



Cloud, On-Premise, or Hybrid: Which Operational Platform Best Suits Your SAP Project?

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In This Session

- **Get an overview of the “Key Factors” that will help you plan your project, such as:**
 - ♦ **What is Cloud?**
 - ♦ **Why do I need to go on Cloud?**
 - ♦ **What is hybrid?**
 - ♦ **Cloud vs. on-premise vs. hybrid, which one is better and why?**
 - ♦ **How important is time-to-market for your requirement?**
 - ♦ **How important is “Control” to your organization?**
 - ♦ **Any CAPEX Constraints?**
 - ♦ **Geological footprints of your organization?**
 - ♦ **Continuous Delivery vs. Continuous Deployment**

What We'll Cover

- **A word about current situation**
- **Choosing the best platform for you**
- **A deeper look at the deployment approaches**
- **Weighing your options**
- **Picking the best project methodology**
- **Wrap-up**

What Are the Key Market Analysts Saying?

- Gartner says by 2016, the impact of Cloud and emergence of post-modern ERP will relegate highly customized ERP Systems to “Legacy” status
- There’s been a radical shift in deployment preference: 88% of buyers preferred on-premise solutions in 2008, while 87% preferred Cloud solutions in 2014
- By 2017, nearly two-thirds of all workloads will be processed in Cloud data centers — *Gigaom Research, June 23, 2014*
- By 2018, at least 30% of service-centric companies will move the majority of their ERP applications to the Cloud
- By 2017, 70% of organizations adopting hybrid ERP will fail to improve cost-benefit outcomes unless their Cloud applications provide differentiating functionality
- The percentage of buyers without a deployment preference has grown significantly; from 20% in 2008 to 64% in 2014

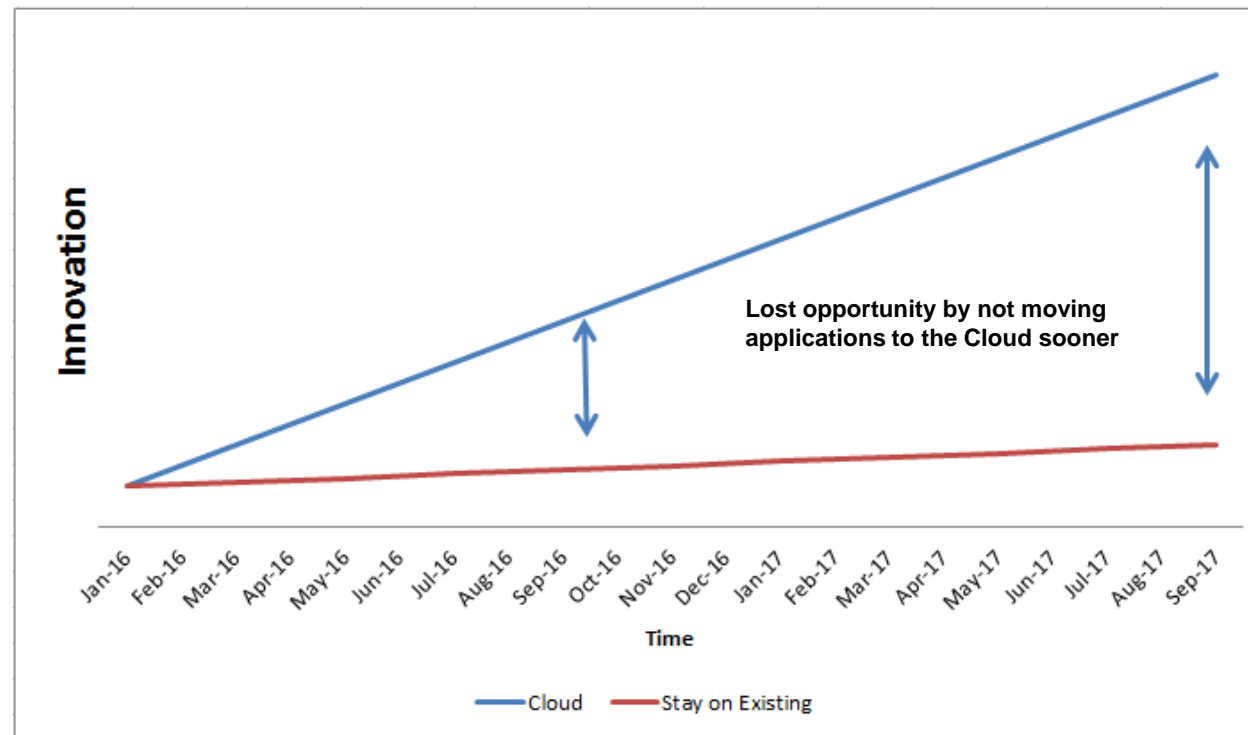
Enabling Innovation as a Competitive Advantage

- “40% of executives worry that their organizations will not keep pace with technology change and lose their competitive edge” — *McKinsey study, 2013*
- “The primary driver for cloud adoption will shift from economics to innovation as leading-edge companies invest in cloud services as the foundation for new competitive offerings” — *Frank Gens, IDC*
- What is the focus of your IT organization:



The Cost of Waiting

- Missed New Functionality
- Missed TCO and Process Improvements
- Missed ROI from delayed rollouts



IT Spending Top 5 Items: Is Cloud Top of the Chart?

- **Security**

- ♦ High-profile security breaches at The Home Depot, Target, Michaels, and myriad other companies — along with the explosion of mobile technologies — have propelled security spending to the top of the IT priority list for 2015

- **Cloud Computing**

- ♦ So it is second from the top on the list of IT spending. Companies continue to move away from big infrastructure investments in favor of Cloud-based systems.
 - ▶ **More than 40% of the respondents to the Computerworld Forecast survey said that their organizations will spend more on software as a service (SaaS) and a mix of public, private, hybrid, and community Clouds in 2015**

IT Spending Top 5 Items: Is Cloud Top of the Chart? (cont.)

- **Business Analytics**

- ♦ **Big data is still a big deal for enterprises. Some 38% of the IT executives said they will dedicate IT dollars to enterprise analytics, data mining, and business intelligence in the coming year.**

- **Application Development**

- ♦ **More than one-third of the IT executives (38%) also said that they will spend money on developing, upgrading, or replacing applications, including mobile apps**

- **Wireless/Mobile**

- ♦ **Some 35% of them said that their organizations plan to invest in RFID technology, remote access tools, Wi-Fi, mobile/wireless devices, and mobile device management systems**

IT Spending Top 5 Items: Is Cloud Top of the Chart? (cont.)

