

Phoenix RSMTM

Surveillance Video Management. Done Right.



**An overview of the Phoenix RSM
Surveillance Video Management Software**

Lets You Save Video For Years

SoleraTec
2430 Auto Park Way, Suite 205, Escondido, CA 92029
760-743-7200 marketing@solerafec.com
www.SoleraTec.com
January 2011

Why Phoenix RSM™

- Manages your organization's video surveillance needs
- Provides complete video lifecycle management functionality
- Milestone and OnSSI VMS retention and archiving extension capabilities
- Forensics-based “Record, Store, and Manage” architecture
- Decentralized storage utilization with centralized management
- Unparalleled user-customizable metadata support
- Unique low-resolution companion file (for ultra-fast search and review)
- Store to multiple storage mediums such as hard disk, Blu-ray, and digital data tape, including offline storage
- Record directly from IP-cameras or from other VMS systems such as Milestone or OnSSI
- Best *Total Cost of Ownership* (TCO) model
- “Pay-As-You-Grow” scalability

Value Proposition

Phoenix RSM helps you save and manage surveillance video for years.

Utilizing multi-tiered storage resources, Phoenix RSM delivers robust search and playback of video surveillance data. Phoenix RSM provides you with complete control of the storage management, retention, and migration of video assets.

Phoenix RSM makes the video content more useful –for the people who are contributing it AND the people who need to play it back.

Phoenix simplifies the business process of video management and retention and brings clearly identifiable cost and revenue benefits.

Primary Need

Phoenix RSM provides organizations the ability to manage, track, store, retain, search, and play back all of their video surveillance files. Phoenix RSM is a video lifecycle management solution that delivers quick and easy search and video playback features and offers long-term retention capabilities. As industry regulations (i.e., those for casinos), corporate governance, and local ordinances dictate longer and longer term retention of surveillance video, the need to keep control and provide proper management is critical. Phoenix RSM provides the overarching management to control the growing pool of video.

Product Overview

SoleraTec's Phoenix RSM provides advanced video surveillance data management including live video capture and comprehensive video lifecycle management. Focused on the Record, Store, and Manage aspects of a forensics-based video surveillance system, Phoenix RSM delivers fast search and playback through multi-tiered storage.

Simply put, Phoenix RSM allows you to quickly search and retrieve relevant sequences of archived video –no matter the time lapse– with a generous amount of customer-specific metadata that allows easy retrieval and playback.

Decentralized Storage Advantage

Phoenix RSM, lets you capitalize on decentralized storage to meet even the toughest challenges in video surveillance. Whether it's deploying surveillance systems in low bandwidth environments, across multi-site campuses, or situations requiring higher-resolution camera recordings, multi-tiered storage solutions deliver significant cost-saving advantages.

Metadata, Low-Resolution Companion Files, and Relevant Searches

What sets Phoenix RSM apart from competitive products is two-fold: First, the metadata capabilities that allow for customer-specific data to be associated to the video files for more relevant search and playback, and, second, the low-resolution companion files that allow for low network-bandwidth utilization in retrieving and reviewing desired video. You will be amazed at how fast you can review your aged video.

Complete Overarching Management

Phoenix RSM manages video assets for long-term retention, whether that video was captured directly from RTSP enabled IP-cameras or recorded through third party video management software such as Milestone™ and ONSSI™. Replication and migration of video files to progressively less expensive storage mediums, while fully managing the storage location of those videos, allows for rapid search and retrieval of relevant video scenes, regardless of how long ago they were captured.

Multiple Storage Medium Utilization

With advanced video lifecycle management capabilities, Phoenix RSM allows you to use hard disk, Blu-ray, or digital data tape as primary and long-term storage. This frees your video surveillance system from the restrictions of the past. No longer are you limited to low frame rate recording, hindered by non-megapixel cameras, nor boxed in to only 7-day loops.

