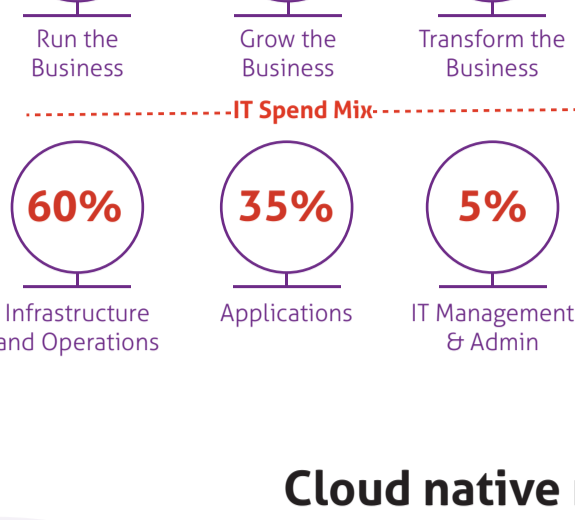


Looking for a cost effective futuristic digital transformation? Go 'cloud native' way!



Challenges in enterprises today....



According to a recent Gartner report, global IT spends are expected to decline by **8%** in 2020 due to the pandemic. Businesses are spending **60%** of their IT budget on infrastructure and operations to run the BAU (Business as Usual). The Result? IT is still seen as an enabler rather than driving business transformation. What is the primary cause of this?

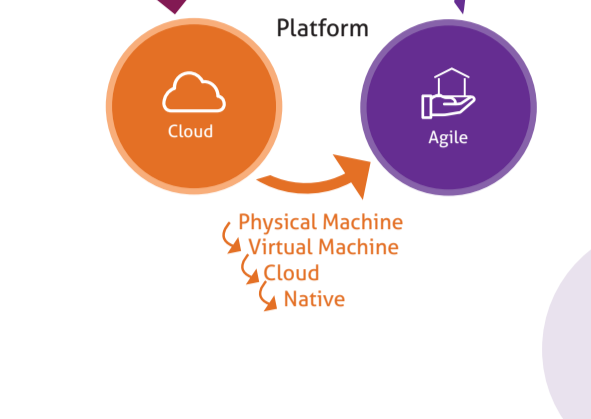
- Enterprise assets are locked-in systems of records
- Rapid technological changes but slower adoption
- Technical debt & legacy COTS (Commercial Off-the-Shelf) products

Cloud native recipe for modernization

Cloud service providers are enabling organizations to overcome these hurdles at a faster pace by offering technology innovations as 'cloud native' services for enterprises to adopt and modernize cost effectively. Technology modernization for cloud native systems is required to be:

- **Portable across cloud environments** – Evolve from monolith to multi-tier to microservices/containerization
- **Adopt cloud natively** – Take full advantage of cloud by adopting cloud native services to increase efficiency, resiliency and to bring operational efficiency
- **Be agile** – Ability to move quickly and faster time to market with metrics driven DevSecOps

The twelve-factor app methodology perceives this vision at best. It can be applied to apps that use multiple combinations of backend services, databases, queues, memory cache, and are written using any programming language.



Our approach

Mindtree's enterprise cloud modernization approach involves driving optimization towards a no-ops model by using the following elements:

1. Business Case:

Identifying the business value in a 'cloud native' transformation & modernization, demonstrating the following modernization outcomes:



Increased Business Agility: Speed and cost of application transformation



Reduced Time to Market: Velocity of new product release cycles with self-service enablement and DevSecOps automation



Reduced TCO: Reduction in hosting and support costs by adopting PaaS & Serverless capabilities

2. Minimum viable transformation approach

Accelerating modernization by using a "minimum viable" mind-set that applies the 12-factor app's principles:

- Automate the setup to minimize time and cost for new developers joining the project by using affirmative formats
- Ensure a clean contract with the operating system to aid maximum portability between execution environments
- Suitable modern cloud platform deployment. This helps remove the need for systems administration and servers
- Minimize development and production divergence by leveraging continuous deployment to achieve maximum agility and scale-up without making significant changes in tooling, architecture, or development practices

We have harnessed these best practices of implementation in our minimum viable cloud platform that provides the following characteristics uniformly across products:



Pattern Based: Segment your applications based on patterns in the enterprise



Effortlessly Scalable: Scale-out, scale units of work independently



Agility Focused: Automation-led approach to accelerate time-to-market



Future Proof: Modular design enables extreme flexibility to change

Real world business case for cloud native transformation

A case study to build an omni-channel personalized marketing platform for a Top Beauty Brand

Challenges:

The client's data-driven marketing platform had only one architectural constraint - the solution should not use any 'cloud native' services to ensure the platform remains portable to another cloud or to a private data center. The client's existing solution caused the below challenges:

