DATAWATCH | **U.S. AIR FORCE**

Information Optimization Keeps Edwards Air Force Base, 412th MXG, Mission-Ready

Background

The 412th Maintenance Group (MXG) provides maintenance, as well as Logistics Test and Evaluation (LT&E) support, for the U.S. Air Force, Department of Defense, Foreign Military Sales, and contractor aircraft at the Air Force Flight Test Center (AFFTC). The mission of the Training Division is the planning, administration, development, instruction and evaluation of a complete training and readiness program for all military members and civilian employees within the 412th MXG.

Challenge

The 412th MXG at Edwards Air Force Base (AFB) uses weekly and monthly reports to track which individuals are qualified to work on each aircraft and, which personnel are due for additional training. These reports are ultimately sent up to the Base Commander for administrative decision-making. Effectively tracking this information is vital for keeping Air Force personnel, as well as the aircrafts themselves, safe and mission-ready.

Don Winters, the Chief of Maintenance Training Division of the 412th MGX at Edwards AFB, explained that to compile and analyze these reports, he and his team must monitor a combination of 7 different databases. Each database stores disparate information on training records and up-to-date qualifications for each crew member, troop and/or unit, requiring manual effort to find the proper item needed for analysis. *"These databases are great at keeping track of our information, but our problem was that they don't interoperate,"* noted Winters.

To get the data they needed, Winters' team was downloading and printing the reports from each database and then manually locating, verifying, merging and formatting the information by re-keying all the data back into a usable report.

The process was limited in terms of the scope of information it could provide. Winters explained that the databases were effective for creating snapshot of training, but were ultimately useless for long-term analysis and comparisons. *"If we wanted to compare reports, we had to pull out old reports and perform another manual comparison and additional data entry."* This process was too time-consuming to complete or serve as a useful delegation of resources, prompting the 412th MXG to look for a solution.

Solution

By selecting the Datawatch Monarch Data Preparation solution, the 412th MXG eliminated its database roadblock and expedited its reporting process.

Winters' team now extracts, manipulates and summarizes data from a variety of traditional report formats and other data sources (ie. plain text, PRN, ASCII, ANSI, PDF, XML, HTML, to Microsoft's XPS outputs). Datawatch has the ability to directly import data from select sources, allowing users to skip the report extraction phase for many file formats.

With Datawatch, the team can easily spot critical trends across multiple databases, including staff who are overdue/are approaching mandatory training, or which shops have personnel with varying degrees of training needs. *"Datawatch is an extraordinarily powerful information optimization solution and has become a vital tool for the 412th Maintenance Group Training Division and Edwards Air Force Base,"* said Winters.

Results

Edwards AFB created multiple data models using the Monarch platform which allowed training instructors to easily run reports and derive insights. *"Reports that used to take us countless hours of manual preparation now take about 30 seconds to complete."* Visualizations of the datasets produced using Monarch are used to keep the whole base in-the-loop and aid in long-term analysis of maintenance processes.

"Thanks to Datawatch, we can easily group and analyze data accumulated over time using the same model that is employed to process a single report. This allows for quick summarization, comparison and examination of trends in the data manifested over months, quarters and even years. We can even sort our reports by troop, aircraft and unit or by any other grouping necessary to send the data up the chain of command" said Winters.

EDWARDS AIR FORCE BASE
Encompassing 301,000 acres of land, 20,000 square miles of airspace and 65 linear miles of landing area, the Air Force Flight Test Center (AFFTC) at Edwards Air Force Base, California is the Air Force Materiel Command center for excellence of research, development, testing and evaluation of aerospace systems for the United States and its allies. More than dozen aircraft designs and models are housed at Edwards and dozens more make routine stops to the base.

INDUSTRY
Government/Military - Air Force

CHALLENGE
Don Winters' team was tasked with compiling training and personnel data from 7 disparate databases and organizing in a way that allowed for easily-consumable and actionable insights for the Base Commander.

SOLUTION
Datawatch Monarch models enabled trainers to eliminate manual data extraction from PDFs, Excel, Access and ODBC reports and easily join disparate files into one report.

RESULTS
The report creation process that took several man-hours to complete was simplified and streamlined to only take 30 seconds.