

Dispelling the Myths

A fact-based white paper that dispels the most common Teradata myths that persist in the industry

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Dispelling the Myths

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Dispelling the Myths about Teradata

Teradata pioneered the data warehousing industry more than 25 years ago. Building a separate system and architecture to analyze data was an innovative concept. The Teradata vision of building a massively parallel processing, shared-nothing architecture, built on industry-standard Intel® CPUs, that could scale linearly, has remained amazingly resilient through the years. Even during rapid industry growth, this vision has proven to be the best approach for analytical systems.

Many advances in technology have occurred since Teradata was formed. The market has evolved from basic batch-loading and reporting workloads to enterprise data warehousing, and is now in the real-time operational business intelligence phase. Traditional database vendors have attempted to modify their OLTP databases to meet the unique demands of data warehousing. Many new competitors have entered and exited the market. Most have tried to copy many of the unique advantages of the Teradata architecture. Teradata has been imitated by many, but duplicated by none.

As the industry has evolved and changed, one company has stood the test of time and remained in the leadership position – Teradata. And naturally, when you lead an industry for so long, you become the primary target of your competitors’ marketing efforts. Lagging companies aspire to be in the leadership position, and over the years they become quite effective at creating fear, uncertainty, and doubt (FUD) in the minds of prospects and other industry influencers in their quest to gain market share.

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During this time of rapid industry expansion, there has been a tremendous change in both the cost and price models of data warehousing. Any company who purchased a data warehouse system a few years ago would be astounded to see how dramatic the price reductions have been on a price-per-performance basis. Even though Teradata pricing has decreased significantly over the years, while performance and functionality have increased, older pricing levels still linger in many people's minds. And our competitors have gladly reinforced these older pricing perceptions in their marketing materials. As recently as 2009, one competitor referenced \$1 million per terabyte for a Teradata system in a white paper. This was more than \$800,000 higher than our actual pricing, which is available on [Teradata.com/t/WorkArea/DownloadAsset.aspx?id=4682](https://www.teradata.com/t/WorkArea/DownloadAsset.aspx?id=4682).

So, for a number of reasons, many myths about Teradata persist in the industry. This paper aims to dispel those myths with facts.

Perception is reality, and in this paper we'll use facts to shatter many of the current Teradata misperceptions that exist. We hear the same ones on a daily basis around the globe, so addressing them is easy. Let's get started.

Common Teradata Myths

- > Teradata is not innovative.
- > Teradata must be expensive because it's the "gold standard."
- > Only really big companies run Teradata.
- > Teradata is only for large-scale enterprise data warehousing.
- > Teradata maintains high pricing.
- > Competitors have lower TCO than Teradata.
- > Competitors are replacing Teradata systems.

Myth

Any fictitious story, or unscientific account, theory, belief, etc., usually spread or reinforced by a competitor.

Dispel

To cause to vanish, to drive away with facts.

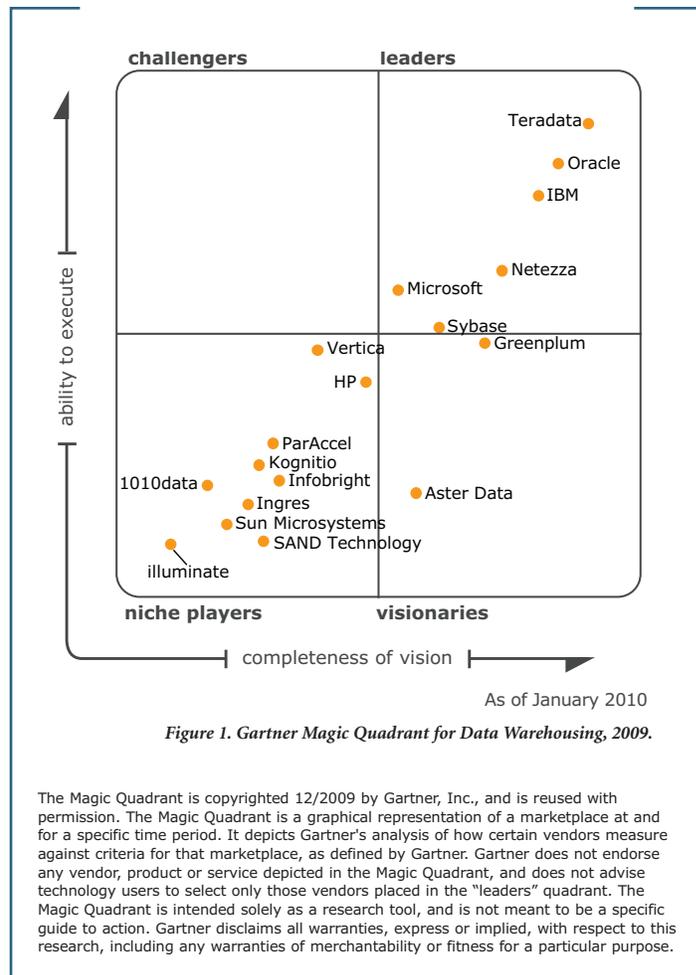
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Myth #1 – Teradata is not innovative

