

INTERACTIVE SESSION: TECHNOLOGY

AIR CANADA TAKES OFF WITH MAINTENIX

Air Canada is Canada's most prominent airline. It is the largest provider of scheduled passenger services in the Canadian market, the Canada-U.S. trans-border market, and in the international market to and from Canada. The airline serves over 33 million customers annually and provides direct passenger service to over 170 destinations on five continents. But the company's information systems had plenty of room for improvement. When Air Canada technicians worked on planes, they used several different legacy software packages installed over the past 15 years. The systems weren't able to interact with one another or with finance and inventory systems. The inefficiencies of these systems were costing Air Canada the time of its engineers and money that could have been used on maintaining its planes, instead of needlessly maintaining excess inventory.

Air Canada turned to Mxi Technologies for help in addressing these problems. Mxi is renowned in the airline industry for its Maintenix software package, which provides integrated, intelligent aviation MRO (maintenance, repair, and operations) software to aviation organizations hoping to improve productivity. The benefits of Maintenix that interested Air Canada were enhanced visibility of fleet-wide data, timelier decision-making, support of its currently existing business model, and increased operational efficiencies.

Maintenix provides a system platform that is accessible via the Web and easy to deploy to all stations around the world. Mxi claims that their software reduces repetitive tasks and time chasing missing or incomplete information by allowing maintenance, engineering, and finance divisions to easily share information. Maintenix can supply data to the company's existing enterprise resource planning (see Section 2.3) and financial software, and Air Canada plans to link it up with its PeopleSoft finance and human resource applications. Wireless deployment also makes Maintenix more effective, since aviation technicians, equipment, and parts are always on the move.

The Maintenix software package consists of six different modules, which are separate segments of the product that interconnect. Airlines deploying Maintenix can choose which modules they want to use, as well as whether they want full or partial installation of those modules. The six modules are

maintenance engineering, line maintenance, heavy maintenance, shop maintenance, materials management, and finance. Air Canada chose to fully implement the maintenance engineering, line maintenance, and materials management modules. The airline chose to only partially implement the heavy maintenance, shop maintenance, and finance modules because a separate contractor that also maintains Air Canada planes handles those tasks.

The maintenance engineering module is the foundation of the Maintenix system. It is used to establish the configuration hierarchy, rules, and maintenance program that all of the other modules depend upon. Through this module, the airline can set up a "logical configuration", which describes aircraft components, part relationships, and compatibility rules.

Line maintenance involves matching a dynamic list of maintenance work requirements against finite resources at varying locations within a flight schedule that is constantly undergoing change. The module includes line station planning applications, which are designed to schedule maintenance and allocate work, based on the capabilities of the line station facilities as well as the aircrafts' scheduled locations. For example, this module allows Air Canada to ensure that qualified technicians are available before they schedule maintenance.

The materials management module deals with the logistically complex process of ensuring availability of parts without overstocking. Maintenix ensures that the minimum amount of each part is always in inventory without causing engineers to be short on parts at any time. Maintaining this delicate balance is critical in order to maximize revenue and achieve greater operational efficiencies. Maintenix allows wireless, real-time management of inventory, automates routine activities, and integrates fully with an airline's existing inventory management systems.

The biggest advantage of the system is that all of this information provided by Maintenix's various modules is located in one place. This results in more rapid scheduling and avoids pitfalls of poorly organized information systems, such as scheduling work to a station that lacks the proper qualifications to accomplish it.

One example of how Maintenix will increase Air Canada's efficiency might be as follows. An Air