- **Not Making the Cut**
 - ♦ **While spending will increase in some areas, it will inevitably decline in others. Hardware was the area most commonly cited as a target of cuts.**

So the Question Is: Are You Prepared?

- **>90% of organizations believe their existing IT infrastructure is not prepared — IBM**
- **Only 11% of companies: no plans to use the Cloud for sensitive operations — InfoSec 2014**
- **The Cloud is offering many benefits to businesses of all sizes and across all industries, but is it right for you?**
- **Top 3 inhibitors to moving to Cloud are security, privacy, and compliance**
 - **49% listed security as primary concern — Gigaom Research, June 23, 2014**



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Top 6 Questions to Ask When Choosing Your Platform Type

- **What is the size of user base?**
 - ♦ Scaling up capabilities at a fast-growing company is easier, faster, and less expensive using Cloud deployment
- **How important is time-to-market for added functionality or new solutions?**
 - ♦ The shorter your time frame for adding new capabilities, the more Cloud deployment supports your initiative
 - ▶ **New requirements are more quickly and easily added through the Cloud**
- **What are the business drivers?**
 - ♦ Competitive market differentiation, aggressive cost management, and agility to meet changing needs
- **What are your target objectives?**
 - ♦ Improve flexibility, increase revenue generation, and differentiate the customer experience



Top 6 Questions to Ask When Choosing Your Platform Type (cont.)

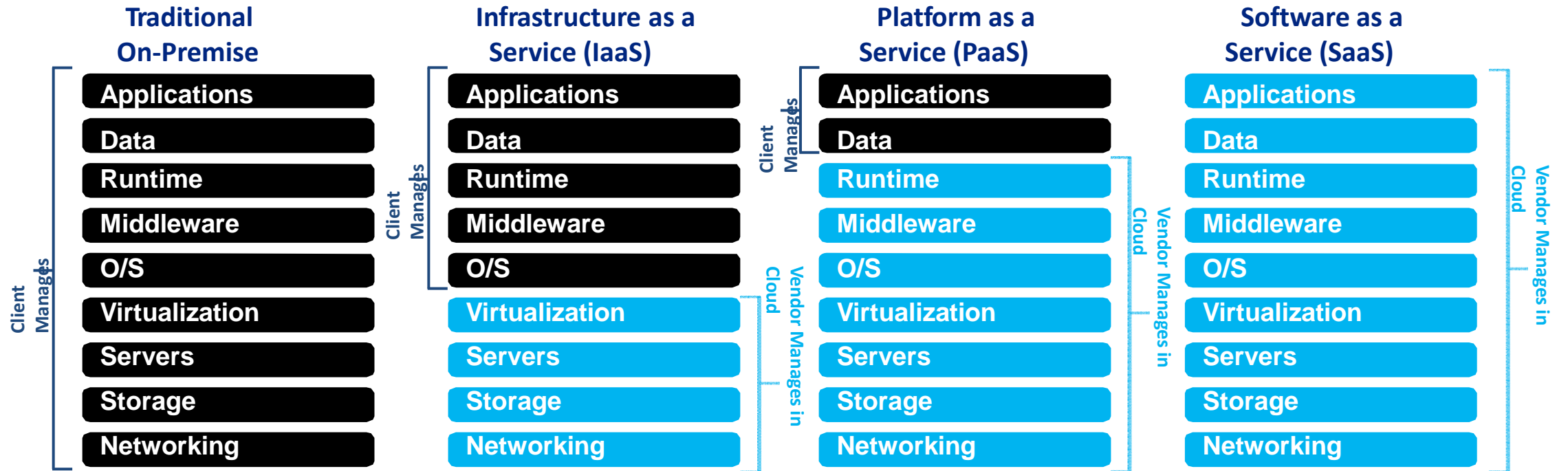
- **Does your organization have CAPEX constraints?**
 - ♦ Cloud computing is an effective way to replace CAPEX with OPEX
 - ♦ Moving to the Cloud stretches your IT infrastructure budget
 - ♦ Cloud is ideal for organizations with significant swings in business activity or transactions (seasonal)
- **Geological footprints of your organization?**
 - ♦ An organization with multiple geological locations can supplement on-premise focus with Cloud deployments, to quickly add regional functionality
- **How important is it for your organization (and executives) to maintain a sense of control?**
 - ♦ Corporate culture is an important part of the decision
 - ♦ A strong bias to keeping resources and expertise in-house, then on-premise may be best choice



SaaS, PaaS, IaaS, iPaaS ...

What's it all mean?

Let's Review Different Service Models



Customization; higher costs; slower time to value

Standardization; lower costs; faster time to value

IaaS: Cut IT expense and complexity through a Cloud-enabled data center

PaaS: Accelerate time-to-market with Cloud platform services

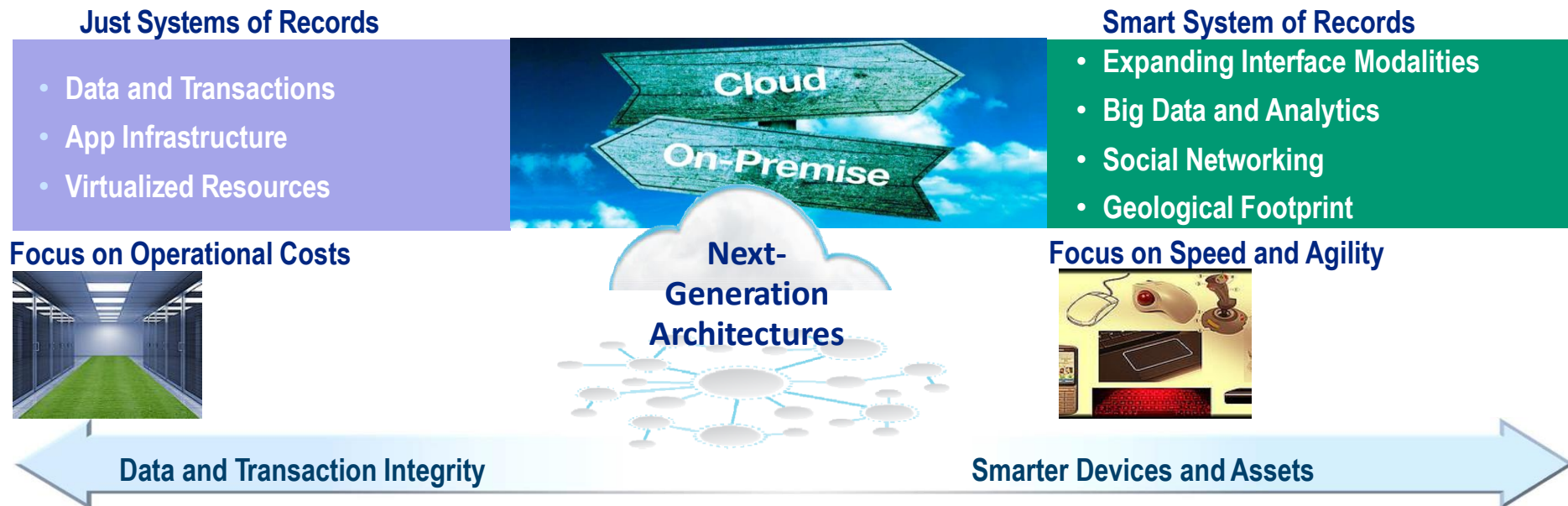
SaaS: Gain immediate access with business solutions on Cloud

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What Is Cloud and Why Do I Need It?

