Independent Communications Authority of South Africa
350 Witch-Hazel Avenue, Eco Point Office Park
Eco Park, Centurion
Private Bag X10, Highveld Park 0169

Annexure A:TERMS OF REFERENCE

1. Background

ICASA Head Office hosts a Microsoft and Linux environment for central authentication, file sharing, centralised application hosting and Storage Area Network (SAN), interconnecting to 8 regional offices through a 4Mbps MPLS links and a centralised 50 Mbps link to the internet.

2. Scope of Work

ICASA would like a Service Provider to provide an Integrated Business & IT Services Continuity Solution with fully integrated offsite data; backup & protection for a period of 5 years with the following minimum requirements:

2.1. Special Mandatory Conditions

The following are special mandatory conditions for the proposed solution:

Substantiate / Comments		
Special Condition		
The service Provider must be able to provide a complete managed service for backups, DR testing and recovery as this solution is required to be a complete 'end-to-end' service provided by a single chosen service provider	**Comply**	**Not Complied**
Special Condition		
The Service Provider must own and manage a secure	**Comply**	**Not Complied**

and redundant data centre (see below data centre specification), which must be located between distance of 10-50 km- from ICASA Centurion office with sufficient bandwidth requirements or Alternately a cloud-based backup solution will be considered.		
Special Condition		
The Service Provider to provide their own backup software, licenses, appliance (if required), hardware to support Hyper-V Cluster and VMWare Cluster and host existing VM's as per Appendix A. Ensure sufficient capacity is available to support every Server to backup all ICASA systems. At least 30 days online historical restore points at daily intervals or as required in Annexure C	**Comply**	**Not Complied**
Special Condition		
The Service Provider to Provide and secure confidentiality of all data according to proven and current implemented security policies as per the industry recognised standards while complying with PAIA and POPI Acts	**Comply**	**Not Complied**

2.2. Data Centre specification:

Note that these minimum requirements of the data centre apply to whether a bidder is providing their own backup / recovery systems or if a cloud solution is offered.

		Comply	
		Yes	No
2.2.1.	All Servers will have dual internal power supplies.		
2.2.2.	There must be at least 1 uninterruptible power supplies providing continuous power supply to the data centre		
2.2.3.	There must be at least 1 emergency generator to provide adequate power for the data centre, air conditioning		
2.2.4.	Multiple redundant air-conditioning units must be provided. Should any air-conditioning unit fail, the remaining units must always be capable of maintaining adequate cooling.		
2.2.5.	Environmental monitoring systems must be provided which have the ability to alert offsite Service Provider staff.		
2.2.6.	Fire detection and fire suppression must be available and serviced at least twice per annum		
2.2.7.	At least 2 separate external internet connections must be present as a minimum.		
2.2.8	Maintenance agreements in place to maintain and service UPS, generator, air conditioners, fire systems and environmental control systems at a minimum, twice annually		
2.2.9.	ICASA representatives to be allowed to audit the above at least annually		