Since Teradata has led the industry for so long with our original architecture and vision intact, competitors like to say we are not innovative. Newer start-up companies are claiming to have *disruptive* new technologies.

Sustained innovation is required to stay ahead of the market. We have consistently ranked in the leadership position of the Gartner Magic Quadrant for Data Warehousing. Other top analyst firms, such as Forrester, also rank Teradata the industry leader. So Teradata is the undisputed industry visionary and leader. Let's look at Teradata's track record for innovation over the years:

- > Teradata **invented data warehousing in the 1980s** by building the first commercially viable system to address the unique requirements of analyzing data.
- > We built the **first data warehouse appliance**.
 - The Teradata Database Computer (DBC/1012) was named Fortune Magazine Product of the Year in 1986.
- > Teradata **led the enterprise data warehousing market** and was the first vendor to build robust, integrated multi-application data warehouse environments.
- > We **pioneered the market for operational business intelligence**.
 - Teradata's Active Enterprise Intelligence™ capabilities and Active Data Warehousing™ technology drive real-time operational analytics.
 - More than 100 Teradata customers are using their data warehouses for front-line operational applications.
- > The **first terabyte and petabyte data warehouses** were built on Teradata systems.
- > Teradata has been in the **leadership position of Gartner's Magic Quadrant** since its inception.
- > We built the first **virtualized software** environment for data warehousing, decoupling the CPU, memory, and disk drives.
- > We have approximately **1,000 customers**, many of whom compete using analytics to gain competitive advantage and transform their industries. Teradata customers have won hundreds of awards over the years with the innovative data



“Teradata’s solutions, which include the data warehouse platform, data models, and professional services dedicated to data warehousing set it apart from the rest of the market.”

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warehouses they've built on Teradata technology. The business value driven from Teradata **totals more than \$1 billion** for some customers. AT&T recently won the *InformationWeek* "Enterprise Intelligence" Award.

- "Because the [Teradata] solution touches nearly every area of the business, it has been responsible for saving the company more than **\$1 billion** since its initial implementation."
– AT&T News Room, October 29, 2009.

- > Teradata Labs, our R&D organization, is once again "out-innovating" our competitors with **Multi-Temperature Data Warehousing, Automated Virtual Storage, In-Database Analytics, and Cloud Computing**. We built the **first 100-percent solid-state appliance** for extreme performance – the Teradata Extreme Performance Appliance, which is the **world's fastest data warehouse**.

