

Annexure A - Work Package Descriptions

For

Compute Services

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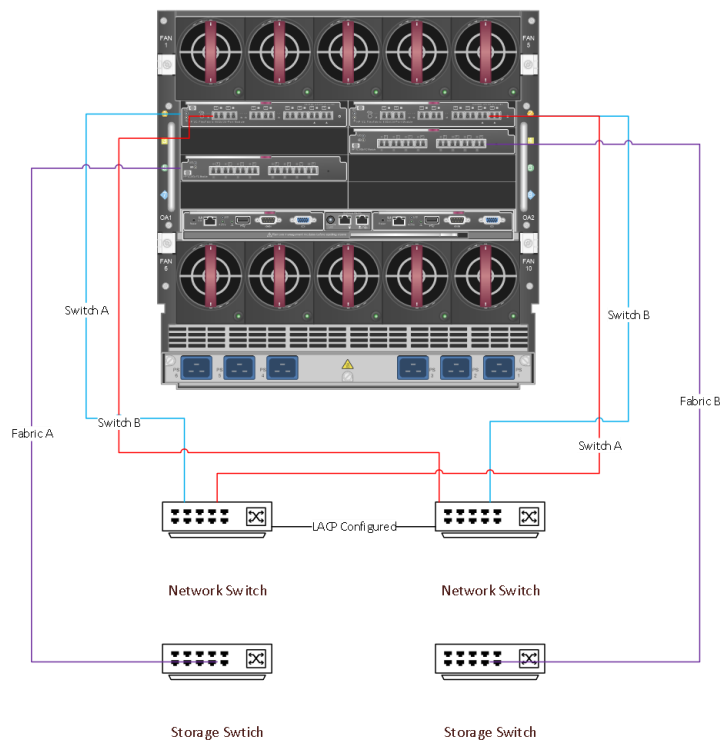
1.0 Work Package - Server Replacement

1.1 Short Description

The work package will be required to replace 3 servers at JNB, DC1 into a working blade enclosure that will have two network components and two san components that will be installed into the blade enclosure.

1.2 As is environment

The current HP Blade enclosures are configured as shown in the picture below

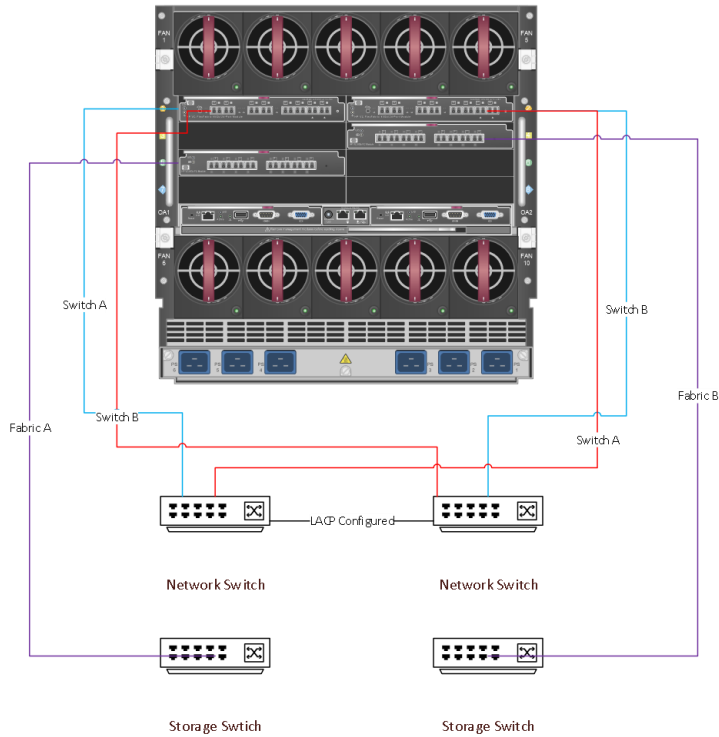


The two network components are HP Virtual Connects and the two storage components and HP Storage Virtual Connects

1.3 To/be Business Requirements

The installation of the servers will be required, Server profile configuration, Operation system installation as per requirements of application owner, Asset Capitalisation form completion, ACSA Asset tag to be attached to servers, Decommissioning of the servers once ACSA migrate services, removal and moving server to ACSA storage facility.

The following picture will provide the connectivity that is required for the blade enclosure that will be provided as part of the order to install the blade servers that will be required



2 connection per network component that will be connected to two switches that will have LACP configured.

3 connection per san switch to the respective san switches, note that the fabrics will not be mixed

The existing devices need to be replaced with hardware that complies to the following specification.