Cost Effective Solution

In this expanding IP-based video surveillance market, with its increase in network camera counts, higher resolution images, and increased retention requirements, a true video lifecycle management solution utilizing multi-tiered storage resources significantly reduces storage costs and keeps the overall system from ballooning out of control. Take full advantage of megapixel cameras, 30 frames per second recording, and high-quality bit rate video images, all without requiring expansive storage infrastructures.

Customer Pain Points

- Information and Video Overload
- Unprotected Video Assets
- Inability to Easily Locate Needed Video
- Storage Resources Not Scalable
- Lack of Video Lifecycle Management
- Unmet Long Term Retention Needs
- Workflow Issues
- Collaboration Difficulty

Reduce Unwanted Data Loss

Frequent, well-timed replication of captured video reduces the risk of video loss resulting from a corrupted or over-written video.

In addition, while other VMS systems do not provide automatic data migration to various storage tiers within an entire organization, Phoenix RSM is a policy and rules based system that easily migrates and replicates video surveillance files from one storage resource to another, even when those storage resources are driven by Windows, Linux, or Macintosh platforms. Having a choice of multiple OS platforms for storage integration delivers additional opportunities for cost savings.

Phoenix RSM Benefits

- Ultra-Fast Search and Playback
- Utilization of Existing Storage Assets
- Export of Segment Clips
- Long Term Retention
- High Quality Video Support
- Milestone, OnSSI, and Other VMS Integration
- RTSP enabled IP Camera Support
- Multiplatform
- Preservation of Chain of Custody
- Money Saved

Unique Competitive Advantages

- Low-Res Companion Files and Thumbnail Creation
- User-Customizable Metadata
- Multi-Tiered Storage Management
- Offline Media Management
- Integration with Milestone, OnSSI, and other VMS systems
- Support for Over 1,000 Third Party RTSP-enabled IP Cameras
- External Storage Medium Management (data tape, optical)
- Replication/Redundancy Capabilities
- Strict Security Levels
- Overarching Management Capabilities
- Option to Save Milestone/OnSSI Video in H.264 Format for Significant Storage Space Savings

Multi-Campus or Multi-Servers

Phoenix RSM-ME is ideal in situations where customers need replication, redundancy, and migration because of multi-site or campus-wide management considerations. It lets you centralize the management capabilities of multiple video surveillance “islands” as they all feed back to an overarching Phoenix RSM solution.

Competition

Although Phoenix RSM works in partnership with video management systems such as Milestone or OnSSI to extend the retention capabilities of those systems, Phoenix RSM can be used without Milestone or OnSSI as a direct surveillance video management system.

From a long-term retention competitive position, Phoenix RSM directly competes with more hardware based NVR/DVR systems as well as the software oriented *TimeSight Systems*. The main competitive advantage for Phoenix RSM over NVR/DVR hardware solutions is the lack of scalability of an NVR/DVR system. Those systems are limited to the amount of initial hardware storage provided and each NVR/DVR system is an “island” whereas Phoenix RSM has single-pane-of-glass management and can scale to the *n*th degree. Software competitors tend to alter and de-grade the original video, causing the video to be less usable *and inadmissible as evidence in court*.

Why Stored Forensic Video Is Useful

Diverse companies and organizations around the country use surveillance cameras to observe activity and monitor behavior. Regardless of the intent or purpose behind the initial surveillance camera, every organization needs a method in place for managing video content. In many states, legal policies require video surveillance data to be stored for extended periods of time—often up to a year or more. As digital video management regulations continue to intensify, storing surveillance video ensures that an organization can defend itself in the face of legal or regulatory inquiries, or simply continue to carry out its day-to-day operations without significant IT or monetary burdens.

Another example of the need for forensic video is in military applications. As unmanned aerial vehicles (UAVs) proliferate, more and more video is captured and requires analysis. Phoenix RSM’s ability to apply metadata to all captured video increases the usefulness of

the video and the ability to generate relevant search queries in order to review and play back desired video assets.

As video surveillance becomes more ubiquitous, the need to properly manage this large pool of video data becomes even more critical.

Repurposing and examination of video can also yield important sales and commercial information. For example, retail store surveillance video can be reviewed at later dates to determine the effects on foot-traffic patterns when a store is re-arranged. The reasons for sales volumes changes can be ascertained when reviewing forensic video from months and years past.

