FORRESTER®

For: CIOs

Assess Your Cloud Maturity

by Lauren E. Nelson, January 9, 2015

KEY TAKEAWAYS

Little Governance Over SaaS And Public Cloud Platform Usage

SaaS and public cloud resources deliver value quickly, but unregulated, they can expose the organization to significant risk, low performance, data loss, and overspending. Today, a large portion of this usage is ungoverned.

Identify, Align, Plan, And Measure Your Cloud Maturity

We developed a cloud maturity assessment based on our extensive research and thousands of interactions with CIOs to identify the characteristics and best practices of a successful cloud program.

There Are Three Core Maturity Categories: Governance, People, And Strategy

Forrester's cloud maturity assessment is holistic and provides a balanced view of your current cloud maturity with three high-level domains (governance, people, and strategy) and 15 subdomains.

Assess Your Cloud Maturity

Assessment: The Cloud Computing Playbook

by Lauren E. Nelson
with Glenn O'Donnell, James Staten, Dave Bartoletti, Liz Herbert, William Martorelli, Sophia I. Vargas, and Michael Caputo

WHY READ THIS REPORT

As CIOs build out enterprise cloud strategies and mature their cloud implementations, there's an increased need to evaluate usage and strategy against other enterprises and market best practices. This report outlines the assessment framework for The Forrester Cloud Computing Maturity Assessment: Q1 2015 for CIOs. It details the key elements of the governance, people, and strategy required to maintain a successful enterprise cloud program. This assessment should be paired with cloud technology segment assessments completed by tech managers reporting to the CIO.

Table Of Contents

Notes & Resources

This report is based on vendor briefings, client inquiries, consulting engagements, and numerous end user interactions regarding cloud.

Related Research Documents

Develop Cloud Metrics Using The Balanced Scorecard
December 24, 2014

Benchmark Your Enterprise Cloud Adoption
September 19, 2014

Understand The Cloud Service Provider Market Landscape
May 19, 2014

YOU ARE NOT GETTING THE MOST OUT OF CLOUD

Every enterprise uses cloud computing services. Many enterprises have gained substantial value through this usage, including better management capabilities, resource optimization, upgrade efficiency, and developer access. Despite these successes, enterprises are still shortchanging their cloud experience. Governance, training, and strategic use of cloud are still in their infancy. We have not yet figured out how to enable secure cloud usage without diminishing time-to-value. Cloud platforms still focus on resource efficiency and cost savings rather than enablement. Strategies often mimic current practice rather than aim to design their own practices. Potential value is subsequently diminished. This marketwide immaturity can be summarized by three core issues:

- **There is little governance over pervasive SaaS and public cloud platform usage.** On average, 7.9% of North American and European enterprise application portfolios are SaaS applications, and those are just the SaaS applications recognized by software decision-makers.[1] Some of Forrester's global enterprise clients discovered up to 633 unique, active SaaS applications when conducting cloud inventory assessments.[2] Similarly, 18% of North American and European enterprise developers have reported cloud platform adoption.[3] Only 15% of hardware decision-makers have reported adoption.[4] Few of these purchases underwent full RFP evaluations. Committed service-level agreements (SLAs) remain untracked by anyone other than the vendor, terms of back-up services remain unknown, and contracts remain unconsolidated.[5] Data security protocols are a concern but often go unregulated.[6] These SaaS applications and public cloud resources deliver value quickly, but without effective governance, they expose the organization to significant risk, low performance, data loss, and overspending.[7]

- **Private cloud deployments remain unfocused.** Fifty-nine percent of North American and European enterprise hardware decision-makers consider building an internal private cloud a priority for 2015, but when asked about core capabilities (e.g., full automation, self-service access, and tracking resource usage), only 6% met these requirements.[8] Although there are different private cloud approaches, roughly one quarter of enterprises look to private cloud as a transformational technology to bridge systems of record with systems of engagement.[9] Pervasive strategies such as these can often be expensive, overwhelming, slow-moving, and quickly side-tracked.[10] Many of today's private clouds lack realistic time frames, clear short-term deliverables, and balanced metrics to ensure alignment.[11]

