

IBM SolutionsConnect 2013

Turning Opportunity into Outcomes.



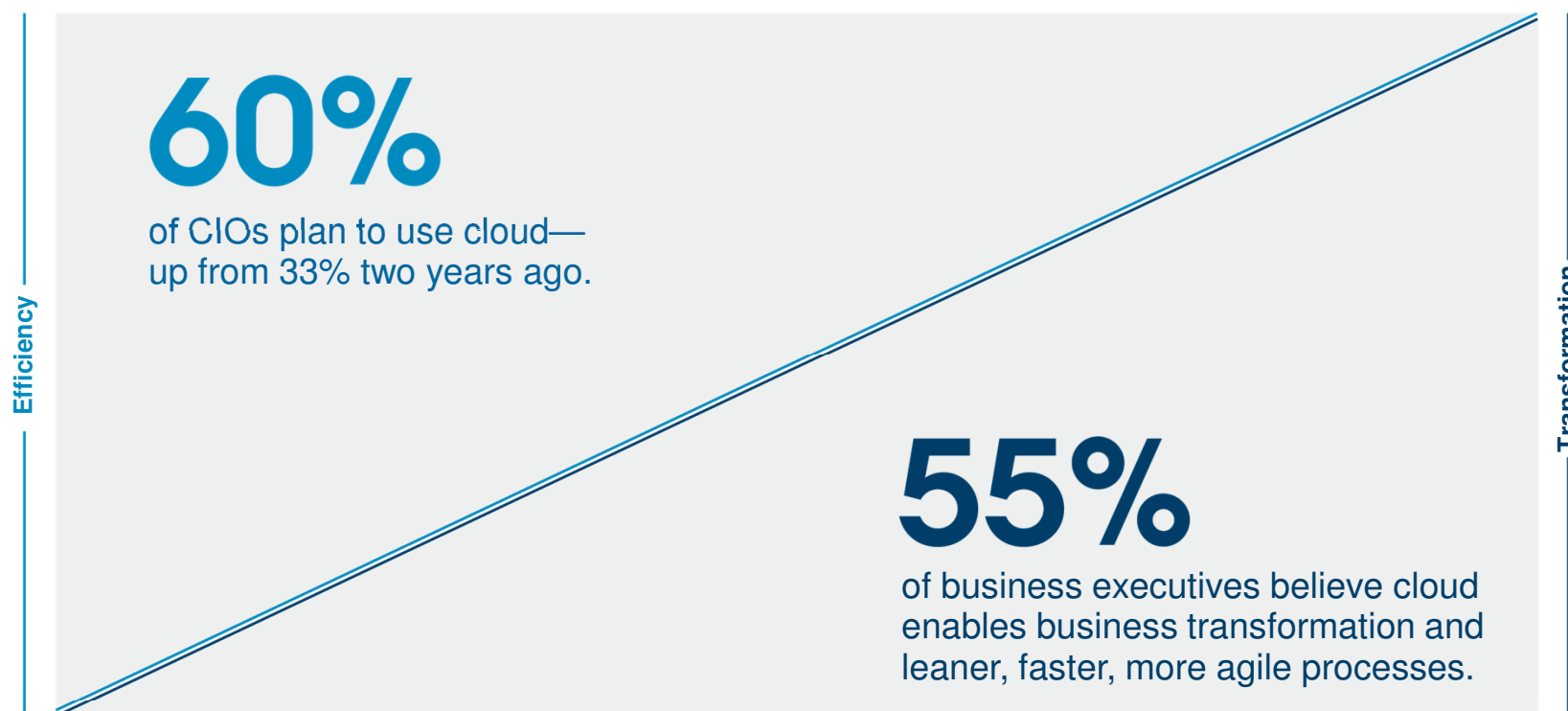
**Manage and Optimize
performance of your
cloud and shared
infrastructure**

Francis Werquin





IT is drawn to cloud's cost, efficiency and control...



...while business users are drawn to cloud's simplified, self-service experience and new service capabilities.

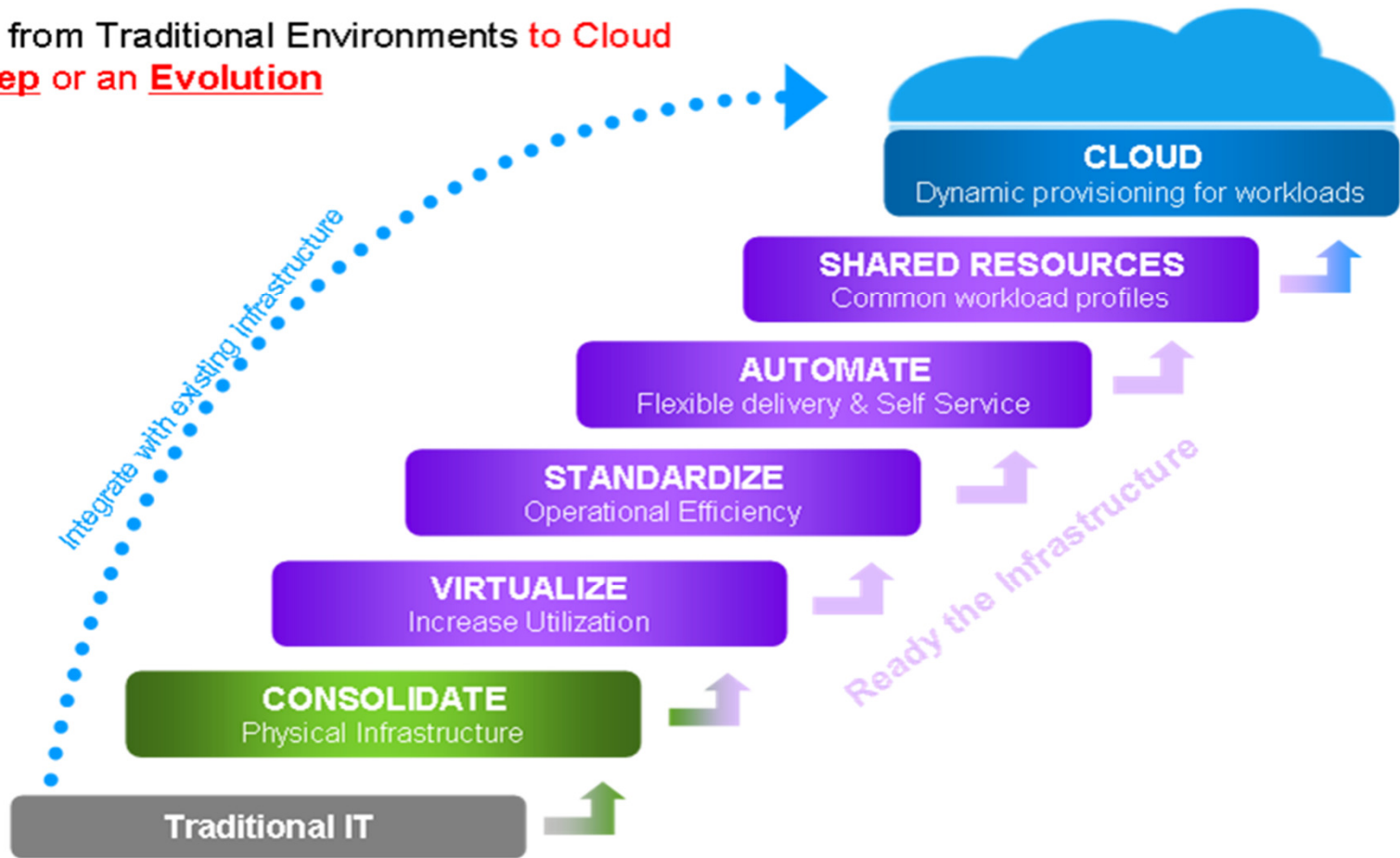
2011 IBM CIO Study, London School of Economics, December 2010



The journey to the Cloud



Movement from Traditional Environments to Cloud
One Step or an Evolution



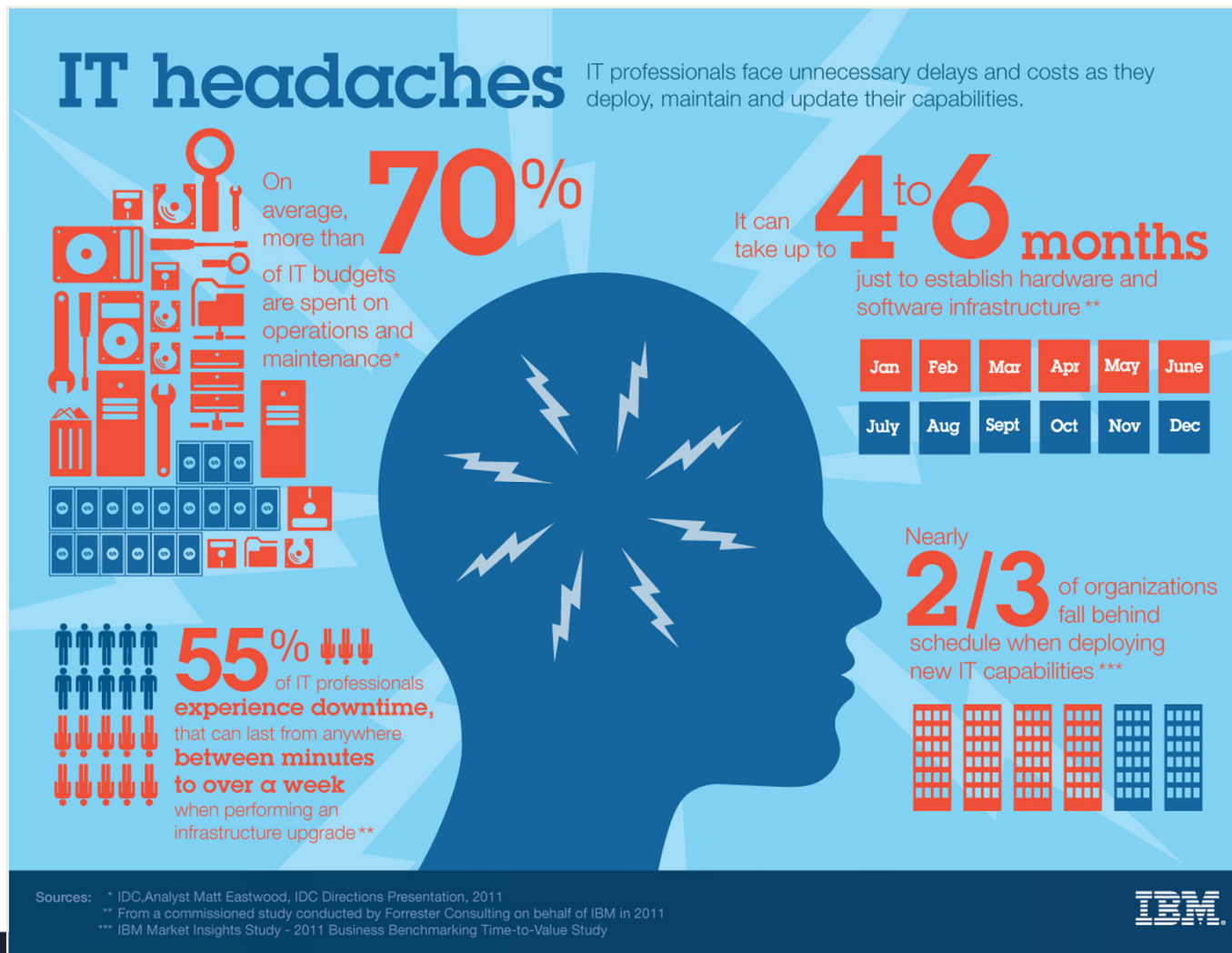
Adoption of cloud computing will be workload driven

Workload characteristics determine standardization

Test for Standardization	Examine for Risk	Explore New Workloads
<ul style="list-style-type: none"> ▪ Web infrastructure applications ▪ Collaborative infrastructure ▪ Development and test ▪ High Performance Computing ▪ ... 	<ul style="list-style-type: none"> ▪ Database ▪ Transaction processing ▪ ERP workloads ▪ Highly regulated workloads ▪ ... 	<ul style="list-style-type: none"> ▪ High volume, low cost analytics ▪ Collaborative Business Networks ▪ Industry scale “smart” applications ▪ ...



