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Hosting Services

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Overview

By having Citadon host the application, the customer not only benefits from the cost savings associated with sharing of the infrastructure across multiple customers, but they also receive mission-critical reliability, security and performance through highly secure facilities, redundant, high-performance hardware and software, and a dedicated system management team whose sole responsibility is to ensure the system is secure and available. Citadon offers a fully out-sourced solution in which no involvement from the customer's IT organization is required. Service Level Agreements are available, starting at 99.2% uptime.

Benefits of Hosting by Citadon

Cost Predictability

Customers need only budget for the regular, fixed monthly hosting fee. Periodic and variable costs, such as hardware and third party software upgrades, hardware and software maintenance, network usage fees, file storage fees, etc. are all covered by Citadon.

Special Expertise

Nobody knows the Citadon applications better than Citadon, so customers benefit from a level of service that cannot be matched by internal IT organizations that must spread their attention across a variety of applications.

Quicker to Implement

Because the complete infrastructure needed to support the applications is already in place, customers can begin using the system immediately. There's no hardware to purchase and install, no 3rd party software to purchase, install and configure, no network connectivity to setup and configure and no need to train IT staff to implement and manage the system.

Guaranteed Performance Levels

A base Service Level Agreement guaranteeing 99.2% uptime is included, and higher service levels are available for an additional fee. The Citadon hosting infrastructure is designed to deliver peak performance regardless of time and usage.

Scalability

Citadon hosting infrastructure is designed to scale seamlessly to meet evolving customer needs. We continuously monitor performance, availability and usage levels, and upgrade capacity to help stay ahead of usage requirements.

Automatic Software Upgrades

Citadon installs software upgrades immediately when they become available, so users always have access to the latest version of the software.

Multiple Network Service Providers

Because Citadon contracts with multiple network service providers, hosted customers benefit from the redundancy should one service provider's network fail.

Disaster Recovery Included

Citadon has developed its own unique disaster recovery practice, to provide an additional level of protection in the event of a catastrophic hardware failure, natural disaster or any other event that renders the primary hosting facility inoperable. Within 48 hours or less of a catastrophe, the system will be brought back online at an alternate location with minimal data loss.

Lower Total Cost of Ownership

Because costs are spread across multiple customers, Citadon is able to deliver application hosting and management for an all-inclusive monthly fee that is less than one-tenth the cost of implementing and managing an equivalent system at a third-party data center.

Citadon Data Centers

Citadon hosts the Citadon applications at two data centers, one in Santa Clara, California, and another in London, UK, both located within Internet Data Centers (IDCs) owned and managed by Savvis. Citadon has contracted with Savvis to provide highly secure, environmentally controlled and earthquake resistant facilities in which the data centers are located. Savvis also provides redundant, high bandwidth connections to the Internet as well as monitoring and security auditing services.

The Savvis IDCs are custom-designed with raised floors, HVAC temperature control systems with separate cooling zones, and seismically braced racks. Savvis IDCs are further supported by some of the most powerful physical security in the business, from advanced smoke detection and fire suppression systems to 24/7 secured access with motion sensors, video camera surveillance, and security breach alarms. Within the IDC, the Citadon equipment is installed in a vault, which is a private, secure server hosting environment featuring high-impact-resistant walls and windows to offer enhanced physical protection. In addition, the vault is furnished with dedicated climate control devices to ensure the temperature regulation of the equipment. Access into the vault is controlled through leading-edge security technology, such as biometric scanners. Electronic audit logs are also kept, recording the identity of each person who enters and exits the vault facility. The vault also has motion and heat detectors to report break-in attempts, plus surveillance cameras to provide continuous monitoring. For extra security, router wires are wrapped in conduit – secure, flexible tubing – that protects the network connectivity and confidential online information from unwanted disruption or damage.

To deliver the highest possible levels of reliability and performance, Savvis IDCs feature a redundant network of multiple fiber trunks from multiple sources, redundant power on the premises, and multiple backup generators. By concentrating resources on private connections with major ISPs and Tier-1 providers, Savvis delivers superior speed and dependability unavailable to companies that rely on public connections. Featuring a dedicated, redundant backbone network that connects each Internet Data Center (IDC) using multiple high-speed OC-3, OC-12, and OC-48 lines, the Savvis Network virtually eliminates the risk of a single point of failure. Within each IDC, Savvis has implemented a LAN architecture that scales to meet demanding bandwidth requirements by employing powerful routers running at gigabit speeds.

