

## EXECUTIVE WHITE PAPER

### **Best Practices for SAN Pre-Migration: Taking the first three steps**

A journey has a starting point, a destination and begins with a single step. A successful migration is much the same. Without knowing exactly what infrastructure assets your data center has, how can they be migrated to a new location or new hardware platform?

There are ten best practices to follow to complete a successful migration. This brief outlines the first three steps that comprise the discovery pre-migration phase.

An on- time and on-budget migration is every IT manager's dream but it requires pre-planning to accomplish. A Bloor Research survey found that only 16% of migrations finish on-time and on-budget. Beginning your technology refresh or consolidation with these first three steps will put you on the path to a successful migration.

#### **Step 1 – Define, document, and publish objectives and schedule**

Most SAN migration are focused on installing new technology for a better price or higher performing equipment. This includes changing the way equipment satisfies a business with objectives such as consolidation, expansion, compliance, data protection, data access efficiency and more. These objectives answer the why migrate question. Migration objectives also cover the who, what, when, and how questions of a migration. Who is involved, what gets migrated to what and where, when is it reasonable to schedule the migration, and how will the project be managed.

Describe project objectives in terms of schedules, resource use, and outcomes. Define measures of success—for example, the number of servers you expect to migrate weekly, the total number of arrays to be transformed from one storage scheme to another, the number of departments or user groups moved by the halfway point, or the processes that will be completed during non-business hours. Document both your objectives and schedule and make sure everyone gets a copy.

#### Checklist:

- Develop project objectives that integrate requested or stated IT, operations, engineering, and business unit goals
- Set the schedule, taking into account user, group, and application priorities

- Specify all required resources—that is, people (internal/external, IT/non-IT), equipment, and tools
- Document what gets removed, consolidated, added, and extracted (for example, data from a merger/acquisition or another part of the organization)

*Tools you can use:*

Ask your storage solutions consultants if they can offer—and even populate—survey and structural documents from which you can work to identify existing elements and to set project objectives.

## **Step 2 – Commit to manage**

SAN migrations are complicated. Most storage managers are surprised during the initial steps of a SAN migration to discover unexpected assets including servers they didn't know they had, space they thought they had but didn't, under and over allocated ports. Knowing what you have in the SAN farm is necessary to make decisions about the SAN's future.

Make sure that your project management team has both the authority over and access to resources needed to accomplish objectives. Lack of cooperation or disputes over division of labor/ownership halfway through a project can cause rippling delays. A recent TechWeb survey of over 100 IT professionals during a SANpulse webinar identified multi-department coordination as the most difficult issue to deal with during a major migration.

Make resources available to meet schedules. Clarify who owns the project, who can allocate resources, who can resolve disputes. Define the process you want to follow when you discover a team or department can't meet their commitment(s) —for example, how will you proceed when the group that agreed to be ready by week three suddenly announces that a business crisis will prevent them from being able to turn over their systems until at least week five?

Checklist:

- Create milestones—for example, 2PB moved by June 30—and assign responsibilities among departments, vendors, and outside professional services providers
- Establish the cut-off policy for migration changes; track milestones and enforce the policy
- Have a backup plan to deal with management changes in available migration windows.

*Tools you can use:*

Automated discovery software tools that provide changes in a migration schedule are necessary for changes due to business unit requirements such as partial cancellations, and migration adjustments.

### Step 3 – Discover and analyze what really exists

Are you sure you have 500 host servers that will be impacted? Or storage from just two vendors? Inventory lists can be off significantly, so you'll need to conduct extensive discovery to make sure you've got the "real" list from which to assign priorities and achieve the best cost/value ratio. Facts to confirm include: total number of existing servers, arrays, and host-to-storage fabrics; front-end adapter utilization; systems ownership; capacities; vendors/versions; and current RAID types. An assessment will show the urgent need for storage, the micro code that is no longer supported for the migration, and bottlenecks that arise from rolling allocations. It is possible to understand these factors and adjust them during a migration to reduce further risk.

Most define Storage Resource Management (SRM) as a process to optimize and to make storage efficient. Migrating storage is an opportunity to address the efficiency issue but requires going beyond the topology of the SAN by diving into the fundamental characteristics such as size, placement, and interconnection – the anatomy of the SAN. A SAN assessment makes an inventory of the storage and the fabric by collecting those attributes necessary to evaluate the size, utilization and at-risk data necessary to make decisions for the future of the SAN. This may or may not encompass the details of servers attached to the SAN.

- Topology with inter-component characteristics
- Size to capacity profile
- Component inventory

#### Checklist:

- IT and storage teams collaborate to define the view—that is, will the project impact hosts, storage, both?
- Assign discovery tasks and establish the schedule and milestones
- Complete a performance profile—document the performance baseline that you need to meet or exceed
- Identify improvement targets—for example, increase capacity utilization by 40%, move additional aged data to more economical tier 3 storage, etc.

#### *Tools you can use:*

Industry tools exist for select elements of the discovery and analysis process. Unfortunately, most of these tools are not integrated and require considerable effort to merge and effectively utilize their output silos. Software that automates the discovery of the assets in your SAN will give you a picture of your SAN anatomy and provide flexibility.

A more comprehensive choice would be to work with a solutions provider that leverages a SAN analytics engine to automate intelligence gathering. A typical manual discovery,

mapping, and auditing project for an enterprise SAN environment can take two to three months and cost hundreds of thousands of dollars for an environment of 200 servers or two petabytes. Manual discovery processes are highly time-intensive and too often produce inaccurate results. A business-process-driven analytics program can help you much more quickly and affordably scope the existing array environment, complete data classification, clarify charge backs, and streamline other discovery tasks to produce an executable plan.

**The first three pre-migration steps of your ten step migration journey are critical for success. Knowing your assets and mapping your migration prepares you for completing your migration on-time and within budget.**

The white paper “The 10 Best Practices for a Successful Migration” from SANpulse is available for download.



#### *About SANpulse Technologies*

SANpulse delivers the industry’s most comprehensive, customized, end-to-end solutions for SAN optimization and migration

Leveraging the pioneering SANlogics software platform, methodologies developed through decades of real-world storage testing, and many of the world’s most tenured SAN Engineers, SANpulse delivers a dynamic modular mechanism to replace the labor-intensive and error-prone delivery optimization methodologies prevalent today. SANpulse has successfully optimized or migrated the SAN environments of many Fortune 500 clients, including the largest global financial firms, leading computer hardware manufacturer, and one of the world's largest IT management software providers.

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