

# Cisco Cloud Enablement Services



Comprehensive cloud enablement services help governments of all sizes deploy a secure, compliant, and automated infrastructure-as-a-service (IaaS) cloud environment for cost-effective, rapid IT service delivery and collaboration.

## Accelerate Your Government Private Cloud Initiative

Today leaders working in all levels of our national, state, and local governments are expected to balance competing demands:

- Expanding services for citizens, while controlling operating costs
- Focusing on internal agency operations, while promoting interagency data sharing and collaboration, and technical interoperability
- Hiring and retaining public employees, while managing decreasing budgets
- Expanding citizen access to information, while helping ensure security and privacy

This balancing of demands is not easy, since public policy directives constantly change, and traditional IT infrastructure remains relatively inflexible. Additionally, governments are faced with IT complexity and scalability, siloed communities of interest, and regulatory and legal compliance. Government CIOs and IT managers are trying to manage the growing costs and sprawl of data centers across multiple government organizations, while IT teams are struggling with the costs and duration of procurement cycles to purchase, implement, deliver, and support application deployments for multiple organizations.

The U.S. federal government, for example, is in the midst of a major effort to modernize its IT infrastructure, and, according to the Government Services Administration (GSA) website, cloud computing – IT resources and services that are abstracted from the underlying infrastructure and provided on demand and at scale in a multitenant and elastic environment – is a major feature of that initiative.

At the state and local level, 45 percent of local governments surveyed are using cloud computing to maintain applications or provide services, according to an April 2010 survey by Public Technology Institute, a national nonprofit technology research organization created by and for city and county governments.

As a result of these cloud computing initiatives, government CIOs and IT managers are asking some difficult, though highly relevant, questions about how to best implement it:

- Does cloud computing make sense for my agency or government service?
- How can we anticipate the challenges of migrating to a cloud architecture and make the transition easier?
- How can we plan and build a cloud architecture that comes in on time and on budget?
- How can we help ensure regulatory compliance and security? How does cloud affect our security program and the security of our users?
- How can we measure the benefits of cloud computing and make sure we will see a return on investment (ROI), as well as cost-effectively deliver new, convenient services for citizens?
- Is there a way to customize the chosen cloud approach to deliver the most benefit, help ensure cloud evolution, and provide ongoing cost reductions?
- How do we make sure that our virtualized data center and the operations platform that supports it remain optimized as the use of data center services evolves?"

Like any major government or business transition, these questions around a cloud transition must be answered before government organizations can initiate any change, including cloud computing, with confidence.

To help you address these questions, Cisco® Cloud Enablement Services provide a portfolio of professional services that can help facilitate a cloud strategy and transition to a cloud approach; accelerate the successful implementation, operation, and optimization of a secure, compliant, and highly automated cloud environment; and rapidly transform IT service delivery, thus accelerating governmental responsiveness and increasing agility.

## Transitioning to Cloud Computing

Migrating to a new cloud model is much more complex than implementing a single technology. It requires a shift to a new operational business model. For the first time, new data center technologies such as virtualization, orchestration, and automated provisioning and solutions such as the Cisco Unified Computing System™ (Cisco UCS™), which unifies network, computing, storage access, and virtualization resources in a cohesive system, have combined to make infrastructure-as-a-service (IaaS) cloud utility architectures technically and operationally feasible.

Since managers of government organizations with large data centers and stringent security and compliance requirements are usually prevented from using service provider public clouds, private clouds in which the data center operates as a infrastructure as a service offer a secure and compliant alternative.

There are several clouds deployment models available to enable infrastructure as a service.

- Private clouds: enterprise IT infrastructure services, managed by the organization, with cloud computing qualities such as self-service, pay-as-you-go chargeback, on-demand provisioning, and the appearance of infinite scalability

- Virtual private clouds: Cloud services that simulate the private cloud experience in public cloud infrastructure
- Public or external clouds: Cloud infrastructure made available to the general public through web browsers or through APIs but offering limited customer control
- Community clouds: Cloud infrastructures shared by several organizations and supporting a specific community; for example, several financial service banks join to form a financial community in a cloud
- And, in the future, hybrid clouds: cloud infrastructures composed of two or more clouds able to interoperate or federate through networking technologies, across data center and organizational boundaries.

