

THE PLATFORM TO INCREASE DATA VALUE

Oracle® solutions and the Pure Data-Centric Architecture
empower your business to maximize the value of data.



Companies are realizing more and more that data is likely their single greatest asset. In 2016, when Microsoft Corporation acquired LinkedIn, it saw the value of LinkedIn's customer data. With 100 million active LinkedIn users each month at the time, Microsoft paid \$26.2 billion for the company — essentially \$260 a month for each active customer's data.¹

Realizing that data is a valuable asset, though, doesn't mean companies are putting it to use. MIT Sloan Management Review, in 2017, found that companies are focused not on data's value but on "the challenges of storing, protecting, accessing, and analyzing massive amounts of data."¹ The key to making those challenges less daunting is to have the right team, strategy, and policies in place and the right data platform to support them. And with one-third of the top 20 businesses in every industry estimated to be digitally disrupted by 2018, the time to tackle those challenges is now.²

The right platform enables you to realize the value of your data without ripping and replacing your current infrastructure. It makes storing, protecting, accessing, and analyzing data simple, fast, intelligent, and agile, so you have support for every step of your journey to increasing your data's value today and into the future.

THE JOURNEY TO USE AND INCREASE THE VALUE OF DATA

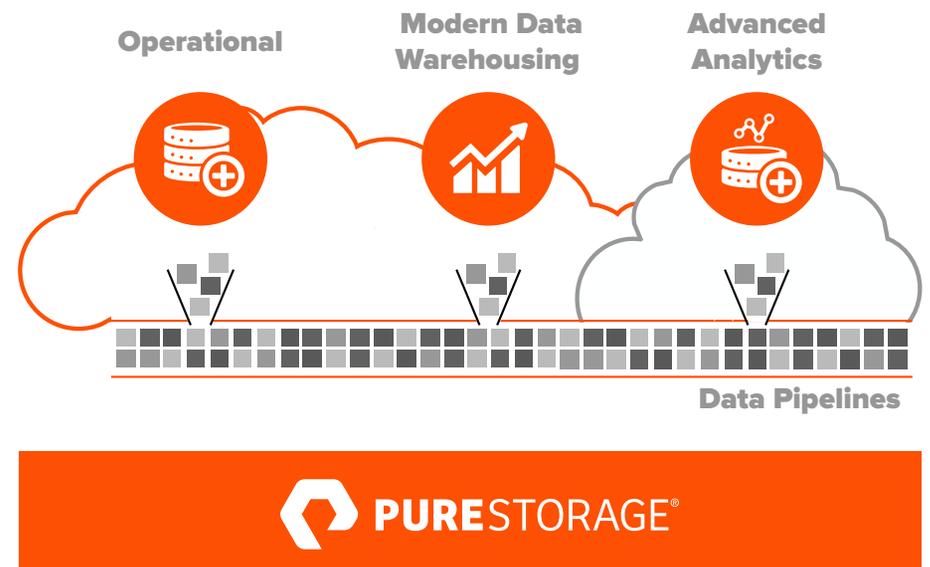
Increasing your data's value is a process. It starts with, and then builds on, the data you already have to help your business become more competitive or even a digital disruptor. That journey typically looks something like this:

- 1. The journey starts with traditional operational data** — basic, structured business data stored in relational Oracle databases.
- 2. The next step is up-leveling data use and value using a modern data warehouse.** A modern data warehouse enables you to do analysis and reporting on a more comprehensive set of data.
- 3. The last step is performing advanced analytics.** With advanced analytics, you don't just analyze what you see — you use predictive analytics and machine learning algorithms to forecast future outcomes and options.

Data pipelines are the processing engines or services that clean, transform, merge, and model data. Data pipelines are **used for each step in the process of increasing data's value**, and they support your ecosystem of data solutions.

THE DATA PLATFORM THAT SUPPORTS YOUR JOURNEY TO INCREASE DATA VALUE

When you run your [Oracle solutions](#) on the Pure Data-Centric Architecture, you get simple, fast, intelligent, and agile tools and technologies for every step of your journey to increase data value and for the underlying data pipelines.





1. THE OPERATIONAL-DATA LEG OF YOUR JOURNEY AND THE PURE DATA-CENTRIC ARCHITECTURE

Operational data is typically structured data about your workforce, direct competitors, creditors, suppliers, and customers that is stored in a database, such as Oracle Database Enterprise Edition. Your business needs the applications that cull and store this data to perform quickly and reliably. Ideally, you also want this data consolidated in a single data store and the ability to keep it secure regardless of where it resides.

