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Flash Paper 2

Investing in thin provisioning will improve the efficiency in our disk array and storage needs. Thin Provisioning is the ability to allocate storage space on a as need basic instead of pre-allocating a block of memory for future use. Thin provisioning will save storage space by not wasting any unused storage and allocating that storage to other applications. With less wasted storage, we will not need to buy excess storage and would therefore be saving money.

In traditional provisioning, the user estimates how much storage space will be needed for applications in the future and then allocates the estimated storage capacity to the workload. Once the user allocates that space, only that workspace has access to that disk capacity. This means that if the user never uses the entire allocated space, then the unused space is wasted because it is inaccessible to other application workloads (Adams). This happens within companies because the user will always over-estimate the storage capacity just to be on the safe side. However, with thin provisioning it doesn't matter if there is enough actual physical capacity to support the allocation because no actual physical space is used until the application actually writes data to that capacity (Adams). This means that the physical capacity is not utilized until data is stored on it.

Investing in thin provisioning has numerous benefits; one benefit is reducing the number of disk array that would be need for the organization's data needs. Also, full disk capacity isn't needed upfront, which means organizations can purchase a smaller amount of disk storage at a time and allocate expenses across several quarters (Adams). By purchasing storage at a small amount each time, organizations can also take advantage of declining disk prices. For example, a Western Digital 4TB enterprise HDD costs $430, and let's says the price on that drive declines by 8 percent per quarter. If our business needs 60 HDD, that would cost $25,799 if we bought them all at once. But if we buy 20 to start out, and buy 10 per quarter for the next 4 quarters, we would be saving over $6,000. By having to buy less disk array, the floor space need to for the disk array would be reduce and as a result the energy needed for power and cooling would decrease. Finally with thin provisioning, we will see a decrease in downtime and improve reliability for better business continuity and disaster recovery (Dell)

			2nd quarter	3rd quarter	4th quarter
HDD	429.99				
.08 decline per quarter			395.5908	363.943536	334.828053
Buy 60 at once	25799				
20 -first purchase		8599.8			
10- 2nd quarter		3955.908			
10- 3rd quarter		3639.435			
10- 4th quarter		3348.281			
60- total		19543.42			
	25799	19543.42			
		6255.58	saving		

Reference

Adams, April “Innovation insight: Thin Provisioning drives cost reduction” Gartner.com, 2012 October. 2013 Feb

VMware “Storage Thin Provisioning”. 2013 Feb, http://www.vmware.com/products/datacenter-virtualization/vsphere/storage-thin-provisioning.html#glance

Dell Compellent “Thin Provisioning”. 2013 Feb http://www.compellent.com/Products/Software/Thin-Provisioning.aspx