Sizing The Market For API Management Solutions

by Randy Heffner and Michael Yamnitsky, April 2, 2015

KEY TAKEAWAYS

Nearly 40% Of US Enterprises Will Adopt API Management Solutions By 2020

Our data projects that about one-third of enterprises are investing in API-driven digital initiatives around mobile, the Internet of Things, business integration, and product innovation. We believe the companies heading down this path today -- and others that join them tomorrow -- will be future API management customers within the next five years.

US Companies Will Spend $660 Million On API Management Solutions In 2020

The US API management market will grow more than fourfold from $140 million in 2014 to $660 million by 2020. Uptake will be driven by multiplying use cases for APIs in the enterprise, CIOs embracing APIs and investing in digital transformation, and SOA customers adding API management to their infrastructure.

Enterprises Are Making Broad Investments In API Infrastructure

APIs build on service-based principles and extend the success of SOA. Together, APIs and SOA are general-purpose technologies, applicable to most any solution or business scenario. Enterprises will use them for mobile apps, customer experience ecosystem connections, IoT, process optimization, supply chain visibility, and many other use cases.

Sizing The Market For API Management Solutions

US Firms Will More Than Quadruple Their Spending To Support Integration Of Customer Engagement Software

by Randy Heffner and Michael Yamnitsky
with Christopher Mines and Nathaniel Fleming

WHY READ THIS REPORT

Today's customer-centric, software-powered businesses thrive on connectivity, and connectivity thrives on application programming interfaces (APIs). Mobile apps for customer engagement need APIs to link to enterprise data and transactions. Across a firm's customer experience ecosystem, APIs allow a combination of internal and third-party players to deliver seamless customer value. Whether the need is process optimization, new revenue streams, Internet of Things (IoT), predictive analytics, or something else, APIs facilitate exchange of diverse information and business process flows within and between organizations. API management solutions have emerged to help organizations implement, secure, and manage their growing use of APIs. This report summarizes the key factors contributing to growth in the US API management solutions market, which we expect to triple in annual spending by the end of the decade.

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Notes & Resources

This report draws upon data from Forrester's Global Business Technographics® surveys and interviews with 12 API management solution vendors.

Related Research Documents

The Engagement Platform's Aggregation Tier

The Forrester Wave™: API Management Solutions, Q3 2014

Predictions 2015: Software Platforms Drive Internet-Of-Things Adoption

TODAY'S DIGITAL BUSINESSES ARE INVESTING IN API MANAGEMENT

In the age of the customer, every business is a digital business.[1] This means software is central for today's enterprises, and APIs are central for today's software.[2] By extending on the industry success of service-oriented architecture (SOA), APIs connect across business and technology boundaries to bring diverse resources and capabilities precisely to the place where they are needed to improve customer engagement and drive business value.[3] In doing so, APIs play on the frontlines of business opportunity, creating new sources of revenue and market presence; they play behind the scenes, unlocking data and transactions buried in back-office systems; and they play anywhere in between.[4] This broad range of possibilities makes APIs useful to most any application or business scenario, which means most every enterprise has good reason to be an API provider — and an API user, too.

The question is not so much where APIs and SOA services are being used, but where will they *not* be used. Very few enterprise business scenarios cannot benefit from APIs. Among the more common scenarios, enterprises need internal APIs and B2B APIs to:

- **Deliver data and functions to mobile apps.** In the fast-moving world of the mobile mind shift, organizations must deliver compelling experiences to customers and employees no matter where they are.[5] API-based services, and specifically REST APIs, are the best delivery mechanism for mobile. Such services provide both connections and insulation between customer experiences and backend systems and resources.[6] RESTful services work well with the languages and tools used to build mobile apps.

- **Build efficient, seamless partner and supplier networks.** Moving faster and more flexibly serving customers requires integrating value from other ecosystem players and cutting the time required to coordinate across the customer experience ecosystem. For example, an American Express payments API delivers customer value by letting cardholders pay for taxi rides with points rather than a charge to their card. By providing secure access to an easily consumable API, American Express extends its customer experience ecosystem to third-party transportation companies and beyond.