By provisioning IT services as a cloud computing utility and eliminating siloed computing architectures, governments can turn IT into a strategic center of innovation, with new IaaS-enabled service offerings such as computing, business continuity (disaster recovery), virtual desktop infrastructure, cloudburst, and development and testing/quality assurance as a service.

### Cisco Cloud Enablement Services Approach

Cisco Cloud Enablement Services empower governments to identify, implement, operationalize, and optimize the most effective IaaS solution for their organization. These enablement services can help you build your cloud business case; virtualize, dynamically provision, and optimize network, computing, and storage resources; and enable new IaaS services with security built into every layer of the infrastructure for a secure, compliant cloud environment.

Cisco Cloud Enablement Services provide expert guidance from initial strategy, planning, and design through implementation and optimization of your targeted IaaS. Drawing on extensive experience delivering secure end-to-end virtualized data centers, Cisco provides a comprehensive, architectural approach for enabling IaaS that considers the people, processes, and technologies involved across your network, computing, and storage resources. This approach encompasses the selection of infrastructure management tools to orchestrate new services, service-oriented billing and chargeback mechanisms, and alignment of people and processes to manage IT services.

As part of its Cloud Enablement Services, Cisco also provides two overlying functions: a program management office (PMO) and architecture management office. The PMO is a common service element providing project governance, communications planning, risk mitigation, and ongoing management status updates for on-time, coordinated delivery of the IaaS architecture.

The architecture management office aligns your organization, technologies, and operational architecture to your strategy and utilizes standardization and automation to lower costs for IT services, IT service management (ITSM) complexity, and risk. The office includes a solutions architect providing onsite and remote analysis and reviews of your end-to-end architecture to help ensure adherence to the cloud IaaS architectural design across all service phases.

Cisco Cloud Enablement Services offer:

- Choice: Cisco provides strategy, design, planning, implementation, integration, and optimization services, allowing you to choose the vendors, partners, and solutions that meet your needs and create a best-in-class solution.
- A comprehensive, architectural approach: Cisco's approach to cloud enablement is designed to enable the cloud as a new operational model. Cisco utilizes a comprehensive architectural approach to provide customized cloud infrastructure solutions and uses validated tools and methodologies to accelerate cloud implementation, while mitigating risk. Cisco delivers its enablement services across the business architecture, technology architecture, data center systems management, network management systems architecture, IT operational and people and process architecture, billing and service-level agreement (SLA) architecture, and facilities architecture.
- Extensive virtualized data center and unified computing expertise: Many virtualization efforts focus on server, rather than network, virtualization, thus limiting the potential of the cloud approach. By utilizing Cisco's network experience to address the entire cloud architecture and collaboration challenge, you benefit from a comprehensive, rather than siloed, perspective. Cisco and its ecosystem of partners offer extensive real-world technology and expertise across network, storage, and computing resources.
- Best-in-class solutions and partners: A cloud architecture can encompass diverse technologies and business partners, both within and outside the organization. Cisco's collaborative partner approach applies the combined expertise of Cisco and our global partner ecosystem to reduce the risk and accelerate the benefits associated with a cloud transition. Cisco Cloud Enablement Services help integrate your technologies, tools, and partnerships into a cloud solution of your choice.

## Cisco Cloud Enablement Services

The Cisco Cloud Enablement Services include:

- Cloud Strategy Service
- Cloud Planning and Design Service
- Cloud Implementation Service
- Cloud Optimization

## Cisco Cloud Strategy Service

The first question often asked when contemplating a cloud computing initiative is: What can cloud computing do for my department or agency in terms of controlling costs, delivering a return on investment (ROI), and affecting processes?

The Cisco Cloud Enablement Strategy Service employs ROI tools and provides in-depth analysis of your current architecture and technology choices – with a primary focus on security – to help you determine the most appropriate cloud strategy and architectural options. It also helps assess your architectural options for various cloud uses, such as disaster recovery and computing as a service. Additionally, this service helps you evaluate data center applications and dependencies, as well as management tools and operations management approaches involved in a cloud transition.

Unlike a device- or application-level only approach to security, Cisco takes a comprehensive architectural approach. Security is integrated into every layer of the IaaS architecture enabled by Cisco, and all service delivery elements have security. This core capability then is customized to your environment and organizational mandates.

