**Specification for Sample IT Products**

**Category B (Server Systems)**

##### (To be completed and returned by email or uploading through e-Form)

1. Specifications of Add-on Hardware and Software Items

For each of those items **marked with an asterisk** in the first row of the relevant tables below in this Appendix, the applicant who applies to become GITP provider of the sub-category of Category B to which such item belongs must propose at least one model (together with all requested information) for such item in the form known as “[Details of Sample IT Products](https://www.digitalpolicy.gov.hk/en/our_work/digital_infrastructure/industry_development/suppliers/gitp/#product_form)” as well as in relevant table below to show its compliance with the [reference technical requirements](https://www.digitalpolicy.gov.hk/en/our_work/digital_infrastructure/industry_development/suppliers/gitp/#ref_tech_req) applicable to such item which are repeated in the relevant table below.

Whilst it is not mandatory to do so, for each of those items which are not marked with an asterisk in the tables below, the applicant applying to become a GITP provider of the relevant sub-category to which such item belongs may wish to propose one model (together with the requested information) for such item in the form known as “[Details of Sample IT Products](https://www.digitalpolicy.gov.hk/en/our_work/digital_infrastructure/industry_development/suppliers/gitp/#product_form)” as well as in the relevant table below to show its compliance with the [reference technical requirements](https://www.digitalpolicy.gov.hk/en/our_work/digital_infrastructure/industry_development/suppliers/gitp/#ref_tech_req) applicable to such item which are repeated in the relevant table below.

Applicants shall provide technical information to substantiate compliance of the proposed products with the aforesaid requirements.  Technical information in product literature published by the original manufacturers/developers and/or other supporting technical information shall be provided to prove compliance.

Sample illustration on the products to be proposed is provided in Enclosure of this Appendix for illustration purposes only.

* 1. Sub-category B1 - Server System
     1. Server Computer

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| **Server Computer [Item No. 31000] \*** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Processor | * 64-bit processor(s) |  |
| Memory | * At least 30GB |  |
| Internal storage | * At least 300GB |  |
| Network interface | * At least four (4) x GbE port(s) |  |
| Others | * Provide two (2) hot swap power supply units with redundant capability * Embedded Trusted Platform Module (TPM) |  |
| Operating system | * Support one of the prevailing server operating systems, e.g. Windows, Linux or equivalent |  |
| Green Requirement | * Shall comply with mandatory requirement of Green Product Code D06 |  |

* + 1. Server Computer Processor

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| **Server Computer Processor [Item No. 31010]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Processor | * Compatible with the proposed Server Computer [Item No. 31000] |  |
| Performance | * With same performance as or better performance than the processor proposed under Server Computer [Item No. 31000] |  |

* + 1. Server Computer Memory

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| **Server Computer Memory [Item No. 31011]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Compatibility | * Compatible with the proposed Server Computer [Item No. 31000] |  |

* + 1. Disk Controller Adapter

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| **Disk Controller Adapter [Item No. 31012]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Data Rate | * At least 6Gbps SAS |  |
| Number of Ports | * At least two (2) |  |
| RAID Support | * RAID level 0, 1, 5, 6 or 10 |  |
| Bus Architecture | * PCI-E 3.0 or better |  |

* + 1. Host Bus Adapter

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| **Host Bus Adapter [Item No. 31013]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Interface | * Fibre channel or iSCSI |  |
| Bus Speed | * At least 8Gbps |  |
| Host bus interface | * PCI-E |  |
| Ports | * Single port or more |  |

* + 1. Network Interface Adapter

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| --- | --- | --- |
| **Network Interface Adapter [Item No. 31014]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Interface Media | * Copper Cable or Optical Fibre |  |
| Number of Ports | * At least two (2) |  |
| Transfer Rate | * At least 10Gbps |  |
| Bus Architecture | * PCI-E 3.0 with x8 lanes or better |  |
| Connector | * RJ45 connector or SFP+ connector |  |

* + 1. Server Hard Disk Drive

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| **Server hard disk drive [Item No. 31015]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Interface | * SAS 6Gbps or SAS 12Gbps |  |
| Capacity | * At least 600GB |  |
| Rotational Speed | * At least 7,000rpm |  |
| Form Factor | * 3.5 inches or less |  |

* + 1. Server Solid State Disk

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| **Server Solid State Disk [Item No. 31016]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Capacity | * At least 800GB |  |
| Read /Write Speed | * At least 500MB/400MB per sec |  |
| Endurance# | * At least 0.5 DWPD |  |
| Interface | * SATA or SAS or Non-volatile Memory Express NVMe PCIe 3.0 or better |  |

* + 1. Blade Chassis

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| **Blade Chassis [Item No. 31017]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Form Factor | * At most 12U |  |
| Blade bays | * Eight (8) or more |  |
| I/O module | * Two (2) or more |  |
| Power Supply module | * Provide two (2) power supply units with redundant capability * Support the configuration of at least four (4) power supply units with redundant capability |  |
| Management module | * Provides integrated user interfaces to monitor, control and manage all chassis resources * Support role-based security locally and/or with LDAP directory services |  |
| Others | * Provide necessary interconnect cables |  |

