



Enterprise Cloud Adoption- Deployment Models, Workloads and Industry Perspective

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Abstract

- Market adoption of cloud computing is increasing at a faster pace. Enterprises are considering migrating production and non production workloads to cloud to realize benefits such as costs, scaling, speed time to market and self service. Organizations cloud journey involves technical and business strategy and transformation. Strategizing workloads, how to burst on premise infrastructure to cloud based on demand, deployment options such as on or off-premise, public, private or hybrid becomes important factors in realizing the benefits.
- In this presentation, the speaker describes workload adoption patterns of enterprise customers using IBM's cloud services today and guidance on variables impacting choice of deployment models. Additionally, value prop of cloud related to specific industries is also discussed.

Why write this paper

Motivation –

1. When strategizing cloud transformation, enterprise clients interested in cloud adoption patterns emerging in the field – What?
2. Best practices of deploying these patterns help start their own journey better – How?
3. Industry alignment of cloud services further provides better understanding to size enterprise workloads – Where?

-Workloads matter in choosing right cloud model!!

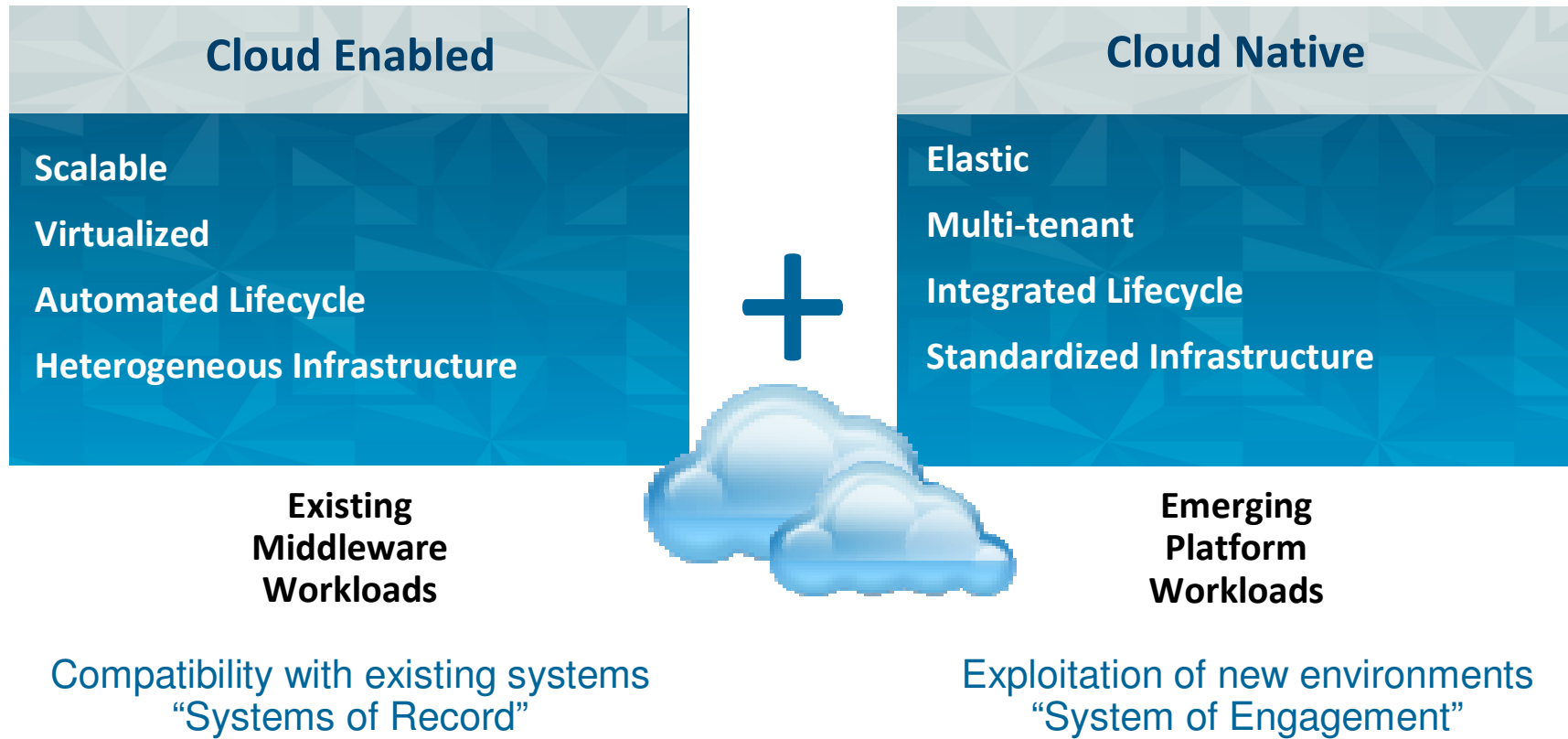
Why workloads are important in adopting cloud?