- **Enterprise cloud security plans lack maturity.** Although security remains the top concern for cloud platform adoption, it isn't stopping adoption.[12] In fact, 37% of North American and European enterprise hardware decision-makers at firms that *already adopted* public cloud platforms still consider security to be a concern.[13] Similarly, among SaaS adopters in North American and European enterprises, 64% (of software decision-makers) consider security to be a concern.[14] At the heart of the issues, security responsibilities are split between cloud service providers (CSPs) and the customer. CSPs are only responsible for managing up to a certain point in the stack, and only provide assurances and guarantees up to that level — leaving

the enterprise to secure the additional layers.[15] Meeting this gap isn't always simple. There's pressure to deliver these security services without diminishing time-to-value for the user. That requires automation of security policies and practices. For heavily compliant workloads, it means creatively solving security challenges for this new cloud model without diminishing cost efficiencies. Today, enterprises are in the early stages of solving these problems with inefficient one-size-fits-all security plans and restrictive policies.

Enterprise adoption, although pervasive, is immature. Direct adoption opens the flood gates to cloud adoption, making it difficult for enterprises to get out in front of usage to provide mature governance processes and design a more strategic approach for their organization.

IMPROVE YOUR CLOUD USAGE THROUGH ASSESSMENT

As you look to your future cloud use, Forrester believes your primary goal should be measurement and comparison through three key tools: 1) benchmarking your cloud adoption relative to other enterprises; 2) developing a Balanced Scorecard to track success of individual projects; and 3) completing a maturity assessment to better understand an optimized future state for your cloud strategy and implementation.[16] This report targets this last comparison tool — the maturity assessment.

The Value: Identify, Align, Plan, And Measure Your Cloud Maturity

So how do you get started? First, you need to know where you stand today. This requires an honest assessment of your most important technology capabilities, organization, tools, devices, and processes. To help, we developed a cloud maturity assessment based on Forrester's extensive research and thousands of interactions with CIOs to identify the characteristics and best practices of a successful cloud program.[17] Forrester's cloud maturity assessment helps CIOs:

- **Identify maturity gaps across the entire cloud strategy.** Forrester has established a set of key cloud domains, capabilities, functions, and responsibilities, which together make up a holistic view of a typical enterprise's cloud usage. By assessing your maturity in each subcategory, you can quickly identify gaps and prioritize remediation plans by comparing your current maturity state with your desired future state. Be realistic about your future desired state. Aiming too high too quickly will prove disastrous.

- **Align cloud usage to business and developer needs.** As you assess your maturity in each cloud domain, you should consider not only how well you've leveraged each technology and tool for greater efficiency, performance, and availability, but how well you're keeping up with the demands of your business users. Include business leaders in your data-gathering process, and ask them to rate your maturity from their vantage point as well.

- **Develop your strategic cloud plan.** You can't develop a strategy without knowing where you are. After completing Forrester's cloud maturity assessment, you'll have the major inputs. Start building your strategic plan for cloud transformation moving forward. Once you've identified your maturity goals, your strategic plan tells you how to realistically achieve them.

- **Track progress and measure improvement over time.** Your maturity model captures some important key performance indicators (KPIs) you can track over time. Use Forrester's cloud maturity assessment as a tool to continually improve your overall cloud usage. This is particularly important both before and after significant cloud strategy developments and rollouts. Plus, you can use your maturity assessment results to prioritize those areas of your enterprise's cloud program requiring more in-depth exploration. This simplifies budgeting, project planning, and adaptation of the strategy to changing business conditions.

The Approach: Key Tenets Of Forrester's Cloud Maturity Assessment

Forrester's cloud maturity assessment provides you with a unique approach that is objective, holistic, consistent, prescriptive, and achievable:

- **Objective.** Our cloud maturity assessment represents our unbiased advice based on our extensive research to identify the characteristics and best practices of a successful cloud program.

