



## CESCOM ONLINE

### 2005 COMPUTERWORLD HONORS CASE STUDY

#### BUSINESS & RELATED SERVICES

A NEW MAINTENANCE SYSTEM ALLOWS CUSTOMERS TO CHECK RECORDS IN REAL-TIME, ONLINE IN ORDER TO KEEP THEIR AIRCRAFT IN COMPLIANCE WITH MAINTENANCE REQUIREMENTS, AND IN SERVICE, IN THE U.S AND ABROAD. [20055374]

*A Search for New Services*



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#### SUMMARY

To help its customers ensure that their aircraft comply with government maintenance guidelines in the U.S. and abroad, Cessna Aircraft Company created the Cessna Computerized Maintenance System (CESCOM) over 25 years ago. This mainframe-based aircraft maintenance tracking system produced paper reports for customers on maintenance performed on aircraft and upcoming maintenance milestones. While helpful, CESCOM was hampered by printing and mailing delays that often prevented customers from receiving this important information in a timely manner. Cessna has Web-enabled CESCOM to eliminate those delays. The new system – CESCOM Online – allows customers to check maintenance records in real-time in order to keep their aircraft in compliance with maintenance requirements, and in service.

#### APPLICATION

In order for an aircraft to be deemed airworthy and allowed to fly, it must comply with maintenance guidelines issued by the U.S. Federal Aviation Administration (FAA) or the equivalent civil aviation authority in other countries. Keeping track of the maintenance performed to comply with these requirements and of upcoming maintenance milestones can be an extremely challenging and time consuming task for aircraft owners. Additionally, missing a maintenance requirement can take a plane out of service.

To help its customers ensure the airworthiness of their planes, Cessna Aircraft Company – which has delivered more than half the aircraft flying in the world today – created a subscription service called the Cessna Computerized Maintenance System (CESCOM). Originally developed 25 years ago as a mainframe-based system that produced paper reports that were then mailed to customers, CESCOM was revamped and re-introduced as an online system in the beginning of 2004.

This Web-based, electronic aircraft maintenance tracking system allows customers to monitor maintenance records in real-time, eliminating the print and mail delays that were inherent in the earlier system. Its real-time functionality enables customers to act on maintenance prescribed by the FAA and other authorities and to submit mandated reports in a timely way that serves both their business interests and the overriding interest of aviation safety.

Specifically, CESCOM Online has reduced the amount of time it takes for Cessna customers to receive their monthly reports from an average of 30 days to two minutes, and the time to process maintenance transaction reports from 27 days to less than nine hours. It also enables customers to create required reports for submission to the FAA in as little as 30 seconds.

CESCOM Online benefits Cessna as well, saving the company \$500,000 in annual mailing costs alone. Cessna has put this return on its investment into keeping the cost of this subscription service the same as the earlier paper-based system. In contrast, competitive online maintenance services cost more than CESCOM Online and require more work on the part of subscribers.

Customer satisfaction with CESCOM Online is quite high with nearly 70% of Cessna's 4100 Citation business jet operators already subscribing to the service and more enrolling each day.

From a technology perspective, CESCOM Online is an impressive example of reinvigorating a legacy application to create a 21st century, Web-based customer service system rather than scrapping the old system and building the new one from scratch.

By using PowerBuilder (Sybase's rapid application development tool) and EAServer (Sybase's application

server), Cessna was able to enhance and Web-enable its legacy CESCO system in just six months with a project team of just two dedicated developers.

Of course, the technology that enables and powers CESCO Online is completely transparent to users who need only have Internet access and basic proficiency using a Web browser.

## **BENEFITS**

CESCO Online provides customers with a very efficient way to monitor their maintenance records in real-time, around the clock, via the Internet. It also simplifies aircraft budget planning and helps reduce aircraft maintenance downtime, while helping ensure aviation safety.

## **IMPORTANCE**

Cessna's IT team envisioned an online version of CESCO long before all of the technology needed to create such a system existed. So, leading edge information technology was really a prerequisite to the development of CESCO Online.

Additionally, no so long ago, the tendency would have been to rip out the old CESCO system and create CESCO Online completely from scratch. This would have been very costly and would have taken quite a bit of time. By using technology instead to revitalize the legacy CESCO system, Cessna was able to minimize the cost and time needed to deliver the much improved CESCO Online system, and in doing so, deliver substantial benefits to its customers.

## **ORIGINALITY**

CESCO was one of the first computerized aircraft tracking systems to be introduced in the industry.

Continuing in that leadership role, Cessna is the first airline manufacturer to put an aircraft maintenance tracking system online. This is significant because Cessna knows precisely what is required to maintain Cessna aircraft and therefore can produce all of the reports, tracking and projections required by the FAA.

Because Cessna has the largest general aviation fleet in the world, CESCO Online tracks more aircraft than any other system.

## **SUCCESS**

CESCO Online's success can be measured in several ways.

First, by providing real-time, online access to maintenance information plus the ability to quickly generate mandatory reports to the FAA and its global counterparts, CESCO Online has made it much easier for customers to monitor their maintenance records, minimize aircraft downtime, and ensure aircraft safety.

In addition, CESCO Online has already saved Cessna over \$200,000 in mailing costs alone, which the company is using to keep the service affordable for its subscribers, as opposed to competitors that market their online services as premium products with high subscription costs.

Finally, the high percentage of Cessna customers who have subscribed to CESCO Online and the daily growth in enrollment testify to the value customers place on the ease-of-use, functionality and real-time, around the clock access to the maintenance information the system provides.

Among the many positive comments Cessna has received from its customers are:

"CESCO Online rocks!"

"CESCO Online, as a service, exceeds what other OEMs/service providers offer."

## **DIFFICULTY**

In creating CESCO Online, Cessna wanted to maintain its legacy mainframe-based system while having that system feed the online system. The plan for an online offering was developed in 1999 but was not implemented until 2004 because the Cessna development team felt Web technology in 1999 was not yet mature enough to support a robust, transaction-intensive online system.

Additionally, Cessna wanted all data – including data from paper reports still being used by a large group of customers – to enter the system in real-time in the same fashion. The goal was to collect the same information from all customers, whether they were inputting it directly via the Web or submitting paper forms for Cessna keypunch staff to input.