



CUSTOMER PROFILE

Boeing Commercial Aviation Services (CAS) is a world leader in providing maintenance-related services, products, and support to fleet owners.

THE CHALLENGES

The industry's disparate methods of tracking fleet service were aging and slow. CAS resolved to create Maintenance Performance Toolbox to speed access to vital records.

THE CORTONA3D SOLUTION

RapidTag enables line and engineering staff to tag any part in the system with an electronic note that relays their knowledge to other users.

BENEFITS

- CAS's Toolbox is "an integrated suite of applications that do for airline maintenance operations what integrated text, data, and graphics suites did for the front office."
- Toolbox is "a whole new category of maintenance tool."
- Literally millions of tags can relay hard-won, vital knowledge that will save time and possibly lives.



RapidTag Helps Boeing Open Up "Maintenance Performance Toolbox"

- Boeing software transforming fleet service
- CAS "delighted with response of customers"
- Users "change what you expect to accomplish"

Boeing Commercial Aviation Services (CAS) partners with Boeing customers to help ensure decades of safe, efficient, and economical service by its aircraft. CAS provides product, services and support internationally.

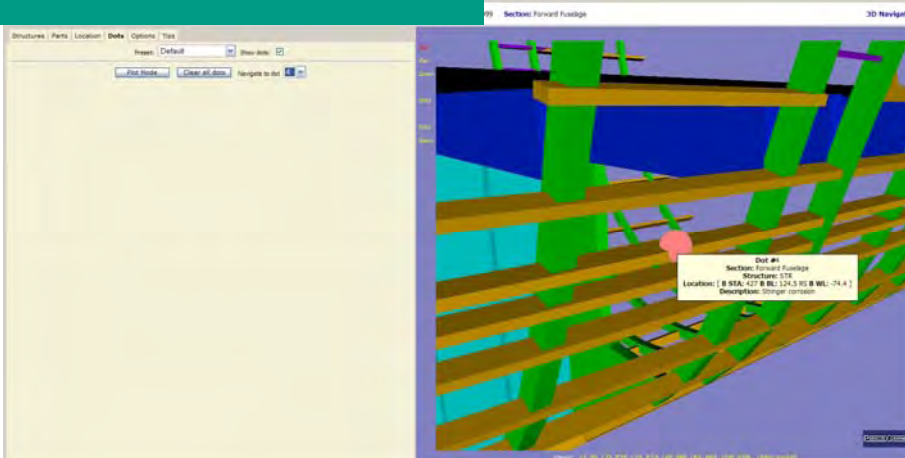
To computerize and standardize the industry's over-abundance of maintenance-tracking media and methods, CAS planned Maintenance Performance Toolbox to standardize and provide immediate access to maintenance records from any given craft or an entire fleet. Cortona3D's RapidTag enables line and engineering staff to "tag" any part of an airplane with information that speeds and ensures reliable service.

The CAS Toolbox came rapidly to market and today helps maintain and relay knowledge about thousands of aircraft.

“We are delighted with the response of our customers to the visualization technology provided by [Cortona3D].”

Freelon Hunter, Director of Maintenance Services and Product Development, Boeing Commercial Aviation Services

RapidTag enables users attach feedback to exact parts/assemblies in the 3D object. This data goes to a central repository for analysis and troubleshooting.



Customer Profile

For 65 years, Boeing Commercial Aviation Services (CAS) has continually expanded its services to airlines and fleet owners. Today, CAS provides maintenance services, products, materials, customer support, flight operations, and fleet enhancements.

CAS wanted its industry to have a software-based “toolbox” that would enable the recording, managing, tracking, leveraging, and reporting of the thousands of tasks, processes, tools, methods, and spare parts involved in the decades-long maintenance histories of aircraft and fleets of aircraft. Whether for use in preventive maintenance, repairs, troubleshooting, or compliance reporting, having rapidly available knowledge of procedures, history and tools pertinent to a given model and aircraft is vital.

Boeing Maintenance Performance Toolbox (Toolbox)—developed using Cortona3D’s RapidTag and other complementary products—empowers CAS customers to manage their huge volumes of technical documentation in a structured environment.

The Challenge

An over-abundance of industry mechanisms existed for feeding back customer knowledge about operation, maintenance, and repair into ongoing processes. But methods of collecting and structuring such information differed from country to country, and airline to airline. Data could reside in paper systems, home-grown programs, out-sourced, or COTS products. Such systems are often limited, special-purpose, arbitrary or unstructured, which makes storing, analyzing and communicating their data slow or difficult. Resulting systems were cumbersome to use, then failed to protect the intellectual property they contained.

To supplant these varied solutions, CAS’s requirements for Maintenance Performance Toolbox were demanding and comprehensive. Its completeness, speed, accuracy, and clarity would help restrain industry and consumer costs. It could save untold hours, and affect the lives of millions of passengers.

Why CAS Selected Cortona3D

CAS sought efficient programming tools to speed development. Inefficient development tools could misspend the time and talents of valuable CAS technologists, slow time-to-market, and delay benefits to the industry.

After an extensive search of applicable software, CAS included Cortona3D RapidTag and RapidManual in its development arsenal. Maintenance Performance Toolbox utilizes Cortona3D technologies to:

- Streamline software development of a complex graphics-based product

Toolbox is “the first integrated set of productivity tools that unifies maintenance activities from start to finish, including technical publications, training, maintenance, and engineering in one product suite.”

Boeing Commercial Aviation Services' Web Site

The 3D interface empowers fast navigation and an intuitive way to record maintenance data in a very structured format.

- Author interactive 3D models with electronic distribution
- Leverage Boeing CAD data
- Tag aircraft parts with notes and valuable experiences and know-how.

