Zetta Frequently Asked Questions (FAQ)

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Questions

What is Zetta?

Zetta is a company providing a disruptive storage platform that hosts and protects the world's enterprise data. Zetta delivers Enterprise-Class Cloud Storage on-demand, enabling existing businesses to quickly adopt and integrate storage as a service for their primary data storage needs. Zetta uniquely combines the efficiency of the on-demand Storage as a Service (SaaS) business model with the integrity, integration and control features of enterprise-class managed storage devices.

Who is the Zetta team?

The Zetta founding team includes Lou Montulli, early web pioneer and founding engineer of Netscape and veteran of Shutterfly and Epinions; Jeff Treuhaft, recently GM of a $135M business unit of VeriSign, founding technology product manager of Netscape and veteran of Silicon Graphics; Jeff Whitehead, most recently CIO of Shutterfly and veteran of Shopping.com and Netscape; and Jason Harrison, most recently lead engineer at Shutterfly and veteran of Seascape where he led delivery of the first software application certified by Lloyd's Register for international naval navigation. The extended Zetta team is filled with veterans from EqualLogic, EMC, Netscape, RSA, Symantec, VMware and Yahoo. We have collectively successfully built and operated multiple disruptive, scalable and successful platforms over the last 15 years.

How was the idea of Zetta born?

Zetta's founders developed the Zetta business plan while they were experiencing the day-to-day difficulties associated with management of large-scale commercial storage systems. As the data under management grew irresistibly and exponentially (well into the petabytes), it became very clear that existing storage solutions are inadequate for today's storage needs, and it also became clear that purchasing, integrating and managing new failure-prone storage can be an extremely time-, resource- and labor-intensive exercise that rarely satisfies the goals of the project.

With a proven track record for success as a part of some of Silicon Valley's most inventive, successful and entrepreneurial companies, Zetta's founders knew that they could best-solve this problem and change the way that data storage is purchased, managed and supported.

Where is Zetta?

Zetta is headquartered in Sunnyvale, CA with plans to develop data storage centers on a national and international scale in the near future.

How much money did Zetta raise and from whom?

Zetta has raised an $11 million dollar round of Series A funding from top silicon valley firms Sigma Partners and Foundation Capital.

Who is on Zetta's board of directors and advisory board?

Our board of directors consists of:

- Jeff Treuhaft, Zetta CEO and Co-Founder
- Jeff Whitehead, Zetta CTO and Co-Founder
- Greg Gretsch, Sigma Partners
- Ashmeet Sidana, Foundation Capital
- Kirk Bowman, former Dell/EqualLogic and VMWare sales executive
- Taher Elgamal, cryptographer and security expert (DSS, RSA, SSL, SET, Securify)

What are the business benefits to customers? Why should a customer choose Zetta?

Zetta's Enterprise Cloud Storage solution provides:

- **Rapid time-to-market**: with common, open interfaces requiring no reprogramming and immediately available, on-demand capacity, new applications and storage expansions can take place in the minimum of time.
- **Flexibility**: with Zetta, general purpose storage capacity and performance is immediately available with virtually unlimited scale allowing rapid reaction to business and workload changes at minimal cost.
- **Lower risk**: turn storage management over to the storage experts. All aspects of physical management and upkeep of the storage are assumed by Zetta reducing your risk and lowering your storage management costs.

- **Enhanced data availability and security**: the Zetta architecture delivers data availability levels higher than that offered in even the most advanced (and costly) storage arrays and includes encryption and access controls to insure data security.
- **Reduced capital expense**: no storage hardware or management software need be purchased, and with a pay-as-you-grow model, you never have to pre-buy capacity.
- **Reduced facility expense**: no local datacenter space, power or cooling is needed for the data committed to the Zetta Cloud, eliminating these operational costs.

Zetta is Enterprise Cloud Storage on-demand, with an enterprise feature set that guarantees:

- Instant, scalable capacity-on-demand
- Best-in-class data integrity
- Government-grade data security
- Assured data privacy
- Unmatched system reliability & availability
- Standards-based, plug-and-play integration to existing IT architectures
- Dedicated quality of service
- Unsurpassed performance
- Cost-efficient, pay-as-you-grow model
- Future technology protection

How does Zetta change the storage landscape?

Zetta's Enterprise Cloud Storage solution provides the first truly enterprise feature set delivered in an efficient, Internet-based, on-demand model, making Zetta the only cloud storage offering that meets the high demands of today's enterprise IT administrators seeking a storage solution for their rapidly-expanding primary data.

