

Oracle All Flash FS Storage System

**All Flash.
All the Time.
Engineered for Cloud.**

Today, you're expected to do more with less: less time, less money, and less resource. But as the digital revolution continues unabated—forming an information universe that's set to increase by 20 times today's size by 2020,¹ and creating expectations for always-on applications with instant response time—it can prove difficult to meet the needs that modern business demands.



Companies that will succeed in this new world are the digital masters that can take full advantage of the massive amounts of data they collect every day. They're the ones that can deliver extreme performance and low latency to accelerate OLTP (online transaction processing) applications, enhance customer experiences, speed development and test of new applications, and enable real-time analysis 24/7—not to mention take advantage of cloud economics.

Overcoming these storage obstacles is crucial if you want to master the digital world. And you need to act fast. You need a storage strategy that enables your key players to access—and act on—all your information in an instant and deliver excellent customer experiences, so your company can grow and stay ahead of its competitors.

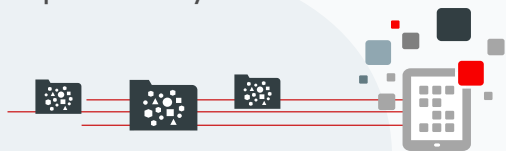
But how can you guarantee your Oracle databases will perform, under any pressure you place on them? How can you improve your customer experience and boost end-user productivity, make forward-looking decisions based on the most up-to-date information, and simplify your systems... all while cutting costs? The answer lies in Oracle's flagship, enterprise-class, cloud-ready storage platform: Oracle All Flash FS Storage System.

It's the only all-flash storage solution that is tightly integrated with Oracle Cloud, supports Oracle Hybrid Columnar Compression (HCC), and maximizes the Automatic Data Optimization (ADO) value of Oracle Database 12c. Integrated with Oracle Enterprise Manager, and with real-time statistics and I/O prioritization, it can allow you to eliminate the I/O waits that slow down the performance of your OLTP applications—and run your existing software on your existing servers, faster.

¹ IDC's Digital University Study, April 2014

BIG QUESTIONS

How do I run my applications and database faster while data keeps growing exponentially?



How can I guarantee application performance and meet SLAs?



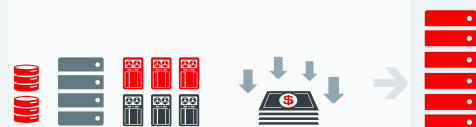
How do I automate time-consuming manual tasks?



How can I quickly consolidate all my applications and storage, across hundreds of databases?



How do I spend less on storage?



"Unlike other AFAs on the market, Oracle's All Flash FS can seamlessly tier data to and across Oracle's public-cloud offerings, and provides compelling coengineered advantages to Oracle software environments."²

Mark Peters, ESG

A SIMPLE ANSWER:

**Oracle All Flash FS Storage System.
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You need high-performance, scalable storage that will not only evolve and adapt as your data grows, but also empower you to overcome the challenges of increasingly virtualized environments, faster servers and scale-out applications, and latency-sensitive applications that you manage—right now. You need flash storage.

Oracle has been a leader in flash-technology innovation since 2008. And we have a solution to make you a digital master.

Built on five generations of flash hardware and software expertise, Oracle All Flash FS Storage System enables you to maximize Oracle Database performance and storage efficiency while reducing cost. Architected to leverage all-flash performance, with consistent low latency across multiple, diverse workloads, Oracle All Flash FS Storage System scales to 912 TB of all-flash capacity—and delivers enterprise-grade high availability with no single point of failure, for 24/7 operations.

"...[Oracle] has a compelling argument that the All Flash FS is the best storage platform in the industry for Oracle deployment."³

Eric Burgener, IDC

The only all-flash storage system to support HCC, it reduces static Oracle Database data by 10 to 50 times; leverages Oracle Database 12c ADO to automate compression based on usage; reduces dev/test storage by 10 times or more; and delivers the storage performance needed when consolidating multiple databases. Deploy it, and you'll be empowered to buy and manage 50 to 90 percent less storage than with non-Oracle all-flash storage.

What's more, it's cloud-ready to further reduce your costs when you need it. Oracle All Flash FS Storage Systems seamlessly integrate with Oracle Cloud for low-cost cloud storage, Oracle Database backup, and deep cloud-archive services not available from other vendors such as EMC, Dell, Pure Storage, HP, and NetApp.