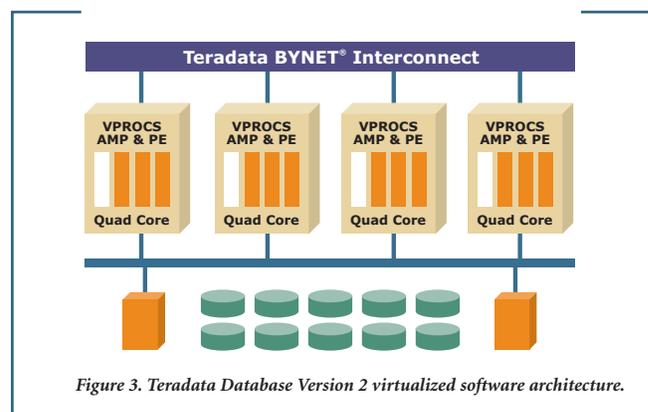
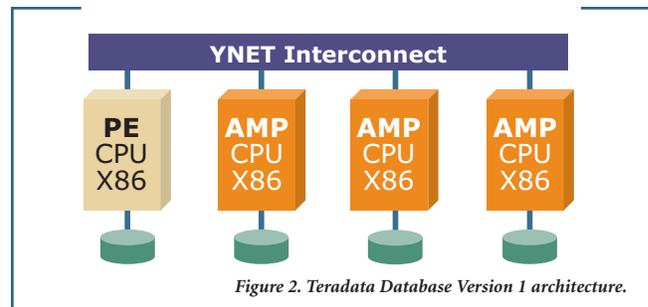
Our architecture has evolved significantly – but our original vision has not. For example, our original architecture (Teradata® Database Version 1) was a hardware model with one-to-one wired relationships between CPU, disk, and memory.

When we evolved to Teradata Database Version 2, we virtualized the environment and set the stage for rapid innovation. (See Figure 3.)

This key innovation in software virtualization kept our original massively parallel processing, shared nothing architecture intact. But by evolving from a hardware-centric approach to a virtualized software architecture, it opened the door to other key innovations such as:

- > The leverage of open industry standards such as RAID, UNIX®, and Linux.
- > Multi-generation hardware co-existence so companies could grow integrated data warehouse environments without disruptive and costly "floor-sweep" upgrades.
- > Hot Standby Nodes that wait on standby to automatically take over in the event of a node failure to enable performance continuity and improve availability.

So in the face of unprecedented competitive attacks and copycat architectures, Teradata remains the industry's innovative leader.



"This system upgrade, including the Teradata Data Warehouse Appliance, has increased our ability to make better, timelier decisions while also providing us the opportunity to integrate other business units' data into the enterprise warehouse to accommodate future information requirements. By moving to a new platform now and redeploying our Teradata Data Mart Appliance, we expect to see significant savings of as much as \$400K over the next three years."

– Brett Hart, Manager of Finance and Business Reporting, Pharmacy Division, API Pharmacy

"The combination of technologies from Teradata and Informatica will help improve our ability to react to changed circumstances and assist us in monitoring performance and profitability through appropriately aggregated data and improved reporting. Efficiency in the API pharmaceutical wholesale business is vital to ensure that Australians [can] access all medicines from their local pharmacy within 24 hours no matter where they live."

– Doug Horwood, Manager of Information Management, API Pharmacy

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Myth #2 – Teradata must be expensive because it’s the “gold standard”

As we established in addressing the previous myth, Teradata is the innovative leader, or the “gold standard” for data warehousing. Because of this, many jump to the conclusion that we therefore must be expensive relative to our primary competitors. It is predictable that people conclude that we have a premium pricing strategy. But this is not true.

Our systems are actually priced to be highly *price-competitive* with our primary competitors in each market segment including:

- > Hardware
- > Storage
- > Database
- > Maintenance and support
- > Software subscription
- > Consulting services

By looking at Figure 4, you can see that Teradata is surprisingly affordable.

If you already have an Intel Server, you can start with Teradata’s Data Mart Edition for only \$40 thousand (U.S. list price for a dual core Teradata Data Mart Edition software license based on Accelerate Program Discount)

Teradata Extreme Data Warehouse Appliance is priced at only \$16.5 thousand/TB (U.S. list price)

The **Teradata Data Mart Appliance** starts at **only \$150 thousand** (based on Accelerate Program Discount)

Get a complete, scalable 6TB Teradata data warehouse solution for less than \$1 million, which includes Implementation Services, Teradata Data Warehouse Appliance 2580, and your choice of a leading ETL and business intelligence tool

Figure 4. Teradata is affordable.

“Teradata allows customers to engage in several market microtrends. With the publication of lower pricing and greater discounts, it has addressed increased pricing pressure in the market.”