JN B	863442-B21	HPE ProLiant BL460c Gen10 10Gb/20Gb FlexibleLOM Configure-to-order Blade Server	3
JN B	875940-L21	HPE BL460c Gen10 Intel Xeon-Gold 6126 (2.6GHz/12-core/120W) FIO Processor Kit	3
JN B	875940-B21	HPE BL460c Gen10 Intel Xeon-Gold 6126 (2.6GHz/12-core/120W) Processor Kit	3
JN B	815100-B21	HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	6
JN B	P05924-B21	HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	6
JN B	P01363-B21	HPE 12W Smart Storage Battery (up to 3 Devices) for BladeSystem Server	3
JN B	804367-B21	HPE Smart Array P204i-b SR Gen10 (4 Internal Lanes/1GB Cache) 12G SAS Modular Controller	3
JN B	700763-B21	HPE FlexFabric 20Gb 2-port 650FLB Adapter	3
JN B	710608-B21	HPE QMH2672 16Gb Fibre Channel Host Bus Adapter	6
JN B	H7J36A	HPE 5Y Foundation Care CTR SVC	3
JN B	5 W4C	HPE BL460c Gen10 Support	3
JN B	H7J36A5	HPE OneView for Blade Server including 3yr 24x7 Support FIO Bundle Physical 1-server LTU	3
JN B	H7J36A5 SVN	HPE One View w/Ilo Support	3

For OPTION 2 the different OEM should cater for all components required to make the servers function (e.g. blade enclosure, cabling, management systems etc.)

2.0 Work Package 2 – JNB Software-defined storage Environment

2.1 Short Description

The work package will be required to Install a software-defined storage solution for the O.R Tambo International Airport.

The installation will require two blade enclosures / solutions to be installed in O.R Tambo, one blade enclosure / solution will be installed in DC1 and the other in CR1.

Two network modules with four connections per module will be required with a minimum speed of 10 gig per module. LACP will be required to be configured on the blade enclosure / solution. Redundant power will also be required per device. Software Defined Storage will have to be implemented on the solution with a 180 Tb usable storage requirement. A stretched cluster will have to be implemented with an offsite witness server deployed.

4 servers per blade enclosure / solution per room will be required with a minimum of 512 gig memory per server.

All relevant software-defined storage solution licences, 5-year maintenance on hardware, monitoring software and licenses to be included. Installation, project management and testing to be included in the solution.

2.2 To/be Business Requirements

Synergy Frame		
797740-B21	HPE Synergy 12000 Configure-to-order Frame with 1x Frame Link Module 10x Fans	2
798096-B21	HPE 6x 2650W Performance Hot Plug Titanium Plus FIO Power Supply Kit	2
804353-B21	HPE Synergy Composer	4
804938-B21	HPE Synergy Frame Rack Rail Kit	2
804942-B21	HPE Synergy Frame Link Module	2
804943-B21	HPE Synergy Frame 4x Lift Handles	2
861412-B21	HPE Synergy Frame Link Module CAT6A 1.2m Cable	2
AC131A	HPE ProLiant Door/dock Extra Large Logistic Service	2
Synergy Interconnects		
755985-B21	HPE Synergy 12Gb SAS Connection Module with 12 Internal Ports	4
794502-B23	HPE Virtual Connect SE 40Gb F8 Module for Synergy	4
720193-B21	HPE BladeSystem c-Class QSFP+ to SFP+ Adapter	1 6
455886-B21	HPE BladeSystem c-Class 10Gb SFP+ LR Transceiver	1 6
720199-B21	HPE BladeSystem c-Class 40G QSFP+ to QSFP+ 3m Direct Attach Copper Cable	4
Synergy Compute		
871941-B21	HPE Synergy 480 Gen10 Configure-to-order without Drive Bays Compute Module	8
873380-L21	HPE Synergy 480/660 Gen10 Intel Xeon-Gold 6132 (2.6GHz/14-core/140W) FIO Processor Kit	8
873380-B21	HPE Synergy 480/660 Gen10 Intel Xeon-Gold 6132 (2.6GHz/14-core/140W) Processor Kit	8
815100-B21	HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	1 2 8
P01367-B21	HPE 96W Smart Storage Battery (up to 20 Devices) with 260mm Cable Kit	8

