



JSTARS gets Linux upgrade: Air Force Prioritizes JSTARS Program, Looks To Expand Capabilities

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No Space Fence DAB Review Scheduled . . . begins on page one

in this for the nation. And we're not going to quit investing in Space Fence."

Welsh said that if Congress doesn't act to reverse sequestration in future years, the Air Force will have to cut approximately 50 percent of its planned modernization efforts in order to maintain some semblance of a ready, modern force. When asked, he said Space Fence is not on the chopping block.

"Space Fence is not one that we're talking about cutting," Welsh said. "There's a lot of debate about Space Fence, but the Air Force thinks that Space Fence is a good program to invest in."

Contractors submitted bids for the program -- which is expected to significantly improve the service's ability to identify, characterize and track objects in space -- last November and expected an award in the spring. That award has since been delayed until the spring of 2014, and initial operational capability has been pushed back one year from 2017 to 2018.

According to Welsh and other service officials, the decision to move the program forward rests with Pentagon acquisition chief Frank Kendall, who is expected to determine whether to push the program into procurement by the end of the year. Air Force officials have quoted different time lines for when they expect a decision -- Gen. William Shelton, the commander of AFSPC, said this summer that the verdict would come in December, but just a few weeks ago the service's principal deputy acquisition executive, Bill Laplante, told lawmakers he expects to have a decision from Kendall's office in November.

Air Force spokesman Capt. Adam Gregory told *Inside the Air Force* in a Nov. 6 email that if the November or December decision from the Office of the Secretary of Defense (OSD) is positive and the program moves forward, contractor bids will likely have to be updated and rescored before a spring award.

OSD spokeswoman Maureen Schumann told *ITAF* in October that a Defense Acquisition Board review has not been scheduled for Space Fence, and it's unclear whether such a review -- or a more informal version of it referred to as a paper DAB -- took place earlier in the year. She noted that an acquisition decision is not dependent on a DAB and that it is possible Kendall will make a determination at any time.

In the meantime, as the Air Force discusses its top modernization concerns in a time of sequestered budgets, its space programs are not among the top-tier priorities. Welsh said this week -- and he and others have noted this several times in recent months -- that the Joint Strike Fighter, KC-46 tanker and the Long-Range Strike Bomber are at the top of the list of programs the service would like to protect from budget cuts.

"Those are the modernization programs that we feel we have to stand behind to be a viable and credible force in the mid-2020s," Welsh said.

Asked about the service's commitment to investing in emerging space capabilities and new architectures, Welsh said that a lot of critical space investment has occurred over the last decade or so. Although space situational awareness is a concern for the Air Force, Welsh said he thinks the service has made and is continuing to make a solid level of investment in its space programs.

"I think one of the things that we did over the last 10 to 12 years, we did a pretty darn good job of recapitalizing architecture in space," Welsh said. "There was a real problem and I think we've done a good job in investing to rebuild constellations and improve capability in space." -- Courtney Albon

JSTARS gets Linux upgrade

Air Force Prioritizes JSTARS Program, Looks To Expand Capabilities

The Air Force plans to ensure that its Joint Surveillance Target Attack Radar System is "a very high priority" in its fiscal year 2015 budget request as the service moves toward expanding the capabilities of the weapons program, according to a senior official.

Air Force Chief of Staff Gen. Mark Welsh previously named recapitalizing the JSTARS program as one of his top five priorities, but during a conference this week, Lt. Gen. Charles Davis, the Air Force's military deputy for acquisition, provided additional details on why the program was getting priority treatment.

JSTARS is an airborne battle management command and control (BMC2) intelligence, surveillance and reconnaissance (ISR) system that collects data via a ground-moving-target-indicator (GMTI) sensor package. The system is carried by E-8C aircraft, which are militarized Boeing commercial jets. The Air Force has been looking to upgrade JSTARS for years and has been looking at a multitude of alternatives for improving the E-8C's ability to perform GMTI missions.

Northrop Grumman is the prime contractor for the JSTARS program.

Speaking at Defense Daily's Open Architecture Summit in Washington on Nov. 12, Davis said that JSTARS is a valuable BMC2 system, but that it needs to be replaced.