– Gartner 2009 Magic Quadrant for Data Warehouse Database Management Systems

“We were impressed by Teradata’s retail expertise, professional consulting services and its ability to deliver a system that is a perfect fit and price for our business and technology requirements. Teradata gets retail – and they know exactly what we need. We increasingly rely on detailed and predictive insight to be successful – and the power of Teradata’s enterprise-class analytics has come at just the right time for our business.”

– Chris St. Clair, CIO, United Supermarkets, LLC

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The fallacy of price per terabyte

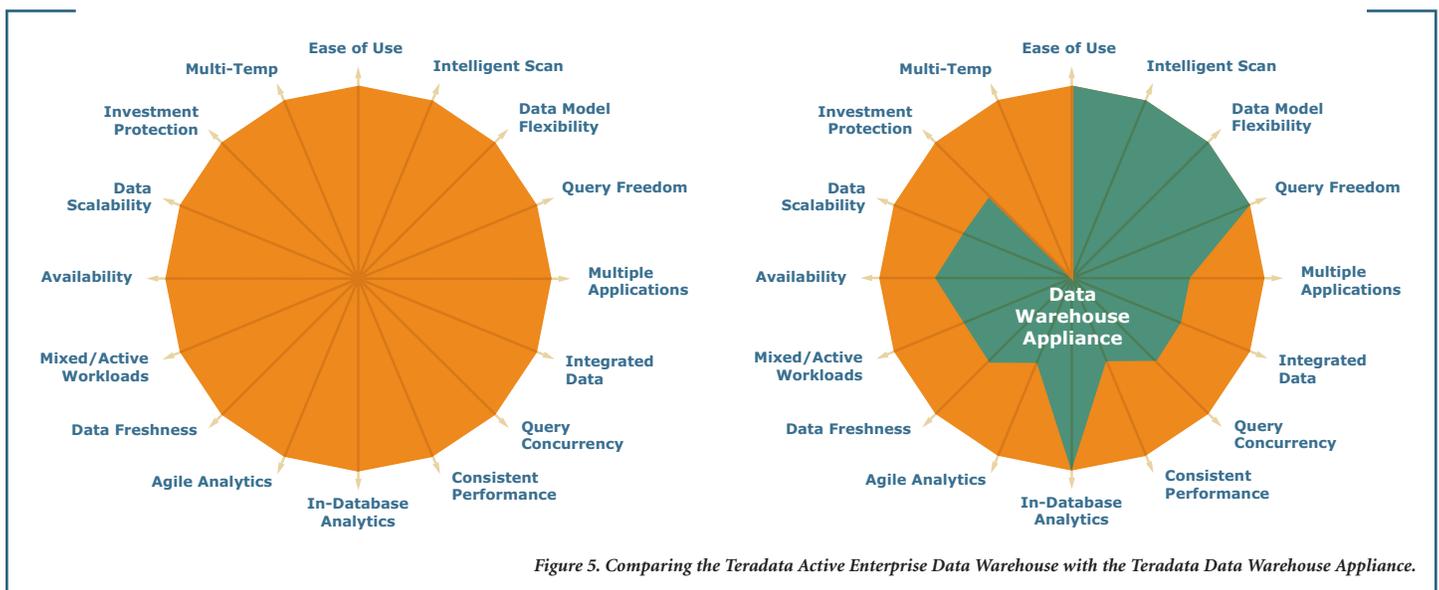
The industry has conveniently adopted *price per terabyte* as the de-facto pricing metric. Many competitors are touting low prices based purely on this storage metric. And even experienced industry analysts are not digging deeper to compare performance and capability. This leads to simplistic pricing evaluations and unrealistic system comparisons. Let's explore this further:

- > It is a common metric to evaluate data warehouse systems.
- > It is easy to calculate and understand.
- > But it does not account for performance, manageability, availability, scalability, or investment protection.
- > When evaluating price for a data warehouse, you need to factor in your specific requirements and the ability of the system to meet your required capabilities. Price per terabyte should be a consideration, but not the primary purchase criteria. When you purchased your home, was price per square foot your primary purchase criteria?