777430-B21	HPE Synergy 3820C 10/20Gb Converged Network Adapter	8
804428-B21	HPE Smart Array P416ie-m SR Gen10 (8 Int 8 Ext Lanes/2GB Cache) 12G SAS Mezzanine Controller	8
700139-B21	HPE 32GB microSD Flash Memory Card	8
Synergy Storage		
835386-B21	HPE Synergy D3940 12Gb SAS CTO Drive Enclosure with 40 SFF (2.5in) Drive Bays	2
872386-B21	HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	6 4
873355-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3 2
757323-B21	HPE Synergy D3940 Redundant I/O Adapter	2
P09712-B21	HPE 480GB SATA MU SFF SC DS SSD	8
VMWare		
P9U53BAE	VMware vSAN Enterprise 1 Processor 3yr E-LTU	1 6
VS6-EPL-C-L1	VPP L1 VMware vSphere 6 Enterprise Plus for 1 processor - For existing VPP customers only	1 6
VS6-EPL-5P-SSS-C	Production Support/Subscription VMware vSphere 6 Enterprise Plus for 1 processor for 5 years	1 6
VR7-OSTC-C-L1	VPP L1 VMware vRealize Operations 7 Standard (Per CPU) - For existing VPP customers only	1 6
VS6-EPL-5P-SSS-C	Production Support/Subscription for VMware vRealize Operations 7 Standard - vSOM Entitlement (Per CPU) for 5 years	1 6
Support - HPE 3Y Foundation Care CTR SVC		
H7J36A3 WJP	HPE Synergy Composer Supp	4
H7J36A3 W4A	HPE SY480 Gen10 Support	8
H7J36A3 WJN	HPE Synergy 1200 Frame Supp	2
H7J36A3 WJR	HPE Synergy VC SE 40Gb F8 Module Supp	4
H7J36A3 WJU	HPE Synergy DS3940 Storage Module Supp	2

H7J36A3 WJV	HPE Synergy 12Gb SAS Connection Mod Supp	4
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3.0 Work Package 3 - CTIA Software-defined storage Environment

3.1 Short Description

The work package will be required to Install a software-defined storage solution for the Cape Town International Airport.

The installation will require two blade enclosures / solutions to be installed in cape town, one blade enclosure / solution will be installed in DC1 and the other in CR3.

Two network modules with four connections per module will be required with a minimum speed of 10 gig per module. LACP will be required to be configured on the blade enclosure / solution. Redundant power will also be required per device. Software Defined Storage will have to be implemented on the solution with a 180 Tb usable storage requirement. A stretched cluster will have to be implemented with an offsite witness server deployed.

All relevant software-defined storage solution licences, 5-year maintenance on hardware, monitoring software and licenses to be included. Installation, project management and testing to be included in the solution.

3.2 To/be Business Requirements

The to be requirements can be similar to the HP solution below

Synergy Frame		
797740-B21	HPE Synergy 12000 Configure-to-order Frame with 1x Frame Link Module 10x Fans	2
798096-B21	HPE 6x 2650W Performance Hot Plug Titanium Plus FIO Power Supply Kit	2
804353-B21	HPE Synergy Composer	4
804938-B21	HPE Synergy Frame Rack Rail Kit	2
804942-B21	HPE Synergy Frame Link Module	2
804943-B21	HPE Synergy Frame 4x Lift Handles	2
861412-B21	HPE Synergy Frame Link Module CAT6A 1.2m Cable	2
AC131A	HPE ProLiant Door/dock Extra Large Logistic Service	2
Synergy Interconnects		
755985-B21	HPE Synergy 12Gb SAS Connection Module with 12 Internal Ports	4

794502-B23	HPE Virtual Connect SE 40Gb F8 Module for Synergy	4
720193-B21	HPE BladeSystem c-Class QSFP+ to SFP+ Adapter	1 6
455886-B21	HPE BladeSystem c-Class 10Gb SFP+ LR Transceiver	1 6
720199-B21	HPE BladeSystem c-Class 40G QSFP+ to QSFP+ 3m Direct Attach Copper Cable	4
Synergy Compute		
871941-B21	HPE Synergy 480 Gen10 Configure-to-order without Drive Bays Compute Module	8
873380-L21	HPE Synergy 480/660 Gen10 Intel Xeon-Gold 6132 (2.6GHz/14-core/140W) FIO Processor Kit	8
873380-B21	HPE Synergy 480/660 Gen10 Intel Xeon-Gold 6132 (2.6GHz/14-core/140W) Processor Kit	8
815100-B21	HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	1 2 8
P01367-B21	HPE 96W Smart Storage Battery (up to 20 Devices) with 260mm Cable Kit	8
777430-B21	HPE Synergy 3820C 10/20Gb Converged Network Adapter	8
804428-B21	HPE Smart Array P416ie-m SR Gen10 (8 Int 8 Ext Lanes/2GB Cache) 12G SAS Mezzanine Controller	8
700139-B21	HPE 32GB microSD Flash Memory Card	8
Synergy Storage		
835386-B21	HPE Synergy D3940 12Gb SAS CTO Drive Enclosure with 40 SFF (2.5in) Drive Bays	2
872386-B21	HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	3 2
873355-B21	HPE 800GB SAS 12G Write Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	1 6
757323-B21	HPE Synergy D3940 Redundant I/O Adapter	2
P09712-B21	HPE 480GB SATA MU SFF SC DS SSD	8
VMWare		

