Teradata IntelliBase™

Complete Analytical Ecosystem

Harnessing the power of twenty-first century big data to discover the answers that matter most to businesses often requires multiple analytic technologies and platforms. Figuring out where and how to efficiently analyze and store this data can be intimidating and confusing. Teradata® IntelliBase™ enables organizations of all sizes to cost-effectively utilize a variety of technologies to explore, analyze, and transform data into actionable answers that deliver high-impact business outcomes.

Organizations looking to gain a competitive advantage by rising above the complexity, cost, and inadequacy of today's analytics to achieve answers and use the power of pervasive data intelligence need to adopt a comprehensive data architecture that leverages specialized technologies to efficiently harness relational and non-relational data—and then analyze that data through both SQL and procedural analytics.

That's why Teradata offers best-in-class solutions for a complete analytical ecosystem that directly addresses business needs while stripping out the complexity typically associated with a hybrid environment.

- **The Teradata Vantage SQL Engine** is the central platform for delivering strategic and operational analytics to a business via a single source of centralized, consistent data.
- **The Hadoop-based data platform** is used for capturing, storing, archiving, exploring, and refining all types of data.
- **Teradata IntelliSphere** is used to enable a complete analytical ecosystem to facilitate the efficient utilization of analytics and data across the enterprise.

Teradata IntelliBase

Teradata IntelliBase is a compact, fully-integrated environment for data warehousing, iterative data exploration, and low-cost data storage. The versatile platform enables a mixture of Teradata and Hadoop nodes to meet your workload requirements—all installed in a single cabinet to preserve valuable data center floor space. Key IntelliBase capabilities include:

- A truly hybrid architecture that includes the Teradata SQL Engine, Hadoop, and Teradata IntelliSphere for a complete analytics solution in a data center-friendly single cabinet footprint, all running on proven, robust, enterprise-class Teradata hardware.
- Hardware can be repurposed via software reimaging; e.g., convert a node from running Teradata SQL Engine to running Hadoop.
- Teradata QueryGrid enables business analysts and data scientists to issue ANSI-standard SQL commands on Teradata and Hadoop data.
- High-speed 40Gb/s InfiniBand connectivity enables seamless communication with all platforms within the analytical ecosystem.

- Deployment option within Teradata IntelliCloud™, our secure managed cloud environment.
- Enterprise-ready software and hardware management via Teradata Server Management, Teradata Viewpoint, and Teradata Vital Infrastructure services.
- Compatibility with BI and ETL tools.

