

## Delphi Improves Warranty Response, and Customer Satisfaction, with Oracle Endeca Information Discovery

“With Endeca, we can put our best problem-solving resources to work much sooner by finding field performance issues in hours rather than weeks, great for both Delphi and our customers.”

William Guggina  
Vice President, Operations  
Delphi Electronics & Safety

### Big variety of data, big variety of field performance records

Discovering the root cause of more field performance issues and doing it faster than ever before means:

- A reduction in detection-to-correction time. Delphi can get ahead of performance issues, reducing incidents.
- Warranty analysts spend less time manipulating data, more time getting to root causes.
- Happier customers with fewer problems.

Delphi Electronics & Safety, a division of leading global auto parts supplier Delphi Automotive, had a data analysis challenge – how to deal with the huge amounts of warranty data provided by its customers. Every month the firm receives field performance data related to its 340,000 active parts in service in millions of vehicles worldwide. This data comes in through the car makers, the “original equipment manufacturers,” known as OEMs. With this information the Delphi division is challenged to determine if the performance of parts are meeting contractual levels and if improvements are needed.

Delphi has plenty of data at its disposal to conduct these analyses – input from more than a dozen different OEM systems, each with its own distinct format; Delphi’s own parts databases and data from its manufacturing facilities and remanufacturing organization, plus industry data. The division employs 40 warranty engineers worldwide to analyze customer data, and some are specialists in particular OEMs’ data formats. Most customers demand complete analysis and response to their data within a 30-day window. Once the 30-day window closes, Delphi is potentially billed for cost incurred by the customer regardless of true responsibility for a failed part. Along with the potential financial impact, Delphi was not satisfied with its speed for early detection of a field performance issue so that fast improvements could be implemented, an important factor in customer satisfaction.

The real culprit in slowing response time, and time from detection to correction, was the variety of issues, not the volume. Every set of customer data required new analysis. Every new analysis required the integration and transformation of new types of available data. Warranty engineers spent more of their time manipulating data than getting answers from it. Either they had to do this time-consuming work themselves or they had to wait in line for IT to run a special report and get back to them.

It was clear that the problem couldn’t just be solved by hiring more people. The growth in available data guaranteed that the integration and transformation work would always outstrip the number of people who could be hired and trained to do it. As long as the data had to be organized into new models before new analyses could be done, the company would have to continue paying for field performance issues that weren’t its fault.

### Combine many diverse data sources to enable exploration and discovery

Then came Oracle Endeca Information Discovery (EID). Using Oracle’s EID, Delphi was able to combine data from 16 different systems, including customer transaction data from SAP, parts attribute data from internal catalogs, incident data from a problem tracking system, and verbatim text descriptions from field performance issues.

## About Endeca Information Discovery

Oracle Endeca Information Discovery is an intuitive, enterprise data discovery platform for the exploration and analysis of complex and varied data.

- Easily combine data. The core search-analytical database combines complex and varied data from disparate source systems, deriving a flexible faceted data model from the incoming data.
- Easily explore relationships. The intuitive interface and highly-scalable server enable users to explore data in an unconstrained and impromptu manner.
- Easily evolve applications. The highly-interactive, component-based environment is used for quickly and iteratively building enterprise-class discovery applications.

The records from this wide variety of systems were linked by Delphi part numbers in some cases, customer part numbers in others, and service part numbers in still others. This new combination of diverse data is accessible to warranty engineers through a zero-training interface that combines simple searches with sophisticated analytics.

### A new search-analytical engine adapts to attribute explosion

What makes this possible is a new kind of technology. Instead of requiring a pre-determined data model, the system derives its own model by indexing the incoming records and documents, including their structures, values, and any textual content. By eliminating the need to fully organize data before analyzing it, Delphi warranty engineers can spend less time preparing data and more time solving problems. By combining common analytical techniques like data visualizations and alerts with familiar search features like type-ahead query completion, spell-correction, and tag clouds, warranty engineers now investigate problems in new ways, asking questions previously thought too difficult to even attempt.

In the first month of deployment, engineers discovered the root cause of three field performance issues. Delphi realized that having this big data discovery app months before could have allowed the company to detect these issues earlier for faster improvements. Since then, the Oracle Endeca solution has paid for itself many times over in speed of response, allowing Delphi to detect and fix field issues faster for its customers and potentially faster and better than any of its competitors.

### Same analyst resources, vastly expanded analysis capabilities

Since adopting information discovery into its warranty and quality processes, Delphi Electronics & Safety no longer sees data variety as an obstacle to information value, but as an opportunity. “With Delphi’s original application of Oracle Endeca, we can put our best problem-solving resources to work on issues much sooner,” said William Guggina, vice president of Operations for Delphi Electronics & Safety. “We are able to find any field performance issues in a matter of hours rather than weeks, a great benefit for both Delphi and our customers.” Delphi now can simultaneously manage specific warranty plans for each of the 20,000 individual part numbers it manufactures and ships at a rate of 7 million pieces each month. It can more deeply investigate the field performance data from products like navigation systems, each of which may have a thousand component parts in its assembly, and promptly solve any issues found.

## CONTACT US

For more information about Oracle Endeca Information Discovery, visit [oracle.com/businessintelligence](http://oracle.com/businessintelligence) or call +1.800.ORACLE1 to speak to an Oracle representative.