- **Extend the life of vintage systems and free resources for high-value business change.** For many organizations, it is hard to get moving on mobile and digital business connections because of the monolithic nature of their vintage back-end applications. But proposals for huge application modernization or replacement projects are often non-starters because of the expense and time required. APIs and SOA services can extend the life of legacy systems by providing a layer of insulation between them and an organization's customers and business processes, as they did for R Cable y Telecomunicaciones Galicia's customer service platform.[7] Thus, rather than spending huge sums on low-value replacement projects, resources can be directed to higher-value business changes that drive customer satisfaction and revenue.

Beyond these bread and butter scenarios for APIs, other technologies and business possibilities are driving new scenarios for APIs. For example, organizations are:

- **Creating digital products.** For some products, the API *is* the product. Twilio's communication services business is built on APIs for making voice calls, improving network connectivity, and sending texts. SendGrid's email services are delivered through APIs. For others, APIs create new digital versions of existing products. Dun & Bradstreet's D&B Direct API provides new digital value to its existing information products, as well as opening new channels to market. For example, with D&B's JavaScript API, its customers can easily access and display D&B data within any web application. Salesforce directly supports this capability, making Salesforce a new customer acquisition channel for D&B.

- **Experimenting — and succeeding — with openness at the edge.** For big social players like Facebook and Pinterest, API-based openness at the edge allows thousands of firms and individual developers to drive great volumes of activity to their platforms. For others, an open web API can be a way to try new paths to value — and experimentation is a critical part of innovation. API experiments by transit systems in New York, Chicago, and elsewhere have proven strong success: Numerous third-party mobile apps make transit schedules and status available in ways transit authorities can't afford to provide. Netflix used its open API initiative to identify a small number of high-value partners.[8] ING Vysya Bank uses B2B APIs with commercial customers to change competitive dynamics.[9]

- **Using Internet of Things (IoT) to enhance customer experience.** From location and motion sensors in smartphones to sensors in products like refrigerators, thermostats, and tooling machines, IoT provides physical world touchpoints and real-time understanding of situations and environments, driving insight and action for customers and employees.[10] APIs play crucial roles in multiple layers of IoT implementations, including direct access to sensors, filtering of sensor data streams, identifying and acting on valuable insights, and combining IoT data with other enterprise systems.[11]

API Management Solutions Simplify And Secure Access To APIs

For API providers to realize their potential, they must manage their relationships with the organizations and individuals that use their APIs. Organizations ranging from AT&T and ANZ Bank to WestJet and The World Bank use commercial API management solutions to simplify and secure their internal and external API initiatives. One-person firms, like Elsen Software with its OneMusicAPI, to major enterprises like Walgreens with its open API for photo printing, seek to drive new business models and mindshare using APIs and API management solutions. Forrester sees a rapidly increasing frequency of client inquiries from organizations that are evaluating API management solutions.

These enterprises are putting API management functionality in place to:

- **Know who API users are and engage them like customers.** Whether the developers programming to one's APIs are inside the organization or outside, knowing who they are is a foundation of API success. For an API provider that charges for API use, like Twilio and SendGrid, this is of course necessary for collecting revenue, but even for free access, as with New York's and Chicago's transit systems' APIs, knowing API users enables greater understanding of how APIs are used and what direction to take APIs in the future. API users, whether they pay or not, should be engaged as customers.

- **Clarify the rules of API access.** For reasons of capacity management and security, access to APIs is rarely unlimited. But customers (i.e., API users in this case) don't like surprises, so the rules for access must be clear, such as what data may be accessed and how many requests are allowed per minute or per month. This may include definition of different access plans with different rules for different API users.

- **Make it easy to use the API.** Through documentation, examples, and discussion forums, it must be easy for API users to understand the API, get answers to questions, test API usage, and migrate between API versions. Although REST services are needed for mobile, other styles of services may also be part of an enterprise API strategy (e.g., SOAP, message queuing).