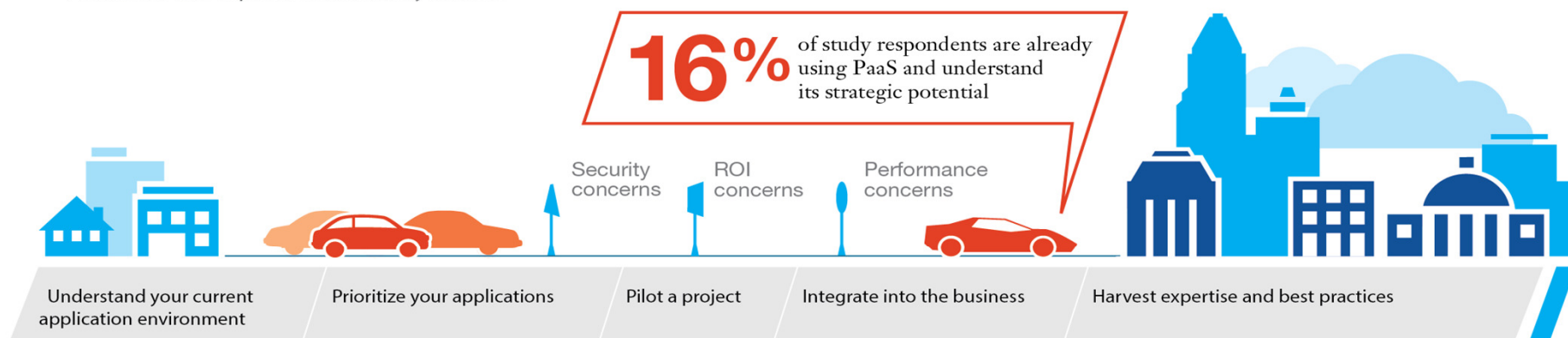
Organizations transform IT from cost centers driving on-going operations to strategic centers of business innovation



Today's business infrastructures are becoming inhibitors to business change.

The journey to platform as a service (PaaS)

Harnesses the expertise of industry leaders



Thought leadership study:

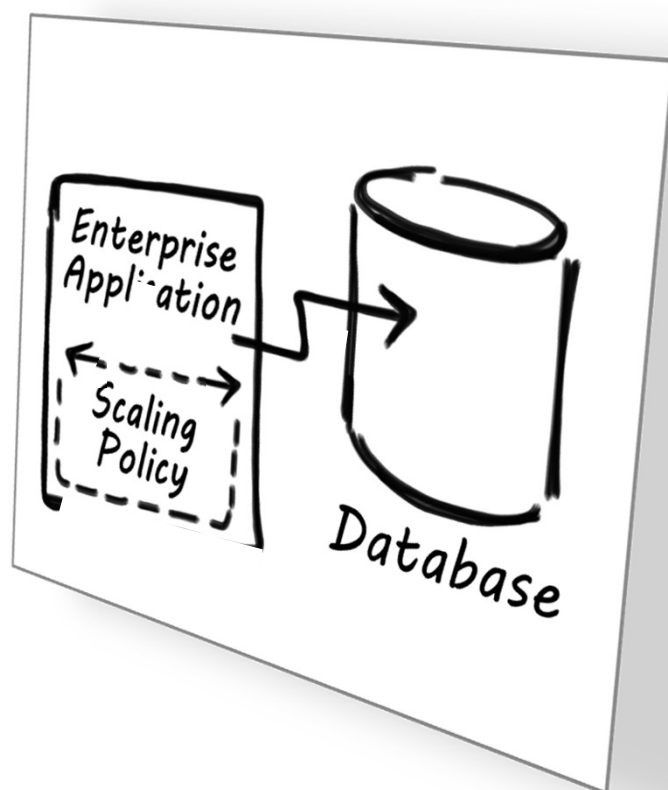
Exploring the frontiers of cloud computing: Insights from PaaS pioneers

Strategic benefits for pioneers

- 52%** identified data management, integration and analysis as a highly valuable differentiator of PaaS
- 47%** stated the ability to integrate existing and future capabilities is key
- 45%** greatly valued leveraging the human expertise of external providers

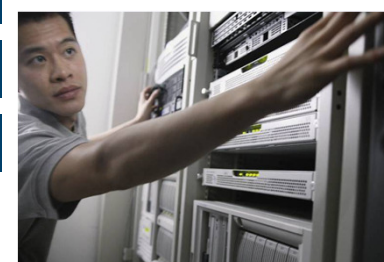
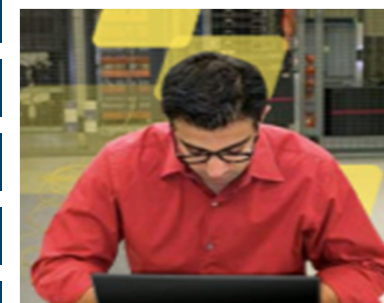
Nearly half of CIOs surveyed evaluate cloud options first, over traditional IT approaches, before making any new IT investments.¹

What the business wants ...



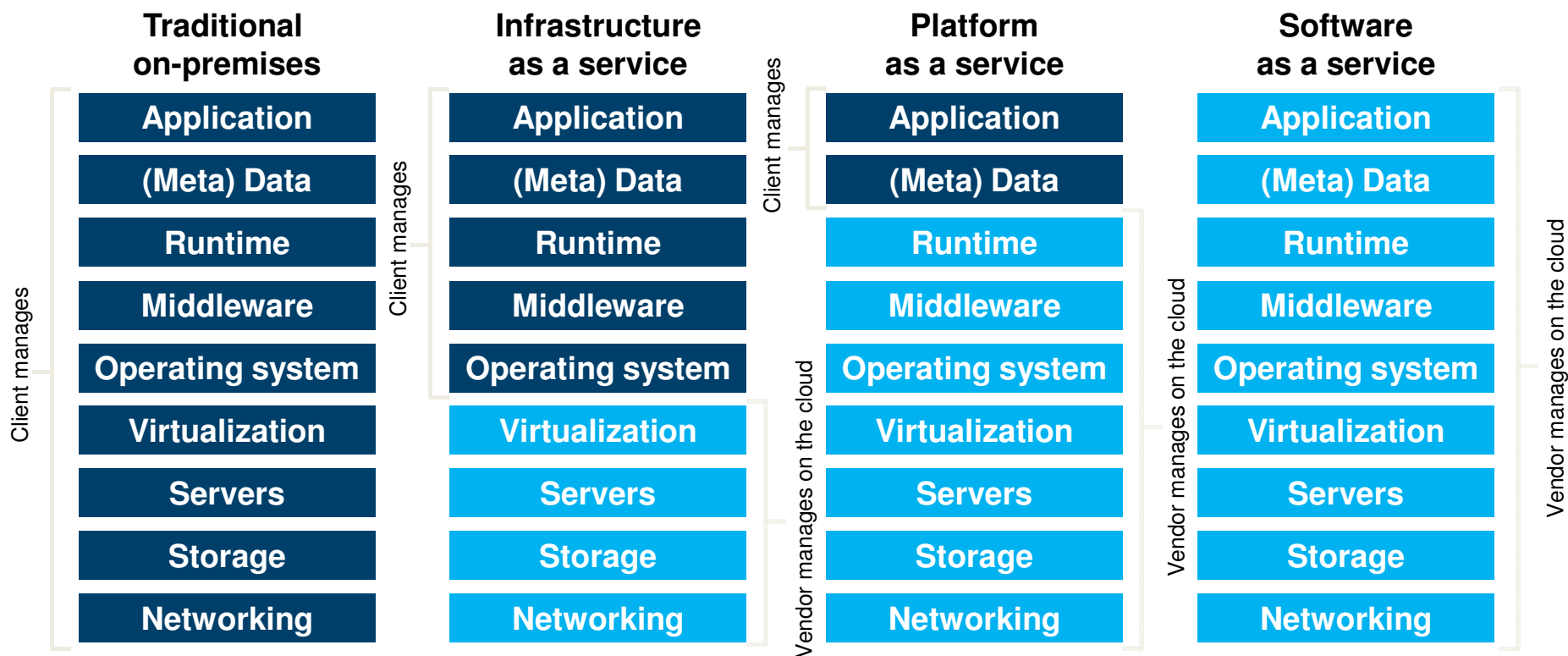
What's required ...

- Application
- (Meta) Data
- Runtime
- Middleware
- Operating system
- Virtualization
- Servers
- Storage
- Networking



¹Ref: http://www.cio.com/article/684338/Survey_CIOs_Are_Putting_the_Cloud_First

Cloud offers a choice of services to help businesses get what they want more quickly, easily and on a pay-as-you-go basis.