P9U53BAE	VMware vSAN Enterprise 1 Processor 3yr E-LTU	1 6
VS6-EPL-C-L1	VPP L1 VMware vSphere 6 Enterprise Plus for 1 processor - For existing VPP customers only	1 6
VS6-EPL-5P-SSS-C	Production Support/Subscription VMware vSphere 6 Enterprise Plus for 1 processor for 5 years	1 6
VR7-OSTC-C-L1	VPP L1 VMware vRealize Operations 7 Standard (Per CPU) - For existing VPP customers only	1 6
VS6-EPL-5P-SSS-C	Production Support/Subscription for VMware vRealize Operations 7 Standard - vSOM Entitlement (Per CPU) for 5 years	1 6
Support - HPE 3Y Foundation Care CTR SVC		
H7J36A3 WJP	HPE Synergy Composer Supp	4
H7J36A3 W4A	HPE SY480 Gen10 Support	8
H7J36A3 WJN	HPE Synergy 1200 Frame Supp	2
H7J36A3 WJR	HPE Synergy VC SE 40Gb F8 Module Supp	4
H7J36A3 WJU	HPE Synergy DS3940 Storage Module Supp	2
H7J36A3 WJV	HPE Synergy 12Gb SAS Connection Mod Supp	4

4.0 Work Package 4 – General Supply

4.1 Short Description

The work package will be required to General supply of the equipment that you recommend in work package 1, 2 and 3

If required, project management services and installation will be required to install equipment

	16Gb Fibre Channel Host Bus Adapter	
	Virtualization Software license	
	Maintenace and Support License	
	32GB Memory Module	
	8GB Memory Module	
	ILO License	
	3.2TB SAS 12G Mixed Use SFF	
	800GB SAS 12G Write Intensive SFF	
	Blade network module	

	BladeSystem network 10Gb Gbic	
	Blade storage module	
	BladeSystem storage 16Gb Gbic	
	BladeSystem management module	
Blade server type 1		
	Blade Server	1
	CPU (2.6GHz/12-core/120W)	1
	CPU (2.6GHz/12-core/120W)	1
	64GB Memory Module	2
	240GB SATA 6G Read Intensive SFF	2
	12W Smart Storage Battery for BladeSystem Server	1
	12G SAS Modular Controller	1
	20Gb network adapter	1
	16Gb Fibre Channel Host Bus Adapter	2
	5Y Warrenty	1
	Server support	1
	Monitoring license	1
	Monitoring license support	1
Blade server type 2		
	Blade Server	1
	CPU (2.6GHz/12-core/120W)	1
	CPU (2.6GHz/12-core/120W)	1
	64GB Memory Module	4
	240GB SATA 6G Read Intensive SFF	2
	12W Smart Storage Battery for BladeSystem Server	1
	12G SAS Modular Controller	1
	20Gb network adapter	1
	16Gb Fibre Channel Host Bus Adapter	2
	5Y Warrenty	1
	Server support	1
	Monitoring license	1

	Monitoring license support	1
Blade server type 3		
	Blade Server	1
	CPU (2.6GHz/12-core/120W)	1
	CPU (2.6GHz/12-core/120W)	1
	64GB Memory Module	8
	240GB SATA 6G Read Intensive SFF	2
	12W Smart Storage Battery for BladeSystem Server	1
	12G SAS Modular Controller	1
	20Gb network adapter	1
	16Gb Fibre Channel Host Bus Adapter	2
	5Y Warrenty	1
	Server support	1
	Monitoring license	1
	Monitoring license support	1
Standalone server type 4		
	Standalone Server	1
	CPU (2.6GHz/12-core/120W)	1
	CPU (2.6GHz/12-core/120W)	1
	16GB Memory Module	2
	240GB SATA 6G Read Intensive SFF	2
	12W Smart Storage Battery for Server	1
	12G SAS Modular Controller	1
	20Gb network adapter	1
	16Gb Fibre Channel Host Bus Adapter	2
	5Y Warrenty	1
	Server support	1
	Monitoring license	1
	Monitoring license support	1

Standalone server type 5		
	Standalone Server	1
	CPU (2.6GHz/12-core/120W)	1
	CPU (2.6GHz/12-core/120W)	1
	16GB Memory Module	4
	240GB SATA 6G Read Intensive SFF	2
	12W Smart Storage Battery for Server	1
	12G SAS Modular Controller	1
	20Gb network adapter	1
	16Gb Fibre Channel Host Bus Adapter	2
	5Y Warrenty	1
	Server support	1
	Monitoring license	1
	Monitoring license support	1