

1.3 Required Items

1.3.1 Server and related device spec

Servers Specification for the DR site				
No	Item	Specification	Qty	Remark
1	HP Enclosure c7000	<ul style="list-style-type: none"> ➤ Device bays: <ul style="list-style-type: none"> - Up to 16 Half-height Blades - Up to 8 Full-height Blades - Mixed configurations supported ➤ Interconnect bays: <ul style="list-style-type: none"> - 8 Interconnect Bays with support for any I/O fabric ➤ Power supply: <ul style="list-style-type: none"> - Up to 6 x 960/2250W - Up to 6 x 2400W High Efficiency - Up to 6 x -48V DC 2250W ➤ Cooling: <ul style="list-style-type: none"> - Centralized redundant fans Up to 10 - Active Cool fans ➤ Onboard Administrator: <ul style="list-style-type: none"> - 1 Standard, optional - redundant OA ➤ Height: <ul style="list-style-type: none"> - Rack (10U) ➤ Ethernet: <ul style="list-style-type: none"> - HP 1/10Gbit Virtual Connect Ethernet Module - Virtual Connect Flex-10 Ethernet Module - HP 1Gb Ethernet Pass-Thru Module - CISCO Catalyst Blade Switch 3020 - CISCO Catalyst Blade Switch 3120X/G - HP GbE2c Ethernet Blade Switch - HP GbE2c Layer 2/3 Ethernet Blade Switch 	2	

		<ul style="list-style-type: none"> - HP 1/10 Ethernet Blade Switch - HP 10/10 Ethernet Blade Switch <ul style="list-style-type: none"> ➤ Fibre channel: <ul style="list-style-type: none"> - HP 4Gbit Virtual Connect Fibre Channel Module - HP 16 port 4Gb FC Pass-Thru Module - Brocade 4Gb SAN Switch - Brocade 8Gb SAN Switch - CISCO MDS 9124e 4Gbit SAN Switch ➤ InfiniBand: <ul style="list-style-type: none"> - HP 4X DDR IB Switch Module ➤ Management: <ul style="list-style-type: none"> - Redundant Onboard Administrator -LAN and serial access - Windows: Insight Control - Linux: Insight Control suite for Linux - CTO only - CTO Software Bundles: Insight Control for Linux, Insight Control suite ➤ Onboard Administrator with KVM 		
2	Hp integrity BL860c	<ul style="list-style-type: none"> - Intel® Itanium® Dual-Core Processors Model 9140M (1.66 GHz/ 18MB/104W. L3 cache, FSB667) - Number of processors:2 <ul style="list-style-type: none"> ➤ <ul style="list-style-type: none"> - 16GB (4x4GB) - Type: PC2-5300 DDR2 FB DIMMs ➤ <ul style="list-style-type: none"> - Network Controller: (4) 1GbE NC373i Multifunction 2 Ports - HDD: 2x600 SAS 	1	Server

		<ul style="list-style-type: none"> - Hot Plug SAS¹ - HP-UX, Version 11.31 		
3	Hp integrity BL860c	<ul style="list-style-type: none"> - Intel® Itanium® Dual-Core Processors Model 9140M (1.66 GHz/ 18MB/104W. L3 cache, FSB667) - Number of processors:2 ➤ - 8GB (4x4GB) - Type: PC2-5300 DDR2 FB DIMMs ➤ - Network Controller: (2) 1GbE NC373i Multifunction 2 Ports ➤ - HDD: 2x146 SAS - Hot Plug SAS² - HP-UX, Version 11.31 	1	Server
4	ProLiant BL460c G1	<ul style="list-style-type: none"> - Quad-Core Intel XeonNumber of processors:2 ➤ - 8GB - Type: PC2-5300 DDR2 FB DIMMs ➤ - Network Controller: (2) 1GbE NC373i Multifunction 2 Ports ➤ - HDD: 2x600 SAS - Hot Plug SAS³ - Microsoft (R) Windows (R) 	2	File server

¹ NB: The Media kit and the license are provided by the bank.