- The Cloud offers you the option to access business critical systems via the Internet, from wherever you are
- We are at a point in the market where the focus has shifted from “just system of records” to “smart system of records”
- Several new modes of engagement have come into our life with Big Data, Social Networking, IoT, Mobile, etc.



What Is Cloud vs. Hybrid vs. On-Premise?



Cloud



Hybrid



On-Premise

- **Choosing the right delivery platform (or mix of the platform) depends on organization needs**
- **At the end of the day the option (whatever you choose) should help your business achieve success**
- **The organizational business need to address big data analytics, smart data analytics, etc.**
- **Customer service and customer experience are also driving factors in selecting the option**
- **Need to change the infrastructure to help business achieve always available, modern, fast, and highly/easily scalable infrastructure**

What Is Hybrid?

“More than 65% of enterprise IT organizations will commit to hybrid cloud technologies before 2016”

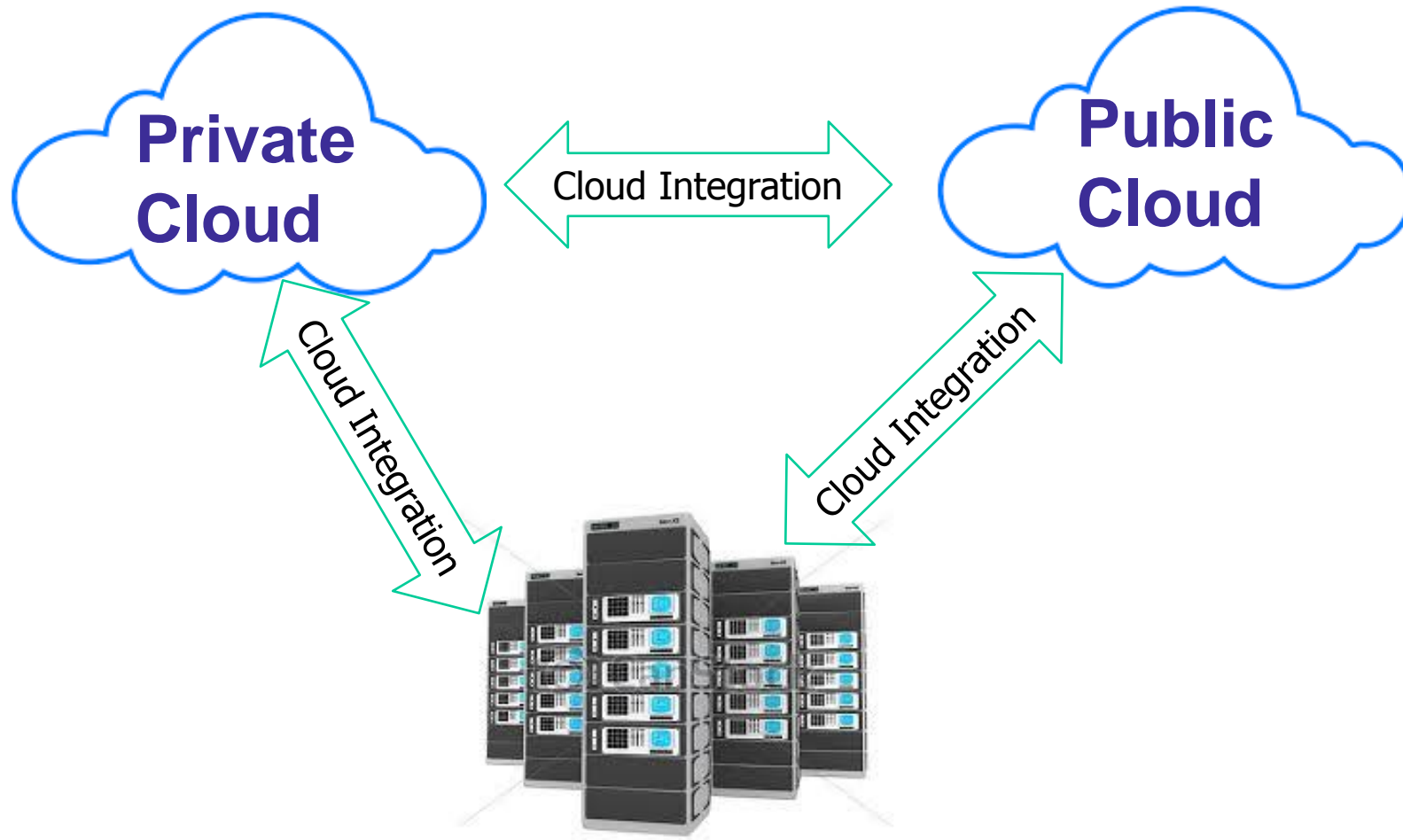
Source: IDC Cloud Predictions: <https://www.idc.com/getdoc.jsp?containerId=prUS25350114>

- **Non-Cloud environments will not be completely replaced**
- **Platform as a Service (PaaS) and Infrastructure as a Service (IaaS) Cloud platforms will coexist**
- **Implementing a Delivery Pipeline would require applications to be deployed across multiple Cloud and physical platforms**
 - ♦ **Development and Test (Dev-Test) on public Cloud with production on private Cloud or physical infrastructure in on-premise data centers**
 - ♦ **“Bursting” from private to public Cloud for temporary capacity needs**

Hybrid Integration Options

- **Moving to the Cloud does not mean breaking off some parts of the business in a piecemeal fashion or taking a rip-and-replace approach**
- **Most organizations are defining a hybrid model, where they choose what remains on-premise and what runs in the Cloud**
- **In this hybrid model, integration is paramount**
 - ♦ **Customers can leverage the tools available from SAP and others to integrate on-premise applications quickly and seamlessly with other SAP and non-SAP applications in the Cloud**
- **These applications do not require extensive coding or overly complex configuration**
 - ♦ **This integration as a service integrates business processes and data in a secure and reliable environment**