- Mission critical workload suitable for an on-premise deployment migrated to public cloud instead brings in security exposures and business impact
- Workload suitable for public cloud ran on private cloud does not help realize cloud cost advantages
- Business applications with dependencies on legacy workloads require complex integrations between cloud to non-cloud

Cloud in Enterprise Context – Benefits/Pain points enterprises Wants addressed

1. Reduce infrastructure and operational costs
2. Deploy business applications quicker
3. Scale IT environment up/down based on demand
4. Reduce overall IT management complexity
5. Pay by usage model

Two Emerging Cloud Adoption Patterns



Source: <http://public.dhe.ibm.com/software/dw/cloud/techtalks/IBM-Vormetric-2013July23.pdf>

Top 10 Workloads deployed in Cloud

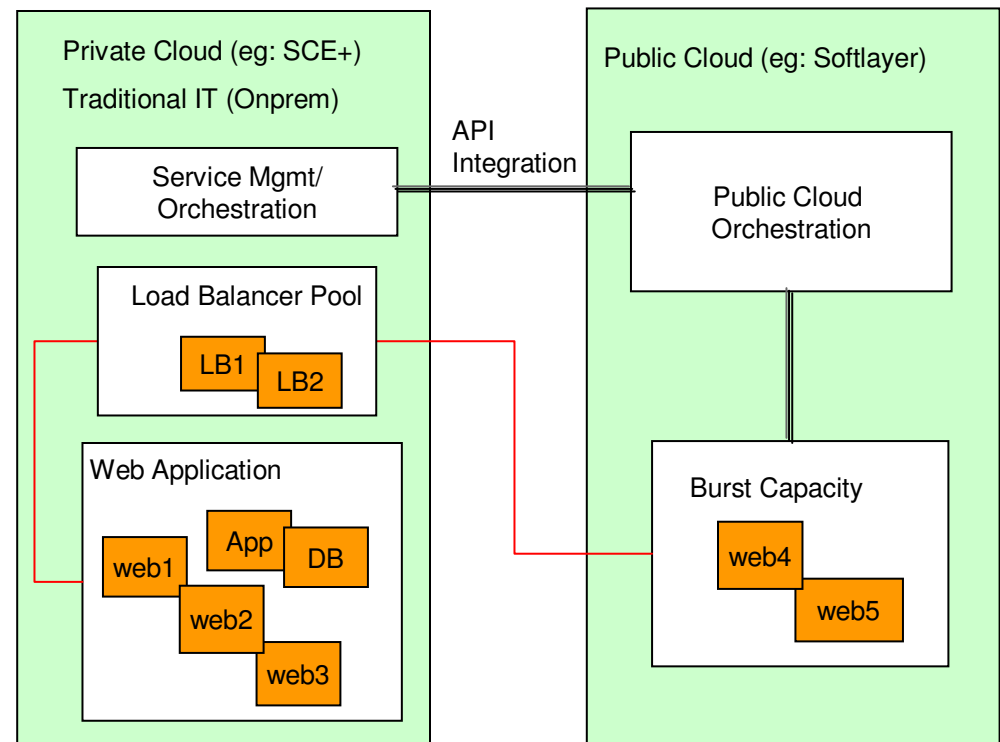
1. DevOps – Cloud Native
2. Mobile – Cloud Native
3. Big Data/Analytics – Cloud Native
4. High Performance Computing – Cloud Native
5. Social Business – Cloud Native
6. Web Applications – Cloud Enabled
7. SAP/ERP Applications – Cloud Enabled
8. Managed Production Infrastructure – Cloud Enabled
9. Managed DB – Cloud Enabled
10. Groupware – Cloud Enabled

