Including information about the FedRAMP\textsuperscript{SM} authorized Unclassified Remote Hosted Desktop (URHD) Software as a Service solution
CTC Cloud Computing Services

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For more information on CTC’s Cloud Computing services, contact: Mark Heck at (301) 543-3903 or at heckm@ctc.com.
Ready to move to cloud computing without sacrificing security?

Cloud Computing is one of today’s “must have” IT capabilities, and Concurrent Technologies Corporation (CTC) looks forward to helping you and your organization maximize the benefits and eliminate any confusion about your secure move to the cloud.

Federal, state and local governments can leverage CTC’s Software as a Service (SaaS) cloud computing offering, the Unclassified Remote Hosted Desktop (URHD), which was the first FedRAMPSM certified SaaS in the nation.

The FedRAMP certification of URHD validates that it has met the stringent National Institute of Standards and Technology (NIST) 800-53 security controls and is FISMA compliant.

URHD SaaS components are:
- Cloud-based application hosting
- User Definable Virtual Workspaces
- Cloud-based Desktop as a Service (DaaS)
- Mobile Cloud-Any Connected Device, Any Location

URHD will help your organization:
- Meet the U.S. Government’s “Cloud First” policy
- Realize significant cost savings and a reduced time to deploy by leveraging our FedRAMP certification
- Obtain real-time security visibility through our continuous monitoring
- Employ the scalability and elasticity of cloud computing

What follows is a deeper dive into each of CTC’s Cloud Computing Services and how they will fit into your specific needs and plans.

Need help navigating the FedRAMP accreditation process? See pages 3 and 8.
Virtual workspaces available from our URHD SaaS solution give your workforce 24/7 secure access to enterprise applications and services.

**Managed Virtual Desktops**
Desktop virtualization transforms end-user computing by instantly delivering desktops and applications to most any device. For end users, this means greater mobility and higher productivity. For IT, this means simplified administration through centralized control and streamlined management. For businesses, desktop virtualization means more flexibility to anticipate and manage changing business demands.

We offer pre-packaged or customizable virtual desktops that can be used in conjunction with application virtualization and (Windows®) user profile management systems, now termed “user virtualization,” to provide a comprehensive desktop environment management system. In this mode, all the components of the desktop are virtualized, which allows for a highly flexible and much more secure desktop delivery model.

**Custom, User-definable Virtual Workspaces**
The CTC-developed Self-Service Portal (S3) offers application management and provisioning and a user-customizable virtual workspace. With this, users have 24/7 access to enterprise applications and services without the need to engage service-center personnel, which means they can be more productive and that system operating and sustainment costs can be reduced.
S3 provides users with application synchronization for a seamless experience. When a user adds, removes, renames or moves a resource in the S3, details of the change are recorded. Subsequently when the user accesses the store from a different device, the same changes are automatically applied to the new device.

CTC developed the S3 to provide clients with intuitive access that allows users to easily provision needed services while tracking usage and licensing credentials. Tracking license needs through the S3 allows for a pay-as-you-use model, saving costs on unnecessary licensing fees. CTC customizes the S3 for each client based on a client-developed application approval process that will determine which users are eligible to receive specific licenses and applications.

Application Hosting
Moving applications and user environments into the cloud has presented a new level of challenges in making all of the data and all of the applications available to all of the users from all of their devices. Transitioning applications into the cloud can be supported in a number of different ways, depending on the organizations’ users’, and applications’ requirements.

CTC Provides:
- Web-Based access to agency systems and services for remote or deployed personnel using any common web browser.
- Full client access from desktops, laptops and most mobile devices.
- Virtualized applications available to users for self-provisioning and de-provisioning available on any platform.

Leverage the FedRAMP℠-authorized Unclassified Remote Hosted Desktop (URHD) for your organization

The CTC-developed URHD was the first Software as a Service (SaaS) to earn authorization by the Federal Risk and Authorization Management Program (FedRAMP). FedRAMP certification validates that the URHD has met the stringent National Institute of Standards and Technology 800-53 security controls and is FISMA compliant. The URHD Cloud Computing System was designed to use a commercial cloud as an alternative to in-house solutions. This system provides GF mobile devices with access to the cloud “from-anywhere.” The solution also secures the data and applications in cloud space and connects users from device types that support local applications native to the device while also providing remote-hosted applications.

