

BlueArc: Storage for All Seasons

Date: August, 2007

Author: Tony Asaro, Senior Analyst

Abstract: The BlueArc Titan 2000 is one of the most diverse and versatile storage systems in the market—supporting a wide range of applications and data types as well as a rich set of features and capabilities.

There is almost too much to talk about with BlueArc. Like so many things in life, one of their strengths is also in some sense a weakness—their versatility creates opportunities and challenges. As such, they have a number of markets to go after, a long list of competitors to go up against and various messages they need to communicate. BlueArc has a ton of features and capabilities with an architecture that allows it to scale capacity and its file system—and have rocking performance.

BlueArc is great for pretty much any application you’ve got. High-end databases with lots and lots of transactions? Sure. Streaming media? You’ve got it. File storage? Of course. E-mail? Absolutely—especially since BlueArc offers iSCSI support. Computational analysis? A large number of current customers are using BlueArc for just that. The BlueArc Titan is an excellent solution for sequential or random I/O, as well as large or small block/files. And it’s not just about performance. BlueArc supports high availability, great snapshot technology and remote replication. They support FC drives for those of you still not willing to put mission-critical data on SATA. SATA drives are also supported for tiered storage with the ability to transparently move data internally between drive types and RAID groups—manually or automatically. Additionally, you can run all of these different types of applications simultaneously in a single Titan system.

Figure One: BlueArc Titan Application Versatility

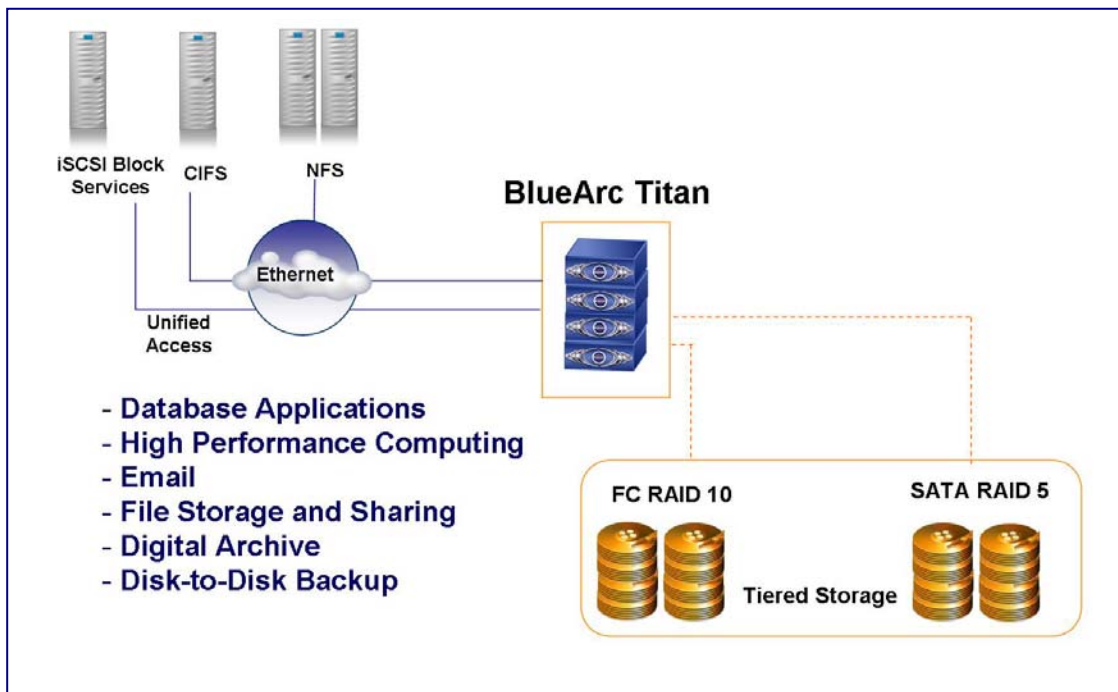


Figure One illustrates a BlueArc use case. In this configuration, the BlueArc Titan is supporting a number of applications, utilizing iSCSI, CIFS and NFS and supporting FC and SATA disk drives with different RAID configurations. In this example, Tier One is using RAID 10 for optimal performance and protection while Tier Two is using RAID 5, a more economical option. Based on your needs, BlueArc can support a wide range of RAID types, including RAID 6 (see their website for all options).

The Value of Diversity

In many cases, end-users will have multiple storage systems for different applications. They can have high-end systems, midrange and near-line storage. Additionally, some companies have SAN, NAS and even CAS solutions. Obviously, this adds cost and operational complexity. On top of that, there is a greater need to consolidate storage for a number of reasons. Data center floor space is at a premium and consolidation frees up real estate. Power and cooling has surfaced as a major problem for many end-users which can be significantly reduced by consolidation. Probably one of the most compelling drivers of storage consolidation is server consolidation. ESG is seeing a pervasive adoption of virtual server technology, which is driving server consolidation. End-users are consolidating internal storage and DAS to storage networks to take advantage of the management advantages and flexibility provided by virtual server technology.

On the other side of the spectrum, there are companies and organizations that will never have more than one storage system at a time due to budgetary constraints. Their need to consolidate and support multiple applications in a single storage system is perhaps even greater than in large environments. Versatility in these situations is of major importance. And there are other elements that are important as well, including ease of use, scalability and data management features.

The BlueArc Titan offers some compelling consolidation considerations including:

- iSCSI SAN and NAS support
- A wide range of application types and diversified performance
- High levels of scalable performance—they consistently lead SpecSFS performance benchmarks
- An extensible file system up to 512 TB for ease of management that will soon support up to 2 PB in a single file system
- Sophisticated and easy to use data management capabilities including snapshots, writable snapshots and remote replication
- High availability for critical and/or performance environments
- Global name space support and N-way management clustering
- FC and SATA disk drive support with transparent migrations for in-the-box tiering
- Write Once Read Many (WORM) capability for compliance and/or governance

The BlueArc Titan isn't meant for low-end environments. The common sense starting point for BlueArc is in the 10 TB range and goes up from there to hundreds of TBs. Shortly, they will support up to 2 PBs in a single Titan system. That covers a huge amount of ground and companies of all sizes fit into this capacity requirement range. It is also important to keep in mind that BlueArc isn't just about performance—although they rock at it—though the Titan 2000 is a feature-rich and highly reliable system that has a proven track record managing mission-critical environments.

ESG's View

Imagine if you had one television for comedies, another for dramas, one for news and another for reality shows. Does that even come close to making sense? Of course not. Storage is a bit more complicated than that, but you get the idea. Some end-users will only have one storage system, so they need it to be versatile. Others may have a number of storage systems and are always looking for ways to consolidate—now more than ever given the drive for server consolidation, the lack of data center floor space and power and cooling consumption. BlueArc combines not only high—but also diverse—performance for a wide range of application-types, plus it is easy to use, extremely scalable and has a suite of features and capabilities that make it an excellent consolidation platform.