2.3. Detailed Technical Requirements

	ICASA requires a Service Provider to provide a hosting (fixed site) or hybrid cloud solution with the following requirements:	Comply	
		Yes	No
2.3.1.	Recovery of ICASA's systems on syndicated hardware and infrastructure		
2.3.2.	Storage to support current storage requirement of 100TB raw data with growth of 15% per annum		
2.3.5.	Service Provider to make monthly backups (13 months cycle required) Backups to tape or other removable media which needs to be stored at an offsite secure location. Detailed labelling and tracking to be maintained and included in the monthly reports provided to ICASA.		
2.3.6.	Annual backups (end of March each year) to be retained permanently which needs to be stored at an offsite secure location. This media to be the property of ICASA upon termination of contract.		
2.3.7.	Recovery Time Objectives (RTO) that need to be supported: Refer Annexure C for Business Impact Analysis and Annexure D for RTO & RPO (Recovery Point Objective)		
2.3.8.	Sufficient syndicated hardware to support the recovery of all ICASA systems. Provision to be made for an increase in number of servers / applications at 10% per annum		
2.3.9.	Service Provider to supply all the Software licenses required for the complete solution		
2.3.10.	Any backup software licence required to support the solution		
2.3.11.	At the end of the contract period the 12 Monthly backups as well as the annual backups must be transferred to ICASA for ownership at no additional cost.		
2.3.12.	A minimum of 10 working days per annum for DR testing, during which time two tests must be completed		
2.3.13.	Dedicated technical support during rehearsals as well as during invocation		
2.3.14.	Service Provider to provide reporting on the outcome of the recoverability tests for use by ICASA IT management as well as for the Auditor General		
2.3.15.	Provision of a non-virtual server that will be required to restore ICASA's Active directory in the event of a disaster		
2.3.16.	The Service Provider must be able to consistently and reliably recover all ICASA's systems and in doing so perform the following:		
2.3.16.1.	Audit the backups for data integrity		
2.3.16.2.	Provide technical staff to do testing in conjunction with or independent of ICASA staff		
2.3.16.3.	Verify that backup processes are correct and revise the processes until successful and consistent recovery is achieved		
2.3.16.4.	Document the processes		
2.3.16.5.	Record the recovery times so that an accurate recovery time-line can be determined with dependencies		

2.3.17.	Examine/review the current ICASA Information Processing Management Guide to report and improve the following aspects**:**		
2.3.17.1.	Business Continuity Policy and Plan		
2.3.17.2.	IT Backup Strategy as well as ICASA DR Policy and Plan		
2.3.17.3.	Business Impact and Risk Assessments with Continuity Strategy		
2.3.17.4.	Data Storage and Protection		
2.3.17.5.	Information Retention Policy		
2.3.18.	An SLA driven managed service according to internationally recognised standards and best practises to ensure that ICASA meets their Recovery Time and Recovery Point Objectives		
2.3.19.	Data is of utmost importance and must be secure at all times. The vendor must be in a position to demonstrate their security policies and procedures to ensure that this data is secure at all times. This must include network management and monitoring to facilitate the replication process		
2.3.20.	2U hosting space required at the offsite DR datacentre for the following ICASA owned devices Network Switch 1U Firewall 1U		
2.3.21.	Proposals must include:		
2.3.21.1.	a sample Service Level Agreement which will be the basis for incorporating all requirements as per this bid requirements		
2.3.21.2.	Fixed pricing for a 5-year contract with monthly payments		

2.4. Reporting Requirements

	The following are the minimum mandatory reports that are required by ICASA	Comply	
		Yes	No
2.4.1.	Daily Backup status report.		
2.4.2.	Weekly report showing backup status for the week for each server		
2.4.3.	Monthly report showing backup status for each day of the month and available data storage space on recovery volumes		
2.4.4.	Monthly SLA report reflecting the backup status report as well as details of tape information for the monthly backup tapes. Also, to include issues encountered during the month and plan / report of scheduled DR tests.		
2.4.5.	Quarterly SLA Meetings (face to face or via Microsoft Teams)		

2.5. Syndication

2.5.1. Prudent syndication of the recovery resources is essential for effective Syndicated Disaster Recovery:

a) The Service provider will commit to ensuring that any resources syndicated to ICASA will not be syndicated to any other client of the Service provider which will exceed the maximum capacity of the service providers ICT recovery infrastructure.

Syndication Constraints	Comply	Do not Comply
I. Within 10 Kms of ICASA's Data Centre in EcoPark, Centurion II. Service Provider to explain syndication methodology and provide the proof they would be able to cater for the all ICASA requirements as per Annexure E		

3. Evaluation of the Bids

The received bids will be evaluated on the 80/20 procurement principle as per the Supply Chain Management Policy and the relevant Treasury Regulations. The following evaluation approach will be applied:

- Phase 1 will be the screening of mandatory documents, ensuring compliance thereof and evaluation of specific goals.
- Phase 2 evaluation of functionality criteria
- Phase 3 will be evaluation on price and BBBEE.

