Appendix A. Capacity and Performance Characteristics

A.1 Site Hardware Capacity and Performance Parameters

Note: These tables are tied to the 12/21/94 Technical Baseline. The values represent minimal R-A characteristics, unadjusted for SMC-0300 and SMC-0310 growth requirements.

Table A-1. Release A Best Case Analysis of CSMS Hardware Capacity and Performance Characteristics

Release A Best Case Analysis	CPU MIPS	Processor RAM, MBytes	Server BackPlane Transfer Rate, Mb/s	Primary Data Storage, MBytes	Primary Storage Disk Accesses, 4KB Blocks/Sec	Peripheral Disk Data Storage, MBytes	Data Archive - Initial, GBytes	Data Archive - Just Prior to Next Release, GBytes
GSFC SMC - MSS/CSS	244	252	2	972	75	371	0.4	1.8
GSFC LSM - MSS/CSS	240	252	0	659	6	371	0.0	0.2
EDC LSM - MSS/CSS	241	252	1	663	17	371	0.1	0.2
LaRC LSM - MSS/CSS	242	252	1	652	33	371	0.0	0.1
MSFC LSM - MSS/CSS	241	252	0	658	9	371	0.0	0.2
EOC LSM - MSS/CSS	241	252	1	651	19	371	0.0	0.1
Bulletin Board - CSS	115	140	1	1,524	24	358	1.0	1.5
Mgmt. Wks - MSS	16	38	no test	361	no test	not required	not required	not required

Table A-2. Release A Worst Case Analysis of CSMS Hardware Capacity and Performance Characteristics

Release A Worst Case Analysis	CPU MIPS	Processor RAM, MBytes	Server BackPlane Transfer Rate, Mb/s	Primary Data Storage, MBytes	Primary Storage Disk Accesses, 4KB Blocks/Sec	Peripheral Disk Data Storage, MBytes	Data Archive - Initial, GBytes	Data Archive - Just Prior to Next Release, GBytes
GSFC SMC - MSS/CSS	248	252	4	5,972	131	371	5.4	31.2
GSFC LSM - MSS/CSS	241	252	1	849	23	371	0.2	4.1
EDC LSM - MSS/CSS	244	252	2	834	67	371	0.2	3.7
LaRC LSM - MSS/CSS	248	252	4	667	131	371	0.1	0.4
MSFC LSM - MSS/CSS	242	252	1	822	34	371	0.2	3.6
EOC LSM - MSS/CSS	244	252	2	736	73	371	0.1	1.9
Bulletin Board - CSS	115	140	1	1,524	24	358	1.0	1.5
Mgmt. Wks - MSS	16	38	no test	361	no test	not required	not required	not required

Table A-3. Release B Best Case Analysis Projections of CSMS Hardware Capacity and Performance Characteristics

Release B Best Case Analysis	CPU MIPS	Processor RAM, MBytes	Server BackPlane Transfer Rate, Mb/s	Primary Data Storage, MBytes	Primary Storage Disk Accesses, 4KB Blocks/Sec	Peripheral Disk Data Storage, MBytes	Data Archive - Initial, GBytes	Data Archive - Just Prior to Next Release, GBytes
GSFC SMC - MSS/CSS	315	252	39	2,902	1,254	376	3.9	89
GSFC LSM - MSS/CSS	850	252	318	1,124	10,170	376	0.6	15
EDC LSM - MSS/CSS	368	252	67	1,004	2,136	376	0.5	7
LaRC LSM - MSS/CSS	267	252	14	988	446	376	0.3	6
MSFC LSM - MSS/CSS	245	252	3	967	85	376	0.4	5
EOC LSM - MSS/CSS	247	252	4	913	120	376	0.3	3
Bulletin Board - CSS	118	140	2	1,711	75	363	2.5	4
Mgmt. Wks - MSS	16	38	no test	376	no test	not required	not required	not required

Table A-4. Release B Best Case Analysis Projections of CSMS Hardware Capacity and Performance Caracteristics

Release B Worst Case Analysis	CPU MIPS	Processor RAM, MBytes	Server BackPlane Transfer Rate, Mb/s	Primary Data Storage, MBytes	Primary Storage Disk Accesses, 4KB Blocks/Sec	Peripheral Disk Data Storage, MBytes	Data Archive - Initial, GBytes	Data Archive - Just Prior to Next Release, GBytes
GSFC SMC - MSS/CSS	537	252	155	4,403	4,955	376	35	1,351
GSFC LSM - MSS/CSS	2,683	252	1,273	3,159	40,723	376	7	140
EDC LSM - MSS/CSS	758	252	270	2,732	8,629	376	6	114
LaRC LSM - MSS/CSS	353	252	59	2,856	1,883	376	2	118
MSFC LSM - MSS/CSS	266	252	14	2,602	441	376	5	106
EOC LSM - MSS/CSS	275	252	18	1,764	578	376	3	55
Bulletin Board - CSS	118	140	2	1,711	75	363	3	4
Mgmt. Wks - MSS	16	38	no test	376	no test	not required	not required	not required

A.2 Preliminary SDPS Network Data Flow Sizing for Release A

The following tables reflect network data flows within and between the SDPS subsystems in the Release A timeframe. Note that the table reflects only those flows related to subsystem components that have been sized by SDPS thus far.

Table A-5. Release A flow sizing between SDPS subsystem components*

DAAC	Working Store to Electronic Distrib. (Mbps)	Working Store to Media Distrib. (Mbps)	Ingest (non-level 0 data) via Data Server (Mbps)	Ingest (Level 0 data from SDPF) to Processing (Mbps)	Processing to Working Store (Mbps)	Processing net I/O (staging for Data Server) (Mbps)
LaRC	3.270	3.270	0.370	0.008	2.900	2.900
MSFC	1.576	1.576	1.448	0.006	0.128	0.128
GSFC **	1.430	1.430	1.430	n/a	n/a	n/a

* Note that these are preliminary sizing estimates and may be changed as SDPS sizings get refined closer to CDR. All numbers reflect 24 hour averages with no overhead factors applied.

** The GSFC DAAC does not support processing other than AI&T during Release A. In addition, there is no L0 ingest other than interface testing in preparation for Release B (AM-1 mission)

Table A-6. Release A flow sizing within LAN segments supporting SDPS subsystems and the LSM *

DAAC	Data Server (Mbps)	Processing (Mbps)	Planning	Data Management	Ingest (Level 0) (Mbps)	LSM (Mbps)
LaRC	13	4	TBD	TBD	0.01	4
MSFC	5	5	TBD	TBD	0.01	1
GSFC	3	n/a	TBD	TBD	n/a	1

* All numbers reflect 24 hour averages with a protocol overhead factor of 1.33 applied.