Dynetics Technical Services
Network Attached Storage (NAS)
NASA Marshall Space Flight Center (MSFC)

Request for Proposal
July 31, 2013

4207 NAS Refresh Initial Data Profile

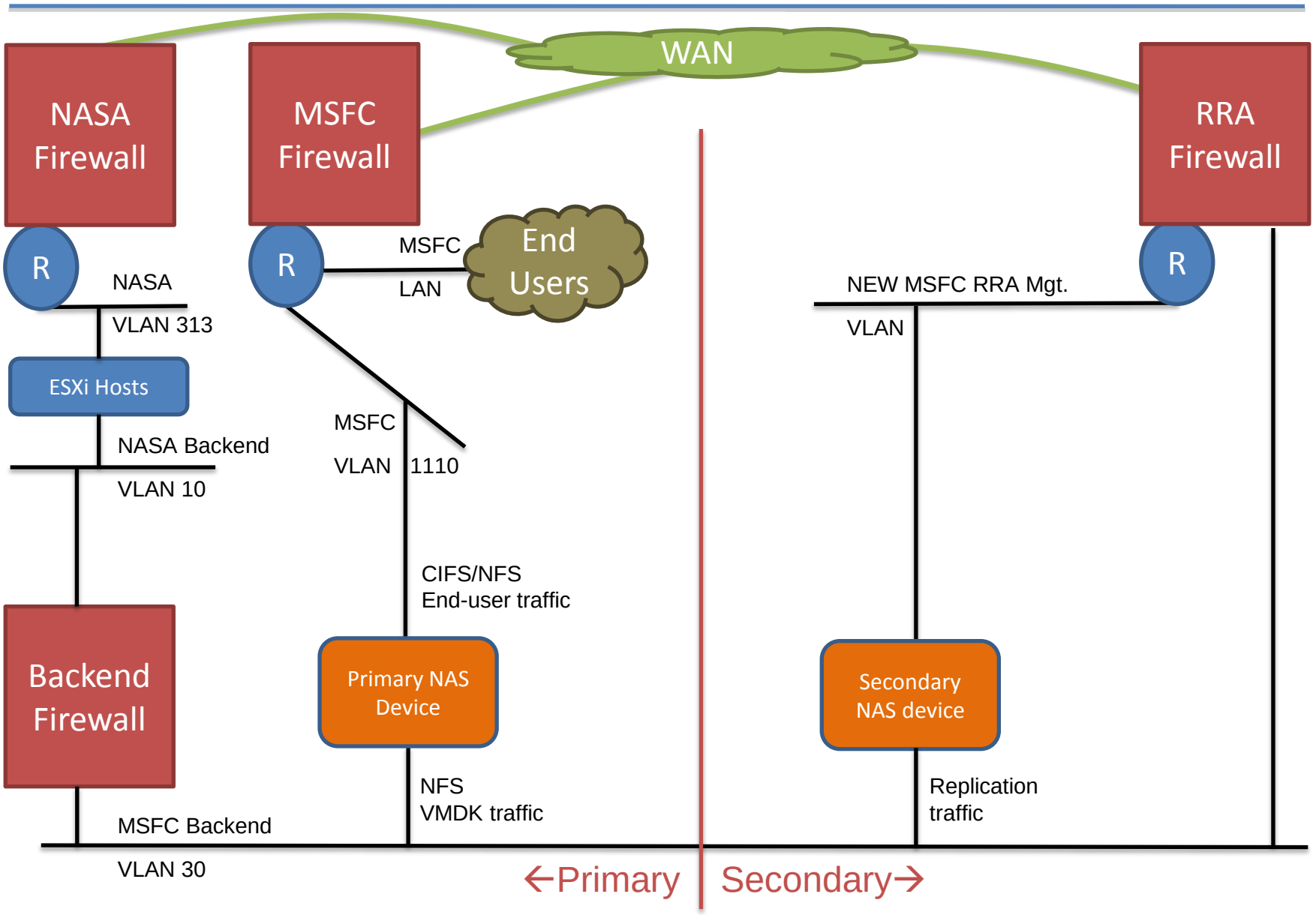
Existing NAS CIFS Shares

Server	Org	disk space (GB)
NetApp	AS	1595
NetApp	CS	341.05
NetApp	ED	3119.25
NetApp	EV33	2000
NetApp	FP	661
NetApp	HS	152.5
NetApp	IS	1188.55
NetApp	LS	0.5
NetApp	MCS	100
NetApp	OS	5
NetApp	PS	5
NetApp	RS	465
NetApp	SF	1100
NetApp	TP	515.5
NetApp	XP	2577
NetApp	ZP	175.75
NetApp	ED	5050.9
TOTAL	(allocated)	**19052**
	Appx. Used	**8879**

Additional NAS CIFS/NFS Candidates

Server	OS	disk used (GB)	appx. # of files
server1	Windows	7,375	13,326,659
server2	RHEL 5	22,010	6,662,135
server3	RHEL 5	1,692	12,914,977
server4	CentOS	35,175	
server5	RHEL 6	2,131	
server6	RHEL 6	1,860	
server7	CentOS	177	
server8	CentOS	215	
server9	Centos	11,000	
server10	Windows	461	140,140
server11	CentOS	27,934	
server12	Windows	7,177	2,762,745
server13	RHEL 5	3,985	
server14	RHEL 6	36	
server15	RHEL 6	1,145	
server16	RHEL 5	640	8,209,426
server17	RHEL 5	20,487	8,107,941
server18	CentOS	5,705	
server19	CentOS	1,492	
server20	RHEL 5	1,212	
server21	*Windows*	*3,630*	*1,681,290*
server22	*Windows*	*4,956*	*1,436,999*
server23	*Linux*	*5,132*	*130,431*
server24	Windows	3,810	2,160,796
	Appx. Used	**169,440**	

4207 NAS Refresh Network Architecture



4207 NAS Refresh Minimum Requirements

- Include a detailed Statement of Work detailing all professional services to be performed
- 200TB usable at primary site at MSFC, with growth capability to at least 450TB (growth capability of single system to multiple PB is desirable)
