ATLASSIAN + UNITED STATES SPACE FORCE

❝ In this era of competition...The Department must join together to deliver software better and operate as a 21st-century force.

THE DEPARTMENT OF DEFENSE'S SOFTWARE MODERNIZATION STRATEGY

UNITED STATES
SPACE FORCE

120
hours per week one squadron saved with Jira Software

70%
increase in launch tempo while using Atlassian tools

U.S. Space Force modernizes mission assurance with Atlassian

The U.S. Space Force created the first digital service to accelerate innovation. See how they unleashed their team's digital potential with Atlassian.

ATLASSIAN | **CONTEGIX** | **SILICON MOUNTAIN TECHNOLOGIES**

THE CHALLENGE

The U.S. Space Force is embracing modernization and new ways of working to elevate mission success. Since their establishment in 2019, the USSF's custom Launch Issue Tracker and Launch Verification Database platforms were reaching end of life.

THE SOLUTION

One squadron collaborated with government-verified Solution Partners Contegix and Silicon Mountain Technologies (SMT) to build an award-winning, highly tailored solution using Jira Software, Jira Service Management, and Confluence. Working together, the teams went from concept to launch in under six months.

THE IMPACT

Leveraging existing software packages and iterative design, the team reduced development time and costs. More importantly, this enabled the USSF to realize efficiencies immediately.

The Department of Defense (DoD) has a long-standing tradition of innovation, providing funding and personnel to boost mission success from the ocean floor to outer space. The United States Space Force (USSF) is continuing that commitment, embracing digital modernization to improve operational efficiency and readiness, while adhering to strict DoD security requirements.

In collaboration with Atlassian Solution Partners Contegix and Silicon Mountain Technologies (SMT), the USSF created an award-winning, highly tailored Launch Issue Tracker and Launch Verification Database using the foundation of Jira Software, Jira Service Management, and Confluence, along with Mattermost. Leveraging the capabilities built into Jira Software and Confluence, the team reduced development time and the high costs associated with building and maintaining custom software.

The USSF worked with SMT and Contegix to deploy these solutions on Platform One, an official Air Force DevSecOps Enterprise Services solution for the DoD and the first DevSecOps enterprise-level service in the federal government.

A new mission environment demands a new solution

When the USSF was created, they inherited legacy systems and processes. One benefit of these older tools is that they were tailored for specific use cases and complied with the DoD's stringent security requirements. However, custom development can take as long as five to eight years and makes maintenance significantly more complex. As technology and the mission evolved, these tools became more limited and inefficient, so the USSF set their sights on a digital transformation.

In 2020, a mission critical issue tracker used by the USSF's 5th Space Launch Squadron (SLS) for launch mission processing was in need of modernization. This presented an opportunity to develop a replacement solution using a faster, more iterative process which allowed experimentation and reduced risk. The legacy tool had been designed during a period with reduced launch tempo and before the practice of first-stage retrievals. In recent years, the USSF had accelerated launch tempo to record levels and was recovering rocket components on a regular basis. Their work had evolved, and the software they used to manage that work needed to evolve too.

Consequently, the 2nd SLS and 5th SLS reached out to Solution Partner Silicon Mountain for support evaluating options, which resulted in Contegix's Atlassian tool being selected. Lisa Bongiovanni, who served as Project Lead for this engagement, says, "We determined the best route would be an off-the-shelf solution versus investing millions of dollars for solutions that were unnecessary and didn't provide the same functionality. The USSF selected Atlassian because it was off the shelf but highly configurable."

Together with Silicon Mountain and the USSF's long-established software partner, Contegix, the 5th SLS began a new initiative to develop an end-to-end, off-the-shelf solution that would increase efficiencies and improve operational readiness in a fraction of the time and budget.

From lofty idea to launch in six months

When the three teams joined forces, Contegix Vice President Shaun Jones shared an idea for an innovative, Atlassian-based issue tracker. By using Jira Software for ticketing, Confluence for knowledge management, and Jira Service Management as a help desk, the solution would be lower maintenance, more reliable, intuitive and flexible enough for self-service, and secure enough to meet the DoD's requirements.

Seeing its potential, the 5th SLS teamed up with Shaun to build a prototype so they could demonstrate the capabilities and value of the solution to the USSF, while following the agile process. "Prototyping is becoming a more common practice in the DoD and specifically in the Air Force. Major General Stephen G. Purdy, Jr. at Space Launch Delta 45 leaned in hard and encouraged Guardians [Space Force personnel] to try new tools and fail fast. Failure is usually not an option in the DoD, but software is different. This was a major mental shift," SMT President Mike Downard explains. "It took a partnership of Contegix's rapid prototyping and SMT's discovery and review process to prove the viability of an Atlassian solution."