Let's look at the Teradata Active Enterprise Data Warehouse compared to our Teradata Data Warehouse Appliance. Of course, these platforms are priced differently on a price-per-terabyte basis since they have different capabilities.

The Active Enterprise Data Warehouse platform scores high in all the capability dimensions. The Teradata Data Warehouse Appliance has a very different capability profile, so simply comparing these two platforms based on price per terabyte would not be a smart way to decide which to buy. So when you compare platforms for data warehousing, look beyond the price per terabyte.

And be careful when vendors quote their price per terabyte after compression. It is common to see compression claims of 10X by vendors. But they rarely size their proposed systems based on high compression rates since they would fall far short on performance. 10X compression could result in a system 1/10th the size, and this is not what vendors propose. So do your homework and make sure you evaluate the system based on your performance requirements.



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Myth #3 – Only really big companies run Teradata

Many of our most widely known reference customers are some of the largest companies in the world. And these companies naturally get a lot of attention in the industry. Most people familiar with the data warehouse market know these are Teradata customers. However, most do not know that companies of all sizes run their data warehouses on Teradata systems.

In fact, 35 percent of our customers have annual revenue less than \$1 billion. As you see in Figure 6, Teradata is not just for really big companies.

“I never thought we’d be able to afford Teradata.”

– Kevin Baartman, V.P. of Information Services at Lund Food Holdings, Inc. a 21-store, upscale retail chain

Annual Revenue of Teradata Customers

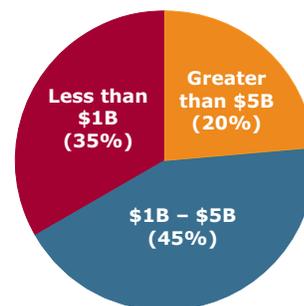


Figure 6. Breakdown of Teradata customers by annual revenue. Thirty-five percent of customers have less than \$1 billion in revenue.

We have a wide range of customers of all sizes in many different industries

For every **Bank of America**...

...there is also Toho Bank, St. George Bank, Shikoku Bank, Bank of New Zealand, and Standard Bank of Russia.

For every **SuperValu**...

...there is also Cabela's, Applebees, Hallmark, Haggen Foods, Giant Tiger, and Lund Foods.

For every **Harrah's**...

...there is also Silverton Casino and Mohegan Sun.

For every **Nationwide**...

...there is also Alfa Insurance, Harvard Pilgrim Healthcare, and Corona Direct N.V.

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Myth #4 – Teradata is only for large-scale enterprise data warehousing

Similar to the previous myth, since many Teradata customers run the most sophisticated and largest data warehouses in the world, they get most of the press and media attention.

It is natural that everyone likes to talk about the extreme examples.

More companies today than ever before want to leverage business intelligence and analytics within their organizations. Teradata's new strategy enables organizations of all sizes to reach this goal. An essential element of the strategy is our new family of platforms that has been designed to meet *any analytical requirement and any price point*.

Teradata platforms can be used for small data marts, exploratory sand boxes, and many other special-purpose analytical systems in addition to our traditional focus on enterprise data warehouses. See Figure 7 for our lineup of platforms.

You can clearly see that Teradata is not just for large enterprise data warehouses. At the heart of our platform family strategy is the Teradata Database. Each platform runs the same version of the Teradata Database so you can easily grow and evolve by migrating your data, applications, and tools seamlessly between platforms.

It's interesting to note that many competitors are now announcing platform families. Once again, Teradata is leading the market with our vision and execution.

	Data Mart Appliance	Extreme Data Appliance	Data Warehouse Appliance	Extreme Performance Appliance	Active Enterprise Data Warehouse
Purpose	Test/ Development or Smaller Data Marts	Analytics on Extreme Data Volumes from New Data Types	Data Warehouse or Departmental Data Marts	Extreme Performance for Operational Analytics	Enterprise Scale for Strategic and Operational Intelligence EDW/ADW
Scalability	Up to 6TB	Up to 50PB	Up to 517TB	Up to 24TB	Up to 14PB
Sub Segment	Departmental Analytics, Entry-Level EDW	Analytical Archive, Deep Dive Analytics	Strategic Intelligence, Decision Support System, Fast Scan	Operational Intelligence, Lower Volume, High Performance	Active Workloads, Real-Time Update, Tactical and Strategic Response Times

Figure 7. The Teradata Purpose-Built Platform Family.