Hybrid Cloud Solutions

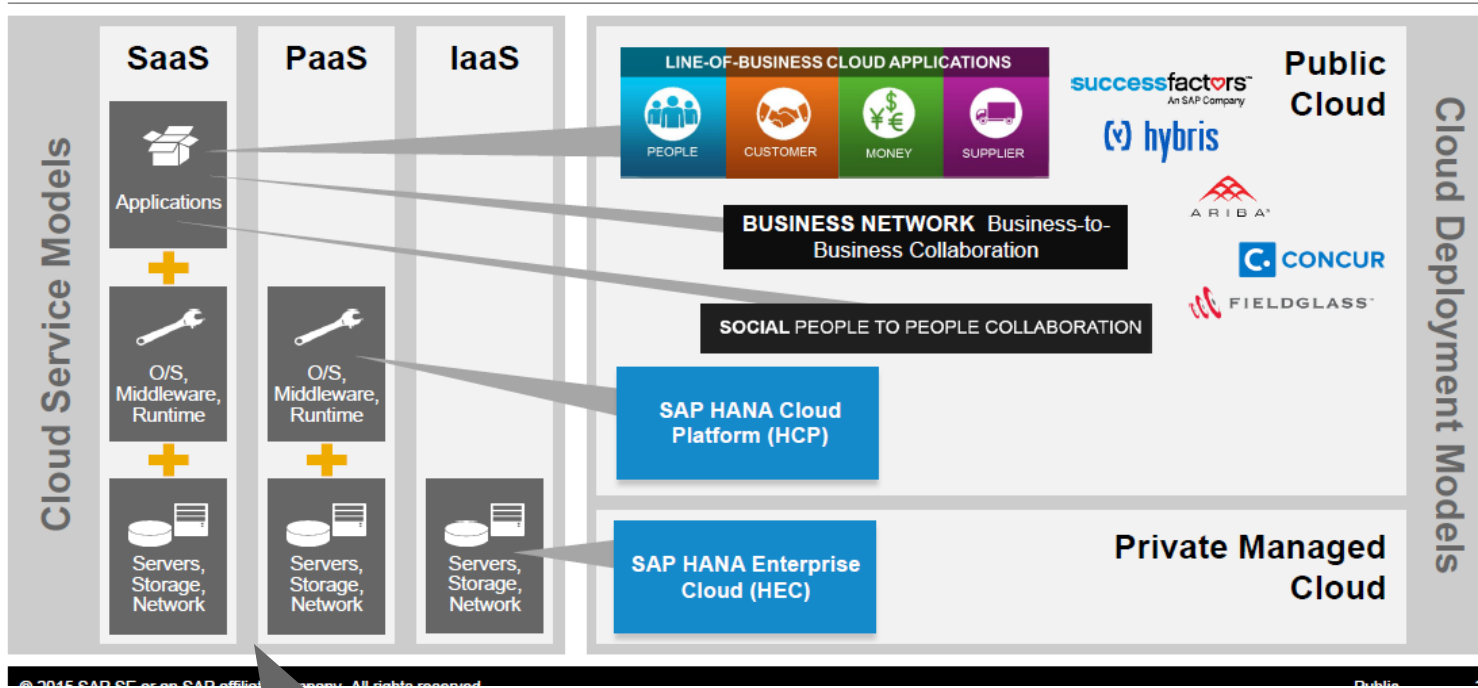


What Is iPaaS?

- **Integration Platform as a Service (iPaaS) delivers a Cloud service for application, data, and process integration scenarios**
 - ♦ It is a multi-tenant platform that supports Cloud-to-Cloud, Cloud-to-on-premise, on-premise-to-on-premise, and B2B integration
 - ♦ It supports real-time integration and scales to meet the high-volume demands of mobile; extract, transform, and load (ETL); and electronic data interchange (EDI) environments



HCP, HCI, HEC ... What Is All This Stuff?



SAP HANA Cloud Integration (HCI) iPaaS

- Source: SAP

As of March 2015

Cloud Is Imperative

- The question is no longer “why Cloud?” but rather how to integrate it into the existing business model
 - ♦ How, when, and with whom are the key questions
- According to Allied Market Research, Cloud services stood at approximately \$209.9 billion in 2014
 - ♦ It is expected to reach a market size of \$555 billion, growing at a compound annual growth rate (or CAGR) of 17.6%
 - ▶ Infonetics Research expects the public Cloud market to become a \$200 billion market by 2018
 - ▶ Looking at the high growth expected in the Cloud space, IBM, SAP, Microsoft, and Google have poured billions into this space and expect this stream to contribute 40% to overall revenues by 2018

Cloud Is Imperative (cont.)

- Over the next few years, businesses will be focused on implementing a long-term Cloud strategy
- 75% of new IT expenditures will be for Cloud or hybrid solutions by 2016
- 70% of CIOs will embrace a “Cloud first” strategy by 2016
- 80% of new IT decisions will involve LoB execs; 53% of IT decisions will be led by LoB execs

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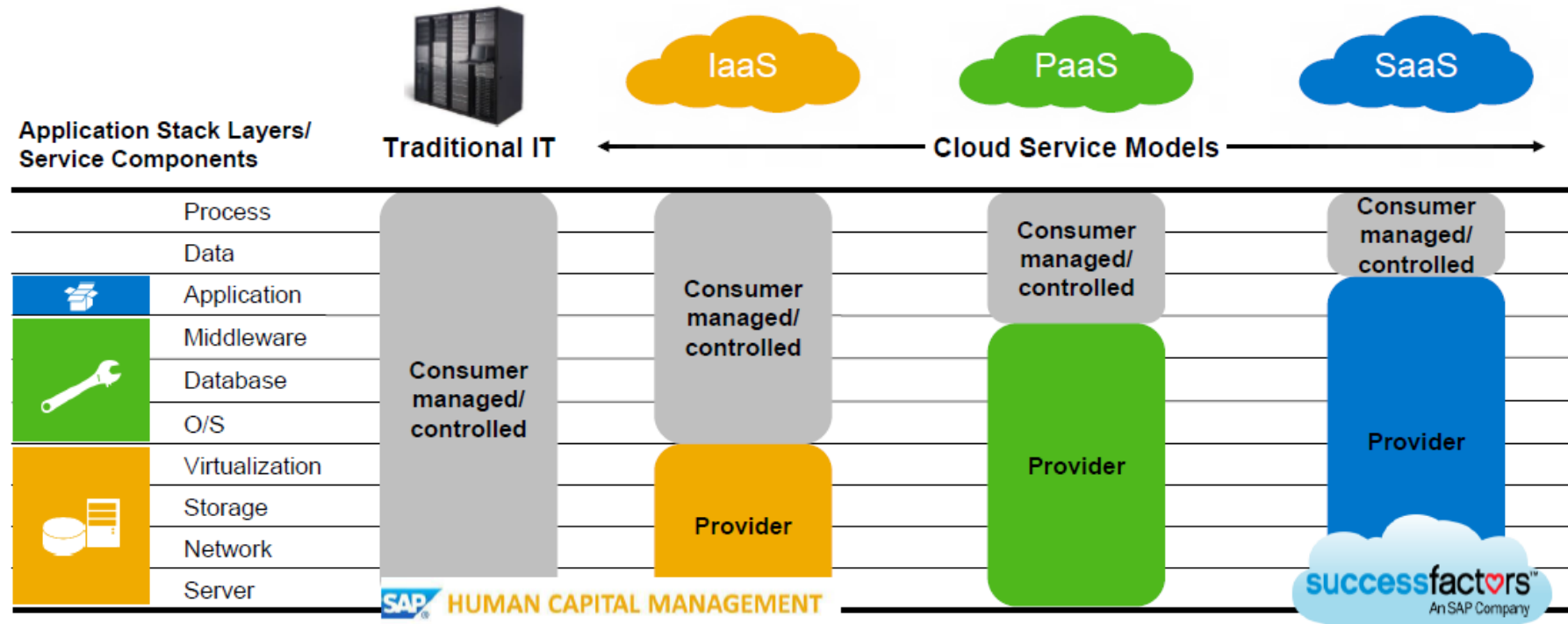
The Dilemma: Cloud or On-Premise (Weigh Your Options)

