Five Factors to Consider When Selecting an API Management Provider[1]

The application economy is built on continuous innovation from organizations that are bringing new and engaging apps to market, unlocking data silos to improve the customer experience and expanding digital ecosystems in order to tap into new revenue streams. This requires organizations to adapt and modernize both architecture and app development practices to enable an agility to better compete in today's economy. This requires a solid API strategy to move at the speed of innovation.

CA Technologies is a market leading company that extends API management to include full lifecycle API Management. CA is named as a leader in each of the top four API management analyst reports: Gartner, Forrester, KuppingerCole and Ovum.

Five Factors to Consider

- **EASE OF USE**
- **SCALE**
- **SECURITY**
- **FLEXIBILITY**
- **BREADTH**

While there are a number of API Management solutions in the market today, it is not often a platform delivers both the breadth and scale needed for the large enterprise moving along their digital transformation journey.

If your team is considering an Enterprise API management solution such as Google (Apigee), IBM, or Mulesoft, you should consider the following five factors before making a vendor or platform decision. To better identify how CA API Management stacked up against a competing solution, INOVIS interviewed current and former users of each of the three platforms. Interviews and our internal assessment focused on each solution's ability to meet the five key selection factors noted to the left. In the assessment, Inovis found that CA API Management met all five selection factors and provided excellent capabilities to achieve the modern enterprise's API management needs.

There are five key factors to consider when making your choice:

[1] Derived from INOVIS' customer/vendor interviews and gathered industry data.

1. Is the solution easy to use? Is it user-friendly – more importantly, is it developer-friendly? Is it easy to deploy and manage and shows value quickly?

CA API Management is developer friendly, easy to use, and enables accelerated development of APIs and policies alike. Speed and complexity across the application delivery chain requires performance management that can span across physical to virtual or on-premises to hosted components and support of new modern application technologies - all this is possible with CA's offering.

- CA API Management can easily connect SOA, ESB, and legacy applications. CA's internal testing of CA API Management has demonstrated that CA API Management can aggregate data including NoSQL up to 10x faster than other solutions. Clients can point and click to generate enterprise-grade REST APIs from multiple data sources, with runtime business logic and event processing.

  Control is simplified and developer access to data is readily available so that clients may build a wider partner or public developer ecosystem.

- CA API Management offers a visual user interface with quick drag-and-drop capabilities to instantly create APIs or setup complex security policies. Developers can also leverage hundreds of pre-built policies and code blocks for re-use from the library. And for those developers that want to roll up their sleeves, they can leverage the comprehensive SDKs that CA offers and can drag them easily into their existing code projects.
- CA provides instant enterprise-class APIs from data sources, allowing developers to create mobile apps that can easily and securely access corporate data. INOVIS's analyses demonstrated that Apigee and Mulesoft API creation and development capabilities aren't as strong as those of CA API Management, and their adaptation and orchestration aren't as robust. IBM has a strong, user-friendly API Creation solution, but StrongLoop doesn't have the point and click functionality that CA provides.

2. How scalable is it?

A wealth of data quickly becomes too much data. Billions of data points a day require new approaches to visualization and intelligent analytics to sift through the metrics and identify the relevant variables. Performance must be tested continuously, pre- and post-production, to ensure customer satisfaction and retention.

- CA API Management's capacity to handle a high-volume of transactions by creating high performance yet cost-effective digital platforms is achieved by industry-leading product expertise, years of product maturity and by scaling via APIs with effective throttling, prioritization, caching, and routing.
- CA API Management can be configured to dynamically scale up or down as needed.
- Beyond the simple configurable properties that enable such high scaling, CA API Management is available in a wide range of form factors that include lightweight, deployable containers such as Docker.
- CA API Management has been deployed for mission-critical use cases across hundreds of customers worldwide. A large retail chain in the U.S. has deployed more than 65 CA API Gateways in production to achieve 99.99% uptime to support its wide footprint of stores and partners across the country. A customer in the U.S. communications service industry has stated that it has been able to achieve over 4000 TPS with its CA API Management implementation. Internal tests have validated that, in some cases, CA API Gateways can achieve over 40,000 TPS with defined parameters.

Apigee's solution is limited in terms of performance and overall features/functionality. Certain Apigee customers indicated that Apigee's solution has caused some clients to experience latency issues on occasion as they scaled their APIs. Apigee's API lifecycle across development, testing, and production can be difficult to manage. Moreover, INOVIS determined that Apigee's solution lacks a number of features that a large enterprise with development and production environments in varied geographies would need.

