



POWERING THE CREATION OF GREAT WORK

In the production of film, games, and commercials, quality and speed are both critical. BlueArc partners with customers to solve their storage and data management bottlenecks, delivering cost-effective solutions that are highly scalable for post-production tasks—whether CGI animation, rendering, or transcoding. BlueArc powers your digital workflows, enabling extraordinary creative and business achievements.

**INDUSTRY'S
HIGHEST
PERFORMANCE
STORAGE
SOLUTION**

BLUEARC®

- **REDUCE** artist idle time, enabling more revisions with higher quality
- **MAXIMIZE** both throughput and I/O operations— I/O operations alone are not sufficient for handling ever-increasing data and iterations of the media workflow
- **ACCELERATE** rendering and compositing, reducing failed renders and dropped frames
- **OPTIMIZE** the use of tiered storage assets in a single, global namespace
- **GROW** revenue and take on larger, more complex projects
- **IMPROVE** profitability with reduced administration and energy costs
- The industry's **FASTEST** IOPS for medium and large studios
- We **SCALE** to deliver the industry's best performance for post-production

The dynamic world of visual effects, animation, and design requires innovations in storage solutions that keep pace with the creative process. Carefully applying new technology, studios have been able to improve artistic quality, shave time off production schedules, and create more scenes. The bottom-line benefits? Higher-quality work, faster time to market, more simultaneous projects, and greater revenue.

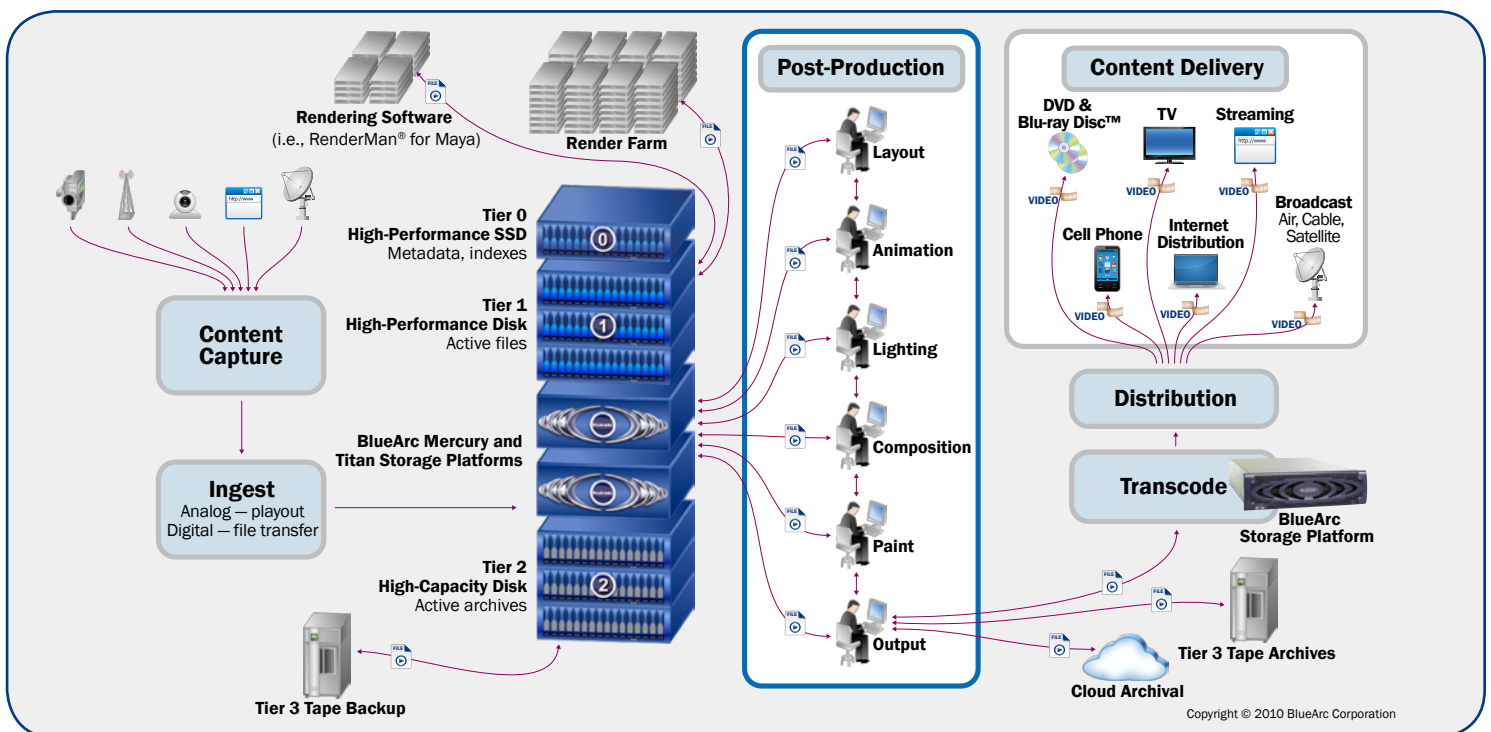
In the production of films, games, and commercials worldwide, BlueArc network storage platforms represent the very core of our customers' computer graphics networks. These systems' industry-leading performance is driving stunning improvements in rendering speeds and dramatically reducing artist wait times, from file transfers to downloading shadow masks. BlueArc storage systems remove the data-flow bottlenecks from even the most powerful render farms, resulting in faster renders, fewer dropped frames, and far less rework. With BlueArc storage systems, faster data access enables artists and producers to focus on delivering their creative vision—rather than worrying about storage capacity.