Reducing Storage Costs While Enhancing Reliability

A properly designed storage architecture built for the unique requirements of IP video surveillance can offer a more robust, scalable and cost-effective solution. With the multi-tiered storage management capabilities of Phoenix RSM, an organization can use offline storage resources such as Blu-ray optical media or LTO digital computer data tape to extend long-term retention capability.

The security industry has long understood the need to accommodate massive storage requirements for video surveillance data. To mitigate its costs, vendors have facilitated numerous methods that reduce the quality of the recorded video or the frequency that video frames are recorded on the storage media. Recent technological advancements of higher resolution cameras, combined with regulations that require extended retention periods of high-resolution, real-time footage, have made those “down-grading” methods out-dated.

Today’s video surveillance system users have begun to reevaluate their willingness to compromise on quality and frame rate and the requirements for longer-term retention are already becoming

commonplace. These recent evolutionary changes have forced the security industry to find a cost-effective, highly reliable, scalable storage architecture.

Phoenix RSM delivers the ultimate video storage architecture.

Well architected video storage systems must be capable of efficiently scaling from a few gigabytes to petabytes for long-term retention along with quick video retrieval and playback. This ability of Phoenix RSM provides a unique competitive advantage by giving customers the retention they need in an affordable, scalable, solution.

Total Cost of Ownership (TCO)

Another significant consideration of your video surveillance solution is total cost of ownership. While the cost of entry might be manageable for even a dozen terabytes of data, running and maintaining a device—or devices—for those terabytes adds up quickly. Apart from the cost associated with purchasing terabytes worth of storage devices (also known as Total Cost of Acquisition), you will also bear the cost of electricity needed to run the equipment. A 100-terabyte system will cost up to \$35,040 a year (Source: “Power and Storage: The Hidden Cost of Ownership” - Computer Technology Review, October 2003. See Appendix for URL).

And even if you are running less than a terabyte, even a few hundred dollars is too much to spend on electricity to run and cool storage devices—if the data is not being regularly accessed and utilized.

Effective data management is not about having massive amounts of storage. It is about “right sizing storage” and storing the data you need to retain on the most appropriate form of storage medium and doing so in a way that supports on-demand video retrieval.

Hard drives provide powerful and fast storage solutions. However, it is not practical to build a surveillance centric Video Lifecycle Management (VLM) solution using only hard drive storage, mainly because of the acquisition and maintenance costs over the life of that hardware.

Fortunately, there are excellent time-tested complementary storage options to hard drive systems, including digital computer data tape (such as LTO-4 and LTO-5) and Blu-ray optical. Realizing that not all data needs to be accessed all the time, a solid VLM management tool that will migrate (not to be confused with “export”) data to less expensive storage is the most cost-effective solution.

Initial Hard-Disk based storage

If we examine hard-disk based storage and take into account the total cost of acquisition, a new understanding of the cost per gigabyte of storage emerges. Let’s look at the D-Link DSN-3200 Storage iSCSI SAN Array. This 15TB capacity unit with 1TB hard drives has a current street price of \$6,100 + [15 1TB drives x \$90] = \$1,350 for a total acquisition cost of \$7,450, or about 49 cents per gigabyte.

Care must be taken when doing straight cost per gigabyte comparisons of storage media only and actual system acquisition cost per gigabyte. Using January 2011 cost data for a stand-alone 1TB hard drive of \$90, you would get a 9-cent per gigabyte cost. But you must insert that hard drive into a storage solution such as a NAS or SAN, which will significantly alter the cost per gigabyte.

LTO-5 digital computer data tape enters market March 2010

The new LTO-5 tape drive nearly doubles the capacity and increases transfer rates by up to 15 percent over LTO-4 technology. Digital computer data tape durability has always been a major advantage. With 15 to 30 years archival at 5,000 cartridge loads/unloads and approximately 260 full file passes (one file pass is equal to writing enough data to fill an entire tape), this medium has stood the test of time.

