APPLICATION-CENTRIC IaaS SOLUTIONS FOR A CLOUD-EMPOWERED ENTERPRISE
Changing fast, acting smart and innovating quickly are what enable organizations to get ahead and stay ahead of the competition. Today, to gain a competitive edge, improve profitability and better manage risk, organizations are transforming. Companies are leveraging advances in digital technologies and using new sources of data to change customer relationships, improve products and drive revenue.

Such business-driven transformation pivots on an organization’s ability to harness the power of agile cloud infrastructure. Cloud empowers the enterprise to quickly deploy new applications. According to IDC, at a cloud-empowered enterprise, the speed of project deployment can increase by a startling 99%. In addition, IDC reports, cloud usage enables 99% faster migration of applications from one data center to another located in a remote geography.

Cloud empowers the enterprise by alleviating time-consuming acquisition and deployment of servers and finding and training of staff. There’s no question that companies do more, faster, with cloud.

Today, companies are trading capital-heavy infrastructure for the lightweight cloud that enables the consumer technology experience: self service, on demand, pay per use. And, the cloud enables implementation of mobile applications and analysis of huge amounts of data for business-changing insights.

Cloud adoption is exploding. Organizations are rapidly moving from virtualization to private clouds and powering through to hybrid cloud implementation. IDC predicts that by 2015 more than 50% of enterprise applications will be transformed to cloud and 60% of enterprise IT will be cloud based.

IT departments will become service brokers to their organizations as they federate services from multiple cloud providers. By 2014, IT organizations in 30% of the Global 1000 will broker two or more cloud services.

CSC — MORE THAN AN IaaS CLOUD LEADER

From advisory services for business process modernization planning to automating the migration of servers and applications to the cloud: CSC provides a comprehensive suite of services to modernize applications not born for the cloud into apps that optimize cloud delivery.

Gartner recently recognized CSC as one of only two market leaders providing Infrastructure as a Service (IaaS) in private, public and hybrid cloud models. CSC is partnering with AT&T to provide instant access to private networks that connect to CSC Cloud data centers, and lower the cost
Today, companies are trading capital-heavy infrastructure for the lightweight cloud that enables the consumer technology experience ... of special purpose clouds for data-intensive analytics. New to the portfolio is ServiceMesh, a CSC company, providing a policy-driven cloud management platform that automates the deployment and management of enterprise applications and workloads across public, private and hybrid cloud environments.

Preferred Destination for Strategic Workloads and Applications
Strategic workloads and applications require an enterprise cloud — a cloud capable of ensuring availability, resilience and security. The following seven attributes clearly differentiate CSC Enterprise Cloud in the provider market:

1. Application-centric approach, which balances, cost, security, performance and reliability options and accelerates the app release cycle
2. Data protection enabled with policy-based governance and encryption of all traffic entering and leaving the cloud
3. Security from edge to endpoint, with multiple boundaries of defense enabled by automation and policy-based controls
4. Enterprise support services with global 24x7x365 support and worldwide scalability
5. Integration with legacy infrastructure, extending automation, orchestration and governance to the cloud
6. Operational excellence featuring self-service, application portability across a multi-cloud ecosystem with high availability, autoscaling and performance management
7. Transparency with unprecedented access to performance and usage metrics, granular billing information and security reporting

CSC subscribers are bringing game-changing apps to the cloud: office productivity applications, workloads for line-of-business, and general business and core systems. CSC Cloud subscribers manage as much or as little of the cloud as they prefer — from the OS to applications — by choosing the right service levels for each workload and application. They then choose storage tier, disaster recovery options and service support that meet enterprise requirements.

Core to the CSC Cloud is a portal providing operational transparency; pre-configured service catalogs to rapidly build and manage multiple application environments; and cloud orchestration for developing and managing operational processes. Our Enterprise Application Store is the window into the cloud — offering visibility into

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<th>CLOUD COMPUTE</th>
<th>BIZCLOUD VPE</th>
<th>COMPUTE CAPACITY</th>
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<td>Leveraged Resources</td>
<td>Dedicated VPN and VLAN</td>
<td>Completely Segregated</td>
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<td>Client Data Isolation</td>
<td>Dedicated Compute Capacity</td>
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<td>Dedicated VPN/VLAN Option</td>
<td>Logically Segregated storage</td>
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<td>Deployed from CSC Cloud Data Centers</td>
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<td>Deployed from Your Data Center or Ours</td>
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<th>SELF-SERVICE</th>
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<td>99.5% Availability</td>
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usage, service performance, security and cost management. Orchestration automates life cycle and workflow tasks; enables rapid configuration, provisioning and decommissioning of resources; and supports service management requests for activities such as security scans, backup and restore, and image loading.