With the advocacy of Major General Purdy, as well as the support of their Solution Partners, the USSF recognized the solution's value and approved funding to test an MVP followed by a fully operational issue tracker. SMT quickly

began liaising with leadership, managing work streams, and collaborating with Contegix on development and testing with an almost immediate impact on post-mission issue tracking.

Following the early success of the issue tracker initiative, the team expanded into the broader mission assurance process. SMT and Contegix worked with stakeholders across the USSF to capture requirements for a long-term process management tool which would replace additional legacy systems. The intent was to build a single source of truth for mission assurance, with launch provider agnostic support, that both unified processes and supported launch providers' specific requirements. Again, using Jira Software and Confluence, the team replicated critical mission capabilities from legacy systems while enabling process improvements, faster tools, and additional functionalities. The result was a heavily customized Atlassian toolset providing a centralized acknowledgement and workflow of relevant procedures and tasks associated with risk ratings for missions. Within six months, the Launch Verification Database went from concept to use on its first rocket launch.

A transformational tool suite delivers fast success for one squadron

The 5th SLS's new, integrated solution combines several tools into one unified platform that has transformed how the USSF and their launch service providers work together.

Jira Software has automated issue ticket filtering and data uploading, which has saved one squadron as much as 120 data processing hours per week. Members of the Space Force then use Mission Pages in Confluence to automatically share data and real-time updates across squadrons without having to create time-consuming reports. For example, the Cape Status Report and Meeting page contains inputs from 20 squadrons and external sources, such as Space Florida, the FAA, and private launch service providers. Guardians also create U.S. Space Day-of-Launch pages in Confluence to capture real-time events and communicate information for space flights.

With Jira Service Management, the squadron has streamlined the process of gathering feature enhancement requests and bug reports by providing a portal for users to submit inputs directly to the development team, which they prioritize for implementation. If any time adjustments need to be made, such as adding fields or changing the appearance of data, Guardians can complete the work themselves thanks to the tool's intuitive user experience. This is a significant improvement over legacy systems, which locked many of these capabilities behind administrative access.

"This is where the real power of Atlassian comes in," Shaun explains. "To maintain older, proprietary software and add features, you needed an engineering team that could do hardcore development. The beauty of something like Jira Software, Confluence, and Jira Service Management is users can go in and make the changes they need. Launch providers don't have to go through the whole engineering process and then wait six months and pay $50,000 to get what they want. They can just go do it themselves in half an hour."

With a streamlined process and tool for issue tracking and resolution, the USSF and their launch service providers have enhanced mission assurance capabilities. After seeing the results of this initiative, the 5 SLS applied the same approach and solution to modernize their launch verification database, going from the first conversation to usage on a rocket launch in just a few months. The squadron is now enhancing the database and expanding capabilities for even greater impact, utilizing the Atlassian platform to support rapid iterations in a low-code environment.

Other teams across the DoD also noticed the 5th SLS's new ways of working and wanted to transform their processes too. By popular demand, the USSF collaborated with their Solution Partners and Platform One on secure toolset

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MAJ. KATHERINE CARROLL
USSF Cloud Center of Excellence Lead

storage and distribution via the hardened container process. This process took advantage of Contegix's prior work with the USSF and Platform One to test Atlassian software for common vulnerabilities and exposures (CVE), ensuring it is safe to use and complies with rigorous DoD security requirements. Once cleared, the tools are stored in the Iron Bank for the DoD to utilize as they all work toward their shared mission.

Operating as "a 21st-century force"

The DoD has galvanized teams across the organization to evolve and prepare for the future. The Department's Software Modernization Strategy states, "Transforming software delivery times from years to minutes will require significant change to our processes, policies, workforce, and technology…In this era of competition and race for digital dominance, we cannot settle for incremental change. The Department must join together to deliver software better and operate as a 21st-century force." With the pioneering efforts of the 5th SLS, invaluable support from their leaders, and guidance from their Solution Partners, the USSF is bringing this vision to life. The squadron is a recipient of the 2021 Colonel Bradford W. Parkinson U.S. Space Force Innovation Award and proud to be recognized for the powerful changes they're inspiring across the DoD.

"We all realized how small things add up to something really big," Maj. Katherine Carroll, the USSF's cloud center of excellence lead, said while accepting the team's innovation award. "It does not have to be this massive undertaking; when a lot of people work toward a common goal such as Major Gen. Purdy's vision of digital transformation, really awesome things do come out of it."

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