This storage medium is available in 1.5 terabyte cartridges that currently cost about \$40 per cartridge and can be stored for decades. LTO4 technology has 800 gigabytes of capacity with those cartridges costing approximately \$25 per cartridge (about 4 cents per gigabyte).

This offline storage medium, which Phoenix RSM directly manages, provides affordable, long-term storage and retention capability of an organization's video surveillance needs.

Innovations in LTO-5 technology strengthen the economic advantages of digital computer data tape in terms of lower cost and power consumption in tiered storage applications. LTO-5 provides an even lower cost per gigabyte of data storage. Customers also benefit from greater energy-efficiency savings with LTO-5 because of less power consumption and lower cooling costs.

Comparable individual stand alone LTO-4 tape drives cost about \$1,700, street price. A one-drive, 12-slot tape library (9.6TB capacity) costs approximately \$4,200, street price. A two-drive, 50-slot tape library (40TB capacity) costs about \$10,000, street price.

Phoenix RSM is able to natively control and manage single digital tape drives (1 slot), tape autoloaders (10 slots), or massive tape silos (hundreds of slots). This gives Phoenix RSM the ability to interoperate with hard-disk based and tape-based devices to make them integral parts of an organization's Video Lifecycle Management (VLM) infrastructure.

A comparison of 9-cents per gigabyte for hard disk versus 4-cents per gigabyte for tape may not seem that significant at first. The true cost savings come into play as the tape cartridges are used and kept under system management yet reside offline to be reinserted into the system when needed.

The ability to rotate through tape cartridges and keep terabytes and petabytes of data under management at the same 4-cents per gigabyte is where the true cost savings come into play. To continue to add more and more hard disk capacity, with the added electrical costs, becomes prohibitively expensive.

Blu-ray optical media as another offline media resource

A single-layer Blu-ray disc can hold 25 gigabytes of data, and a dual-layer disc can hold 50 gigabytes. To ensure that the Blu-ray disc format is easily extendable (future-proof), it also includes support for multi-layer discs that enable the storage capacity to be increased to 100GB–200GB (100GB discs began volume shipments in December 2010).

End-users are very comfortable with the “CD” likeness of Blu-ray discs and understand the use and care of the media. With the storage capacity of Blu-ray significantly less than that of digital computer data tape (and specifically LTO-5), a considerably greater number of Blu-ray discs will be needed to equal the capacity of a digital computer data tape.

A single Blu-ray drive currently cost approximately \$100 street price. A 25GB Blu-ray disc price costs about \$6 per disc or roughly 23-cents per gigabyte. The 50GB Blu-ray discs cost around \$14 which translates to 27-cents per gigabyte, and 100GB discs recently introduced at about \$75, for a 73-cents per gigabyte cost.

Phoenix RSM is also able to natively control and manage optical media jukebox/libraries (hundreds of slots). Again, this gives Phoenix RSM the ability to integrate these different storage technologies and incorporate them into an organization’s Video Lifecycle Management (VLM) infrastructure.