* + 1. Blade Storage Module

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| **Blade Storage Module [Item No. 31018]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * Provide at least four (4) x 16GFC uplink ports |  |
| Compatibility | * Compatible with the proposed Blade Chassis [Item No. 31017] |  |

* + 1. Blade Network Module

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| **Blade Network Module [Item No. 31019]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * Provide 8GFC ports or 10GbE ports or 40GbE ports |  |
| Compatibility | * Compatible with the proposed Blade Chassis [Item No. 31017] |  |

* + 1. Blade Network Upgrade Module

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| **Blade Network Upgrade Module [Item No. 31020]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * Improve the performance or extend the capability of Blade Chassis (Network Module) [Item No. 31019] |  |
| Others | * Provide all necessary accessories |  |
| Implementation Method | * Implement either (a) through the addition of new module(s) or (b) through the activation of module(s) already included in the proposed Blade Chassis (Network Module) [Item No. 31019] |  |

* + 1. Blade Power Supply Unit

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| **Blade Power Supply Unit [Item No. 31021]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * Provide one (1) power supply unit |  |
| Compatibility | * Compatible with the power supply unit in the proposed Blade Chassis [Item No. 31017] |  |

* + 1. Server Accessories

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| **Server Accessories [Item No. 31022]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * Optical or SFP+ or QSFP+ Transceiver |  |

* 1. Sub-category B2 – Storage System
     1. Disk Storage System

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| **Disk Storage System [Item No. 32000] \*** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Controller | * At least two (2) controllers * At least four (4) ports per controller |  |
| Interface Port | * At least four (4) x 8/16/32GFC ports or four (4) x 10GbE ports |  |
| Memory Cache | * At least 32GB per storage system |  |
| RAID support | * RAID 6 or better |  |
| Power supply | * Provide two (2) power supply units with redundant capability |  |
| Features | * Provide automatic failover * Provide or with option to provide remote site replication features * Provide or with option to provide encryption for data at rest |  |
| Management software | * Provide storage management software with capabilities to manage and configure the disk storage system |  |

* + 1. Disk Storage System Disk Enclosure

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| **Disk Storage System Disk Enclosure [Item No. 32010]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * An external unit that supports to expand the storage capacity of a disk storage system |  |
| Drive support | * At least ten (10) disk slots |  |
| Compatibility | * Compatible with the proposed Disk Storage System [Item No. 32000] |  |

* + 1. Disk Storage System Remote Site Replication Module

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| **Disk Storage System Remote Site Replication Module [Item No. 32011]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * Perform Active-Active data replication at remote site * Provide synchronous or asynchronous replication |  |
| Compatibility | * Compatible with the proposed Disk Storage System [Item No. 32000] |  |

* + 1. Disk Storage System Encryption Module

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| **Disk Storage System Encryption Module [Item No. 32012]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * Protect data at rest with hardware based encryption |  |
| Compatibility | * Compatible with the proposed Disk Storage System [Item No. 32000] |  |

* + 1. Disk Storage System Expansion Accessories

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| **Disk Storage System Expansion Accessories [Item No. 32013]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * 16GFC or 8GFC or 10GbE Transceiver |  |

* + 1. Storage System Hard Disk Drive

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| **Storage System Hard Disk Drive [Item No. 32020]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Interface | * SAS 6Gbps or SAS 12Gbps |  |
| Capacity | * At least 600GB |  |
| Rotational Speed | * At least 7,000rpm |  |
| Form Factor | * 3.5 inches or less |  |

* + 1. Storage System Solid State Disk

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| **Storage System Solid State Disk [Item No. 32021]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Capacity | * At least 1TB |  |
| Read /Write Speed | * At least 500 MB/400MB per sec |  |
| Endurance# | * At least 0.5 DWPD |  |
| Interface | * SATA or SAS or Non-volatile Memory Express NVMe PCIe 3.0 or better |  |

* + 1. Storage System Encypted Hard Disk Drive

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| **Storage System Encypted Hard Disk Drive [Item No. 32022]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Interface | * SAS 6Gbps or SAS 12Gbps |  |
| Capacity | * At least 600GB |  |
| Rotational Speed | * At least 7,000rpm |  |
| Form Factor | * 3.5 inches or less |  |

* + 1. Storage System Encrypted Solid State Disk

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| **Storage System Encrypted Solid State Disk [Item No. 32023]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Capacity | * At least 1TB |  |
| Read /Write Speed | * At least 500MB/400MB per sec |  |
| Endurance# | * At least 0.5 DWPD |  |
| Interface | * SATA or SAS or Non-volatile Memory Express NVMe PCIe 3.0 or better |  |

* + 1. SAN Switch Module

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| **SAN Switch Module [Item No. 32030]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Interface | * 16GFC or 32GFC or better |  |
| Ports | * At least twenty four (24) ports with eight (8) ports activated |  |
| Others | * Provide or with option to provide Inter-Switch Link (ISL) trunking as specified in SAN Switch Module (ISL Trunking) [Item No. 32032] * Rack mount with rack mount kit |  |
| Green Requirement | * Shall comply with mandatory requirement of Green Product Code D03 |  |