- **Enforce the rules of API access.** API providers must validate that incoming API requests are authorized and comply with the rules defined by the access plan each API user is associated with.

- **Proactively manage API success by treating it as a product.** Whether API users are internal, external, or both, to optimize the business value of an API, the API provider must treat it as a product with customers and a life cycle. Whether via basic reporting or advanced analytics, API providers must understand patterns of API access, including error rates that may indicate the API is difficult to understand. New versions of the API need a smooth and managed rollout to API users.

- **Connect API access to functions and data within their technology estate.** APIs deliver their value by connecting to the API provider's data and applications. Some of these assets may be API-ready, while others may need some manner of integration connectivity to make them accessible.

API management solutions address the core of these needs by providing:

- **A portal: The foundation for API user relationship management.** API portals provide a place for potential users to explore and understand APIs. Current users access the portal as they develop solutions using APIs, to understand and manage their API access, and to collaborate with other API users. API providers can use the portal to communicate with APIs. That said, the real need is much more than the word "portal" implies. Considering the full range of API styles and business scenarios, the real need is overall relationship management with API users.

- **Administration tools: The key to API product management.** For the API provider, administrative tools together with reporting and analytics support the definition and ongoing management of APIs.

- **A gateway: The API enforcement and integration point.** API requests flow through a gateway, which enforces the rules for each API access plan. The gateway then makes the connection to the API provider's internal assets, including any integration mapping required.

- **Extended features: Added value to address the wide variety of API scenarios.** In Forrester's definition, the triad of developer portal, admin tools, and a gateway form the minimum qualifications for an off-the-shelf API management solution. However, to address the wide variety of business scenarios and styles of API strategies, vendors extend upon this core by providing additional features and functions like advanced analytics, mobile app support, billing, API implementation hosting, API life-cycle management, and more.

US API MANAGEMENT SPEND WILL REACH $660 MILLION IN 2020

As vendor evaluations rapidly progress toward closed deals, API management is "crossing the chasm" this year and reaching mass adoption across the enterprise.[12] Forrester predicts that spend on API management solutions will grow at a compound annual growth rate (CAGR) of 30%, from $140 million in 2014 to $660 million by the end of the decade (see Figure 1).

Our market forecast projects that:

- **The market reaches hyper-growth in 2015.** Among an addressable market of primarily midsized companies and large enterprises, 14% will have adopted API management by end of this year.[13] Based on adoption patterns of previous technologies, passing the 10% threshold is a strong indication that mainstream adoption will take hold within the next couple of years.[14] As such, we project US API management solutions spending to grow 70% in 2015 and sustain double-digit growth rates through 2019.
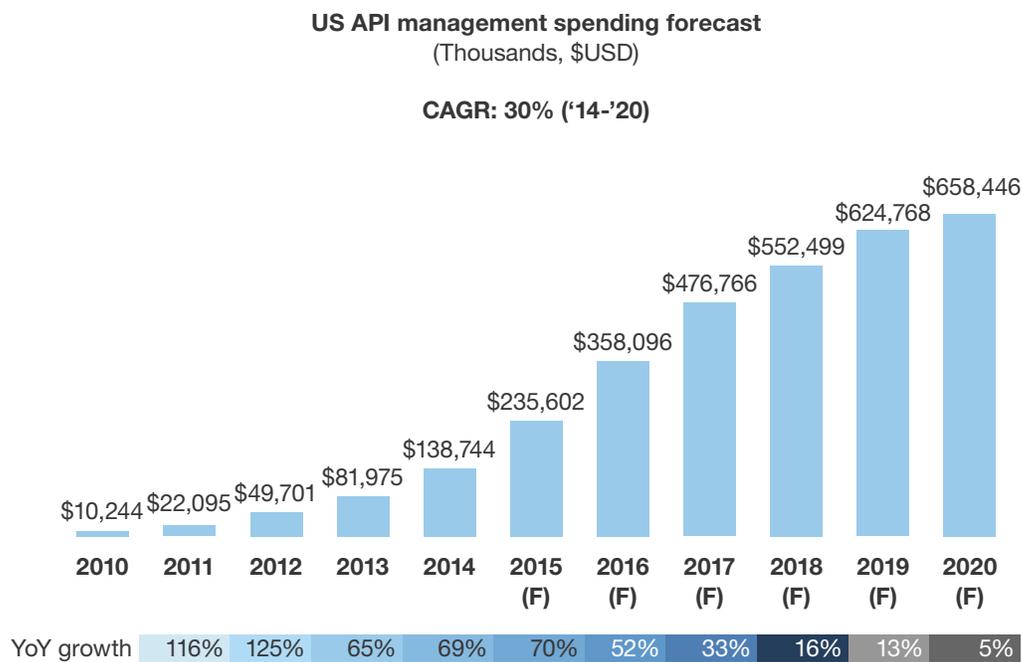
■ **Thirty-seven percent of US enterprise companies adopt API management solutions by 2020.** We forecast that by 2020, current and future API-driven digital initiatives will drive approximately over one-third of enterprises to become API management customers. Most companies pursuing API-driven digital initiatives will adopt API management within the next five years. Recent Forrester survey data indicates that the firms of over half of technology and business decision-makers at US enterprises are making it a priority to address the increasing impact that digital technologies have on their business.[15] Twenty-nine percent are investing in mobile for their customers or business partners to drive revenue growth, 24% are creating more connected products ("smart products"), and 35% have implemented or plan to implement Internet of Things solutions during the next 12 months.[16] All of these business activities involve the deployment of APIs at scale. Our data also reveals that 43% of IT developers at US enterprises use APIs internally or externally.[17]