- **Holistic.** Most maturity assessments are designed only to measure the effectiveness of processes or the technology tools used to support those processes. Forrester's cloud maturity assessment evaluates 15 critical elements of cloud across three high-level domains: governance, people, and strategy. With today's dynamic and complex cloud usage, these domains are highly interdependent.

- **Consistent.** For an infrastructurewide assessment to be valuable, you must measure maturity consistently across all domains. Forrester bases its evaluation of the oversight, people, process, and technology and facilities domains using the COBIT (Control Objectives for Information and Related Technology) 4.1 maturity-level definitions: 0 — nonexistent; 1 — ad hoc; 2 — repeatable; 3 — defined; 4 — measured; and 5 — optimized (see Figure 1).

- **Prescriptive.** The characteristics required to achieve the next level of maturity for each component are clear and distinct. An assessment should yield similar results regardless of who conducts it, and the requirements to reach the next level of maturity should be easy to understand.

- **Achievable.** This maturity assessment was created to be achievable and does not require large amounts of detailed data or extracts from management tools. You can complete your assessment using discussions, interviews with stakeholders, and your own observations.

Figure 1 You Need A Consistent Approach To Define Maturity Across All Domains Of Cloud Strategy

Maturity level	Characteristics
0 = Nonexistent	Not understood, not formalized, need is not recognized
1 = Ad hoc	Occasional, not consistent, not planned, disorganized
2 = Repeatable	Intuitive, not documented, occurs only when necessary
3 = Defined	Documented, predictable, evaluated occasionally, understood
4 = Measured	Well-managed, formal, often automated, evaluated frequently
5 = Optimized	Continuous and effective, integrated, proactive, usually automated

61605 Source: Forrester Research, Inc. Unauthorized reproduction or distribution prohibited.

Three Domains Provide A More Balanced View Of Your Current Cloud Maturity

Forrester's cloud maturity assessment gives you a full perspective of the important domains of governance, people, and strategy; these domains, along with 15 subdomains, provide you with a balanced view of your current cloud maturity. Maturity always pursues an optimum balance of ideals — not too much of a good thing and not too little, but just right. That balance — the *Goldilocks point* — changes over time. Your assessment — and resulting strategic and tactical changes — must always pursue the Goldilocks point.

- **"Governance" describes how you prioritize, plan, coordinate, and manage.** As the oversight domain, governance assesses how you determine, evaluate, and manage your compliance, security, strategy, and budget processes, and align them to business and customer needs. For example, your infrastructure and operations (I&O) organization will be reluctant to put self-service access or SaaS applications in the hands of the business without a slow and arduous process, whereas business users and developers will gladly circumvent slow resources that delay their time-to-value. Having a cloud model that puts the right governance in place will both assure your I&O professionals and push them to design a different approach to meet the speed needed by your developers and the business. Governance measures your organization's ability to attain the right balance of discipline, i.e., a Goldilocks method.

- **"People" includes staff relationships and responsibilities.** The people domain assesses how you organize your cloud team and its "customers," how you define roles and responsibilities, and how you communicate both within your organization and with your business stakeholders. An organization with a mature business relationship practice, for example, will establish cross-domain teams made up of both operations staff and business stakeholders to ensure that technology decisions are driven by end user priorities. It will mean articulating a career path and development services to those individuals that are involved in this transition.

- **"Strategy" includes functions to manage and deliver cloud services.** Forrester's cloud strategy assessment scores are based on strategy creation influencers, holistic approach across SaaS and both internal and external cloud platforms, metrics and policies to continually ensure alignment to the strategy, and a strategic approach to what goes where — a process Forrester dubs strategic rightsourcing.[18] Organizations developing a cloud strategy must ensure that influencers and cloud use cases are broad and defined, accountability is in place to keep the cloud team on track, and there's a highly standardized and unbiased approach for deciding when not to use cloud services.

