Cloud Architecture & Security

Providing clients with secure, innovative, multi-cloud and hybrid-cloud solutions with Edge compatibility

Drawing on our experience as a non-profit U.S. Government contractor and our internal research and development (R&D), Concurrent Technologies Corporation (CTC) ensures a security-first approach to cloud solutions for each client. At the core of our cloud offerings are strong Information Technology and Cybersecurity management processes.

Our team has deep knowledge of established and emerging cloud architectures, how cloud-native architectures can interact in an efficient multi-cloud and hybrid-cloud environment, as well as the performance and security challenges inherent to cloud migration. From development of the first FedRAMP-compliant Software as a Service (SaaS) to our efforts to deploy complex capabilities in the U.S. Government's classified cloud environments, we offer clients a wide range of cloud development and security expertise.

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Cloud Consulting Service

CTC bridges the gap with complete solutions when commercial cloud service providers (CSPs) cannot deliver a full suite of services to meet your organization's mission or security requirements. In some cases, one CSP provides a better match to your needs, and in other cases combining services from two or more CSPs provides the optimal solution. As your trusted integrator, we provide expert advice and can manage the business and technical relationships with your cloud service provider(s), enabling the deployment of simpler, more efficient, secure cloud environments.

Cloud Migration Services provide an extensive and unique methodology to transition your application, system, mission, or enterprise to the cloud

Cloud Migration Services

From assessment and authorization to developing and implementing an architecture for cloud-based services, CTC supports your organization's migration of critical applications, services, and frameworks in a way that allows you to take advantage of the full range of capabilities offered by a secure cloud computing environment.

Our team has quickly and efficiently integrated ambitious and highly complex projects into cloud environments for our DoW and Intelligence Community clients using our DevSecOps processes. We deliver solutions: web portals, GPU and CPU-based AI/ML processing workflows, advanced processing algorithms, cloud-enabled mobile applications, Edge-to-cloud integrated systems, processing-intensive 3D graphics gaming engines (e.g. Unity®) for mission support, automated image processing of multi-source data, etc. Applying lessons learned and proactively preparing prerequisites, CTC efficiently onboards applications and service to the right environment.

Multi/Hybrid/Edge Cloud Planning and Integration

Navigate the complexities of cloud migration and deployment using CTC as your single source to assess, evaluate, and develop the correct architecture and execute a successful move to the cloud. CTC will ensure a smooth transition while aiding the migration to managed mobile platforms and providing a robust security architecture that meets government or corporate needs.

We can assist your organization with:

- Prerequisite planning to get an operational system running in a secure cloud environment like Microsoft Azure, AWS, Google Cloud, or Government-secure unclassified (e.g., Government Community Cloud High [GCC High]) and classified clouds
- Multi-cloud service integration such as CSP-to-CSP Application Programming Interface (API) integration, CSP-to-Edge node integration, Single-Sign-On (SSO) identity and authorization tied to your existing Active Directory® solution or creating a new organization cloud-based identity management (e.g., Azure AD)
- Hybrid-cloud design and integration, smartly extending your valuable on-premises compute and other resources to leverage cloud resources and facilitate migrating your on-premises to a cloud-centric operation
- Infrastructure-, Platform-, Software-as-a-Service (IaaS, PaaS, SaaS) solutions, integration, and application migration including minimum viable products (MVP) based on cloud planning
- Development, test, staging, and production-level cloud architecture design with real-time monitoring and alerting
- CSP-native or CSP-agnostic open-source based services, such as vendor-neutral Cloud-Native Computing Foundation (CNCF) solutions, including low-code and container-based solutions (e.g., Kubernetes)
- Infrastructure as Code (IaC) (CSP-native and CSP-agnostic like Ansible, Terraform, etc.) deployment of end-to-end (e2e) solutions and related Documentation as Code (DaC)
- Onboarding support for government-provided enterprise services such as Audit-as-a-Service

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(AaaS), Enterprise Vulnerability Scanning Service (EVSS), Identity and Access Management (IdAM), and Host-Based Security Services (HBSS)

- Secure remote connection to CSP portals, bastion hosts, your management nodes, and your applications running in the cloud
- Software licensing evaluations (e.g., validation of commercial and open-source licenses), use of cloud marketplaces, and the nuances of software licensing in the cloud
- Approval of software for use in the cloud, whether in a DevSecOps model or traditional approval model
- Cross-domain cloud transfers

Once a commitment is made to transition to the cloud, the real challenge is to ensure that the transition occurs without interruptions in service and without security breaches. Our transition methodology provides a proven, disciplined process for decision making, risk mitigation, and step-by-step planning while supporting a solid business case for transition.