Enterprise-Ready Solution

Because the solution is optimized, certified, and fully supported by Teradata—the most trusted name in enterprise data management and analytics—you eliminate the need for specialized software or hardware management skills required to assemble your own big data analytics solution. Existing Teradata customers will find the management consoles and capabilities familiar and complementary to their existing database and data warehouse deployments. New customers will appreciate the variety of analytic technologies available at their fingertips in a compact appliance.
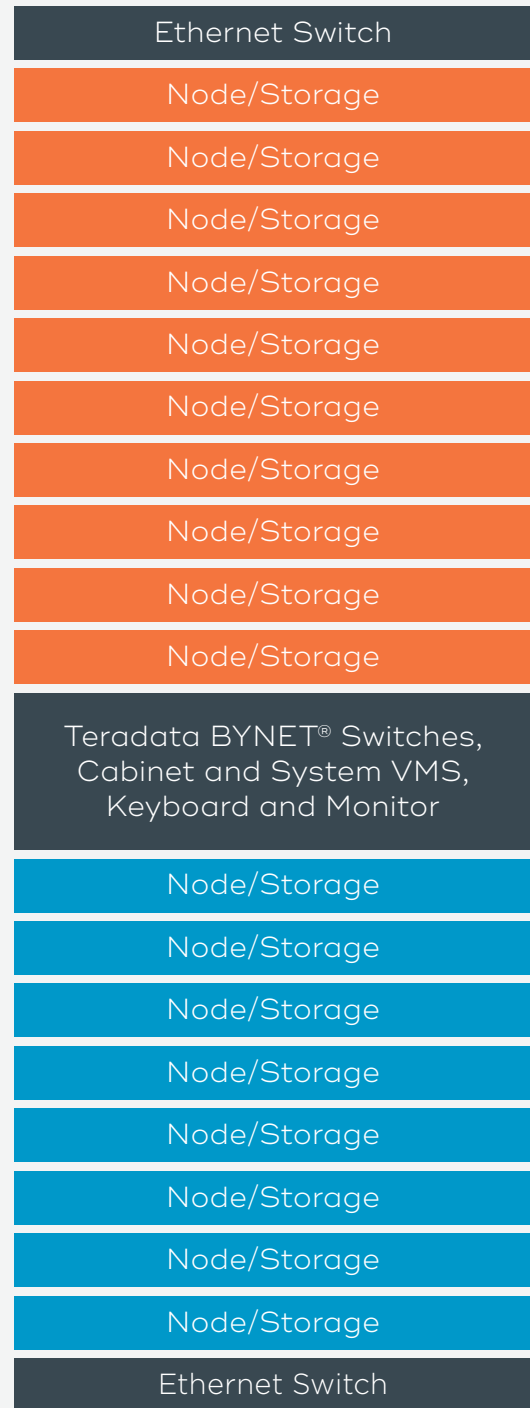
A suite of adapters supports out-of-the-box enterprise integration for a complete ecosystem of enterprise data management systems. Certified ODBC and JDBC support for major business intelligence, visualization, and ETL tools; Teradata high-speed data transfer infrastructure; and native Hadoop connectivity are all available to enhance your enterprise solution.

Fast, Reliable Network Interconnect

A dual 40Gb/s InfiniBand network connects the Teradata, Hadoop, and IntelliSphere nodes within a cabinet. This fast, dedicated, and reliable network interconnect can also be used to connect IntelliBase to individual Teradata and Hadoop cabinets, and enables tight integration with the Teradata analytical ecosystem.

Teradata provides all the tools and utilities you need to build and maintain your analytic applications:

Integration with Teradata Server Management enables proactive monitoring of hardware and software events, such as disk or node failures. Server Management runs on the Virtual Management Server (VMS). The VMS also provides Teradata Vital Infrastructure support for Teradata and Hadoop components.

Figure 1. Teradata IntelliBase platform cabinet components.

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Teradata Vital Infrastructure is the end-to-end solution for delivering Server Management data to Teradata Customer Service's back-end support infrastructure. It escalates and forwards the alerts and other types of data so issues can be quickly addressed, minimizing system downtime.

Integration with Teradata Viewpoint offers a common management console for the Teradata SQL Engine and Hadoop. Teradata Viewpoint offers simple, fast, and comprehensive system management and monitoring capabilities by providing a browser-based portal that delivers management intelligence to DBAs and users alike. A standalone Viewpoint server is required to manage two or more systems.

In addition, Teradata offers a full array of support advantages, including Teradata Vital Infrastructure services that provide:

- Industry-certified regional and global Customer Care Centers with experienced service representatives, available 24/7.
- End-to-end support for the entire solution, from the hardware and OS to all of the software.
- Secure remote connectivity options to pinpoint problems and react rapidly.

Teradata IntelliBase 2.0 Description

Integrated Cabinet

- High-density cabinet contains complete Teradata solution (nodes with integrated storage, networking, and system monitoring)
- Up to sixteen (16) nodes in a cabinet
- SUSE® Linux Enterprise Server (SLES) 11 64-bit Operating System for Teradata
- SUSE® Linux Enterprise Server (SLES) 12 64-bit Operating System for Hadoop
- Teradata nodes running Teradata Database 15.10 or higher
    – Dual Intel® Xeon® Eighteen–Core processors @ 2.3GHz per node (Performance)
    – Dual Intel Xeon Twelve–Core processors @ 2.3GHz per node (Capacity)

- Hadoop nodes running Hortonworks® HDP 2.6.4 or higher or Cloudera® Enterprise 5.14 or higher