* + 1. SAN Switch Module (Expansion Unit)

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| **SAN Switch Module (Expansion Unit) [Item No. 32031]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * To extend the functionality or capability of the proposed SAN Switch Module [Item No. 32030] |  |
| Implementation Method | * Implement either (a) through the addition of new module(s) or (b) through the activation of module(s) already included in the proposed SAN Switch Module [Item No. 32030] |  |
| Compatibility | * Compatible with the proposed SAN Switch Module [Item No. 32030] |  |

* + 1. SAN Switch Module (ISL Trunking)

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| **SAN Switch Module (ISL Trunking) [Item No. 32032]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * Allow to create ISL trunk between interconnected switches |  |
| Implementation Method | * Implement either (a) through the addition of new module(s) or (b) through the activation of module(s) already included in the proposed SAN Switch Module [Item No. 32030] |  |
| Compatibility | * Compatible with the proposed SAN Switch Module [Item No. 32030] |  |

* + 1. SAN Switch Module (Transceiver)

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| **SAN Switch Module (Transceiver) [Item No. 32033]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * 16GFC optical transceiver |  |
| Compatibility | * Compatible with the proposed SAN Switch Module [Item No. 32030] |  |

* + 1. Tape Library System

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| **Tape Library System [Item No. 32040]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Recording Technology | * LTO-6 or LTO-7 or LTO-8 or better |  |
| Interface | * At least two (2) SAS 6Gbps or two (2) 8GFC |  |
| Number of Slots | * Support at least twenty (20) tape slots excluding slots for import/export media |  |
| Features | * Provide or with option to provide encryption feature as specified in Tape Library System (Encryption Module) [Item No. 32042] * Come with integrated bar code reader |  |
| Others | * Rack mount with rack mount kit |  |

* + 1. Tape Library System (Expansion Unit)

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| **Tape Library System (Expansion Unit) [Item No. 32041]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * A unit that can be added to enhance functionality or increase capacity of the proposed Tape Library System [Item No. 32040] |  |
| Compatibility | * Compatible with the proposed Tape Library System [Item No. 32040] |  |

* + 1. Tape Library System (Encryption Module)

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| **Tape Library System (Encryption Module) [Item No. 32042]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * A unit that can be added to enhance functionality or increase capacity of the proposed Tape Library System [Item No. 32040] |  |
| Compatibility | * Compatible with the proposed Tape Library System [Item No. 32040] |  |

* + 1. Tape Library System (Path Failover)

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| **Tape Library System (Path Failover) [Item No. 32043]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * Enable to use redundant control path when the primary path fails |  |
| Compatibility | * Compatible with the proposed Tape Library System 1 [Item No. 32040] |  |
| Implementation Method | * Implement either (a) through the addition of new module(s) or (b) through the activation of module(s) already included in the proposed Tape Library System [Item No. 32040] |  |

* + 1. Tape Autoloader

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| **Tape Autoloader [Item No. 32050]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Recording Technology | * LTO-6 or LTO-7 or LTO-8 or better |  |
| Number of Cartridge Slots | * At least four (4) |  |
| Native Sustained Transfer Rate | * At least 160MBps |  |
| Interface | * SAS or 8GFC |  |
| Form Factor | * 2U or less |  |
| Others | * Support data compression * Support encryption |  |

* + 1. Tape Drive

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| **Tape Drive [Item No. 32055]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Recording Technology | * LTO-6 or LTO-7 or LTO-8 or better |  |
| Native Sustained Transfer Rate | * At least 150MBps |  |
| Interface | * SAS 6Gbps |  |
| Others | * Provide interface adapter for connection with server or tape library |  |

* + 1. Data Protection Appliance

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| **Data Protection Appliance [Item No. 32060]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Backup and recovery option for physical and virtual systems * Provide in-line deduplication * Provide compression * Support encryption for data at rest |  |
| Form Factor | * Rack mount |  |
| Usable Capacity | * At least 5TB base capacity * Support up to at least 15TB without deduplication |  |
| Interface | * Support 8GFC ports or GBase-T network ports or 16GFC ports or 10GbE ports |  |
| Throughput | * At least 7TB/hr |  |
| Supported Platform | * Backup data in Windows/Linux environment or equivalent |  |
| Storage System Support | * Support Virtual Tape Library or Open Storage Technology (OST) |  |
| Others | * Provide two (2) power supply units with redundant capability * Provide backup system management function |  |
| Green Requirement | * Shall comply with mandatory requirement of Green Product Code D06 |  |

* + 1. Data Protection Appliance (Expansion Module)

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| **Data Protection Appliance (Expansion Module) [Item No. 32061]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Expansion Capacity | * Provide additional 5TB capacity to the proposed Data Protection Appliance [Item No. 32060] |  |
| Implementation Method | * Implement either (a) through the addition of new module(s) or (b) through the activation of module(s) already included in the proposed Data Protection Appliance [Item No. 32060] |  |