Cybersecurity for the Cloud

We have a talented group of security professionals and cybersecurity engineers with experience in protecting your applications and data in the cloud. We have successfully achieved a cloud-based FedRAMP Provisional Authority to Operate and are managing highly technical cross-domain solutions. We've multiplied that knowledge to real-time monitoring methods that are constrained with restricted access roles to protect against insider threats and malicious actors.

Technical Credibility

CTC's cloud migration services allow you to transition to the cloud with confidence. We perform the necessary migration and transformation services or consultations to move your systems to the cloud using a flexible approach that aligns to agency mission, program objectives, and constraints; meets your cloud-readiness requirements; and takes advantage of the full range of cloud services, consistent with your organization's mission-specific requirements. CTC has extensive experience with:

- Complexity of Risk Management Framework (RMF) NIST 800.53/CNSSI 1253/ICD-503 security controls for cloud, Edge nodes, and enterprise-level services including continuous Authorization to Operate (c-ATO) support
- Nuances of cloud-based virtual firewall settings, virtual routers, network access control lists, security groups, ports, protocols, and services (PPS), and cloud to on-premises network configurations
- Processes for, and limitations of, dynamic provisioning and load balancing within the cloud while still complying with Attribute-Based Access Control (ABAC), Mandatory Access Control (MAC), and Discretionary Access Control (DAC), and role-based access control (RBAC) security controls
- Designations and management of privileged users and general users in cloud environments with related continuous monitoring and alerting.

Experienced FedRAMP Certification Specialists

The U.S. Government certification program—the Federal Risk and Authorization Management Program (FedRAMP)—provides a standardized approach to security assessment, authorization, and monitoring for cloud products and services. This "do once, use many times" framework saves U.S. agencies time and money when conducting redundant security assessments.

CTC led the effort to achieve FedRAMP authorization for a government agency that resulted in the first Software as a Service to be authorized by FedRAMP, the first to deliver a virtual desktop environment, and the first to have an agency sponsor.

This background, coupled with our nonprofit status, provides you a trusted partner for your cloud efforts.

In a world where users may login with 10 different names and passwords over the course of a normal day, you need reliable cyber-technology solutions to overcome identity management challenges and stay ahead of unforeseen threats.

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Federated Identity and Access Management

Organizations are presented with a growing problem juggling user identity management in a world where users may login with 10 or more different login names and passwords over the course of a normal day. Users accessing resources from a growing number of systems and locations only add to the difficulty.

Bringing these identities under a common umbrella is a challenge that the industry has tried to address for years. Factoring in requirements such as multifactor authentication (MFA) in a Zero Trust environment, biometrics, and users operating with multiple profiles while belonging to multiple organizations, the hurdles for user security become increasingly difficult to overcome.

CTC's expertise with Federated Identity Management facilitates access to cloud resources from within your on-premises domain, your cloud-based domain, or your directly connected domain.

Employing CTC's Unique Qualifications

Our government cloud service has its foundation in more than 25 years of providing innovative IT solutions and strong cybersecurity expertise, as well as meticulous and efficient program management. We leverage our current and recent experience in successfully migrating and deploying highly complex projects to the secure cloud environment. Let CTC assist your organization with an efficient and lower-risk transition to the secure cloud.

CTC Concurrent Technologies Corporation

Concurrent Technologies Corporation (CTC) is an independent, nonprofit, applied scientific research and development professional services organization. CTC collaborates with its technology transition affiliate, Enterprise Ventures Corporation, to leverage research, development, test and evaluation work to provide transformative, full life-cycle solutions. To best serve our clients' needs, we offer the complete ability to fully design, develop, test, prototype, and build. We deliver robust, technical, and innovative solutions that safeguard our national security, retain U.S. technological advantage, and ensure the primacy of American manufacturing.

Quality Commitment | Concurrent Technologies Corporation (ctc.com)

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