



INFOSYS LIVE ENTERPRISE AUTOMATION PLATFORM

Introduction

We all operate in an increasingly complex world disrupted by new digital technologies like AI, IoT, Big Data Analytics, Blockchain, Cloud, and so on. The landscape, that is emerging as a result, will allow opportunities and threats to come from unexpected places. The challenge is to be able to sense these, then respond quickly, frequently and almost instinctively, like living creatures do. Being agile and responsive at enterprise scale is what organizations are aspiring for. We at Infosys, call it the “The Live Enterprise – the organization that’s always ready for what’s next”.

While on one hand enterprises are relentlessly driving these digital transformation programs to gain that competitive edge, on the other hand they are being constrained by the siloed implementation of IT run services preventing realization of synergies across the IT stack and the existence of multitude of tools is making the current IT landscape very complex.

We at Infosys, believe that organizations should take a business outcome driven, integrated platform centric view that fosters integrated end to end enterprise management services across the entire enterprise IT management stack. This not only unlocks a whole gamut of synergies for the enterprise but also transforms the enterprise management services to be pivoted on business KPI driven services against the traditional IT SLA governed services. Our platform centric next gen enterprise management services solution also helps enterprises realize the live enterprise vision faster wherein the enterprise can continually sense, analyze, decide act and learn from the data generated by the management services across business process, application and Infrastructure layers. We have developed a comprehensive solution integrating the business process, application and infrastructure management services, that will enable our clients navigate towards business SLA driven services, powered by a platform that helps realize the vision of Live Enterprise.

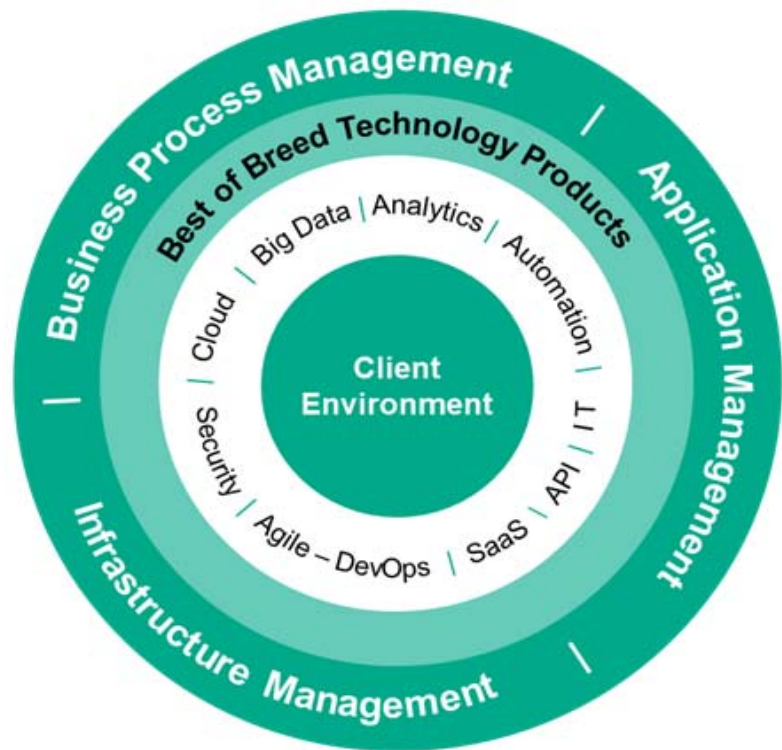


Figure 1: Integrating digital technologies, products, processes, applications and infrastructure

Live Enterprise Management through a platform centric solution

Solution Highlights

We are helping our customers build an open, vendor agnostic live enterprise management platform that addresses all life cycle stages of an IT management program from transition to steady state to transformation. We help accelerate our customer's journey to an Agile, DevOps driven Digital IT Management and bring the next wave of innovation in business process, application and infrastructure maintenance through Agile Digital transformation.

