

Technology trends in Security III

Cloud based infrastructure

Video security-as-a-service offering



Cloud Computing.

Cloud computing, often referred to simply as ‘the Cloud’, is the provision of on-demand computing resources, everything from applications to data centres, over the Internet on a pay-for-use basis.

The Cloud offers computing as a service over the Internet. This covers Software, Platform and Infrastructure. Clouds could be Public, Private or Hybrid.

Public Clouds are owned and operated by companies that use them to offer rapid access to affordable computing resources to other organisations or individuals. With public cloud services, users do not need to purchase hardware, software or supporting infrastructure, which is owned and managed by the Providers.

A Private Cloud is owned and operated by a single company that controls the way virtualised resources and automated services are customised and used by various lines of business and constituent groups. Private clouds exist to take advantage of the many efficiencies of a cloud, while providing more control of resources and staying away from multi-tenancy.

A hybrid Cloud uses a private cloud foundation combined with the strategic use of public cloud services. A private cloud cannot exist in isolation from the rest of a company’s IT resources and the public cloud. Most companies with private clouds, over time, evolve to manage workloads across data centres, private clouds and public clouds—thereby creating hybrid clouds.

Cloud computing relies on sharing of resources to achieve coherence and economies of scale, similar to a utility (like the electricity grid) over a network. At the foundation of cloud computing is the broader concept of converged infrastructure and shared services. The cloud also focuses on maximizing the effectiveness of the shared resources. Cloud resources are usually not only shared by multiple users but are also dynamically reallocated per demand. This can work for allocating resources to users. For example, a cloud computer facility that serves users in South Asia during business hours with a specific application (e.g., email) may reallocate the same resources to serve North American users during North

America's business hours with a different application (e.g., a web server). This approach maximizes the use of computing powers thereby reducing environmental damage as well since less power, air conditioning, rack space, etc. is required for a variety of functions.

Trend - Moving to a Cloud

There is a strong case for organizations to move away from the traditional owned model (dedicated hardware that is depreciated over a period of time), to the operating expense model (that uses a shared cloud infrastructure on a pay as one uses it basis).

Cloud computing allows companies to avoid upfront infrastructure costs, and focus on projects that differentiate their businesses instead of infrastructure. Cloud computing allows enterprises to get their applications up and running faster, with improved manageability and less maintenance, and enables IT to more rapidly adjust resources to meet fluctuating and unpredictable business demand.

Cloud computing is mostly used to sell hosted services. End users access web based applications through a web browser, thin client or mobile app while the business software and user data is stored on servers at a remote location.

Security and Surveillance applications



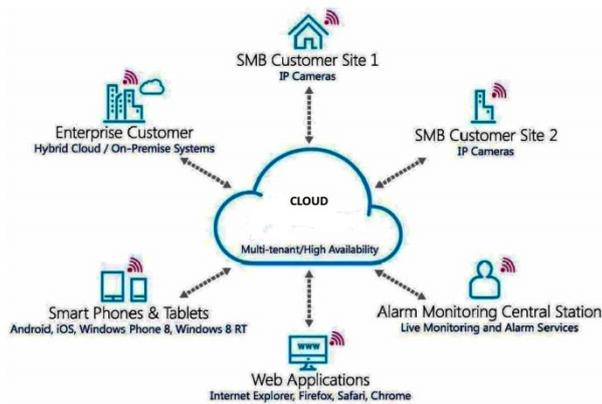
Hosted service providers have developed enterprise grade security solutions for unifying and managing images from an organization's video security, access control, and license plate recognition cameras to help reduce theft and other crimes. A cloud-based offering, allows smaller organizations to avail of the same high level of security and reliability without the capital expenditure (CAPEX) that would otherwise be required. Such solutions make it possible for small to medium-sized businesses (SMB's) to incorporate strong security with robust reliability without the associated CAPEX for traditional on-site deployment. SMB customers typically deploy 3 to 16 cameras. **A Cloud based solution would eliminate the need for on-premises servers for storing video images and image management applications.** An added saving in operating costs is the cost of personnel that would otherwise be required for systems administration and maintenance of on-premise systems. A cloud-based offering would also help SMB's who simply do not have the floor space to place a dedicated server.

Typical Solution

The Cloud-based video management software solution is deployed on a Cloud computing platform and infrastructure. The hosted service provider offers cloud-based hosting for storing and managing video data from customers.

While such solutions have found acceptance with SMB's, they are also of interest to Enterprise customers. Enterprise customers use the Cloud based infrastructure to extend their existing on-premise solution to branch offices and other locations around the world.

The hosted service provider uses a safe, secure and reliable computing platform and also ensures automatic failover. If one piece of hardware fails, the load is automatically shifted to another server. This ensures an extremely robust and reliable platform. Some providers offer 99.9 percent uptime guarantee.



The advent of 4G cell service (refer article in the December 2013 issue) provides greater bandwidth at affordable rates. This technology combines well with Cloud Video Management technology to allow deployment in locations that, previously, were too difficult or too expensive to monitor. With built in 4G modems, the cloud systems offer an all-in-one and out-of-the-box solution for customers who previously had very few options.

Selecting a Hosted Service Provider

Like any service provider, **the Hosting organization must be reliable and of repute.** Security must be a top priority with such an organization. The solution should be based on a secure foundation – infrastructure. The applications must be highly secure and should run on a highly secure platform.

Cloud based application enhancements and upgrades should form a part of any contract.

Summary

- The Cloud offers computing as a service over the Internet.
- Video Security may be perceived as a service offering.
- Pay as you use.
- The Cloud enables SMB's to deploy strong security with robust reliability without the associated CAPEX for traditional on-site deployment.
- Enterprise customers use the Cloud to extend their existing on-premise solution to branch offices and other locations around the world.
- A revolutionary new way of managing surveillance video.
- Business can focus on their core activity instead of the Security infrastructure.

- Combined with 4G this enables deployment of cameras in locations that were otherwise too difficult or too expensive to reach.
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