^{2,4} NB: The Media kit and the license are provided by the bank

		<p>Server 2003, Enterprise Edition.</p> <ul style="list-style-type: none"> - 5.2.3790 Service Pack 2 Build 3790 		
5	ProLiant BL460c G1	<ul style="list-style-type: none"> ➤ - Quad-Core Intel Xeon - Number of processors:2 ➤ - 16GB - Type: PC2-5300 DDR2 FB DIMMs ➤ - Network Controller: (2) 1GbE NC373i Multifunction 2 Ports ➤ - HDD: 2x600 SAS - Hot Plug SAS⁴ - Rad-hat 5.0 	2	
6	ProLiant BL460c G1	<ul style="list-style-type: none"> ➤ - Quad-Core Intel Xeon - Number of processors:2 ➤ - 16GB (2x4GB) - Type: PC2-5300 DDR2 FB DIMMs ➤ - Network Controller: (2) 1GbE NC373i Multifunction 2 Ports ➤ - HDD: 2x146 SAS - Hot Plug SAS⁵ - Rad-hat 5.0 	1	
7	ProLiant BL460c G1	<ul style="list-style-type: none"> ➤ - Quad-Core Intel Xeon - Number of processors:2 	2	

^{4,6} NB: The Media kit and the license are provided by the bank

		<ul style="list-style-type: none"> - 8GB (2x4GB) - Type: PC2-5300 DDR2 FB DIMMs ➤ - Network Controller: (2) 1GbE NC373i Multifunction 2 Ports ➤ - HDD: 2x146 SAS - Hot Plug SAS₆ - Microsoft (R) Windows (R) Server 2003, Enterprise Edition. - 5.2.3790 Service Pack 2 Build 3790 		
8	ProLiant BL460c G1	<ul style="list-style-type: none"> - Quad-Core Intel Xeon - Number of processors:2 ➤ - 8GB (2x4GB) - Type: PC2-5300 DDR2 FB DIMMs ➤ - Network Controller: (2) 1GbE NC373i Multifunction 2 Ports ➤ - HDD: 2x146 SAS - Hot Plug SAS₇ - Microsoft (R) Windows (R) Server 2003, Standard Edition. - 5.2.3790 Service Pack 2 Build 3790 	3	
9	Dell Optiplex 755	<ul style="list-style-type: none"> ➤ Processor: <ul style="list-style-type: none"> - Intel Core 2 Duo, 2.2 GHz, Intel Core 2 Duo E4500 ➤ RAM: 4GB ➤ Storage : 360GB 	1	Server

^{6,8,9}NB: The Media kit and the license are provided by the bank

		<ul style="list-style-type: none"> ➤ RAID: yes ➤ Graphics Card: <ul style="list-style-type: none"> - Integrated Intel GMA 3100 ➤ Primary Optical Drive: <ul style="list-style-type: none"> - DVD+/-RW (Plus Minus) ➤ Secondary Optical Drive: None ➤ Software Installation:⁸ <ul style="list-style-type: none"> - Microsoft server 2008 		
10	Dell Optiplex 755	<ul style="list-style-type: none"> ➤ Processor: <ul style="list-style-type: none"> - Intel Core 2 Duo, 2.2 GHz, Intel Core 2 Duo E4500 ➤ RAM: 4GB ➤ Storage or HDD: 360GB ➤ RAID: yes ➤ Graphics Card: <ul style="list-style-type: none"> - Integrated Intel GMA 3100 ➤ Primary Optical Drive: <ul style="list-style-type: none"> - DVD+/-RW (Plus Minus) ➤ Secondary Optical Drive: None ➤ Software Installation:⁹ <ul style="list-style-type: none"> - Microsoft server 2003 <p>NB: The media kit and license are provided by the bank.</p>	2	Server
11	Dell Optiplex 755	<ul style="list-style-type: none"> ➤ Processor: <ul style="list-style-type: none"> - Intel Core 2 Duo, 2.2 GHz, Intel Core 2 Duo E4500 ➤ RAM: 4GB ➤ Storage or HDD: 360GB ➤ RAID: yes ➤ Graphics Card: <ul style="list-style-type: none"> - Integrated Intel GMA 3100 ➤ Primary Optical Drive: <ul style="list-style-type: none"> - DVD+/-RW (Plus Minus) ➤ Secondary Optical Drive: None ➤ Operating System:¹⁰ <ul style="list-style-type: none"> - Microsoft Windows XP Professional Version 2002 Service Pack 3 	3	Workstation
12		<ul style="list-style-type: none"> ➤ Serial SCSI,SAS, 146GB Capacity for 	6	

^{9,11} NB: The media kit and license are provided by the bank.

