

The future of enterprise application development



One are the days when enterprises fancied custom-built applications. The proliferation of commercial off the shelf (COTS) solutions promise higher quality, rapid go-live and capture most of what an enterprise needs. Software development methodologies like Waterfall, Spiral, V-shaped, RAD and Agile (more widely adopted for faster incremental value delivery) to name a few, only address lifecycle aspects. However, with rapid disruptive business models at foray, it is vital for enterprises to address key challenges of agility, scalability and integration using their IT landscape.

Agility includes speed, time to market, shorter release cycles - organizations need to develop and deploy the right solutions faster to remain in the game. According to Gartner, 32% businesses say that they need weekly releases, yet of those, 48% say that IT delivers more slowly than needed. Of the 28% of businesses that need monthly releases, 75% say that IT isn't fast enough^[1].

Scalability includes ability to handle increase/decrease loads of work with an increase/decrease in number of users. With legacy architectures, application performance gets compromised, also design does not allow incremental increase/decrease in number of servers to adjust to the system performance.

Integration includes how well the applications connect with external and internal systems in the landscape. Customers demand same experience of using the app from various available platforms. To meet this requirement, enterprises must leverage increased collaboration with the development ecosystem for integration.

Key trends

There are some key hard-to-miss trends in Enterprise AppDev that have caught the attention of CIOs.



Cloud deployment: Increased adoption and reduced concerns

Enterprise AppDev is rapidly evolving towards cloud-based platforms. As per IDC, enterprise apps will shift towards hyper-agile architectures by 2021, with 80% of AppDev on cloud platforms using microservices and functions, and over 95% of new microservices deployed in containers. Also, by 2021, spend on Cloud services, and Cloud enabling hardware, software and services, would double to \$530 billion^[2]. Code development lifecycle starting from IDE to version management to debugging would be done by Cloud based tools^[3]. Inhibitions surrounding security and privacy concerns are slowly wading way. As per Gartner, by 2018, 50% of the apps hosted in the public Cloud will be considered mission-critical by the organizations that use them^[4]. According to MarketsandMarkets, Cloud migration service market will grow at a CAGR of 24.5%; BFSI, considered to be the most regulated sector, is poised to hold the largest market share^[5].



Enterprise mobility on the rise

According to State of Application Development Report^[6], mobility is the most common business requirement for apps. Enterprises are offering best-of-breed components to mobilize and enrich business applications on multiple mobile platforms, quickly, easily, and securely.



Increased API and components adoption

Not long ago, APIs and reusable components were mainly used as means for enabling integrations across systems and solutions. Now they have become mainstream for businesses to gain competitive advantage not only from consumption point but also on provisioning and building them for use, thereby creating value for all the related stakeholders in the value chain.



Data Center virtualization

The Cisco Global Cloud Index forecasts the continued transition of workloads and compute instances from traditional DC to hybrid cloud DC. By 2021, 94% of all workloads and compute instances will be processed in hybrid cloud DC^[7]. This will bring a significant impact as organizations need to be ready to cater to this profound shift from on premise to cloud deployment for all key enterprise apps.

Rethinking app development

Considering the above challenges and trends, enterprises need to consider some factors as the guiding principles for their existing and in-flight enterprise apps.

Enterprises should develop apps bearing in mind the overarching technology landscape (cloud native). As DevTest becomes one of the fastest growing workloads on cloud and existing legacy tools for development, reporting and monitoring become cloud enabled, enterprise apps should adapt to and embrace cloud to achieve better demand servicing and to enable seamless upgrades and releases.

For digital organizations, multiple apps working seamlessly on omni-channel is a key IT strategy. Enterprises need to incubate their apps to streamline business processes and to create

richer user experience for making business decisions on the go.

As businesses evolve and transform, they must promote Rehost, Retire, Refactor, Reinterface and Rearchitect strategies. Apps should exhibit elasticity, multi-tenancy, and platform-agnostic behavior. Microservices and SOA enabled architecture deployed via containers should be the preferred mode of app development for modernizing legacy apps and making them scalable. Serverless AppDev frameworks and repositories are being enabled by leading cloud vendors for accelerated delivery.

In the wake of rising security attacks (e.g. DDoS and DNS), enterprise apps are becoming increasingly vulnerable. Focus should be on developing apps that enable a secure access and shield enterprises from fraud attacks, as well as mitigate traditional application security flaws.

Recommendations



Shift Left for QA

Adopt Shift Left based DevOps practice to identify defects early on and fix them rather than waiting for development to hand over thus jeopardizing the delivery timeline and escalating the cost of delivery. Dev, Test and Ops should work together seamlessly in planning, managing, and executing testing to accelerate feedback.



Revitalize legacy systems

Substantial portion of enterprise apps in the past were designed with legacy architecture. Keeping up with business changes becomes nearly impossible and risky as they do not have modular architecture leading to increased maintenance and downtime. In addition, likelihood of failure and cost overruns are high, resulting in missed deadlines. Hence, the systems must be modernized and revitalized to be business-ready



Secure solutions

App security is a top concern market-wide. Both internal applications (handles enterprise data) and external applications (used by end users) are prone to vulnerabilities. Enterprises must adopt principles of 'DevSecOps' to ensure data security, integrity and non-violation of privacy.



Cloud everywhere

Cloud deployment is pervasive as never before. With modern business-critical apps being built on cloud platforms and enterprises experimenting with newer ways to leverage cloud capabilities, it is important to realize that failing to adopt cloud will prove detrimental to the very existence of AppDev.



References

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About the authors

Santosh Hunugundmath, Product Management - IP and Innovation, Wipro Ltd

Santosh leads the Product Management function wherein he guides the IP teams on the product management approach. He has more than a decade of experience leading large scale IT and business transformation and consulting engagements for global clients.

Abhishek Srivastava, Product Management - IP and Innovation, Wipro Ltd

Abhishek is a consultant with the IP and Innovation Team, which creates, curates, and monetizes Intellectual Property based offerings. With over five years of experience, he is managing a portfolio of products across Application Testing and Software for Healthcare.

Parva Shrivastava, Product Management - IP and Innovation, Wipro Ltd

Parva, a consultant with the IP and Innovation Team, which creates, curates, and monetizes Intellectual Property based offerings. He is building a new platform in the enterprise cloud services space.



Wipro Limited

Doddakannelli, Sarjapur Road,
Bangalore-560 035, India

Tel: +91 (80) 2844 0011

Fax: +91 (80) 2844 0256

wipro.com

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For more information,
please write to us at
info@wipro.com

