

Unlocking the Code

How Enquizit Helped the National Archives and Records Administration (NARA) Migrate to a New Digital Records System

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The National Archives and Records Administration (NARA) had a problem. In desperate need of a new electronic records application (ERA) to handle the sending and receiving of reams of sensitive data from multiple federal agencies, they had paid a vendor to build them a new system in the AWS Cloud. The only issue? The new platform, ERA 2.0, could not “speak” the data language of any of the legacy apps that they used on a daily basis, rendering the system useless. It was as if NARA had purchased a brand-new smartphone, but since their apps, SIM card, and contact numbers had not been migrated to the new phone, it remained unusable.

When Enquizit was hired as a rescue team to assess the situation, they faced a unique problem: how could the legacy data fit into the new system so that ERA 2.0 could finally be used the way it was intended?

While NARA’s technical team kept the software up and running, no one knew what source code or technologies had been used to build the old system. The good news was that the new system—ERA 2.0—did have sufficient documentation. Armed with that information alone, Enquizit began a step-by-step process to “unlock” ERA 2.0 and make it a functioning solution.

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Phase One: Discovery

Enquizit began studying both the new and old systems over a three-month period of discovery. During this phase, the team examined each system’s business functionalities and unique features at a high level to determine which business logic they used and why they weren’t “talking” to one another. This analysis required moving field-by-field to perform a painstaking, in-depth analysis. Once that analysis was complete, the team provided NARA with a high-level list of which applications should remain and how they planned to convert one format to the other.

Why did NARA choose Enquizit?

Enquizit’s unique AWS Cloud expertise, coupled with their deep experience helping other federal agencies, made them the ideal choice for NARA. As an additional benefit, NARA’s old system was built on Alfresco software, and Enquizit had an in-house specialist in that technology.

From a workflow perspective, Enquizit prides itself on using small teams with strong leaders who wear multiple hats. That meant lower overhead for NARA along with one point of contact, making communication seamless during the project.

All of this made Enquizit NARA’s number one choice for operationalizing their new, cloud-based ERA 2.0 system.



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Phase Two: Proof of Concept (POC)

After unraveling the logic behind each app and determining why the various business objects were not communicating with one another, the next step was figuring out the transformation loading process. To do this, Enquizit's team built several different use cases, or POCs. For example, one scheduled business object required a manual conversion. The old format consisted of 10-digit numbers but the new required 12 digits. The

team built a use case demonstrating how this transformation could be accomplished.

The fact that there were multiple complex business objects made it necessary to build multiple POCs, since what worked for one would not necessarily work for all. The team had to map out how all the different data processes worked. This step was a key to success, as they knew that the more time they spent mapping the POCs, the easier and more streamlined the implementation phase would be—a critical piece since the implementation phase needed to function correctly, the first time.

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Phase Three: Implementation

Next, the team mapped out an architecture to show how they would extract data from the old system, transform it so it was readable by ERA 2.0, and then transport it to the new system. They presented the plan to the NARA architect team and introduced it to the security and product teams, ensuring stakeholder buy-in before moving to implementation.

The implementation was modularized using the Extraction, Transformation, and Loading (ETL) process:

- » **Extraction**

Extraction involved retrieving the data from the legacy system, telling NARA the number of files to be extracted, what the business objects were, how they'd be built into the new system, and which validations were

used to ensure everything was on track. During this step, Enquizit took the zip files from the old system, unzipped them, and put them into an S3 bucket in the Amazon Web Services (AWS) Cloud.

- » **Transformation**

Once the team extracted the data, they applied the relevant business rules and stored the data so it could be uploaded. They looked at each XML element in the unzipped files, applied transformation rules, and stored the output in another database in the AWS Cloud.

- » **Loading**

During loading, the team created new versions of the application programming interfaces (APIs) to handle the new business rules. This involved loading data from the database and calling the APIs to insert the data. With the data in ERA 2.0, they could then observe and validate the system.



Unlocking the ERA 2.0 System

As the project moves into the production phase, the team will build, test, and then execute into production. Once the migration is complete, NARA and the government agencies that interact with it, like the Department of Commerce, will be trained on how to use the new system—a milestone that once seemed unreachable. Not only will NARA be able to use their new system at long last, but other agencies will be able to leverage ERA 2.0 to improve their operations, as well. With Enquizit's help, the new system has been successfully “unlocked,” and NARA's digital records system is finally ready for modernization.

Want to learn more about how Enquizit can facilitate your complex data migration project? Visit <https://www.enquizit.com/services/cloud-migration-services>

