



Ave. cost of U.S. commercial kWh 0.0928

Savings from moving array capacity to MSL4048		Comments
MSL4048	Capacity (TB)	38.4 (compressed)
	Average/Typical Power	140 Watts
	Power in kWh	538
	Yearling cost to power	\$ 49.93
		NOTE: this doesn't include cooling, EVA and XP calculations do. For Tape Libraries, the Fans are part of the library and are cooled and operated using the same mechanism. There are NOT additional calculations needed specifically for cooling.
	Capacity (TB)	38.5
	power and cooling kWh	44588.4
	Yearling power and cooling cost	\$ 4,137.80
		Assumes a 2C10 EVA, 2 shelves of 500GB FATA drives (14 TB) and 10 shelves of 146 GB FC drives (24.5TB)
	Savings when moving EVA capacity to tape	\$ 4,087.88
	Savings %	98.79%
XP	Capacity (TB)	40
	power and cooling kWh	295724
	Yearling power and cooling cost	\$ 27,443.19
		Uses XP shown on "XP Thin Provisioning Tab", no Thin Provisioning
	Savings when moving XP capacity to tape	\$ 27,393.26
	Savings %	99.82%

Whole Datacenter savings		
Scenario 1 (before new features)		
	Total disk capacity in data center in TB	120
	Actual capacity in use	60
	Number of 20 TB EVA's	4
	Power in kWh for 1 EVA	90949.82
	Number of 40 TB XP's	1
	Power in kWh for 1 XP	295724
	Amount of data archived to tape	0
		Tape drive is in use for backup, but not to archive data and remove from disk storage
	Total power and cooling required in kWh	659523
	Yearly cost to power	\$ 61,203.72
Scenario 2 (with new features and archive)		
	Total capacity required	56.6
	Number of 12.2 TB EVA's	3
	power and cooling in kWh for one EVA	48859.78
	Number of 20 TB XP's	1
	power and cooling for one XP	174752
	Number of MSL4048	1
	Power in kWh	538
	Total power and cooling required	321869.328
	Power cost	\$ 29,869.47
	Savings	\$ 31,334.25
	% Savings	51%
EVA		The capacity actually needed is much less than scenario 1 because now the full effect of all the features.
XP		One array's worth of data (12.2 TB) moved to tape. Can change this input to show 2 EVA's remaining
MS4048		Based on EVA example in EVA total workbook, scenario 2 that combines all EVA features
TOTAL		

Source: HP StorageWorks (June 18, 2007)