In 2017, IBM addressed many of its performance issues, and now supports Docker. However, in interviews with Inovis, IBM customers continuously stated that "it's got too many parts and pieces" and there were stability issues. Mulesoft customers reported that scalability was good, but overly complex, very technical, and requires significant resources in terms of employee time and overall actual cost.

Five Factors to Consider

- **EASE OF USE**
- **SCALE**
- **SECURITY**
- **FLEXIBILITY**
- **BREADTH**

3. How secure is the solution?

CA API Management protects against threats, Open Web Application Security Project (OWASP) 2017 vulnerabilities and controls access with Single Sign-On (SSO) and identity management. CA also provides end-to-end security for apps, mobile, and IoT, and meets many regulatory requirements:

- Common Criteria (Protection Profiles:
    - Enterprise Security Management Policy Management
    - Enterprise Security Management Access Control
- FIPS 140-2 certified.
- DISA STIG and SRR and Retina Scans
- DHS Approved Products list
- US Army IA Approved Products List
- NSA Approved Products List
- FAA Qualified Vendor List
- DISA NCES Certification
- DoD PKI Certification
- HSPD12 Backend Attribute Exchange (BAE)
- Canada CSE Processes
- NSA Security Configuration Guides
- DoD 5220.22-M
- CNSSI 1253
- DCID 6/3
- DIACAP

CA API Management can also be configured to conform to a PCI-DSS compliant network.

Mobile access can no longer be considered ‘special’ and must be fully integrated into the security and performance picture to meet today’s business needs. Ability to protect the mobile app to the API is critical, while maintaining speed.

- CA API Management provides SDKs to enable enterprise-grade SSO, allowing mobile/IoT clients to participate as an equal workstation on the corporate network, regardless of location.
- CA API Management supports secure consumption of backend APIs through configuration of mutual SSL between the gateway and the mobile device. It protects REST, SOAP and OData APIs against DoS and API attacks. Inherent support for OAuth and OpenID Connect deliver mobile app authentication, social login and single sign-on. CA API Management’s implementation of OpenID Connect is certified for four different profiles.
- CA’s unique partnership with Samsung enables tight Samsung KNOX integration that delivers SSO with the mobile SDK while allowing customers to create policy assertions requiring device integrity and app containerization checks as a condition to accessing APIs. In addition, the

Five Factors to Consider

- **EASE OF USE**
- **SCALE**
- **SECURITY**
- **FLEXIBILITY**
- **BREADTH**

integration of Samsung NexSign into CA API Management allows advanced biometric authorization to be integrated into the application environment.

- CA API Management speeds development with app services such as SDKs, data transformation, mobile security, generation of documentation and client-side code that can reduce time-to-market all in a highly secure environment.

Apigee and Mulesoft don't possess the same depth and breadth of security as CA's API Management solution. Customers state that both Apigee's and Mulesoft's security and access control is somewhat limited, and state they require stronger security than what either company offers. Specifically, Authorization/SSO, risk-based access, OAuth/OpenID Connect, security firewalling and mobile security aren't as strong. To implement a Secure Token Service (STS) OAuth with Mulesoft, you'll need to use a 3rd party add-on. In order to implement OpenID Connect, you'll need to implement Ping, Okta, or OpenAM – greatly increasing both implementation and administration complexity. IBM has a strong security model, including support for mobile standards and SSO, but again, customers complain that "it's very complex and time consuming."

4. How flexible is the solution - how many deployment choices do you have?

Full SaaS, on-premises and hybrid options are critical to meet the variety of deployment requirements needed today. Based on its interviews with customers of CA API Management and customers of competitive API management solutions, INOVIS determined CA Technologies has the most secure and flexible deployment options in the API space.

- CA API Management can be implemented as a SaaS, on-premises or as a hybrid solution.
    - This allows mission critical and highly secure runtime components behind the firewall.
    - Less mission-critical design-time components (such as a developer portal) can be deployed as a SaaS solution, yet tightly integrated with runtime, regardless of its deployment location.
- CA uses the same runtime engine whether on-premises or SaaS-based. Customers have the same ability to access runtime policies regardless of deployment option.
- CA is available in a wide range of form factors ranging across hardware appliances, software applications, virtual appliances and lightweight, deployable containers such as Docker.