RapidTag’s “tagging” functionality adds a critical layer of interactivity that enables line workers and engineers to modify data or attach new information to specific parts or assemblies. CAS saw the obvious benefits of using RapidTag to improve communication across its user community.

Benefits In Hand

Aviation Week magazine selected Maintenance Performance Toolbox to receive its 2005 Technology Innovation Award. Freelon Hunter, Boeing CAS Director of Maintenance Services and Product Development, says, “We are delighted with the response of our customers to the visualization technology provided by [Cortona3D]”.

RapidTag powers one of Toolbox’s most vital capabilities: the ability to record, utilize and propagate the accruing knowledge that accumulates on models and individual aircraft through their lifecycles. RapidTag

enables a “tag” to be placed on any part in the system. That tag can be a note on spares availability, helpful tool choices, failure rate, a URL, or any other helpful information learned throughout the work process.

CAS Describes Toolbox

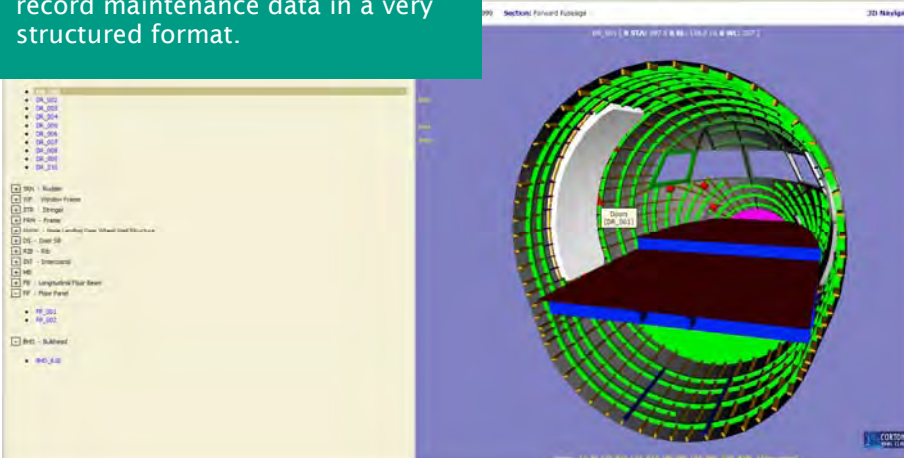
Toolbox is “a whole new category of maintenance tool.” It is “the first integrated set of productivity tools that unifies maintenance activities from start to finish, including technical publications, training, maintenance, and engineering in one product suite.” Toolbox is “an integrated suite of applications that do for airline maintenance operations what integrated text, data, and graphics suites did for the front office.”

CAS advises users that they “will know as soon as you access the Maintenance Performance Toolbox that you’ve never had power like this before.... Toolbox goes far beyond your expectations. [It] will change what you expect to accomplish—in an hour, in a shift, in the time allotted.... Toolbox is easy to use. Active links within 2D and 3D system diagrams and structural models take you directly to the information you need.”

CAS goes on to say, “Toolbox helps engineers speed through vital day-to-day tasks and helps them save successful solutions for reuse or recurrent tasks. Toolbox’s integrated authoring system handles text, graphics, and even multimedia.”

What’s in the Toolbox?

Toolbox supports an Aircraft Maintenance Manual, Structural Repair Manual, Fault Isolation and Reporting





Cortona3D provides 3D visual knowledge software to streamline the authoring of technical communications.

Cortona3D open standards authoring tools give subject matter experts the power to create interactive, animated 3D product documentation such as maintenance manuals, parts catalogs and interactive training from existing CAD assets rapidly.

Proven benefits are three times faster production, 60% cost savings, and improved quality. Customers include Boeing, Ford, GE, Bosch, ESA and Airbus.

For more information on Cortona3D products and services, in the USA, call +1 800 971 2812. In Europe, call: +353 1 2143380. E-mail sales@cortona3d.com, or visit: www.cortona3d.com.

For more information on the Boeing Commercial Aviation Services Maintenance Performance Toolbox, call (206) 766-4400, e-mail MEPServices@boeing.com, or visit <http://www.boeing.com/commercial/maintenance/toolbox.html>

Manuals, and an Illustrated Aircraft Parts Catalog. Because RapidTag helps environment:

- Users create and modify operator-unique procedures and documentation, then automate document revisions.
- Publications departments create customized documents, modify manuals, and create job cards.
- Built-in workflow tracking ensures document audit trails are complete and approved before release.
- Mechanics have fast access to necessary information.
- Toolbox speeds teaching and regulatory compliance.
- Hosting on MyBoeingFleet relieves operators of systems burden, and helps ensure 24/7 access.
- A thorough, fully integrated solution promotes efficiency across functional organizations.

Without the use of Cortona3D's toolsets, the development and sale of the Boeing CAS Maintenance Performance Toolbox would have lagged, or the product would have been less comprehensive.

Today, faster and safer repairs and equipment checks are accomplished. Easy updating, feedback, and knowledge transfer from engineers and electricians occurs in fleets large and small. Cortona3D RapidTag helps ensure each action on these complex structures can benefit from the hard-won knowledge acquired and now included in Toolbox.

RapidTag

Cortona3D RapidTag is the first tagging solution that allows users in the field to attach operational information to parts/assemblies, then feed it back to a central data repository for analysis and troubleshooting. Customers report a wide range of examples in which Rapid Tag's structured communication between users and manufacturers adds value, increases revenue opportunities, and saves cost through improved efficiencies.

Cortona3D Solutions

Cortona3D Enterprise

Cortona3D Rapid Products

- RapidManual
- RapidCatalog
- RapidLearning
- RapidSimulation
- RapidTag