- Before making a switch to the Cloud, there are some things that you need to consider; both Cloud and on-premise models have their own advantages

Aspect	On Cloud, you will get ...	On-Premise, you will get ...
Support and Maintenance	<p>Established IT support with software domain expertise and a solid backup and security strategy. SaaS vendor takes care of infrastructure risks to ensure high availability and disaster recovery.</p> <p>Control is relinquished to a third-party vendor. You must entrust valuable data to the vendor.</p>	<p>Limited or no internal IT resources and/or no desire to invest in or support additional IT infrastructure.</p> <p>You are responsible for maintaining the application; your IT is responsible for ensuring high availability and disaster recovery.</p> <p>Offers control over your data and provides greater sense of ownership.</p>
Geographical Footprint	<p>Have multiple sites across geographic locations and have a supporting network infrastructure</p>	<p>Have multiple sites or many geographic locations but do not want to build or support remote access to existing network</p>

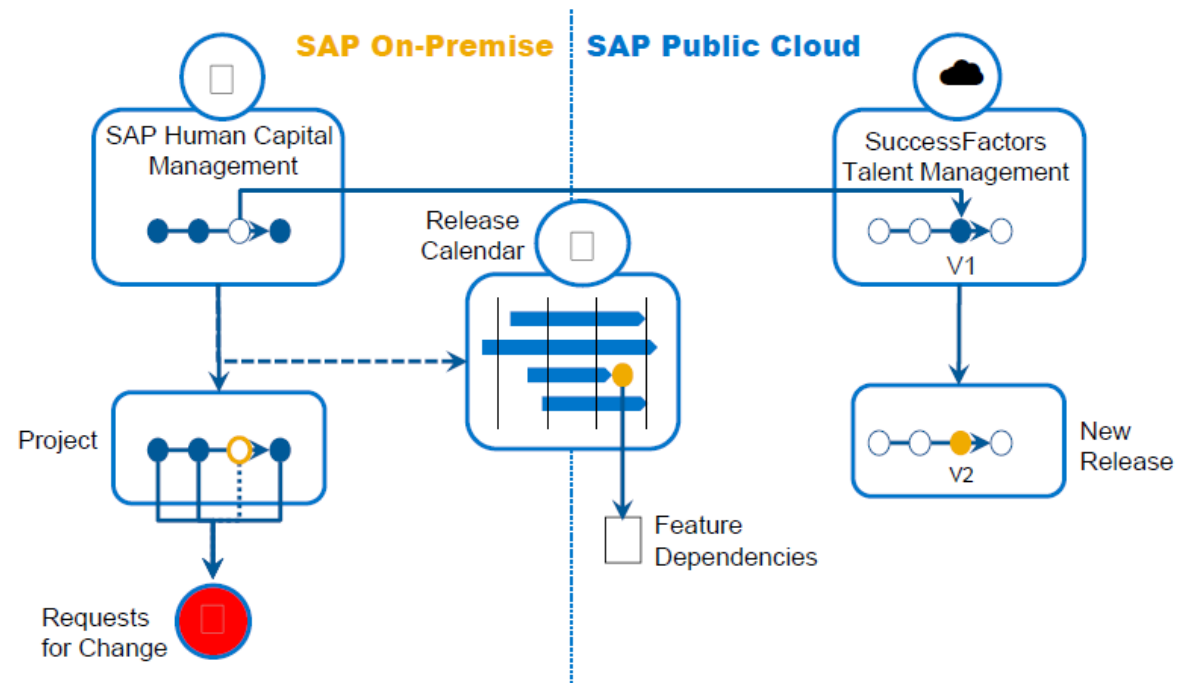
Operational Responsibilities

- As you migrate to the Cloud your traditional IT operational responsibilities will change
 - The focus shifts from managing the solution to leveraging the solution



Synchronizing Maintenance

- When managing hybrid scenarios, you must consider both your on-premise and Cloud solutions
 - ♦ This creates new complexities with regards to release and change management



The Dilemma: Cloud or On-Premise (Weigh Your Options)

Aspect	On Cloud, you will get ...	On-Premise, you will get ...
Customization	<p>Mature technology solutions with traditional Windows-based user interface.</p> <p>*Customization is relatively easier compared to multi-tenant SaaS if application provides the flexibility.</p>	<p>Web technology that enables a customizable interface and familiar user-friendly features.</p> <p>Most flexible option for customization. Vendor involvement minimal.</p>
Implementation	<p>Relatively faster to implement as it leverages a ready-made platform which has already been provisioned, implemented, and tested by the vendor</p>	<p>Takes time, personnel, and equipment to set up a new environment.</p> <p>Additional hardware/software purchases may be needed.</p>
Support Pack/Upgrades	<p>You will be informed about impending system upgrades.</p> <p>*You will have decision authority on timing and functionality of an upgrade when compared to multi-tenant SaaS.</p> <p>Your involvement will be limited during a validation review.</p> <p>IT involvement during upgrade will be minimal (depending on validation procedure).</p>	<p>You own the responsibility for upgrades, which are often expensive and time-consuming.</p> <p>Possibly have to hire business process consultant.</p>

The Dilemma: Cloud or On-Premise (Weigh Your Options) (cont.)