Large, concurrent projects—whether for ingest, post-production, or delivery—often require fast deployment for storage upgrades and present studios with unpredictable data requirements. BlueArc's unique modular architecture makes it easy and affordable to support this dynamic environment, with these features to support spiraling market and creative demands:

- **Intelligent Tiered Storage**—allows the consolidation and deployment of different types of storage within the same network-attached storage (NAS)-based system, all based on the profile of post-production applications. This lets you optimize active-file disk drives with lower cost archival disk drives
- **Massive scaling**—up to 16 PB in a single namespace
- **Extreme throughput**—BlueArc offers both an industry-leading IOPS rate of up to 200,000 IOPS (spec SFS) and an industry-leading throughput of up to 1500 MB/sec
- **Dynamic Read Caching**—scales NFS read-based workload profiles, accelerating read-intensive application performance
- **Easy upgrades**—no expensive disruptive replacements

“BlueArc storage systems drive our creative workflow. Their incredibly reliable performance has accelerated our current work—and our company’s ability to take on bigger and more varied projects.”

– David Algar, Principal Systems Administrator, Rainmaker



CASE STUDIES

**Enabling extraordinary work:
Two success stories**

CUSTOMER: CINESITE (EUROPE) LTD.

- London-based visual effects company
- Created artistic rendering for “Clash of the Titans”

THE CHALLENGE

- Increasingly complex projects, running concurrently
- 350+ VFX artists accessing thousands of random files, placing huge demands on throughput and I/O performance
- Needed to implement a 3x increase in storage without workflow disruption

THE SOLUTION

- Utilized the BlueArc Mercury system with Intelligent Tiered Storage
- Tier 1 (SAS disk) handled output image data/3D movie files
- Tier 2 (SATA disk) provided high-bandwidth access to raw scans

THE RESULTS

- Managed nearly 200 TB of data for “Clash,” feeding 2500 render cores
- Seamless scaling has enabled the move to stereoscopic content

CUSTOMER: STARZ ANIMATION TORONTO

- Toronto-based VFX company creates imagery for feature films, TV, shorts, games
- Created visual effects for the animated feature film “9”

THE CHALLENGE

- Massive data demands: Concurrent production of “9” and two other CGI films
- 24/7 render farm, handling an average of 10,000 jobs per day
- Each frame contained from 10 to 200 layers of computer graphics

THE SOLUTION

- Three Titan 3000 storage units, currently storing over 330 TB of data
- BlueArc’s SiliconFS file system, to drive the architectural platform

THE RESULTS

- The Titan/SiliconFS combination allowed a single file system to scale up to 256 TB, with up to 20 GB/sec throughput
- Seamlessly handled the workload, with no storage-related disruptions
- Smooth workflow enabled artists to create higher-quality work in less time



Visual effects studio The Mill relied on two clustered BlueArc Mercury storage systems in creating the VFX for “Write the Future,” a three-minute ad for Nike that captured the world’s attention during the 2010 World Cup.

BlueArc storage solutions—industry leadership in both IOPS and throughput

By partnering with BlueArc, studios have been able to remove storage constraints and eliminate the need for specialized infrastructures or data distributed across compute nodes. In using BlueArc’s Titan and Mercury systems, companies are enjoying significant reductions in render times and eliminating failures and hangs due to I/O timeouts.

These systems also reduce artist idle times while opening and closing source files by providing smooth, simultaneous user access to shared data sets. This removes the need for duplicate data sets, reducing versioning errors and greatly simplifying data management.