All hardware and software within the Citadon data centers are owned and managed by Citadon. A dedicated group within Citadon, called Citadon Network Operations, manages the data centers, including the installation and maintenance of all hardware and software as well as ongoing monitoring of the system for performance, availability and security.

Security

Citadon recognizes that having a security policy, in itself, by no means implies a security guarantee. In reality, security is measured by the preparation, implementation, and effort put forth prior to any attack or incident and the ability to quickly respond with an appropriate course of action. As new threats, technologies, and best practices evolve, Citadon's security policy and practices will also evolve to reflect such changes.

Protection is provided through a combination of physical security at the data centers, network security via firewalls, and security measures within the applications themselves. Savvis provides world-class security against unauthorized entry to the data center, as well as state of the art firewalls and ongoing security audits.

Access to customer data is governed by the applications themselves. Workspace owners and administrators manage all user accounts and determine which users are to be given access to which data. Further, users are limited to only those workspaces which they have permission to access. Users are required to enter a unique ID and password in order to access the application and users are required to update their passwords on a periodic basis. Users are also automatically logged out of the applications after a period of inactivity. User IDs and passwords are always encrypted when sent over the Internet, and users have the option to use 128-bit encryption for the entire session. SSL certificates are issued by Versign, Inc.

Backend access, to either the database or the file system, is only available to authorized Citadon employees. Minimizing data manipulation to these devices reduces the likelihood of corruption, damage, or any other inconsistencies.

Citadon utilizes managed firewall services provided by Savvis, which include redundant firewall software and hardware, ongoing security reviews of the network configuration and firewall ruleset, and recommendations for security improvements. Citadon also employs a managed intrusion detection service through Savvis that monitors network traffic in search of anomalies or signatures characteristic of unauthorized activity. Upon encountering a qualified event, the intrusion detection service issues an alert or alarm to the Savvis Incident Response team who determines if there has been a security breach, assuring quick response and escalation of any suspicious activity.

System Availability

As the provider of an online application that must be available at any time of day from anywhere in the world, Citadon strives to ensure the system is continuously available. Through over five years of managing online web-based applications, Citadon has developed the experience necessary to achieve a high level of system availability through a combination of application design, application management, and hardware redundancy. Historically Citadon has consistently achieved system availability over 99.995% - that's less than 30 minutes of unscheduled downtime over the period of a full year.

Detailed availability charts for all the products and data centers are available upon request.

Data Management

Citadon utilizes a system architecture that provides several layers of data redundancy to minimize the impact of unforeseen events. Both the database and file system data are protected by software and hardware solutions. At the physical layer, two Network Appliance Filer devices provide the primary storage facility for all our file system data, with enhanced performance and fault tolerance achieved by NetApp's RAID implementation. For Database storage, further redundancy is provided by a RAID 5+1 configuration which is implemented through high performance locally attached hardware RAID based DASDs, which are mirrored for additional redundancy.

Incremental backups are performed on a daily basis, and the backup tapes are stored at the secure hosting facility. Apart from that there are weekly differential backups and monthly full backups. These data backups are further complemented by automatic synchronizing of all the data, every hour, onto our Disaster Recovery data centers across the globe.

Application Management

Citadon Network Operations is a dedicated group within Citadon whose sole function is to manage and monitor the Citadon applications. Services provided by Citadon Network Operations include hardware and software configuration, installation of software upgrades and patches, fine tuning of system to achieve maximum performance, monitoring system logs and security alerts and all other



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services necessary to ensure the Citadon applications are operating at peak performance, reliability and security.

The Citadon Network Operations team includes experts in database administration and system administration for both Unix and Windows platforms. The team includes senior-level Oracle DBAs, Sun certified Unix administrators, Compaq Certified Accredited System Engineers, Microsoft Certified System Engineers and Cisco Certified Network Administrators. Citadon's Security officer is also a member of Network Operations Team.