FAA is Taking Data to the Limit – And Beyond

By Kristen Knott, ATCA Writer and Editor

Data: it's a small word with a big meaning. It can strike fear in the hearts of those who do and don't understand its capabilities in the aviation world. The evolution of data is one of the greatest challenges in the implementation of NextGen. Natesh Manikoth, the FAA's Chief Scientist of NAS Software, is up to the challenge and leading the charge. He will moderate the Tech Symposium's first panel, NAS Data and Decision Making, on the morning of May 18.

Data sharing is the key component, and Manikoth is working to facilitate that. "Most of what we're doing today is making data accessible in ways that are easier and can be acted on directly," says Manikoth. "In many cases the data was already available; we're making it faster and easier for people to access and use it. We're adding new capabilities in how we share data."

"The Tech Symposium allows us to focus our attention on bringing innovative solutions to business problems that we talk about in other forums – it gives the tech community their own venue," says Manikoth.

The FAA is also considering the security implications in exchanging data. "We at the FAA have invested a lot of time in making really good use of data to gain key safety insights, but we think we can do more," Manikoth says. "I hope the [Tech Symposium] panel can be a forum for that. It can give us a window into the questions that need to be answered to help us prioritize our efforts properly. It is an opportunity for us to learn from each other, and it opens more possibilities."

Learning to share data properly means that everyone – pilots, controllers, dispatchers, etc. – will see the same information. SWIM is the digital data delivery backbone of NextGen and provides a platform for publishing data. SWIM will allow NAS data to flow almost immediately to anyone plugged into the system, including data to the aircraft.

"SWIM has done a great job in the first phase as acting as a distributor of critical data," says Manikoth. "We're focused on getting data and using it to gain insight from a safety and operational standpoint."

On the flip side, a more interconnected network could potentially open us up to more security vulnerabilities. Even though the FAA already has a strong safety culture, Manikoth is cognizant of the uncharted territory they face in the evolution of data and the need to elevate attention to information security. Beyond last year's grand opening of the FAA's Cybersecurity Test Facility (CyTF), the Agency has taken multiple steps to enhance cyber security measures. These include a more comprehensive threat model for the NAS, participating in the DHS and DoD-led Cyber Guard for the second year, and conducting internal table top exercises to better train the FAA workforce.

Another key FAA goal is to build partnerships on the data front. The best way to accomplish that is to see how stakeholders use data, especially from SWIM, for their operations. The Agency has launched a Got Data? initiative to spur innovation in this arena.

An example of a data partnership is the FAA's relationship with NetJets, an American company offering fractional ownership and rental of private business jets. The business jet data provides demand signals and some unique insight into customer preferences that is not readily apparent otherwise. ›

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