Before Zetta, customers had to make a choice:

- Benefit from the advantages of a cloud-based, on-demand storage solution and forego enterprise quality and reliability, or
- Purchase, install and maintain complex, expensive and inefficient storage hardware and software without the appropriate expertise.

With Zetta, customers can get both – Zetta is the first and only solution that combines an enterprise-class storage solution with an on-demand business model.

Before Zetta, enterprises needing reliable, secure, standards-based storage were forced to buy complex, expensive and inefficient storage hardware and software, pay for costly maintenance, support and replacement contracts, and hire and train storage-specific IT administration staff. Regardless of the size of organization or budget, Zetta can vastly improve your IT practice with better data protection, better prevention against data loss and increased data storage availability.

Who is Zetta's "core customer"?

Zetta's core customers are enterprise IT professionals managing large, multi-terabyte and growing storage infrastructures. Zetta customers find our Enterprise-ready solution an excellent fit for most general purpose, NAS storage scenarios, including file servers, primary active archives, data warehouses, media storage, and also to serve business continuity/disaster recovery needs.

How is Zetta Enterprise Cloud Storage different from other Cloud Storage products?

The product name implies one of the key differentiating points: Zetta Cloud Storage is designed to deliver enterprise features required to store and manage business critical, primary data. This is unlike some offerings that are focused on secondary or archive data. Zetta provides guaranteed performance, better than enterprise-class availability, data encryption and guarantees against data loss.

Another key difference is the use of standard interfaces and file system semantics. Zetta storage looks like a familiar network attached file system. Applications programs and end users do not need to change how they operate. Many other Cloud Storage offerings require specialized programming interfaces and do not behave as a normal file systems behaves, requiring you to change.

Before Zetta, customers had to make a choice – either commit and execute a significant rewrite of all applications and storage administration practices to get the benefit of the advantages of a cloud-based, on-demand storage solution and accept less than forego enterprise quality, or purchase, install and maintain enterprise class storage and forego the advantages of the on-demand model. With Zetta, customers can get both – Zetta is the first solution that combines an enterprise-class storage solution with an on-demand business model.

Why now?

Demand for enterprise data storage is accelerating at greater than 60% year over year driven by a broad spectrum of new and expanding regulatory requirements, higher resolution data capture technologies, the explosion of rich media interactions and pervasive use of electronic communications. This demand will create more than 600,000,000 new terabytes of unstructured data footprint globally over the next four years, more than three times the total universe of all enterprise and consumer storage to date. Zetta took this challenge on by combining multiple technical innovations into a single, cohesive service infrastructure that offers unmatched integrity, security, reliability, performance and value to ultimately change the way that data storage is purchased, managed and supported.

How is Zetta disruptive to the storage market?

Legacy storage hardware arrays and storage software programs are complex, capital intensive, inflexible, expensive to scale, increasingly costly to operate, and are often obsolete even before implemented. And existing cloud solutions do not offer a feature set that makes them viable enterprise solutions.

Zetta is disruptive because it offers an enterprise feature set in an on-demand model – only Zetta combines enterprise scalability (hundreds of petabytes), an enterprise, standards-based file system, and enterprise QOS guarantees together with a multi-tenant, on-demand business model. Zetta challenges legacy systems with the introduction of its unique cloud architecture. It is the first and only multi-tenant architecture designed from the ground up to offer the integrity, security, reliability, performance and value necessary to meet the primary storage needs of the enterprise.

The on-demand purchasing model enables customers to scale exactly when they need to – in contrast, when companies invest in managed storage devices, they need to purchase in bulk increments after costly (and frequently flawed) assessments of future growth trends. Storage as a service provides true capacity and performance on-demand that ordinary commercial vendors simply cannot provide. Zetta customers pay for exactly what they need on any given month.

Traditional storage vendors suffer from the “installed base” paradox – their lists of customer-requested features continues to grow, and satisfying those existing customer requests is consuming all their available resources. This has forced them to continue to iterate on their traditional storage architectures, rather than innovating on new disruptive storage technologies.

Define what Zetta means by enterprise class feature set. Do other cloud storage companies provide an enterprise ready product?