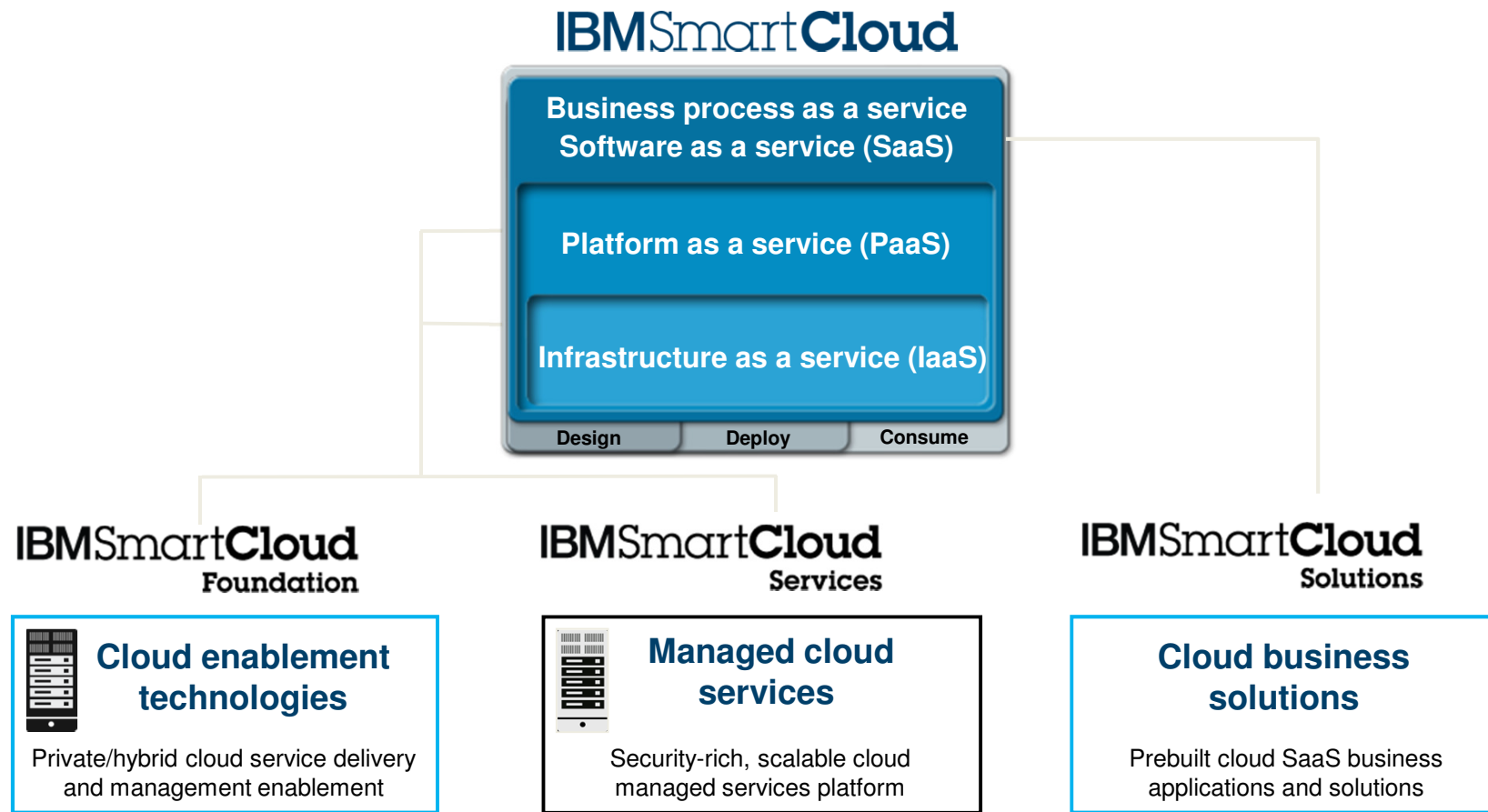
Customization; higher costs; slower time to value

Standardization; reduced costs; faster time to value

Businesses are using cloud to rethink IT and reinvent business.



IBM SmartCloud represents the IBM vision for cloud computing.



Tested strategy consulting, migration and management expertise

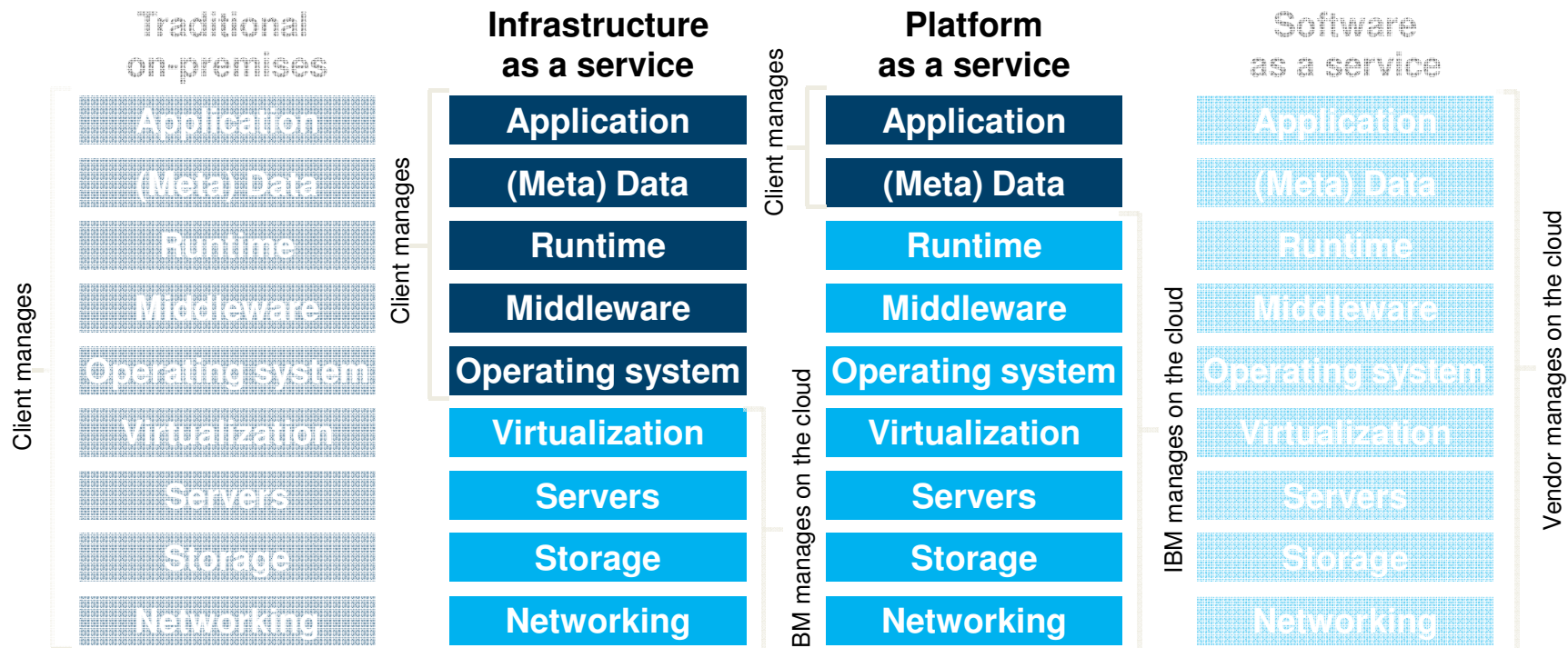
Common open standards technology and industry ecosystem





IBM SmartCloud Enterprise offers you both platform as a service (PaaS) and infrastructure as a service (IaaS) in one shared cloud.

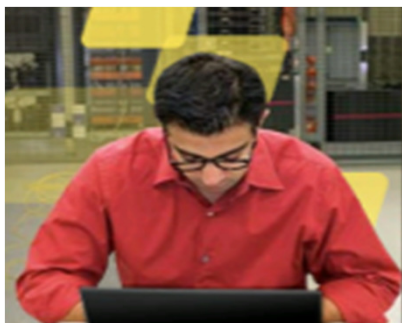
Take advantage of our platform 'IBM SmartCloud Application Services' to deploy applications using expertly integrated patterns and leverage the flexibility of our infrastructure services to create customized server configurations – and integrate them – all in one environment.



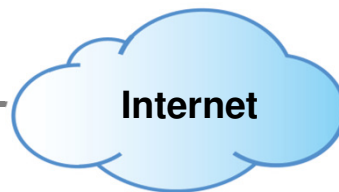
Customization; higher costs; slower time to value

Standardization; reduced costs; faster time to value

IBM SmartCloud Enterprise has been designed to meet enterprise requirements for running dynamic workloads.



Serving your end users, IT professionals and partners



Global IBM data centers

Enterprise-class shared cloud environment

- Highly virtualized, automated and standardized multitenant IT infrastructure with massive capacity and global reach
- Provides ready-to-run platforms, servers and storage in minutes

Pay-per-use with no up-front investment

- Services are billed on a per usage basis, including selected software, with no capital expense or long-term commitments required

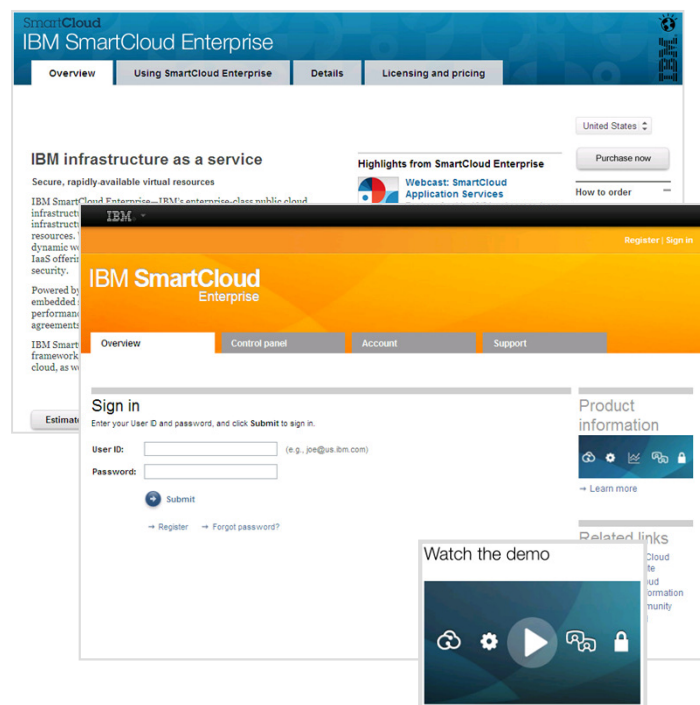
A flexible and feature-rich services platform

- Flexibility and features to support cloud-native as well as cloud-enabled workloads
- An automated platform on which enterprises and their partners can base higher-level services

IBM owned and operated

- Built to meet enterprise security, reliability and control requirements for on-demand IT services

IBM SmartCloud Enterprise infrastructure services features and functions – at a glance



[More details on ibm.com](http://ibm.com)

Cloud portal: ibm.com/cloud/enterprise

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- **Features and functions:**
- Choice of ten virtual (Intel) server configurations
- Choice of operating systems:
 - Linux; Red Hat, Novell SUSE or bring your own
 - Microsoft Windows Server 2003, 2008 and 2012 (pre-release)
- Software image choices:
 - Pick a preconfigured IBM or IBM Business Partner image
 - Import, clone or copy an existing image
 - Customize with software bundles using cloud tools
- Dynamically attach or detach multiple blocks of persistent storage of up to 10 terabytes (TB) each
- Object storage, providing a highly accessible and security-rich Internet file system with nearly unlimited capacity
- Virtual servers accessible directly from the Internet or isolated in virtual private network (VPN) environments
- Cloud service framework (PaaS and SaaS hosting)
- Premium support services as a supplement to forums, with optional add-on operating system support
- Choice of six ISO2700 certified sites with SSAE16 attestations: US (2), Canada, Germany, Japan and Singapore
- **Payment options:**
- Pay as you go
 - Per-hour usage charges for virtual servers, storage, software images, storage, VPN environments and static IP addresses
 - Full billing details downloadable from the cloud portal
- Reserved server capacity and object storage package options with reduced usage rates

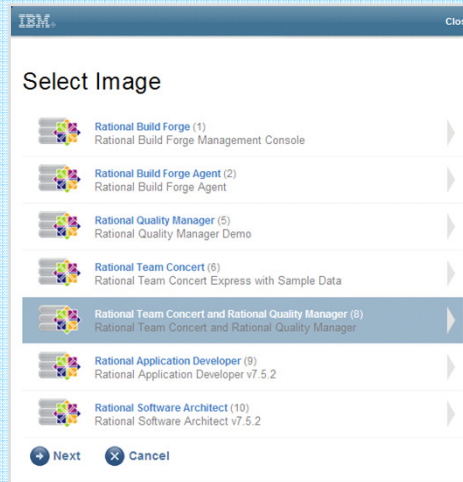


You can have a server up and running in minutes and pay for it only as long as you need it.

