

# Teradata Government Systems

## Active Enterprise Intelligence



### Our People Distinguish Us, the Pursuit of Excellence Unites Us.

Federal agencies and departments are clearly in need of timely, centralized decision support solutions to help them better share information, improve analysis of structured, semi-structured and unstructured data, respond more quickly and efficiently in the aftermath of disasters, and find new ways to serve constituent needs.

To make informed strategic and tactical decisions, most federal government organizations face the daunting challenge of analyzing vast amounts of data. This data is often distributed across multiple, diverse computing environments, with local and remote data stores that may be scattered throughout the organization and are not easily linked for query and analysis. As federal sector organizations have started to shift away from isolated silos of information to web-enabled service oriented architectures, it's important to understand that the ability to search and retrieve information, while crucial for transaction processing applications, is far less effective when used for data mining and analytic research.

Instead, federal agencies and departments must focus on the need for an analytic engine to extract information from various, diverse database resources, and apply data mining techniques to help resolve complex problems – from master data management to logistics, in healthcare, intelligence, homeland security and finance, among other areas.

A centralized enterprise data warehouse offers the best possible solution to the government's growing analysis challenges. Most people think of an enterprise data warehouse (EDW) as an integrated and centralized repository of detailed, historical data that supports strategic decision-making. An Active Enterprise Intelligence (AEI) architecture is the next step in the evolution of the EDW. AEI enables users to combine both historical and 'near' real time data to support tactical operational decision-making as well as traditional strategic analysis. This architecture combines the outputs of traditional transaction processing systems with agile analytic capabilities to implement multiple decision-making applications for multiple groups and serves as the single source of data for the enterprise.

Most federal agency executives still believe they must choose between two architectural

alternatives: leaving data distributed in operational systems throughout agencies and departments and attempting to analyze it remotely; or integrating necessary data from agency systems into an enterprise data warehouse for analytic purposes.

Increasingly however, the concept of choosing one alternative has become truly unnecessary. In fact, while many agency leaders may not initially see a fit, these government organizations ultimately need both types of data warehousing resources to succeed. They typically are choosing Services Oriented Architecture (SOA) solutions for online transaction processing and various search applications. But they also desperately need to include an SOA-based, centralized analysis and data mining solution to help perform complex, reusable analytics. Rather than hammering network performance to search for data scattered across departments, agencies or even far flung satellite locations, including a centralized enterprise data warehouse in their SOA will enable government organizations to more easily protect information, provide superior, integrated and detailed data for research and analysis, and deliver the highest levels of multidimensional scalability to suit the vast analysis needs of any government institutions.

### What Sets Teradata Apart

Perhaps the biggest benefit of Teradata's enterprise data warehouse for federal organizations is that it easily fits into any agency's enterprise architecture. The company's consulting expertise and support services can help any government organization generate the pilot projects that will speed return on investment, while validating the need for advanced analytics to aid in support of key agency mission goals.

With over 25 years of data warehousing experience, Teradata is raising intelligence and helping government agencies gain a clear, integrated view of their vast data resources, to help them achieve critical mission goals and make smarter, faster decisions. Teradata's highly scalable decision support platform with specialized tools, data mining and web accessibility features,

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Raising Intelligence

## Setting an Example

When it comes to information sharing, continuity of operations planning (COOP), homeland security and counter-terrorism efforts, it's easy to see how the value of decision support solutions could be measured in lives as opposed to revenue and profits.

Securing U.S. shores would clearly be enhanced by knowledge gained from fusing data on terrorist cell activity, cargo shipments, ship movements, intercepted communications, watch lists and other intelligence resources. Like the weaving of threads to make a blanket, intelligence and defense organizations could leverage information from various diverse data resources to piece together and foil attempted terrorist plots. For example, if a terrorist organization were to load a dirty bomb into shipping container 'Y' bound for port 'A' from country 'Z' agencies could use information (such as the cargo manifest) to analyze shipments. That way, when manufacturer 'X' ships cargo 'Y', key federal organizations would gain insight into the anomaly of shipping container 'Y' to port 'A' as an unusual pattern.

Meanwhile, an organization that monitors telecommunications activity of foreign organizations with known ties to terror groups may note an increase in activity in country 'Z'. The surveillance organization would report on the activity as part of its usual reporting process. At the same time, Visas may also be requested by individuals whose backgrounds and financial means don't match with traditional visitors from country 'Z'.

In a distributed database environment, it's nearly impossible to analyze multiple separate events for possible linkages. Distributed or 'federated' data warehouses are database systems that function separately and aren't 'aware' of the others. When each of the individual groups and systems function independently, a complete picture of any possible terrorist plot simply can't emerge. This ultimately translates to lost time, productivity and inconsistent information for analysis. By employing a centralized enterprise data warehouse, which actively analyzes emergent patterns that occur from a myriad of source systems, intelligence and defense organizations would start to detect relationships from non-obvious sources, enabling the kind of cross-organizational analysis that could provide more rapid understanding and response. Enterprise data warehousing brings speed and clarity to the decision-making process, improving the quality of information and accelerating timely response and intervention.

provides the analytic engine agencies need to interpret information gleaned from far-flung database resources, both within and across agency boundaries (*see sidebar*).

Whether working directly with federal institutions or via systems integration partners, Teradata's solutions are widely used in the data warehousing initiatives of the U.S. Air Force, the U.S. Navy, the Department of Labor, the Department of Justice, the U.S. Postal Service and the Department of Agriculture, among many other federal and state government organizations. At the U.S. Air Force, for example, Teradata provides massively parallel processing power and linear scalability that USAF needs to perform intricate decision support queries that hone the Department's analytic prowess.

While competitors will argue over database size and scalability, Teradata is recognized by customers as the only EDW supplier to offer multidimensional scalability, which roughly translates to the ability to expand a data warehouse, much like a rubber band, to meet the complex demands of any number of users, systems and queries. That's why for example, the Center for Medicaid and Medicare Services recently chose Teradata for its enterprise data warehouse solution.

Gartner Group named Teradata as the leader among data warehouse suppliers for the completeness of its vision and the ability to execute in its solutions. (Source: Gartner Inc., Sept. 2007 Magic Quadrant.) Perhaps this is also why 90% of the top ten global telecommunications firms, 70% of the top ten global airlines, 60% of the top ten transportation logistics firms, and 50% of the top ten global retailers all turn to Teradata. This is also why the world's leading enterprise data warehousing provider is definitely worth a closer look as the federal government strives to better deliver on its strategic analytic, security and information-sharing goals. Data warehousing isn't just something we do – it's *all* that we do.

For more information, please visit [Teradata.com/government](http://Teradata.com/government) or call 937-242-4030.

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