21st Century Digital Government: Secure, Connected, Mobile
Cloud Computing for 21st Century Government

Governments around the world are implementing strategies to transition to secure cloud computing. These initiatives help government ministries and agencies meet mission requirements, and solve the problem of tight budgets with cost-effective capabilities. Equally important, they help governments deliver secure, shared services for mobile workers and citizens.

Cloud computing is now essential for fostering innovation in 21st century government. Government organizations are transitioning to the cloud to optimize internal processes using shared services, to accelerate deployment of mission-specific capabilities, and to redefine how government delivers services for citizens.

Benefits include increased flexibility and collaboration, cost savings from consolidated data centers and open data initiatives, increased mobility—all with the security that provides the framework for government operational efficiency.

Operational Models for Government Cloud Computing

Government organizations must address requirements to control and reduce costs, improve flexibility of government operations, and streamline citizen services. These requirements span strategic, functional, operational, and technical processes.

Government organizations are transitioning to cloud computing to address these requirements through a variety of governance models:

- **Agency-led cloud**: One agency or ministry takes a lead role in providing cloud services to other government organizations. In many countries, the Ministry of Interior or Ministry of Finance takes this role. For example, in France, DILA (Directorate of Legal and Administrative Information) is responsible for ensuring public access to laws, citizen rights and duties, and the information needed to conduct business with the government. DILA is transitioning from paper-based processes to a cloud infrastructure-as-a-service (IaaS) solution.

- **Government information and communications technology (ICT) provider**: In many countries, the ministry-led model has evolved to one in which an independent provider provides cloud computing services. An example is the Bundesrechenzentrum GmbH (BRZ), Federal Computing Centre of Austria, which redesigned the cloud-computing architecture with the objective of increasing availability, speed, and ease of operations.

- **Government broker**: To help them stay focused on their core mission, many government agencies use public cloud services where it makes sense (for example, to provide workspace as a service). The model ranges from a classic central procurement model (such as apps.gov in the United States) to an integrated self-service portal for services. The U.K. government strategy proposes that direct cost savings will be achieved through fundamental change to the way that the public sector specifies, procures, and operates. The change will be embodied in two key government programs: the Public Services Network (PSN) and G-Cloud (Government Cloud).
Cisco Cloud Computing
Cisco® cloud computing brings together computing, networking, and storage resources within the data center and connects clouds together between data centers to deliver a secure, high-quality experience.

Cloud security helps reduce risk through consistent security policies and enforcement, up-to-date threat intelligence, greater scalability, and improved performance.

Cisco cloud computing integrates cloud applications and services with Cisco Unified Data Center and Cisco Cloud Intelligent Network.

Cisco Unified Data Center
Cisco Unified Data Center provides a simplified architecture to deliver more efficient network operations and greater IT agility. This framework incorporates an open system for supporting multiple cloud and virtualization strategies. Cisco Unified Data Center architecture has three main components: Cisco Unified Fabric, Cisco Unified Computing, and Cisco Unified Management.

Cisco Unified Fabric
Delivery of high-performance IT services is critical to the data center, and Cisco has built its reputation on intelligent network delivery.

As mission-critical government applications become increasingly reliant on virtual resources, they encounter a correspondingly increased demand on their existing network infrastructure. The Cisco Unified Fabric architecture delivers massive scalability and resilience by creating large pools of virtualized network resources that allow existing and new virtual assets to be easily moved and reprovisioned. Cisco’s architecture simultaneously preserves the existing IT resources and eliminates the complexity of introducing new virtual machines and applications in the future.

Cisco Unified Computing
Data center efficiency begins with system-level infrastructure that integrates computing with access and storage networking into a scalable platform for x86-based applications.

Cisco Unified Computing System™ (Cisco UCS®) uses model-based service templates to automate the entire server configuration process; each template can easily configure one or hundreds of servers using role- or service-based policies. These templates can reduce the number of configuration steps from more than a hundred to just two steps. Meanwhile, IT managers have greater visibility and control over the entire computing environment.

Cisco Unified Management
The Cisco Unified Management component of Cisco Unified Data Center allows transparent management across physical and virtual resources to simplify and accelerate delivery of IT services within the data center or in a cloud environment.