Zetta enables businesses to quickly integrate and adopt storage as a service without expensive or risky changes to existing information technology environments, and delivers enterprise-class data storage capacity as a service over the Internet. Zetta Enterprise Cloud Storage is the first service platform of its kind and is a new class of storage. It is purpose-built to be a primary storage platform for businesses with growing data storage needs. Zetta enterprise cloud storage offers:

Best-in market, volume-based Data Integrity
- Default RAIN6 N+3 (node level parity x3)
- CRC/SHA1 Hashing of all file data at multiple file system layers
- Geo-redundant data collection & storage

Standard protocols (no new training required):
- POSIX Compatible File System (Seek, Read, Write, Sync, Etc.)
- Virtualized volume mount points with native support for CIFS, NFS, FTP (SFTP, FTPs), rsync, WebDAV

Enterprise NAS features you use today
- Snapshots and Replication – Asynchronous and Synchronous, Geo-diverse and Parallelized

Scalable build capability
- Perpetually Hardware/Media agnostic
- Just in time footprint provisioning
- Virtually unlimited namespace, footprint

Ensured Connectivity
- WAN rated via transfer or peak
- MPLS or Leased Circuits

Full 128-bit common address space

Guaranteed, Multi-Tenant, Quality of Service
- Performance management from the network to the spindle
- Throughput, I/O, Integrity, Availability
- SLA-backed – guaranteed performance at peak loads for each customer

Data Security and Privacy
- Government class security technologies
- Default encryption at rest with secure key management
- Access keys per volume; protected by FIPS 140-2 certified hardware security modules

Advanced Infrastructure Management
- Web-based system management platform
- Configuration status, monitoring

Improved Business Continuity
- All data is stored offsite in Zetta-managed storage facilities
- High level of componentization for maximum flexibility (Meta Data, Integration Layer, Media Layer, Replication)

How does Zetta protect against data loss?

Zetta has designed its technologies to give maximum protection against the common and most troublesome causes of data loss. With decades of hard-learned lessons gained from the experience managing and administering petabytes of operational storage, Zetta staff is focused on providing a safe turn-key storage solution for enterprise customers of all sizes.

Zetta has designed its data protection controls to guard against drive failure, bit rot, network failure, controller failure and controller corruption while still maintaining customer performance.

The Zetta data integrity solution exceeds anything on the market today, and has four key components:

RAIN-6 — We call our RAID implementation "RAIN", because we do more than stripe data across independent disks to ensure integrity, we stripe them across independent computers ("nodes"), guaranteeing availability and integrity even in the event of complete node failure from any cause, whether network, power supply, memory, or disk failure.

N+3 — While most of the industry uses an N+2 RAID scheme, we use an N+3 scheme, ensuring availability and integrity even if three entire nodes in our 8+3 sets are offline at one time. And not only do we stripe data using an N+3 method, we also offer N+3 throughout the Zetta system architecture— including the Logical Controller and Network levels.

Hashing at multiple file system layers — Zetta cryptographically hashes each file upon ingest, and compares the inbound hash to the outbound hash before returning the file upon a read request, checking to make sure that no corruption has occurred while in our possession (note that these write receipts can be distributed back to the customer as well, validating that data Zetta receives matches data sent by the customer). Additionally, Zetta creates additional hashes for each individual data chunk that is placed on disk, and then continually compares that hash with the actual data chunks stored, enabling us to detect any errors or anomalies and auto-correct them from the parity stripes while the data is idle reducing the performance impact of data recovery during critical read operations.

Replication — in addition to these extensive data integrity checks and balances, we also offer optional replication to alternative geo-diverse Zetta sites, ensuring data integrity even in the event of an entire site disaster.

What measures has Zetta taken to assure customers that their data will be secured and kept private?

Data security and privacy is a key concern as customers begin their transition to cloud services. Zetta provides a comprehensive data security solution. All information stored on the Zetta system is encrypted "at rest" using unique customer keys for every volume. Customer keys are protected with FIPS 140-2 certified hardware security modules.

Advanced hash algorithms are used to protect, detect, and repair low level hardware errors unavoidable on today's current disk technologies.

Zetta enables highly secure storage without the complexity, additional expense and associated management overhead needed to deploy secure storage within traditional storage products. In many cases Zetta's storage already meets or exceeds the compliance requirements customers face for their data storage.

How does Zetta define "quality of service"?

Data storage systems have traditionally been built to host the data of a single customer or single application within a customer, where control over data types and access patterns is managed in one place and configured for a single use. This results in inadequate storage utilization. If a cloud storage service uses traditional data storage devices, they will suffer from this same limitation, and furthermore will be unable to vary these parameters based on individual customer needs, leading to a lack of consistent performance, higher costs or both.

While areal density of hard drive technology continues to improve, I/O capacity and data throughput capacity have not improved at similar rates, limiting the effectiveness of virtualization.

By leveraging the very high degree of parallelism available in a distributed computing infrastructure and by not over provisioning the combined performance resources of its drive farm, a guarantee of the performance of each individual volume can be supplied regardless of the number of other customers or workloads concurrently accessing the system as a whole.

