

Technology Modernization Fund (TMF)

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What is TMF??

What is Database Transformation (DBT)?

The Database Transformation (DBT) project is an Application and Database Modernization Enterprise Initiative the General Services Administration's (GSA) is using to **transform its systems from proprietary technologies to open source**. Transformations and migrations aim to **simplify integrations** with other systems; enable greater agility, resiliency, scalability, and performance, reduce the risk of a scarce resource/talent pool and in the long-term **lower the cost** of operations, improve the quality of the product, and **help drive cultural change**. With the use of the Federal Technology Modernization Fund (TMF), GSA and GSA IT, led by the OCTO, submitted a proposal to launch an initial Pilot and subsequent Implementation phases as part of a long term vision while taking advantage of the TMF Funds' ability to expedite and jump start the both capital and cultural investments necessary to fully achieve transformation across application portfolios.

Business Justification and Intended Outcomes

- **Opportunity Targets**
 - Applications: GSA Application teams identified as candidates for modernization and transformation
- **Goals & Outcomes**
 - Reduce overall license footprint
 - System modularity, enterprise consolidation, and streamlined transformation & migration processes
 - Cultural shift
- **Highlights**
 - Application Rationalization during Discovery resulted in decommission targets
 - Engineered a repeatable migration strategy/process now being scaled for Sensitive data
 - GSA employees continue to gain hands-on experience with cloud and open source technologies
 - Developing reusable API's as needed to support more flexible data interconnections
 - Published Migration Playbooks

TMF Benefits & Risks

Benefits

- Reduce Vendor lock-in
- Move to Cloud where possible
- Better overall Customer Experience
- Lower long-term Operating Costs
- More agile capabilities
- Capital investment for future migrations
- Building in-house SME's

Risks

- Current application interdependencies
- Transformation and migration can be disruptive to otherwise 'stable' Business Applications
- Security concerns with some uncharted Open Source technologies
- Cultural resistance

Pilot & Phase 1 Key Achievements

- 3 Applications transformed during Pilot phase from PBS IT, FAS IT, and CFO IT
- Streamlined Conversion & Migration process established
- Application converted to 100% Open Source Tech (NWTB) and ATO'd ([NWTB](#))
- FM Data API and Open Sourced it: ([GitHub - GSA/FM-Data-API](#))
- Created a Database Transformation (DBT) Playbook along with [lessons learned](#) from pilot phase to provide valuable input for current and future phases; published here ([DBT Playbook](#)).
- Conducted retrospectives with core application teams and core GSA IT support services
- Database - Field Level Encryption: Conducted a Technical Analysis on two solutions for encrypt/decrypt services which has yielded promising results. These solutions were evaluated for their ability to provide encryption services with minimal impact to the applications.
- Database - Data Migration tool for Sensitive data (Pii | CUI) - being Piloted with TMF App teams

Other Transformation Efforts & Impacts

GSA IT is currently leveraging processes developed by the App Mod team to further drive modernization. Expanded capabilities with increased Encryption & Security features are being engineered to support Sensitive data. These additional features are expected to be proven out and delivered along with Applications that contain PII or other sensitive data requiring the additional protections for their ATO.

Encryption and Security related tools and activities require a deeper dive with GSA Security and App Teams to determine LOE, Performance and Cost Impacts to the systems. The plan is to iteratively add on these capabilities within the timelines of currently inWork migrations that require this due to their ATO required controls.

Additional work continues to be completed within the App Team portfolios in parallel to implementation phase. Although these projects are not using direct TMF funding, their ability to take advantage of TMF developed processes continues to help reduce risk and addition costs for their migrations and transformation.

Thoughts / Feedback / Questions / Concerns