RECOMMENDATIONS

AVOID CLOUD OVERSIMPLIFICATION, WHICH WILL QUICKLY LEAD YOU ASTRAY

The cloud marketplace is overwhelmed by a cacophony of misinformation, hyperbole, false promises, and other noise, with the term "cloud" getting attached to a long list of solutions. Beware distortions from vendors and possibly from your own people. CIOs building and maturing their organizations' cloud strategies should be aware of the following four market realities. Institute a strategy that accounts for them in your service design and delivery, steering clear of the pitfalls inherent in the market chaos.

- **Cloud isn't an easily understood term.** Solutions are frequently incorrectly labeled "cloud," which creates intense market confusion. Vendors and internal tech management teams see an advantage to marketing an environment as cloud, regardless of whether it meets the core requirements, and they rarely have enough understanding to fact-check this term or to be held accountable to the true definition. Environments that fail to meet all the core characteristics of a genuine cloud environment will fail to deliver the anticipated value to your organization. Hone your "cloudwashing detector" and set expectations accordingly.[19]

- **Cloud isn't a single technology.** The term "cloud," even when used correctly, can mean a range of different solutions (e.g., SaaS, public cloud platforms, private cloud suites, converged infrastructure, hosted private cloud, remotely managed internal private clouds). Assuming that all solutions can lead to cost savings, decreased security risk, and intuitive tool sets can quickly cause organizations to have unrealistic expectations. For each cloud technology within your portfolio, you must conduct a full analysis to understand its fit and its particular strengths and weaknesses.

- **Cloud isn't about short-term wins.** Technology management teams historically have focused their projects on cost savings and resource efficiency, placing far less weight on staff time efficiencies. Hard cost savings are far more commonly tracked than soft cost savings, which are not immediately seen.[20] Although cloud in certain circumstances does provide cost savings, the far larger benefits come from longer-term time efficiency benefits, such as outsourcing functional responsibilities to cloud providers, standardization of services and

components, automated task and process execution, easier capacity planning, faster global expansion, adaptability to changing business conditions and customer expectations, and reduced burden of MOOSE costs.[21] CIOs should make sure that these long-term wins are core objectives of their cloud strategies.

- **Cloud can't just be about long-term wins.** On the other hand, cloud strategies that only focus on long-term transformation and future state often fail to meet today's immediate business demands. Many private cloud adopters develop a long-term plan that looks to roll out developer self-service provisioning in year three or four. Such a lethargic plan will quickly lead to circumvention. CIOs should make sure that short-term wins are built into the strategy, especially when it comes to business-facing capabilities. You must rein in well-intentioned but misguided cloud pursuits directly executed by the business. Do this not as a defensive posture — a dangerous game that could destroy your entire organization — but rather to instill governance across all cloud usage. Disrupt yourself or be disrupted by others, but do it ensuring a risk-adjusted Goldilocks balance of discipline everywhere.

SUPPLEMENTAL MATERIAL

Methodology

For Forrester's Business Technographics® Global Infrastructure Survey, 2014, Forrester conducted a mixed methodology phone and online survey fielded in June and July 2014 of 3,190 business and technology decision-makers located in Australia, Brazil, Canada, China, France, Germany, India, New Zealand, UK, and US from companies with two or more employees.

Forrester conducted a mixed methodology phone and online survey, Forrester's Business Technographics® Global Software Survey, 2014, fielded in July through September 2014 to 3,308 business and technology decision-makers at companies with two or more employees.

Forrester's Business Technographics® Global Developer Survey, 2014, was fielded to 1,716 business and technology decision-makers located in Australia, Brazil, Canada, China, France, Germany, India, New Zealand, the UK, and the US from companies with two or more employees.

Forrester's Business Technographics provides demand-side insight into the priorities, investments, and customer journeys of business and technology decision-makers and the workforce across the globe. Forrester collects data insights from qualified respondents in 10 countries spanning the Americas, Europe, and Asia. Business Technographics uses only superior data sources and advanced data-cleaning techniques to ensure the highest data quality.