- **Set up the right IT Service Management (ITSM) foundation for digital benefits**

We leverage Infosys solutions and expertise around ServiceNow and BMC suite to implement and standardize the ITSM platform, build a comprehensive and accurate CMDB and define consistent ITIL processes across the landscape. This foundation sets the stage to realize benefits from standardization, lean processes, decommissioning, technology consolidation, etc.

- **Implement digital twins of key business processes**

Setup integrated business control center to expedite shift to monitoring business KPIs, critical business processes apart from applications and infrastructure to proactively sense potential business disruptions and respond proactively

- **Service orchestration and extreme automation in operations**

We leverage Infosys service orchestration and extreme automation solutions to seamlessly manage the application and infrastructure operational requirements. We templatize applications, service endpoints, middleware, platforms, configurations, application environment dependencies, boot order, etc. on top of standard OS templates thereby allowing single-click deployments of entire platforms / environments on any infrastructure including cloud platforms. Additionally, implement a mix of well-chosen automation platforms across Infosys offerings and third-party products to automate resolution of potential issues, user requests across business process, application and infrastructure services

- **Enable agility and shift to DevOps**

Leverage toolsets spanning application and infrastructure landscapes and unified teams for rapid onboarding of DevOps in candidate portfolios for improved turnaround time, savings and productivity

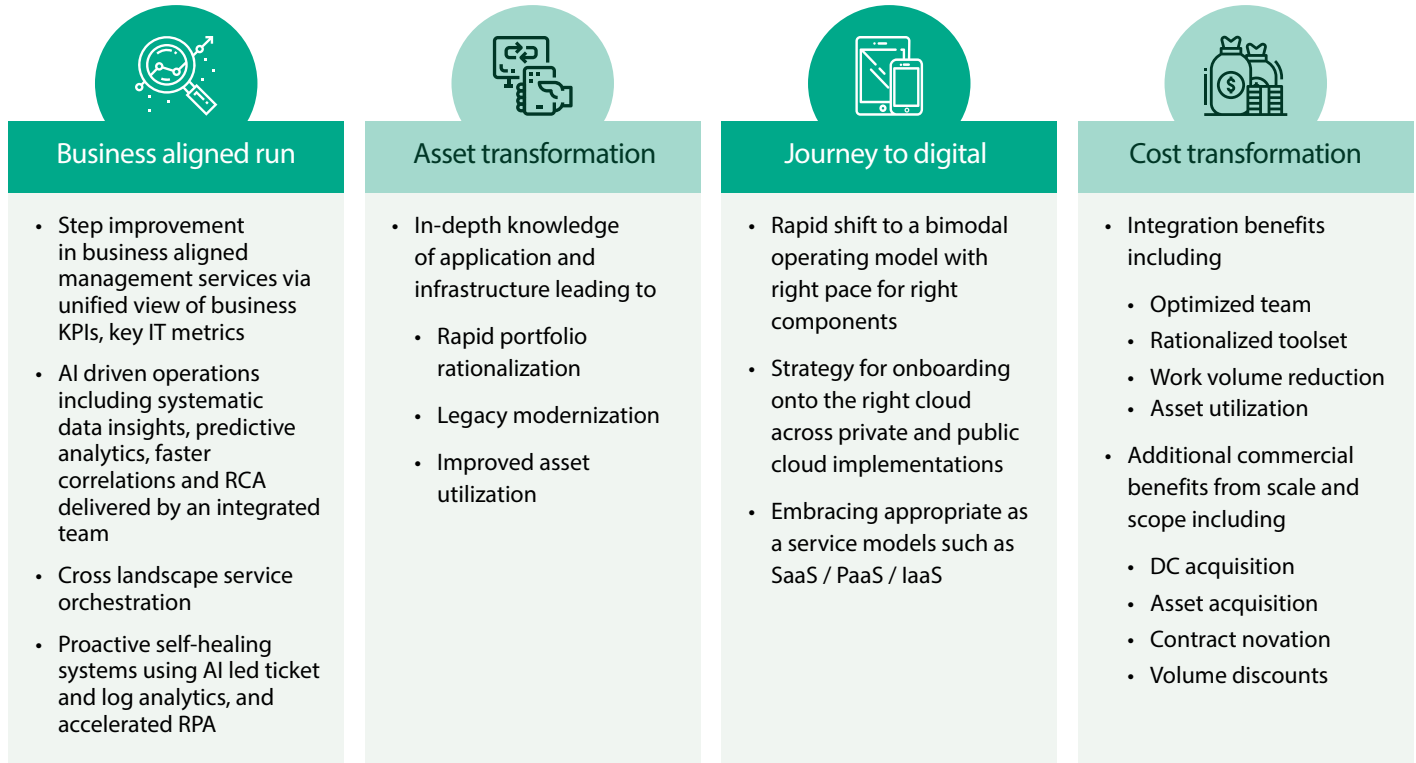
- **Additional business value through technology transformations**