	HP Blade Server Harddrive	BL460c and BL680c ➤ Serial SCSI SAS, 72GB Capacity for BL460c and BL680c	6	
13	AP845A (SAN)	➤ HP P2000 G3 MSA FC Dual Controller LFF Array	1	
14	AP859A (SAN Drives)	➤ HP P2000 450GB SAS 15K 3.5in ENT HDD ➤ Factory Integrated	12	

1.3.2 Network and related device spec

Network and Related devices Specification				
No	Item	Specification	Unit	Qty
1	UPS	<ul style="list-style-type: none"> - APC Smart-UPS On-Line, 8000 Watts / 10 kVA, Input 208V / Output 120V, 208V , Interface Port DB-9 RS-232, RJ-45 10/100 Base-T, Smart-Slot , Extended runtime model , Rack mountable - Output Power Capacity 8000 Watts / 10 kVA - Max Configurable Power 8000 Watts / 10 kVA - Nominal Output Voltage 230V - Output Voltage Configurable for 220 : 230 or 240 nominal output voltage - Efficiency at Full Load 92% - Output Frequency (sync to mains) 50/60 	Pcs	1
2	Air Conditioner	<ul style="list-style-type: none"> - BTU Cooling, 24000 - Wall mounted - With indoor and outdoor unit - Input voltage 230 - Maximum current 15A 	Pcs	1
3	Rack (HP 1000 G2)	<ul style="list-style-type: none"> - U Height 42U - Width 23.62 in. (600 mm) - Depth 39.37 in. (1000 mm) 	Pcs	1

		<ul style="list-style-type: none"> - Graphite metallic - Complete line of rack, power, and KVM options to address all infrastructure requirements - Multi-angle door design, fully perforated front, and rear doors provide efficient, convection cooling, and improved ventilation. - Lock and key for front doors, rear doors and side panels - With cable management accessories 		
4	TFT7600 RKM	<ul style="list-style-type: none"> - Screen size 17.3 inch - Screen type Active Matrix TFT LCD - Maximum resolution Max resolution of 1600X900 - Supported refresh rates 60, 70, 72 and 75Hz - Pointing devices 3 button touchpad w/scroll bar - Connectivity PS2 and USB - Dot Pitch 26 mm - Rack Space 1U - KVM in same U space - Inverted T cursor keys - Windows shortcut Keys - Color Silver w/UID LEDES - USB pass-through and w/compatible KVM - Detent slides 	Pcs	1
5	HP 336044-B21 KVM Switch	<ul style="list-style-type: none"> - KVM switch - 8 ports - PS/2 - CAT5 – stackable - HP Server Console Switch - KVM switch - PS/2 - CAT5 - 8 x KVM port(s) - 1 local user – desktop - 8 x KVM port(s) - Input power AC 120/230 V (50/60 Hz) - 1 u Rack mountable - Approximate Dimensions (WxDxH)17.2 in x 6.5 in x 1.7 in 	Pcs	1