■ **The BT agenda drives future spending on API management solutions.** Going back to 2010, API management solutions were first sold informally to heads of development in business units. Over the past two years, we've seen CIOs take the initiative to break the technology silos, pool funds within business units, and get C-level buy-in to drive a greater digital transformation. API management is high on the new technology shortlist Forrester calls the BT agenda, with CIOs willing to sign larger contracts to oversee the digital initiatives blossoming within their organizations. As such, average-selling prices (ASPs) will continually rise over the next couple years, before eventually ceding to competitive and down-market pressures.

■ **International companies will drive the market past the billion-dollar mark.** As part of the analysis, we collected global revenues, which topped $183 million in 2014, from top vendors and can provide a global forecast on a custom basis to Forrester clients. With US-based companies making up 65% of customers, and 75% of revenues in 2014, we expect growth to be higher in international markets, and for the global market to pass the billion-dollar mark by 2020. The majority of internal spend today is coming from Europe. Many UK companies have adopted API management, and vendors are starting to see traction in Germany, Austria, and France, where mobile is driving the majority of API management interest.

■ **SOA customers will add API management to their infrastructure.** Vendors like Akana (formerly SOA Software), Axway (which acquired Vordel), CA Technologies (which acquired Layer 7), IBM, Intel, MuleSoft, Oracle, and Software AG, Tibco, and WSO2 are extending their success with SOA specialty products into API management. SOA service life-cycle management and SOA application gateway products are particularly well-suited as foundations for API management — indeed, every API management solution includes an embedded gateway.[18] As enterprises continue to extend their SOA initiatives with APIs, SOA-native API management vendors have a healthy pipeline of potential clients within their existing customer base. Meanwhile, other vendors will layer their solutions on top of customers' SOA infrastructures.

■ **Ongoing gateway-only sales will support vendors' API management product investment.**
Although all API management solutions include a gateway, gateways continue to have a market
in their own right, serving both API/SOA and other scenarios. Akana, Axway, CA, Forum
Systems, IBM, Intel, Oracle, Software AG, and Tibco sell gateways independently from API
management. Some gateway-only customers may even surround the gateway with their own
custom-built API management features. In line with our definition of API management, our
market projections exclude gateway-only sales. In other words, we include in our market
forecast only spending on a complete API management solution: a portal, administration tools,
a gateway, and any extended features that are included in a vendor's base product (see Figure 2).

