POWER CRITICAL APPLICATIONS AND ACCELERATE DATA ANALYTICS
HPE SUPERDOME FLEX

What if you could process and analyze all your data instantly? Imagine the possibilities that would open up. In retail, you would be able to deliver the right offer to the right person—based on that person’s entire purchasing history—right at the point of transaction. Or, in manufacturing, real-time supply-and-demand matching could become a reality. For finance, consider dynamic portfolio risk estimation with up-to-the-minute market information. For the vast majority of organizations, transforming to a business that can take action in real time, based on real-time insights derived from all their data, is a vision. For some, it is a journey they have already begun.

One way companies have started this journey is by moving their data environments to in-memory computing—to accelerate analytics and use more of their data. SAP®, Oracle, Microsoft, and others have evolved their databases to in-memory offerings such as SAP HANA®, Oracle Database In-Memory, and SQL Server with in-memory capabilities. However, with data volume, velocity, and variety growing at levels never before seen, the database layer alone can’t address the demands or opportunities posed by the data dilemma. What is required is a fundamental shift in compute, a new memory centric infrastructure paradigm optimized for the data demands of today.

ADVANCING MEMORY-DRIVEN COMPUTING

At HPE, we have been leading this innovation with Memory-Driven Computing, a revolutionary architecture that addresses the data dilemma with the promise of previously unobtainable scalability and flexibility. In order to truly harness the full value of in-memory computing—while addressing today’s large data sets and tomorrow’s growth—an underlying infrastructure constructed from conventional systems will no longer suffice.

Infrastructure supporting in-memory databases must be powerful enough to cope with data growing at an exponential—yet unpredictable—pace and flexible enough to grow with the demands of the business. Ultimately, it should offer the scale and performance needed to converge transactions and analytics for real-time insights built upon the most current data.

However, this comes with a challenge: critical transactional workloads demand a reliable platform delivering the highest levels of uptime. With a large portion of those transactional workloads still running in older, proprietary systems, customers need to modernize to take advantage of today’s apps and data, and lower operational costs. So the challenge compounds: handle unprecedented data flows and maintain business continuity while modernizing critical infrastructure so you can respond quickly and efficiently to business change.

To address these demands and help you embrace the possibilities of a world transformed by exponential data growth, HPE introduces the next-generation HPE Superdome Flex, delivering an unmatched combination of flexibility, performance, and reliability for critical environments of any size. A major milestone in the Memory-Driven Computing innovation road map, this platform will help you stay ahead of your competitors as you accelerate analytics and create real-time business insights. And because it is built for your most critical applications, and designed from the ground up to achieve the highest service levels, you can have peace of mind that your business will be always on.
HPE Superdome Flex scales up seamlessly as a single system

- **Features**
  - 1st or 2nd generation Intel Xeon Scalable processors, cost-efficient Gold or premium Platinum
  - Choice of high-performance DRAM only, or a combination of DRAM and HPE Persistent Memory
  - Unbounded I/O options

- **Scalability**
  - Scale up in 4-socket increments*
  - 4–32 sockets in a single system with 768 GB–48 TB of shared memory
  - Avoid overprovisioning and disruptive upgrades
  - Add compute power without sacrificing performance

*12-socket, 24-socket, and 28-socket configurations not pictured

**FIGURE 1.** Modular, future-ready design scales easily and economically for businesses of any size

**OUTPACE EVOLVING DATA DEMANDS WITH OPTIMUM FLEXIBILITY**

The unique modular design of HPE Superdome Flex allows you to start small, at 4 sockets, and grow at your own pace—without sacrificing performance. Scaling seamlessly up to 32 sockets, in 4-socket building blocks, it can give you the compute power you need right now, no matter how much data you have or how fast it is growing. This flexible architecture helps you avoid overprovisioning and disruptive upgrades, with all the cost and complexity those carry.

The 4-socket modular building block offers a cost-efficient entry point for mission-critical workloads, and the ability to scale up at your own pace to 32 sockets with choice of either economical Gold or high-end Platinum Intel Xeon Scalable processors. HPE Superdome Flex starts at 768 GB and can expand to 48 TB of shared memory, offering plenty of room for growth. You can choose high performance DRAM only, or a combination of DRAM and HPE Persistent Memory, available in 128, 256, and 512 GB capacities and featuring Intel® Optane™ DC Persistent Memory, to meet the individual requirements of your workload. With support for HPE’s unique x86 hard partitioning technology, HPE nPars, you can isolate workloads and/or consolidate multiple workloads onto a single managed complex. You can also service or reconfigure individual partitions while other partitions continue to run undisturbed.

**PROCESS AND ANALYZE EVER-GROWING DATA AT EXTRAORDINARY SPEED**

HPE Superdome Flex delivers groundbreaking performance at any scale, giving you the compute power you need for the most demanding workloads. With its innovative scalable architecture that connects individual 4-socket building blocks to one another in a point-to-point fashion, processors accessing data residing in memory in another block will always travel using a single ‘hop’—no matter if a processor at the top of the rack is accessing data from memory at the bottom. In addition, high bandwidth technology across all the sub-systems—processors, memory, interconnectivity, and I/O—means you can achieve the performance demanded to accelerate analytics and power critical apps.

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1 HPE Superdome Flex holds several performance benchmark records. Access the performance briefs [here](#).
SAFEGUARD MISSION-CRITICAL WORKLOADS

HPE Superdome Flex is built for mission-critical availability and features proven Superdome reliability, availability, and serviceability (RAS) capabilities not present in other standard x86 servers. These capabilities include a unique Firmware First approach to help you contain errors at the firmware level before any interruption can occur at the OS layer. In addition, the Analysis Engine offers best-in-class predictive fault handling and initiates self-repair without operator assistance.

HPE Superdome Flex offers advanced and unique resiliency capabilities across every subsystem—memory, I/O, processor, and fabric—for prompt error detection and system self-healing. To help ensure business continuity, support for HPE Serviceguard for Linux® clustering technology is also provided. HPE Serviceguard for Linux is application and infrastructure-aware clustering software that augments the ultra-reliable HPE Superdome Flex to deliver five nines (99.999%) application availability. For additional details on the RAS and architecture capabilities of the platform check this white paper.

ACHIEVE MAXIMUM RETURN FROM YOUR IT INVESTMENT WITH HPE POINTNEXT SERVICES

Get the expertise you need at every step of the IT journey with HPE Pointnext Services and support. We help you lower your risks and costs using proven best practices, automation, and methodologies that have been tested and refined by HPE experts through thousands of implementations and deployments globally. With Advisory Services, we focus on your business outcomes and goals, partnering with you to design your transformation and build a roadmap tuned to your unique challenges. Our professional, operational, and technical services can be leveraged to speed up time to production, boost performance, and accelerate your business. You can also consume IT services on your terms, getting the specific value that you need for your business. HPE GreenLake enables you to scale easily by adding capacity in minutes, not months. You pay only for what you actually need, creating true pay-per-use outcomes. Learn more about HPE Pointnext Services and solutions for your business.

TRANSFORM YOUR BUSINESS WITH HPE SUPERDOME FLEX

Turn the unprecedented data flows in your digital core—the set of processes, applications, and data that are most critical to your business—into unprecedented opportunity. Take the next step on your digital transformation journey—ask your Hewlett Packard Enterprise sales representative about solutions based on HPE Superdome Flex.

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