		<ul style="list-style-type: none"> - Server Connection Via Twisted PairCAT5- keyboard / video / mouse (KVM) : 8 x RJ-45 1 x RS-232 - 9 pin D-Sub (DB-9) - management Network stack device : 1 x RJ-45 - Mouse : 1 x generic - 6 pin mini-DIN (PS/2 style) - 1 - Keyboard : 1 x generic - 6 pin mini-DIN (PS/2 style) - 1 - Display / video : 1 x VGA - 15 pin HD D-Sub (HD-15) - 1 		
6	PDU	<ul style="list-style-type: none"> - 1u, Rack mountable - 20 Amp - Cord length 5m 	Pcs	1
7	Cisco 2950 Switch	<ul style="list-style-type: none"> - Preferred Model Cisco 2950 24TC -L. - Layer 2 Switches. - 64 MB of RAM. - 32 MB of flash memory. - 24 x Ethernet 10 Base - T, 100 Base -TX port. - That Support SNMP 1/2c/3, RMON 1/2/3/9, Telnet, HTTP, HTTPS, SSH, SSH-2 Protocols. - 32 Gbps Packet switching Capacity - Supports 1024 number of VLANs - Power Supply (AC) 100 - 240 V 	Pcs	1
8	HWIC-4ESW	<ul style="list-style-type: none"> - High speed WAN interface card that supports Cisco 1800 series (modular) Cisco 2800 series Cisco 3800 series 	Pcs	2

		<ul style="list-style-type: none"> - 4-port 10/100BASE-T Ethernet switch HWIC 		
9	4GE SSM	<ul style="list-style-type: none"> - Cisco ASA 5500 Series 4-Port Gigabit Ethernet Security Services Module 	Pcs	2
10	Patch Panel	<ul style="list-style-type: none"> - Category 6 - 24 port - 1 Gbps Throughput, Supports higher data rate 	Pcs	1
11	UTP Cable	<ul style="list-style-type: none"> - UTP Cat 6 - 100% Copper - Supports higher data rate 	m	305
12	Wall outlet (Network Node)	<ul style="list-style-type: none"> - Face plates with shatters - Back box - Cat 6 I/O (2) jacks 	Pcs Pcs Pcs	5 5 5
13	Cable organizer (manager)	<ul style="list-style-type: none"> - Rack mountable (2U) - with a cover 	Pcs	1
14	Patch cord	<ul style="list-style-type: none"> - Cat 6 3m Patch cord - Cat6 1m patch cord 	Pcs Pcs	40 20
15	Cable Trunking	<ul style="list-style-type: none"> - 50 x 75 mm - with partition for data and power - 40 x 25 mm 	M M	30 40
16	Power Cable	<ul style="list-style-type: none"> - 5 x 100 mm - 3 x 2.5 mm 	M M	25 30
17	Switch breaker	<ul style="list-style-type: none"> - 50 Amp - 16 Amp 	Pcs Pcs	1 2
18	Host Security Module 8000	<ul style="list-style-type: none"> - A range of models supporting up to 800 Triple DES PIN Block translates per second. - DES and Triple DES Algorithms – Provide PIN encryption and message Authentication capabilities. 		

		<ul style="list-style-type: none"> - RSA Algorithm – Provides high-level key management including remote key loading for ATMs, and supports the generation and validation of digital - Signatures. RSA key length is selectable from 320 to 2048 bits. - Local Master Key Components – These are stored on Smart Cards (ISO 7816) for secure storage or distribution. <p>Communications Interfaces</p> <ul style="list-style-type: none"> - HSM8-S - TCP/IP and UDP, Ethernet 10/100Base-T; - Async, RS232, SNA (v.24/RS-232) - HSM8-E - ESCON; TCP/IP and UDP, Ethernet 10/100Base-T; - Async, RS232, SNA (v.24/RS-232) <p>Security Certification</p> <ul style="list-style-type: none"> - The HSM utilises the Thales Secure Generic Sub-System (SGSS) for all its cryptographic and security processing. This subsystem is validated to - FIPS 140-1 level 4 and FIPS 140-2 level 3. <p>Power</p> <ul style="list-style-type: none"> - Voltage 90-132 VAC and 175-264 VAC, auto-selected - Frequency 47-63 Hz - Fuse 1.6A delayed action <p>Environmental</p> <ul style="list-style-type: none"> - Operating Temp. 10° to 40° C - Humidity 10% to 90%, non-condensing <p>Physical Dimensions</p> <ul style="list-style-type: none"> - Height 88 mm (2U) 		
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		<ul style="list-style-type: none"> - Width 480 mm (to fit 19" rack) - Depth 400 mm - Weight 12 kg. 		
19	Network Camera	<p>Image settings</p> <ul style="list-style-type: none"> - Compression, color, brightness, sharpness, contrast, white - Balance, exposure control, exposure zones, backlight - Compensation, wide dynamic range- dynamic contrast, fine - Tuning of behavior at low light, mirroring of images - Rotation - including Corridor Format™ <p>Audio</p> <ul style="list-style-type: none"> - Audio streaming <ul style="list-style-type: none"> • Two-way - - Compression Audio <ul style="list-style-type: none"> • AAC LC 8 kHz, 16 kHz. G. • ADPCM 8 kHz Configurab - Audio input/ output <ul style="list-style-type: none"> • Built-in microphone, exterr • or line input, line - Network - Security <ul style="list-style-type: none"> • Password protection, IP ad • HTTPS** encryption, - 	Pcs	1