The Pure Data-Centric Architecture provides all of that — performance, availability, consolidation, and improved security — and more for operational data in Oracle solutions. Running Oracle databases on the Pure Data-Centric Architecture delivers fast performance with sub-millisecond latency, virtually no tuning, and high bandwidth. The time to complete physical input/output (I/O) for online transaction processing (OLTP) workloads in Oracle Database on the platform can be in the 100s of microseconds.³ The architecture also delivers 99.9999 percent availability for your FlashArray products, so your Oracle database data is consistently available, performing, and protected — and with no performance loss.⁴ And if you need to back up a database, doing so using the Pure Storage® platform is 5 to 10 times faster than with other all-flash solutions.⁵

The Pure Data-Centric Architecture makes it easy to consolidate Oracle databases and helps improve resource utilization and reduce total cost of ownership (TCO). In-line lossless deduplication and compression deliver up to 5:1 data reduction and over 10:1 total data efficiency including snapshots.³ Combine that with up to 3 PB of effective capacity in 6 RU, and you achieve a smaller footprint. That smaller footprint reduces storage needs, which contributes to lower power, cooling, management, and space costs. Other contributors to lower costs are the ability to use Pure Storage compression instead of Oracle compression to achieve the same results without the Oracle licensing costs or the time needed for configuration. The Evergreen™ Storage model from Pure Storage lets you deploy your Pure Storage solution once and upgrade when you need to for a decade or more. And it gives you continuous access to the latest storage infrastructure without added costs.

The Pure Data-Centric Architecture also provides always-on encryption, including for data at rest, and Rapid Data Locking (RDL) to help ensure that data is protected without impacting performance. Multiple account types, directory-based authentication, and secure management connectivity also ensure more secure administration.

The Pure Storage FlashArray family and the Pure Storage FlashStack™ converged infrastructure solution enable you to run:

- Oracle Database Enterprise or Standard Edition
- Oracle MySQL® Database
- Oracle Real Application Clusters (RAC)
- Oracle E-Business Suite
- Oracle PeopleSoft®
- Oracle JD Edwards® EnterpriseOne

The Oracle Enterprise Manager plug-in provides a single-pane dashboard for Pure Storage FlashArray products to make it easy to manage Oracle solutions.



99.9999%
AVAILABILITY FOR
FLASHARRAY PRODUCTS⁴



2. THE MODERN-DATA-WAREHOUSE LEG OF YOUR JOURNEY AND THE PURE DATA-CENTRIC ARCHITECTURE

The next step in your data journey is to increase the value of your data by integrating current and historical data from multiple sources, both internal and external, using a modern data warehouse. Once integrated, that data can be queried so your business can analyze it, create reports on it, and use the knowledge harvested to improve your customer experience, create disruptive applications or services, and more.

Your ability to do that effectively depends on a modern data warehousing solution that is flexible and responsive, runs on an architecture that can easily scale and be upgraded, and that can quickly evolve to meet new requirements. Using the Pure Storage platform for your [Oracle data warehousing solutions](#) meets those needs.

The Pure Data-Centric Architecture includes solutions to power your modern data warehouse and manage all types of data — structured, semi-structured, and unstructured. The platform offers fast performance and is self-managed, so no caching or tiering is needed. It provides six-nines availability for FlashArray products to ensure data remains available and users always have responsive access.⁴ And the Pure Storage FlashBlade solution offers elastic performance up to 17 GB/s, petabytes of capacity, and elastic concurrency for up to 10s of thousands of clients.⁶ It lets you independently scale compute and storage. And the [Evergreen Storage](#) model ensures you have perpetual access to the latest technologies without disruption, downtime, or impact on performance. You simply deploy your Pure Storage solution once and upgrade when you need to for a decade or more.

The Pure Storage FlashArray family, the Pure Storage FlashStack converged infrastructure solution, and the Pure Storage FlashBlade™ array let you run:

- Oracle Database Enterprise or Standard Edition
- Oracle Real Application Clusters (RAC)
- Oracle Business Intelligence Suite Enterprise Edition
- Oracle Business Intelligence Applications



Up to
17 GB/s
performance⁶



PBs
of capacity⁶



Up to
10s
of thousands of clients⁶





3. THE ADVANCED-ANALYTICS LEG OF YOUR JOURNEY AND THE PURE DATA-CENTRIC ARCHITECTURE

The next step in your journey to increase data value is to use advanced analytics, such as predictive analytics, to forecast trends and behavior patterns, along with machine learning to automate that process. To maximize your advanced-analytics efforts requires the ability to efficiently manage large volumes of data and different data types and to minimize the time required for discovery and modeling data.