Functionality Evaluation Criteria	**Weights**	**Scoring Criteria**
Provide a minimum of 3 contactable Customer references where disaster recovery/Business continuity services have been rendered successfully in the last 5 years. *Note: Customer References must be from the Customer on their letterhead detailing the work/services offered, contract duration and contract value.*	20	No references provided **= 1** One (1) reference provided detailing *the work/services offered, contract duration and contract value* **= 2** Three (3) references provided *detailing the work/services offered, contract duration and contract value.* **= 3** Four (4) references provided *detailing the work/services offered,*

		contract duration and contract value. **= 4** More than Four (4) references provided *detailing the work/services offered, contract duration and contract value.* **= 5**
Conformance to technical requirements of the bid (section 2.3 above, Annexure D and E)	50	**1** = comply with less than **21** requirements. **5** = comply to all **21** requirements
Conformance to Reporting Requirements of the bid (Section 2.4 above)	15	**1** = does not comply to all requirements **5** = comply to all requirements
Service provider to outline syndication methodology (Section 2.5 above)	15	**1**= No response **5** = syndication methodology and syndication constraints conformance
Total	**100**	**Minimum threshold is 70**

Only bidders who passed the threshold of 70/100 for functionality will be evaluated further for price and BBBEE.

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Annexure C: Business Impact Analysis

The table below shows a summary of all Risks, Impacts and Strategy options.

Organisation			*Continuity Drivers*		*Continuity Strategy Summary*		
Primary Group	**Business Unit / Function**	**Mission Critical Activities**	**Key Risks**	**Significant Impacts**	**Preventive Measures**	**Detective Measures**	**Corrective Measures**
Regulation, Inspection, licensing & Consumer Complaints	**Administration**	• Accommodation • E-Mail • File and Print Services • Maintenance of and Access to physical Records • Ability to work	• Failure of IT Systems • Unavailability of Records • Accommodation • Loss of communications	• Inability to perform mandate tasks • Delays • Loss of records • Potential loss of control communications environment	• Sound Security • Sound OHS Practice	• Monitoring	• Work area recovery • Remote access to systems
Administration and Support	**Financial Control**	• General Ledger • Procurement	• Loss of financial control • Inability to procure timeously	• Losses & inaccuracy • Logistics impacts	None	None	• Work Area Recovery
	Human Resources	• Human Resources • Labour Relations • Salaries	• Labour Union Action • BBBEE Quotas • Staffing & Skills • Leakage of confidential information	• Monitor Labour/WPF • BBBEE status • Training program failure • Reputational damage & POPI impact	• Engage with labour/WPF & unions • Good hiring policy • Business driven training • Digitisation & security of staff records	• Monitor Labour/Union action	• Work Area Recovery
Information Technology	**Systems**	• E-Mail • Internet Access • Systems and Infrastructure Support	• Systems Failures • Data loss & corruption • Network failure • Infrastructure failure • Security Breaches	• Systems not operable • Data leakage • Loss of information	• Maintenance • System replication • Backup • Effective Change control	• Monitoring • Capacity planning • Integrity checking • Security Testing	• Failover • Data Replication
	Infrastructure	• Data Backup & Archiving • System Replication • IT Service Continuity	• Environment failure • Hardware Failure • Network failure • Power Failure	• Inability to access systems	• Sound Maintenance • Security monitoring • Security policy • Data protection	• Monitoring • Capacity planning • Integrity checking • Testing	• Tested recovery • Failover to GCSA Linksfield • Off-site storage
Universal	**All**	• Worker accommodation • Security	• Inability to accommodate • Staff and assets at risk	• Inability to work • Loss of assets or damage	• Sound Security • Sound OHS Practice	• Surveillance • Emergency Response	• Work Area Recovery

