



Using Storage Solutions to Foster Opportunity in Mid-Scale IT Operations

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Management Summary

Enterprises have changed how they think about their data in recent years. A few years ago, the worry was all about the glut of data. With the economic downturn, it became all about storing business information more affordably. **Now enterprises of all sizes are looking to business processes and information to provide new opportunities for revenue growth. They are looking to use business information better. To do this, they need to bridge the gap more effectively between business challenges and IT challenges. Moreover, nowhere is this need more important than for those enterprises with a mid-scale IT infrastructure, whose profitability often depends on the good fortunes of their customers and the reasonable pragmatism of their suppliers.** For them, using business information better often involves sharing it with others.

When such an opportunity knocks, it expects an immediate and well-organized response. All parties must quickly decide whether the joint venture will be worth the expense of its development. For the mid-scale operation, innovation comes frequently in the form of partnerships and coalitions. The fires of innovation depend on a well-laid hearth, with tinder at hand to get things going quickly, and larger logs that will keep the fire going long enough to realize benefits from the initiative. The pace of business opportunity does not allow the time to retire for a leisurely consultation with your database, or to indulge in a spate of meetings to find the needed information. **You need to have a good handle on your business processes, intellectual property, and other marketable and sharable business assets.** They must be readily usable as part of new initiatives, should the occasion (or your large customers) demand. **Information is likely to be shared real-time, not just through e-mail attachments.**

The value of your business assets must be showcased, not eclipsed, by the IT environment in which they are kept. And therein may lie the rub. If your database is hanging off a server, providing real-time information to partners may be just the thing to make the server insufficient. Your file systems suddenly may become cumbersome. The last generation infrastructure that you carefully nursed through the downturn may get in the way of new plans. Yet few businesses with mid-scale operations can turn down opportunity because they are afraid of growth.

Now is a good time to look at how your enterprise could use its information. **A flood of newly affordable storage solutions that provide replication, synchronization, share, and search fill the former gap between too-expensive high-end products and too-limited white-box offerings. Aggregated into simple-to-deploy solutions, they can do a lot to improve the agility of mid-scale operations that lack the IT skills to build infrastructures from scratch.** To get the most from a solution, an enterprise needs a good idea of its parameters, as well as its needs. Read on for some steps to consider.

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Mantras for the Mid-Scale Operation¹

These mantras can help keep you, the customer, in control.

The Business Comes First

- Business needs and limitations (locations, bandwidth) shape solutions, not just technology optimization. This is particularly true with data solutions that involve IT challenges, such as very large files.
- How business is done must be shaped to suit an enterprise's customers, not their technology vendors.
- Business continuance and governance must always be a part of all solutions, and a part that is integrated into the larger business process environment.

Opportunism Is the Key to Success (or, Be Prepared)

- The technology you use must be able to support the changing demands made on your business.
- By networking enterprise data assets and using open standards, where possible, an enterprise of any size keeps its options open.

The Time is Now

- Waiting until there is both time and money to “do things right” is often not an option. Look for a solution that focuses on your pain, covers the basics, starts small, and can be grown and upgraded over time. If the solution can reuse existing assets, so much the better.

Storage Solution Requirements

These mantras have some direct ramifications in the data solutions you require for your enterprise.

- Mid-scale enterprise solutions must be sufficiently *comprehensive* to address the

whole problem, including remote locations and other inconveniences. Resilience and security must be inherent to the solution. Integration and ease-of-management tools lower the costs and increase the speed of deployment. The headaches of using a point solution that requires high-touch handling to do everything you need to do is insupportable, no matter how constrained your enterprise resources.

- While covering essential functionality, solutions for mid-scale operations should have a structure of *options*² that allow a customer to avoid paying for unwanted functionality at initial deployment. The *right price* that is usually part of this litany is often a matter of this granularity. There should be enough options, and a long enough roadmap, to demonstrate the solution will continue to satisfy enterprise needs.
- Solutions must be *congenial* enough (via APIs and open standards) to link with other technology elements, as may be needed by the business.
- Survey your channel options. Pick a regional or industry-specific distributor, systems integrator, or reseller that has the expertise and localization skills your enterprise needs. The solution provider you choose must be equipped to competently plan, acquire, deploy, and service data storage hardware and software to the extent your enterprise needs them to do so.
- Consider your acquisition parameters. Look for vendors that make acquisition simple and that offer financing programs that support low cost acquisition alternatives. Look for options that roll maintenance and future upgrades into the solution as you plan for growth.

Developing Your Game Plan

Do not let yourself be swayed by preconceptions, categorizations, or gossip about products or brands. You have work to do to qualify the nature of your needs. First,

¹ There is always much debate over what is a “small business” and what is a “mid-size enterprise”, so we decided to use the term “Mid-Scale Operation” to refer to mid-sized IT infrastructure. See *The Clipper Group Captains Log* entitled *Why “SMB” is a Meaningless Acronym - Trying to Define the “Middle”* dated December 14, 2004, available at <http://www.clipper.com/research/TCG2004096.pdf>.