The Pure Data-Centric Architecture for Oracle Advanced Analytics supports managing large volumes of data from thousands of users. The platform gives you the capacity to handle PBs of data and billions of objects and files, of all data types — structured, semi-structured, and unstructured. It also helps reduce the time needed for discovery and data modeling with high throughput, high input/output operations per second, and sub-millisecond latency. The Pure Storage platform also easily scales for data growth, and it lets you independently scale out performance and capacity.

The Pure Storage FlashArray family, the Pure Storage FlashStack converged infrastructure solution, and the Pure Storage FlashBlade array can handle the extreme data volumes needed for advanced analytics using:

- Oracle Database Enterprise Edition
- Oracle Real Application Clusters (RAC)
- Oracle Business Intelligence Suite Enterprise Edition
- Oracle Advanced Analytics
- Oracle Data Miner
- Oracle Complex Event Processing (CEP)
- Oracle NoSQL Database

PBs
of data and billions of objects and files



Up to
17 GB/s
of bandwidth per chassis⁷



THE DATA PIPELINES THAT SUPPORT YOUR DATA JOURNEY

Under your ecosystem of data solutions for operational data, modern data warehousing, and advanced analytics are the data pipelines that your data runs through and that connect your applications. Data pipelines enable your business to clean, transform, merge, and model data in order to effectively increase the data's value. To be most effective, data pipelines need reproducible workflows, to be designed to maintain high data quality, and to support the ability to automate and/or reduce the time required for mundane data-preparation processes.

Using the Pure Data-Centric Architecture for all your data solutions provides optimal support for your data pipelines. The platform supports running batch or real-time data pipelines and delivers consistent data services. It reduces complexity with a single platform for data wrangling and exploratory data analysis (EDA). And the platform's ability to scale compute and capacity enables your business to accommodate larger data sets and speed up data-preparation processes.

The Pure Storage FlashArray family, the Pure Storage FlashStack converged infrastructure solution, and the Pure Storage FlashBlade array empower data pipelines using:

- Oracle GoldenGate®
- Oracle Data Integrator Enterprise Edition
- Oracle Database Enterprise Edition
- Oracle Data Integrator for Big Data
- Oracle RAC
- Oracle Enterprise Data Quality
- Oracle Stream Analytics
- Oracle Big Data Connectors

ENSURE YOUR JOURNEY TO INCREASE DATA VALUE IS FAST, AGILE, AND INTELLIGENT

The Pure Data-Centric Architecture offers everything your business needs to support every aspect of your journey to increase the value of your data stored in Oracle databases. Regardless of where you are on your journey today, choose the Pure Data-Centric Architecture and access:



Fast performance for Oracle databases and applications



Huge data capacity for growth in a small form factor



Data protection and security



Six-nines availability for FlashArray products and always-on non-disruptive upgrades⁴



Low TCO and high return on investment with the Evergreen Storage model and Oracle license optimization through consolidation



The **ability to virtualize** your Oracle applications and databases

LEARN MORE ABOUT INCREASING DATA VALUE WITH PURE STORAGE TODAY

To learn more about the steps of your journey to increase data value, and the technologies the Pure Data-Centric Architecture offers to support them, read our white paper, **“A Roadmap to Increase the Value of Data,”** or contact your Pure Storage representative today.

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- ¹ MIT Sloan Management Review. “What’s Your Data Worth?” March 2017. <http://sloanreview.mit.edu/article/whats-your-data-worth/>.
- ² Clark, Tim. “Think Digital Transformation Doesn’t Matter? Your Customers Beg to Differ.” SAP Business Trends. May 2016. <https://blogs.sap.com/2016/05/19/think-digital-transformation-doesnt-matter-your-customers-beg-to-differ/>.
- ³ Pure Storage. “The Top 10 Reasons to Choose a Pure Storage All-Flash Solution for Oracle Database and Analytics Deployments.” 2017. www.purestorage.com/content/dam/purestorage/pdf/whitepapers/Pure_Storage_Oracle_Top_Ten_Interactive.pdf.
- ⁴ Pure Storage. Purity Assure webpage. www.purestorage.com/products/purity/purity-assure.html. Six-nines availability is available with FlashArray//X products, and excludes FlashBlade products.
- ⁵ Pure Storage. “Efficient Oracle Backups with Pure Storage FlashArray.” <http://info.purestorage.com/wp-efficient-oracle-backups-with-purestorage-flasharray-thank-you.html?aiiid=121218169>.
- ⁶ Pure Storage. “Accelerate Your Analytics Game with Oracle® Solutions on Pure Storage.” www.purestorage.com/resources/type-a/accelerate_your_analytics_game_with_oracle_solutions.html.



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