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Myth #5 – Teradata maintains high prices

Along with the “Teradata is expensive” myth comes the myth that we have not significantly reduced our pricing over the years. Fortunately, we have a historical pricing metric that we use to measure our system power that validates our pricing scorecard. Our customers rely on this as a trusted metric when planning system capacity and upgrades. Leading industry analysts say this is the best pricing metric in the industry. So let’s explore the facts.

Over the past three major platform generations, on an equivalent performance basis, the price of Teradata Active Enterprise Data Warehouse system performance has dropped from \$1 million to less than \$300 thousand – while database functionality and performance has increased. This is a price decrease of more than 70%.

You can clearly see that Teradata has consistently driven higher performance and lower pricing. This is one reason our customers remain intensely loyal.

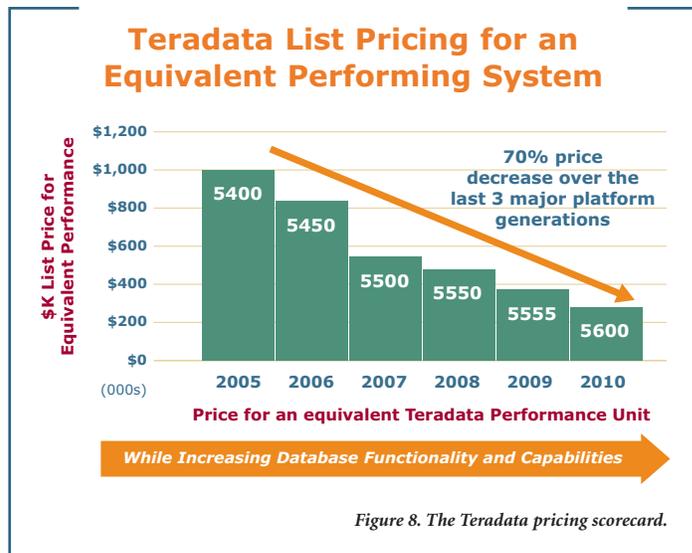


Figure 8. The Teradata pricing scorecard.

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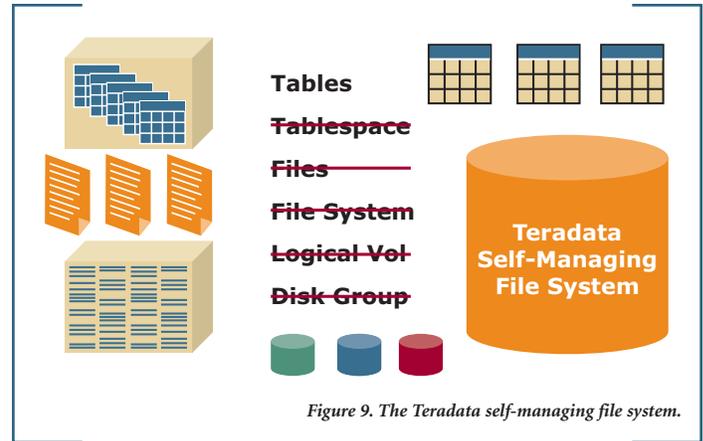
Myth #6 – Competitors have lower TCO than Teradata

Many assume that since Teradata Database is a massively parallel processing environment and runs the most sophisticated data warehouse environments in the world, it must be complex to manage. Teradata Database was designed from inception to automate most of the data loading and management tasks required to build and maintain a data warehouse. We designed in simplicity from the beginning, and that remains a critical design priority for our engineers at Teradata Labs. Data is automatically distributed across the disk drives, nodes, and parallel units in the system. As companies grow the number of applications and users over time, Teradata Database scales effortlessly for the DBA. A 100-node Teradata system is just as easy to manage as a two node system.

