



MONARCH

Pro

Customer Case Study:
Edwards Air Force Base
Soars High with Monarch™!



DATAWATCH

Edwards Air Force Base 412th Maintenance Group Vital Statistics

Aircraft:

- 90
- 30 different aircraft designs

Missions Flown:

- On average 7,500/year

Data Collected & Tracked:

- All Personnel
- All Equipment

Databases Used:

- IMDS
- G081
- REMIS

▶ The Mission of the 412th Maintenance Group

In the heart of the historic Edwards Air Force base, the dedicated men and women of the 412th Maintenance Group struggle to bring order and control to the massive data flow constantly emanating from the 412th Test Wing. Comprised of roughly 90 aircraft which collectively reflect some 30 different aircraft designs, the Wing flies an average of upwards of 7,500 missions per year. When viewed from this numeric perspective, the sheer magnitude of the raw data rising from the desert floor, and descending from the skies above it, begins to manifest itself as does the scope of the 412th's task of distilling, collating, integrating, interpreting and summarizing that data. Their ultimate mission is ensuring that this valuable data is presented in an efficient and readily interpretable form to those who have the "need to know". Factor in constant staff changes within the Group and the job is even more formidable. They need help and they found it with Monarch.

▶ Making a List and Checking It Twice

Imagine keeping a detailed list of everything you own, have ever owned and will ever own. The list must include: when you got it, who manufactured it, how long it has lasted, has it needed repair, how does it compare to similar items produced and so on. Now imagine doing this for everything you own from your house and all the furniture in it, to your car and every individual mechanical part that makes it run, right down to the clothes on your back. What you end up with is a daunting and time consuming task. For the 412th maintenance group at Edwards this is exactly what they have to do. They track everything; all personnel and all equipment. If the object is part and parcel of a multimillion dollar aircraft, they are charged with tracking every piece of data about it right down to the installed seats, specialized flight suits and paint and wash schedule.

While enormous in scope, the data they collect and analyze is essential and critical. The data is used to determine when it's time to reorder more consumables like fuel and lubricants, adjust repair / replacement parts inventory, where to deploy assets (people and equipment), note trends in the maintenance of multiple aircraft types, discover any potential breaks within any aircraft parts or systems before they become real ones and threaten operational readiness or become aircraft mishaps and potentially endangering lives, evaluate whether aircraft parts from specific vendors tend to fail at a higher rate than average, trace environmental impact issues, and even guarantee that ground troop strength is high enough to ensure the safety of each mission and the aircrews who conduct them. Of course, there are ever present past, present and future budgets that must be balanced against this work.

Even though the 412th Maintenance Group isn't tasked with tracking the service-wide aircraft inventory, they definitely have a fair share of the load in keeping track of their own 90 or so aircraft. The sheer number and diversity of parts that make up each one of the aircraft under the Group's cognizance is staggering. From relatively simple tires to highly complex avionics, weapons and navigational systems, each and every item requires ongoing preventative maintenance and inevitably occasional corrective repair. Entering storing and retrieving this data requires a sophisticated database solution including IMDS, G081 and REMIS. Collectively, these systems accept and store this information. But none of this data is usable until it's compiled, analyzed and put into proper context.



From the Makers of Monarch™

Monarch—The Best & Only Solution

Lawson knew her team was top-notch but they were hampered by a manually intensive process. They couldn't hurdle the limited interoperability amongst their various databases. What's more, they needed to make up for the four hours spent every day manually processing their data. The question was how?

Not only was Monarch Pro the best solution; it was the only one she even wanted to consider.

"Monarch Pro was the solution we wanted and needed. Period," said Lawson.

To do this, these databases must be interoperable. The problem is; they share less than optimum interoperability. Additionally, they don't necessarily track the same types of data. So, all the information must be gathered, compiled, cross referenced and "translated", often manually, by experts who can turn the raw data tables into something useful and meaningful, and display their efforts in an easy to interpret output. At Edwards Air Force Base in the heart of California's Mojave Desert, the person who manages this effort is Cherisse Lawson, Maintenance Management Analysis, Host IMDS/G081/REMIS Database Manager.

► Reports, Reports and More Reports!

Edwards Air Force Base is home to a large number of troops, the workplace of several thousand civilian support personnel, and a test and evaluation base for hundreds of thousands of pieces of military equipment and personnel. Whether it's a plane on a 24-hour layover or part of the resident Air Wing, if it's at Edwards, it's the responsibility of Lawson's team to keep track of it even in the middle of what frequently can be a massive data bottleneck. Even Lawson knows the job is daunting.