We don't include gateway-only sales in API management because much of the value of a
commercial API management solution comes from tight, prebuilt integration between the
gateway and the other solution elements, particularly as a foundation for API user relationship
management. On top of the $183 million in 2014 global revenues for API management, we
estimate an additional $275 million in 2014 global revenue from gateway-only customers. This
ongoing revenue stream will provide vendors with all the more financial muscle for investment
in their API management solutions.

Figure 1 US API Management Software Spending Tops $660 Million In 2020

US API management spending forecast
(Thousands, $USD)

CAGR: 30% ('14-'20)

	2010	2011	2012	2013	2014	2015 (F)	2016 (F)	2017 (F)	2018 (F)	2019 (F)	2020 (F)
Spending	$10,244	$22,095	$49,701	$81,975	$138,744	$235,602	$358,096	$476,766	$552,499	$624,768	$658,446
YoY growth		116%	125%	65%	69%	70%	52%	33%	16%	13%	5%

F = Forecast
Source: Forrester Research API Management Solutions Forecast, 2015 To 2020 (US)

April 2, 2015

Figure 2 API Management Solutions Spending Definitions And Demographics

	What's in?	What's out?
Definition	API management is a software solution with three core feature sets: 1) a gateway to enforce the rules for each API access plan, 2) administrative tools to support the definition and ongoing management of APIs, and 3) a portal for API providers to connect with and serve API users. In addition, any extended features that a vendor bundles with the three core features are included as part of API management (e.g., advanced analytics, life-cycle management).	• Revenues from gateway-only (as opposed to a complete API management solution) • Add-on revenues from extended features that a vendor does not include in the base product, e.g., advanced analytics and monitoring tools, API marketplaces, MBaaS (mobile backend-as-a-service), and PaaS (platform-as-a-service).
Customers	Small, mid-sized, and enterprise-level companies across all industries	N/A
Deployment models	• SaaS • Hosted/licensed • Hybrid SaaS/licensed	N/A
Revenue types	Subscriptions, licenses, maintenance fees, services fees	Management consulting fees for API enablement and digital transformation services.
Industries	All industries segmented into 20 groups.	N/A
Geography	US	EU, APAC, LatAm, global

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MORE VENDORS CROWDING INTO THE MARKET

Apigee, Mashery, and 3scale were early names in API management, but the field has grown larger in recent years (see Figure 3). Small and large enterprise software players like Akana, Axway, CA, IBM, Intel (which acquired Mashery), Microsoft, MuleSoft, Oracle, Software AG, Tibco, and WSO2 are now pursuing API management revenue. Others like SAP are getting into the game by partnering with an API management player. Services vendors like Accenture, HP, and Torry Harris Business Solutions are either partnering or building services and frameworks for API management. Despite the surge, there may well be room for all of these players because:

- **Broad usefulness of APIs means many enterprises will need API management.** Most any enterprise can benefit from APIs, which promises great market opportunity for API management solutions. Our analysis confirms what vendors in the market are betting on — that over the next few years a large percentage of enterprises will get serious about APIs and the infrastructure around them.

- **Diverse API usage scenarios mean there's room for a variety of API management solutions.** Across the market, API management solutions differ widely in their strengths. Some excel in analytics. Others integrate life-cycle management. Some have turnkey facilities for API usage billing. Still others have extra capabilities for mobile app use of APIs. Some aim for affordability. Some connect tightly to full integration solutions or platform-as-a-service (PaaS) offerings. Some lead with professional services. Because the potential enterprise business scenarios for APIs vary so widely, there is room for a wide variety of different kinds of API management solutions and different vendor go-to-market strategies.

- **APIs have business credibility and momentum that SOA never did.** APIs are, at root, an extension of the software architecture transformation that began in the early 2000s with SOA, but a confluence of factors has given vendors a much stronger opening for selling in the API wave. Mobile has forced the need for services. APIs from big social players like Facebook and Twitter increased awareness. Emerging enterprise digital channel teams have picked up on the trend. Now business executives increasingly understand that they need APIs, even if they don't understand technically what they are. This gives vendors a new angle for energizing their SOA and API revenue streams.

