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Industry

Public-sector aviation and defense

Profile

The Federal Aviation Administration (FAA), an operating administration of the U.S. Department of Transportation (DOT), is the primary Federal agency responsible for regulating civil aviation to promote safety and fulfill the requirements of national defense. The FAA is the leading authority in the international aerospace community and strives to be responsive to the dynamic nature of customer needs, economic conditions, and environmental concerns. Its mission is to provide the safest, most efficient aerospace system in the world.

The Federal Aviation Administration (FAA) Leverages the Denodo Platform to Streamline Operations

FAA leveraged the Denodo platform to reduce the IT Operations Cost by 99.8%, while accelerating data access by 96%

To reduce costs and streamline IT operations, the U.S. Federal Aviation Administration (FAA) wanted to consolidate multiple IT organizations – each supporting different mission areas – into a single office reporting to a single CIO.

Business Need

This was a largescale initiative, as it required the entire existing inventory of applications, across multiple IT organizations that supported Human Resources, Finance, Budget, and other critical functions, to be cataloged. In addition, it required the creation of a set of Tableau dashboards for identifying the costs, function, and software components associated with each. This would enable management to identify software licenses that could be eliminated or restructured to reduce costs, and also to determine which application systems would be retained and which would be sunsetted. This complex effort involved integrating 837 data sources that included software asset inventories, project data, contracts, finance and budgets, SharePoint sites, various databases, and Excel files.

More broadly, the FAA wanted to enhance and modernize the processes it used to share aeronautical information with the public by moving to the new Aeronautical Information Exchange Model (AIXM) 5.1 XML standard. The FAA regularly publishes data about potentially hazardous flight obstacles, which was maintained in three databases and exposed via several different interfaces. One of these used AIXM 5.0, and the agency wanted take the data from all of these sources and re-structure it so that it conforms to the newer AIXM 5.1 format. One of the FAA's key challenges was that one of these legacy databases produced a lot of artifacts, and for that reason federal law required that it continue to be produced in the legacy pre-AIXM 5.1 format.