Unmatched performance and lower production costs

Built on BlueArc’s patented hardware-accelerated architecture, both Titan and Mercury storage platforms deliver the most flexible, most highly scalable, highest-performance storage solutions available today. By maximizing data access and user loads with extremely low latency, these systems more easily enable collaboration among teams of artists; and their enterprise-class management tools provide ongoing access to each creative project’s critical files. The end result is increased productivity in the digital pipeline through improved performance and capacity.

“Throughout the development of ‘Planet 51,’ our BlueArc system allowed us to dramatically reduce our dependency on a large Fibre Channel tier, which reduced our costs tremendously.”

– Gonzalo Rueda, Chief Technology Officer, Ilion Animation Studios

BLUEARC TITAN AND MERCURY FEATURES

- Support for CIFS, NFS, iSCSI, and NDMP
- Storage scalability under a single namespace:
 - Titan series: 8–16 PB usable storage
 - Mercury series: 4–8 PB of usable storage
- Tiered SAS, Nearline SAS, SATA or SSD, and FC disks
- Next-generation energy efficiency
- SiliconFS file system
- BlueArc Cluster Name Space
- Automated data migration
- High-speed data replication
- Antivirus software integration
- Storage pools and virtual storage volumes
- High-availability clustering

**MERCURY STORAGE PLATFORM****Storage systems that scale with your digital workflow**

Studios with heavy renders require maximum throughput, while others might require lower throughput, at a reduced cost. To scale capacity and performance, most storage systems require an expensive and potentially disruptive “forklift” upgrade.

BlueArc’s Titan and Mercury systems eliminate these issues by delivering modular, cost-effective scalability for a variety of storage needs and budgets—for mid-range requirements up to 8 PB, and extreme requirements reaching 16 PB—with remarkable performance regardless of capacity. This approach enables creative teams to lower their TCO while quickly ramping up to take on new projects, hire more artists, or assume higher-resolution engagements. And further, these systems are designed to support even higher capacities, ensuring that today’s storage investment will scale seamlessly with your changing needs.

Intelligent Tiered Storage, for ultimate flexibility

Unlike traditional solutions that require a separate storage server to address each need, BlueArc’s unique Intelligent Tiered Storage

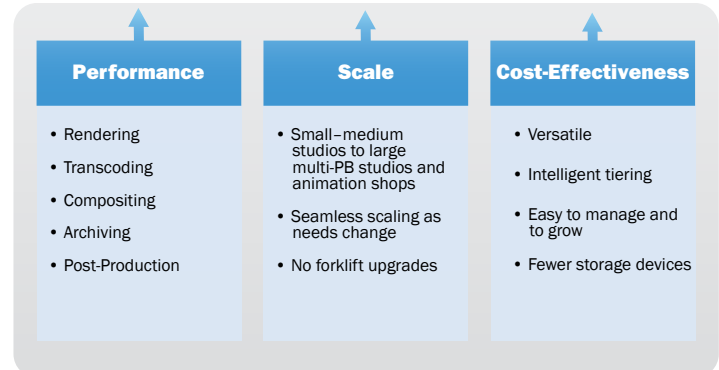
supports any combination of fast or lower-cost disk drives behind a single Titan or Mercury storage platform. Storage administrators can automatically migrate less frequently used data to lower-cost storage tiers. BlueArc architecture enables administrators to manage throughput, storage capacity, and budgets, depending on the digital workflow requirements. This provides the ultimate in flexibility and helps drive down costs.

Versatile, easy-to-manage storage systems

BlueArc storage platforms are ideal for a range of uses, but they are particularly well suited to consolidating multiple, disparate storage systems into a single, easy-to-manage storage solution. Titan and Mercury systems support multiple applications and a large number of concurrent users, while requiring fewer storage devices than traditional storage systems. Their concurrent use of multiple protocols enables the consolidation of Windows clients, UNIX and Linux clients, and clients requiring block data access—all with a single network storage solution.

“The BlueArc systems are running all of our production data, composited frames, and rendered layer frames, plus our mental ray pre-render cache. Even with 300 users and 625 render nodes hitting the production drive, the performance continues to scale with our workloads.”

– John Hickson, Systems Architect, Starz Animation Toronto

The industry’s highest-performance, best-scaling, and most cost-effective storage system for media workflows


BlueArc Corporation
 Corporate Headquarters
 50 Rio Robles Drive
 San Jose, CA 95134
 t 408 576 6600
 f 408 576 6601
 www.bluearc.com

BlueArc UK Ltd.
 European Headquarters
 Queensgate House
 Cookham Road
 Bracknell RG12 1RB, United Kingdom
 t +44 (0) 1344 408 200
 f +44 (0) 1344 408 202

BLUEARC®