² Point product choices may be treated under options, but they should not lead the sale. Enterprise needs have a lock on that role.

consider your data. Do not focus just on its vastness, which – like the sea for Ishmael in *Moby Dick* – only induces non-productive thinking.³ Data come in litanies, related to products, services, and application functions. These contexts set three parameters that determine how you should treat it.

Lifecycle

Some business data becomes static sooner than other data. Once it is static, it does not need to be repeatedly protected. Once it is used less frequently, the response time of less expensive media may be adequate. Moreover, with today's automated data migration tools, implementing tiered storage has a shorter ROI and involves little risk.

Some data becomes obsolete quickly. With rapidly changing data, it is important that all parties using the data work from current information. If you have remote workers with low bandwidth connectivity (dial-up), this may be a problem. Figure out which data types need a high degree of synchronization.

Risk Exposure

Some information and sources of information are likely to document instances of organizational risk or malfeasance. These risks are an inherent part of doing business, but corporate governance (and governmental regulations) may mandate that a proper amount of oversight and searchability be a part of your solution.

Business Opportunity

Often this same risky information is also a source of business opportunities. Other opportunities may be found by analyzing business information for trends and micro-markets that your enterprise might wish to exploit. Plan your data solution requirements to facilitate the kinds of mining and analysis you may need to take full advantage of your enterprise assets.

From this kind of overview, you will gain insight. You will learn the growth rates of different kinds of data. You will find data that

could be beneficially shared, and data that became irrelevant the day after it was generated. This knowledge will allow you to determine the data services you need.

Core Data Services

Data Access

Data access is often not as straightforward as it once was. Portals let employees and customers use and sometimes share information from wherever they are, requiring more security and identity. The use of Web Services to allow applications to access the data of other applications drives up business productivity, but may make modeling necessary to know how data is being used in your enterprise.

Data Replication

Data Replication⁴ can be used for many things. The primary IT use of replication is to preserve access to data when elements of the IT system fail. Logical-level *snapshots* - that copy the pointers to data - provide multiple points of access to data should one fail. A local physical copy, such as that given by RAID, offers redress when a particular area of the storage media becomes unreadable. Having a remote physical copy of data is an essential part of business continuity. Multiple physical copies of data can also be used to satisfy needs for local copies, or for faster access to large files, like video.

Business use of data replication include generating copies of data sets for testing, modeling and analysis, as well as providing an isolated, limited copy of business data for collaboration with untrusted parties. And, of course, if information is the product of the enterprise, replication and promulgation of that data are core business processes.

Data Protection

Keeping a safe (duplicate) copy of critical business data is often considered the first step in data protection, but it should not be the only step. For integrity, corporate governance and,

³ Melville called it something more high-toned, of course.

⁴ See **The Clipper Group Explorer** dated December 9, 2004, entitled *Disk Copying: A Toolbox of Business Solutions* and available at <http://www.clipper.com/research/TCG2004101.pdf>.

often, regulatory compliance, it is important to house a safe copy of data in location, software application or hardware media that prevents alteration of the data.

Again, if data is your product (and often it can be, even if that was not the original focus of the enterprise) you may want to go farther in controlling its use, with data services like encryption and watermarks.

Data Enhancement

Plain, just-give-me-capacity storage has been a mainstay of the mid-scale operation. These days, intelligence in the array or fabric or appliance can optimize how an enterprise uses its data. Tagging data with metadata elements can enhance how data is used, and can preserve the context of data extracted from databases, allowing partners to share information from different kinds of databases. These capabilities were once reserved for large enterprises, but are increasingly available to mid-scale operations. If you use RFID, the need to analyze sensor information may shape what you need in a data solution.

What to Look for in a Solution Provider

Look for a solution provider who asks about the nature and extent of your business challenges and IT requirements before mentioning products.

- One who will mention options, and sell you what you want to buy, not what he or she wants to sell.
- Who has all the skills you want, and the competencies you hope you will never need. You do not have the in-house skills to get away with less.

Your job is to get a firm list of feature requirements; for there is nothing that delays a project or drives up the costs of it more than requirements that expand. If you have addressed the problem comprehensively and openly, it should be easier to live (at least temporarily) with what you have requested.

The specific hardware, software, and services to support these solutions comes last, and will be the subject of discussions you will have with your short list of solution providers. Once you have determined the nature of what

you want to do, it is far easier to set your requirements and elicit suggestions from service providers of specific hardware and software options. Look for products that have the industry-standard “open” interfaces to work with whatever you decide to buy next year. Look for products from vendors with the ecosystem of partnerships to support the solution elements you will need in the future.

Conclusion

Enterprises have expanded their IT thinking from minimizing costs to focusing on expanding our opportunities. Every opportunity will have its costs, but an enterpriser must also see costs in terms of the opportunities they may afford.

Remember, in the face of opportunity, the one thing that you really cannot afford is inadequacy of process. Therefore, it behooves you to analyze your business and process needs carefully to derive requirements that will take you cleanly and quickly to expanded revenues or sources of revenue. Do it before you get to the compelling arena of a sales engagement, and you can set the terms of success.



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