* + 1. Data Protection Appliance (Interface Module)

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| **Data Protection Appliance (Interface Module) [Item No. 32062]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * 16GFC or 10GbE SFP interface module |  |
| Compatibility | * Compatible with the proposed Data Protection Appliance [Item No. 32060] |  |

* + 1. Data Protection Appliance (Memory Upgrade)

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| **Data Protection Appliance (Memory Upgrade) [Item No. 32063]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * At least 64GB |  |
| Compatibility | * Compatible with the proposed Data Protection Appliance [Item No. 32060] |  |

* + 1. Network Attached Storage System

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| **Network Attached Storage System [Item No. 32001]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Connectivity | * At least four (4) Ethernet ports |  |
| Memory | * At least 16GB |  |
| RAID support | * At least two of RAID levels 0, 1, 5, 6 or 10 |  |

* 1. Sub-category B3 – Server System Software
     1. Server Operating System Software 1

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| **Server System Software [Item No. 33000] \*** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide printer sharing, file sharing, and the ability to manage a network name directory, security, and other housekeeping aspects of a network * Support the running of Windows server operating system or equivalent in virtual environment |  |

* + 1. Server Operation System Software 2

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| **Server Operation System Software 2 [Item No. 33001] \*** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide printer sharing, file sharing, and the ability to manage a network name directory, security, and other housekeeping aspects of a network * Compatible with Linux server operating system or equivalent |  |

* + 1. Server Operating System Software 3 (Client User Licence)

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| **Server Operating System Software 3 (Client User Licence) [Item No. 33010]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * At least one (1) client user licence for one (1) user to access the server running the proposed server operating system software |  |
| Compatibility | * Compatible with the proposed server operating system software [Item No. 33000] |  |

* + 1. Server Operating System Software 4 (Client Device Licence)

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| **Server Operating System Software 4 (Client Device Licence) [Item No. 33011]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * At least one (1) client user licence for one (1) device to access the server running the proposed server operating system software |  |
| Compatibility | * Compatible with the proposed server operating system software [Item No. 33000] |  |

* + 1. Server Operating System Software 5 (Remote Desktop Service – Client User Licence)

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| **Server Operating System Software 5 (Remote Desktop Service – Client User Licence) [Item No. 33012]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * At least one (1) client user licence for one (1) user to access the remote desktop service provided on server running the proposed server operating system software |  |
| Compatibility | * Compatible with the proposed server operating system software [Item No. 33000] |  |

* + 1. Server Operating System Software 6 (Remote Desktop Service – Client Device Licence)

|  |  |  |
| --- | --- | --- |
| **Server Operating System Software 6 (Remote Desktop Service – Client Device Licence) [Item No. 33013]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * At least one (1) client user licence for one (1) device to access the remote desktop service provided on server running the proposed server operating system software |  |
| Compatibility | * Compatible with the proposed server operating system software [Item No. 33000] |  |

* + 1. Backup Software 1 (Licence)

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| --- | --- | --- |
| **Backup Software 1 (Licence) [Item No. 33005] \*** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Automate routine backup tasks * Allow unattended remote operation * Allow various backup modes including full backup, incremental backup and differential backup * Provide deduplication in backup * Support encryption in backup * Allow to store data on disk and tape |  |

* + 1. Backup Software 2 (Licence)

|  |  |  |
| --- | --- | --- |
| **Backup Software 2 (Licence) [Item No. 33006] \*** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Backup virtual machines on a server * Allow recovery of specific virtual machine(s) * Allow to restore specific file(s) in virtual machine from the backup media |  |

* + 1. Backup Software 3 (Licence)

|  |  |  |
| --- | --- | --- |
| **Backup Software 3 (Licence) [Item No. 33007] \*** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Backup and restore a Windows/Linux server * Backup and restore a virtual machine * Provide backup validation to assure recoverability * Backup and restore a mail server (e.g. IBM Domino Server, Microsoft Exchange) * Backup and restore a database (e.g. IBM DB2, Microsoft SQL Server, Oracle Database) * Provide deduplication in backup * Provide encryption in backup * Able to integrate with a storage system to provide recovery from hardware snapshot |  |

* + 1. Backup Software 4 (Agent/Option Licence)

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| **Backup Software 4 (Agent/Option Licence) [Item No. 33020]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Backup and restore a Windows/Linux server and such Windows/Linux server is hosted on a machine other than the machine running the proposed Backup Software 1 * Restore specific file(s) from the backup media |  |

* + 1. Backup Software 5 (Agent/Option Licence)

|  |  |  |
| --- | --- | --- |
| **Backup Software 5 (Agent/Option Licence) [Item No. 33021]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Backup a virtual machine with four (4) virtual CPUs * Allow recovery of virtual machine from backup media * Restore specific file(s) in virtual machine from backup media |  |

