



Storage Economics: Are You Spending More Than You Need on Cap-Ex and Op-Ex?

Massive growth and out of control costs are impacting the bottom line. APTARE gives organizations complete visibility into their storage environments helping them manage their storage environments more effectively and efficiently.

Both capital and operational expenditures for storage continue to explode, ballooning into one of the largest line items on many organizations' IT balance sheets. Rich media files, email, and social media is driving corporate data usage and all this information needs to be managed and protected by the IT department. In many cases, the data is backed up and replicated multiple times to disk, to tape, and to off-site disaster recovery data centers doubling or even tripling the amount of capacity needed.

The problem is only going to get worse. According an IDC Digital Universe Study in 2011, data growth increased 9x from 2005 to 2010 and we will create more than 7,910 exabytes per year by 2015—up from 1,227 exabytes in 2010. Yes, that is exabytes, as in 1 billion billions or 16 zeros.

At the same time that data is exploding, the cost of storage continues to go up. IDC reports that while capital costs of storage is on a downward trajectory due to efficiencies in disk manufacturing, the cost of owning storage is going up. Managing one terabyte of tier one storage costs the typical enterprise \$5,000 to \$10,000 per year. Tier two and tier three storage costs can be significantly less but still represent a major cost burden. Simply put, the sinking cost of disk drives is not enough to offset the annual cost of managing and protecting that data, and these out of control storage costs can eat into margins and derail a business.

Storage Visibility Provides Flexibility to React Quickly to Business Opportunities

Visibility into storage environments can help reduce both capital and operational expenses for organizations of all sizes. The ability to see how much storage is being used, how much storage costs, and how much storage is needed to meet planned growth and future business goals enables a more efficient storage strategy ensuring storage needs are met and corporate data is managed, protected, and secured appropriately. *Are we meeting users' needs? Is our data safe? Are we in compliance of all regulations? What is this all costing the company?*

This visibility, information and analysis allows organizations to make better, more-informed decisions while reducing both the cost and ownership of storage, giving them the flexibility they need to complete in today's competitive business environment while putting themselves on better financial footing.

A Manual Process Becomes Cost Prohibitive

Many organizations are already doing this—albeit in a manual and tedious way. Hundreds of hours each week are wasted manually collecting storage and backup information and inputting the data in a spreadsheet. Administrators then integrate multiple spreadsheets—some of which have tens of thousands of rows—to create reports that are complex and difficult for non-technology users to understand. The result is a complex process, wasted manpower and a business that doesn't have a clue about what is going on in its storage environment.

How to Reduce Storage Costs

Capital Expenditures

Reclaim storage space: identify unused storage and put it to better use

Re-tier storage: store the right amount on the right tier at the right time

Better forecasting: avoid emergency purchases through accurate capacity planning

Operating Expenditures

Automate charge-back and show-back reporting: show customers how much their storage costs annually

Create operational efficiencies: reduce the time administrators spend creating compliance reports

Automate Storage Reporting Through APTARE

Organizations can eliminate manual processes and complexity by automating storage reporting through APTARE StorageConsole solutions. A Web 2.0 platform, APTARE StorageConsole integrates with popular backup solutions to provide detailed reporting, monitoring, and alerting on the essential aspects of the storage environment. The data extensibility of the solution enables the creation of hundreds of custom reports that administrators can use to plan capacity upgrades, get a better handle on backups, and run the organization's storage environments more effectively and efficiently. APTARE StorageConsole solutions are easy to deploy, use, and customize per unique reporting requirements.

APTARE solutions provide the visibility into storage environments to answer the following questions in real-time, helping organizations eliminate complexity and lower their capital and operational expenses.

If you are running out of storage, how can you find available storage that is not currently being used?

The cheapest storage is the reclaimed disks organizations don't have to buy. APTARE solutions provide unparalleled visibility into storage capacity reporting and monitoring from the storage array, to the host, and down to the application allowing administrators to easily identify unused storage and fully optimize resources. A reclamation report (Figure 1) provides a snapshot of unused storage and a roadmap of where to uncover additional capacity so the organization doesn't have to purchase more.

Reclamation Summary

Server Group=Global Storage Infrastructure | Oct 10, 2012 02:18:49PM

Area of Reclamation



Total Reclaimable Space: 1,826.22 TB

Figure 1

How do you know if your hosts are using the right storage tiers?

It is human nature to always want the best and the fastest but showing business units how much storage costing per tier and how much can be saved by downgrading to a lower tier is a way to get the business to seriously consider other options. APTARE reports allow storage departments to open the eyes of business unit managers so they can see how different data protection policies have different costs (Figure 2).

Sales Department Storage Costs

Server Group=Sales | Oct 05, 2012 11:48:48AM

Total Row(s): 6

Host	Policy	Cost Per GB	Total Usage	Total Cost
aeolus	Platinum	\$ 50.00	850.00 GB	\$ 42,500.00
			850.00 GB	\$ 42,500.00
aptare1	Gold	\$ 25.00	15,768.00 GB	\$ 394,200.00
			15,768.00 GB	\$ 394,200.00
hds_win1	Platinum	\$ 50.00	20.00 GB	\$ 1,000.00
			20.00 GB	\$ 1,000.00
hds_win2	Platinum	\$ 50.00	20.00 GB	\$ 1,000.00
			20.00 GB	\$ 1,000.00
hds_win3	Platinum	\$ 50.00	20.00 GB	\$ 1,000.00
			20.00 GB	\$ 1,000.00

Figure 2

How do you know when you will run out of space?

Dynamic provisioning provides the capacity organizations need without over provisioning or running out of space when users need it the most. APTARE solutions allow administrators to provision with confidence by giving them a holistic overview of available resources (Figure 3). This allows them to view the status of storage assets in real-time helping them to provision capacity as needed on demand.