Aspect	On Cloud, you will get ...	On-Premise, you will get ...
Cost	<p>One predictable monthly payment covers everything from infrastructure and vendor software support to daily back-ups and software upgrades.</p> <p>Relatively high year-over-year maintenance costs compared to on-premise deployment.</p> <p>Low internal resources required for support.</p> <p>Upgrade costs will be low.</p>	<p>License fee enables the company to own the software. Upfront purchase with annual maintenance.</p> <p>High entry and operations costs compared to SaaS due to infrastructure and support staff needs.</p> <p>Low ongoing maintenance fee.</p> <p>Tangible hardware assets.</p> <p>Upgrade costs will be high.</p>
Security	<p>With high-end vendors, SaaS systems can be highly secure with expert supervision of network and server security</p>	<p>Additional time and software for security required</p>
Integrations	<p>Integrations with other corporate systems can get complicated because data will often be sent over the Internet. SaaS vendors should have well-defined Web services as integration points.</p>	<p>Integrations can be relatively simpler over the Internet. Data transfer between systems will be faster.</p>

The Dilemma: Cloud or On-Premise (Weigh Your Options) (cont.)

Aspect	On Cloud, you will get ...	On-Premise, you will get ...
Regulatory Compliance	Vendor will provide baseline validation for your review. *Enforcing regulatory requirements is easier compared to multi-tenant SaaS due to complete control of the environment.	You will be responsible for the full validation effort. *Enforcing regulatory requirements is easier compared to multi-tenant SaaS due to complete control of the environment.
Scalability	As the enterprise grows, solutions can be easily scaled up with little time and effort. Similarly, solutions can be scaled down without wasting resources.	Needs long-term planning and commitment of resources for scaling

What We'll Cover

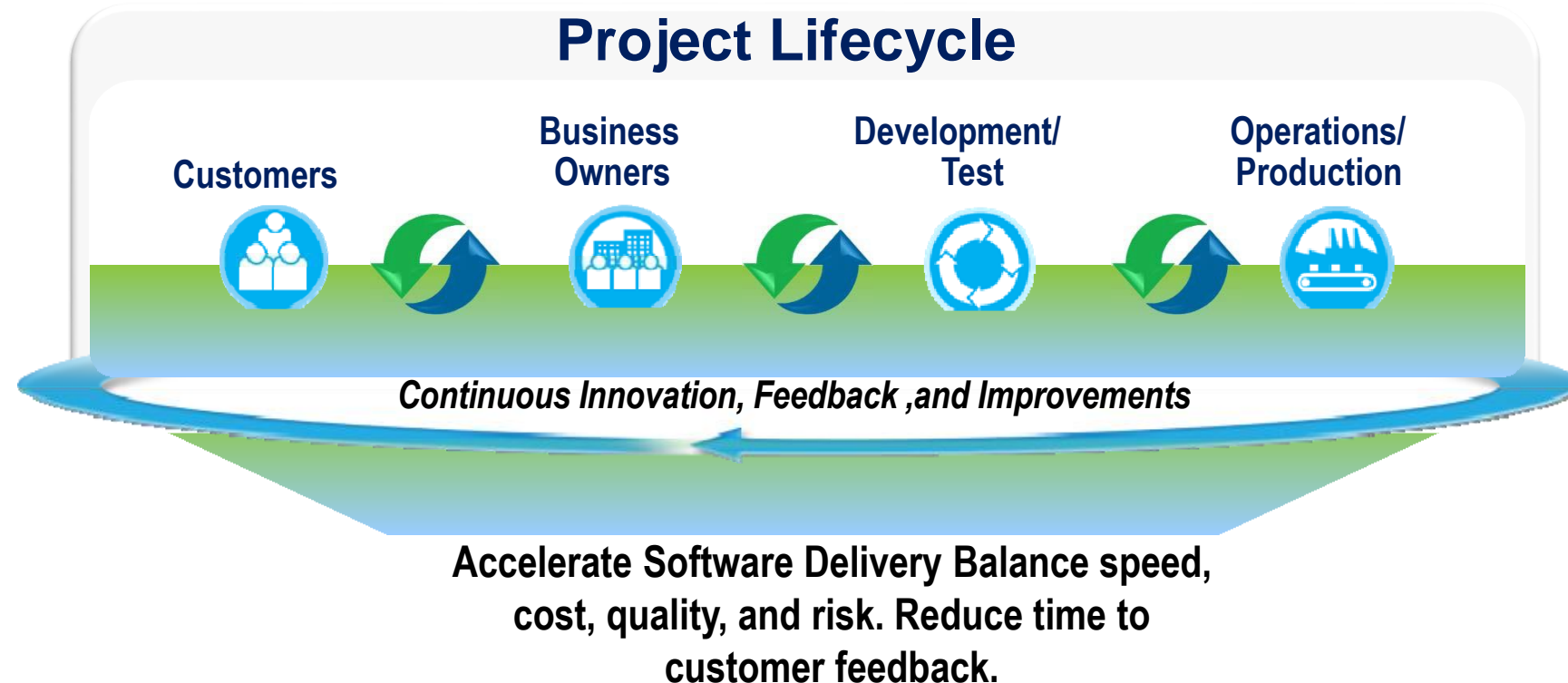
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What Project Methodology Is Good for Me?

- **What is the best fit: agile or waterfall?**
 - ♦ **Agile: Multiple smaller (but fully functioning) releases that encompass all phases**
 - ♦ **Waterfall: Each “phase” must be completed sequentially across all functionalities before moving forward**
 - ▶ **“Big Bang” release at the end across all functionalities**
 - ♦ **Or a “perfect” blend of both, for example, iterative in some phases and then using waterfall in the rest**
 - ▶ **The trick would be when to use which one?**