The self-service portal, designed for ease of use, guides you through setting up what you need and triggers the automated provisioning of your servers.

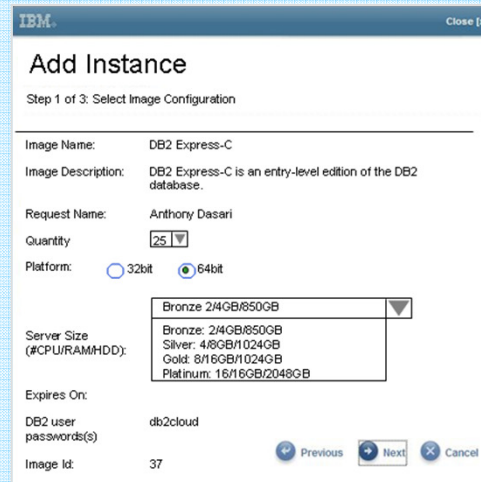


Click and choose the software you want



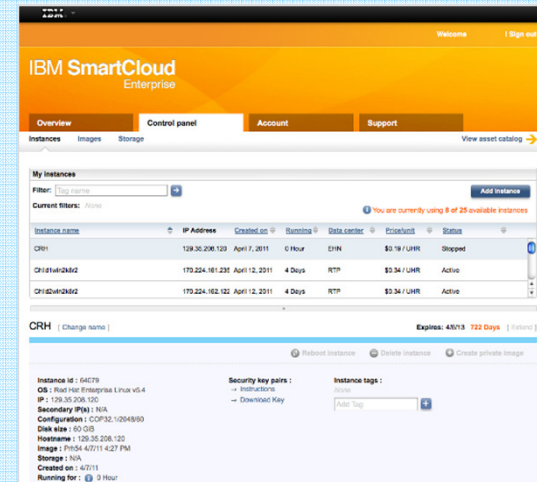
Step 1

Choose the hardware and usage configuration



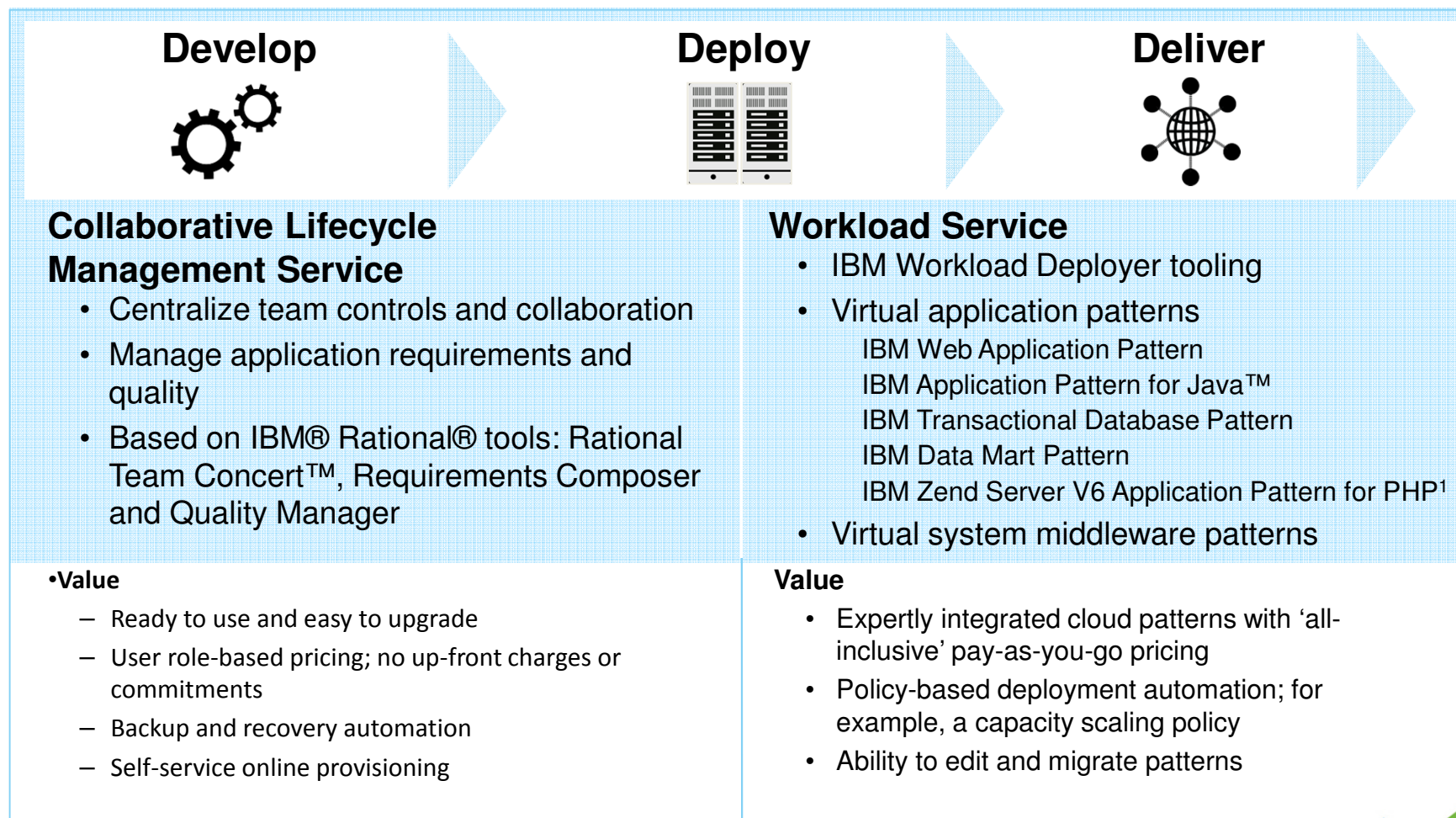
Step 2

Application provisioned and ready to run



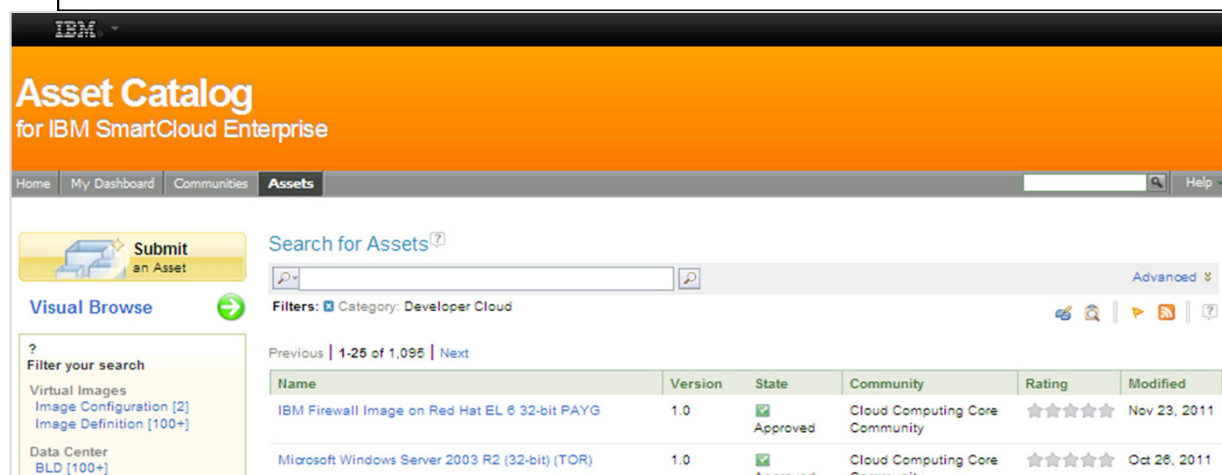
Step 3

IBM SmartCloud Application Services consists of two groups of services.



¹PHP pattern availability is scheduled for June 2013. Plans are subject to change.

The IBM SmartCloud Enterprise software asset catalogs provide a software image store for your server configurations.



- Application
- (Meta) Data
- Runtime
- Middleware
- Operating system



The **'public' catalog** contains a growing list of operating system **images** with or without **selected software** and **software bundles** from IBM (Lotus®, WebSphere®, DB2®, Informix®, Cognos®, Tivoli®, Rational), Alphinat, Asigra, Aviarc, BeyondTrust, CohesiveFT, Corent, Dynamic Networks, Grid Robotics, Kaavo, NetEnrich, OpenCrowd, Pragma Systems, Riverbed, Servoy, SugarCRM, Zemantis and others. The licensing options include:

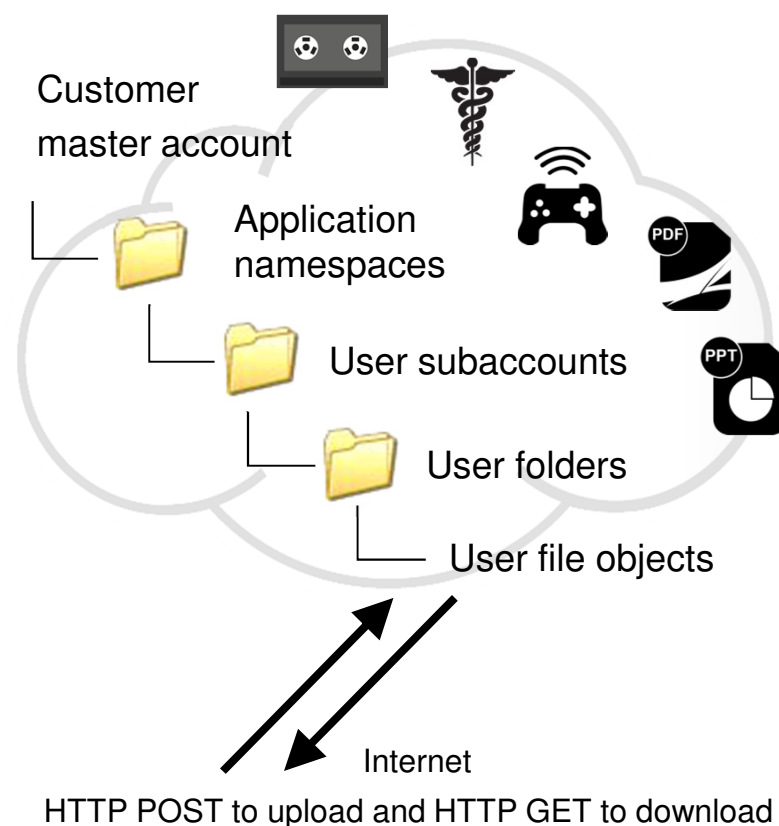
- **"Pay as you go"** ("PAYG"), with hourly rates: You choose the desired software, accept the license terms online and receive a monthly usage bill.
- **"Bring your own license"** ("BYOL"): You own or buy a software license and can use the prebuilt image in the catalog.