* + 1. Backup Software 6 (Agent/Option Licence)

|  |  |  |
| --- | --- | --- |
| **Backup Software 6 (Agent/Option Licence) [Item No. 33022]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Backup a database (e.g. IBM DB2, Microsoft SQL Server, Oracle Database) * Allow to restore the database to any specific point in time |  |

* + 1. Backup Software 7 (Agent/Option Licence)

|  |  |  |
| --- | --- | --- |
| **Backup Software 7 (Agent/Option Licence) [Item No. 33023]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Backup and restore a mail server (e.g. Microsoft Exchange Server, IBM Domino Server) * Restore specific email(s) for specific user(s) |  |

* + 1. Backup Software 8 (Agent/Option Licence)

|  |  |  |
| --- | --- | --- |
| **Backup Software 8 (Agent/Option Licence) [Item No. 33024]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Manage one (1) tape autoloader with two (2) drives to perform backup |  |

* + 1. Backup Software 9 (Agent/Option Licence)

|  |  |  |
| --- | --- | --- |
| **Backup Software 9 (Agent/Option Licence) [Item No. 33025]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * At least one (1) agent / option licence to extend backup capabilities of the proposed backup software |  |

* + 1. Virtualisation Software 1 (Licence)

|  |  |  |
| --- | --- | --- |
| **Virtualisation Software 1 (Licence) [Item No. 33030]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Run natively and directly on physical server without running on top of a computer operating system * Create virtual machines and allow multiple virtual machines running concurrently on a single physical machine * Allow dynamic allocation of storage capacity so that there is no need for dedicated storage capacity for each virtual machine * Allow virtual machines to access shared storage devices (e.g. SAN devices, NAS devices) * Allow virtual machines to have virtual storage capacity that is larger than the actual physical storage capacity * Support live migration of running virtual machines from one physical server to another with no downtime * Support high availability in the sense that in the event of a physical server failure, all the virtual machines in that physical server shall be automatically restarted on another physical server in the same cluster * Support fault tolerance with the capability to provide zero downtime, zero data loss and continuous availability for the applications running in virtual machines in the event of a physical server failure * Support up to at least two (2) virtual CPUs per virtual machine in fault tolerance |  |
| Supported Virtual Machines | * Able to create Windows server virtual machines or Linux server virtual machines |  |

* + 1. Virtualisation Software 2 (Licence)

|  |  |  |
| --- | --- | --- |
| **Virtualisation Software 2 (Licence) [Item No. 33031]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Run natively and directly on physical server without running on top of a computer operating system * Create virtual machines and allow multiple virtual machines running concurrently on a single physical machine * Allow dynamic allocation of storage capacity so that there is no need for dedicated storage capacity for each virtual machine * Allow virtual machines to access shared storage devices (e.g. SAN devices, NAS devices) * Allow virtual machines to have virtual storage capacity that is larger than the actual physical storage capacity * Support live migration of running virtual machines from one physical server to another with no downtime * Support high availability in the sense that in the event of a physical server failure, all the virtual machines in that physical server shall be automatically restarted on another physical server in the same cluster * Support fault tolerance with the capability to provide zero downtime, zero data loss and continuous availability for the applications running in virtual machines in the event of a physical server failure * Support up to at least 4 virtual CPUs per virtual machine in fault tolerance * When the overall workload decreases, the proposed Virtualisation Software 2 shall be able to support the consolidation of workloads and the redistribution of virtual machines among the physical servers in a cluster so that some physical servers can be powered off to reduce power consumption |  |
| Supported Virtual Machines | * Able to create Windows server virtual machines or Linux server virtual machines |  |

* + 1. Virtualisation Software 3 (Licence)

|  |  |  |
| --- | --- | --- |
| **Virtualisation Software 3 (Licence) [Item No. 33032]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Run natively and directly on physical server without running on top of a computer operating system * Create virtual machines and allow multiple virtual machines running concurrently on a single physical machine * Allow dynamic allocation of storage capacity so that there is no need for dedicated storage capacity for each virtual machine * Allow virtual machines to access shared storage devices (e.g. SAN devices, NAS devices) * Allow virtual machines to have virtual storage capacity that is larger than the actual physical storage capacity * Support live migration of running virtual machines from one physical server to another with no downtime * Support high availability in the sense that in the event of a physical server failure, all the virtual machines in that physical server shall be automatically restarted on another physical server in the same cluster * Support fault tolerance with the capability to provide zero downtime, zero data loss and continuous availability for the applications running in virtual machines in the event of a physical server failure * Support up to at least four (4) virtual CPUs per virtual machine in fault tolerance * When the overall workload decreases, the proposed Virtualisation Software 3 shall be able to support the consolidation of workloads and the redistribution of virtual machines among the physical servers in a cluster so that some physical servers can be powered off to reduce power consumption * Conduct predictive analytics by using self-learning algorithms to automatically analyse data about the virtual environment so as to provide alerts on underlying performance issues * Provide tool to view resource utilisation and to run “what-if” analysis for capacity planning |  |
| Supported Virtual Machines | * Able to create Windows server virtual machines or Linux server virtual machines |  |

