

Security Analysis of an Encoded Storage System and Workloads in Public Cloud

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DESCRIPTION

Many organizations are looking to the public cloud as a way to scale their existing IT resources as needed without the promise of expanding their physical IT infrastructure. Public cloud is defined as computing services offered by the third party of the providers over the public internet and available to anyone who wants to use or buy them. It can be sold for free or on demand, allowing customers to pay only for each CPU cycle, storage space, or bandwidth used. The cloud service provider is responsible for all management and maintenance of the system. Public clouds can be deployed more quickly than on-premises infrastructure and offer a nearly infinitely scalable platform. Corporate employees can use the same application from any office or branch using any device, as long as they have internet access. Security concerns have been raised regarding public cloud environments, but when implemented properly, public clouds are most effective when providers use appropriate security methods such as Intrusion Detection and Prevention Systems (IDPS). It becomes as secure as a managed private cloud implementation. A private cloud is a service that is completely controlled by one organization and not shared with other organizations.

The public cloud is a subscription service and is also offered to any customer who desires a similar service. As with cable, customer information is not shared with anyone else. In the public cloud, every tenant's information is segregated from other information. Private cloud deployment is operated by a company that has sole responsibility for the private cloud infrastructure, applications, and security. A user can access private cloud resources through a private network or by VPN. External users can access the IT resources of the organization through a web interface over public networks. Private clouds are often used to

ensure compliance with legal and governance requirements, ensure adherence to security protocols, or leverage existing investments in IT infrastructure. Large enterprises streamline IT by providing IT services to Lines of Business (LOBs), self-service deployments to development teams, and charging user departments for private cloud services provided to LOBs provided. Public cloud operates like a cloud provider. Operating a large data center as a private cloud offers many benefits of a public cloud, especially for very large enterprises.

No two clouds are the same, and no two cloud services are used to solve the same problem. However, by understanding the similarities, one can be better informed about how each cloud computing type and cloud service caveat impacts their business.

Each cloud type also enables cloud computing. Each cloud is also built with a unique set of technologies, most often including an operating system, some form of management platform, and an Application Programming Interface (API). One can also add virtualization and automation software to any type of cloud to add functionality and efficiency.

Cloud service providers use groups of data centers that are divided into virtual machines and shared among tenants. Tenants can easily lease and use these virtual machines or pay for additional cloud-based services such as software applications, application development tools, and storage. Enterprises often use public cloud services to store non-sensitive applications that see unpredictable spikes in usage or data that doesn't need to be accessed frequently. By virtualizing computing, processing, and storage resources, third parties can offer end users a range of cloud services, from simple storage options to software applications and development tools, all accessible through an Internet connection. End-users of many companies can access these services through mobile applications or other web portals.

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