Dynamic Provisioning Pool Summary
 Arrays: All Storage Arrays | Oct 05, 2012 12:01:36PM
 Total Rows: 38 - This report has a filter applied

Pool ID	Storage Array	Used	Physical				Virtual						
			# DP Pools	# Array Groups	Capacity of DP Pool	Consumed	Free In Pool	# DP VOLS	Capacity of DP VOLS	Overprovision	Allocated	Threshold1	Threshold2
DP2	ETCFDRHVTPR_18454	782	N/A	375,513.04 GB	369,481.99 GB	9,031.05 GB	444	369,476.67 GB	97.99%	252,841.86 GB	85%	80%	Over Threshold
DP1	ETCFDRHVTPR_20952	224	N/A	102,630.29 GB	95,148.84 GB	7,481.45 GB	99	101,378.08 GB	98.70%	101,378.08 GB	70%	80%	Over Threshold
DP11	ETCFUSVCDHDATA4_20921	128	N/A	103,048.23 GB	88,953.56 GB	14,094.68 GB	3,242	114,861.17 GB	111.56%	97,998.04 GB	70%	80%	Over Threshold
DP1	ETCFDRHVTPR_18454	72	N/A	70,561.09 GB	57,179.53 GB	13,420.56 GB	71	57,179.01 GB	86.99%	57,179.01 GB	95%	80%	Over Threshold
DP21	ETCFUSVCDHDATA4_20993	158	N/A	127,201.10 GB	94,687.87 GB	32,313.13 GB	3,627	118,842.89 GB	93.43%	0.00 GB	70%	80%	Over Threshold
DP12	ETCFUSVCDHDATA4_20953	128	N/A	103,048.23 GB	75,713.16 GB	27,335.07 GB	3,200	113,660.19 GB	110.32%	0.00 GB	70%	80%	Over Threshold
DP12	ETCFRDRHVTPR_48053	276	N/A	590,629.51 GB	425,045.48 GB	165,584.03 GB	645	646,168.55 GB	109.40%	172,043.15 GB	70%	80%	Over Threshold
DP11	ETCFUSVCDHDATA4_20953	128	N/A	103,048.23 GB	67,489.69 GB	35,548.57 GB	3,594	121,724.31 GB	118.12%	0.00 GB	70%	80%	Normal
DP4	ETCFRDRHVTPR_48053								62.17%	45,188.11 GB	70%	80%	Normal
DP2	ETCFRDRHVTPR_20952								83.71%	343,995.59 GB	70%	80%	Normal
DP5	ETCFRDRHVTPR_20952								93.86%	123,908.11 GB	70%	80%	Normal
DP22	ETCFUSVCDHDATA4_20993								32.45%	0.00 GB	70%	80%	Normal
DP1	KCCUSP_VQ/172.16.1.123								54.82%	7,848.03 GB	75%	80%	Normal
DP41	USP_VQ/10.177.153.116								86.43%	6,317.02 GB	70%	80%	Normal
DP41	USP_VQ/10.177.153.115								99.60%	7,285.01 GB	70%	80%	Normal
DP4	KCCUSP_VQ/172.16.1.123								49.14%	25,700.21 GB	75%	80%	Normal
DP0	KCCUSP_VQ/172.16.1.123								49.11%	6,318.08 GB	75%	80%	Normal
DP4	PCCUSP_VQ/172.16.1.123								0.00%	15,274.36 GB	70%	80%	Normal
DP1	ETCFRDRHVTPR_48053								48.85%	39,728.03 GB	70%	80%	Normal
DP10	ETCFUSVCDHDATA4_20993								65.73%	0.00 GB	70%	80%	Normal
DP0	PCCUSP_VQ/172.16.1.123								0.00%	5,844.05 GB	75%	80%	Normal
DP2	KCCUSP_VQ/172.16.1.123								90.86%	10,288.00 GB	85%	90%	Normal

Figure 3

Do you know when you will need to buy more storage?

APTARE forecasting tools ensure that organizations have enough storage to meet growth demands and future business goals. The reports show how much has currently been allocated and what is currently available versus what will be needed in the future based on historical data and trends (Figure 4). This tells organizations how much storage should be purchased and by when.

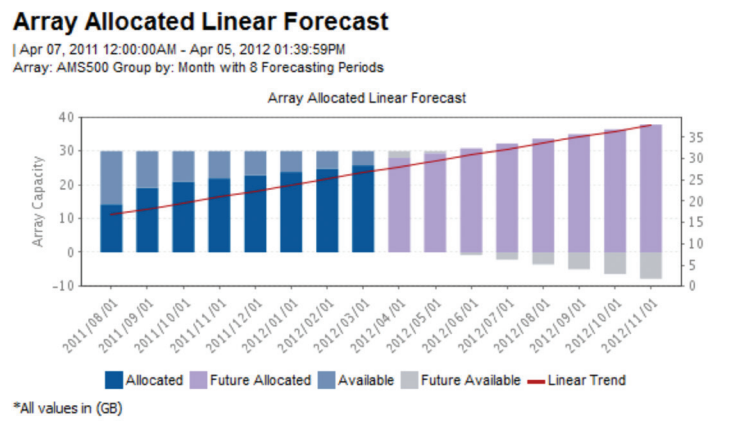


Figure 4

Conclusion

Massive data growth and out of control costs are turning storage economics upside down. Visibility into the storage environment will help organizations make better, more-informed capacity decisions while reducing the cost and ownership of storage. APTARE StorageConsole solutions provide this visibility without all the tedious administration typically associated with reporting. The data extensibility allows administrators to automatically create hundreds of custom reports that will help manage storage environments more effectively and efficiently.

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