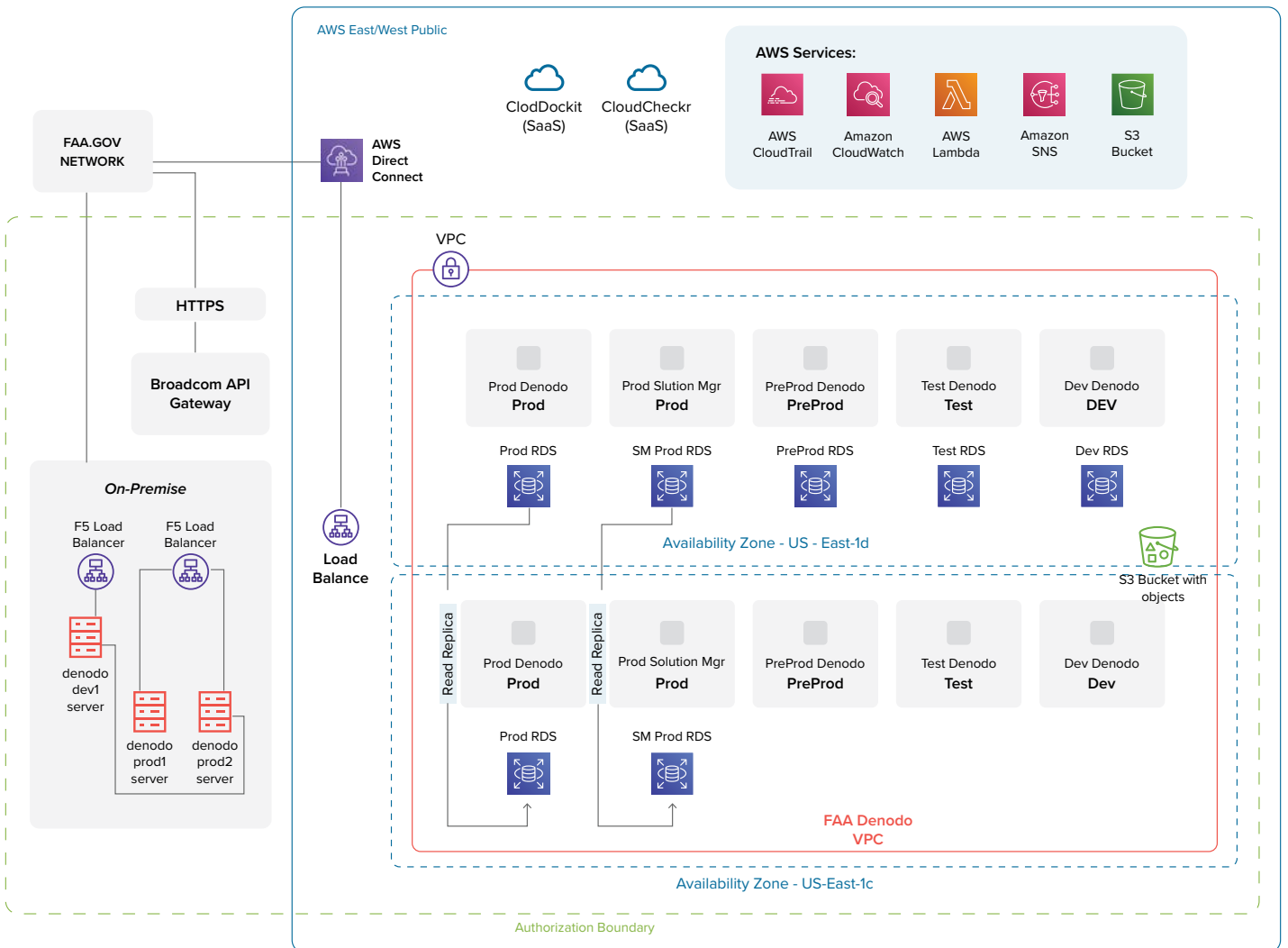


The Solution

The FAA knew about data virtualization, but the agency was concerned about the impact it might have on the performance of production systems. However, the FAA tried out the Denodo Platform, which is based on data virtualization, in a rigorous proof-of-concept (POC) executed against several source systems, to measure the solution's data-integration capabilities while assessing any performance impact on the source systems. Data was displayed in Tableau dashboards.

For the first time, management was able to gain a single view of software and application inventory, costs, and budgets across all IT organizations, and there was no appreciable impact on production system performance. The POC was so successful that when the evaluation license ran out, FAA employees were up in arms, and put additional pressure on management to complete the purchase. Once implemented, The Denodo Platform was established as the primary data source for Tableau, and the "single source of truth" for the FAA's Aeronautical Information Sharing Modernization project team.

Architecture Diagram



Benefits

The FAA leveraged the Denodo Platform to modernize its data sources while simultaneously implementing the new AIXM 5.1 XML standard, which is actually the most complex model available in the world, with more than 900 classes, including referential data. The FAA used the Denodo Platform to logically connect to databases and web services and expose that data through a new web service using a different format. This enabled the agency to implement the new AIXM 5.1 standard without impacting users, and without having to change the data sources by exposing the data via APIs in both AIXM 5.1 and 5.0 formats.

This capability facilitated the legacy transition by creating logical database structures that look exactly like the old database, so the original code could continue to run for a while with only minor modifications. The new AIXM 5.1 data would also be much more complete, because it would include data from all three of the FAA's standard flight-hazard sources. The Denodo Platform also enabled users and consuming systems to query on a common entity, such as "runway" or "navigation aids," and seamlessly retrieve data from multiple sources.

By implementing the Denodo Platform, the FAA achieved:

- 96% faster time-to-delivery – two weeks vs. a projected one-year timeline
- 99.8% project cost savings – 80 hours vs. a projected 40,000 hours
- Reduced ongoing costs, through:
 - Eliminating duplicate applications
 - Renegotiating software agreements
 - Successfully consolidating the organization
- Rapid web services deployment – 6 months down to just a few days (a fraction of the time)
- Substantial ongoing cost savings by replacing hundreds of point-to-point connections with web services enabled by the Denodo Platform



Denodo is a leader in data management. The award-winning Denodo Platform is the leading data integration, management, and delivery platform using a logical approach to enable self-service BI, data science, hybrid/multi-cloud data integration, and enterprise data services. Realizing more than 400% ROI and millions of dollars in benefits, Denodo's customers across large enterprises and mid-market companies in 30+ industries have received payback in less than 6 months.