Annexure D : RTO & RPO

Entity	Bus Unit	Mission Critical Activities	ICT Systems Dependency	RTO Hrs	RPO Hrs	Potential Impact	Impact Unit	Comments
All	All	e-Mail	Microsoft Exchange, Servers, Local Area Network, Wide Area Network, Domain Control	4	0	Loss of communications with Branches, Loss of Communications with Licensees & Counterparties, Loss of Communications with all external parties, Inability to mail files and reports internally and externally, Inability to communicate with key stakeholders (consumers)	Time & Effort	e-Mail is a universal enabler for routing electronically based work between parties. Mimecast will provide resiliency.
All	All	File & Print Services	Servers, Local Area Network, Wide Area Network, Domain Control	4	4	Inability to share files easily, Inability to access shared files, Impaired operational capability	Time & Effort	
All	All	Log on to systems and authenticate	Domain Controller	2	48	Non-availability of IT systems and shared infrastructure	Time & Effort	
Finance	Finance	Availability of General Ledger	Servers, Local Area Network, Wide Area Network, Domain Control, JD Edwards System	8	2	Loss of control over finances in the longer term	Time & Effort	

Entity	Bus Unit	Mission Critical Activities	ICT Systems Dependency	RTO Hrs	RPO Hrs	Potential Impact	Impact Unit	Comments
Finance	Finance	Availability of Debtors System	Servers, Local Area Network, Wide Area Network, Domain Control, JD Edwards System	8	2	Loss of control over debtors book and revenue in the longer term	Cash Flow, Time & Effort	
Finance	Finance	Availability of Creditors System	Servers, Local Area Network, Wide Area Network, Domain Control, JD Edwards System	8	2	Inability to procure & pay. Reputational damage & supply chain risk.	Cash flow, supply shortages.	
Procurement	Finance	Availability of Procurement systems	Servers, Local Area Network, Wide Area Network, Domain Control, JD Edwards System	8	2	Impaired ability to procure goods and administer creditors	Project delays, supply shortages.	
Procurement	Finance	Supplier Verification	Servers, Local Area Network, Wide Area Network, Domain Control. Internet based verification services	48	N/A	Inability to verify Supplier Validity, Tax Clearance, CIPC, BBBEE, Bank Details & National Treasury Blacklist	Compliance Risk, Supply Chain Risk	
All	All	Voice Communications	Wide Area Network, Local Area Network, PABX, Inbound Telkom Service	4	N/A	Impaired ability to carry out voice communications.	Time & Effort	

Entity	Bus Unit	Mission Critical Activities	ICT Systems Dependency	RTO Hrs	RPO Hrs	Potential Impact	Impact Unit	Comments
Information Technology	IT	Backup and archiving	All Servers, Local Area Network, Wide Area Network, Domain Control. Backup Servers and storage at Pin Mill Farm and Recovery Centre.	4	4	Risk of inability to recover. Potential data loss. Inability to recover.	Information Security risk.	
Licensing	Licensing	License Administration	Spektrum or ASMS. Servers, Local Area Network, Wide Area Network, Domain Control	8	4	Inability to issue or administer licenses	Cash Flow, Time & Effort	
All	All	Access to Internet	Local Area Network, Wide Area Network, Domain Control	4	N/A	Internet banking, research, supplier verification impaired	Time & Effort	
Human Resources	Human Resources	Production of Payroll	Servers, Local Area Network, Wide Area Network, Domain Control, VIP Payroll System	48	24	Delays in payroll production. Internal Reputation.	Time & Effort. Internal reputation	
All	All	Provision of Workplace facilities and workstations	All Servers, Local Area Network, Wide Area Network, Domain Control, Workstations.	4	8	Disruption of all work activities.	Time & Effort. Internal reputation	

