

ENABLING DIGITAL INTERACTIONS

Driving powerful connections with customers, partners and the industry.

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The way businesses connect with customers, partners and their industry continues to evolve. Creating Digital interactions is critical in driving new value and disruption. Managing a technology ecosystem that can enable these interactions is crucial.

THE \$3 TRILLION TECHNOLOGY ECOSYSTEM

Over half of the world's population is online. More than one-third is connected to social networks and close to 60% are mobile. Users and Digital stakeholders span all age groups, races, company types, geographies and income levels.

All of this continues to ignite an estimated \$3 trillion technology ecosystem that includes:

- AI & Cognitive computing solutions
- Robotics Process Automation
- BI & Analytics tools
- Cloud solutions
- Mobile platforms
- New integration platforms
- Continually evolving channels
- New products and services
- Unlimited content

HOW TO CREATE DIGITAL VALUE FOR YOUR BUSINESS

Creating and delivering Digital value rests on a vast ecosystem of web Application Programming Interfaces (API) that enable the connection of any device to any service, and any service to any data asset in a complex economic value chain.

Creating and monetizing market facing APIs (i.e., RESTful, traditional SOAP-based and others) continues to gain traction as businesses realize that leveraging their data and services across corporate boundaries is a must in order to preserve their existence and create new revenue streams.

The push is intensifying to use APIs to expose information resources through multiple channels including: web, mobile and IoT devices. The ultimate goal is to trigger the development of 3rd party developed applications that customers can use to connect back to a company's ecosystem to subscribe to advanced business capabilities and functions.

"Web APIs enable the development of mash-up applications that serve data and services to web and mobile users."

GUARANTEEING EFFICIENT INTERACTIONS

The big challenge for businesses is guaranteeing acceptable API performance, availability, reliability to ensure customer expectations are met. This is especially the case when the business accelerates its intent to become a critical actor in an industry's value-chain (i.e. Financial Services, Transportation and Logistics).

Aside from delivering poor performing applications that fail to meet customer expectations, other challenges can include integration patterns that do not match business aspirations, security risks, and inconsistent adoption of base development standards, just to name a few.

UNDERSTANDING THE CUSTOMER JOURNEY

At the heart of the problem is the reality that companies continue to struggle to establish a unified view of their Digital aspirations. Either the business is unable to clearly articulate customer demands, or internal technology teams feel they are unable to make a valuable contribution in helping the business to think through various Digital transformation opportunities.

CUSTOMER JOURNEY ANALYSIS

Customer journey analysis has helped in understanding the entire customer engagement cycle, from how customers connect with the brand, acquire products and services and are supported.

The process is invaluable in gaining insight into customer interactions by touchpoint at various interaction points. It's also crucial in defining long-term roadmaps for products and services. Perhaps more importantly, it offers insights into the viability of a company's operating processes and technology ecosystem.



Understanding the interaction between customers, partners and internal stakeholders at the business process execution level is essential. It drives critical thinking and decision-making around operational improvements, structure, culture, required competencies and technology architecture strategy and tactics. Too, it's a critical step to help business and technology teams collaborate in thinking through the art of the possible and defining a suitable integration architecture.

MANAGING THE API ECOSYSTEM

Ultimately, most Digital solutions require an integration platform layer (i.e., iPaaS), an API ecosystem and other solutions that interconnect internal and third-party systems and platforms. They enable critical company assets and services to be exposed, thereby creating new customer value. They also allow internal and third party developers and partners to access critical company assets and services to develop innovative solutions.

However, an API ecosystem without proper management controls can pose various business risks and challenges like performance issues, security vulnerabilities, and major system failures.

PROPER DESIGN OF YOUR OVERALL API ECOSYSTEM

A critical first step in ensuring performance and scalability of a company's overall API ecosystem is to ensure proper design. It's crucial to ensure proper performance, maintainability and scalability of APIs. This is particularly important as APIs are developed by various development groups that reside within a specific line of business.

At a minimum, mission-critical APIs should be evaluated against 5 core constraints which are foundational to proper RESTful API design:

- Adopting a **Layered Design**
- Managing **Cacheable Data**
- Ensuring a **Uniform Interface**
- Enforcing **Independent Client/Server Design**
- Adhering to **Stateless Design Constraints.**
- These design constraints will be further explored in a subsequent article.

IMPLEMENTING AN API GATEWAY PLATFORM

Aside from establishing an overall API management strategy, implementing an API Gateway **platform is crucial in ensuring application performance and scalability.** API gateways provide a much-needed mediation layer between internal systems and external integration endpoints. API gateways enable applications to invoke services that run anywhere (i.e., Cloud, Mobile). They provide centralized management of API changes, traffic, deployment, policy enforcement, security, performance management and error handling.

"Implementing a comprehensive API lifecycle management strategy that addresses design, development, publishing, access control, monitoring, scaling, and analytics is key in achieving Digital aspirations that are highly dependent on cross-platform integration."

ENVISIONING NEW DIGITAL SOLUTIONS

Envisioning new Digital solutions and speeding these to market requires much more than developing a cool website or Mobile App. It requires a comprehensive approach to uncovering real customer needs and wants, creating a blueprint for how to deliver these capabilities.

Key Takeaways:

- More than ever, there is a growing need to bring together tech teams who are developing "cool stuff" based on assumptions about what Digital solutions should look like and business stakeholders who rightfully continue to reinvent a company's value proposition in a continuously shifting and morphing Digital marketplace. The latter can be challenging as organizations are faced with having to leverage decades of investments in people, process, and technology to deliver well-defined business solutions versus creating new ones that typically cause significant organizational disruption.
- Customer journey mapping is a crucial first step in uncovering integration challenges and impacts to a company's structure, governance model, and underlying operating processes.
- API management is key in ensuring a company's Digital aspirations can be executed and that delivered solutions meet and exceed performance expectations. It's also a key aspect of ensuring the long-term viability of APIs and the overall integration ecosystem.

Aside from addressing fundamental customer journey needs and establishing a suitable integration and API architecture, too often, basic use case modeling, systems sequence mapping and performance modeling techniques are pushed aside in the name of Agile development.

The results can be devastating as systems under perform, are costlier to develop and maintain, or create huge security risks. Companies should invest wisely in their people to fine tune these skills. It's a critical competency that has to be in place in order to successfully think through and engineer the "art of the possible."

"Having a solid API Gateway strategy as well as clear rules governing this tier is fundamental to creating cross-platform solutions and ensuring reliable processing of all API calls."

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