"I think in any budget you'll see come forward, it's going to be a very high priority within the Air Force funding lines to replace the aging JSTARS," Davis told *Inside the Air Force* following his speech. "But it's not just to replace the

sensors -- to replace the battle management control capability that we depend on JSTARS for these days. It goes well beyond the sensors. That's why you have to bring in all the other architecture pieces."

An open-architecture weapon system, like JSTARS, is designed so that the functionality and specifications of its key interfaces are available to the customer.

For Davis, JSTARS is a prime example of what an open-architecture program should look like. Davis noted that the Air Force anticipates moving toward a future in which more of its weapons programs share that same open-architecture plan. In a Nov. 14 email, Northrop spokesman Bryce McDevitt told *ITAF* that JSTARS has been capable of open architecture since its inception. That architecture, McDevitt said, "provides the most affordable and flexible option for inserting new technology and capabilities onto the system."

"The majority of the system's hardware is based on commercial material -- including operating systems, software, networks and communications -- allowing the Air Force to increase efficiency and reduce cost," he said. "Because our open architecture system is platform-agnostic, we can affordably scale the system and integrate the ISR and BMC2 capabilities of Joint STARS into any size aircraft, while quickly adding new capabilities and threat identifying technologies."

This summer, Northrop conducted a radar exchange between JSTARS and the company's Global Hawk Block 40 unmanned aircraft, an effort to test the flexibility of that open-architecture system, McDevitt said. During the radar exchange, Northrop was able to display and use the Global Hawk's radar data on the JSTARS platform, extending and improving the overall surveillance capabilities and utility of both platforms, he said.

"By combining the capabilities of these platforms, we unlocked increased battle management potential, not only by expanding coverage of the surveillance area, but also compressing the targeting and attack decision chain for warfighters," he said.

The Air Force recently took a step toward expanding the open-architecture system on its E-8C JSTARS aircraft when the service awarded Northrop a \$43 million contract to upgrade the fleet with a Linux-based, open-architecture system, according to an Oct. 30 company statement. Upgrading the current JSTARS operating system to Linux increases network bandwidth and improves communications performance for the individual tasked with operating that system, McDevitt said.

"From a hardware standpoint, this retrofit replaces computers in both the operator work stations (OWS) and radar signal processor and installs larger OWS displays to improve operator situational awareness," he said. "The recent open-architecture technology insertion enables cost-effective upgrades well into the future, allowing us to keep the platform relevant to address emerging threats, while also helping target and identify hostile movement more quickly and efficiently."

The Air Force is also in the process of developing a next-generation radar that could improve the capability of JSTARS, Davis said. That radar, known as the dismount detection radar, will allow for the fast integration of new sensors with minimum impact to other parts of the system using that sensor's data, according to McDevitt. The radar was initially to be installed on the Air Force's MQ-1 Predators and MQ-9 Reapers, but the service no longer intends to pursue that plan, Davis said.

"You're always making programmatic decision changes, and that's one of the changes that will occur that will not probably end up going on [those unmanned aircraft]," McDevitt said. -- *Maggie Ybarra*

Davis: 'There's no other way we can survive'

Air Force Makes Push For Open Architecture, Less Flight Testing

The Air Force wants to reduce some of the costs associated with flight testing by using more simulators and disallowing prime contractors from monopolizing the system integration of the service's weapon programs, according to a senior official.

During a Nov. 12 speech at Defense Daily's Open Architecture Summit in Washington, Lt. Gen. Charles Davis, the Air Force's military deputy for acquisition, told a room full of contractors that awarding work for a weapon system to a prime contractor and allowing that contractor to handle the integration of that system is a costly way to manage any weapon program. But with open architectures, the service may have the opportunity to move some of its testing off of the aircraft and onto simulators, Davis said. A weapon system is considered to have an open architecture when its functionality and specifications of the key interfaces of a weapon system are available to the customer.

"Our budget is going to definitely continue to shrink," Davis told the crowd. "We cannot afford to go to a single prime integrator that we're beholden to for the life of any system and be able to afford that for some time to come. We cannot afford to do the oppressive and aggressive testing that's required of closed system architectures over the life of [a weapon system] and not be able to test the pieces you put into it, because it's too expensive and takes too long."

The Defense Department has been scaling back on spending in response to the 2011 Budget Control Act (BCA), which mandates annual cuts to discretionary spending until Congress and the White House can agree to a sweeping deficit reduction package. The BCA reductions threaten to trim military spending by as much as \$500 billion through 2023.