²ESG: Solution Showcase: Oracle All Flash FS: The Business Advantage of an AFA Integrated with Oracle's Public Cloud, December 2015

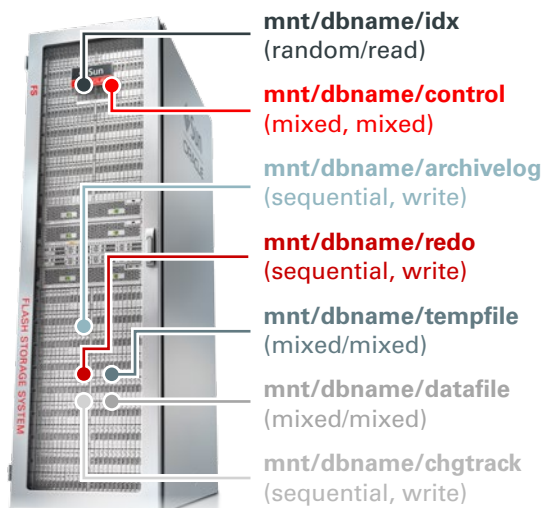
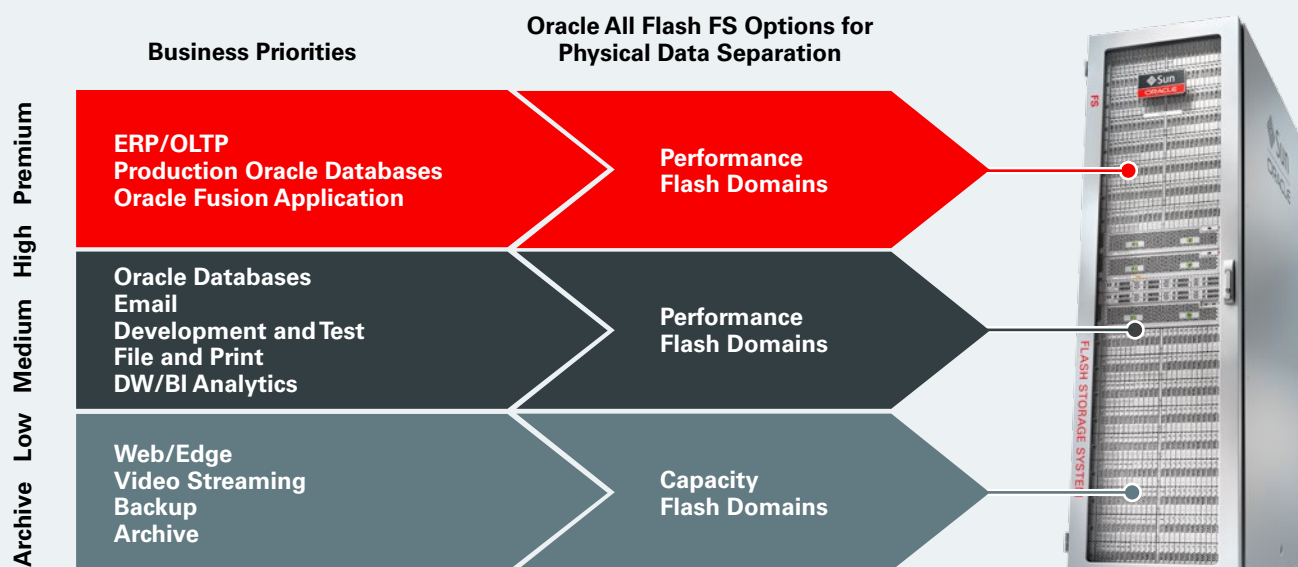
³IDC: "Oracle Enters the High-Growth All-Flash Array Market with an Oracle-Optimized Solution" September 2015, IDC #259344

Flash Domains: Virtualized Storage Machines

Flash storage domains enable multiple, virtual, all-flash domains to coexist within a single Oracle All Flash FS. Each flash domain is a data container that isolates data from other storage domains, providing dedicated resources and secure independence in multitenant environments for private- or public-cloud deployments, regulatory compliance requirements, or chargeback models. With flash storage domains, you can customize settings for multiple unique environments within a single physical Oracle All Flash FS for reduced power, cooling, and management expenses.

FS: Cloud-Scale Extreme Security—Up to 64 Isolated Domains

Without Performance Impact in a Shared, Multitenant Workload Environment



All-Flash Provisioning

Three minutes from login to pretuned LUN creation. Oracle All Flash FS is delivered with predefined application storage profiles that provide flash-tuned, out-of-the-box storage optimization for Oracle Database and Oracle Applications, as well as for non-Oracle enterprise applications. With simple one-click provisioning, you optimize flash performance and manage Oracle Applications with a minimum of administration, simplifying, and expediting deployment.

Oracle All Flash FS Storage Is...

Coengineered with Oracle Database and Applications



Engineered alongside Oracle Database and applications, Oracle All Flash FS has been proven to reduce storage requirements by up to 40 percent, and to speed queries by up to 5x. That's because we designed our solutions to work together from the onset—giving you access to Oracle-only features such as HCC and ADO.

In addition, Oracle All Flash FS comes with predefined Application Profiles that provide tuned and tested out-of-the-box storage optimization for Oracle Database and key enterprise applications. With one click, you can reduce the time to set up, provision and deploy Oracle Database and applications—with minimal administration.