    – Dual Intel Xeon Eighteen-Core processors @ 2.3GHz per node (Master/Edge/Balanced/ Performance data nodes)
    – Dual Intel Xeon Twelve-Core processors @ 2.3GHz per node (Capacity data node)

- High throughput Teradata BYNET® v5 on a dual 40Gb/s InfiniBand interconnect for performance and redundancy
- Optional 10GB switch to connect nodes to customer LAN
- Optional servers for Teradata AppCenter, Teradata Unity, Teradata Data Mover, Teradata Viewpoint, and third-party applications
- Optional Teradata Backup and Restore (BAR) storage
- Teradata software developed and/or optimized for monitoring and communication for all technologies including:
    – System Management Infrastructure, Teradata Administration, Teradata Vital Infrastructure, and Teradata Viewpoint 14.10 or higher

    – Teradata QueryGrid allows data access in the Teradata SQL Engine and Hadoop through a standard SQL interface

User Data Capacity

- Uncompressed (3x compression assumed typical)
- All nodes have integrated hard disk drives

Teradata Database

- Performance nodes with 22–2.4TB drives: 18.3TB
- Capacity nodes with 11–8TB drives: 30.5TB

Hadoop

- Balanced data nodes and Capacity data nodes for Hadoop with 12–8TB drives: 32TB
- Performance data nodes for Hadoop with 24–2.4TB drives: 19.2TB

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Teradata IntelliBase™ 2.0 Specifications

Cabinet Specifications

- Height: 80.5 in. (204.5 cm)
- Width: 24 in. (61 cm)
- Depth: 49 in. (124.5 cm);
- 47 in. (119.4 cm) w/o the front and rear doors
- Weight: 2,228 lbs. (1011 kg) fully loaded with crate
- Installed Weight: 1,828 lbs. (830 kg) fully loaded w/o crate

Operating Specifications

Environment

- Operating Temperature: Allowable: 59°F to 90°F (15°C to 32°C)
  - Recommended: 64.8°F to 80.6°F (18°C to 27°C)
- Relative Humidity: Allowable: 20 percent to 80 percent (non-condensing)
  - Recommended: Low end moisture: 5.5C DP (41.9°F), High end moisture: 60 percent RH and 15C DP (59°F DP)

Electrical

- Worldwide: 200-240V (Phase to Phase or Single Phase)
- 30A/32A, 4-cord
- North America: 200-240V, 3~+PE
  - 30A, 3-p delta, 4-cord
  - 60A, 3-p delta, 2-cord
- International: 220-240 / 381-415
  - 30A/32A, 3 phase wye, 2-cord, (including North America with EU style power)
- All plugs are IEC 60309 CEE17
- Frequency: 50Hz/60Hz
- Maximum Power: 15,200 Watts
- Dual AC: Standard
- Bottom or top egress supported
- Compliant with U.S. and International Safety and Emissions Standards

Support Services

Premier Warehouse Support

- Delivers single source service to maximize value and availability of your solution
- Flexible support options that allow you to select the coverage and response times you need
- Integrated, proactive tools, such as Teradata Vital Infrastructure and Teradata ServiceConnect™ remote connectivity
- Optional Services: Priority Service, On-Site Spare Parts

Teradata Vital Infrastructure

- Built-in hardware and software support capability
- Automatic alerting and seamless incident creation (Call Home)

Implementation Services

- System Installation
- Software Implementation
- Analytic Consulting Services

Operational Services

- Critical System Management
- Data Migration
- Operational Mentoring

For More Information

With all the investments made in analytics, it's time to stop buying into partial solutions that overpromise and underdeliver. It's time to invest in answers. Only Teradata leverages all of the data, all of the time, so you can analyze anything, deploy anywhere, and deliver analytics that matter most to your business.

And we do it on-premises, in the cloud, or anywhere in between. We call this pervasive data intelligence. It's the answer to the complexity, cost and inadequacy of today's analytics. And how we transform how businesses work and people live through the power of data.

Get the answer at **Teradata.com.**