		<ul style="list-style-type: none"> • IEEE 802.1X network access control, • digest authentication - Supported Protocols • IPv4/v6, HTTP, HTTPS**, QoS Layer 3 DiffServ, • FTP, SMTP, - Protocols • Bonjour, UPnP, SNMPv1/v2c/v3(MIB-II), DNS, • DynDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, • RTCP, ICMP, DHCP, ARP, SOCKS - Processor and - memory • ARTPEC-3, 128 MB RAM, 128 MB Flash <p>Power</p> <ul style="list-style-type: none"> - 4.9 – 5.1 V DC max. 4.7 W - Power over Ethernet IEEE 802.3af Class 2 (max. 4.7 W) <p>Connectors</p> <ul style="list-style-type: none"> - RJ-45 10BASE-T/100BASE-TX PoE, DC jack, Terminal block for 1 alarm input and 1 output, 3.5 mm mic/line in, 3.5 mm line out <p>Operating conditions</p> <ul style="list-style-type: none"> - 0 – 50 °C (32 – 122 °F) - Humidity 20 - 80% RH (non-condensing) <p>Casing</p> <ul style="list-style-type: none"> - Polycarbonate transparent cover - Metal inner camera module with encapsulated electronics 		
18	Network Camera (floor mounted)	<p>Image sensor</p> <ul style="list-style-type: none"> - 1/4” Progressive scan RGB CMOS VGA <p>Lens</p> <ul style="list-style-type: none"> - Varifocal 3.0 - 8.0 mm, F1.0, DC-iris, CS mount - Horizontal angle of view: 27° – 67° 	Pcs	1