As part of the strategy service, Cisco provides several cloud security assessments which you can select according to your organization's needs. These security assessments focus on your needs around, for example, how to control and protect data so that it remains in-country; maintain the level of visibility and control required for security compliance; and solve security challenges such as controlling access to information and isolating users within shared, multitenant cloud environments. The assessments include the following:

- Assess the current data center security architecture and identify gaps between current state and future cloud security architecture state
- Assess your existing private cloud security architecture, identify areas to strengthen protection, and provide improvement recommendations
- Assess whether an application, content, or network service is suitable for migration to a public cloud

In multitenant cloud environments, users will have both unique and overlapping regulatory, legal, and audit requirements for their operations. Our services help address these requirements as a cohesive business process for protecting systems and information by helping you to:

- Understand your existing security processes and how they are governed
- Evaluate the effectiveness of these security processes
- Improve security processes to better address requirements
- Analyze operational and technical controls
- Develop a common control framework based on the controls analysis

The end result is the cloud is now aligned with governance, risk, and compliance (GRC) priorities, in a consolidated and consistent program. As the organization's GRC priorities adapt and expand, they can be incorporated smoothly into a cloud GRC program.

Cisco Cloud Strategy Service helps ensure that subsequent cloud architectural development, tools, and process integration and implementation are aligned with achieving organizational goals.

## Cisco Cloud Planning and Design Service

Once an agency or government has identified a secure cloud strategy through the Cloud Strategy Service, the next step is creating a detailed architecture design to implement the IaaS solution.

This design stage is crucial, both to help ensure that the ultimate architecture aligns with the unique business processes and goals of the agency or department and to reduce risk and accelerate time to value of the implementation. This service addresses a primary question: Which architecture can maximize virtualization, orchestration speed, and chargeback design?

The Cisco Cloud Planning and Design Service provides a comprehensive, detailed design service encompassing network, computing, storage, network services, network security, management tools, and processes to realize the target IaaS architecture.

The IaaS design service covers the technology and management tools architectures; security from an end-to-end security framework view (including identity and trust, security event monitoring and correlation, policy enforcement, isolation, and resiliency); cloud operations readiness; service-level agreement and chargeback development; migration planning; and facilities, mechanical, and electrical design.

Cisco offers substantial expertise in the underlying technologies of network, storage, and computing to deliver advanced, virtualized data centers, while detailing operational processes and recommending best practices. As part of Cisco Cloud Enablement Services, the Cisco team also will transfer to you your unique intellectual property that benefits your agency or department.

Cloud Planning and Design Service is crucial to linking strategic objectives with a secure overarching design, which prepares the foundations for the subsequent implementation and integration activities.

## Cisco Cloud Implementation Service

Given the complexity of the transition from current-generation IT approaches to a cloud operational model, implementing and launching a cloud transition are a significant long-term investment, with potential risks. The service addresses: “How do you realize a cloud architecture – on time, on budget, and securely – in a specific government environment?”

The Cisco Cloud Implementation Service helps enable the migration from your environment to a Cisco cloud computing architecture. Cisco manages the implementation and integration of the end-to-end architecture by staging and delivering application migration, provisioning, and service orchestration of your desired cloud computing environment.

Cisco and its best-in-class partners bring extensive data center and virtualization expertise to the integration and staging of a cloud and provide you with a fully operational IaaS architecture, an automation tools architecture, and progressive implementation of new cloud-enabled IT services. The service reduces risk around cloud migration and helps ensure that the IaaS architecture aligns with the ROI metrics defined during the Cloud Enablement Strategy Service activities.

The Cisco Cloud Implementation Service uses internal Cisco intellectual property, proven methodologies, and Cisco partners to accelerate the implementation of cloud architectures, tools, and processes. Cisco helps to ensure that the architecture blueprint is accurately realized, in an on-time manner. Cisco Services also provide specialized expertise around the operation of Cisco networking equipment and the Cisco Unified Computing System so that you benefit from a leading practices implementation.

The Cloud Implementation Service covers the following activities, including technology, security, tools, and facilities implementation; orchestration integration; workload migration; and staging and validation.

## Cisco Cloud Optimization

After the implementation of your IaaS, the demand for application services, secure and reliable cloud services, business continuity, and increased agility and scale coupled with lower costs increases the need for optimized asset utilization and a unified approach toward resource and service management. This service addresses how to optimize your resources and assets to support an IaaS cloud deployment.