Bring combined business process, application and infrastructure knowledge and accelerators for rapid progress and costs control in implementing technology led transformations such as defining and implementing the Right Cloud Strategy, application portfolio rationalization, legacy modernization, capacity optimization and storage optimization. As a result, bring 5X – 10X additional value for money spent on IT management



Infosys Live Enterprise Management Platform: Benefits

Historically the benefits from an integrated enterprise management solution were focused around improvements in mean time to repair (MTTR), cost reductions via optimized teams and / or increased award size and step improvement in accountability. Our refreshed solution elevates the benefits from this plane to that of the requirements of today's Live Enterprise. These include value candidates like improved alignment to business outcomes, expedited onboarding to cloud and other digital programs as well as cost benefits via extreme orchestration and automation. The below figure summarizes the key benefits from this refreshed synergy solution.



Delivering new synergies in Application Management through a Platform Approach

As the sheer number of individual technology products is only going to evolve and increase in the digital world, a one stop platform that is built on principles of openness with ability to integrate home grown systems and commercial off the shelf products is the only sustainable way ahead. Our one stop open platform, "Infosys Live Enterprise Automation Platform" helps accelerate our client's journeys to Platform centric Enterprise management. It is built with core capabilities of "Sense", "Analyze", "Decide", "Act" and "Learn" to realize the vision of the Live Enterprise. Infosys Live Enterprise Automation Platform provides various in-house innovations while also integrating with several commercial off the shelf products like ServiceNow, Automation Anywhere, Splunk, Jenkins and so on to deliver the new age digital synergies across Digital IT management. The platform is a cloud ready with the following key features:

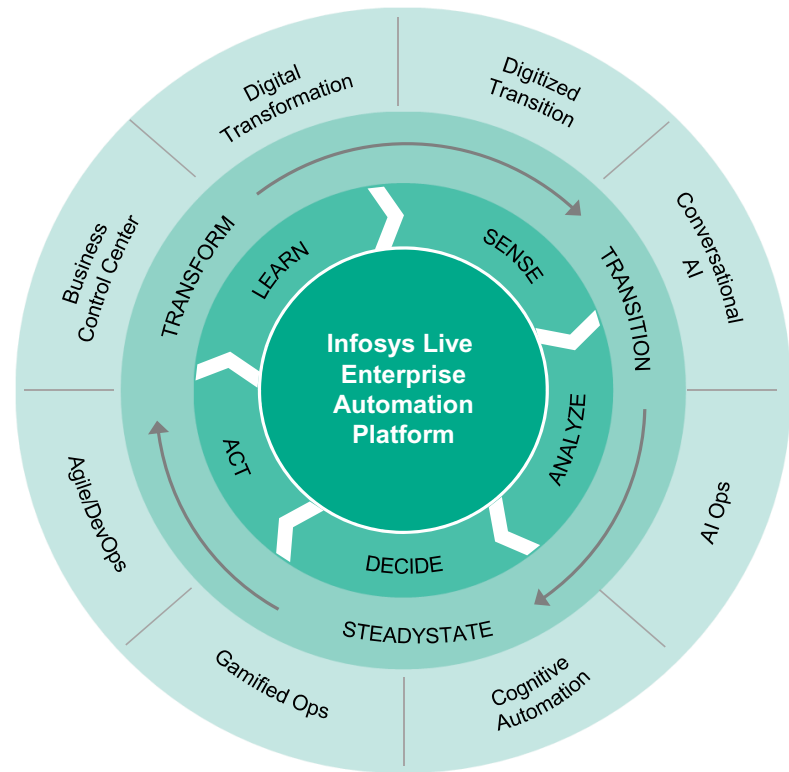


Figure 2: Application management through a platform approach

- **Digital Twin** of the enterprise: Enables model customer journeys and key business processes via integrating AI Ops and Command Center offerings from Infosys, CMDDB, ServiceMaps from ServiceNow, third party monitoring tools and so on.
- **Senses** business and IT health by plugging into enterprise applications and IT Service Management (ITSM) tools like ServiceNow
- Applies **AI in Ops** through **Analytics**, **Machine Learning Algorithms** and **Graph Knowledge** models to find patterns, perform diagnosis and predict outcomes
- Provides a **Digital Brain** for IT operations that helps decide next best actions to optimize outcomes and prevent business disruptions
- Applies **Cognitive Automation** to **execute** the decisions and **actions** via Infosys and other third-party tools
- Provides **Agile DevOps solution** that helps eliminate the root causes for issues and rollout changes into production fast
- Builds **Knowledge graphs**, **learns** continuously and **evolves**
- **Gamification** for improving efficiency of IT engineers



Infosys Live Enterprise Automation Platform architecture

The platform is a multi-layered solution that listens to, learns from and responds to operations data to help operate enterprise applications efficiently as well as manage transformations swiftly and smartly. The platform helps create a digital twin of enterprise IT by modeling the business value chain, the corresponding business KPIs and the underlying business processes, applications and infrastructure components there by helping align application management tasks to business needs.

The platform is architected with four primary layers consisting of a user experience layer, a functional services layer, an AI services layer, and tools layer.

