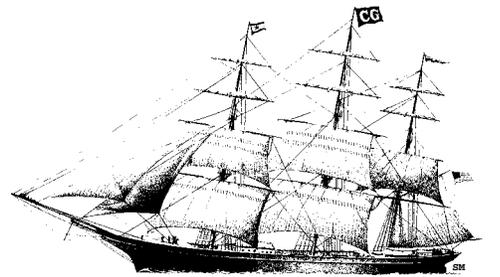


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Data Domain's Data Density — Doing More with Less in a Realm of More, More, More

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The enterprise watchword for the past few years has been *to do more with less*. However, when it comes to enterprise data, the choices faced by most enterprises range from *much more* to *incredibly much more*. Moreover, there are many good reasons why this is true. Using and protecting business data has been a core business competency since the days of papyrus and clay tablets, but electronic data presents additional challenges. Electronic data is more fragile – it is easier to corrupt and easier to erase than data on paper, so prompt replication of data is imperative for its long term protection. While electronic data is far faster and easier to replicate than its predecessors, those replicated copies add more to be managed. Now, evolving business practices add more challenges. Data not only must be protected, it must also be shared. It must be kept longer. If the company is sued, archived data must be promptly retrieved.

The basic services that enterprise electronic data demands are *protection* (a redundant copy), *promulgation* (sharing for read-only access), *replication* (sharing with full read-write access, often for a secondary use), and *recovery* (the ability to reaggregate the *way it was* at some point, usually in the recent past). You cannot skip, or skimp on, any of these functions and expect your enterprise to be competitive. Yet many data service solutions, particularly some sold by vendors with an interest in also selling storage media or communications bandwidth, often leave the enterprise with a bloat of badly managed multiple copies and a corresponding data management headache the size of Los Angeles.

In order to address the need for data services without opening the Pandora's Box of media costs and management headaches, look for vendors who obsess on *minimizing* resource use while fully supporting the *sine-qua-non* of data integrity. Data Domain¹'s data compression algorithms and duplicate data recognition, together with its invulnerability architecture, reduce the disk space required to store enterprise data up to 95% - with the most savings coming with long-term and wider use.² This allows their customers to use less – less storage capacity for data retention, and less bandwidth for data replication. With the launch of the DataDomain *Replicator* software for long distance replication, Data Domain now has a complete set of capabilities that allow an enterprise to support the full array of data services in a highly efficient way.

For many enterprises, the situation is even more complex, for their use of data involves more than just the basics of access and data integrity. Enterprises these days need to use their data, or rather various subsets of that data, in a variety of scenarios. They need information for analysis, for testing, and for sharing with internal business units and external partners. In many cases, this

¹ Data Domain, Inc., of Palo Alto, California.

² For more information on these algorithms and the technology underlying Data Domain's product set, see **The Clipper Group Navigator** dated June 19, 2003, entitled *Data Domain – Greased Lightning for Data Compression*, available at <http://www.clipper.com/research/TCG2003029.pdf>.

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information must be drawn from real-time, production data. The data recovery that enterprises need runs the gamut from the relatively frequent deletion “oops” that needs an undo to the rare full-scale recovery from a disaster. These enterprise uses of data are substantially different from, and inconsistent with, the way IT has traditionally managed data (by application-specific volumes and zones) and how it has protected data (by backup to tape). These days, the glut of data begs that it be stored more efficiently, and be more atomically and intelligently retrievable.

Tape has been used in IT for over 50 years. It has been a good fit for the data dumps of old-fashioned back up, and continues to be good for streaming, and for very large data objects. For aggregating enterprise data in multiple subsets, however its serial nature gets in the way. This is why virtual tape libraries and other forms of information caches have become popular (though expensive) add-ons, as has NAS, which is used to translate access to recast information volumes and data services into a user-relevant frame of reference. Tape persists because tape has been less expensive, and is adequate for information to which you will never need spontaneous quick access on recovery. However, for many smaller enterprises, their tape experience is in back-up – a process where any subsequent access will be both spontaneous and urgent. This is a particularly bad match with tape characteristics. Even the small enterprise, whose use of tape was predicated by tape’s low cost, may be chafing at tape’s limitations now that its data is being used more, and the access to secondary copies of data has become more important.

By making an enterprise’s disk storage as cost efficient as tape, Data Domain changes the economics of media choice. It allows those enterprises, for which tape has been unavoidable, to take tape out of the picture, reducing the breadth of assets and skill sets they must support. More broadly, Data Domain offers a highly efficient copy-to-disk solution, which may make a lot of intermediate staging of data unnecessary.

If you can keep more of your recent enterprise data backed up on disk, your enterprise has more immediate agility. Data Domain will work with your existing applications and backup software.³ If you can get all your business data on fewer arrays, the skyrocketing storage hardware and management costs take on a gentler trajectory. More attention can be paid to the revenue-enhancing task of making data more findable, sharable, and usable – of building business agility for the long term.

Data Domain’s ability to store more data in less space is an efficiency-multiplier that can transform the top items on a wish list to a feasible agenda. Doing more is important. Doing more with less is sublime. Enterprises can do both with Data Domain.



³ Data Domain works with Veritas, Atempo, Computer Associates, Legato, and CommVault..

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