Storage Medium Cost Analysis

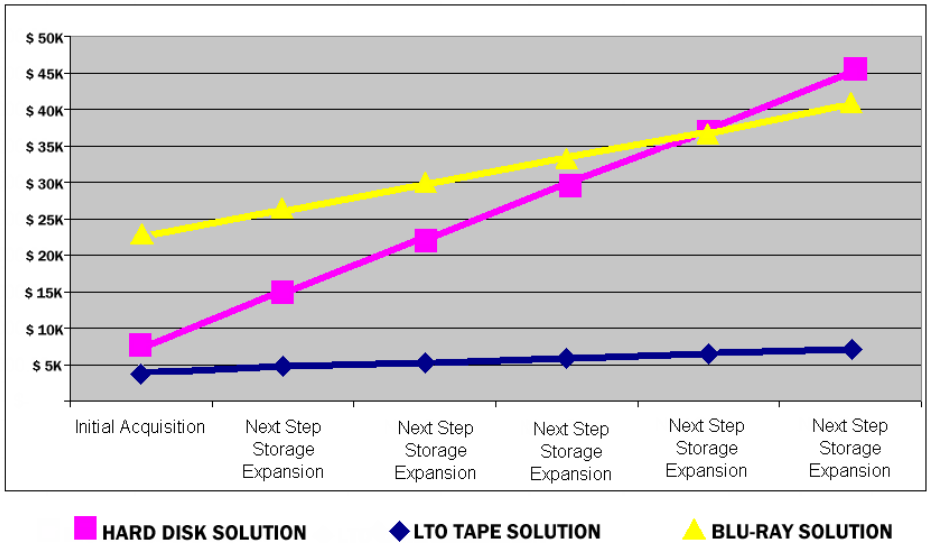


Figure 1: Cost over time of storage requirements of a video surveillance solution. Initial data point is the cost of acquisition.

Price does not equal cost; cost includes much more than purchase price. Understanding capital expenditures (CAPEX) versus operational expenses (OPEX) is vital in analyzing storage costs. The total cost of acquisition (TCA) for storage is roughly 20 percent of the total cost of ownership (TCO), according to a Hitachi Data Systems report.

Just a few years ago, the price of the hardware and software was a much higher portion of TCO, but price erosion has changed that.

Another key metric used by some is TCDO, or the total cost of data ownership. TCDO calculates cost not by the total usable capacity, but by the total amount of data actually stored.

This approach exposes several problematic cost areas, including:

- Cost of waste — both usable and unallocated, and allocated but unused space
- RAID overhead costs

When seeking to control storage costs, an organization needs to determine which types of cost are most relevant to control and measure them. Reducing costs is often not simply a matter of selecting products, but of designing a storage architecture that is more supportive of the organization's cost-reduction goals. Dynamic multi-tiered storage solutions can be the pivot point of a sound storage strategy. When these elements are unified, the overall impact is greater than the sum of its parts.

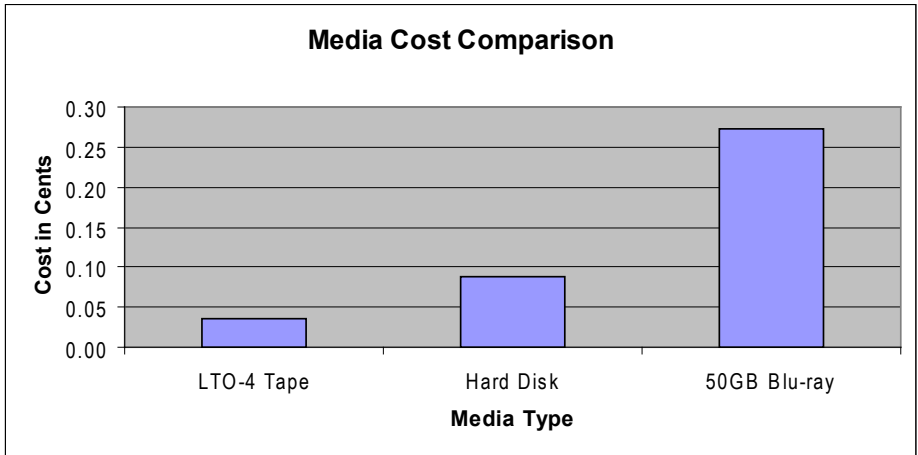


Figure 2: Direct media cost per gigabyte comparison.

Note: These prices are not inclusive of the hardware systems they work in, even though hard disks will need additional hardware to operate.

Thus, a true VLM solution can include any quantity terabyte SAN or NAS (Ethernet, SCSI, iSCSI) initial storage, with less expensive hard disk as a second tier of storage, followed by a third tier of offline storage comprising digital computer data tape and/or Blu-ray optical.

In this VLM scenario, your SAN/NAS capacity needs to be sufficient to store low-resolution companion files for a desired coverage time frame and then the ability to migrate the high-resolution original video files to offline storage media.