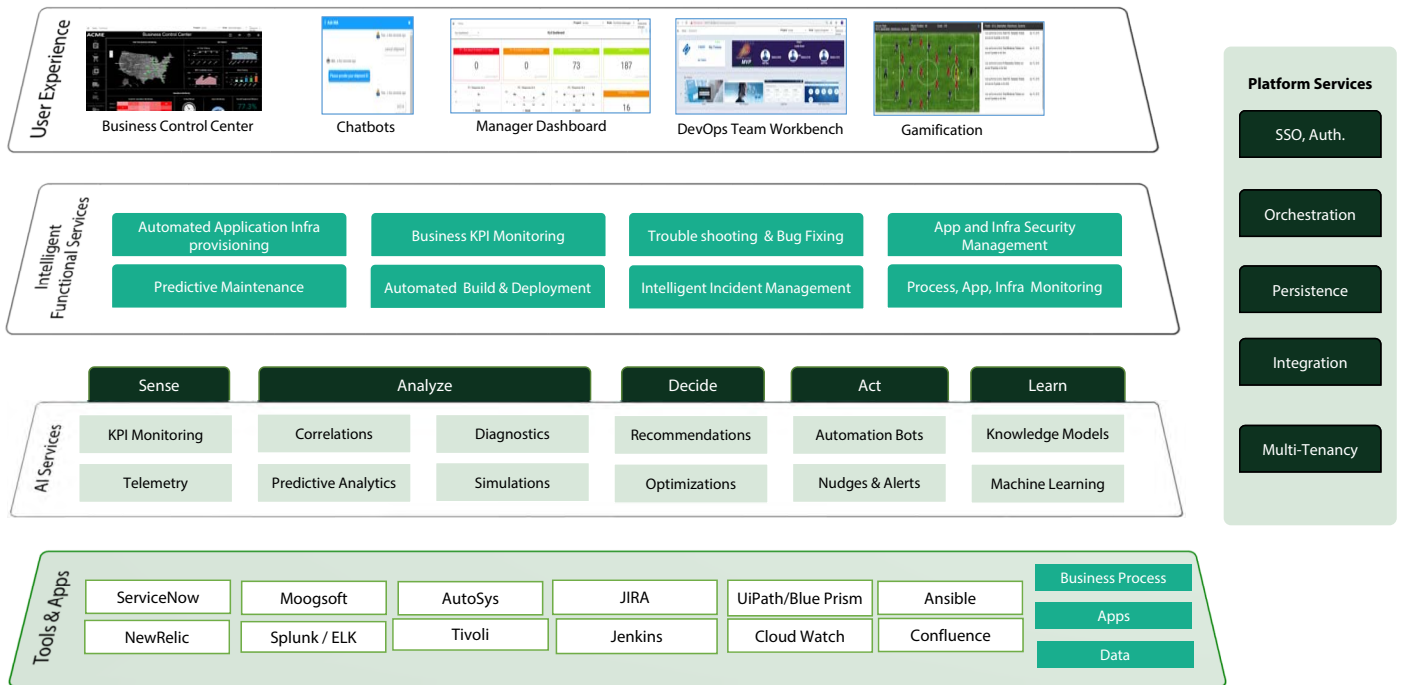


Figure 3: Infosys Live Enterprise Automation Platform: Architected for the future

1. User Experience: The user experience layer provides persona centric views including a business control center for business users, a self-service chat bot for users needing application support, manager dashboards for operations managers, and a tool workbench for support engineers thereby aiding various roles with managing their application management tasks

2. Intelligent Enterprise Management Services: This layer consists of intelligent Enterprise Management functional services like Automated incident management, event management, request management, service reliability, knowledge management, SLA management, and change management

3. AI services: This layer provides observability and intelligence. It includes components like business and IT metrics telemetry, predictive analytics, simulations, machine learning, and cognitive automation bots. The AI capabilities help organizations better sense, analyze, decide and act on insights derived from data collected through the plethora of ITSM tools and learns continuously, like for example it can help correlate data regarding application enhancements and changes from say JIRA to events from an application performance monitoring tool like say NewRelic and errors from a log monitoring tool like say Splunk and determine how they affect the broader application ecosystem within

the application portfolio and proactively alert users of potential issues before they surface

4. Tools: The tools layer is open allowing for seamless integration with popular ITSM, ITOM tools like ServiceNow, AppDynamics, NewRelic, Splunk, JIRA, Jenkins and so on. The platform also brings Agile processes and DevOps methodologies to application management and continuous improvements and emerging technology innovations through a Living Labs experiments workbench. Some of the key components of the platform are depicted below:

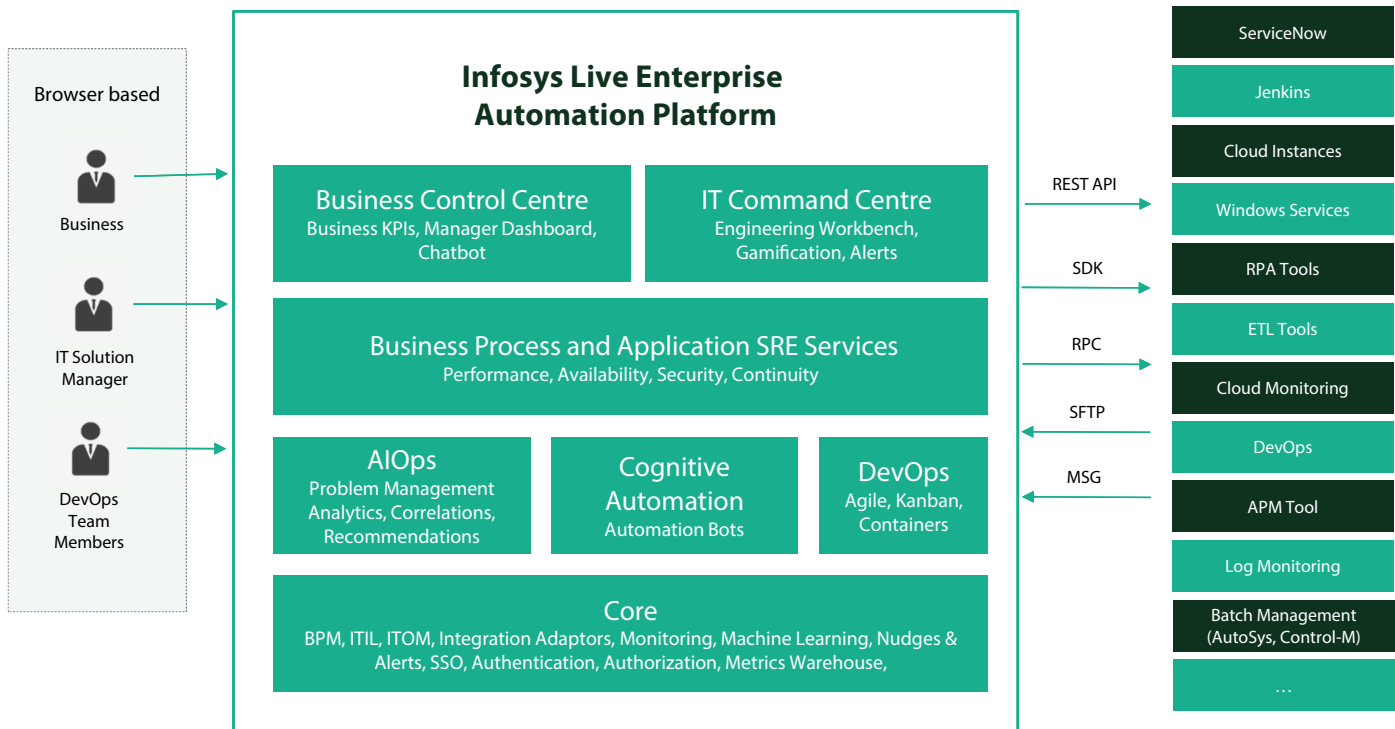


Figure 4: Some of the key components of the platform

1. Business Control Center: for real-time, end to end visibility of business KPIs, critical business processes along with associated IT asset health to help prioritize attention to business-critical tasks .

2. IT Command Center: An integrated persona centric workbench that brings information from all the various disparate ITSM tools into a unified portal enabling engineers resolve issues more efficiently.

3. Site Reliability Engineering Services: Engineering led preventive approach to

Application performance, availability and security assurance through processes and tools that eliminate root causes.

4. Cognitive Automation: Provides self-healing capabilities automating incident resolution, service request fulfilment and so on.

5. AI Ops: Provides a Digital Brain that applies the advances in AI and big data analytics from the open source world to IT operations for real-time, cross layer event correlation, diagnostics,

incident classification & enrichment and recommendations of next best actions.

6. Dev Ops: Integrated Dev Ops solution that enables enterprises to rapidly onboard applications on Agile and DevOps with 2000+ prebuilt scripts and 150+ DevOps pipelines and adapters to over 60 standard tools. It helps enterprises quickly scale through continuous integration, testing and delivery, thus reducing application onboarding from months to days.



About the Authors



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Shyam is a technologist with 22 years of experience in incubating emerging technology solutions for business innovation and operational excellence. Shyam has over 10 patents in several emerging technologies including Blockchain, AI, Cloud Computing, Cyber Security, Big Data Analytics and IoT. Currently a part of the Infosys Center for Emerging Technology Solutions (iCETS), Shyam heads the AI & Automation, Blockchain and Cyber Security Centers of Excellence, and can be reached out to, at shyamkumar_d@infosys.com.



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