and network performance monitoring.."

- Kapil Bagel, Industry Analyst Cloud & Enterprise Data cloud adoption. It simplify & expedite migration with right strategy to tackle hurdles associated with cost, visibility, interoperability, network and application dependencies, and management. It offers robust end-to-end managed service capabilities for the multi-cloud environment, including cloud architecture design, consulting, migration, deployment, and ongoing management across platforms and services. It also supports its customers secure regulatory framework across cloud operations that addresses both the external compliance factors and internal policy required for digital transformation. This helps customers

better manage security by protecting the cloud infrastructure with consistent and complete data security control.

Tata Communications also offers a TC^X platform to simplify and digitize all its customer touchpoints. Customers can place orders, check bills, view inventories, raise service tickets, do policy management, take reports (e.g., utilization, availability, backups), and perform API integrations. In early 2022, the company automated many functions in the customer portal to simplify the process, from conceiving and capturing requirements to onboarding, provisioning, delivering, and monitoring the services.

Tata Communications offers multiple flexible pricing and billing models to make it more convenient for customers. Apart from the standard fixed-priced model, it provides variable pay-per-use models in which it agrees on a fixed rate card with the customer at the beginning of the year and bills them based on the actual consumption over the year.

Optimizing Cloud Infrastructure Enhances Price/Performance Value

Enterprises must determine the most effective way to allocate cloud resources and optimize investments. This means selecting, assigning, and right sizing the resources they spend on specific infrastructures within a hybrid and multicloud environment to reduce costs, increase productivity, and improve customer experience.

Through a tailored solutions Tata communication helps customers build the right cloud environment that is fit for their business. It comprehensively evaluates the customer's architecture and dependencies and provides an end-to-end migration approach leading to optimized performance and cost-effectiveness Tata communication helps its customer to track and monitor usage and costs of their multi and hybrid cloud infrastructure in a dashboard. This highlights workloads the customer has not utilized for a certain period. For example, a particular business unit may spin off a cloud infrastructure for a temporary need, such as running a marketing campaign, and forget to disengage it upon completion, resulting in continuous monthly billing. Utilization information for each infrastructure element of every workload through the IZOTM Cloud Command portal enables enterprises to avoid these kinds of losses.

Tata Communication through a consultative process supports its customer balance its workload across multiple clouds. By studying and analyzing the predictability and historical usage of different workloads, it helps customers choose applications which they can potentially move to private cloud to optimize cost.

The IZOTM Cloud Command portal allows customers to proactively predict future billing by analyzing historical usage Customers can see how their billing will look over the next three months and plan their budgets accordingly. This prevents bill shocks and optimizes the cloud infrastructure consumed and billed.

Frost & Sullivan applauds Tata Communications for considering customers' financial savings and budgeting plans when developing its customer service systems, ensuring they only use and pay for the services they need.

Conclusion

Amid rapid cloud adoption and increasing complex workloads and cloud-native business applications, enterprises are turning to multicloud environments to manage and support their rapid growth. While reliance on these solutions will grow, the complexity and lack of interoperability of legacy infrastructure with public cloud environments create challenges that hinder successful cloud transformation.

Through its innovative managed multicloud solutions, Tata Communications enables customers to simplify cloud operations, optimize cloud infrastructure, improve security, and reduce costs. The company helps customers preserve their core assets and achieve the agility and resilience of modern application architecture by facilitating modernization in multiple ways. Customers can choose the optimal way to modernize applications based on their unique business needs.

By creating industry-specific community clouds, Tata Communications allows customers to comply with regulatory policies and prepare standardized reporting. These clouds also provide value by leveraging innovative technologies and approaches, offering customers access to cross-industry innovations, and accelerating cloud adoption in India.

The financial operation features in IZO^{TM} cloud command portal enable customers to achieve better price-performance value by tracking multicloud utilization and cost. This allows efficient budgeting and workload balancing across different cloud environments to achieve the best performance with the optimal investment.

With its strong overall performance, Tata Communications earns Frost & Sullivan's 2022 Indian Company of the Year Award in the managed multicloud industry.

What You Need to Know about the Technology Innovation Leadership Recognition

Frost & Sullivan's Technology Innovation Leadership Award recognizes the company that has introduced the best underlying technology for achieving remarkable product and customer success while driving future business value.

Best Practices Award Analysis

For the Technology Innovation Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Visionary Innovation & Performance

Addressing Unmet Needs: Customers' unmet or under-served needs are unearthed and addressed by a robust solution development process

Visionary Scenarios Through Mega Trends:

Long-range, macro-level scenarios are incorporated into the innovation strategy through the use of Mega Trends, thereby enabling first-to-market solutions and new growth opportunities

Leadership Focus: Company focuses on building a leadership position in core markets and on creating stiff barriers to entry for new competitors

Best Practices Implementation: Strong overall business performance is achieved in terms of revenue, revenue growth, operating margin, and other key financial metrics

Customer Impact

Price/Performance Value: Products or services provide the best value for the price compared to similar market offerings

Customer Purchase Experience: Quality of the purchase experience assures customers that they are buying the optimal solution for addressing their unique needs and constraints

Customer Ownership Experience: Customers proudly own the company's product or service and have a positive experience throughout the life of the product or service

Customer Service Experience: Customer service is accessible, fast, stress-free, and high quality

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at http://www.frost.com.

The Growth Pipeline Engine™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator $^{\text{\tiny TM}}$.

Learn more.

Key Impacts:

- Growth Pipeline: Continuous Flow of Growth Opportunities
- Growth Strategies: Proven Best Practices
- Innovation Culture: Optimized Customer Experience
- ROI & Margin: Implementation Excellence
- Transformational Growth: Industry Leadership

OPPORTUNITY UNIVERSE Capture full range of growth opportunities and prioritize them based on key criteria OPPORTUNITY EVALUATION Adapt strategy to changing market dynamics and unearth new opportunities OPPORTUNITY EVALUATION Conduct deep, 360-degree analysis of prioritized opportunities ENGINETM GO-TO-MARKET STRATEGY Translate strategic alternatives into a cogent strategy

The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- Mega Trend (MT)
- Business Model (BM)
- Technology (TE)
- Industries (IN)
- Customer (CU)
- Geographies (GE)