- Redundant 10GbE uplinks to each system for front-end MSFC network
- Redundant 10GbE uplinks to each system for back-end NASA network
- Replication from primary to secondary NAS device
- Support for replication via existing NASA network
- 100TB usable at secondary site at KSC, with growth capability to at least 225TB (initial useable size and growth capability to at least 50% of primary is desirable)
- Support for CIFS/SMB protocol
- Support for NFS protocols, versions 3 and 4
- Snapshot capability for protection against deleted or corrupted files
- Replication of snapshots from primary to secondary site
- Support for hosting NFS volumes for large data VMDKs
  (not sustained High I/O work loads)
- Support for Large quantities of small files as indicated on Initial Data Profile
- Support for rapid file-level/granular restore of files located within VMDKs on NFS datastores
- Provide 5 years of on-site hardware and software maintenance with 4 hour response
- Compliance with all NASA Moderate security procedures, policies and regulations
- Acceptance based on Section 516 of continuing resolution HR933
- Address additional requirements as referenced in the 4207 NAS Refresh Technical Evaluation Plan

Trade-in Considerations for MSFC 4207 NAS refresh

- Will accept trade-in credit with 180-day return allowance for:
  - EMC Celerra NS480 (204TB Raw)
    - 5x 146GB vault
    - 130x 600GB FC drives
    - 119x 1TB SATA drives
    - 2x Data Movers w/ 1GbE uplinks
    - Appx. Age: 3 years
  - 2x NetApp 3070 (84TB Raw)
    - 42 1TB Drives, per system
    - FCP
    - CIFS
    - Appx. Age: 4.5 years