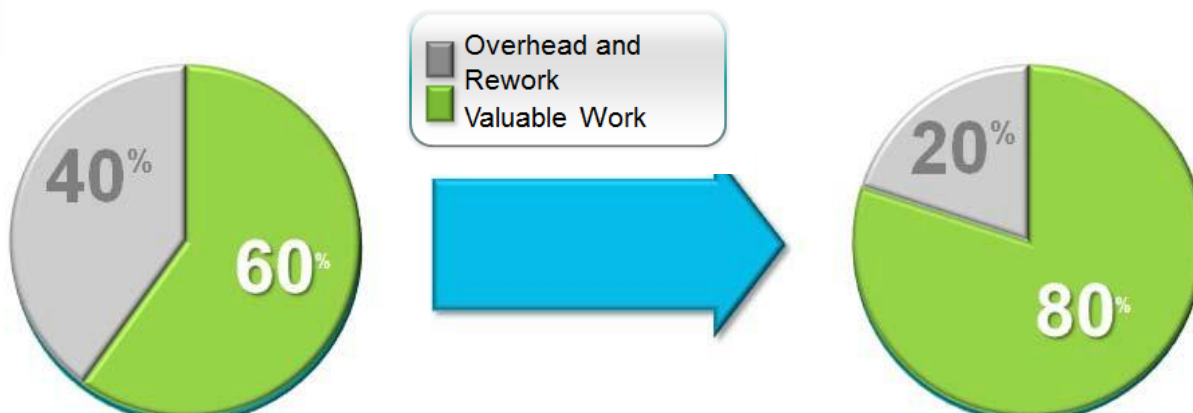
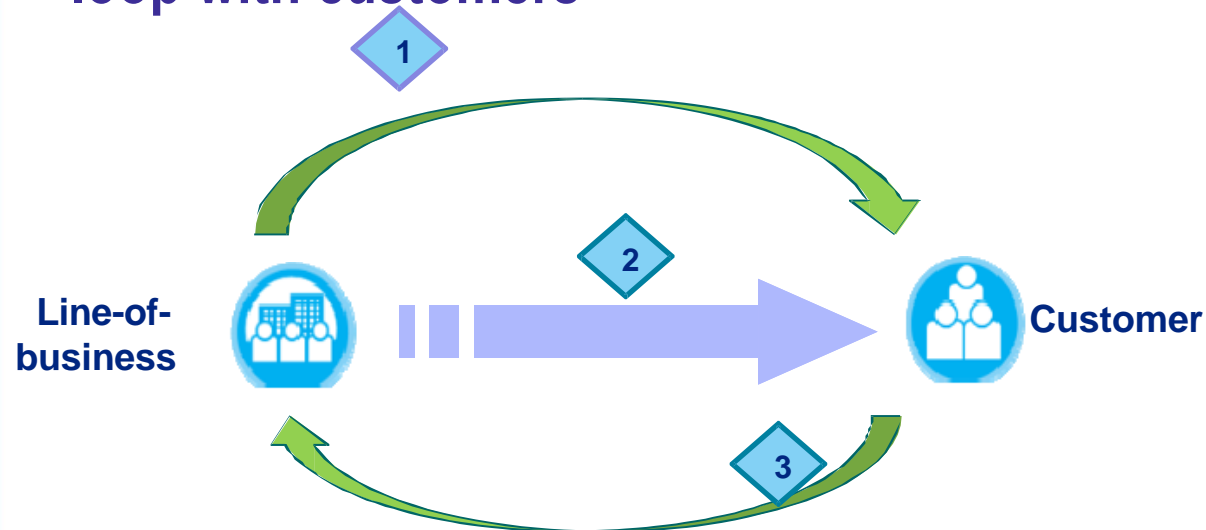
Closer Look on Project Requirement

- Key new project requirement that drives Cloud implementation (a project manager perspective). Enterprise capability for continuous software delivery that enables clients to seize market opportunities and reduce time to customer feedback.
 - ◆ Continuous Integration
 - ◆ Continuous Delivery
 - ◆ Continuous Testing
 - ◆ Continuous Monitoring
 - ◆ Continuous Deployment



Agile/Lean Approach

Apply Lean principles to software innovation and delivery to create a continuous feedback loop with customers

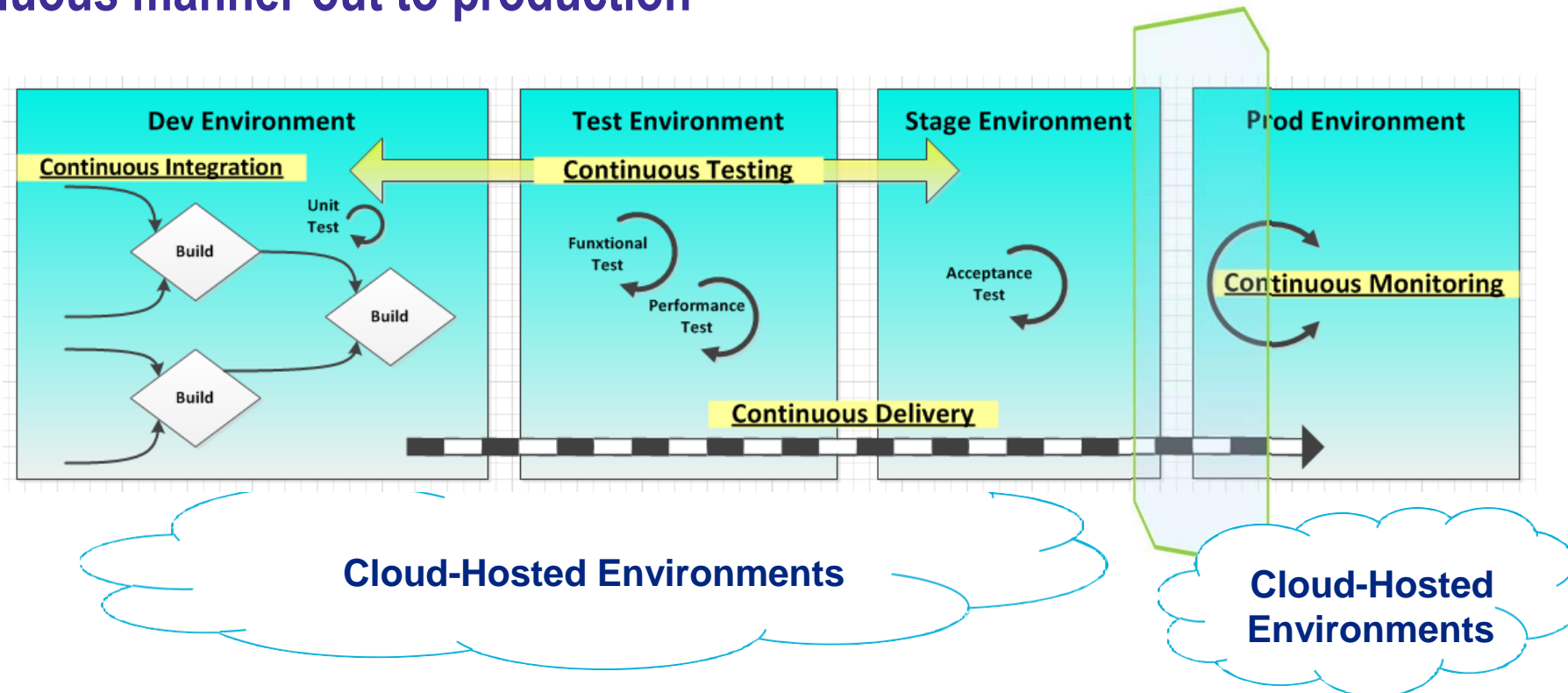


- Get ideas into production fast
- Get people to use it
- Get feedback
- Adopt DevOps approach to continuously manage changes, obtain feedback, and deliver changes to users
- Eliminate any activity that is not necessary for learning what customers want