		<p>Minimum illumination</p> <ul style="list-style-type: none"> - 0.75 lux, F1.0 <p>Shutter time</p> <ul style="list-style-type: none"> - 1/15000 s to 1/4 s <p>Video</p> <ul style="list-style-type: none"> - MPEG-4 Part 2 (ISO/IEC 14496-2) <p>Compression</p> <ul style="list-style-type: none"> - Motion JPEG <p>Resolutions</p> <ul style="list-style-type: none"> - 640x480 to 160x120 <p>Frame rate MPEG-4</p> <ul style="list-style-type: none"> - Up to 30 fps in all resolutions <p>Frame rate Motion JPEG</p> <ul style="list-style-type: none"> - Up to 30 fps in all resolutions <p>Video streaming</p> <ul style="list-style-type: none"> - Simultaneous MPEG-4 and Motion JPEG - Controllable frame rate and bandwidth - VBR/CBR MPEG-4 <p>Image settings</p> <ul style="list-style-type: none"> - Compression, color, brightness, sharpness, contrast, white - balance, exposure control, fine tuning of behavior at low light, rotation, Text and image overlay, Privacy mask <p>Audio</p> <ul style="list-style-type: none"> - Audio streaming <ul style="list-style-type: none"> • Two-way - Audio compression <ul style="list-style-type: none"> • G.711 PCM 8 kHz • G.726 ADPCM • Configurable bit rate - Audio input/ output <ul style="list-style-type: none"> • Built-in microphone, external microphone input 		
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		<p>or line input,line output</p> <p>Network</p> <ul style="list-style-type: none"> - Wireless interface <ul style="list-style-type: none"> • IEEE 802.11g/b - Security <ul style="list-style-type: none"> • WEP 64/128 bit, WPA/WPA2-PSK, WPA/WPA2-Enterprise (EAP-TLS, EAP-PEAP/MSCHAPv2) Password protection, IP address filtering, HTTPS encryption, IEEE 802.1X network access control - Supported protocols <ul style="list-style-type: none"> • IPv4/v6, HTTP, HTTPS, QoS Layer 3 DiffServ, FTP, SMTP, Bonjour, • UPnP, SNMPv1/v2c/v3 (MIB-II), DNS, DynDNS, RTSP, RTP, TCP, • UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS, WPA-/WPA2-PSK, • WPA-/WPA2-Enterprise, EAP-TLS, EAP-PEAP/MSCHAPv2, WEP <p>Intelligent video</p> <ul style="list-style-type: none"> - Video motion detection, audio detection <p>Alarm triggers</p> <ul style="list-style-type: none"> - Intelligent video and external input <p>Alarm events</p>		
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		<ul style="list-style-type: none"> - File upload via FTP, HTTP and email Notification via email, HTTP and TCP - External output activation Pre- and post-alarm video buffering <p>Processors and memory</p> <ul style="list-style-type: none"> - ARTPEC-A, 64 MB RAM, 8 MB Flash <p>Power</p> <ul style="list-style-type: none"> - 7 – 20 V DC max. 5 W - Power over Ethernet IEEE 802.3af Class 2 <p>Connectors</p> <ul style="list-style-type: none"> - RJ-45 10BASE-T/100BASE-TX PoE, Auto-MDIX - Terminal block for 1 alarm input, 1 output and alternative power - Connection, Reverse SMA for radio, 3.5 mm mic/line in, 3.5 mm line out <p>Operating conditions</p> <ul style="list-style-type: none"> - 0 °C to 45 °C (32 °F to 113 °F) - Humidity 20 – 80% RH (non-condensing) <p>Approvals</p> <ul style="list-style-type: none"> - EN 301 489-1, EN 301 489-17, EN 300 328, - FCC Part 15 Subpart B and C Class B, RSS-210, TELEC, - AS/NZS 4711, MIC - Power supply: EN 60950-1, UL, CUL 		
20	Door Access Control System	<p>Pc Based Controller with Management software</p> <ul style="list-style-type: none"> - TCP/IP Network enabled - Onboard RS465 And TCP/IP Comms - Supports for 2 door in and out, or 4 doors in - Expandable to 16 doors - 5000 card capacity 	Pcs	1

		<ul style="list-style-type: none"> - Dual Power supply controller - Support exit push button <p>Card Reader /Sensor</p> <ul style="list-style-type: none"> - That Supports Biometric and Electromagnetic Card - With key pad proximity reader - Magnetic stripe card White encoded - Protocol Converter RS232/RS485 - Electromagnetic lock Door accessories 	Pcs Pcs Pcs Pcs	2 30 2
21	Fire extinguisher	<ul style="list-style-type: none"> - For Server room Application - That doesn't harm electronic device - Handel held 	Pcs	2
22	GSM SMS Alarm	<ul style="list-style-type: none"> - Built in temperature and humidity sensor - Program by either SMS command or PC Software - That sends SMS text and data message to mobile phone via GSM when temperature or humidity are higher or lower than preset values. 	Pcs	1
23	1 HP LaserJet P2014	<p>Print Speed</p> <ul style="list-style-type: none"> - up to 23 ppm - B/W - A4 (8.25 in x 11.7 in), - up to 24 ppm - B/W - Letter A Size (8.5 in x 11 in) <p>Connectivity Technology</p> <ul style="list-style-type: none"> - Wired <p>Interface</p> <ul style="list-style-type: none"> - USB, Parallel <p>Max Resolution (B&W)</p> <ul style="list-style-type: none"> - 1200 dpi x 1200 dpi <p>Image Enhancement Technology</p> <ul style="list-style-type: none"> - HP ProRes 1200 HP FastRes 1200 	Pcs	1

		PostScript Support - Standard First Print Out Time B/W - 8.5 sec Media Handling - 50-sheet multipurpose tray, 250-sheet input tray Processor - 264 MHz		
24	2 Safe Box	- 75 KG safe box	Pcs	1