Resilient, Secure and Transparent Cloud Infrastructure

A failover mechanism is in place for every component of the CSC Cloud stack that could potentially affect service performance. For example, dual redundant power distribution units in the cloud rack ensure that a single individual power supply failure will not affect system availability. Many infrastructure components carry multiple power sources to enable failover to a secondary power support without affecting system availability or performance.

CSC wraps the cloud in industry-recognized Managed Cybersecurity Services to protect data, mitigate risk with monitoring and proactively analyze data to protect against attacks. We leverage a defense-in-depth security framework and controls program to secure applications in the cloud with multiple boundaries of defense. CSC Cloud draws on more than 50 years of experience in providing highly secure, high-availability infrastructure services to global commercial enterprises and government organizations.

All of our IaaS offerings provide client and department data isolation and 24x7 incident response delivered by CSC cybersecurity experts, with virtual firewalls and network intrusion detection systems (NIDS) monitoring as standard features. Optional security services include antivirus, vulnerability scanning, host intrusion prevention systems (HIPS) and CSC Audit Log Assurance Service.

CSC Audit Log Assurance supports companies obligated to comply with government mandates such as Sarbanes-Oxley and the Gramm-Leach-Bliley Act (GLBA). This CSC service ensures that all vital network and system logs are centrally stored, correlated and analyzed by our team of security experts, increasing our clients’ ability to track infrastructure resources across their enterprise.

We deliver full visibility into our cloud infrastructure services, including data and application residency, real-time cloud performance and granular tracking of cloud usage and costs. Our commitment to transparency enables online, on-demand access to security reports, access to logs and event management.

CSC ENTERPRISE CLOUD

Holistic CSC Defense-in-Depth Security Framework

Data/Service Integrity

- ITIL standards
- 24x7 security incident response
- Annual SSAE 16 (formerly SAS 70) Type II review
- ISO 27001 certification
- Antivirus services*
- Backup and restore services*

Physical Security

- Access-controlled Tier 2/3 data centers
- Servers in secure suites or cages
- 24x7 video surveillance monitoring
- Personnel background checks
- Multifactor authentication
- Separation of staff duties

Logical Security

- Identity and access management
- Network intrusion detection
- Cloud infrastructure protection services
- Cloud guest VM protection services
- Hypervisor isolation for network adapters

Access Control

- Industry benchmark tenant isolation
- Authentication, authorization, and role-based access management
- Secure VLANs
- Virtual and network perimeter firewalls

* Optional Services

CSC subscribers are bringing game changing apps to the cloud...
10 WEEKS TO A PRIVATE CLOUD

The most prevalent cloud model for enterprises, private cloud is core to a hybrid cloud strategy. The do it yourself (DIY) private cloud, however, can take 6 - 10 months to build, minimally 2 months to get through capital procurement and six to eight million dollars of upfront cost. Most disappointingly, it is often missing the software and processes required for a self-service, on-demand infrastructure.

In contrast, consider this: **CSC BizCloud** is the first and only private cloud billed as a service, from a standard rate card, that is ready for deployment in as little as 10 weeks — from the customer’s choice of premises. BizCloud combines the privacy, security and control of a private cloud with the elasticity and convenience of a public cloud. It is an ideal solution when security and compliance concerns prevent workloads from leaving the data center or when companies are avoiding building new data centers to accommodate expansion and growth. BizCloud’s service catalog and portal simplify provisioning and its pay-as-you-go approach aligns cost with use. Given this opex model, BizCloud is simple to start and easy to grow, one workload at a time.

**CSC BizCloud VPE** addresses multi-tenancy cloud concerns by providing VLAN separation and dedicated compute, LUN storage, network switch and vSphere Cluster. BizCloud VPE is an ideal lower cost entry point to private cloud. And, it’s a much more secure alternative to public, multi-tenant cloud, as well as a great alternative to a costly build-it-yourself cloud. Subscribers reduce risk, avoid capital budgets and engage with a service portal that streamlines access, provisioning and administration of private cloud resources.

**BizCloud for Government** offers federal agencies and state agencies a private cloud with the enhanced security and controls necessary for the FISMA C&A process. Offered from a FedRAMP-compliant data center or implemented on the client’s premises of choice, BizCloud for Government is the choice of agencies with high requirements for data protection and governance.

BizCloud, BizCloud VPE and BizCloud for Government are ideal platforms for ERP, financials, core banking systems, and R&D.