Your **'private'** and **'community' catalogs** provide a place for you to store and manage **customized copies** of public images and images that you **build** in the cloud or **import**.



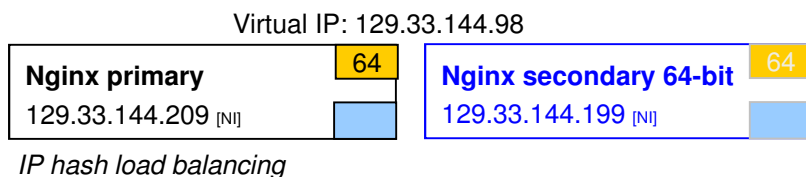
IBM SmartCloud Enterprise object storage enables you to upload and share files of almost any size from virtually anywhere in the world.

- Global namespaces and user accounts managed from an object storage console
- Optimized for unstructured content of virtually unlimited size
- Files and folders are accessed and managed through simple web application programming interfaces (APIs), a cloud network attached storage (NAS) interface or partner applications
- Accessible with user id and password or, for selected files or folders, by anonymous users
- Object-based storage has been designed to be highly reliable:
 - All files individually secured
 - All files individually tagged with metadata
 - All files individually controlled
- Pay only for the storage actually consumed



IBM SmartCloud Enterprise client example: A resilient configuration built to support a publicly available website.

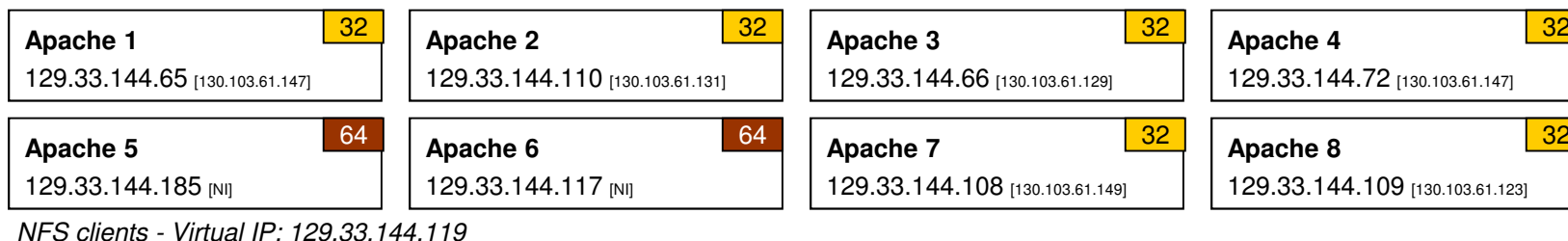
Load balancers



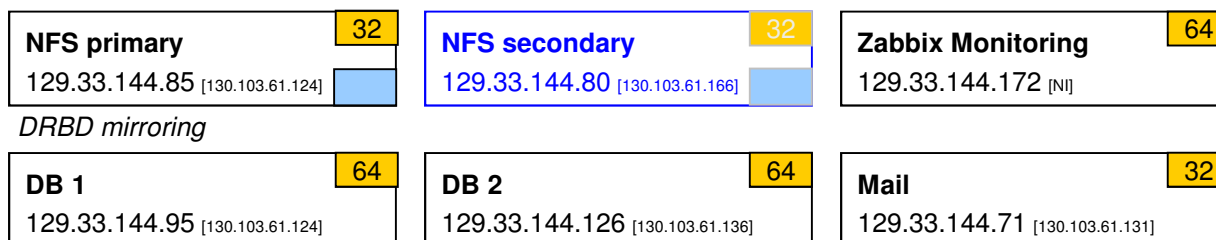
- Linux HA configuration
- Gold server
- Bronze server



Application servers



Backend: NFS, Database



IBM SmartCloud Enterprise provides an alternative to assembling a configuration from ‘scratch’: SmartCloud Application Services platform services based on patterns of expertise.

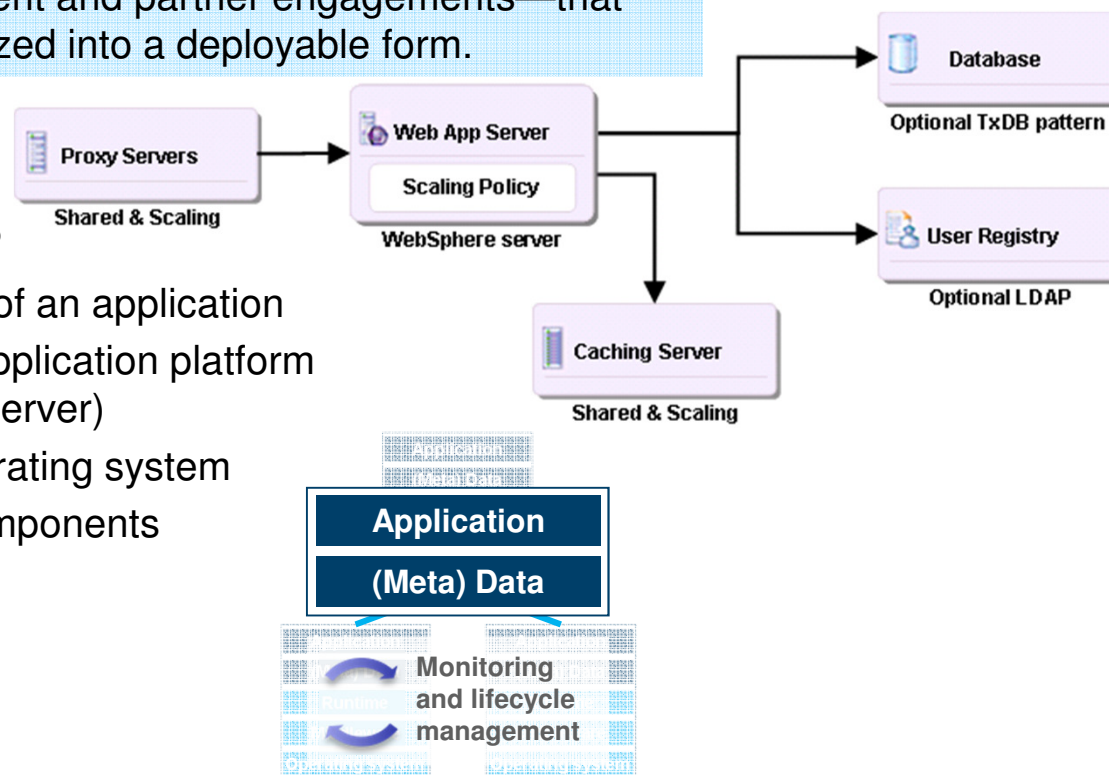
Patterns of expertise: Proven best practices and expertise for complex tasks—learned from decades of client and partner engagements—that are captured, lab tested and optimized into a deployable form.

What is an application pattern?

- The pre-defined architecture of an application
- For each component of the application platform (such as a database or web server)

- Pre-installation on an operating system
- Pre-integration across components
- Pre-configured and tuned
- Pre-configured monitoring
- Pre-configured security
- Lifecycle management

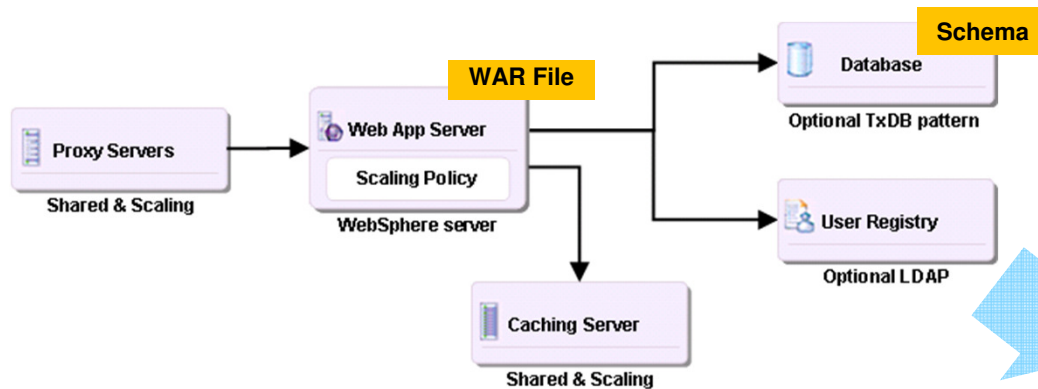
- In a **deployable form**, resulting in **repeatable deployment** with **full lifecycle management**



The Workload Service pattern deployment tooling allows you to pick a pattern, extend it as required, set its policies and deploy it.

The screenshot displays the IBM SmartCloud Application Workload Services Virtual Application Builder interface. The main workspace shows a diagram with an 'Enterprise Application' component connected to a 'Database' component. A 'Scaling Policy' is being applied to the Enterprise Application, indicated by a dashed box and a red 'X' icon. The left sidebar, titled 'Assets', lists various components, with 'Database' highlighted in a red box. The right sidebar, titled 'Hints', shows configuration options for the 'Scaling Policy'. A red box highlights the 'EAR File' field, which contains 'artifacts/DB2SampleE' and 'Browse' and 'Delete' buttons. Other configuration options include 'Total transaction lifetime timeout (sec)' (120), 'Async response timeout (sec)' (120), 'Client inactivity timeout (sec)' (60), 'Maximum transaction timeout (sec)' (300), 'Interim fixes URL', 'Enable session caching' (checked), 'Scaling Type' (Response Time Based), 'Scaling in/out when Web response time is out of threshold range(ms)' (Range: 1000 - 5000), 'Instance number range of scaling in/out' (Range: 1 - 10), and 'Minimum time (sec) to trigger add/remove' (120).

The Workload Service provides you with the ability to use patterns to launch and manage a workload instance.

