

RFP #: SP-19-0025 System Integrator for Data Center Optimization

Row Labels	Sum of Tier 0 - RAW TB	Sum of Tier 1 - RAW TB	Sum of Tier 2 - RAW TB	Sum of Tier 3 - RAW TB	Sum of Tier 4 - RAW TB	Total
Group A	90.7	1798	1635.8	1443.13	1837.65	6805.28
Other	21	0	164.23	116.12	29.803	331.153
Grand Total	111.7	1798	1800.03	1559.25	1867.453	7136.433

Row Labels	Sum of Shared Direct Attached Storage SDAS (TB)	Sum of SAN / NAS (TB)	Total
Group B	106.4	157.9	264.3
Group C	18	7.2	25.2
Grand Total	124.4	165.1	289.5

NOTE: The information in these spreadsheets was collected in 2017 by Gartner. The current (July 2018) DIS Storage Environment has increased as follows:

SDCW - Tier 1 Usable Disk Space in TB MAC - Tier 1 Usable Disk Space in TB
SAN - 3 PAR 750 1200 (1.2 PB)

FYI - this data is from the 2017 Gartner Assessment

Group	Agency	Tier 0 - RAW TB	Tier 1 - RAW TB	Tier 2 - RAW TB	Tier 3 - RAW TB	Tier 4 - RAW TB	Total Tier 1 - Tier 4	%	Nearline / Deep - RAW TB
	Information Systems - SEE NOTE ON PREVIOUS PAGE REGARDING INCREASE OF DIS STORAGE ENVIRONMENT FROM THIS 2017 STATISTICS								
Group A	Health Department	10	1,698	0	0	0	1,698	25%	0
Group A	Human Services	0	0	344	180	0	524	8%	0
Group A	Finance & Administration	0	0	845	735	1,024	2,604	38%	0
Group A	Education	30	10	18	15	0	73	1%	0
Group A	State Police	0	0	267	83	9	359	5%	0
Group A	Correction	0	0	0	0	196	196	3%	0
Group A	Emergency Management	0	30	0	0	0	30	0%	0
Group A	Higher Education	0	0	27	0	5	32	0%	101
Group A	Parks and Tourism	22	0	0	0	0	22	0%	0
Group A	Environmental Quality	0	0	0	60	0	60	1%	0
Group A	Workforce Services	0	0	0	0	0	0	0%	0
Group A	Insurance	28	0	0	40	364	432	6%	0
Group A	Crime Information Center	0	0	0	0	0	0	0%	0
Group A	Medical Board	0	0	0	0	0	0	0%	0
Group A	Career Education	0	0	0	0	0	0	0%	0
Group A	Agriculture	0	0	0	0	0	0	0%	0
Group A	Economic Development	0	0	0	0	0	0	0%	0
Group A	Community Correction	0	0	0	0	0	0	0%	0
Group A	Public Employees Retirement System	0	0	0	0	0	0	0%	0
Group A	Crime Laboratory	0	0	0	118	3	121	2%	0
Group A	Workers' Compensation	0	0	0	0	9	9	0%	0
Group A	Teacher Retirement System	0	0	0	0	15	15	0%	21
Group A	Labor	0	0	0	0	16	16	0%	0
Group A	Student Loan Authority	0	0	0	0	0	0	0%	0
Other	AETN Television Network	0	0	155	87	30	272	82%	232
Other	Rehabilitation Services	0	0	0	0	0	0	0%	0
Other	School for the Blind	0	0	0	0	0	0	0%	0
Other	School for the Deaf	0	0	9	0	0	9	3%	0
Other	State Library	21	0	0	29	0	50	15%	0