Entity	Bus Unit	Mission Critical Activities	ICT Systems Dependency	RTO Hrs	RPO Hrs	Potential Impact	Impact Unit	Comments
Various	All	Regulatory – Complaints	All Servers, Local Area Network, Wide Area Network, Domain Control, Workstations, EDRMS & CRM System	48	24	Disruption of all work activities related to complaints and / or inspections. Inability to track resolution	Time & Effort. Reputation	
Various	All	Regulatory - Interference complaints	All Servers, Local Area Network, Wide Area Network, Domain Control, Workstations, EDRMS & CRM System	48	24	Disruption of all work activities related to complaints and / or inspections	Time & Effort. Reputation	
Various	All	Inspections	All Servers, Local Area Network, Wide Area Network, Domain Control, Workstations, EDRMS & CRM System	24	24	Disruption of all work activities related to complaints and / or inspections	Time & Effort. Reputation	
Human Resources	Human Resources	Human resources administration	Servers, Local Area Network, Wide Area Network, Domain Control, EDRMS	48	24	Impaired HR Administration	Time & Effort. Internal reputation	
Finance	Select	Electronic Banking	Local Area Network, Wide Area Network, Domain Control - Banking Dongal.	24	N/A	Inability to pay or obtain banking information	Time & Effort Delays	

Entity	Bus Unit	Mission Critical Activities	ICT Systems Dependency	RTO Hrs	RPO Hrs	Potential Impact	Impact Unit	Comments
Compliance & Consumer Affairs	Compliance & Consumer Affairs	Requests for interconnect agreements	Servers, Local Area Network, Wide Area Network, Domain Control, EDRMS, ASMS (Spektrum)	5 Days	4	Inability to meet SLA	Time & Effort. Reputation	

Annexure E

Operating System	Service Pack Level	Asset Tag	Manufacturer	Model	Memory (KBytes)	Processor (GHz)	Total Disk Space (MB)
Microsoft Windows Server 2012 R2 Standard		No Asset Tag	VMware, Inc.	VMware Virtual Platform	8285748	2597	99
Microsoft Windows Server 2012 R2 Standard		No Asset Tag	VMware, Inc.	VMware Virtual Platform	8039988	2597	99
Microsoft Windows Server 2012 R2 Standard		No Asset Tag	VMware, Inc.	VMware Virtual Platform	67108404	2597	99

Microsoft Windows Server 2012 R2 Standard		No Asset Tag	VMware, Inc.	VMware Virtual Platform	16776756	2597	49
Microsoft Windows Server 2012 R2 Standard		No Asset Tag	VMware, Inc.	VMware Virtual Platform	67108404	2597	99
Microsoft Windows Server 2012 R2 Standard		No Asset Tag	VMware, Inc.	VMware Virtual Platform	33553972	2597	99
Microsoft Windows Server 2012 R2 Standard		6848-7362-2424-2789-9924-0024-73	Microsoft Corporation	Virtual Machine	12582452	2397	71
Microsoft Windows Server 2012 R2 Standard			HP	ProLiant DL380 Gen9	134086260	2397	4003
Microsoft Windows Server 2008 R2 Standard	Service Pack 1		AC1234	AM4010	2096628	1494	148
Microsoft Windows Server 2012 R2 Standard		2358-0381-6218-2024-	Microsoft Corporation	Virtual Machine	12582452	2397	71

		8640-3001-02					
Microsoft Windows Server 2012 R2 Datacenter			HP	ProLiant DL380 Gen9	134084724	2397	4003
Microsoft Windows Server 2012 R2 Standard		9264-1978-8660-8740-5222-0273-33	Microsoft Corporation	Virtual Machine	12582452	2397	1358363
Microsoft Windows Server 2012 R2 Standard			HP	ProLiant DL380 Gen9	134084724	2397	4003
Microsoft Windows Server 2008 R2 Standard	Service Pack 1		AC1234	AM4010	4193780	1494	148
Microsoft Windows Server 2016 Datacenter		No Asset Tag	VMware, Inc.	VMware Virtual Platform	33553908	2597	5191
Microsoft Windows Server 2016 Datacenter		No Asset Tag	VMware, Inc.	VMware Virtual Platform	33553908	2597	5191