Three widely used Cloud deployment models

- Public
 - Always multi-tenant, 100% virtualized
 - Internet connected
 - Commoditized hardware
- Hybrid
 - Burst capacity only during peaks
 - Legacy applications cannot be standardized
 - Business continuity/Disaster Recovery
- Private
 - On or Off premises
 - Single tenant model
 - Dedicated and virtualized
 - Secure workloads requiring encryption
 - Regulatory compliance, customized policies
 - Architectural control over life cycle of cloud deployment

Adoption Usecase1: Bursting On-premise/Private Cloud to Public Cloud

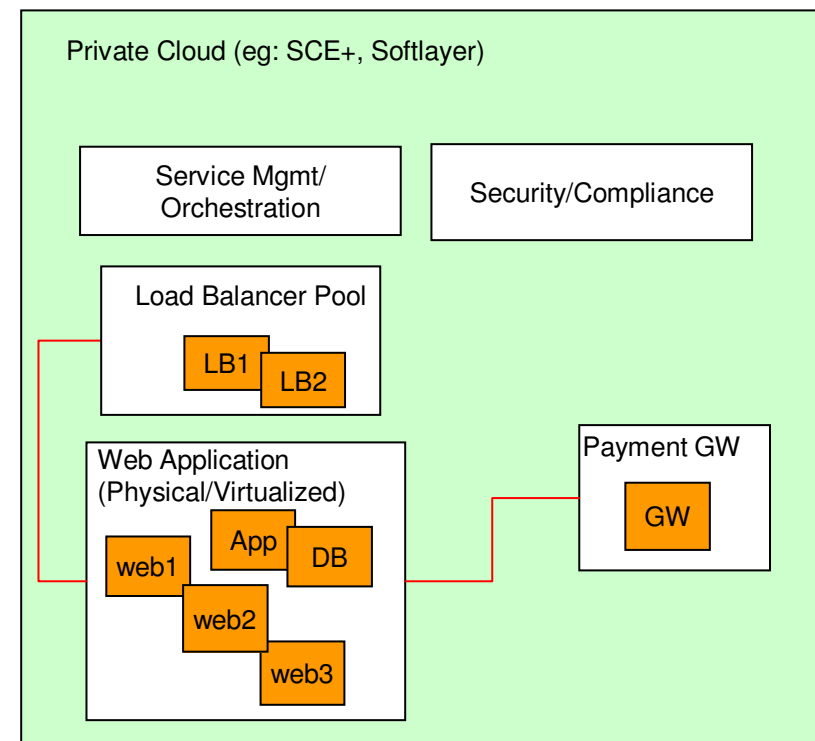
- Public cloud infrastructure is leveraged to address capacity spikes
- Web application running onprem spills over to public cloud with additional web servers during peaks and scales down when demand subsides
- Load balancers adds/removes public cloud resources automatically
- Enterprise apps scale quick without incurring additional capex onprem and pay for what they use on public cloud



Adoption Usecase2: Production mission critical application scales securely and managed for compliance

