Defense Automatic Addressing System (DAAS) Electronic Business

Global Exchange (GEX) Fact Sheet

The GEX Defined

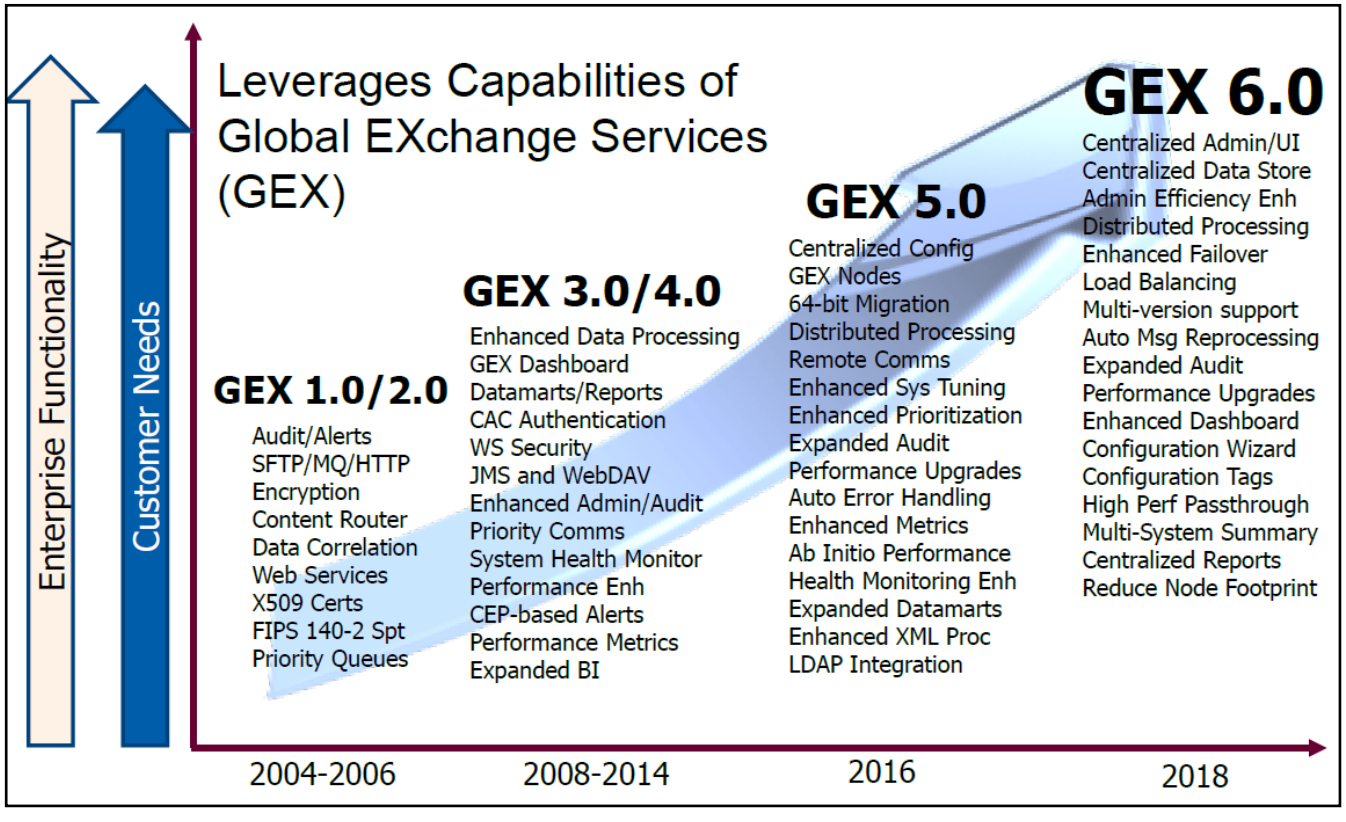
The Defense Automatic Addressing System (DAAS) is a Defense Logistics Agency (DLA) operated and managed information technology system that provides data routing and translation. The Global Exchange (GEX) is deployed as a critical component of the DAAS. The Program Office resides in the Electronic Business (EBUS) office in the DLA Information Operations Enterprise Data Solutions portfolio. DLA gained GEX PMO responsibilities in 2011 when the Business Transformation Agency (BTA) was shutdown. The EBUS PMO has full responsibility to define the requirements and strategic direction for the GEX. GEX provides routing and translation of X12, XML, IDOC, and user-defined format data in support of DAAS.