Easy to Maintain and Scale

Phoenix RSM is designed from the ground up as a storage resource management solution that natively handles surveillance video assets. This architecture allows for additional Phoenix RSM storage hardware to be added to an infrastructure and automatically participate in the overall surveillance solution. This “single-pane-of-glass” management and “pay-as-you-grow” methodology offers the most compelling solution that scales from a single camera to *hundreds* of cameras.

Easy to Use

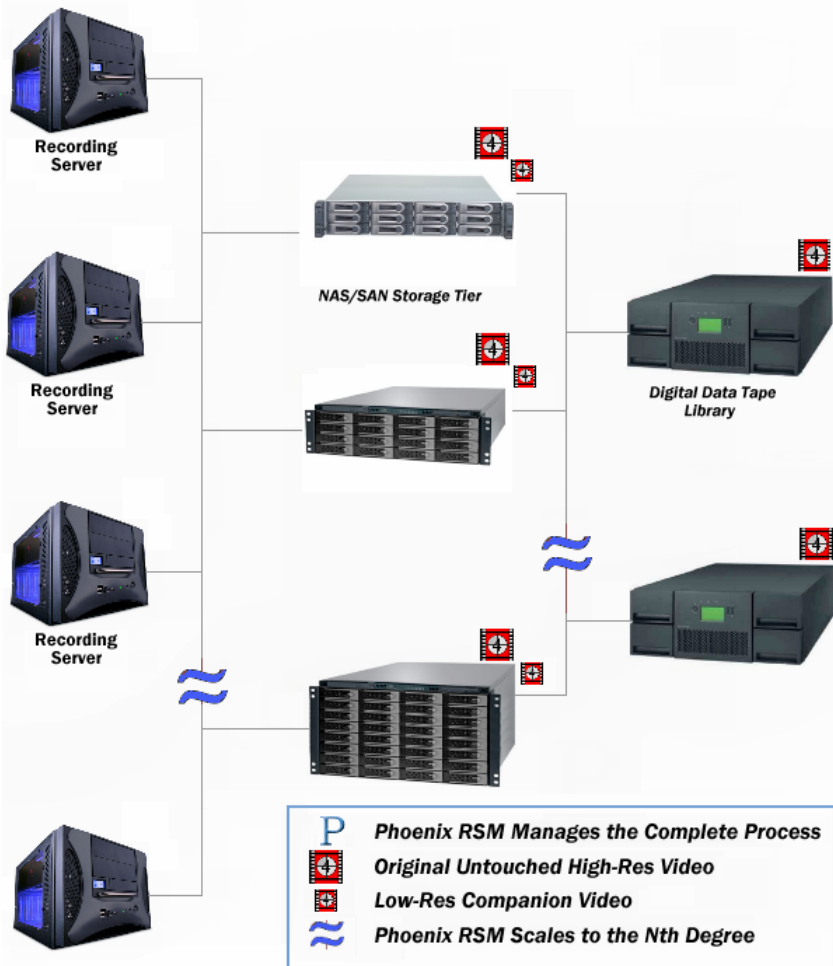
Phoenix RSM is extremely easy to set up, configure, and use on a daily basis. Wizards are provided to guide you through the initial setup and configuration of the system. Once configured, users will primarily use the Phoenix RSM Surveillance Video Manager tool to perform searches, review search results, play back video for identification, and clip out segments for delivery to appropriate personnel, all while maintaining a complete Chain-of-Custody of the video assets.

Rest assured, with Phoenix RSM you get PEACE OF MIND!

Video Lifecycle Management

Phoenix RSM™

Surveillance Video Management. Done Right.



