

Infrastructure Charge Analysis

(All cost exclusive of VAT – unless otherwise stated)

Unit	Service	Equipment Type	Number	Unit Cost	Total Cost	Service Cost	Unit Cost	
Infrastructure	console servers	PE750	3	1200	3600	5100	331850	
		HPD530	3	500	1500			
	cosign	PE850	2	1300	2600	2600		
		kerberos	PE850	1	1300	1300	6500	
		SC1425	4	1300	5200			
	ldap	PE2950	1	2100	2100	2100		
	nagios	PE860	2	1000	2000	2000		
	network dns	PE650	2	1200	2400	2400		
	network routers	PE750	6	1200	7200	19400		
		PE650	2	1200	2400			
		PE1950	3	2400	7200			
		SC1425	2	1300	2600			
	network switches	estimate	1	272000	272000	272000		
	network upsers	UPS 750VA	2	280	560	19750		
		UPS 1000VA Rack	11	340	3740			
		UPS 1400VA Rack	3	550	1650			
		UPS 1500VA Rack	9	400	3600			
		UPS 3000VA Rack	12	850	10200			
		network wireless	included in switches estimate			0		
	Managed Platform	build hosts	GX240	1	650	650	2850	12050
			GX620	1	500	500		
GX745			3	400	1200			
		HPD530	1	500	500			
lcfg servers		PE650	1	1200	1200	5500		
		PE850	1	1300	1300			
		PE860	3	1000	3000			
rpm servers		PE750	2	1200	2400	3700		
		SC1425	1	1300	1300			
Research and Teaching		lcfg server beowulf	SC1425	1	1300	1300	1300	111896
	licence servers		PE850	1	1300	1300	1300	
	beowulf clusters	GX620	1	500	500	106696		
		HPD530	1	500	500			
		GX240	64	650	41600			
		WS530	16	2056	32896			
		SC1425	24	1300	31200			
	Condor servers	SC1425	2	1300	2600	2600		
	Services	main web server	PE850	1	1300	1300	1300	297950
		CMS	PE2950	1	2100	2100	2100	
samba		PE650	1	1200	1200	1200		
homepages		SC1425	1	1300	1300	1300		
auth smtp		PE650	1	1200	1200	1200		
external access servers		SC1425	2	1300	2600	2600		
groups web server		PE850	1	1300	1300	1300		
mail server		PE2650	1	3400	3400	3400		
cvs/svn server		PE850	1	1300	1300	1300		
file servers		Sun SunFire 280R server	6	7500	45000	45000		
mirror backup servers		PE750	2	1200	2400	10850		
		PE850	1	1300	1300			
		GX240	4	650	2600			
		GX260	7	650	4550			
print servers		PE750	4	1200	4800	6000		
		PE650	1	1200	1200			
printers		LaserJet 4050N	8	1000	8000	75400		
		Laserjet 4100DTN	7	1300	9100			
		Laserjet 4200DTN	8	1200	9600			
		Laserjet 4300DTN	11	1200	13200			
		Laserjet 4350DTN	3	1300	3900			
		Laserjet 4600DTN	3	1900	5700			
		Laserjet 4700	1	1100	1100			
		Laserjet 8150DN	10	2000	20000			
		Laserjet 8500N	1	4800	4800			
		SAN	atabeast1	1	21700	21700	145000	
		ataboy1	1	12600	12600			
		bioboy	1	11200	11200			
		bpbeast	1	21700	21700			
		Qlogic SANbox 5202	1	9100	9100			
		Qlogic SANbox 5200	2	3300	6600			
		satabeast1	1	25900	25900			
		satabeast2	1	19700	19700			
		satablade1	1	7000	7000			
		sataboy1	1	9500	9500			
User Support		staff login servers	SC1425	2	1300	2600	2600	11800
		staff compute servers	PE1750	1	2300	2300	9200	
			PE2650	1	3400	3400		
			DNUKTeraserveR420	1	3500	3500		
All Services					765546	765546	765546	
All Services (inclusive of VAT)					899517			
Annual maintenance (inclusive of VAT)					23500			

Infrastructure Charge Analysis

Users of Computing Infrastructure		Number (FTE)	Usage multiplier	RA equivalent users
Staff (based on database info)	Academic	84	0.40	33.60
	Administrative	14	0.03	0.42
	Computing	30	0.10	3.00
	Research	159	1.00	159.00
	Secretarial	41	0.01	0.41
	Technical	9	0.01	0.09
	Visitors	123	0.05	6.15
Research Students		295	0.30	88.50
Taught students (FTE)	ug1	50.33	0.03	1.51
	ug2	52.83	0.06	3.17
	ug3	68	0.09	6.12
	ug4	64.75	0.12	7.77
	ug5	0	0.12	0.00
	msc	126	0.12	15.12

Write down period (average years)	3.5	
Number of RA equivalent people using the services		324.86
Cost per RA equivalent person for services (inclusive of VAT)		2769
Annual cost per RA equivalent person for services (inclusive of VAT)		791
Annual cost per RA equivalent person for services and maintenance (inclusive of VAT)		863
Annual income from infrastructure charges (inclusive of VAT)		137291
Annual cost to School for supporting services and maintenance (inclusive of VAT)		143214
Average cost of desktop	522	
Number of Student lab machines	235	
Annual cost to School for providing desktops (inclusive of VAT)		145627
Annual computing cost for School budget (inclusive of VAT)		288841