Tap the Power of the URHD Cloud Computing System

*Use URHD to federate user access between disparate agencies. URHD can be tailored to allow resource sharing where accounts are not needed in each organization. Analysts, warfighters, and deployed personnel can have access to the tools and data needed through cooperating agencies. The cloud federation can allow collaboration without the need to completely couple separate networks.*

Clients interested in learning more about how the URHD system can meet their specific needs should contact Mark Heck at (301) 543-3903 or at heckm@ctc.com.
Ensure a security-first approach. Drawing upon the company’s experience as a U.S. Government contractor that is accustomed to top security measures, CTC provides each client with the same precise, capable, innovative mobile computing services that we develop for our Department of Defense and Intelligence Community clients.

As the computing power of mobile devices continues to increase at an incredible rate, users prefer to carry only one device when they are out of the office or even moving from conference room to conference room for meetings. CTC’s mobile cloud solutions provide secure access to enterprise applications and data without the need to staff a large mobile development team.

Mobile Application Development

CTC offers a full suite of mobile computing solutions that provide real-time data protection through a host of secure communications and collaboration management features. While developing mobile applications for a variety of operating environments including Android, iOS, and mobile web, CTC provides crucial security features such as encryption on the device and remote wipe capabilities with policy-based management. Our custom applications are developed quickly through the use of an extensive mobile code library of reusable components.
Enterprise Connect

This cloud-based mobile application development architecture (Platform as a Service [PaaS]), provides organizations with little to no mobile application development expertise the ability to develop enterprise mobile business applications in a point-and-click manner. Organizations can provide access to web-based systems and data without the need to staff a large mobile application development team.

Enterprise Connect provides:

- A holistic approach to providing secure web-based business mobile applications and access via a cloud-based Platform as a Service (PaaS)
- A reduced need for mobile application development expertise
- Increased user productivity “on the go”
- A reduction in IT costs
- No hardware or software “lock in”
- Development with open standards and protocols

With Enterprise Connect, organizations can quickly develop and deploy business application to a user’s mobile device securely and in minimal time.
Cloud Transition/Operational Services

Why be locked into one Cloud Service Provider? With public, private and community clouds and constantly changing security threats…you need options. And a single point of contact you can trust to plan and coordinate cloud solutions.

Assessment, Evaluation, Architecture, Planning, Executing
Navigate the complexities of the cloud using CTC as your single source to assess, evaluate, assemble the correct architecture and execute your successful move to the cloud. CTC Cloud Transition Services and CTC Cloud Computing System will ensure a smooth transition while aiding the migration to managed mobile platforms and providing a robust security architecture that meets either government or corporate needs.

Cloud Brokerage Service
CTC bridges the gap when cloud service providers cannot deliver a full suite of services or meet the security requirements of your organization. As your broker, we will manage the business and technical relationships with your cloud service provider(s), enabling the construction of simpler, more efficient, secure cloud environments. One responsible partner accountable for your best interests.

Accreditation, FedRAMP™
CTC led the effort to achieve FedRAMP certification for a remote cloud solution for a government agency. In addition, CTC has expertise in IT implementation compliant with the Clinger-Cohen guidance, providing not only technical solutions, but also serving as an agency steward through the legislated processes of major IT investments. As a seasoned IT provider
for DoD and Intelligence Community clients, CTC offers guidance and support through the certification and accreditation processes required to maintain a security perimeter in a cloud setting.

**Information Assurance**

CTC applies a defense-in-depth Information Assurance (IA) strategy that focuses on people, technology, and operations to insure all aspects of IA. This includes providing functional and technical expertise in protection, detection, and reaction measures through the CTC-developed Unclassified Remote Hosted Desktop (URHD) Cloud Computing System.

We have a talented group of security professionals and IA engineers with experience in protecting assigned resources from both external and internal adversarial exploitation. Our team is fully qualified, trained and certified on system security regulations and policies, common information concepts, interconnect systems security concepts, procedures for incident handling, certification and accreditation concepts, and audit analysis procedures and tools.