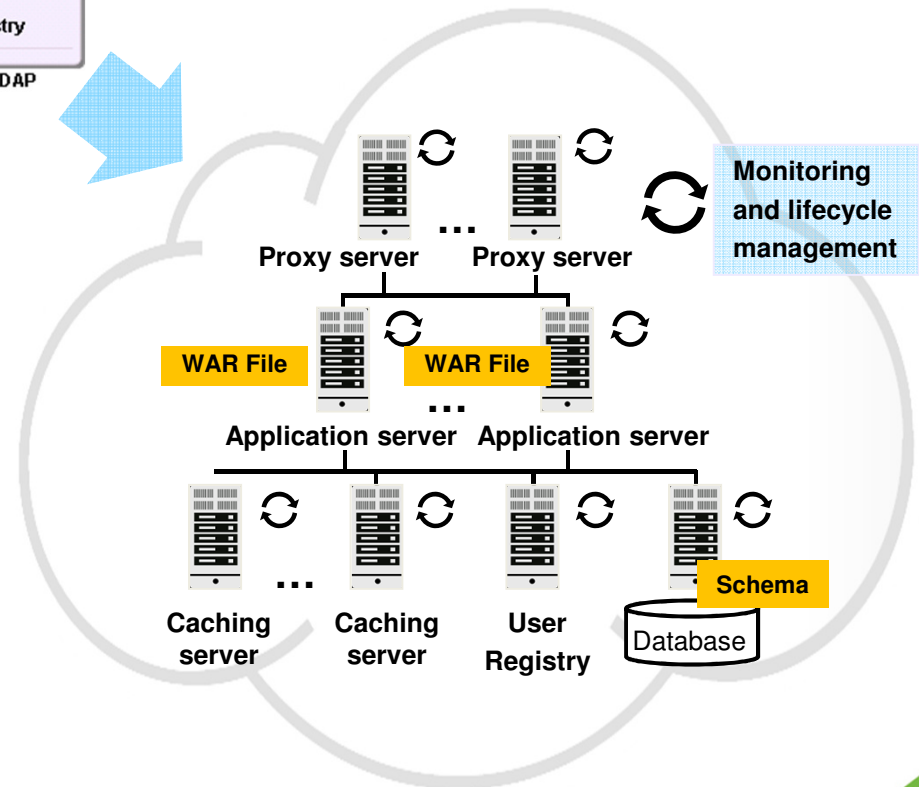


Automatically deploys and manages multiple application instances:

- Automatically scales web applications up and down, and replaces failed servers
- Monitors and logs applications and middleware
- Provides an operations interface

Pay-as-you-go charges:

- One monthly charge per Workload Service environment
- One 'all-inclusive' hourly or monthly charge per deployed pattern server



Using web application pattern scaling can help maintain performance service levels and may significantly reduce costs.

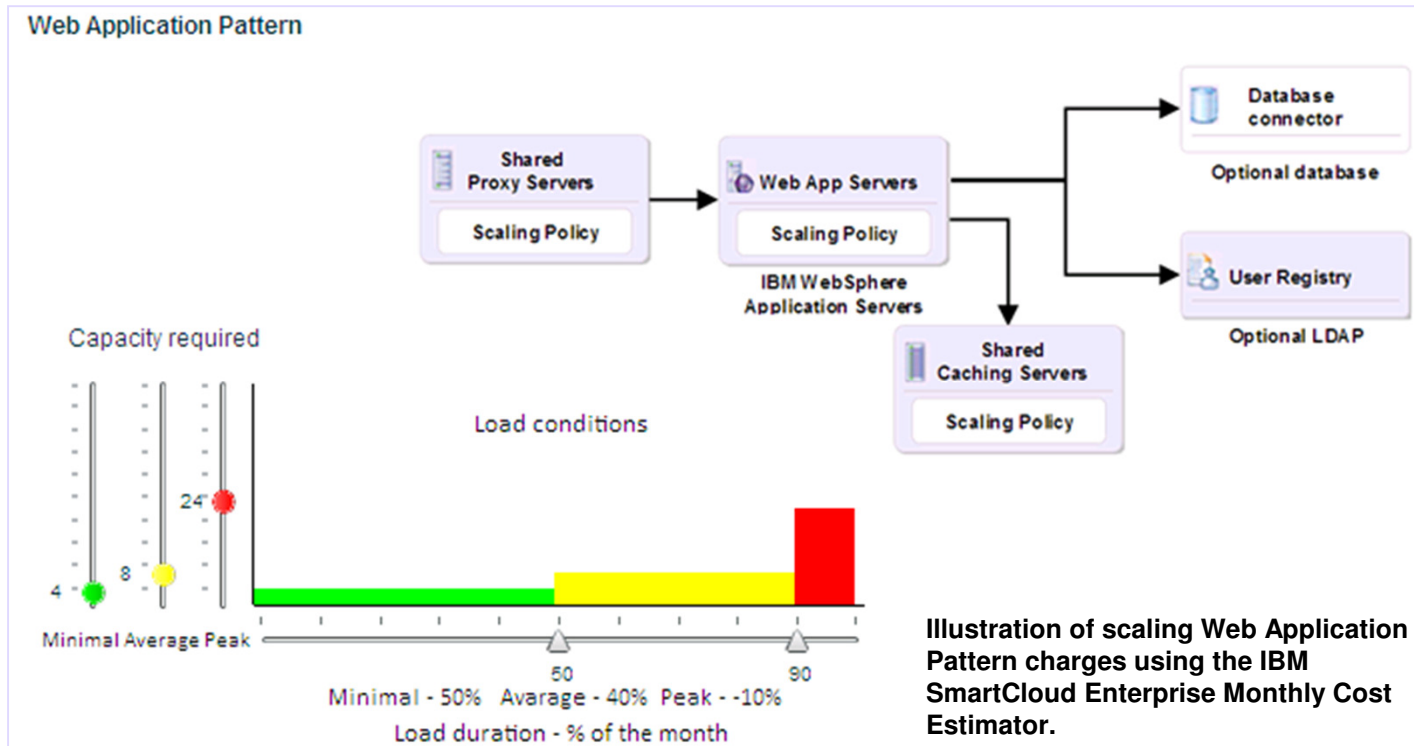
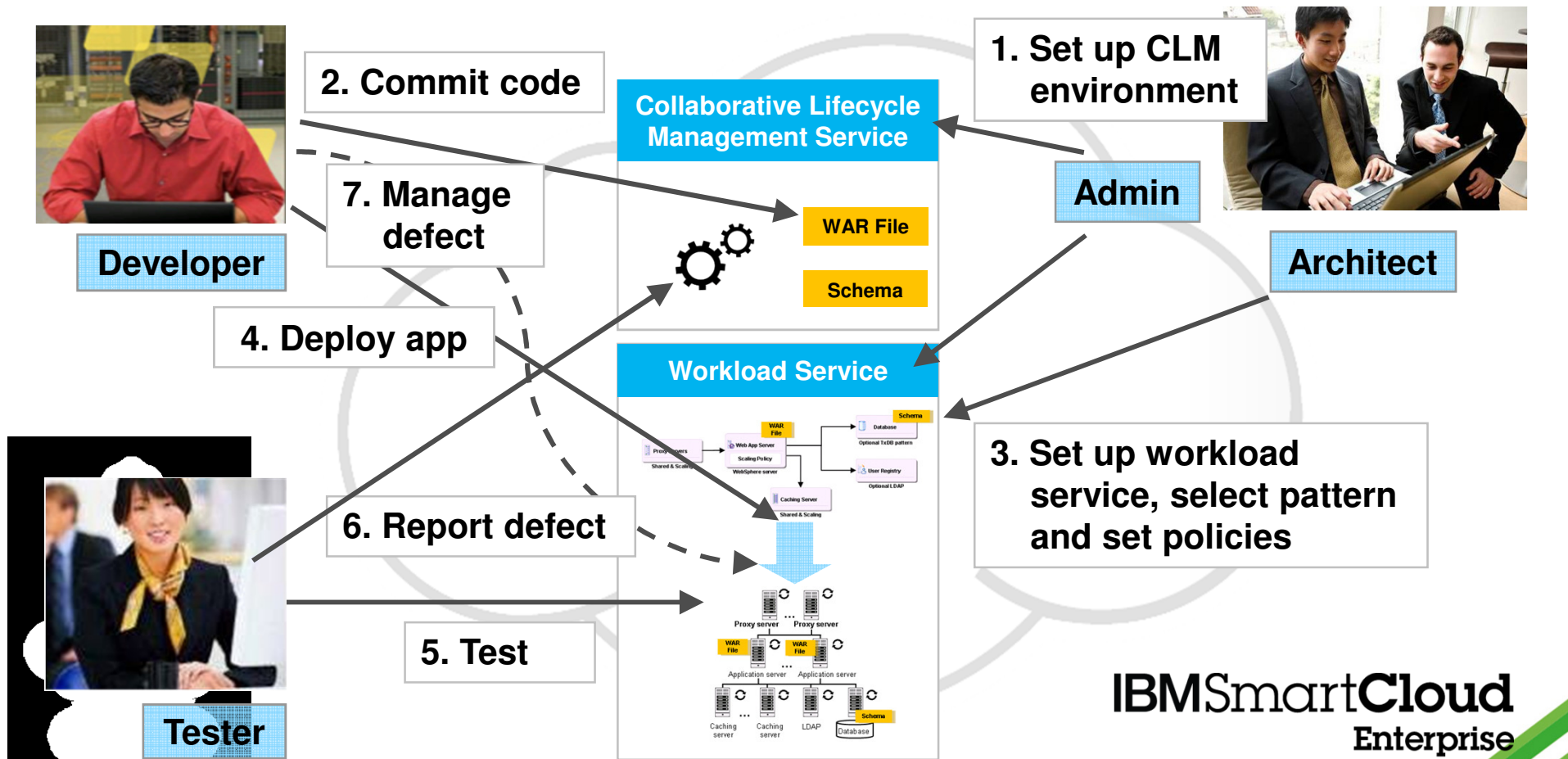


Illustration of scaling Web Application Pattern charges using the IBM SmartCloud Enterprise Monthly Cost Estimator.