GEX Strategic Direction

Since GEX program management transitioned to DLA in 2011, the EBUS PMO has made some significant improvements related to the GEX environment that has provided many benefits, including numerous performance and architecture improvements. GEX 5.1 was deployed in 2016 with minor updates being made periodically. Further enhancements are being made as GEX moves to version 6.0, which is currently scheduled for production deployment in 2018. Key features of the GEX version over time are presented in the chart below, with some features being highlighted on the second page of this document.

Quick GEX Facts

- The GEX provides broker or mediation services that enable the exchange of transaction data between DoD entities and private sector commercial industry.
- GEX facilitates integration between government electronic business systems and DoD's private sector trading partners.
- GEX validates, archives, secures, translates, routes, and delivers mass volumes of Electronic Data Interchange (EDI) transactions with guaranteed delivery and end-to-end accountability.
- On average, GEX process *350 million transactions per month*. 95% of those transactions are processed at the GEX located in the DAAS environment. The remaining 5% represent the transactions processing at DISA.
- For CY 2016, over *4.2 billion transactions* were processed by the production GEX instances.
- GEX supports many business areas including Logistics, Travel, Transportation, Financial, and Procurement.



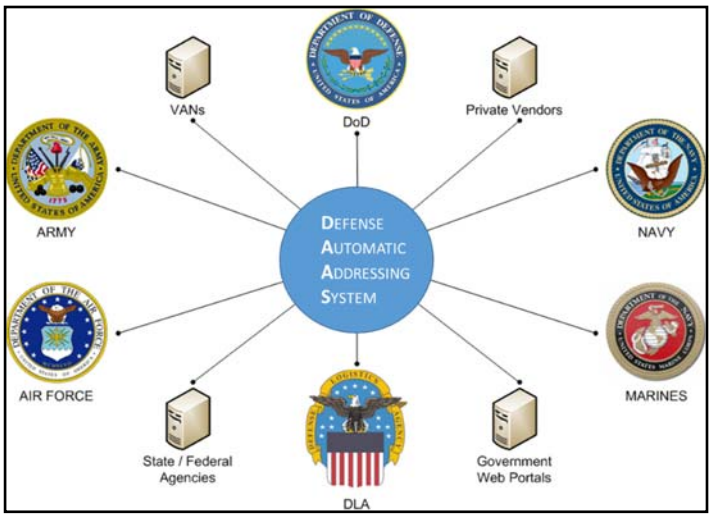
GEX Processing Environment

- The GEX solution is managed by the DAAS EBUS PMO, which provides the strategic direction of GEX.
- All GEX software releases are independently tested at the Joint Interoperability Test Command (JITC) at Ft Huachuca, Arizona prior to production deployment.
- GEX production is hosted at the DLA Data Centers as well as at a DISA DECC.
- GEX has four design principles that are used in development of the GEX software. These are depicted in the diagram below.

- ***Scalability:*** GEX hosted at the DLA Data Centers use a distributed architecture that includes a demilitarized zone (DMZ) and multiple enclave servers. The GEX servers are all virtual machines and additional virtual machines can be deployed as necessary to accommodate growths in data volume.
- ***Reliability:*** The two DLA Data Centers process GEX data simultaneously in a hot-hot configuration, with either site being able to handle the entire workload during a Continuity of Operations (COOP) scenario.
- ***Speed of Service:*** The distributed processing environment and scalability with the virtual machines, the GEX can provide timely processing of data.
- ***Data Complexity:*** GEX can process diverse data sets across many different communities of interest ranging from simple format conversion to complex business rules using multiple data standards, semantic mediation, data relationships, and external references.
- ***Tracebility:*** GEX has a built-in logging capability that enables information processing through the system to be tracked.

GEX Promotes Interoperability

The GEX environment promotes interoperability between disparate data systems. GEX allows systems to communicate using dissimilar secure protocols and dissimilar data formats. A key benefit of the GEX solution is that it provides data translation, in which GEX can take a transaction and translate into another format using the mediation rules defined by the customer. This promotes interoperability across dissimilar systems. Additionally, by having the GEX solution as a DoD capability, it can drive down cost of new data integrations by promoting reuse of both data translations and system-to-system connections. Without GEX and the other DAAS components, the picture below would resemble a convoluted spider web representing numerous, point to point connections.