*Figure 3* API Management Solutions Vendor Landscape

3-1 | API management solutions landscape

PaaS/Integration Specialists
- API management plus integration
- API management plus integration PaaS
- API management plus PaaS

axway   MuleSoft™   Microsoft   WaveMaker

Pure plays
- API management centered vendors
- API management plus gateways
- API marketplaces

apigee   3SCALE   MASHERY An Intel Company   ca technologies   mashape

Systems integrators
- Defined offerings for customized API management delivery
- API management operation

hp   Torry Harris   accenture

Platforms for APIs, governance, and SOA
- API management plus life-cycle and runtime service governance, with related offerings like integration and PaaS

IBM   software AG   akana   TIBCO™   WSO2   ORACLE

Note: Informatica and managed methods have exited the API management business.

Figure 3 API Management Solutions Vendor Landscape (Cont.)

3-2 | **API management market entry intensified over the past two years**
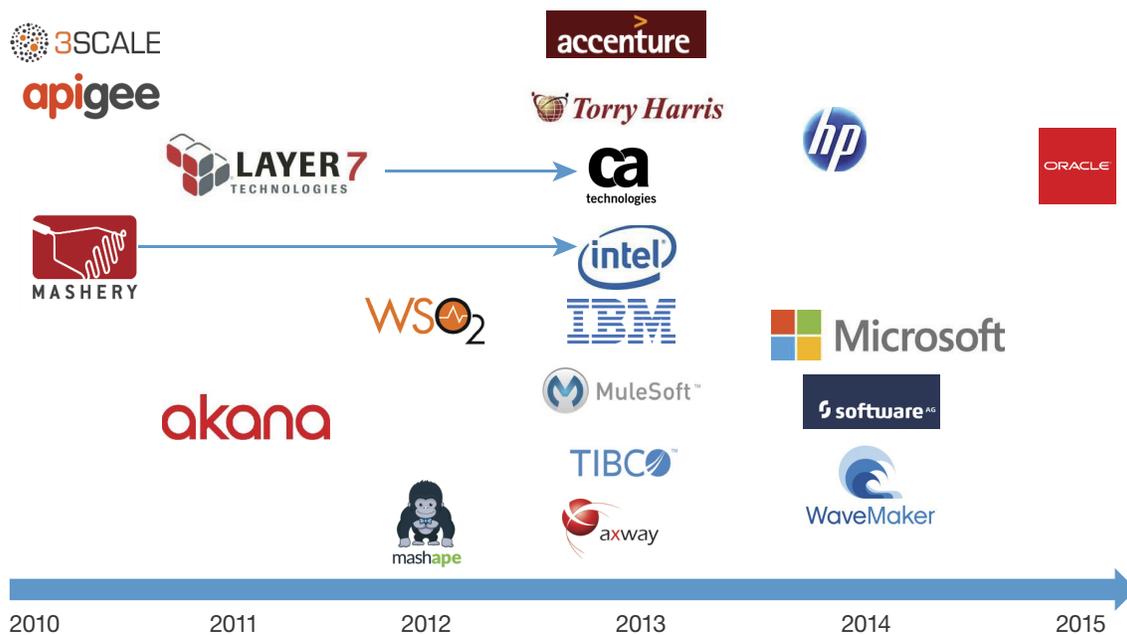
Note: Arrows indicate an acquisition; some vendors had gateway-only solutions before their entry into API management.

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WHAT IT MEANS

BUSINESS SCENARIOS WILL DRIVE API MANAGEMENT SOLUTION DIFFERENTIATION

Because APIs add value to different enterprises in so many different ways, it will be difficult for any given API management player to excel in all the ways necessary to meet all the scenarios. In addition, some individual enterprises will have widely varying business scenarios, such that one solution won't meet all their needs. This will lead to a diverse market with distinct flavors of API management, including solutions for:

- **API providers who want revenue.** While any API may be treated as a product, when customers actually pay for it, it ups the ante on the need for billing integrity, relationship management, support, ease of use, and robust operation. 3scale, Apigee, and CA Technologies have strong billing and monetization features built into their API management offerings, including out-of-box integration with one or more payment gateways.[19] As an

API marketplace, Mashape simplifies billing for API providers by precluding the need for a payment gateway and simplifies billing for API users by consolidating billing across multiple API providers. Other vendors provide hooks for integrating a billing solution, while Akana, IBM, and WSO2 have noted future plans for API monetization.