Application server charges

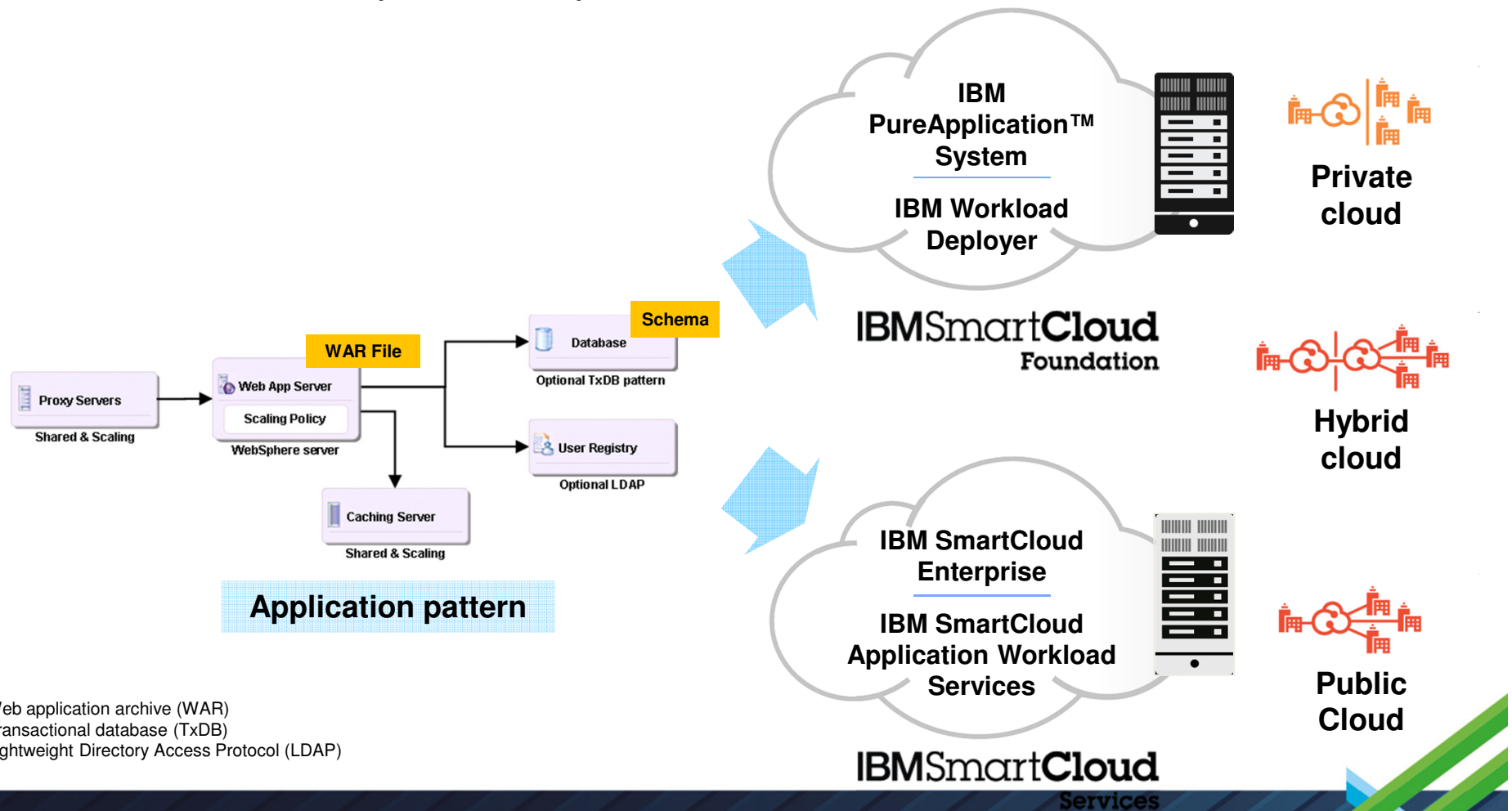
	Instances	Size	Software use option	Charge option	Usage	Rate	Monthly charges
With scaling	24	Small	PAYG	Per hour	32 % utilized/month	\$1.11	\$6,158.28
Without scaling	24	Small	PAYG	Per month	32 % utilized/month	\$649.00	\$15,576.00

IBM SmartCloud Application Services can provide you with an integrated DevOps environment.





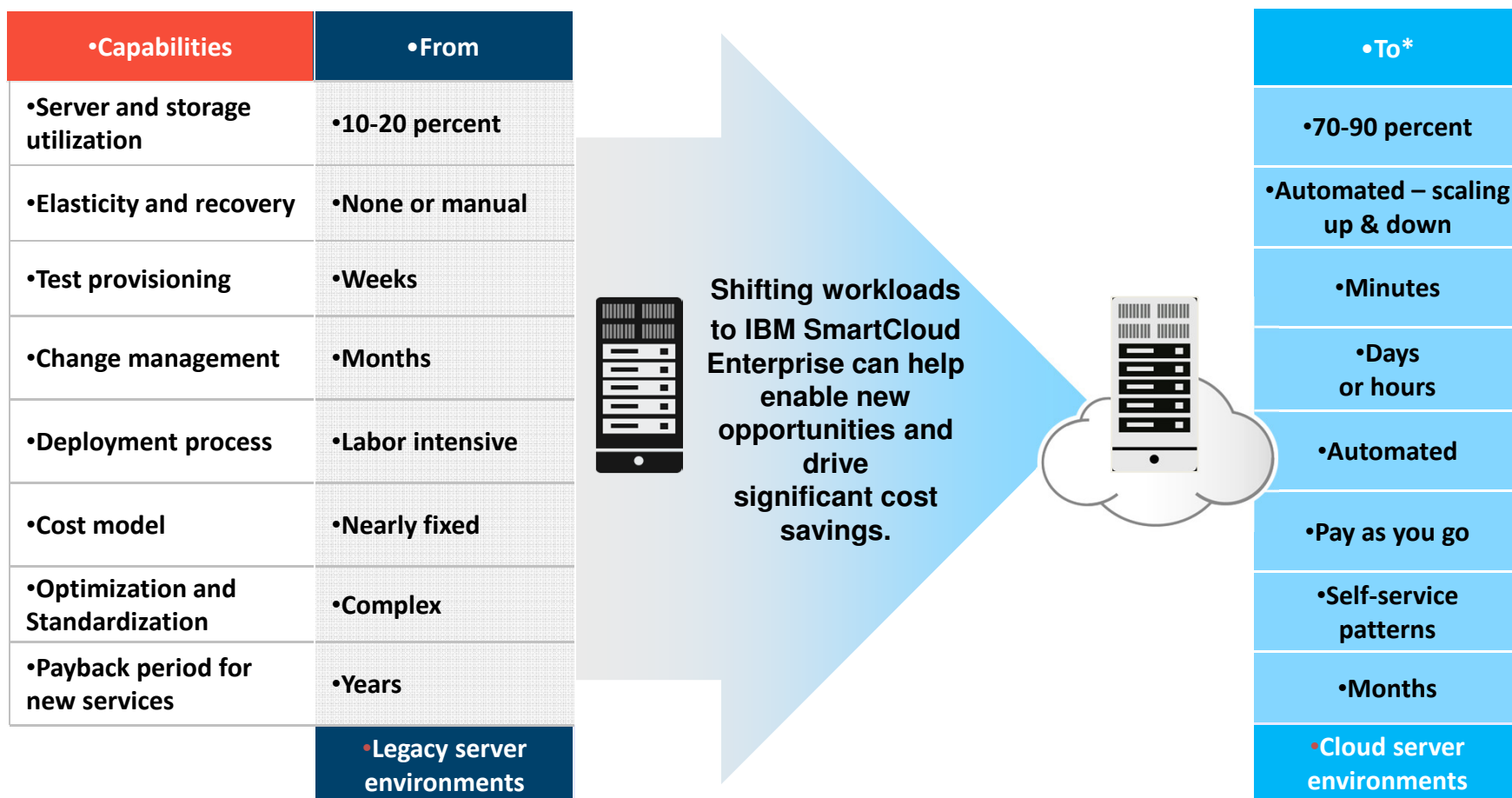
IBM pattern-based technology enables portability and interoperability, so that you can deploy your applications in either a public or private cloud—or both.



Web application archive (WAR)
Transactional database (TxDB)
Lightweight Directory Access Protocol (LDAP)



The cloud can help accelerate business value and enable new business opportunities.



*Based on results from IBM's Technology Adoption Program. Client-specific results can only be ascertained after a return on investment analysis.



IBM SmartCloud Enterprise can help you gain savings, quality improvements and speed to market.

Cloud computing from IBM can help you:

- **Reduce IT labor cost by over 50 percent¹**—reduce the skill and work required to provision and manage application software environments
- **Virtually eliminate capital expense** and realize significant software license savings through more rapid access to **elastic server capacity**
- **Reduce provisioning cycle times from weeks to minutes**—to enable faster time to market and more time for innovation
- **Improve quality—eliminate over 30 percent¹** of all defects that come from faulty configurations; standard configurations help reduce risk and deliver higher service quality
- **Enable more effective development**—preconfigured integrated IBM Rational developer group tools and best practices
- **Improve governance and reduce risk** of large server deployments



¹Based on results from IBM's Technology Adoption Program. Your results may vary, and client-specific results can only be ascertained after a return-on-investment analysis.

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IBM SmartCloud Enterprise services have been designed to support two major application models in cloud adoption.

Cloud enabled



Move existing application workloads to the cloud to help:

- Reduce cost and operational inefficiencies
- Improve responsiveness and quality of service delivery
- Enable sustainable innovation of enterprise processes
- Retain compatibility with existing systems

Cloud native



Develop new platform workloads for the cloud to help:

- Enable a shift to more dynamic programming models
- Create web-centric and native cloud programming environments
- Include languages such as PHP and Ruby on Rails
- Develop an ecosystem of ready-to-run application resources
- Exploit new environments

When considering a new technology such as cloud, there are always challenges and dependencies that need to be addressed.

Today's data center

We have control:

- It is located at X.
- It is stored in server Y.
- We have backups in place.
- Our administrators control access.
- Our uptime is sufficient.
- The auditors are happy.
- Our security team is engaged.



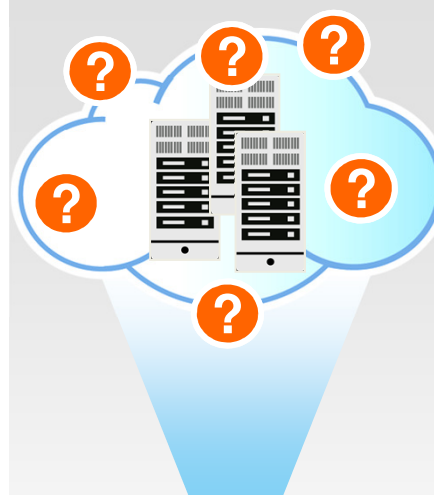
Tomorrow's cloud environment

Who has control?

- Where is it located?
- Where is it stored?
- Who backs it up?
- Who has access?
- How resilient is it?
- How do auditors observe?
- How does our security team engage?

Technical concerns:

- Isolation failure
- Insecure or incomplete data deletion
- Extended network security
- Additional software layers



IBM SmartCloud Enterprise has been designed to address key client concerns about security, reliability and control.



Security. Built into the solution, ranging from tight physical security of the IBM SmartCloud delivery centers to intrusion protection systems (IPS) and vulnerability scanning of the IBM SmartCloud infrastructure. Optional security options, such as virtual private networking, can help you extend your existing security disciplines to the cloud.



Reliability. Around-the-clock monitoring and management of the IBM SmartCloud infrastructure with a service-level agreement. Features like 'anti-collocation' and 'virtual IP addressing' help enable you to build resiliency into your cloud server environments. Backup and recovery and monitoring services are available separately.