Built-in Teradata Simplicity:

- > **No** optimizer hints needed.
- > **No** need to manage parallelism.
- > **No** need to manage physical computing nodes.
- > **No** need to manage physical disk subsystem.
- > **No** re-orgs needed.
- > **No** index rebuilds needed.
- > **No** partitioning or re-partitioning required.
- > **No** detailed space management needed.
- > **No** memory/cache management needed.
- > **Simple** database and table definition.
- > **Minimum** ongoing maintenance.
- > **Advanced** workload management.
- > **Built-in** high availability and failover.

Teradata Database does most of the work automatically, saving time and resources.



“The Teradata data warehouse environment was designed to be self managing, and most common DBA tasks are automated. In fact, we had less than one full-time DBA assigned to keeping the Teradata systems running. The data warehouse supported multiple applications and users and contained over 6TB of data. Most of the production DBAs’ work was proactive rather than reactive. And as we scaled users and applications, the administration of the system remained relatively constant.”

– Jim Blair, Data Warehouse Consultant and Former Sr. Manager, Data Warehouse Operations, at a major healthcare company

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Teradata Database has always ranked lower in the number of DBAs required to manage a system relative to OLTP databases such as Oracle and IBM DB2.

Newer appliance competitors have copied Teradata's integrated system design approach and have come closer to matching our simplicity but with fewer optimization capabilities. But their marketing claims a significant advantage for them over Teradata in this area. One even claims a 6:1 advantage in a whitepaper on their website. These competitors have shrewdly arranged for their

data mart prospects to talk to much larger and sophisticated Teradata EDW customers. The Teradata EDW customers have multiple applications and thousands of users, so this is not a valid comparison to a simpler data mart environment. Obviously, over time as you add data and users, you will need to grow your support staff. So be careful to compare "apples to apples" when considering the level of effort required to manage a data warehouse system. The size, scale, and sophistication must be comparable.

“I would love to say that I spend half my time administering the Teradata system, because when you consider the EDW's [enterprise data warehouse's] importance to the company, it should be half my time. But the truth is that I spend a lot more time maintaining other databases and performing other aspects of my job than I do working on the Teradata system.”

– Sandy Rumble, Data Center Manager, Ping, Inc.

“I'm a DBA and there's only a couple of us in our group that work on Teradata, so I need to be very efficient and get things done quickly. And, the best thing about Teradata is its low cost of administration. When I say cost, not dollars and cents, but my time. For example, I spend about probably one to two percent of my time in an average week or in an average month doing necessary administrative functions on the Teradata Database. The rest of the time I'm doing applications, fast load, design and all these other good things that help to serve our customers. That's probably the biggest thing about Teradata. It just does everything for you. The database, yeah...the database does everything for you that you can possibly ask for.”

– Jefferson County Public Schools

“From a DBA perspective, my background has been with Oracle, Informix and Teradata, and by far I would have to say Teradata is the most easy to manage. I really don't have to put in the amount of effort that I have to with the other databases. It's pretty simple on all the tasks once you are set up. But, being a good DBA you try and make sure that the performance is what it should be. The normal maintenance isn't as much as the other databases and you have extra time to go above and beyond to work on the things that you wish you would have had time to on the other databases. Teradata is definitely the most favorite of the databases that I work with.”

– Wesco International

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Myth #7 – Competitors are replacing Teradata systems

It seems like every Teradata competitor has a “Teradata trade-out” program available these days that says: “Let us help you move off your expensive Teradata system.” For years, we have been attacked directly by multiple competitors. So many listen to the hype and assume these programs and competitive attacks have been successful. Let’s first look at some definitions to get us grounded, and then explore the facts.

Competitive replacement – An existing data warehouse system is replaced by a competitor’s data warehouse system. The data and applications are migrated to the new system, and the older system is either turned off or redeployed in a different application area of the business.