	Tier 0	Tier 1	Tier 2	Tier 3	Tier 4
Type of Storage	Enterprise Class SAN: e.g. IBM XIV, DS8x / 6x, FlashSystem EMC Symmetrix VMAX, DMX-4, XtremIO		Midrange Class SAN: e.g. IBM StorWize v7x, DS5x / 4x, EMC VNX, CLARiON, HDS HUS 110,	NAS / iSCSI: e.g. IBM SONAS, N series, EMC Isilon, Celeria, NetApp FAS, HDS HNAS, Dell FS,	Direct: SATA DAS JBOD VTL
Frame	HDS HUS 130 / 150, VSP, USP HP 3PAR StoreServ 10x / 7x, XP7, P9x / UX Oracle FS1-2, Pillar Axiom, Huawei OceanStor 18x, 5000T, Sx900, Fujitsu DX8000-S2		HP 3PAR StoreVirtual P6x/P4x/EVA, StoreEasy 5x, Dell Compellent, EqualLogic, Nimble CS	HP StoreAll, Oracle ZFS Huawei N8x, SGI NAS CORAI Z3000	
Hard Drive Speed	n/a	15,000 RPM	10,000 RPM	10,000 RPM	7,200 RPM
Disk Type	EFD, Flash, SSD	Fibre	Fibre, SAS	SAS, SATA	SATA
Connectivity	Redundant Fibre Channel SAN	Redundant Fibre Channel SAN	Redundant Fibre Channel SAN	NAS / iSCSI	Direct
Availability (typical)	Up to 99.999%	up to 99.999% mostly 99.99%	up to 99.99% mostly 99.9%	up to 99.9%	up to 99.9% mostly 99.5%
Data Protection (typical)	Mirroring (e.g. RAID 0/1)	Mirroring (e.g. RAID 0/1)	RAID 5	RAID 5	RAID 5
RPO - acceptable data loss (typical)	0 hours	typically 0 hours	8 hours	24 hours	3 days
RTO - time to restore (typical target)	4 hours	4 hours	24 hours	3 days	7 days
Performance (typical IOPS per disc)	>6,000 IOPS	175 IOPS	125 IOPS	125 IOPS	75 IOPS

Group	Agency	Shared Direct Attached Storage SDAS (TB)	SAN / NAS (TB)	Total
Group B	Development Finance Authority	0	3	3
Group B	Disability Determination for Social Security Administration	0	0	0
Group B	Public Service Commission	0	0	0
Group B	Bank	0	22	22
Group B	Oil & Gas	0	4	4
Group B	Assessment Coordination	14	0	14
Group B	Securities	0	0	0
Group B	Law Enforcement Standards & Training	20	0	20
Group B	Natural Resources	0	0	0
Group B	Geological Survey	0	96	96
Group B	Nursing	0	0	0
Group B	Contractors Licensing	0	30	30
Group B	Ethics Commission	64	0	64
Group B	Minority Health	0	0	0
Group B	Claims Commission	0	0	0
Group B	Health Information Technology Office	0	0	0
Group B	Geographic Information Office	8	0	8
Group B	Tobacco Control	0	0	0
Group B	Public Accountancy	0	0	0
Group B	Fair Housing	0	0	0
Group B	Pharmacy	0	0	0
Group B	Spinal Cord Commission	0	3	3
Group B	Examiners in Counseling	0	0	0
Group B	Motor Vehicle Commission	0	0	0
Group B	Collection Agencies	0	0	0
Group C	Heritage	18	0	18
Group C	War Memorial Stadium	0	0	0
Group C	Liquefied Petroleum Gas	0	0	0
Group C	Barber Examiners	0	0	0
Group C	Tobacco Settlement	0	0	0
Group C	Architects, Landscape Architects, & Interior Designers	0	0	0
Group C	Military	0	0	0
Group C	Public Defender	0	7	7

Group	Agency	Shared Direct Attached Storage SDAS (TB)	SAN / NAS (TB)	Total
Group C	Veterans Affairs			0
Group C	Real Estate			0
Group C	Sentencing Commission			0
Group C	Parole			0
Group C	Health Services Permit			0
Group C	Private Career Education			0
Group C	Licensure for Professional Engineers & Professional Surveyors			0
Group C	Psychology			0
Group C	Embalmers & Funeral Directors			0
Group C	Election Commissioners			0
Group C	Aeronautics			0
Group C	Manufactured Home			0
Group C	Dental Examiners			0
Group C	Martin Luther King, Jr. Commission			0
Group C	Massage Therapy			0
Group C	Optometry			0
Group C	Towing and Recovery			0
Group C	Auctioneers Licensing			0
Group C	Social Work Licensing	0	0	0
Group C	Bail Bondsman Licensing			0
Group C	Appraiser Licensing and Certification			0
Group C	Speech-Language Pathology and Audiology			0
Group C	Physical Therapy			0
Group C	Cemetery			0
Group C	Capitol Zoning District			0
Group C	Waterways			0
Group C	Veterinary Medical Examining			0
Group C	Fire Protection Licensing			0
Group C	Burial Association			0
Group C	Acupuncture and Related Techniques			0
Group C	Child Abuse and Neglect Prevention			0
Group C	Abstracters Board of Examiners			0
Group C	Veterans Child Welfare Service			0
Group C	Registration for Foresters			0
Group C	Athletic Training			0
Group C	Chiropractic Examiners			0
Group C	Home Inspector Registration			0
	Sub-Totals	18	7	25