- **Enterprise API maturity with internal APIs.** Experience with SOA over the years has validated the importance and value of services for internal use, while also demonstrating the importance of good enterprise service governance. These lessons apply fully to APIs and provide an opportunity for API management solutions from vendors that have life-cycle management and runtime governance solutions like those offered by Akana, IBM, Oracle, Software AG, Tibco, and WSO2.

- **Integrating APIs into broad B2B relationships.** APIs are driving new conversations about tight integration with customers, suppliers, partners, and other stakeholders, but they will not become the only means of B2B integration. Vendors that are able to manage APIs along with managed file transfer, EDI, and more will find interesting comprehensive B2B scenarios to address. Vendors with strong opportunity to excel here include Axway, IBM, Oracle, Software AG, and Tibco.

- **API management embedded into PaaS and other platforms.** When the functions and data that drive an API are delivered via PaaS, SaaS, or the like, API management extensions to those platforms will be very appealing to an API provider. Most vendors support deployment within one or more public cloud platforms. IBM's and Microsoft's API management solutions are integrated into their respective Bluemix and Azure PaaS platforms. WSO2 offers its broad platform, including API management, as a PaaS platform. MuleSoft's and Tibco's solutions are closely integrated with their integration PaaS offerings (MuleSoft's CloudHub and Tibco CloudBus). Apigee's offering goes the other way: It adds an API hosting environment as an add-on to its API management solution.

- **Highly custom business scenarios.** Professional services vendors will look for opportunities where APIs are so integral to a new way of doing business that off-the-shelf API management solutions meet a low percentage of the scenarios requirements. Today, HP is focused on large media and telco customers, while Accenture and Torry Harris Business Solutions go to market with broader API strategy and infrastructure offerings.

- **API experimentation with no out-of-pocket cost.** Some enterprises and smaller companies will look for cheap ways to dip their toes in the waters of the API economy. Vendors with free entry tiers or open source models will have a leg up on winning these companies. 3scale, Apigee, and WSO2 have options for no-cost, unlimited duration use of their API management solutions (though support is typically limited or unavailable).

SUPPLEMENTAL MATERIAL

Survey Methodology

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Companies Interviewed For This Report

3scale	Managed Methods
Apigee	Mashape
Axway	Oracle
CA Technologies	Software AG
HP	Torry Harris Business Solutions
Intel	WSO2

ENDNOTES

[1] Business leaders don't think of digital as central to their business because in the past, it hasn't been. But now your customers, your products, your business operations, and your competitors are fundamentally digital. While 74% of business executives say their company has a digital strategy, only 15% believe that their company has the skills and capabilities to execute on that strategy. A piecemeal strategy of bolting on digital channels or methods is no longer sufficient. You must harness digital technologies, both to deliver a superior customer experience and to drive the agility and operational efficiency you need to stay competitive. See the "The Digital Business Imperative" Forrester report.

² Software is to business what plastic was to manufacturing: an infinitely malleable component that can be shaped to many purposes. Software is central: It powers processes, represents the brand in customer-facing applications, and enhances product functionality as an embedded component. Modern software practices — continuous delivery, loosely-coupled architectures, and agile organizational models — drive rapid innovation and have created a new kind of enterprise: the software-powered business. See the "The Software-Powered Business" Forrester report.

³ An enterprise strategy for APIs looks broadly to many different business scenarios and new possibilities. See the "Establish Your API Design Strategy" Forrester report and see the "Drive Business Agility And Value By Increasing Your API And SOA Maturity" Forrester report.

