



BARRACUDA NETWORKS

ENTERPRISE EMAIL MIGRATION SERVICES CASE STUDY

PERFORMED BY: TRANSEND CORPORATION

Project Scope

Barracuda Network's acquisition of Sonian included a separate email archiving product whose underlying storage mechanism relied on HCL Domino's native NSF format. Customers who were on the Sonian platform were given the opportunity to migrate into Barracuda View, a more modern cloud-based mail archiving platform owned and operator by Barracuda. With thousands of customers (with hundreds of terabytes of data) in Sonian, Barracuda required a migration partner who could effectively support a migration of this scale and complexity. As a result, the Transend / Barracuda partnership was born.

Email stored in the original system was contained in NSF databases built by Domino's Mail Journaling process. Migrating it to the new system meant converting the messages from those proprietary source files into a standard format supported by Barracuda View. With an emphasis on data fidelity and accurate results while managing costs, there were many requirements that needed special consideration.

Challenges

Secure transfers

Unlike a traditional migration of live data between email platforms, Barracuda's project involved converting archived files between storage formats. With reduced reliance on networking, this type of migration takes advantage of advanced throughput but requires data harvesting so source and target files can be directly accessible to Transend's migration software.

Due to strict security requirements (both internal and GDPR), data needed to remain under Barracuda's custody throughout the entire migration process. Migration machines were configured and hosted in Barracuda's cloud-based environment in both the UK and US, ensuring all security and compliance policies were followed. A secure network drive accessible to all migration farm components was also configured. Transend's Migration Console operated at optimal efficiency entirely within Barracuda's secure environment, while Transend's engineers and architects remoted in to perform all migration services.

Barracuda extracted hundreds of batches of data from their internal datastore onto the source drive for processing. Transend engineers configured the software, performed migration operation (both testing and production processing), monitored and reported results, and addressed any problems. As batches were completed, Barracuda was able to ingest the results into customers' new and improved archiving platform at a rapid pace. This ensured reliable, secure, and efficient transfer of all data between systems while never leaving Barracuda's chain of custody.

Large datasets

With over 200 TB of data spanning across thousands of NSF databases (in both the UK and US) all parties needed to balance costs, resources and performance. The original NSF source databases resided in a compressed archive. Performing the entire migration in a single batch would have required an expensive storage array that was cost prohibitive. Exporting and migrating one file at a time would have taken years. Ideal batch sizes were determined by balancing storage costs against network transfers.

Ultimately Transend architected a process supported by synchronous engineering efforts. Barracuda extract NSF databases from their compressed archive while Transend was migrating data from the prior batch. This coordination allowed Transend to migrate around 3 TB of data at a time without leaving any resources idle between batches.

Exceptions without loss

Domino's asymmetric mail encryption ensures that secured messages can only be read with the recipient ID file's private key. In most environments these are only available on the end-user's client workstation. While most mail stored in a journaling database is encrypted on disk only at the database level, there's always a chance that select data is also protected with this message-level encryption.

Reading these individually encrypted messages requires the recipient's ID file. Customer IT can store and access those using domino's ID Vault, so the adopted methodology to support data encryption was to identify and return these encrypted messages in their original NSF format.

Transend's migration software can identify and omit from migration any message whose content is unreadable due to encryption. It can also be set to remove any migrated message from processed NSF databases leaving only those items that customers need to extract end-user IDs to access. After batches were successfully processed, Transend

compacted the original databases and returned them with encrypted content in place and unchanged.

Verified results

There was a heightened sensitivity surrounding data integrity due to investigation, compliance and litigation purposes. Given this, it was critical Transend was able to migrate all data while maintaining its original data fidelity state, without any data loss. While Transend Migration Console's native logging included details about records migrated in each batch, as well as results for each batch that includes summary data for migration results, there was a need for additional reporting to meet unique needs.

Transend's developers were able to accommodate Barracuda's need for a higher degree of accountability across hundreds of migration batches. Custom tools were developed and integrated into the project on the fly to provide additional migration statistics. Transend also returned a digest that included the sender and subject of each message that was marked as a migration exception for delivery back to the customer in the original NSF database.

A batch was only considered complete after Transend verified that all messages were either converted or returned, accompanied with the appropriate reporting identification and results.

Project Results

Despite processing millions of messages and hundreds of terabytes of data, much of which contained data encryption, not a single message fell through the cracks.

Barracuda was able to upgrade their legacy Sonian customers to a new and improved platform without any data loss or compromising data fidelity. Barracuda eliminated any ongoing reliance on Domino's proprietary storage format with the help of Transend's ability to migrate data during the transition. All of this was done while maintaining a secure chain of custody and ensuring absolutely no data was lost.