Microsoft Windows Server 2016 Standard		7981-1412-7532-5072-2496-2102-60	Microsoft Corporation	Virtual Machine	4193296	2600	198
Microsoft Windows Server 2016 Standard		0903-5506-5699-5084-9660-3096-81	Microsoft Corporation	Virtual Machine	4193296	2600	198
Microsoft Windows Server 2012 R2 Standard		5068-5789-4871-4803-1046-3676-15	Microsoft Corporation	Virtual Machine	12579876	2397	126
Microsoft Windows Server 2012 R2 Datacenter			HP	ProLiant DL380 Gen9	134084724	2397	4935
Microsoft Windows Server 2008 R2 Standard	Service Pack 1	To Be Filled By O.E.M.	To be filled by O.E.M.	To be filled by O.E.M.	4100332	1501	118
Microsoft Windows Server 2012 R2 Standard		0513-8792-2416-9613-	Microsoft Corporation	Virtual Machine	33553972	2397	71

		2816-4045-97					
Microsoft Windows Server 2012 R2 Datacenter			HP	ProLiant DL380 Gen9	134084724	2397	4003
Microsoft Windows Server 2016 Standard			HP	ProLiant DL380 Gen9	117307508	2098	4880
Microsoft Windows Server 2012 R2 Standard		8698-8346-6347-7862-2036-6526-19	Microsoft Corporation	Virtual Machine	16776216	2600	126
Microsoft Windows Server 2012 R2 Standard		0066-9169-8385-5417-6583-8982-29	Microsoft Corporation	Virtual Machine	16776216	2600	625
Microsoft Windows Server 2012 R2 Standard		6832-6208-9457-8863-7358-5204-08	Microsoft Corporation	Virtual Machine	16776216	2600	625
Microsoft Windows		6690-2022-	Microsoft Corporation	Virtual Machine	16776216	2600	625

Server 2012 R2 Standard		2246-7300-6724-3055-98					
Microsoft Windows Server 2012 R2 Standard		No Asset Tag	VMware, Inc.	VMware Virtual Platform	33553908	2597	178
Microsoft Windows Server 2012 R2 Standard		No Asset Tag	VMware, Inc.	VMware Virtual Platform	16776692	2597	178
Microsoft Windows Server 2012 R2 Standard		No Asset Tag	VMware, Inc.	VMware Virtual Platform	16776692	2597	348
Microsoft Windows Server 2012 R2 Standard		No Asset Tag	VMware, Inc.	VMware Virtual Platform	8388084	2597	99
Microsoft Windows Server 2012 R2 Standard		5525-0152-0343-4285-0265-6620-10	Microsoft Corporation	Virtual Machine	8387608	2600	78
Microsoft Windows Server 2012 Standard		8056-3824-3633-9300-	Microsoft Corporation	Virtual Machine	12582452	2600	199

		4271-9298-63					
Microsoft Windows Server 2012 R2 Standard		4683-1703-9127-7525-5855-7704-80	Microsoft Corporation	Virtual Machine	8387608	2600	198
Microsoft Windows Server 2008 R2 Standard	Service Pack 1	To Be Filled By O.E.M.	Supermicro	X9DRW	33520960	2601	13018
Microsoft Windows Server 2008 R2 Standard	Service Pack 1	To Be Filled By O.E.M.	Supermicro	X9DRW	33520960	2601	13018
Microsoft Windows Server 2008 R2 Standard	Service Pack 1	To Be Filled By O.E.M.	Supermicro	X9DRW	33520960	2601	13018
Microsoft Windows Server 2008 R2 Standard	Service Pack 1	To Be Filled By O.E.M.	Supermicro	X9DRW	33520960	2601	13018
Microsoft Windows Server 2008 R2 Standard	Service Pack 1	To Be Filled By O.E.M.	Supermicro	X9DRW	33520960	2601	13018