How many customers can Zetta handle in the cloud?

Zetta has architected and built its systems to scale to many thousands of customers. Built using tested principles of distributed computing, Zetta is

confident it can continue to scale its service to benefit a virtually unlimited number of customers who are looking to store hundreds of petabytes of data.

How is Zetta assuring that cloud storage can provide adequate performance for users?

Not all data types are considered to be cloud-ready. There are laws of physics that exist when providing a remote storage solution. However, many workloads and data types do not require sub-millisecond response times. Zetta is taking advantage of multiple technological innovations that have enabled us provide a consistent level of performance to a broad range of application profiles.

Zetta is taking a very conservative approach to ensuring an acceptable and consistent level of performance for its customers. The modular design of the Zetta hardware stack allows us to upgrade independent components without disrupting customer access, ensuring the right ratios and avoiding contention within the stack at all times. With strict service level agreements wrapped around performance we are ensuring our customers receive the expected performance at ALL times.

How is Zetta different from the Managed Storage Service Providers (MSSPs) that arrived and failed ten years ago?

Not all of the MSSPs of ten years ago failed – there are several still alive and well today, albeit within the boundaries of larger, acquiring organizations. Second, the MSSPs of ten years ago did not fail because their goal was flawed or because customers didn't want their services. On the contrary, many people who were customers of MSSPs remember great services that served real enterprise needs.

MSSPs failed mostly because they were simply too early, and the technological advances that are facilitating Zetta's solutions were not in place yet - the issue was not one of poor service, it was a business model problem and a problem that existed due to technological naiveté and immaturity. It was typical for the early MSSP to leverage expensive commercial data storage systems which required whole systems to be dedicated to each customer to guarantee performance. In contrast, Zetta is taking advantage of multiple technological innovations that have enabled us to build true enterprise cloud storage, including the ubiquity of high speed Internet, the increased efficiency of processors, the increased size of available disk at acceptable cost, and the maturity of virtualization.

How does Zetta's offering comply with existing enterprise application standards and interfaces?

Zetta remains committed to the existing standards and interfaces used by today's enterprise applications. Zetta's service offers POSIX compliant storage accessible via a growing number of industry standard storage access technologies including CIFS, NFS, FTP, WebDav and soon iSCSI and other protocols. Zetta's unique cloud file system architecture delivers optimum performance with minimal wasted resources, allowing all of the capabilities of the disk drives or other future storage media to be maximized at all times, not bottlenecked by slower controller or data transport interfaces.

What is Zetta's channel strategy?

Zetta is 100% committed to working with traditional and non-traditional channel partners, as we believe that a channel partner is our customer's trusted advisor for IT. We have an active Partner Advisory Council that meets regularly to ensure that we are defining our service with the channel in mind, and that our go-to-market processes and service offerings align well to the channel. Many channel providers are already seeing early success selling managed services and establishing early annuity based revenue streams.

What is Zetta's position on cloud lock-in?

When it comes to storage, cloud lock-in should only be a concern if the service provider is using proprietary APIs. Zetta uses only published, mature, industry standard interfaces, like NFS and CIFS. To customers, Zetta looks and feels just like a local, network-mounted file server. This means that a customer can "fire up" Zetta storage capacity on-the-fly, and that a customer can easily integrate Zetta into his existing environment. Since we use standard interfaces, there is no lock-in.

Zetta also expects that its customers will be able to unlock additional value of their data stored within the enterprise cloud storage service. Examples would be using one type of interface technology to write the data to Zetta but using multiple others types of interface protocols to read that data over time. Zetta is also in discussion with data storage software vendors whose technology will soon run within the Zetta enterprise cloud storage service and at a customer's request may provide a variety of additional processing, discovery and analytics capabilities on top of their data already under our management.

What is Zetta's position on emerging cloud standards?

The adoption of cloud services will be a new era, not dissimilar from the transition to the ubiquitous use of the commercial internet in the mid-1990s. We expect early technologies and services to define market based standards and we also expect a vibrant discussion and debate which will propose and ratify open standards for cloud services over time. There are a number of existing, open industry standards that will play key roles in the transition to the cloud services marketplace and we intend to fervently support those now and into the future as customers demand.

What is "eventual consistency" and why does it fail to meet enterprise requirements?

Eventual consistency acknowledges receipt of a write when it has been successfully written to some but not all of many geographic partitions housing a logical data set, and there is a period of time before all data partitions are updated. This results in the potential for reads of that data set to return inaccurate or out-of-date information. Eventually consistency cannot work for an enterprise that requires guaranteed consistency of all data at all times.