We have illustrated only a portion of the survey results in this document. To inquire about receiving full data results for an additional fee, please contact data@forrester.com or your Forrester account manager.

ENDNOTES

[1] Calculated as the percentage of technology decision-makers' firms' application portfolio that is packaged (vendor-built) multiplied by the percentage of their packaged (vendor-built) application portfolio that is software-as-a-service (SaaS). Source: Forrester's Business Technographics® Global Software Survey, 2014.

[2] As stated under NDA by a large manufacturer.

[3] Eighteen percent of North American and European enterprise developers have worked with "cloud computing/elastic applications" development technologies in the past 24 months. Source: Forrester's Business Technographics® Global Developer Survey, 2014.

[4] Fifteen percent of North American and European enterprise hardware decision-makers work at firms that have "implemented, not expanding" or are "expanding/upgrading implementation" public cloud; an additional 7% are piloting it. Source: Forrester's Business Technographics® Global Infrastructure Survey, 2014.

[5] Data backup has been a core tenet of enterprise IT operations for decades at this point, yet many enterprises fail to have strategies for backing up the data they send to software-as-a-service providers. For more information on this phenomenon and how your firm can avoid walking the data backup tightrope, please see the February 4, 2014, "Back Up Your Critical Cloud Data Before It's Too Late" report.

[6] Sixty percent of North American and European enterprise decision-makers consider "security and protection against cybercrime" to be a concern (4 or 5 on a scale from 1 [not at all concerned] to 5 [very concerned]) with SaaS for their firm. Source: Forrester's Business Technographics® Global Software Survey, 2014.

[7] More companies are adopting software-as-a-service (SaaS) applications than ever to take advantage of their unique value-adds. Enterprises need to fully understand the capabilities of SaaS applications lest they risk failing to maximize the SaaS value-add, or worse, costing the enterprise productivity and money with a botched deployment. For more information on the exploding SaaS market and where these technologies are headed, please see the January 7, 2014, "TechRadar™: Software-As-A-Service, Q1 2014" report.

[8] Fifty-nine percent of North American and European hardware decision-makers indicated that "build an internal private cloud operated by IT (not a service provider)" is a high priority or critical priority for their firm over the next 12 months. Six percent indicated that their firm has already implemented a "self-service portal . . . ," "resource tracking . . . ," and "policy-based automation . . . " with their private clouds. Source: Forrester's Business Technographics® Global Infrastructure Survey, 2014.

[9] Approaches to private cloud vary widely depending on the use cases and needs of the business, but Forrester has observed common approaches that come up time and again in inquiries and conversations with clients and vendors. For an analysis of these approaches, please see the October 28, 2013, "Four Common Private Cloud Strategies" report.

[10] Success with a private cloud comes only through embracing the true cloud model of self-service, full automation, and business and developer agility. But most technology managers lack enough hands-on experience with public clouds to truly understand the end user experience priorities and how to translate them to their own environments. To bolster your understanding and make the most of your private cloud deployment, please see the July 14, 2014, "Top 10 Facts Every Tech Management Leader Should Know About Private Cloud" report.

[11] Cloud computing success needs to be measured in business terms, and it's likely that your technology management team is not experienced when it comes to this. Using the Kaplan and Norton Balanced Scorecard (BSC) method for measuring performance has proven quite effective for many organizations. For more information on how to optimize your company's cloud computing performance via use of the Balanced Scorecard, please see the December 24, 2014, "Develop Cloud Metrics Using The Balanced Scorecard" report.

[12] Source: Forrester's Business Technographics® Global Infrastructure Survey, 2014.

[13] Source: Forrester's Business Technographics® Global Infrastructure Survey, 2014.

[14] Concern is defined as a 4 or 5 on a scale from 1 [not at all concerned] to 5 [very concerned]. Source: Forrester's Business Technographics® Global Software Survey, 2014.