Microsoft Windows Server 2008 R2 Standard	Service Pack 1	To Be Filled By O.E.M.	Supermicro	X9DRW	33520960	2601	13018
Microsoft Windows Server 2016 Standard			Dell Inc.	PowerEdge R320	33507880	2200	74641
Microsoft Windows Server 2012 R2 Standard		4326-8843-2753-8366-7985-4519-27	Microsoft Corporation	Virtual Machine	8387608	2600	244
Microsoft Windows Server 2012 Standard		6900-7085-5059-9742-5704-9996-39	Microsoft Corporation	Virtual Machine	4189748	2600	71
Microsoft Windows Server 2016 Datacenter			HP	ProLiant BL460c Gen8	134182168	2600	136
Microsoft Windows Server 2016 Datacenter			HP	ProLiant BL460c Gen8	134182168	2600	136
Microsoft Windows		1413-2387-8841-	Microsoft Corporation	Virtual Machine	12581912	2600	548

Server 2012 R2 Standard		6808-1665-4338-32					
Microsoft Windows Server 2012 R2 Standard		0175-4162-5090-1959-3351-1214-70	Microsoft Corporation	Virtual Machine	16776216	2600	249
Microsoft Windows Server 2012 R2 Standard		2587-0870-9800-1576-5598-8444-49	Microsoft Corporation	Virtual Machine	16776216	2600	2144
Microsoft Windows Server 2012 R2 Standard			HP	ProLiant DL380 G5	4192196	3167	136
Microsoft Windows Server 2012 R2 Standard			HP	ProLiant DL380 G5	4192196	3167	136
Microsoft Windows Server 2012 R2 Standard		2869-6825-2945-4590-3868-6074-19	Microsoft Corporation	Virtual Machine	8387608	2600	71
Microsoft Windows		2393-9104-	Microsoft Corporation	Virtual Machine	8285748	2600	126

Server 2012 R2 Standard		1070-7890-1522-0914-47					
Microsoft Windows Server 2012 R2 Standard		3829-1839-6526-8340-5993-3229-05	Microsoft Corporation	Virtual Machine	8387608	2600	10076
Microsoft Windows Server 2012 R2 Standard		0273-3781-1942-1226-1602-0348-64	Microsoft Corporation	Virtual Machine	16776216	2600	244
Microsoft Windows Server 2012 R2 Standard		0273-3781-1942-1226-1602-0348-64	Microsoft Corporation	Virtual Machine	8387608	2600	244
Microsoft Windows Server 2012 R2 Standard			HP	ProLiant DL380 G7	37738288	2799	1104
Microsoft Windows Server 2008 R2 Standard	Service Pack 1	9643-2989-7905-5427-	Microsoft Corporation	Virtual Machine	6291000	2600	155

		3970-9006-83					
Microsoft Windows Server 2008 R2 Standard	Service Pack 1		HP	ProLiant DL380 G6	12572404	2666	434
Microsoft Windows Server 2012 Datacenter		4224-2494-6337-4714-5475-8114-42	Microsoft Corporation	Virtual Machine	12582452	2600	145
Microsoft Windows Server 2012 Standard		8734-7459-7135-4572-0775-9501-56	Microsoft Corporation	Virtual Machine	12582452	2600	145
Microsoft Windows Server 2008 R2 Standard	Service Pack 1	6773-3156-8441-6464-9646-9790-40	Microsoft Corporation	Virtual Machine	12582456	2600	225
Microsoft Windows Server 2012 Standard		9318-0349-8704-0885-0189-8234-84	Microsoft Corporation	Virtual Machine	8388148	2600	71

Microsoft Windows Server 2012 R2 Standard			HP	ProLiant DL380p Gen8	33518868	2594	837
Microsoft Windows Server 2012 R2 Standard			HP	ProLiant DL360p Gen8	16741652	2594	558
Microsoft Windows Server 2012 R2 Standard		8603-0089-3987-8313-8406-8494-49	Microsoft Corporation	Virtual Machine	12581912	2600	99
Microsoft Windows Server 2012 R2 Standard		6889-5857-9602-8899-5060-2359-12	Microsoft Corporation	Virtual Machine	25164824	2600	444
Microsoft Windows Server 2012 R2 Standard		3627-2620-4238-0152-0954-8617-31	Microsoft Corporation	Virtual Machine	25164824	2600	598
Microsoft Windows Server 2016 Standard		No Asset Tag	VMware, Inc.	VMware Virtual Platform	4193844	2597	59