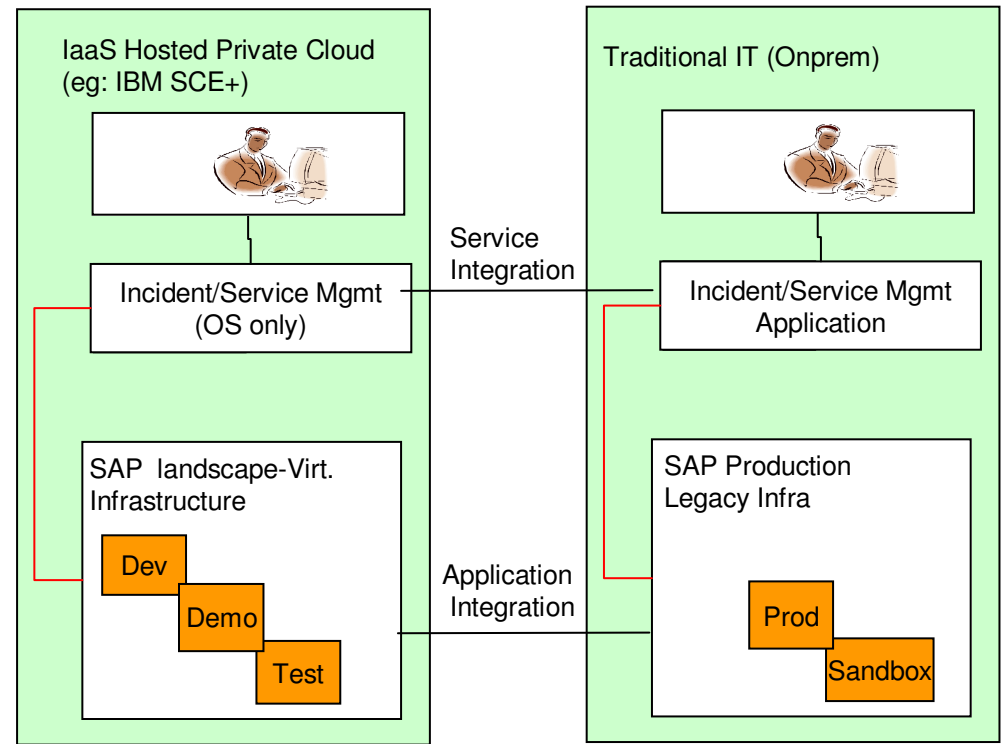


- Private cloud is leveraged to host production mission critical application
- Online banking application requiring PCI compliance deployed in private cloud based on customer driven security policies and firewall separation
- Private cloud provides traditional IT security and compliance levels with cloud automation and cost economies
- Pattern based application can scale quick as needed

