

Adobe® FrameMaker®+SGML
Adobe Acrobat®

American Airlines

Airline carrier and DocuCentric focus on safety by distributing critical maintenance updates within 24 hours with FrameMaker+SGML and Adobe PDF

ABOUT THE CUSTOMER

- One of the nation's largest airline carriers
- Employees: 124,000
- Headquarters: Fort Worth, Texas

BENEFITS SUMMARY

- By enabling American Airlines to more quickly distribute revised maintenance procedures to the field, Adobe FrameMaker+SGML helps improve safety.
- FrameMaker+SGML enables engineers to reuse SGML files provided by aircraft manufacturers, saving time and helping ensure compliance with FAA-imposed deadlines.
- FrameMaker+SGML templates developed by DocuCentric enable consistent formatting, which makes it easier for mechanics to find the information they need.
- FrameMaker+SGML is helping ease the cultural transition from paper to electronic files because the authoring interface is the same.
- FrameMaker+SGML reduces the time engineers spend authoring work cards, freeing them to focus on other urgent tasks.
- By converting FrameMaker+SGML files to Adobe PDF files in the Documentum EDM server, American Airlines will allow timesaving electronic commenting and reduce storage and bandwidth requirements.

www.amrcorp.com and www.aa.com
www.docucentric.com

Passenger and crew safety ranks number one in priority for airlines. For safety's sake, the Federal Aviation Administration (FAA) mandates certain inspections and parts replacements after specified hours of flying. If the procedures are not executed within the required time frame, the aircraft can be grounded. Industry leader American Airlines goes the extra mile to ensure safe aircraft for the flying public by incorporating additional preventive checks beyond what the manufacturers require.

Central to American Airlines' safety program is timely distribution of current maintenance check procedures to field mechanics. With Adobe FrameMaker+SGML software, Adobe Portable Document Format (PDF), and the help of DocuCentric Corporation, a leading premium Adobe value-added reseller, American Airlines is revising and distributing its maintenance checklists, called work cards, faster and ensuring they are on hand when needed. "To become more efficient, we want to move from a paper culture to an electronic one," says Mike Conley, American Airlines senior project analyst. "FrameMaker+SGML makes the transition easier by providing a single authoring environment for producing documents for print or publication online in Adobe PDF."

TIMELY MAINTENANCE PROCEDURE UPDATES

American Airlines engineers maintain about 17,000 work cards containing approximately 85,000 pages of text and Adobe Illustrator® graphics. One card, for example, provides 2,000-hour avionics check procedures for the Boeing 737. Cards are revised in response to changes communicated either by the aircraft manufacturer or by the FAA.

Manufacturers deliver revised work card content to American Airlines as Standard Generalized Markup Language (SGML) files, an emerging airline-industry standard. Historically, American Airlines engineers

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—Mike Conley
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retyped the information into a desktop application and printed it for review and final distribution to maintenance sites. Urgent revisions were made and distributed over several days via fax; non-urgent revisions were distributed quarterly on microfilm. To ensure the best possible practices, American Airlines wanted to make all revisions available within 24 hours after they were approved.

REUSABILITY

To meet the goal, American Airlines and its Sabre subsidiary decided to adopt a fully electronic, or ePaper,[®] workflow. To speed the process, they contracted with DocuCentric to design and implement the Work Card Management System (WCMS), based on Adobe FrameMaker+SGML, Adobe Acrobat software, Adobe PDF, and the Documentum Enterprise Document Management (EDM) server. “The benefits of the Adobe ePaper solution at American Airlines are far-reaching,” says Scott Gavin, president of DocuCentric. “Not only did the company achieve its goal of distributing updates within 24 hours, it reduced the time spent authoring and distributing.”

Now, engineers enter work card information from manufacturers into Adobe FrameMaker+SGML, using the template DocuCentric developed to help ensure a uniform look and organization. The FrameMaker+SGML interface is intuitive and eliminates the need for American Airlines authors to learn SGML—and once

the online system is fully up and running, mechanics can search for and find the information they need.

“With FrameMaker+SGML and Adobe PDF, manuals that previously took two weeks to distribute will be available in less than a day online.”

**—Marvin Henderson
Senior analyst
American Airlines**

FULLY ELECTRONIC WORKFLOW

After completing a work card, the engineer loads the FrameMaker+SGML file into the Documentum EDM server, where all approved materials are converted nightly to Adobe PDF files. Field mechanics can view and print the newly created Adobe PDF files from line stations connected to American Airlines’ wide area network. “The compact size of Adobe PDF files saves storage and bandwidth requirements,” says Marvin Henderson, senior analyst with American Airlines. DocuCentric cataloged the Adobe PDF files by searchable attributes, such as fleet type, maintenance tasks, and equipment tables. The ability to do full text searches within Adobe PDF files will enable mechanics to search by attribute and quickly locate the appropriate work card and information within the file.

UP-TO-DATE ELECTRONIC MANUALS

American Airlines is realizing the benefits of an electronic document workflow. To create its aircraft maintenance manuals, American Airlines authors import SGML, provided by

manufacturers, into FrameMaker+SGML, applying document type definitions (DTD) and templates created by DocuCentric. After approval, documents are output as Adobe PDF files. “The FAA is extremely vigilant about airlines providing mechanics with the most up-to-date information to complete a task,” says Henderson. “With FrameMaker+SGML and Adobe PDF, manuals that previously took two weeks to distribute will be available in less than a day online. And no matter whether you’re in London or San Diego, when you view that manual on the screen you know that you’re viewing the latest information.”

ENHANCED SAFETY AND TIME SAVINGS

Henderson concludes, “The electronic workflow with FrameMaker+SGML and Adobe PDF saves an enormous amount of time. In addition to enhancing safety by ensuring that updated information is available on the field, it will free maintenance engineers from busywork and help them focus more on the meat of their jobs.”

TOOLKIT

Software

Adobe Acrobat
Adobe FrameMaker+SGML
Adobe Illustrator
Adobe Photoshop[®]
Documentum Enterprise Document Management (EDM) server

Hardware

PCs