- Source: <https://sdarchitect.wordpress.com/2013/10/16/understanding-devops-part-6-continuous-deployment>

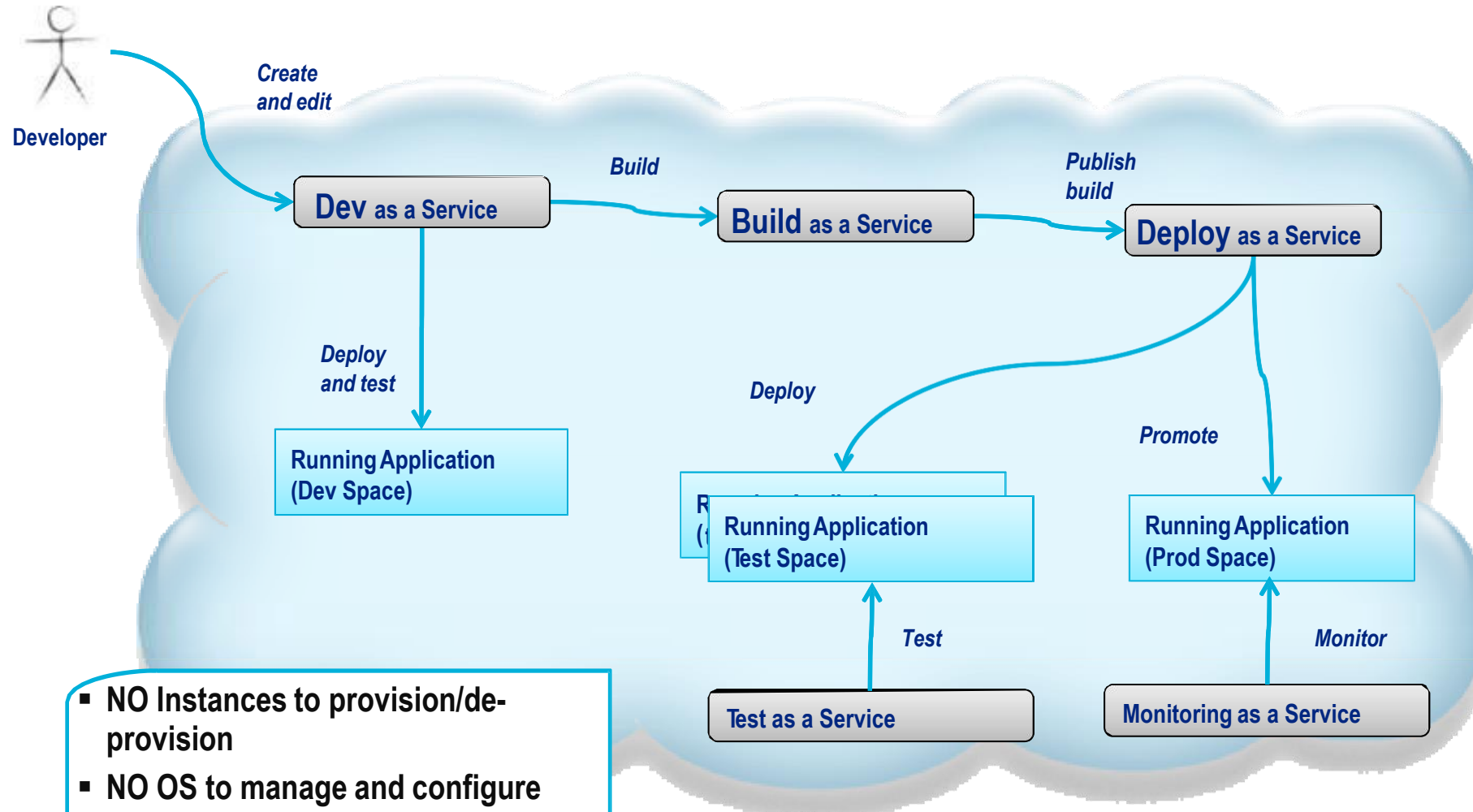
Continuous Delivery vs. Continuous Deployment

- Continuous Delivery is a MUST, Continuous Deployment is an OPTION
- Having the capability to continuously deploy is more important than actually doing it in a continuous manner out to production



Delivery Pipeline for SaaS

- Everything is a service in the Cloud



- NO Instances to provision/de-provision
- NO OS to manage and configure
- NO Middleware to manage and configure

Source: <https://sdarchitect.wordpress.com/2013/10/16/understanding-devops-part-6-continuous-deployment/>

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Recommendations

On-Premise

- 1) **Choose dedicated server when you know your load exactly and when there are no big variations in traffic**
- 2) **Keep in mind that system upgrade takes time**
- 3) **Remember that performance issues may negatively affect the existing user base**

Cloud

- 1) **Choose Cloud hosting when the load is unknown, especially if there is a chance that it will be very high**
- 2) **Take advantage of Cloud elasticity**
- 3) **Monitor system load and upgrade to a more powerful instance before you run out of the resources**
- 4) **Test scalability of the application before your users do that**

Where to Find More Information

- **Cloud Computing (SAP Solutions).**
 - ♦ <http://go.sap.com/solution/cloud.html>
- **SAP Cloud Applications (SAP Products).**
 - ♦ www.sap.com/pc/tech/cloud/software/cloud-applications/index.html
 - ▶ **Paper describing the details of building components**
- **Sanjeev Sharma, “Understanding DevOps” series (SDArchitect).**
 - ♦ <https://sdarchitect.wordpress.com>

7 Key Points to Take Home

- **Cloud is becoming imperative and is going to change the face of the IT**
- **Evaluate how Cloud fits into your scheme of things; understand different key metrics to create a business case to help your organization move into Cloud**
- **Consider the differences between Cloud vs. hybrid vs. on-premise and check which one is better and why**
- **Hybrid can serve your purpose without moving everything to Cloud in one go**
- **iPaaS plays a role in hybrid scenarios and what SAP has to offer in this space**
- **Evaluate the business need of Continuous Delivery vs. Continuous Deployment**
- **Cloud can benefit and improve upon the existing delivery cycle**

Your Turn!



Questions?

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Please remember to complete your session evaluation

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