Microsoft Windows Server 2012 R2 Standard		3085-2855-4814-7814-1488-3678-03	Microsoft Corporation	Virtual Machine	12581912	2600	1644
Microsoft Windows Server 2016 Standard		No Asset Tag	VMware, Inc.	VMware Virtual Platform	16776756	2597	244
Microsoft Windows Server 2012 R2 Standard		7525-4161-9359-5315-2286-5750-28	Microsoft Corporation	Virtual Machine	8387608	2600	126
Microsoft Windows Server 2012 Standard		5779-2429-9044-5904-0718-4464-61	Microsoft Corporation	Virtual Machine	16776756	2600	150
Microsoft Windows Server 2012 Standard		8712-3124-1276-5803-9183-7029-76	Microsoft Corporation	Virtual Machine	12582452	2600	170
Microsoft Windows		3331-2637-1977-	Microsoft Corporation	Virtual Machine	12582452	2600	216

Server 2012 Datacenter		0613-7569-0448-17					
Microsoft Windows Server 2012 Standard		8741-3358-2333-3569-6720-6015-12	Microsoft Corporation	Virtual Machine	6290996	2600	570
Microsoft Windows Server 2012 R2 Standard		6305-4870-0503-5295-3731-9065-78	Microsoft Corporation	Virtual Machine	8387608	2600	145
Microsoft Windows Server 2012 R2 Standard			HP	ProLiant ML150 Gen9	8126068	1898	465
Microsoft Windows Server 2016 Standard		No Asset Tag	VMware, Inc.	VMware Virtual Platform	12582388	2597	149
Microsoft Windows Server 2012 R2 Standard		5219-6633-8461-7478-6132-3871-59	Microsoft Corporation	Virtual Machine	4189748	2600	71
Microsoft Windows		5934-8058-	Microsoft Corporation	Virtual Machine	8387604	2600	820

Server 2012 Standard		7556-6582-2917-0051-54					
Microsoft Windows Server 2016 Datacenter			HP	ProLiant BL460c Gen8	100627736	2600	136
Microsoft Windows Server 2016 Datacenter			HP	ProLiant BL460c Gen8	100627736	2600	136
Microsoft Windows Server 2016 Datacenter			HP	ProLiant BL460c Gen8	100627736	2600	136
Microsoft Windows Server 2016 Datacenter			HP	ProLiant BL460c Gen8	134182168	2600	136
Microsoft Windows Server 2016 Datacenter			HP	ProLiant BL460c Gen8	134182168	2600	136
Microsoft Windows Server 2016 Datacenter			HP	ProLiant BL460c Gen8	125793560	2600	136

Microsoft Windows Server 2016 Datacenter			HP	ProLiant BL460c Gen8	134182168	2600	136
Microsoft Windows Server 2016 Datacenter			HP	ProLiant BL460c Gen8	134182168	2600	136
Microsoft Windows Server 2016 Datacenter			HP	ProLiant BL460c Gen8	134182168	2600	136
Microsoft Windows Server 2016 Datacenter			HP	ProLiant DL380 G5	4192132	3167	135
Microsoft Windows Server 2012 Standard		6781-3142-7678-8794-8357-2983-05	Microsoft Corporation	Virtual Machine	4189748	2600	71
Microsoft Windows Server 2012 Standard		2537-8943-9988-4994-8385-7594-63	Microsoft Corporation	Virtual Machine	16776212	2600	298
Microsoft Windows	Service Pack 1	1911-2563-1613-	Microsoft Corporation	Virtual Machine	8388152	2600	220

Server 2008 R2 Standard		2817-2102-6323-01					