Lawson said, "I started this job when I was still in the Service. *"Even before we could begin our work day our team of 18 people routinely spent the first four hours of each day manually flipping through and reviewing hundreds of pages of tractor-fed reports. We'd print out stacks of paper, research and highlight the appropriate rows of data, manually add the numbers from all the different reports into a hand held calculator, and finally enter the combined data into Microsoft Excel. When completed, these reports were sent up the chain of command to MAJCOM (Major Command) and the process started all over again."*

To keep the process orderly each team member was accountable for specific pieces of data (e.g., one person was responsible for the F-16 aircraft data including parts, fuel consumption etc., another one for the T-38, etc). While their individual expertise was helpful and their work ethic laudable, an absent team member only increased the workload of the remaining members. Another challenge was time. With fresh data being generated daily, Lawson's team was constantly under pressure to generate updated report summaries. Adding to the burden, additional reports comparing trends to previous months, quarters and years were due at the end of every month and compiled at the end of every fiscal year.

► Monarch Pro – The Best and Only Solution

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"We had a new addition to our staff; an Airman that transferred in from another base. He saw our setup and was surprised at our manual system," said Lawson. *"He told us that at his previous post, they used [Monarch Pro](#), report / data mining software from Datawatch. He even brought the Monarch models he had used at his previous base with him. He literally held the solution to our problem in his hands. I knew I needed to get that software."*



From the Makers of Monarch™

From Four Hours to Four Minutes – FLAT!

Lawson and her team have already achieved an excellent return on their investment in Monarch Pro.

*“What used to take 18 people four hours of manual processing quite literally takes **four minutes**. I can run the reports, get coffee and the reports are done when I get back to my desk,” said Lawson.*

“Our accuracy and efficiency have significantly improved. Even with less than half of our original team, we can get so much more done on a daily basis.

We are now able to focus on specific mechanical issues and related corrective actions, as well as identify underlying trends in aircraft durability and safety long before they would be noticed by those on the ground.”



From the Makers of Monarch™

Through her research, Lawson soon discovered that Monarch Pro was, in fact, being used for work virtually identical to hers within the Air Force and on numerous other military facilities around the world; confirmation that this was the right solution for the challenges confronting her team. Not only was Monarch Pro the best solution; it was the only one she even wanted to consider. *“Monarch Pro was the solution we wanted and needed. Period,”* said Lawson.

She personally contacted Datawatch and began the approval and purchase process. Lawson said, *“I had to jump through several hoops to get Monarch (Pro) for our team. Everyone agreed the software was good, had a proven track record, including on other Air Force bases, and would be helpful, but there was some “red tape” to navigate.”* Although the process wasn’t quick, it went smoothly thanks to Lawson’s determination. *“Even though Monarch (Pro) was installed at other Air Force bases around the country, getting it approved for our base wasn’t a foregone conclusion. I was very passionate about purchasing and installing Monarch (Pro) as soon as possible.”*

► It’s GO Time—Monarch Pro Gets the Green Light

Lawson’s dedication paid off. She was given the green light to procure and deploy Monarch Pro for her team. Once installed, they hit the ground running. *“We didn’t have time to stop work to train our staff on all the finer points of Monarch Pro. We quickly took advantage of the experience as well as templates and report models we got from our new co-worker. And as we learned more about how to use the product, our sights were set higher and higher,”* said Lawson. *“By definition of what we do, our team is a bunch of computer geeks. So unleashing them on the new Monarch Pro software was fun. The more they learned what Monarch Pro is capable of, the more they wanted the software to do.”*

Without any formal training, Lawson relied on Datawatch support to get them up and running fast. *“Working with Datawatch has been tremendous. I’ve been so pleased with the support,”* said Lawson. *“I got answers to my questions while my support contact from Datawatch was walking along the beach with her family on vacation. I told her I’d call someone else, but she really wanted to help and stayed on the phone with me. That’s dedication.”*

The timing for purchasing Monarch Pro was perfect for Lawson and her team as Edwards Air Force Base was experiencing staff changes quickly reducing her team from 18 to eight, and some tasks traditionally handled by uniformed Air Force members were shifted to civilian personnel.

Lawson said, *“We had just hit our stride with Monarch (Pro) when the staff changes occurred. Not only would we not want to do our jobs without Monarch Pro, but now with the staff changes, the volume of the data and the associated time constraints, we simply couldn’t do it without Monarch.”*

► From Four Hours to Four Minutes—Flat!