⁴ APIs are perhaps the most critical technology in digital business design. They have the power to unlock new revenue streams, to transform how you design and deliver change, and to extend your value proposition via dynamic ecosystems of value. See the upcoming "Four Ways APIs Are Changing Your Business" Forrester report.

⁵ The mobile mind shift is the expectation that I can get what I want in my immediate context and moments of need. See the "Mobile Moments Transform Customer Experience" Forrester report.

⁶ It's clear that mobile apps need APIs to access business data and transactions. The problem for application development and delivery (AD&D) pros is how to design these APIs. The time-to-market pressure on delivering mobile apps may lead to a short-term focus to merely deliver something that works. This is a mistake, because it will shortchange the role of mobile APIs in an organization's omnichannel strategy, and its wider goals of agility and consistency across processes, customers, and partners. See the "How To Design APIs For Mobile" Forrester report.

⁷ R's call center workbench provides a strong example of what Forrester calls digital business design: A business-centered approach to solution architecture, implementation, and integration that brings business and technology design together. See the "Digital Business Design Improves Efficiency And Insight" Forrester report.

⁸ Netflix has since closed its API, limiting access to selected partners.

⁹ Because of its strong API initiative, some of ING Vysya Bank's commercial customers to choose the bank based more on CIO-to-CIO conversations about business optimization than on the bank's interest rates. See the "Digital Business Design Sharpens Organizations' Competitive Posture" Forrester report.

¹⁰ Forrester believes that the IoT trend is about to enter a second stage in its development that will focus on software application platforms that provide prebuilt connectivity, security, management, and analytics capabilities. See the "Predictions 2015: Software Platforms Drive Internet-Of-Things Adoption" Forrester report.

¹¹ For more information on the important role that open APIs play in the Internet of Things landscape, see the "Internet-Of-Things Software Platforms Simplify Transformation Of Business Operations" Forrester report.

¹² Geoffrey Moore coined the expression "crossing the chasm" to denote when a product began to achieve a critical mass of adoption in his book of the same name. Source: Geoffrey A. Moore, *Crossing the Chasm: Marketing and Selling High-Tech Products to Mainstream Customers*, HarperPB, 1999.

[13] As business increasingly becomes powered by software, companies of all shapes and sizes will potentially become API providers. However we believe the addressable market for API management solutions is a subset of this population, as not all businesses have the structure and process maturity to implement and maintain an API management program. With advanced organizational structure, centralized technology management, and many potential digital initiatives spanning business units, all large enterprises (1,000+ employees) are potential buyers. Midsized telcos and high-tech companies are also addressable, because APIs are often central to the business and interface with a large population of potential customers. For similar reasons, small tech and media companies are addressable. However, these companies are likely to use free, cheap, or open source software with limited functionality. Small tech and media companies making significant investments in a robust API management solution are far and few between, and we don't expect this to change within the near future.

[14] Every significant new technology goes through a period of experimentation when a few early adopters try it out. After that, there's a period of accelerating adoption as word of the benefits of the technology spreads and fast followers jump on board and then a period of flattening adoption as the late adopters slowly decide that this new-fangled stuff is worth it after all (or else take a pass altogether). See the "The Public Cloud Is Now In Hypergrowth" Forrester report.

[15] As seen by those responding that it is a "high priority" or "critical priority." Source: Forrester's Business Technographics® Global Mobility Survey, 2014.

[16] Source: Forrester's Business Technographics® Global Mobility Survey, 2014.

[17] As seen by those responding that their organization has implemented or is expanding "APIs exposed outside your organization" or "APIs exposed inside your organization." Source: Forrester's Business Technographics® Global Developer Survey, 2014.

[18] As important as API management products are, they address at most one-third of what's needed for successful API-based customer engagement. In addition, APIs need strong service life-cycle management and service runtime management. See the "How To Manage APIs For Customer Engagement" Forrester report.

[19] Forrester has customized its recent wave on API management vendors for specific buying scenarios. See the "Applying The Forrester Wave™: API Management Solutions, Q3 2014" Forrester report and see the "The API Management Buyer's Guide, Q3 2014" Forrester report.

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