Cisco Intelligent Automation for Cloud is optimized for Cisco UCS and Cisco Nexus® infrastructure, but it is designed for heterogeneous IT environments, offering sophisticated service management functions such as policy-based governance, service assurance, lifecycle management, and pay-per-use tracking.
Cisco Cloud Intelligent Network

Secure, reliable, and predictable delivery of cloud services is an essential part of robust cloud service delivery. To help ensure your success in meeting your users’ requirements, Cisco has developed a comprehensive set of solutions called the Cisco Cloud Intelligent Network. Working together transparently, the solutions in Cisco Cloud Intelligent Network integrate with the Cisco Unified Data Center to provide a powerful end-to-end delivery platform for cloud services.

Cisco Cloud-Computing Applications and Services

Applications are increasingly being delivered on demand and to mobile users, causing IT’s focus to shift to service delivery. By offering applications and services through the cloud, government organizations can achieve significant benefits, including:

- Delivering consistency of service across devices
- Ensuring access to an always-current version
- Supporting easy service procurement and activation
- Enabling rapid deployment at scale
- Shifting IT spending from CapEx to OpEx
- Allowing organizations to focus on “core” vs. “context” as appropriate

The most critical issues for government are still making sure the cloud services work and making sure their teams can work efficiently. Cisco is focused on enabling a compelling user experience with every service delivered from the cloud. These services can be provided anywhere, on any device, at any time with the security, performance, and reliability previously possible only with traditional, on-premises deployments.

Cisco offers a portfolio of cloud-based applications and services to consume directly or as a service from a Cisco partner or service provider:

- Hosted services including Cisco Hosted Collaboration Solution (HCS), Cisco WebEx®, and Cisco TelePresence® (formerly Callway)
- Cisco’s portfolio for collaborative cloud services allows users to enjoy a rich, interactive, and compelling user experience enabled by Cisco Unified Communications, Cisco TelePresence, and industry-leading applications for meetings, instant messaging, and presence
- Cisco Videoscape™, an innovative service-provider solution, which is reinventing the delivery of video experiences
- Cisco Cloud Security solutions providing effective, scalable, and always-updated web and email security:
  - Cisco Cloud Web Security analyzes web requests to identify malicious, inappropriate, or acceptable content
  - Cisco Cloud Email Security helps protect organizations from spam, viruses, and blended threats
- Extensive portfolio of third-party cloud services and applications pretested for cloud computing. Cisco cloud-computing applications and services help government organizations give users what they need to collaborate anytime, anywhere.
Partner Delivery of Cisco Collaboration Services
Cisco supports providers in delivering cloud services with integrated, pretested Cisco and partner infrastructure solutions. Building on Cisco’s end-to-end collaboration architecture and Cisco Validated Designs, partners can develop cloud and collaboration services based on an evolving and expanding portfolio of Cisco Collaboration solutions and architectural blueprints and light-touch services. These designs help ensure security and full management across the collaboration suite for a consistent user experience across media, anywhere, with any content, on any device, and in any consumption model.

Cloud Enablement Services Portfolio
Cisco and our partners offer deep expertise in four cloud service categories: cloud strategy, cloud planning and design, cloud implementation, and cloud optimization. Cisco and our partners have the services experience and expertise to help you accelerate your time to market, reduce costs, and quickly realize a return on your cloud-computing investment.

Cloud Enablement Services for Building IaaS Clouds
These services provide customized strategy, planning and design, implementation, and optimization based on your targeted private cloud offering. Drawing on extensive experience delivering secure, end-to-end virtualized data centers, Cisco provides a comprehensive, architectural approach for enabling infrastructure-as-a-service (IaaS) clouds based on the people, processes, and technologies involved across your network, compute, and storage resources. Services include Cloud Strategy Service, Cloud Planning and Design Service, Cloud Implementation Service, and Cloud Optimization Service—all with a focus on cloud security.

Cloud Enablement Services for Adopting Clouds
These services deliver the expert help you need to accelerate the adoption of a public cloud model based on your current environment and business goals. The service enables government organizations to optimize existing infrastructure to realize the full benefits of a public cloud. To facilitate your decision making around a cloud migration, Cisco Cloud Enablement Services for Adopting Clouds provide two service modules, Cloud Adoption Strategy Services and Cloud Adoption Planning Services.
Why Cisco?
Using network-centric solutions, expertise, and resources, Cisco helps government organizations to achieve their missions, reduce costs, and deliver innovative services for citizens and constituents. The end-to-end systems architecture supporting the Cisco cloud solutions and services reduces risk and simplifies deployment through a validated architecture, together with services, support, and ecosystem partner technologies.

Cisco Capital: Build Solutions You Need Today with Customized Financing Options
Budgets are tight and affordability is a greater concern than ever before. When funding and grants fall short, Cisco Capital® can customize an alternative acquisition strategy that makes sense for your organization.

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