Cisco UCS: The Platform for Data-Intensive Applications
Imagine if you could connect data, people, processes, and things to unlock insight in real time.

Whether you need to inform, transform, or reinvent your business, the “freshness” of the data you access has a direct impact on the choices you make and the way that you operate. If you store, retrieve, and analyze data located in inactive or infrequently updated data warehouses, then the decisions you make are rooted in the past. Imagine what you could accomplish if your business decisions were based on real-time information.

**Active Data Creates Insight**
Active data is the only data that creates insight and security in real time. Where do you find it? It’s hidden in the massive amount of unstructured data that’s constantly being generated by the Internet of Things (IoT) and mobile, video, telemetry, and other intelligent devices. By activating this data, you can quickly analyze and act on information to make better business decisions.

Going digital and tapping into active data allows you to learn what you don’t know and how you can best adapt.
Data-intensive applications and workloads come in all types and sizes, placing new and different types of requirements on IT infrastructure.

- **Big data and analytics**: Pattern analysis—to enhance network security, detect fraud, see customer click patterns, understand business intelligence data, and more—requires data to be kept close to the processor for immediate results.

- **Video analytics and content distribution**: Capturing, storing, and analyzing video streams to perform traffic monitoring, facial recognition, video surveillance, and other video-based tasks requires fast processing.

- **Data protection**: Secure data sharing, replication of data to multiple sites, and movement of data from active (hot) storage to infrequently accessed (cold) storage requires extreme levels of I/O operations.

- **Unstructured data**: Accessing massive volumes of unstructured objects, such as online check deposit images, medical images, and sensor data requires easily scalable storage capacity.

Each workload requires a unique mix of scalability, capacity, and performance.

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**Big Data and Analytics**
- Fraud Detection
- Network Security
- Pattern Analysis
- Streaming Analytics

**Video Analytics and Content Distribution**
- Facial Recognition
- Traffic Monitoring
- Video Streaming
- Video Surveillance

**Data Protection**
- Data Destaging
- Data Replication
- Secure Sharing
- Virtual Machines

**Unstructured Data**
- Banking Images
- Manufacturing
- Medical Imaging
- Sensor Data
If you can’t tap into active data, the cause may be inflexible IT infrastructure that can’t scale—or maybe your business can’t afford the expense of public cloud storage when your data sets grow quickly and unpredictably. Rethinking your IT consumption model and moving to a system that can flex on demand is the first step toward improved agility and insight.

Use Your Active Data in Real Time
The Cisco Unified Computing System™ (Cisco UCS®) platform is well suited to the storage, retrieval, and analysis of active data. In a single system, you can deploy the Cisco UCS blade, rack, and storage-optimized servers you need to deliver the right levels of computing, memory, storage, and I/O performance to your data-intensive applications.

A Modular Platform Delivers Versatility
Cisco UCS S-Series Storage Servers offer a modular platform that delivers cloud-like speed and the versatility to match your IT infrastructure to the size of your active data sets and the processing needs of your data-intensive workloads. Modularity means that you can refresh components with new technologies rather than having to replace an entire server and migrate its data. With dual-node capability, terabytes (TB) of local storage, high-speed networking, and Redundant Array of Independent Disks (RAID) features, these storage-optimized servers keep data active, productive, and safe for fast analysis. With this platform, you can support:

- Computing-intensive applications that are structured to take advantage of high CPU core counts (up to 36 CPU cores per node)
- Cache-optimized applications that use massive amounts of memory (up to 1.6 TB of nonvolatile memory and up to 90 TB of flash memory) to act on active data and make results readily available
- Massive storage capacity for big data and analytics environments, streaming data, and more (up to 600 TB of raw storage and up to 4 GB of RAID cache)
- I/O-intensive applications that need to move data quickly and can use dual 80-GB I/O controllers, 8- and 16-GB Fibre Channel interfaces, and 40 Gbps over 10 Gigabit Ethernet using bidirectional interfaces to deliver high throughput

Performance Delivered
Cisco UCS has captured more than 100 performance world records, including the best TPC-H results at different scale factors.

Improve IT Efficiency

Your IT staff doesn’t have time to waste. Our solutions configure automatically and are ready to power any workload at any time. Whether you need computing-intensive or storage-intensive deployments—or both—the automation capabilities in Cisco UCS management software allow your IT staff to deploy hundreds of servers and petabytes of storage capacity in minutes. Operations—people, management, software, and facilities—are the largest cost in the data center, far greater than the cost of hardware. Our solutions run more workloads on fewer servers so that you have fewer components to buy and manage and reduced cabling, power, and cooling requirements. Routine tasks are automated for improved IT productivity.

Gain Cost-Effective Scalability

Cisco UCS offers options to power every type of data-intensive workload. You can purchase the systems you need today and scale your deployment up and out to hold more data in memory and quickly process data for faster results. If you need massively scalable, cost-effective storage for objects and files, you can use Cisco UCS S-Series Storage Servers to scale your software-defined storage infrastructure at your pace and at a smaller increment of scale than with traditional large-scale storage solutions. With the flexibility to choose what to scale and when to scale it, you can start with a small configuration and expand to petabytes of capacity, and you can distribute I/O operations among servers to accelerate I/O-intensive applications.

Simplify Management at Any Scale

Whether you deploy a few local servers or thousands of systems around the world, managing your environment shouldn’t be difficult. That’s why we make it easy to manage and optimize all your computing and storage infrastructure in the same way and with the same tools. With roles, policies, and profiles built in, you can have confidence that the right people can deploy the right infrastructure for your data-intensive applications with no risk of configuration drift that can cause downtime.

If you need to use a private or hybrid cloud, our cloud management tools let you deploy your data-intensive workloads and associated active data in the right place at the right time for improved performance.

Innovation Partners

Cisco works with industry-leading partners to test, validate, and document joint solutions so that you can get environments up and running quickly and with confidence. These Cisco® Validated Designs reduce risk and guesswork by giving your architects and administrators a guidebook for implementing solutions.

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1  Cisco: Changing the Economics of the Data Center
2  Cisco: The Economics of On-Premises Storage
Let Cisco Help You Find Your Solution

Make Your Data Work for You
If you need to unlock the full potential of your active data, consider Cisco UCS solutions. Our modular and versatile platforms can help you power your data-intensive applications and explore the massive amount of unstructured data that remains untapped. Let us help you go digital and connect your data, people, processes, and things to unleash insight in real time.

For More Information
For more information about Cisco UCS, visit http://www.cisco.com/go/ucs.

For more information about Cisco UCS S-Series servers, visit http://www.cisco.com/go/storage.

For more information about Cisco UCS solutions for big data, visit http://www.cisco.com/go/bigdata.

For more information about Cisco UCS solutions for data and analytics, visit http://www.cisco.com/go/analytics.

For more information about Cisco UCS solutions for the Internet of Things (IoT), visit http://www.cisco.com/go/iot.

Don’t let the digital transformation catch you unaware.