[15] Security still ranks as the No. 1 impediment to full-scale cloud adoption, but cloud service providers (CSPs) are quickly responding to these concerns. Amazon Web Services (AWS), for example, provides a significant number of security services to clients through a model of shared responsibility. Security is not the only consideration, though; your organization also needs to adequately prepare and orient itself toward a cloud deployment as well. For more information on how to secure your cloud initiative and ready your organization for cloud, please see the February 5, 2014, "AWS Cloud Security" report and see the June 1, 2012, "Make The Cloud Enterprise Ready" report.

[16] Are you ahead of your competitors or lagging the average enterprise? Understanding the depth of enterprise cloud adoption yields visibility into the maturity of best practices, enterprise-ready cloud service availability, and the availability of talent to assist CIOs in making the most from the cloud. For more information on how to assess your firm's cloud computing initiative and plan for next steps, please see the September 19, 2014, "Benchmark Your Enterprise Cloud Adoption" report and see the December 24, 2014, "Develop Cloud Metrics Using The Balanced Scorecard" report.

[17] See the January 9, 2015, "The Forrester Cloud Computing Maturity Assessment: Q1 2015" report.

[18] The cloud is excellent for running some apps, and a misguided choice for others; apps that are poor candidates for the cloud may be better provisioned via outsourcing in other ways. To explore Forrester's framework for making the "build/buy" decision when it comes to apps and cloud services, please see the May 24, 2012, "Rightsource Your Applications For The Cloud" report.

[19] Private cloud deployments fail all the time, but with the right approach, they can be a huge success. Forrester profiled the firm Waste Management and its successful implementation of a private cloud. See the May 8, 2013, "Case Study: Waste Management Builds A True Private Cloud" report. For a better understanding of "cloudwashing" and the subtle differences between true SaaS applications and imitators, please see the March 18, 2014, "Beware Of The "SaaS" Trap" report.

[20] Firms almost always consider cloud computing a cost advantage compared to the in-house, always-on enterprise data centers. The cost benefits could be legitimate if you pinpoint your traffic patterns; there is something great about the pay-per-use model of cloud computing, but it makes no real difference if you are

using it all the time. The key is in understanding how the applications you place in the cloud align with the economics of the various cloud services out there today. For more information, please see the May 22, 2012, "Drive Savings And Profits With Cloud Economics" report.

[21] "MOOSE" is an acronym for "maintenance, operations, and expansion" and used in a technology budgeting context. It refers to previous/ongoing IT projects and is considered separate from new projects. For more information on MOOSE and budgeting for technology operations, please see the March 31, 2014, "Debunking Two Myths About Tech Budgets" report.

FORRESTER®

About Forrester

A global research and advisory firm, Forrester inspires leaders, informs better decisions, and helps the world's top companies turn the complexity of change into business advantage. Our research-based insight and objective advice enable IT professionals to lead more successfully within IT and extend their impact beyond the traditional IT organization. Tailored to your individual role, our resources allow you to focus on important business issues — margin, speed, growth — first, technology second.

FOR MORE INFORMATION

To find out how Forrester Research can help you be successful every day, please contact the office nearest you, or visit us at www.forrester.com. For a complete list of worldwide locations, visit www.forrester.com/about.

CLIENT SUPPORT

For information on hard-copy or electronic reprints, please contact Client Support at +1 866.367.7378, +1 617.613.5730, or clientsupport@forrester.com. We offer quantity discounts and special pricing for academic and nonprofit institutions.

Forrester Focuses On CIOs

As a leader, you are responsible for managing today's competing demands on IT while setting strategy with business peers and transforming your organizations to drive business innovation. Forrester's subject-matter expertise and deep understanding of your role will help you create forward-thinking strategies; weigh opportunity against risk; justify decisions; and optimize your individual, team, and corporate performance.

« **CAROL ITO,** client persona representing CIOs