* + 1. Virtualisation Software 4 (Licence)

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| --- | --- | --- |
| **Virtualisation Software 4 (Licence) [Item No. 33033]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide centralised management for administrators to manage virtual machines, storage, physical hosts and cluster in a virtual environment * Able to intelligently allocate available resources among virtual machines based on predefined rules * Able to detect virtual machine failure and trigger the automatic restart of virtual machine * Able to manage the virtualisation software proposed under Virtualisation Software 2 (Licence) [Item No. 33031] |  |

* + 1. Virtualisation Software 5 (Licence)

|  |  |  |
| --- | --- | --- |
| **Virtualisation Software 5 (Licence) [Item No. 33034]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Run natively and directly on physical server without running on top of a computer operating system * Create virtual machines and allow multiple virtual machines running concurrently on three (3) physical servers * Allow dynamic allocation of storage capacity so that there is no need for dedicated storage capacity for each virtual machine * Allow virtual machines to access shared storage devices (e.g. SAN devices, NAS devices) * Allow virtual machines to have virtual storage capacity that is larger than the actual physical storage capacity * Allow live migration of running virtual machines from one physical server to another with no downtime * Support high availability in the sense that in the event of a physical server failure, all the virtual machines in that physical server shall be automatically restarted on another physical server in the same cluster * Provide centralised management for administrators to manage virtual machines, storage, physical hosts and cluster in a virtual environment * Able to intelligently allocate available resources among virtual machines based on predefined rules |  |
| Supported Virtual Machines | * Able to create Windows server virtual machines or Linux server virtual machines |  |

* + 1. Virtualisation Software 6 (Licence)

|  |  |  |
| --- | --- | --- |
| **Virtualisation Software 6 (Licence) [Item No. 33035]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Support software defined storage in a virtual environment * Able to aggregate local device storages to create a shared storage * Support non-downtime, non-disruptive scale-up and scale-out to grow capacity and performance whenever required * Support proactively migrate data to alternate devices in a cluster by continually analysing the health of storage devices and identifying devices that exhibit declining health before failure |  |
| Environment Setup | * Shall be integrated with the virtualisation software proposed under Virtualisation Software 2 (Licence) [Item No. 33031] |  |

* + 1. Virtualisation Software 7 (Licence)

|  |  |  |
| --- | --- | --- |
| **Virtualisation Software 7 (Licence) [Item No. 33036]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Support software defined storage in a virtual environment * Able to aggregate local device storages to create a shared storage * Support non-downtime, non-disruptive scale-up and scale-out to grow capacity and performance whenever required * Support proactively migrate data to alternate devices in a cluster by continually analysing the health of storage devices and identifying devices that exhibit declining health before failure * Perform block-level deduplication and compression to save storage space |  |
| Environment Setup | * Shall be integrated with the virtualisation software proposed under Virtualisation Software 2 (Licence) [Item No. 33031] |  |

* + 1. Virtualisation Software 8 (Licence)

|  |  |  |
| --- | --- | --- |
| **Virtualisation Software 8 (Licence) [Item No. 33037]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Able to create network services including routing, switching, firewall, load balancing and Virtual Private Network (VPN) in software and embed them in the hypervisor layer * Have the capability to perform the following functions:   + Switching     - Enable logical layer 2 switching over layer 3 network in the virtual environment     - Support Virtual Extensible LAN (VXLAN) based network overlays   + Routing     - Support dynamic routing between virtual networks performed at the hypervisor kernel level     - Support static routing and dynamic routing (OSPF, BGP) protocols   + Firewalling     - Provide distributed stateful firewalling at the hypervisor kernel level     - Provide micro-segmentation of firewall capability for each virtual machine in the virtual environment     - Support for Active Directory and activity monitoring   + Load balancing     - Provide load balancer that offers layer 4 and layer 7 load balancing with Secure Socket Layer (SSL) offload and SSL pass-through     - Support server health checks   + VPN * Support Internet Protocol Security (IPsec) VPN and SSL VPN |  |

* + 1. Electronic Mail Software

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| --- | --- | --- |
| **Electronic Mail Software [Item No. 33040]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide e-mail, calendar, contacts and task management * Provide functions for users to create and maintain contact   information   * Provide an instant messaging function * Provide user account management * Provide the capability to archive and restore e-mails * Support Post Office Protocol 3, Internet Mail Access Protocol 4 and Simple Mail Transfer Protocol |  |

* + 1. Server Management Software

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| **Server Management Software [Item No. 33050]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide an integrated solution to manage hardware, applications, physical and virtual servers across different platforms (e.g. Windows/Linux) * Provide at least two of the following functions:   + Monitor and report the health, capacity and usage of operating systems, applications and hardware devices   + Perform software distribution, patch management, operating system deployment and remote control of computers   + Support live migration of virtual machine between physical servers in a cluster environment * Perform backup and recovery operations including the recovery of virtual machine |  |