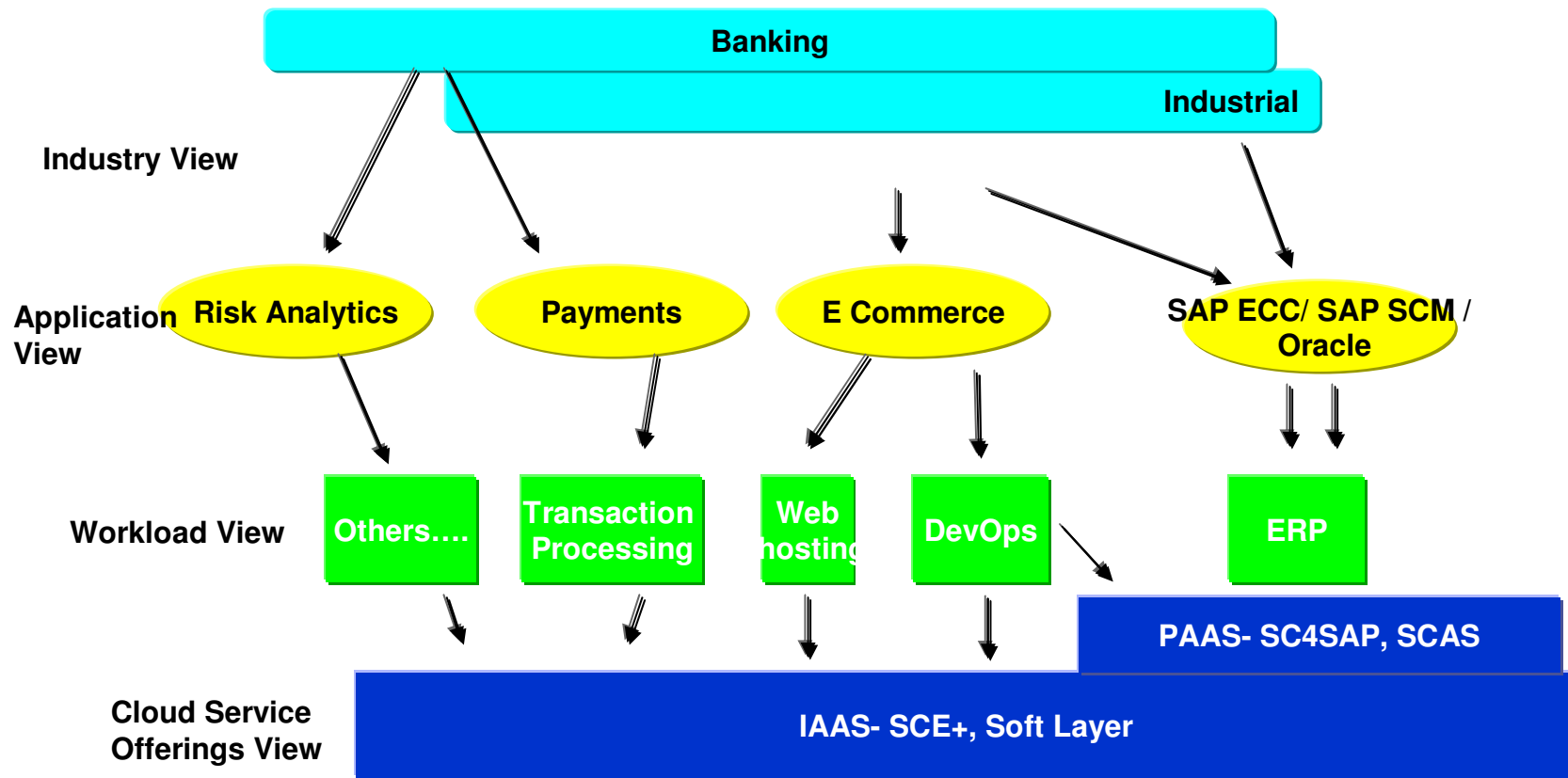


Adoption Usecase3: Integrating Hosted private cloud with Traditional IT

- Certain legacy infrastructure always have to stay onprem on traditional data center
- SAP application landscape split across hosted private cloud with virtualized infrastructure communicating with production on legacy platform hosted on-prem
- Application is integrated across hosted private cloud to traditional IT
- Service management processes are integrated to provide single pane of glass



Mapping two Industries-Workloads-Cloud Service offerings



Banking/Financial Sector-Challenges

Turbulent global conditions are affecting revenue and putting a strain on profits.

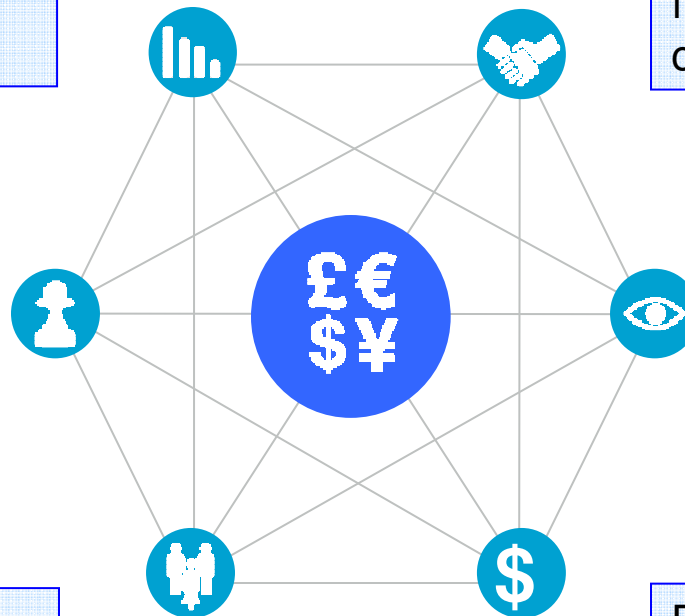
Changing business models have shifted from product-centric to customer-centric.

Competition is intensifying with M&A, divestitures, and non-traditional entrants, requiring IT and business transformation.

Radically increased oversight is driving investment in more integrated, enterprise wide risk management.

Clients have rapidly evolving expectations for offerings, services and convenience.

Banks across the globe are focusing on optimizing use of capital.



Banking/Financial Sector- IBM SmartCloud Enterprise+ Value Prop



Scalability

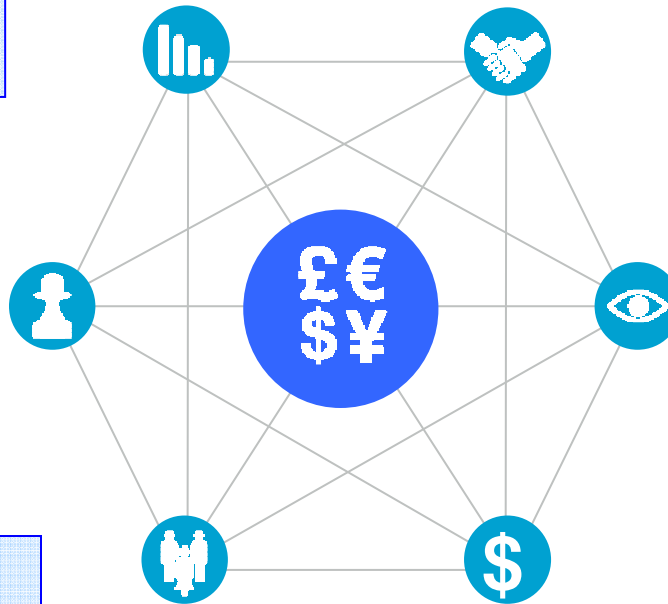
Scale production infrastructure quickly based on need with incremental resource add/removes