Cisco provides a uniquely holistic view of all your data center functional areas and their effects on the operational management using virtualization, segmentation, and cloud technologies. As a service package within Cisco Data Center Optimization Services, which takes advantage of this unified perspective to provide a set of activities for building custom solutions, Cisco Cloud Optimization optimizes your data center architecture for desktop virtualization and cloud services by unifying your application, storage, and server traffic into a comprehensive framework. The service assesses and provides guidance on your management automation tools – specifically, orchestration and provisioning tools and assurance tools – with recommendations on the management tools infrastructure necessary for supporting a cloud computing architecture that is capable of offering cloud IaaS. Cloud Optimization can help to:

- Accelerate your decision as to whether, how, and when you should transition to a cloud IaaS architecture
- Develop a basis for your decisions on how to best manage a cloud IaaS architecture with our Cloud Management Automation Assessment
- Provide valuable information and recommendations from Cisco's cloud solutions architects, whose expertise and experience can help facilitate and speed up your overall cloud adoption and management plans while decreasing costs
- Optimize your virtualized data center and the operations platform that supports your cloud infrastructure as the use of data center services evolves

Cisco consulting engineers deliver this service package using industry-leading tools and best-practice methodologies to mitigate implementation risks and accelerate your return on investment. Our experts periodically assess and review detailed design standards for your IaaS and evaluate the ability of your applications to meet your future requirements.

Cisco and its largest customers use best-known methods as blueprints for success. With these methodologies, Cisco supports and guides you as we work through your cloud project. We help you meet tight timelines and facilitate high availability and security as we mitigate risk through proactive recommendations, escalation support, and continuous learning.

Cloud Optimization involves recurring analyses of the performance data and configurations from your network and your devices to give you a continuous, strategic view of your cloud environment. Ongoing communication with Cisco experts keeps you informed about new products and software features.

## Benefits of Cisco Cloud Enablement Services

What is crucial to successfully exploiting cloud computing is to recognize this revolutionary operational model is much more than just a new technology architecture or operating system. Security, systems management tools, chargeback mechanisms, operational procedures, and SLAs are all important in addition to the network, computing, and storage technology.

The Cisco Services approach draws on expansive data center and virtualization expertise, proven best practice methodologies, and Cisco's unique intellectual property to support cloud-enabling technologies. Cisco Cloud Enablement Services help government organizations:

- Accelerate the development of a financially justified cloud strategy with a measurable ROI
- Help ensure that IaaS infrastructure, management, people, and processes maximize the success of the cloud transition
- Accelerate the development and implementation of an IaaS architecture, integrated tool design, and chargeback and security mechanisms validated by Cisco
- Create a phased migration plan to help ensure the successful adoption of the new cloud operational model
- Accelerate time to value of a data center architecture for cloud services creation and delivery

## Why Cisco Data Center Services

Today, the data center is a strategic asset in a world that demands better integration among people, information, and ideas. Your agency and your data center work better when technology products and services are aligned with your needs and opportunities. Cisco and our industry-leading partners deliver intelligent, personalized services that accelerate the transformation of your data center. Using a unique combination of network and application based perspective and a unified view of data center assets, Cisco takes an architectural approach to help you efficiently consolidate, virtualize, and manage data center resources. Cisco Data Center Services help transform, optimize, and protect your data center to reduce costs, deliver high availability, and improve application performance.

## Cisco and Partner Expertise

Cisco and our industry leading partners use best practices and proven methodologies to help you quickly and efficiently plan and deploy a high-performance, resilient, and scalable cloud architecture for your organization.

The Cisco Cloud Enablement Services are delivered by experts who hold a wide array of industry certifications and are subject matter experts in business and technology architecture and data center technologies. They have direct experience in planning, designing, and supporting virtualization solutions.

We offer the following expertise:

- Data center solutions architect
- Layer 2 and Layer 3 infrastructure architect
- SAN architect
- Layer 4 to Layer 7 architect
- Virtualization architect
- Cloud automation solutions architect
- Information security architect
- Network management architect with service orchestration expertise
- Customer system architect and administrator
- Project management

Cisco product and technology expertise is continually enhanced by hands-on experience with real-life networks and broad exposure to the latest technology and implementations.

### Availability

Cisco Cloud Enablement Services are widely available. Contact your Cisco account manager about availability in your area.

### For More Information

For more information about Cisco Cloud Computing, visit: [www.cisco.com/go/cloudenablement](http://www.cisco.com/go/cloudenablement).



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