* + 1. System Monitoring Software

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| **System Monitoring Software [Item No. 33060]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide an integrated solution to manage hardware, applications, physical and virtual servers across different platforms (e.g. Windows/Linux) * Provide at least two of the following functions:   + Monitor and report the health, capacity and usage of operating systems, applications and hardware devices   + Perform software distribution, patch management, operating system deployment and remote control of computers   + Support live migration of virtual machine between physical servers in a cluster environment * Perform backup and recovery operations including the recovery of virtual machine |  |

* + 1. Log Server Software

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| **Log Server Software [Item No. 33070]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Collect log data from systems and applications * Provide web-based tools to view and filter log messages * Send email alerts, run script, and perform other actions to react to log messages * Manage log archives with scheduled compress, encrypt, rename, move and delete rules * Generate trend analysis graphs and deliver via emails |  |

* + 1. Configuration Management Software

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| **Configuration Management Software [Item No. 33075]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Distribute and install software applications to computers including Windows 10 or equivalent based computers * Track and apply software updates to computers * Assess the compliance status of computers with established configurations * Deploy operating system including Windows 10 or equivalent to computers * Perform administrative tasks on the managed computers remotely |  |

* + 1. Patch Management Software

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| **Patch Management Software [Item No. 33080]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Scan computers including Windows 10 or equivalent based computers to identify what patches are required for particular computers * Deliver patches to the computers * Provide report on which computers have been patched and which ones have not |  |

* + 1. Software Asset Management Software

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| **Software Asset Management Software [Item No. 33090]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Scan computers in a network and report the software installed in these computers * Keep track of software usage such as installation of the software, users of the software and the computer that ran the software * Scan computers to detect the installation of unauthorised software * Provide inventory report of software |  |

* + 1. Mobile Device Management Software

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| **Mobile Device Management Software [Item No. 33095]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Shall be able to offer **at least three (3)** of the following functions on mobile devices:   + Prevent unauthorised mobile devices with access to corporate servers   + Detect policy violations (e.g. international roaming) and take action, if needed, including disable access of mobile devices to corporate servers   + Remote distribute and install applications on mobile devices   + Remote configure and update settings of mobile devices   + Remote lock mobile devices   + Remote wipe data from mobile devices * Support at least one of the following mobile platforms: Android, EMUI, HarmonyOS, iOS and Windows |  |

* + 1. Server and Application Monitoring Software

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| --- | --- | --- |
| **Server and Application Monitoring Software [Item No. 33100]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Monitor the health, availability, capacity and usage of servers and applications in a computer network * Scan and automatically discover servers and applications within the network * Track server resource usage such as CPU load, memory used and disk capacity * Collect performance data of applications such as memory consumption and disk I/O usage * Generate alert once usage of particular resource (e.g. mailbox size of user) has reached a condition as defined by user * Provide tool to analyse performance of server and applications * Provide tool to view the real-time performance and health of servers and applications |  |

* + 1. Security Configuration Management Software

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| **Security Configuration Management Software [Item No. 33110]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Assess the configuration of a server against the regulations or industry standards (e.g. PCI DSS) and report the policy compliance status * Allow users to define security configuration baselines for server and provide monitoring and reporting on non-compliance * Able to identify configuration-based risk in virtual environment * Provide report with information on issues and proposed solutions |  |
| Scanned Target | * Windows/Linux based server |  |

* + 1. Email Security Software

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| **Email Security Software [Item No. 33115]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * Check all incoming and outgoing emails through mail servers (e.g. IBM Domino Server, Microsoft Exchange Server) and provide real-time protection to block or quarantine emails containing viruses, worms, Trojans, and other malware * Block spam emails * Block phishing attacks by detecting links to malware web sites within both the email body and attachments * Provide logging and generate report on protection status |  |

* + 1. Virus Protection Software

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| --- | --- | --- |
| **Virus Protection Software [Item No. 33120]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide real-time scanning and detection of different types of computer viruses, worms, Trojan horses, spyware and bots * Provide automatic cleaning, quarantining of virus * Include one (1) year signature updates of the proposed virus protection software |  |

* + 1. Intrusion Detection and Prevention Software

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| **Intrusion Detection and Prevention Software [Item No. 33125]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Perform real-time network traffic analysis to and from server and block network traffic from malicious source * Monitor operating system and applications to detect malicious activities * Identify security policy violations * Generate alerts for administrative actions |  |

* + 1. Secure Deletion Software

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| --- | --- | --- |
| **Secure Deletion Software [Item No. 33130]** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Use software-based overwriting methods to erase data permanently beyond recovery * Support recognised overwriting standards |  |

* 1. Sub-category B4 – Server Application Software

Any software item other than client/device access licences under this sub-category\*:

The propsoed IT product for admission to this sub-category is :

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* + 1. Database Software 1 (Licence)

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| **Database Software 1 [Item No. 34000] ( ) mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide the database engine supporting relational database model and SQL * Support ISO 10646 and HKSCS coded in ISO 10646 or support GB 18030 * Provide interactive tools supporting data browsing, sorting and record filtering under interactive mode * Include tools such as graphical querying tool, report writer and form designer * Provide application development capability with macro language support and built-in program debugger |  |
| Supported Operating System platform | * Able to run on Windows platform or Linux platform or equivalent |  |