Control. Web-based portal allows authorized users to log on at any time to monitor, manage and control their virtual environments. Administrator and user roles offer enterprise-level control of cloud assets and spending, including full usage detail downloads. Built-in APIs allow you to customize and automatically control your cloud server capacity.



IBM SmartCloud Enterprise provides access and billing features designed to enhance your overall user experience.

- We try to make “cloud” as easy as possible.
- The IBM SmartCloud Enterprise service has been designed for **ease of use**.
- You purchase these services on a **standard contract**.
 - The base agreement gets you on board with **no up-front financial commitment**. You pay only for what you order in the portal.
 - **Optional services** let you add extra support and reserve cloud resources for a monthly fee.
 - **We offer local contracting in 72 countries**. You can sign up online in 40 countries.
- Pricing has been kept as **simple as possible**.
- **Invoicing** is supported by **detailed usage reports**.





Why IBM SmartCloud Enterprise?

IBM can deliver:

- **More than just the virtualized servers and storage.** IBM provides advanced cloud infrastructure and platform services in one integrated offering
- **Best practices and expertise captured in application patterns** and time-tested IBM architectures, processes and assets used in thousands of private and public cloud engagements to help deliver end-to-end application lifecycle management
- **Shared enterprise-class technology across public and private cloud environments** to support workload portability and hybrid cloud solutions
- **Usage-based pricing** for both infrastructure resources and managed application patterns
- **A scalable environment** with options to automatically scale up and down
- **An open and standardized DevOps environment** to help enable more rapid and efficient collaboration among developers and operations teams located around the globe
- **Integration into existing enterprise procurement processes** based on local contracting and billing with purchase order support
- **Service delivery expertise** gained from years of experience developing and delivering data center services with the security, reliability and control enterprises require

IBM References

Cloud in Action: OTRUM

Gains a scalable, cost-effective operating platform with IBM SmartCloud™ Enterprise.

The need:

- While planning a major growth initiative, OTRUM—a provider of interactive TV solutions and infotainment systems to the hotel and hospitality industry—realized that its existing IT assets could not accommodate large increases in customer demand.
- The company was hosting its solutions from a pair of data centers in Norway; however, these locations were running out of room, forcing the business to consider alternative, more flexible operating strategies.

The solution:

- OTRUM migrated its infotainment systems to the IBM SmartCloud™ Enterprise architecture. The service is now provided by the IBM cloud facility in Ehningen, Germany.
- OTRUM also joined with IBM Business Partner, RAV Norge AS, to deploy IBM Cognos® software within the cloud to support analytics efforts.



“IBM SmartCloud Enterprise has the flexibility to cost-effectively adapt to our changing business needs.”

—Chief information officer, OTRUM

Benefits:

- Simplifies management requirements while reigning in costs by moving IT expenses from capital expenditures to operating expenditures
- Establishes a highly scalable operating architecture that can add new resources within a handful of hours
- Improves speed to market and new business potential using the IBM Cognos business analytics tools

Cloud in Action: TestPro Pty. Ltd.

Cuts costs and easily deploys its testing solution to customers. Delivers IBM Rational software using the IBM SmartCloud Enterprise solution

The need:

To help its customers automate the testing process, TestPro wanted to create a testing platform that would be easy to set up and use.

The solution:

TestPro built a testing platform using IBM Rational software. The company used the IBM SmartCloud Enterprise offering to deploy the solution to customers and host its internal development environment.

Benefits:

- Helps enable TestPro to deliver the TAF PRO platform to its customers within about an hour and a half versus up to two days
- Allows TestPro to quickly create environments to use for proof of concepts, which can help accelerate the sales cycle
- Reduces the amount of time required to complete a suite of tests by 99 percent

“The IBM Rational products gave us a lot of speed and a lot of agility in the way we could integrate the products. It’s a robust suite.”

- Scott Marchant, managing director, TestPro



Cloud in Action: **Alphinat**

streamlines and automates application development with IBM SmartCloud Enterprise platform

The need:

Alphinat Inc., an IBM Business Partner in Canada that delivers SmartGuide software tools to accelerate web application development, sought to simplify its deployment process. It understood that a virtualized approach could create limitations; therefore it needed a partner that could deliver a robust, highly available cloud environment capable of supporting development requirements and handle all deployment loads.

“With so much interest in cloud technology, we knew we needed an expert to help us get our customers ready to move their software development efforts to the cloud. And we couldn’t think of a better partner than IBM.”

—Curtis Page, executive vice president and chief operation officer, Alphinat, Inc

The solution:

Together with IBM Global Technology Services – Integrated Technology Services, Alphinat migrated its development and deployment platform to the IBM SmartCloud Enterprise. Customers can now swiftly access a flexible service that meets unique development specifications while meeting particular requirements for operating systems, middleware and software in a seamless and transparent fashion.

Benefits:

- Lower TCO and a faster ROI through lowering IT investment in exchange for a pay-per-use model
- Establishes a flexible operating architecture that can readily adapt to meet shifting user demands and workloads
- Extends productivity gains by combining accelerated application development and deployment with fast provisioning and configuration



Cloud in Action: iLinkx

provides critical lifeline to first responders with IBM solution. Virtual information provider also cuts system testing time by 50% with IBM SmartCloud Enterprise platform

The need:

iLinkx sought a scalable and reliable platform to quickly disseminate critical information and functionality to emergency responders while helping its development team increase the pace of product innovation.

The solution:

The IBM® SmartCloud® Enterprise platform provided a secure and dependable framework on which to create and scale new environments.

“The future of iLinkx is around using collaborative, cloud-centric technologies to deliver value to clients while leaving a minimal footprint, and IBM SmartCloud Enterprise is helping us achieve those goals.”

— Rodney Fox, CEO, iLinkx

Benefits:

- Reduces system testing time by 50 percent and speeds deployment through the use of a more streamlined and flexible application development and testing environment
- Scales to support the company’s anticipated 10,000 percent increase in market share over 12 to 24 months
- Reduces reliance on hardware and proprietary software by transitioning workloads to an IBM SmartCloud environment



Cloud in Action: Open 4 Business Online

cuts costs and decreases time-to-market with IBM SmartCloud Enterprise solution

Benefits:

- Reigns in IT costs with a pay-per-use model that simplifies administration, allowing for a 50 percent reduction in IT support staff
- Leverages a security-rich, highly available IBM architecture that establishes credibility with risk-averse small and medium businesses
- Increases speed-to-market for new services by eliminating the need to procure and manage a physical hardware infrastructure

The need:

Open 4 Business Online (O4BO), a Hong Kong founded Software as a Service (SaaS) provider in Asia, recognized an opportunity in small to medium-size business that lacked in-house, IT expertise. The company developed a platform that provides businesses of any size with access to customized business software solutions. Due to the risk averse nature of its clients, the company knew it needed to run on a secure, reliable infrastructure that would provide cost-effective solution for budget-constrained businesses.

The solution:

O4BO teamed with IBM Global Technology Services – Integrated Technology Services to develop, test and host its operations on an IBM SmartCloud Enterprise architecture, together with IBM Business Partner Corent Technology. Customers can now swiftly access up to six seamlessly integrated business applications via a portal hosted on the security-rich, reliable IBM SmartCloud Enterprise infrastructure.

“The capabilities and promise of IBM SmartCloud Enterprise and the experience that I had with IBM gave me the motivation to leave my position as CTO of Corent Technology and actually start O4BO.”

—Mike Oliver, founder, Open 4 Business Online



Cloud in Action: **Servoy B.V.**

Bursts through resource limits with an IBM SmartCloud solution. The IBM Business Partner and ISV uses and promotes the flexibility of the IBM SmartCloud solution

The need:

Servoy, a purveyor of rapid application development and deployment tools, required a secure, scalable infrastructure for its product engineering and testing as well as for its customers and partners.

The solution:

The IBM® SmartCloud® Enterprise service supplies boundless, pay-as-you-use computing capacity for application development, testing and distribution.

Benefits:

- Offers a cost-effective, scalable IT platform for application developers, regardless of company size, on a pay-as-you-use basis
- Reduces or eliminates the need for and expense of an in-house hosting environment for application development or deployment
- Includes access to IBM middleware, lifecycle tools and applications as well as a plethora of ISV images through the IBM Cloud catalog

“We want to convince an ISV to basically bet their future on our company. To do so, we needed a reliable, international partner ... IBM is uniquely positioned to provide cloud services across the board.”

—Yvo Boom, vice president of corporate development, Servoy B.V”



Cloud in Action: **Acuity B.V.**

IBM SmartCloud Enterprise allows Acuity ICT to meet the needs of its customers down to the last detail

The Need:

- Acuity ICT wanted to give customers a wide range of cloud-based applications, server capacity, testing and development possibilities, and save on the purchase and maintenance of its own servers
- The need to save on the management and purchasing of hardware for the in-house applications and testing

The Solution:

- IBM SmartCloud Enterprise
- The Infrastructure-as-a-Service solution (IaaS) IBM SmartCloud Enterprise. Acuity ICT uses this to test, develop and run its own applications and those of customers and partners

Benefits:

- Providing a flexible IT solution for the clients of Acuity without up front investments
- Extensive range of IAAS functionality enables clients of acuity a scalable “ease of doing business” functionality
- Pay as you go

“We wanted to offer our customers flexibility and a wide range of cloud-based solutions. IBM SmartCloud Enterprise makes it possible for customers to choose any possible cloud server...”

-- Ronald Dekkers, Technical Director of Acuity ICT



Cloud in Action: Novatti



broadens its offerings and potential customer base, streamlines its software deployment and improves access and availability for its developers when it engages IBM SmartCloud Enterprise solution

The Need:

Novatti needed to demonstrate its electronic payment capabilities in a cloud environment to potential customers. The company also needed to:

- Reduce capital and operating costs of provisioning the IT infrastructure for development and test purposes, proof of concept (POC), production environments and demonstrations
- Reduce time and ease access to provision and configure server environments for its developers
- Drive a faster time to market for new applications

To solve these challenges, Novatti sought new information management software.

"We believed that cloud was the future of our company, so we looked for a strong partner that would be as committed to our customers as we are. And with IBM, we also gained one of the most knowledgeable cloud providers out there."

—Peter Cook, chief executive officer, Novatti

The Solution:

Novatti engaged IBM Global Technology Services - Integrated Technology Services to implement an IBM SmartCloud Enterprise solution to deliver the client's existing applications.

Novatti also implemented IBM Informix V11.5 software, which the client uses for its high-volume, high-performance transaction-oriented applications. Further, the client installed the Red Hat Linux operating system to support these applications.

Benefits:

Novatti gained the ability to:

- Offer a packaged solution encompassing pre-paid mobile and mobile banking solutions as a service
- Streamline its deployment of software through the ability to standardize integration points for customers
- Improve access and availability for its developers



Thank you for your time

- **For more information, please visit:**

- <http://www.ibm.com/cloud-computing/us/en/>

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