

Granite Company, JD Edwards Oracle: Disaster Recovery using AWS DMS



Executive Summary

Granite Inc. is a heavy civil general contractor and construction material producer.

Granite specializes in both public and private sector transportation infrastructure projects that include roads, highways, tunnels, bridges, locks and dams, mass transit facilities and airports. The materials division produces construction materials such as sand, gravel, ready-mix and asphalt concrete.

Customer Challenge

With multiple divisions and a rapidly growing supply of JD Edwards-based data to protect, the demands on Granite's overall Disaster Recovery scheme required a whole new approach. While one option would have been to expand existing assets, it would have meant further, and possibly greater, investments in potentially non-strategic facilities and equipment.

As such, Granite also shopped AWS for an affordable, production-capable DR solution, thereby avoiding data center expansion. However, for an established company like Granite to trust the protection of their data to even a trusted partner like AWS, Granite's tolerance for downtime--not only as ongoing DR practice--but as part of the migration, needed to be addressed.

Granite's tolerance for data loss was even less, understandably.

As Granite has grown and become more dependent on processes driven by JD Edwards Oracle, they've rightly recognized Disaster Recovery to be the priority it is. There are an unlimited number of ways that organizations can lose their data including through natural disaster, human error, security breaches, etc.; no organization is immune to all circumstances.

Granite's top concern was being good stewards of the customers' data, because they understand that reliability, availability, and security of their sensitive information is taken for granted, as it should be. Beyond brand damage, though, widespread IT failures can damage the basic covenant of a commercial enterprise and even put companies out of SLA compliance, in some cases.

See **Why AWS** on Page 2.

About Granite Company



Incorporated in 1922 and publicly traded since 1990, Granite Company is composed of a materials division and two geographically divided operating divisions (located in Watsonville, and Granite East, located in the Dallas-Fort Worth Metroplex suburb of Lewisville, Texas), under which are several regional offices.



Why AWS

Granite expressed a strong preference toward AWS Cloud Endure to replace its existing DR solution because it gave them complete control over their recovery configuration. They no longer had to wait on any vendor or hosting firm to respond to their needs. In addition, they were able to test their disaster recovery plan more easily and on a more frequent basis, so they knew what to expect.

Granite also liked the availability of AWS DMS alongside AWS Oracle RDS as a target database. After a review of their environment relative to AWS best practice, it became apparent how DMS could simplify the overall management and data replication of the database.

Last, AWS's metered Cloud approach to compute/storage is typically more cost-efficient and future-proof than a company expanding capital IT expenditures itself. Nevertheless, Granite asked to make sure that not only AWS was the right platform, but that they had the right Oracle-based solutions for them. Arinet highlighted the benefits of Cloud Endure, DMS, and RDS:

- Cloud Endure offers highly automated DR and migration solutions into AWS
- DMS facilitates database migrations to AWS with minimal downtime
- RDS Provides elastic capacity for industry-standard relational databases

Why The Customer Chose Arinet

Fundamental, yet highly-specialized tasks on the AWS Cloud--like data protection--have become specialty areas for Arinet Tech Cloud Consulting over the years. Granite appreciated that Arinet has built its AWS-focused business by consistently delivering a suite of Cloud services that include niche areas like Disaster Recovery, where fault tolerance is inherently low.

In this particular case for Granite, AWS's Disaster Recovery and Migration Toolset had to be orchestrated in just the right ways to account for JD Edwards Oracle idiosyncrasies in addition to Granite's intolerance for downtime.

By leveraging its relationship with AWS as an Advanced Consulting Partner with homegrown experience using JD Edwards Oracle, Arinet assessed Granite's environment and proposed a custom DR architecture that distinctly addressed each of Granite's priorities.

See Page 3 for the **Arinet Solution** and more.

Arinet Solution

The proposed solution to help Granite plan, develop, and implement a new, AWS-based Disaster Recovery model was as follows:

For the VMware Cluster there were (29) servers that had to be migrated to AWS. We used AWS EBS with (2) servers each having 20GB RAM, 10vCPU, and 1TB of Storage. AWS Cloud Endure Migration was central to this process as a DR tool.

For the Oracle Real Application Cluster, which consisted of (2) Nodes each having 512GB RAM and 10TB (Shared) storage, we utilized AWS DMS for continuous replication. The target was set to be (1) RDS server with 64GB RAM, 8vCPU, and 12TB storage. Granite appreciated this new ability to synchronize their on-premise database with an AWS Oracle RDS instance running in the cloud.

Results and Benefits

Cutover activities were executed in just minutes as AWS DMS kept the AWS Oracle RDS instance synchronized with the on-premise database. DMS also allowed the database migration progress to be completed “behind the scenes” and reduced the need to involve resources from other projects.

An additional benefit is that Granite’s new AWS Cloud Endure solution allows for their backups to be real-time, up to the minute, whereas their former architecture could only support backups every 20 minutes.

The AWS version is now a near-real-time replica of their on-premise data, ready to be turned on should the unexpected occur for Granite.

About Arinet

Arinet Tech Cloud Consulting is an AWS-dedicated, Chicago-based IT consulting group serving global companies. With expertise in multiple cloud and database technologies, Arinet provides Project-based IT Services for Enterprise companies as well as complete AWS infrastructure Managed Services for mid-to-large shops.



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