Accelerated Provisioning

Provision application install and production ready standardized images fully validated using detailed service activation and de-activation process

Network/Business Continuity

Variety of NW options incl. VPN, dedicated MPLS, and Internet with secure firewalls and multiple VLAN's. Encrypted backup data in transit, tapes and offsite tape storage for resiliency and business continuity. Virtual Server Recovery and optional DR add-on based on customers specified RTO/RPO. More DR options in future



Managed Services

ITIL-v3 complaint managed services with committed SLAs and service management support and ISO27001 compliancy. Cloud enabled service delivery best practices from years of IBM services expertise to run production workloads securely

Quality HW and Images

Quality HW for production workloads on IBM system X and P with VMWare and Power VM hypervisors. Standard golden images security tightened and managed service agents installed/configured provisioned consistently

Secure Environment

3 Tier security zoning separated by FW and VLANs. Audit ready service activation, de-activation, strict policy based security controls. Flexible patch management options, health and vulnerability scanning, intrusion protection guarantee secure managing environment to production workloads

Reduced Cost

Increased utilization of production infrastructure, virtualized and delivered consistently with automations reducing overall cost and ownership

Complete your sessions evaluation online at SHARE.org/BostonEval



Industrial Sector-Challenges

Clients have rapidly evolving expectations for offerings, services and convenience.

Capital Availability has been challenging given competing demands from global and production expansion

Competition is intensifying with M&A, divestitures, new technologies and entrants from growth markets

Compliance , safety and security pressures in Chemicals and Petroleum have increased significantly



Globalization has given rise to big new markets and several new competitors in growth markets.

Turbulent commodity and energy prices are putting a strain on profitability.

Industrial Sector-IBM SmartCloud4SAP value prop



Scalability

Scale production infrastructure quickly based on need with incremental resource add/removes

Accelerated Provisioning

Automated provisioning of virtual servers and SAP systems reduces manual tasks for SAP administration and management to increase the speed of environment creation and reduce the number of errors

Skilled SAP Resources

Industry and SAP certifications and training for all of our delivery staff and practitioners providing SAP expertise required to enable high quality SAP solutions and delivery of services



Automated Process

Cloud management and administration portal provides easy access to the services for modification of the SAP landscape reducing the need for complex system administration support and processes

Secure Environment

3 Tier security zoning separated by FW and VLANs. Security based on iSEC policies and built on secure building blocks from IBM's experience in outsourcing and hosting

Managed Services

ITIL-v3 complaint managed services with committed SLAs and service management support and ISO27001 compliancy. Cloud enabled service delivery best practices from years of IBM services expertise running production SAP workloads securely

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Summary and Recommendations

- Clear adoption patterns are emerging positioning right workloads to right deployment models
- Enterprise customer cloud journey and transformation modeled after adoption patterns can help reduce risk and business impact
- Cloud native applications are well suited for public cloud where as cloud enabled workloads are well suited for Private or Hybrid models
- Cloud is paving the way for innovative IT solutions such as bursting workloads to meet demand spikes, disaster recovery with reduced cost and resiliency built into applications
- IBM Cloud service offerings are structured to help map the right deployment model and aligned with industries and workloads

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About the Author

Biographical Sketch: Prabhakar Attaluri is a Global Cloud Technology Leader and Senior Technical Staff Member in IBM Global Technology Services. He has more than 17 years experience in systems integration, solution architecture, service management and business process re-engineering. In his current role, he is responsible for developing technical strategy for SmartCloud offerings, establishing service definitions and ensuring IBM's cloud offerings meet market place needs. He is a certified IT Architect and frequently meets with customer CxO's presenting and providing early engagement guidance.