To improve security and address emerging technical challenges, CTC employs the following measures for clients:

**Security Measures**

- Client Posture Assessment
- Protection from Malware
- Secure Federated Session
- Secure Client/Browser Executable Environment

**Perimeter Defense**

- Two Factor Authentication
- Content Filtering
- Anti-Virus and Malware
- Intrusion Prevention

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**The CTC Cloud Transition Methodology**

Transition your application, system, mission, or enterprise to the cloud with confidence using CTC’s unique methodology.
Other IA Services

• Secure Mobile Device Containers
• Federated Identity Between Public/Private Clouds
• Data confidentiality, PKI, Encryption
• Data at Rest (DAR) Remediation
• Centralized Logging

Operational Services

• Network Services – CTC designs and implements load balancing and multi-site failover capabilities.
• Security – Certification and accreditation, data loss prevention, intrusion prevention, firewalls, and insider threat reviews help keep your data secure.
• Storage Data Services – This includes data backups and replication services, data encryption, and data compression techniques.
• Reporting & Performance Management – CTC provides monitoring, management and planning for network, storage and computing resources.
• Disaster Recovery – Work with CTC to ensure that your organization can rapidly provision and deploy services, desktops, and applications in the event of a disaster.

CTC’s Unique Qualifications

CTC, a nonprofit 501(c)3 corporation, is the cloud broker for a major U.S. Intelligence Community client, and was the nation’s first nonprofit FedRAMP certiﬁed Software as a Service (SaaS) provider. As such, the product we developed for this government agency sits in front of standard commercial cloud service providers offering a robust security architecture to supplement cloud security controls with an extensible service capability set as well as a flexible identity and access management regime. This unique conﬁguration can manage the connection from organization to cloud service provider and ensure that strict security controls are met while providing a scalable cloud interface compatible with various access methods. CTC’s unique technical capabilities combined with our nonprofit status permits direct sole sourcing to CTC for Federal Agencies’ SaaS needs as it aligns with FAR Subpart 6.302-3 to maintain essential engineering, research or development capability provided by a nonprofit.

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 will save U.S. agencies time and money when conducting redundant security assessments. FedRAMP is mandatory for federal agency cloud deployments and service models at the low and moderate risk impact levels. Private cloud deployments intended for single organizations and implemented fully within federal facilities are the only exception. CTC, the first SaaS provider to be FedRAMP certiﬁed, is ready to help agencies and other clients meet this urgent government requirement.

CTC led the effort to achieve FedRAMP authorization for the Unclassified Remote Hosted Desktop (URHD) cloud computing system for a government agency. On December 20, 2013, that effort resulted in the ﬁrst SaaS to be authorized by FedRAMP, the ﬁrst to deliver a virtual desktop environment, and the ﬁrst to have an agency sponsor. The URHD provides reciprocity across agencies so each doesn’t have to share the burden of time-consuming and costly accreditation.

For assistance with FedRAMP certification, contact Mark Heck at (301) 543-3903 or at heckm@ctc.com.
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.

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 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 problem that the industry has tried to remedy for years. Factoring in requirements such as multifactor identification, the hurdles for user security become increasingly difficult to overcome.

Federated Identity Management provides access to cloud resources from within your domain utilizing Single Sign On. This can also be used to simplify the transition to cloud based applications with minimal user effort.

Two-Factor Authentication

Two-factor authentication provides an extra layer of security requiring the user to have a Personal Identification Number (PIN) plus hardware token code for authentication to virtual applications and desktops.

In addition, we provide:

- Common Access Card (CAC)/Personal Identity Verification (PIV) cards. These offer the same protection as two-factor authentication using an employee ID card with a unique user PIN upon logon.
- One-Time Password (OTP) sends the user a one-time use password only good for that logon period or interval, minimizing the attack surface of the application.
Concurrent Technologies Corporation (CTC) is an independent, nonprofit, applied scientific research and development professional services organization providing innovative management and technology-based solutions to government and industry. As a nonprofit organization, CTC conducts impartial, in-depth scientific and technology-based assessments and delivers reliable, unbiased solutions that emphasize increased quality, enhanced effectiveness, and rapid technology transition and deployment.

CTC identifies and creates breakthrough technologies and applies them through an integrated business and technical approach to produce transformative solutions. We are a true partner to our employees and clients and are personally invested in their successes. Our bottom line is helping every client achieve their mission and providing our employees with unique and challenging professional opportunities.

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