

## American Airlines



### About the company.

American Airlines is the world's largest airline. American, American Eagle, and the AmericanConnection® airlines serve 250 cities in over 40 countries, with more than 4,000 daily flights. The combined network fleet numbers more than 1,000 aircraft.

As prescribed by the Federal Aviation Administration (FAA), safety and system efficiency are critical to securing the welfare of airline customers and reliable operations. One way American Airlines meets these high standards is through its American Airlines Flight Academy in the Dallas-Fort Worth area. With simulators ranging from the Boeing 777 and 737, to smaller aircraft like the Embraer ERJ145 and Saab 340B, the facility provides state-of-the-art training for new pilots and continuous training for current pilots.

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SIMULATOR OPERATIONAL SUPPORT,  
AMERICAN AIRLINES

## Setting the strategy.

The American Airlines' Simulator Training Equipment Support (STES) group is responsible for all flight simulator maintenance and engineering, and they must ensure that every detail of the simulator experience emulates actual flying conditions. "If the aircraft's design changes, we have to follow suit to maintain fidelity and FAA compliance, and to train pilots properly," states Jim Tipton, manager of simulator operational support at the flight simulator facility. To accomplish this, American Airlines' technicians needed a solution to help them work with a variety of systems simultaneously, meet FAA regulations regarding how they recorded work, and become more efficient in how they performed maintenance.

The 91 simulator technicians and 6 engineers perform both scheduled and unscheduled maintenance on 28 flight simulators of various technologies and qualification levels at the facility. The technicians perform diverse jobs—everything from working on hydraulics systems to writing or modifying computer programs for the simulator itself. "The variety of tasks changes from day to day, depending on the condition of the simulators," explains Tipton. "Therefore, each technician has to be a jack-of-all-trades, and having the right information available is indispensable."

The full-scale replica of the flight deck is the heart of the simulator, and maintaining its configuration to match the aircraft is an FAA requirement. "The fidelity required inside the flight deck is very important. Everything the pilots see, hear, and feel must be the same as they experience in the aircraft," stresses Tipton. "Each simulator is tested four times a year to ensure it continues to meet the standards, and the FAA is present at one of those sessions to run both quantitative and subjective tests we have to match in the airplanes."

"Our biggest challenge of maintaining the simulators was a lack of centralized information. We were using strictly paper-based systems to track our maintenance," continues Tipton. "Each simulator has an individual maintenance log that we work from, and most simulators are in separate bays. If a technician wanted information, they had to go to each simulator and do the research by hand."

## facts at a glance:

> company .....	American Airlines
> solution .....	Infor EAM
> product .....	Enterprise Edition
> industry .....	Transportation
> country .....	USA

## Getting business specific.

Infor™ offered an asset management solution that would help American Airlines collect information in a manageable database, manage and track inventory, and perform and record tasks on the flight simulators with more efficiency. "We started looking at asset management solutions several years ago. Through the years, we stayed abreast of who was the best in the market place and the big players," adds Tipton. "Infor EAM Enterprise Edition was always at the top of the list and could address maintenance efficiency, FAA documentation requirements, inventory, and configuration."

One of the first capabilities activated in Infor EAM Enterprise Edition software by American Airlines concerned preflight inspections. During these daily inspections, the technicians go through preflight checklists and make sure everything, such as the instruments, lights, navigation systems, autopilot, and components, is working correctly. "These inspections are required by FAA regulations, and Infor EAM's preventive maintenance capabilities enable us to automatically roll out the preflight tasks every night," says Tipton. "This helps the technicians quickly identify tasks they need to complete and gives us the ability to record the completion of those tasks as mandated by the FAA."

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In addition, American Airlines simulates 11 different types of aircraft, and each simulator has its own distinct needs in terms of parts and supplies. “A 737 and MD80 are completely different simulators with nearly every component incompatible,” explains Tipton. “When we inventory our parts with Infor EAM, it allows us to align each unique simulator with its components for more organized inventory practices.”

Configurability was a central feature that made Infor EAM Enterprise Edition the right solution for American Airlines. States Tipton, “Flight simulation is a unique industry. The configurability of Infor EAM is robust enough to meet the needs of our specific environment.” Infor EAM Enterprise Edition allows American Airlines to add custom fields, rename existing fields on forms to match their industry terminology, and configure the software’s workflows to match their existing workflows and quality assurance requirements.

### Seeing results.

Using Infor EAM software, American Airlines’ STES personnel easily access simulator information and record their work for FAA inspections. The software also enables technicians to record what work they do in the field, eliminating the need to constantly update a paper-based system and ensuring that all work is documented to meet FAA regulations.

In addition, Infor EAM Enterprise Edition consultants created a flight instructor interface to American Airlines’ specifications for the easy review of the simulator maintenance log and entry of new discrepancies by flight instructors. This interface replicates the current American Airlines E6 log, or pilot-reported discrepancies, and shows the instructor the current status of the machine, what FAA restrictions exist, the current maintenance tasks, what tasks were completed in the last 30 days, and any lost time incurred, shortening the data entry process considerably.

Infor EAM Enterprise Edition’s instructor interface also serves as a single-point communications tool that can broadcast important information to the instructor group, alert instructors to restrictions on training capabilities, and provide current and past views of the maintenance status and history. “With the addition of the flight instructor interface, Infor EAM provides the tools we need better than any other maintenance system on the market,” adds Tipton.

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With Infor EAM, the technicians are able to gather statistical data such as start-of-day dependability results, trouble calls, and project work referred to as Engineering Change Orders. The technicians also do statistical failure analysis that lets them know which parts of the simulator are failing most often, how long it takes to respond to problems, and what percentage of those problems can be resolved during an emergency maintenance session or must be deferred to a full maintenance session. Letting technicians know what work is imminent and how to handle future tasks helps save American Airlines time and money.

In addition, American Airlines incorporated Infor EAM’s Key Performance Indicators (KPIs) into the Simulation Quality Assurance Program (SQAP), enabling them to measure how successful they are in meeting quality objectives on a continuous, real-time basis. “Infor EAM enables us to consolidate information in a very accessible format. With a glance at the software’s homepage, we get a snapshot of how we are performing and where we need to concentrate our efforts,” says Tipton.

### Doing business better.

With Infor EAM, American Airlines’ STES personnel have a powerful tool to help maintain a modern pilot-training center. Through its instructor interface and because of its configurability and asset management tools, Infor EAM Enterprise Edition will help American Airlines keep their flight simulators working efficiently and effectively, now and in the future.

### About Infor.

Infor acquires and develops functionally rich software backed by thousands of domain experts and then makes it better through continuous innovation, faster implementation options, global enablement, and flexible buying options. In a few short years, Infor has become one of the largest providers of business software in the world. For additional information, visit [www.infor.com](http://www.infor.com).

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