**CSC CloudCompute** is a multi-tenant public cloud deployed from CSC Cloud data centers on four continents. CloudCompute is scalable IT, removing the risk of inaccurate workload forecasting while adding high-availability compute on demand. Built-in security and workload isolation protect sensitive data and mission-critical applications.

**MOVE YOUR ERP APPLICATIONS TO THE CLOUD**

**CSC Cloud IU (Infrastructure Utility)**

Cloud empowers the enterprise to make changes to the business and quickly align ERP applications with the business. It’s not a secret that ERP environments can be time consuming to deploy, complex to modify or refresh, and costly to manage. Most deployments do not fully utilize systems, resulting in significant server sprawl, wasted space, and higher energy, maintenance and administrative costs. ERP upgrades and platform migrations are time consuming, with project delays being the norm.

Ideally, organizations want fail-proof migration from development, test and pre-production to production, with fast and easy rollback if issues occur. Cloud is proving a valuable asset to control cost, improve process and accelerate implementation and/or upgrade cycles.

**CSC Cloud IU** accelerates upgrade and deployment of ERP environments with a complete, ready-to-use managed service that provides the infrastructure, basis support and menu of modular service choices to support all types of ERP environments. CSC Cloud IU incorporates all aspects of an ERP infrastructure: compute, storage, backup/restore, disaster recovery and Basis Layer services. Basis support covers all run-time operations, so your staff can focus on more critical business priorities. All this is available for utility-based monthly rates for both the infrastructure and basis support, based on the compute and I/O required and tier of service needed.

**CSC Cloud Migration Services**

Cloud empowers organizations to deploy and utilize capacity by migrating servers and applications to more effective and efficient infrastructure. Migration can be expensive and time consuming, and collateral costs can quickly reduce the overall financial benefit. However,
automated and efficient migration can provide immediate ROI and leverage the economics, scale and agility of cloud.

**CSC Cloud Migration Services** move existing virtual or physical servers to any CSC Enterprise Cloud model. Our services integrate the migrated applications into your cloud service catalog and enterprise store, making them immediately accessible for operation in your cloud environment. The services provide pre-migration validation of defined workload inventory; pilot migration; migration of virtual or physical OS instance to virtual instance in the CSC Cloud; and validation of successful migration and production cutover. Migration on any scale requires skilled planning and coordination: CSC provides these, as well.

**ServiceMesh Agility Platform™**

As more enterprise and COTS applications are delivered from and migrated to the cloud, IT complexity increases. The cloud-empowered enterprise requires a cloud management platform built on an application-centric policy based engine, one that offers governance, security and application portability. Security needs to be systemic across the solution stack and the cloud ecosystem. Controlling hybrid cloud environments requires automation and governance of resource consumption for both IaaS and Platform as a Service (PaaS).

The powerful combination of ServiceMesh Agility Platform and CSC’s delivery “DNA” simplifies application management, orchestration and delivery between and across clouds. Application blueprints enable the design and deployment of multi-tier applications and platforms that are infrastructure independent and portable across different private and public clouds. The enterprise-grade policy and governance engine enables creation and enforcement of an unlimited range of custom policies, complete with integrated application release automation. Software releases and development projects have never been faster.

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**CSC: THE ADVANTAGES**

Choose a recognized leader in IaaS, Data Center Outsourcing and Managed Security Service as your cloud provider.

**Cloud Management**

- Let the workloads guide your choice of cloud models, service tier and service management choices.
- One-click orchestration and automation to deploy complex, multi-tier application topologies.
- Develop, rebuild or refactor applications to optimize cloud economics and scale.
- Refocus IT resources on innovation while CSC manages and maintains your applications in the cloud.

**Right Cloud for Every Application and Workload**

- Deploy a private cloud in your data center in just 10 weeks, without capital investment, or choose other cloud models.
- Simplify hybrid cloud deployment and management with extensible, policy-driven governance.
- Achieve application portability between public and private clouds and between cloud providers.

**Delivered in the Right Way**

- Implement automated security policies for all cloud workloads; integrate with your existing security ecosystem.
- Enable autoscaling policies to dynamically add new instances or resize the workload to balance cost and performance and conserve network bandwidth.
- Accelerate the software release cycle with workflow automation, leveraging existing software development tools.
- Gain full visibility into data and application residency, real-time cloud performance, and granular tracking of costs and usage.

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2 Gartner, “Predicts 2013: Cloud Compute Becomes an Integral Part of IT,” Gartner, December 2012

Learn more at [www.csc.com/cloud](http://www.csc.com/cloud).

View our IaaS demo at [www.csc.com/iaas_demo](http://www.csc.com/iaas_demo).


Email us to schedule an appointment with one of our cloud specialists: cloud@csc.com.