

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	MAC - Tier 1 Usable
in TB	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	0	1,698	0	0	0	1,698	25%	0
Group A	Health Department	10	60	135	212	196	613	9%	4
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	<b>Enterprise Class SAN:</b> e.g. IBM XIV, DS8x / 6x, FlashSystem EMC Symmetrix VMAX, DMX-4, XtremIO HDS HUS 130 / 150, VSP, USP		<b>Midrange Class SAN:</b> e.g. IBM StorWize v7x, DS5x / 4x, EMC VNX, CLARiON, HDS HUS 110, HP 3PAR StoreVirtual P6x/P4x/EVA, StoreEasy 5x, Dell Compellent, EqualLogic, Nimble CS	<b>NAS / iSCSI:</b> e.g. IBM SONAS, N series, EMC Isilon, Celerra, NetApp FAS, HDS HNAS, Dell FS, HP StoreAll, Oracle ZFS Huawei N8x, SGI NAS CORAID ZX3000	<b>Direct:</b> SATA DAS JBOD VTL
Frame	HP 3PAR StoreServ 10x / 7x, XP7, P9x / UX Oracle FS1-2, Pillar Axiom, Huawei OceanStor 18x, 5000T, Sx900, Fujitsu DX8000-S2				
Hard Drive Speed	n/a		15,000 RPM	10,000 RPM	7,200 RPM
Disk Type	EFD, Flash, SSD		Fibre	Fibre, SAS	SAS, SATA
Connectivity	Redundant Fibre Channel SAN		Redundant Fibre Channel SAN	Redundant Fibre Channel SAN	NAS / iSCSI
Availability (typical)	Up to 99.999%		up to 99.999% mostly 99.99%	up to 99.99%	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
RPO - acceptable data loss (typical)	0 hours		typically 0 hours	8 hours	24 hours
RTO - time to restore (typical target)	4 hours		4 hours	24 hours	3 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
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
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
Group B	Pharmacy			0
Group B	Spinal Cord Commission	0	3	3
Group B	Examiners in Counseling			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
Group C	Liquefied Petroleum Gas			0
Group C	Barber Examiners	0	0	0
Group C	Tobacco Settlement			0
Group C	Architects, Landscape Architects, & Interior Designers			0
Group C	Military			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