Apigee has a strong offering in its design-time solution (developer portal) – but INOVIS' customer interviews indicated that Apigee's runtime component (the gateway) doesn't have the capabilities that CA API Management offers. Apigee's customers also indicated that Apigee requires such customers' PS teams to handle all but the most basic policy adjustments when running in a SaaS deployment. This is also true for IBM and Mulesoft – while they both support on-premises, SaaS, and hybrid deployments, the gateway component becomes their Achilles heel. IBM's solution works best in a homogenous IBM environment and isn't as effective in heterogenous or non-IBM environments.

Apigee has an additional integration issue – they are owned by Google, which owns Google Cloud. At some point in the future, existing Apigee SaaS customers – now deployed on AWS – will be almost certainly be forced to migrate to Google Cloud. Most enterprises have adopted AWS as their cloud strategy – this migration is likely not to go over well.

5. What is the breadth of the solution? How comprehensive is it?

CA API Management can enable the entire API lifecycle: API creation, management, security and consumption for mobile and IoT.

- CA builds scalable connections to cloud solutions and automatically creates data APIs with live business logic.
- CA enables developers to almost instantly create "live" or reactive data-driven APIs and microservices. Developers may connect enterprise data from multiple sources and add business logic. This allows businesses to move further back in the API lifecycle to accelerate development.
- CA manages high transaction enterprise environments ensuring availability of mission critical APIs and applications for the modern DevOps focused organizations.
- CA API Management is very effective at API consumption and measurement. APIs may be monetized via multiple business models. Clients may build digital ecosystems to enhance business value. CA helps clients to create efficiencies through analytics and optimization.

Apigee, Mulesoft, and IBM simply don't have the depth, breadth and long history of expertise as does CA. Specifically, INOVIS' customer interviews indicated that all three competitors have a smaller overall API toolset. Their technology product portfolio is limited in comparison to that of CA Technologies.   This is evident in the comparison of the solutions performed by INOVIS and shown in the chart on the next page.

Five Factors to Consider

- **EASE OF USE**
- **SCALE**
- **SECURITY**
- **FLEXIBILITY**
- **BREADTH**

Chart Comparison Key:

- 🟢 Full capability
- 🟡 Limited capability
- 🔴 None or very weak capability

Feature	CA	Apigee	IBM	Mulesoft
Integrate and Create				
API Implementation				
API Connectivity	🟢	🟡	🟢	🟢
Drag & Drop API Creation	🟢	🔴	🟡	🟢
Adaptation	🟢	🟡	🟢	🟢
Orchestration	🟢	🟢	🟢	🟢
API Runtime				
Event Processing	🟢	🟡	🟢	🟢
Traffic Management	🟢	🟢	🟢	🟢
Aggregation	🟢	🟡	🟡	🟡
Caching/Compression	🟢	🟢	🟢	🟢
Remote management of APIs	🟢	🟢	🟡	🟢
Centrally update polices	🟢	🟢	🟡	🟢
Secure the enterprise				
API Protection				
OWASP Vulnerabilities	🟢	🟡	🟢	🟢
Security SDKs	🟢	🟡	🟡	🟡
Mobile/IoT Security	🟢	🟡	🟡	🟡
API Access Control				
Authorization/SSO	🟢	🟡	🟡	🟡
Risk-based Access	🟢	🟡	🟢	🟢
OAuth/OpenID Connect	🟢	🟢	🟢	🟡
Security Firewalling	🟢	🟡	🟡	🟡
Accelerate Development				
API Discovery/Portal	🟢	🟢	🟢	🟢
Collaboration Tools & Codegen	🟢	🟡	🟡	🟡
Documentation	🟢	🟢	🟢	🟢
API Development				
Mobile/IoT Services	🟢	🟡	🟢	🟡
Mobile Security	🟢	🟡	🟢	🟡
Secure Offline Data Storage	🟢	🟢	🟢	🟢
Messaging/Pub-Sub	🟢	🟢	🟢	🟢
Unlock the Value of Data				
API Intelligence				
Performance Analytics	🟢	🟢	🟢	🟢
Business Analytics	🟢	🟢	🟢	🟢
Mobile App Analytics	🟢	🟢	🟡	🟡
API Monetization				
User Account Management	🟢	🟢	🟡	🟢
Organizational Account Management	🟢	🔴	🟢	🟢
API Key Mgmt. / API Provisioning	🟢	🟢	🟢	🟢
Billing Integration	🟢	🟡	🔴	🔴

Five Factors to Consider

- **EASE OF USE**
- **SCALE**
- **SECURITY**
- **FLEXIBILITY**
- **BREADTH**