... True Video Lifecycle Management

Phoenix RSM Surveillance Video Manager Tool

Search
Export

Search Criteria

Search using date range

January 2010						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Start: 2010/01/27 00:00:00
End: 2010/02/03 23:59:59

Camera:

More search options

Camera Pool:

Camera Description:


Show video stored on:

Show video captured by this computer:


Show video stored on this media:


Show video stored in this storage pool:

Search Results





Axis210 @ 2010/01/27 17:40:06
 CameraName: Axis210 CameraDescription: Front
 Host: mack.esc.soleratec.com FrameSize: 640 x 4
 BeginTimeDate: 2010/01/27 20:37:03 RunTime: 0



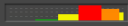



Axis211 @ 2010/01/27 20:37:03
 CameraName: Axis211 CameraDescription: Front
 Host: mack.esc.soleratec.com FrameSize: 640 x 4
 BeginTimeDate: 2010/01/27 17:40:06 RunTime: 0






Axis210 @ 2010/01/30 16:46:37
 CameraName: Axis210 CameraDescription: Front
 Host: mack.esc.soleratec.com FrameSize: 640 x 4
 BeginTimeDate: 2010/01/30 16:54:02 RunTime: 0






Axis211A @ 2010/01/30 16:54:02
 CameraName: Axis211A CameraDescription: Front
 Host: mack.esc.soleratec.com FrameSize: 640 x 4
 BeginTimeDate: 2010/01/30 16:46:37 RunTime: 0




Items displayed: 21 Sort results by:

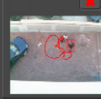
Export Queue



Axis211
 In Time: 2010/01/27
 Out Time: 2010/01/27
 Clip Duration: 00:03:5



Axis211A
 In Time: 2010/01/30
 Out Time: 2010/01/30
 Clip Duration: 00:03:5



Axis212
 In Time: 2010/01/30
 Out Time: 2010/01/30
 Clip Duration: 00:03:5

Items to export: 2

© 2011 SoleraTec LLC

16

DCN FC0111

APPENDIX

Power and Storage: the hidden cost of ownership” - Computer Technology Review, October 2003.
http://findarticles.com/p/articles/mi_m0BRZ/is_10_23/ai_111062988/

D-Link 15TB SAN Unit (Plus 15 1TB hard disk drives)

http://www.officedepot.com/a/products/314586/D-Link-xStack-Storage-DSN-3200/?cm_cat=2000000422

Buffalo 4TB TeraStation

<http://www.cdw.com/shop/products/default.aspx?edc=1986068>

LTO4 800GB Cartridge [each]

<http://www.cdw.com/shop/search/results.aspx?key=LTO4+cartridge&searchscope=All&sr=1>

Overland 30 Slot LTO4 Tape Library

<http://www.cdw.com/shop/products/default.aspx?edc=1689325>

Quantum SuperLoader 3 LTO4 8 Slot

<http://www.buy.com/prod/quantum-superloader-3-lto-4-tape-autoloader-1-x-drive-8-x-slot-6-4tb/q/loc/111/210228730.html>

50GB Blu-ray platter [each]

<http://www.cdw.com/shop/search/results.aspx?key=50GB+Blu-ray&searchscope=All&sr=1>

DISC Blu-ray jukebox

http://www.disc-group.com/products/DISC_BD_series.aspx

LG Blu-ray single drive burner

<http://www.tigerdirect.com/applications/searchtools/item-details.asp?EdpNo=6044540>

<http://www.marketwire.com/press-release/Quantum-Extends-Tiered-Storage-Leadership-With-First-to-Market-LTO-5-Tape-Products-NYSE-QTM-1124669.htm>

<http://www.blu-ray.com/faq/>

Manufacturers of digital data tape libraries:

Quantum, HP, IBM, Overland Storage, Tandberg Data, SpectraLogic, and others.

Manufacturers of Blu-ray jukeboxes and producer systems:

DISC, HIE, Rimage, Primera, TEAC, HIT, and others.

APPENDIX (continued)

Various Storage Ownership Cost Categories (Source: Hitachi Data Systems)