Lawson and her team have already achieved an excellent return on their investment in Monarch Pro. *“What used to take 18 people four hours of manual processing quite literally takes four minutes. I can run the reports, get coffee and the reports are done when I get back to my desk,”* said Lawson. *“Our accuracy and efficiency have significantly improved. Even with less than half of our original team, we can get so much more done on a daily basis. We are now able to focus on specific mechanical*

Monarch Goes Viral!

The seeds of Monarch have spread across Edwards Air Force Base...and are spreading virally within the Service.

"Folks who transferred from Edwards Air Force Base to other bases each took their Monarch Pro report models with them," said Lawson.

And according to Lawson, Monarch Pro is being proposed as the standard data mining software across the entire Air Force.

issues and related corrective actions, as well as identify underlying trends in aircraft durability and safety long before they would be noticed by those on the ground." This latter aspect of the Monarch implementation may well be the most significant benefit. Simply put, the analysts now spend their time interpreting the data, looking for subtle trends and applying their professional expertise, and much less time mechanically moving that data around. They are now able to predict and plan rather than react after the fact.

Monarch Pro now integrated into Edward's IT infrastructure, the analysts of the 412th have the power to extract, manipulate and summarize data from a variety of traditional report formats and other data sources. From plain text, PRN, ASCII, ANSI, PDF, XML, HTML to Microsoft's new XPS outputs, with Monarch Pro they have the added ability to directly import data from select data sources. The direct import capability essentially allows the users to skip the report extraction phase when working with certain file formats, e.g., most desktop or ODBC database tables and / or queries, Excel worksheets and named ranges. Monarch Pro also provides truly superior capability for direct imports of delimited ASCII data files, should the need arise.

For team members dealing with mechanical issues and associated corrective actions, source data arrives in the form of traditional plain text reports. For those tasked with tracking fuel and flying hours, the direct import capability of Monarch Pro is critical as their source data is delivered to them as flat Microsoft Excel files. This team now easily imports the data directly into a Monarch, table and within seconds can export the properly grouped, sorted, subtotaled and summarized data back into Excel. The carefully constructed Monarch models do all the work. Manually sorting, grouping, filtering, etc. of the flat data within Excel previously took several hours. By obviating the usual repetitive and redundant work necessary every time new source data presents itself, they save significant amounts of time. Their models also foster *consistently* accurate bottom-line results in data summaries.

Also thanks to Monarch, Lawson's team 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.

Integrating Monarch into the base's enterprise network was relatively easy for the Base system administrators as the software seamlessly interfaces with a variety of host computer systems and accesses information from those systems without programming or integration.

▶ **Monarch Goes Viral**

The seeds of Monarch Pro have spread across Edwards Air Force Base. Lawson said, *"When we started to upgrade our Monarch Pro version to the base network, we learned that other departments around Edwards were also using the software. The finance group and the base clinic staff are also experiencing the significant benefits of using Monarch."*

The news about how well Monarch Pro works is spreading virally within the Service. *"Folks who transferred from Edwards Air Force Base to other bases each took their Monarch Pro report models with them,"* said Lawson. And according to Lawson, Monarch Pro is being proposed as the standard data mining software across the entire Air Force. For more information about Edwards Air Force Base, visit <http://www.edwards.af.mil/main/welcome.asp>.



From the Makers of Monarch™

▶ About Monarch

An affordable, programming-free Business Intelligence (BI) solution, Monarch allows users to unlock critical data buried in reports and other business documents without programming, as well as import and combine information from additional data sources, such as PDFs, databases or spreadsheets. Monarch is designed to help users work smarter and faster by giving them the information they need, in the format they want, to make better business decisions.

▶ About Datawatch

Datawatch Corporation (NASDAQ-CM: [DWCH](#)), a leader in Business Intelligence, helps companies make better decisions and solve business problems by simplifying access to information. Unique among BI vendors, Datawatch transforms the massive amounts of data and documents generated inside or outside a company into actionable insight, without any changes needed to existing systems. Datawatch customers benefit from the right information, in the right context, at the right time. More than 35,000 organizations worldwide rely on Datawatch products including its market-leading Monarch report and data mining solutions. Founded in 1985, Datawatch is based in Chelmsford, Mass., with offices in London, Sydney and Manila. For more information, visit www.datawatch.com.

▶ Contact Datawatch

For more information about Datawatch and its Monarch Pro data mining software and other products, please visit <http://www.datawatch.com>.

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