Designed to Supercharge Your Application's Performance



With Oracle All Flash FS, you're essentially buying time. Time for your customers. Time for your users. How? By revolutionizing the way you work, and therefore your performance—accelerating responses for OLTP applications, even while performing backups; utilizing real-time analytics, making forward-looking decisions based on larger and current datasets as opposed to historic data; and generating reports faster than ever before to accelerate time to market and time to revenue.

Plus, Oracle All Flash FS enables unlimited data-sharing and continuous application development. Any copy of any database or application is available for any developer instantaneously—and faster dev/test/QA iterations improve code quality by three times. That means 50 percent less time to add new functionality, double the number of new projects your IT administrators and DBAs can take on, and double the overall productivity of your developers.

Engineered for Cloud



Oracle All Flash FS Storage Systems seamlessly integrate with Oracle Cloud for low-cost cloud storage, Oracle Database backup, and deep cloud-archive services.

THE ORACLE ALL-FLASH DIFFERENCE

Enterprise-Grade All-Flash Storage



Oracle All Flash FS Storage is engineered from the ground up to provide maximum uptime, data availability, and application access. Offering the industry's best all-flash capacity scaling, the system empowers you to run all your pluggable databases—from one to hundreds, or even multitenant—in flash.

Highly Scalable Flash Storage System



Delivering 2 to 912 TB of all-flash storage within one system, Oracle All Flash FS scales granularly to meet the needs of your business cost-effectively as it grows. What's more, it uses performance and capacity flash tiering to optimize performance and cost far further—eliminating restrictive wait times.

Delivered with Extensive, Proven Data Services Included



While all-flash startups offer few, immature data services, and established vendors charge à la carte, all in-box data services are standard features of Oracle All Flash FS included in the base system price. For example, Oracle All Flash FS comes with a complete suite of management software. Data-protection and data-availability features include a full complement of copy services, read/write clones, and application-consistent recovery with Data Protection Manager. To get an equivalent set of data services with a competitor's system would cost US\$225,000. By contrast, Oracle's All Flash FS data services cost US\$0. That's quite a CapEx saving!

THE ORACLE ALL-FLASH DIFFERENCE

The Most Cost-Effective All-Flash Storage System



With Oracle All Flash FS, you can increase the value of your current applications. That's because with shorter I/O wait times, existing software runs faster on existing hardware—so you'll need fewer terabytes of flash than you would with traditional spinning disks, and fewer servers. This means fewer application licenses and reduced maintenance fees.

It'll also allow you to cut your operational budget by 50 percent, eliminating problem determination and the manual tuning of disk-bound systems, and doubling the number of new projects your IT administrators and DBAs can undertake.

By consolidating your SAN environment and leveraging Oracle coengineering, you'll be able to buy less storage and fewer storage systems, too—reducing storage software and maintenance costs, while using less power, cooling and floor space... so you can spend more on innovation, and less on administration.

And, when you're ready to take advantage of cloud economics, Oracle All Flash FS integrates seamlessly with Oracle Cloud for low-cost on-demand storage capacity, to archive dormant data, or to back up Oracle Databases.

Unique



Oracle All Flash FS is one of a kind: delivering a combination of flash OLTP, flash latency and flash provisioning—and game-changing inbuilt functionality—with no hidden pricing or charges. Easy to buy. Easy and rapid to deploy: from pallet to power on in less than 30 minutes. Easy to use. And engineered for cloud.

Enabling You to Master Your Digital Universe



With so much intelligence, capacity and speed, enterprises of all kinds stand to benefit from the Oracle All Flash FS Storage System. Reducing costs and risk, there are productivity, efficiency and economy gains to be realized across your organization. With Oracle All Flash FS, you can master your digital world.

Where Oracle All Flash FS Really Shines

- All-flash-all-the-time architecture
- 2 to 912 TB of all-flash storage within one system
- One-click flash provisioning for Oracle Database and Oracle Applications
- Flash I/O priority management
- Security with flash domains
- Flash-deployment-ready packaging
- Coengineered with Oracle Database, Applications, Oracle VM, and Enterprise Manager
- High compression rates with Oracle Hybrid Columnar Compression (only with Oracle Storage)
- No single point of failure, and end-to-end T10-PI data-integrity validation
- All in-box software included at no extra cost
- Synchronous and asynchronous application-consistent data replication
- Seamless integration with Oracle Cloud

How Can I Estimate the Oracle All Flash FS Benefits for My Oracle Database?

Just send an Automatic Workload Repository (AWR) report to your Oracle sales representative or sales engineer.

You'll receive a **free detailed analysis** with specific areas of I/O wait/performance concerns in your Oracle Database, with an accompanying Oracle All Flash FS proposed configuration that solves the problem.

Oracle All Flash FS is engineered to maximize Oracle Database performance and reduce latency.

Connect with us

Discover more about Oracle's industry-leading all-flash storage system—and how it can accelerate your Oracle Database and applications, speed up your time to actionable intelligence, and enable better business decisions—by visiting oracle.com/all-flash-fs or contacting your Oracle sales representatives on **1-800-672-2531**.