1. Hardware depreciation (lease) — yearly costs for hardware depreciation or monthly leases
2. Software purchase or depreciation — monthly or yearly costs for the purchase of the software. Some software can be capitalized with the original hardware acquisition.
3. Hardware maintenance — recurring maintenance or warranty costs for all storage hardware after the base warranty period
4. Software maintenance — recurring maintenance or warranty costs for all storage software
5. Storage management labor — management labor costs associated with the various tasks of storage management, such as provisioning, tuning, load balancing, troubleshooting and upgrades
6. Backup and disaster recovery labor — aside from storage management, additional labor related to backups and restores, as well as disaster recovery planning and testing
7. Migration, re-mastering — various costs associated with data migration at the storage system's end of life. In large environments, there is continuous labor effort associated with data migrations.
8. Data mobility — time and effort required to move data to different tiers or archive solutions. Different from re-mastering, data mobility follows the data lifecycle, not the system lifecycle.
9. Power consumption and cooling — kVA, BTU costs (converted to kW) of data center power. Power costs should include industrial grade conditioning and battery or diesel backup.
10. Monitoring — SNMP, NOC and operations consoles for the storage, SAN and backup infrastructures
11. Data center floor space — cost per square meter of data center floor space. This often includes uninterruptible power supply (UPS) and raised floor costs.
12. Provisioning time — business impact for the time waiting from when the request is made until capacity is presented to the host
13. Cost of waste — two types: usable and not allocated, and allocated and not used
14. Cost of copies — database management systems (DBMS) and other applications often require copies to be made. In-tier or out-of-tier copies are possible. Test, development, quality assurance (QA), data mart, data loaders and similar applications all require multiple copies of structured and unstructured data.
15. Cost of duplicate data — besides multiple copies, there is often an overhead associated with several copies of the same data. This is very common in unstructured file systems.
16. Cost of growth — fundamentally, every storage architecture has a cost of growth. In high-growth environments with the wrong architecture, the cost of growth can be acute.
17. Cost of scheduled outage — microcode changes, capacity upgrades

Various Storage Ownership Cost Categories (continued)
(Source: Hitachi Data Systems)

18. Cost of unscheduled outage (machine related) — in both the storage system and the connections or data path
19. Cost of unscheduled outage (people and process related) — often due to capacity problems, operational control and physical thresholds
20. Cost of disaster risk, business resumption — business impact with slow or fast recovery after a catastrophic event (declared disaster)
21. Recovery time objective and recovery point objective (RTO and RPO) costs — business impact costs resulting from the time it takes to return to a recovery time (or point) after a system failure or backup recovery
22. Data loss — there are business and enterprise costs for lost, corrupted or unrecoverable data
23. Litigation, discovery risk — legal risk and e-discovery time costs associated with lawsuits. This also covers general data location and recovery effort time.
24. Reduction of hazardous waste — primarily an EU cost due to regulations such as RoHS. Noncompliant hardware may incur an additional tariff for disposal of the asset.
25. Cost of performance — impact to the business (good or bad) relative to total storage performance (IOPS, latency, MB/sec)
26. Backup infrastructure — fixed cost infrastructure for backup. This includes backup servers, media servers, tape libraries, drives, etc.
27. Backup media — local and remote media costs for backup; recurring and capacity related costs
28. Cost of risk with backup windows — business impact of shortened or limited backup windows
29. CIFS-, NFS-related infrastructure — filers, gateways and the necessary software to provide file servers and shared services in the enterprise
30. Local and remote data circuits — dark fibre used for SAN extensions, remote replication and the associated software
31. Storage area networking — dedicated Fibre Channel, iSCSI or NAS connection infrastructures. This includes routers, gateways, host bus adapter switches and directors.
32. Noncompliance risk (archive, data retention) — several legal and legislative requirements (HIPAA, Basel II, Sarbanes-Oxley, carbon emissions), noncompliance with which can incur fines, negative publicity and criminal prosecution
33. Security, encryption — costs associated with protecting, securing and encrypting data and the storage infrastructure



SoleraTecTM

www.SoleraTec.com • Tel: (760) 743-7200 • Email: Info@SoleraTec.com

SoleraTec Headquarters: 2430 Auto Park Way, Suite 205, Escondido, CA 92029

© 2011 SoleraTec LLC. All rights reserved. SoleraTec, the SoleraTec logo, and the Phoenix logo are trademarks of SoleraTec LLC. All other third party brands, products, service names, trademarks, and registered service marks are the property of and used to identify the products or services of their respective owners. All specifications are subject to change without notice.