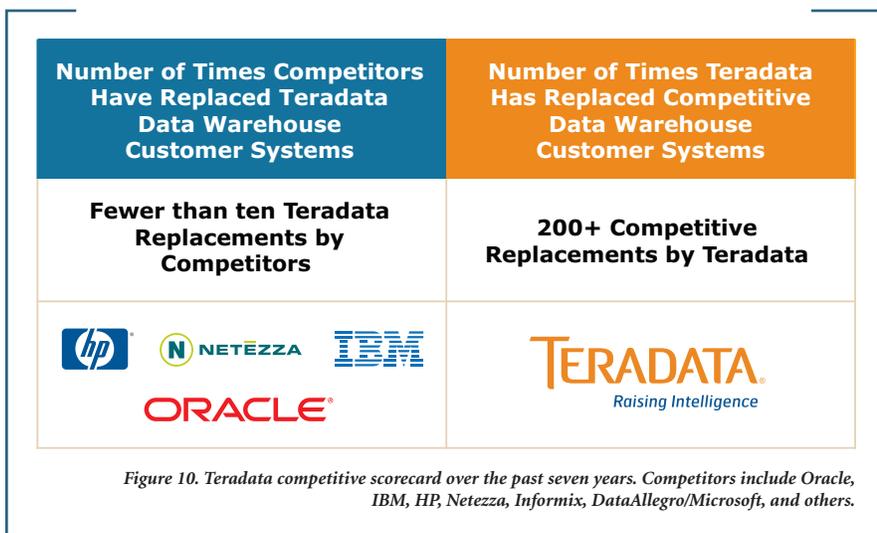
Workload off-load – A subset of data, or an application, is “off-loaded” to a competitive system.

New application – A new system from a competitor is sold into an existing account in a separate application area of their business. This may be into a new business unit or geography, but it is outside the scope of the existing data warehouse.

We need clear definitions since competitors like to muddy the water and exaggerate their competitive replacement claims. The bottom line is that we have the most loyal customer base in the industry and very few over the years have actually moved their data warehouse from Teradata to a competitive data warehouse technology.

Conversely, many customers chose Teradata only after finding that their OLTP database could not handle the unique demands of data warehousing. Naturally, they would like to have fewer databases in their environments. Let’s look at the scorecard. (See Figure 10.)

Of course, there are instances where a competitor has sold into another business or application area of a Teradata customer (“new application”) or has successfully moved some data or an application from a Teradata system (“workload off-load”) over the years, but they tend to group replacements, new applications, and off-loads together, which inflates their success claims. And now Teradata has a family of lower-cost appliances, so many of our EDW customers who do elect to move an application or data for various reasons, are choosing to off-load to a Teradata appliance platform. Since our appliances run on the exact same version of the Teradata Database that our Active EDW platform runs, they can move data and applications seamlessly, with a low level of effort.



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Summary

A lot has changed since Teradata was “born to be parallel” 25 years ago. Funded by credit cards and started in a garage in Brentwood, California, it has been a wild and successful adventure. Teradata is clearly the industry leader. And you can see from this fact-based white paper that the common perceptions about Teradata are not valid. We are an innovative company with a long heritage of leading the industry.

About the Author

Ed White is the General Manager of Teradata Appliances. He has more than 15 years experience in data warehousing. Ed’s team led the introduction of the Teradata Purpose-Built Platform family and appliance strategy. His team is responsible for the global marketing of Teradata products and programs, including the Teradata Database, Purpose-Built Platform family, Teradata Active Enterprise Intelligence™ strategy, Active Data Warehousing™ strategy, Advanced Analytics, and Master Data Management.

Myth	Fact
Teradata is not innovative.	Teradata is the industry leader as recognized by Gartner and Forrester.
Teradata is expensive because they are the “gold standard.”	Teradata is competitively priced to win.
Only really big companies run Teradata.	35 percent of Teradata customers have annual revenues less than \$1B.
Teradata is for large-scale enterprise data warehousing.	Teradata has a platform family that covers ALL market segments.
Teradata maintains high prices.	What cost \$1M five years ago costs less than \$300K today.
Competitors have lower TCO than Teradata.	Teradata Database is easier and less costly to manage than other databases.
Competitors are replacing Teradata customer systems.	Competitors have replaced fewer than ten systems while Teradata has replaced 200+ competitive systems over the past seven years.

Figure 11. Summary of the myths and corresponding facts about Teradata.

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