GridGain

Cyber Dust Leverages GridGain In-Memory Data Fabric for Reliable Real-Time Delivery of Disappearing Text Messages

Mark Cuban Funded Startup Chose GridGain as the Only Solution to Meet Availability and Scalability Requirements

Challenge

Disappearing text app Cyber Dust needed a real-time, reliable and highly available computing solution to process millions of messages from its half a million users quickly enough to deliver and delete them from RAM.

Solution

The company looked at solutions from leading vendors and decided on the GridGain In-Memory Data Fabric, an advanced data access and processing system available as an open source distribution.

Benefits

- With GridGain, Cyber Dust is able to deliver messages in real-time and avoids writing messages onto hard disks, which allows it to completely wipe clean every text and not leave a forensically recoverable trace of any message sent over its service.

- With GridGain, Cyber Dust's "Blast" capability uses nodes in the cloud together so a message to more than 300,000 contacts is generated in less than thirty seconds.

- Cyber Dust now has redundancy for failover so if a node or even a few nodes were to go down, messages still reach their destination and are wiped clean as usual.

Cyber Dust is the texting app that has been compared to Snapchat because of the disappearing nature of messages. Messages sent with Cyber Dust disappear or expire anywhere between 20 and 100 seconds (depending on message length and content type) after being opened.

More importantly, Cyber Dust text messages cannot be traced and they are never stored anywhere, including Cyber Dust's own servers, ensuring the highest level of user privacy.

TAKING CONTROL OF COMMUNICATION

Led by entrepreneur, investor, and visionary Mark Cuban, Cyber Dust was created out of motivation by his own legal encounters. Unwilling to accept the fact that third parties could randomly demand and interpret his own text messages potentially unaware of their full context, he focused on reducing his digital footprint and taking back control of his communications. After watching the success of Snapchat, he came up with Cyber Dust. The difference between the two apps, Cuban noted on CNBC is that "Snapchat is for middle school and Cyber Dust is for adults."

With more than a half a million users, Cyber Dust delivers millions of texts a day. To accommodate this much traffic and ensure texts would not be stored on hard disks, the company needed an in-memory computing solution. This would allow Cyber Dust not only to process messages quickly enough to deliver them in real-time, but it would enable the company to avoid writing messages onto the database, which would allow it to completely wipe clean every text and not leave a forensically recoverable trace of any message sent over its service.

CONTROL FOR USERS

"The app was created to reduce users' digital footprints and take back control of personal communications. Our primary goal was to avoid writing messages onto physical storage and therefore make it potentially recoverable," said Igor Shpitalnik, CTO of Cyber Dust "If you keep the message in memory, after the power is turned off, the data is gone forever and unrecoverable." The company looked at several in-memory solutions from leading vendors and decided on the GridGain In-Memory Data Fabric, an advanced data access and processing system available as an open source distribution. "We can delete messages using the GridGain API, and that by itself ensures the memory used to temporarily store messages is wiped clean," said Shpitalnik.

> *"I wanted a solution to save messages onto RAM instead of disk, which GridGain does, but there are more capabilities they can do well beyond that – such as the Blast capability."*
>
> —Igor Shpitalnik, CTO, Cyber Dust

GridGain offers in-memory caching, distributed computations, and streaming all-in-one integrated solution, addressing the performance, scalability, availability and reliability Cyber Dust needed. GridGain allows Cyber Dust texts to traverse the grid directly and send them to recipients from the main random access memory (RAM) of its dedicated servers rather than its relational databases that were operating on comparatively slow disk drives. This ensures that texts are delivered to recipients in seconds and then completely deleted.

"GridGain meets our technical goals," said Shpitalnik. "We needed a grid and GridGain's software enables us to unify multiple computers into one continuous computer in the cloud. We also needed to run on Amazon, which has its own restrictions, which GridGain overcame for us. GridGain allows us to deploy our servers onto EC2, which other solutions wouldn't."

> *"I was pleasantly surprised by the GridGain solution and performance."*
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> —Igor Shpitalnik, CTO, Cyber Dust.

BONUS: FASTER BLAST

GridGain brought an additional and unexpected capability that was beneficial to Cyber Dust and its users. The GridGain In-Memory Data Fabric includes an API that allows Cyber Dust to enhance its "Blast" capability. Blast is essentially a broadcast text message users can send to all of their contacts, which like all other Cyber Dust messages, disappears after it is read. For instance, Mark Cuban might Blast his Cyber Dust contacts a message about the Dallas Mavericks, such as "I'll be at the game tonight giving away free t-shirts to anyone who wears blue." With the GridGain In-Memory Data Fabric in place, because the nodes in the cloud work together on various parts of the job rather than one compute handling everything, the Blast to more than 300,000 contacts is generated in less than thirty seconds, saving both time and resources. "GridGain has drastically helped reduce the time it takes for Blasts to be generated," said Shpitalnik.

> *"I keep learning about additional capabilities GridGain offers. It's what I expected and more."*
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> —Igor Shpitalnik, CTO, Cyber Dust

Cyber Dust is pleased with its choice of GridGain for its in-memory computing needs and is working on some additional projects with the company. "I was pleasantly surprised by the GridGain solution and performance," said Shpitalnik. "I wanted a solution to save messages onto RAM instead of disk, which GridGain does, but there are more capabilities they can do well beyond that – such as the Blast capability. I keep learning about additional capabilities GridGain offers. It's what I expected and more."

Contact GridGain Systems

To learn more about how GridGain can help your business, please email our sales team at sales@gridgain.com, call us at +1 (650) 241-2281 (US) or +44 (0)208 610 0666 (Europe), or go to complete our contact form at www.gridgain.com/contact and we will contact you.

About GridGain Systems

GridGain Systems is revolutionizing real-time data access and processing with the GridGain in-memory computing platform built on Apache® Ignite™. GridGain and Apache Ignite are used by tens of thousands of global enterprises in financial services, fintech, software, e-commerce, retail, online business services, healthcare, telecom and other major sectors, with a client list that includes ING, Raymond James, American Express, Societe Generale, Finastra, IHS Markit, ServiceNow, Marketo, RingCentral, American Airlines, Agilent, and UnitedHealthcare. GridGain delivers unprecedented speed and massive scalability to both legacy and greenfield applications. Deployed on a distributed cluster of commodity servers, GridGain software can reside between the application and data layers (RDBMS, NoSQL and Apache® Hadoop®), requiring no rip-and-replace of the existing databases, or it can be deployed as an in-memory transactional SQL database. GridGain is the most comprehensive in-memory computing platform for high-volume ACID transactions, real-time analytics, web-scale applications, continuous learning and hybrid transactional/analytical processing (HTAP). For more information on GridGain products and services, visit www.gridgain.com.