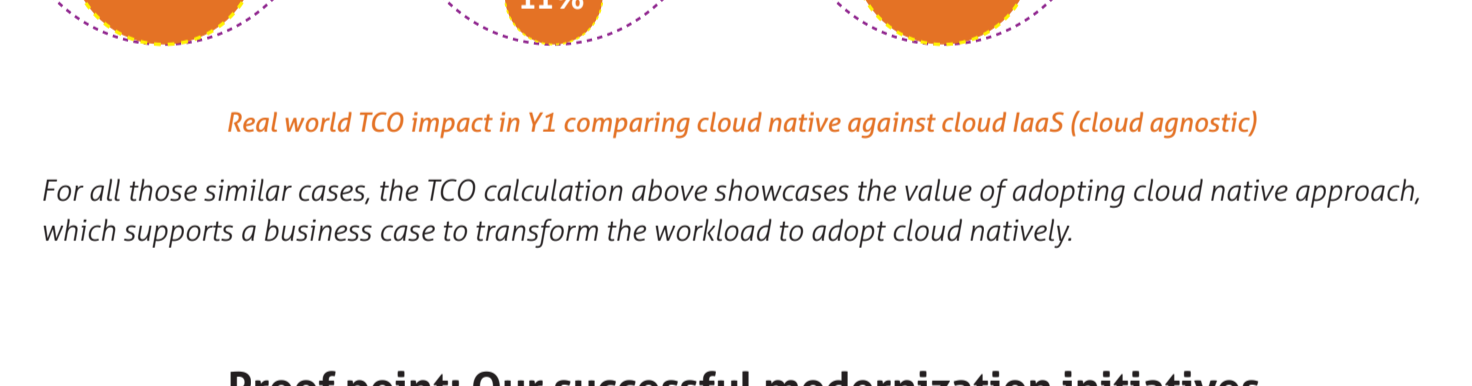
- Data size grow up to 70TB and was expected to grow higher
- IaaS based solutions needed to be scaled up, which increased hosting and license costs
- Operational and maintenance cost doubled as more brands were on-boarded

Advantage of moving to cloud native solution:

The above mentioned scenario resonates with many organizations that have recently lifted & shifted their workload data centers to the cloud forced by compelling reasons, such as having legacy core systems, unsupported COTS application frameworks, multiple duplicate systems of similar functionality caused by acquisitions, etc.

The proposed 'cloud native' alternative solution brought in below optimization and hence provided a reason for the business to stay invested in the platform:

- Reduced hosting cost by 40% compared to IaaS solution
- Reduced the license cost to 10% of what IaaS solution needed
- About 55% reduction in operations cost as the use of PaaS solution increased



Real world TCO impact in Y1 comparing cloud native against cloud IaaS (cloud agnostic)

For all those similar cases, the TCO calculation above showcases the value of adopting cloud native approach, which supports a business case to transform the workload to adopt cloud natively.

Proof point: Our successful modernization initiatives

Client: Creating unmatched individualized experiences for a top beauty brand

Challenges:

- The customer wanted to drive omni-channel personalized experience
- Delivering contextual experience by reinventing processes and enriching 220M consumer personas on 500 attributes for personalized engagement across 1B touchpoints
- Improve the revenue by cross-selling and upselling through personalized campaigning

Solution:

- Reinvented the client's processes for advertising, marketing and loyalty to deliver contextual experiences at real-time and speed
- Created unmatched individualized experiences
- Drove omni-channel experiences in-store, digital channels (paid, owned or earned) and B2B partner channels
- Enriched 220M consumer personas on 500 attributes for personalized engagement across 1B touchpoints
- Delivered an evolving and learning solution that grows smarter with time by using cloud native services
- Cloud based Big Data application with personalization experience delivered through micro-services on cloud PaaS services

Benefits:

- Scalable to accommodate a billion consumer touch points across 52 brands
- Cross-selling & personalized targeting
- 88.5% of Consumers' data can be shared with other brands to enable cross-sell opportunities
- 11.5% of the total consumer profiles can be utilized for better personalization and target marketing using the beauty profile details shared across the merged records
- Reusable ML framework which can be extended to multiple applications, thus saving time for any new application deployment
- High availability with almost zero downtime of the applications

Mindtree has been actively helping few of the customers on cloud native engagements ...with significant results

- 220M** Consumer personas enriched on 500 attributes across 1B touchpoints
- 80%** Consumer data could be shared with other brands for cross-sell
- 42+M** Unique customers identified for optimized marketing spend

Problem statement: How do we?

- Drive omni-channel personalized experience
- Enrich experiences of 220M consumer personas on 500 attributes for engagement across 1B touchpoints

Outcome: Mindtree solution

- **Solution:** Reinvented processes for advertising, marketing and loyalty to deliver contextual experiences at real-time and speed
 - Omni-channel: High availability across in-store, digital channels (paid, owned or earned) & B2B partner channels
 - Continuous learning: Evolving & learning solution which grows smarter over time
 - Highly scalable: Accommodated 1B touchpoints across 52 brands, with reusable ML frameworks to accelerate new deployments

Conclusion

- Cloud native & serverless technologies are the future of software development. Embrace it now
- Data-first modernization is key for digital transformation
- Empower employees with new ways of software development

If you're not embracing the cloud natively, maybe now is the time to look into it and we will help you MAKE IT POSSIBLE.



Santhosh is a solution architect at Mindtree focusing on application and cloud architectures as part of Mindtree's cloud CoE (center of excellence). He has been championing microservices based architecture styles for building next-generation applications. He is a renowned AWS solutions architect and has provided solutions that implement microservices in AWS for a large complex real-time business problem.

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