

## Leading Aviation and Aerospace Company Used Apollo Root Cause Analysis to Improve Enterprise (IT) Problem Management

**OVERVIEW** Boeing's ability to innovate and meet customer expectations depends on IT service reliability and excellence. Boeing has been a longstanding trailblazer in utilizing the world's most proven root cause analysis methodology to consistently improve IT service management, as well as manufacturing capability, reliability and quality among its world-wide business units, suppliers and customers.

### *Boeing IT utilized Apollo Root Cause Analysis to:*

- Reduce or eliminate costs associated with interruptions in IT service
- Reduce the risk of IT problem recurrence
- Maintain internal confidence related to Boeing's Enterprise Management Program
- Maintain customer confidence

## THE BUSINESS CHALLENGE

In the competitive world of aircraft manufacturing, IT-related problems can be extremely costly when they impact production costs and/or customer delivery dates.

Prior to 1998, the Boeing Enterprise Problem Management Group (the EPM Group) – like most of the IT discipline at the time – was not familiar with structured problem-solving concepts or root cause analysis, and so a type of “post-mortem study” was performed on major problems. Looking to improve their problem-solving abilities, Boeing's EPM Group began researching structured problem-solving methods. The Group sought a method that offered universality to any kind of industry and problem, scalability to any discipline or incident size, and ability to be used for IT problems. Boeing concluded that the Apollo method offered those features. Considering Apollo RCA was already being used by Boeing manufacturing, this enabled IT to more easily share results across functional groups.

Over a 10-year period, Boeing consistently reduced the number and severity of IT-related problems, as well as the negative impacts and costs that recurring IT problems could have on the business.

Boeing understood that from the time an incident occurs to the time solutions are implemented, the organization is vulnerable to the consequences of problem recurrence. As a result, Boeing worked constantly to reduce the time it takes to conduct and complete each IT-related RCA, and to implement the recommended solutions. The Group focused on ensuring all short-term solutions were implemented within 45 days of opening the investigation.

Boeing's Enterprise Management best practices are built around the Information Technology Infrastructure Library (ITIL), which is the global standard for IT service management. ITIL is a framework that organizations use to build a cohesive set of best practices which align its delivery of IT services with the organization's business goals.

*For more information, go to [www.itil-officialsite.com/home/home.asp](http://www.itil-officialsite.com/home/home.asp).*

## THE SOLUTION

Boeing's success in consistently reducing the time it takes to conduct RCAs, implement solutions, and effectively reduce the risk of recurrence has been achieved through a variety of initiatives. Working closely with Apollo – utilizing its consulting, software and training solutions – the following actions ultimately improved overall IT service quality:

- Utilizing a set of clearly defined criteria, only high-value IT help desk incidents were escalated to the EPM Group, ensuring that the team members could balance their RCA and regular job responsibilities.
- Implementing Apollo RCA on all threshold level IT incidents.
- Clearly establishing roles and responsibilities at all levels, including establishing a Problem Resolution Board (PRB) comprised of business unit leaders to eliminate roadblocks and assure timely implementation of RCA solutions.
- Applying LEAN value stream mapping to RCA work processes, thus finding ways to implement solutions more efficiently and reducing vulnerability to problem recurrence.
- Prioritizing solutions based on their ability to quickly mitigate risks.
- Archiving and sharing RCA results through a searchable intranet so that previous solutions could be used to quickly address similar new problems.
- Conducting RCAs using virtual tools like e-mail, intranet and Webex, thus enabling IT team members worldwide to more efficiently and cost-effectively solve problems.
- Educating internal business units about the IT department's RCA capabilities and demonstrated results increased internal utilization and problem prevention.



## BUSINESS BENEFITS OF APOLLO RCA

- A systematic approach to more successfully identify root causes and solutions that prevent recurrence. Problem recurrence was prevented 100 percent of the time after all solutions recommended by Boeing's EPM Group were implemented.
- The group reduced the time it took to conduct an RCA from 90 days in 1998, to 44 days in 2007. The increase in efficiency and effectiveness was so significant that the group doubled the number of RCAs that it was able to conduct, all while improving RCA quality and maintaining regular IT services and job responsibilities.
- A tool that allowed Practitioners to perform RCAs in a virtual environment.
- The use of cause and effect charting software to help identify previously unknown causes.
- A requirement for backing up cause and effect analyses with evidence, such as data from server logs, largely eliminates guessing, finger-pointing or arguing.
- A consistent approach that enables comparison of RCAs in order to proactively identify solution opportunities.
- The means to minimize organizational vulnerabilities by prioritizing and scheduling solution implementation.
- The means to align problem management with business goals.
- As other people and departments within the organization learned of the IT group's value and track record, the group gained credibility and its skills were applied to problems existing in other divisions. The group increased its RCA volume by 100 percent in four years by addressing problems that otherwise would have been left un-solved.
- The group's efforts ultimately reduced the number and risk of problem/incidents, increased internal and external customer confidence and satisfaction, and realized significant savings.

## ABOUT BOEING I.T.

Effective and efficient IT service management is critical to the world leader in design and manufacturing of commercial jetliners and military aircraft. Like all successful corporations today, IT systems underlie Boeing's competitiveness in the aviation and aerospace industries. Effective IT systems enhance Boeing's abilities to:

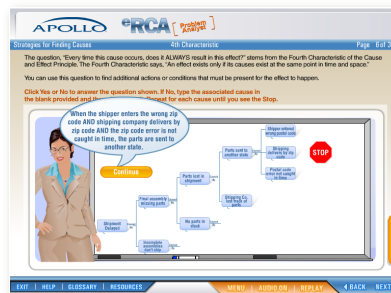
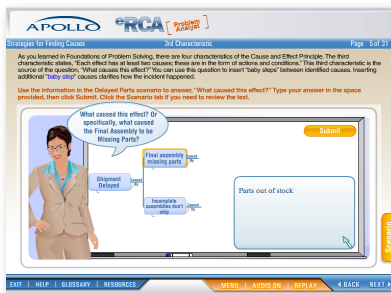
- Create more efficient + electronically enabled airplanes
- Integrate cutting-edge aerospace and aviation technology into systems
- Collaborate across business units
- Control the cost of goods + services

For more information, go to [www.boeing.com](http://www.boeing.com).

## ABOUT APOLLO

Since 1987, Apollo Associated Services has been leading and innovating root cause analysis (RCA) training, consulting, software and investigation solutions. Apollo helps organizations attain leading positions in a competitive global market by achieving measurable results, including: cost reduction, throughput gains, time savings, quality improvement, injury reduction, improved regulatory compliance and reduction/elimination of day-to-day problems. Apollo RCA is a four-step method that includes defining the problem, analyzing cause and effect relationships using RealityCharting® software, and identifying and implementing solutions.

For more information, go to [www.apollorca.com](http://www.apollorca.com).



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