GEX Technology

GEX is a Government-Off-The-Shelf solution that uses a combination of custom code and commercially available software solutions. Translation capabilities are performed by commercial products running maps developed in support of customer requirements.

GEX uses modern technology to perform its mission. This includes using secure protocols, including the robust MQ configuration that is the backbone of the DAAS solution. DLA has deployed multiple virtual machines to host GEX, which can be easily scalable to accommodate future growth.

The GEX PMO is constantly looking at technological advancements to ensure the GEX remains the reliable, robust solution that customers have relied on for their integration requirements since 2004 and the predecessor to the GEX, which was known as Defense Electronic Business Exchange (DEBX).

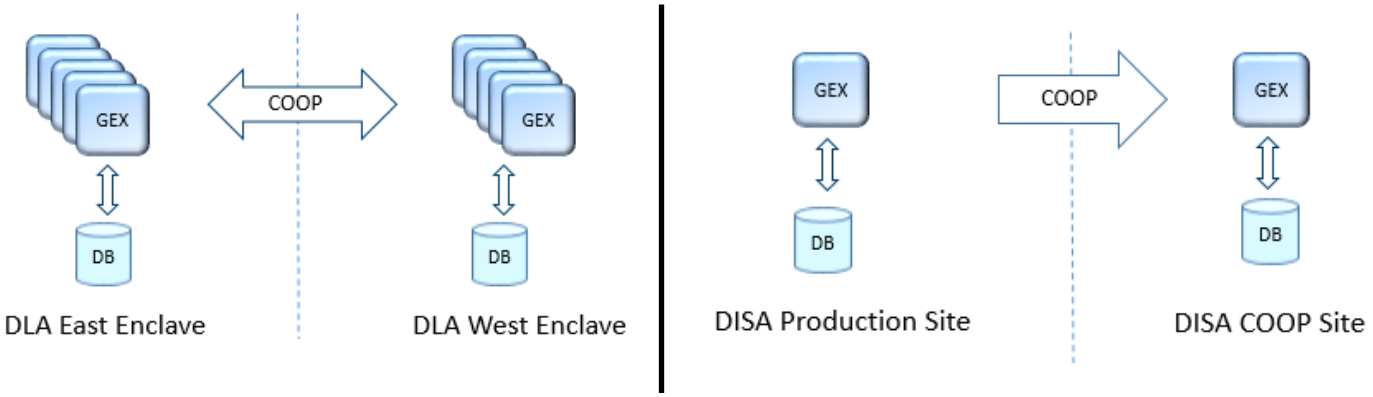
Value Added: **GEX provides centralized data translation and data routing, which reduces cost and complexity of system integration efforts.**

GEX Production Architecture

The GEX production environments vary between DLA and DISA. There is currently an effort underway to consolidate the GEX instances located at DISA into the GEX environment located at DLA. This provides many benefits to GEX customers such as: enhanced COOP capabilities to all customers, a single GEX architecture, and one production operations team. The migration is expected to be completed in early 2018 and at that point there will be a single production architecture and a single COOP solution.

Currently there are two COOP solutions in place for GEX, which is driven by the production site. As the GEX data migrates to DLA, all customers will have the same level of COOP capability. The GEX at DLA configures customers to ensure that their feeds are capable of running at either production site and allows the GEX team to have flexibility to conduct maintenance and support workload balancing across the processing nodes based on surges in data volume without requiring customer engagement.

The DLA GEX solution is a scalable solution that is built on a series of virtualized servers. Additional virtual servers can be easily added as data volume continues to rise. Additionally, database servers are clustered to ensure maximum availability to the application.



GEX Processing Volumes

The GEX is a proven solution and customers continue to rely on the GEX to process additional data volume as the need for interoperability continue to increase. The chart below shows the GEX processing volumes at DLA since January 2007. The dotted trend line shows the steady increase in data volume processing through the GEX environment. The GEX PMO monitors the data volumes to ensure the GEX environment is prepared for future growth.