* + 1. Database Software 2 (Licence)

|  |  |  |
| --- | --- | --- |
| **Database Software 2 (Licence) [Item No. 34001] ( ) mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide the database engine supporting relational database model and SQL * Support ISO 10646 and HKSCS coded in ISO 10646 or support GB 18030 * Provide interactive tools supporting data browsing, sorting and record filtering under interactive mode * Include tools such as graphical querying tool, report writer and form designer * Provide application development capability with macro language support and built-in program debugger * Provide or with option to provide in-memory database feature as specified in Database Software 3 (Licence) [Item No. 34010] * Provide or with option to provide Transparent Data Encryption feature as specified in Database Software 4 (Licence) [Item No. 34011] * Provide or with option to provide failover clustering feature as specified in Database Software 5 (Licence) [Item No. 34012] |  |
| Supported Operating System platform | * Able to run on Windows platform or Linux platform or equivalent |  |

* + 1. Database Software 3 (Licence)

|  |  |  |
| --- | --- | --- |
| **Database Software 3 (Licence) [Item No. 34010] ( ) mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * Enable a database software to use memory for data storage rather than disk-based storage |  |
| Compatibility | * Compatible with the proposed Database Software 2 (Licence) [Item No. 34001] |  |

* + 1. Database Software 4

|  |  |  |
| --- | --- | --- |
| **Database Software 4 [Item No. 34011] ( ) mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * Perform real-time encryption of data before storing the data in database with encryption key securely stored inside the database |  |
| Compatibility | * Compatible with the proposed Database Software 2 (Licence) [Item No. 34001] |  |

* + 1. Database Software 5

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| --- | --- | --- |
| **Database Software 5 [Item No. 34012] ( ) mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * Enable a database software to be run on three (3) or more physical servers concurrently (active-active) and if any one of these servers fails, the database software automatically continues to run on surviving servers |  |
| Compatibility | * Compatible with the proposed Database Software 2 (Licence) [Item No. 34001] |  |

* + 1. Database Software 6

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| --- | --- | --- |
| **Database Software 5 [Item No. 34013] ( ) mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Feature | * An expansion option or add-on licence to expand the functionality of the proposed Database Software 2 (Licence) [Item No. 34001] |  |

* + 1. Database Software 7

|  |  |  |
| --- | --- | --- |
| **Database Software 5 [Item No. 34014] mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide at least two of the following functions to assist in the management of database:   + Perform diagnostic to resolve database performance problems (e.g. inappropriate database configuration, undersized memory, resource intensive SQL statements, etc.) in real time   + Collect operational statistics of the database at predetermined intervals to facilitate historical performance analysis   + Provide automatic tuning of SQL statements (e.g. through index creation or deletion) * Allow real-time SQL monitoring with live display to track the execution details for a given SQL statement |  |
| Supported Operating System Platform | * Able to run on Window platform or Linux platform or equivalent |  |

* + 1. Application Server

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| --- | --- | --- |
| **Application Server [Item No. 34020] mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide a server environment for deploying and running applications including web applications and Java applications * Provide services such as construction of dynamic web pages to applications * Support clustering to provide load balancing and failover |  |
| Supported Operating System Platform | * Able to run on Windows platform or Linux platform or equivalent |  |

* + 1. Application Development Tool

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| --- | --- | --- |
| **Application Development Tool [Item No. 34030] mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide at least two of the following functions to assist in the development of applications:   + a visual user interface supporting drag-and-drop development environment   + a set of built-in templates or reusable classes / components   + source code editor to facilitate syntax checking   + compiler to generate executable code * debugger to test and debug applications |  |

* + 1. Reporting Software

|  |  |  |
| --- | --- | --- |
| **Reporting Software [Item No. 34040] mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Support capturing of data from data sources, e.g. database, spreadsheets, XML and text files * Provide Graphical User Interface (GUI) editor with a set of tools for designing and customisation of report layout * Generate graphical report in various report formats, e.g. HTML and PDF |  |

* + 1. Document Management Software

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| --- | --- | --- |
| **Document Management Software [Item No. 34050] mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide file concurrency control, e.g. Check-in and Check-out or notification of users for the file being updated and confirmation on overwriting of documents * Provide version control for documents and restore previous version of documents * Support search of content using Traditional Chinese, Simplified Chinese and English as keyword * Support integration with workflow application * Able to define document access rights for individual user and user group * Provide or with option to provide OCR feature * Able to generate audit log in report format |  |

* + 1. Content Management Software

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| --- | --- | --- |
| **Content Management Software [Item No. 34060] mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Create web sites and portals with collaboration capabilities * Provide content management functions including version control, access control, retention policy and generation of audit report on the documents and web pages * Provide social networking capabilities including tools to create, access and manage content and allow collaboration by group * Allow multiple users to edit the same document at the same time * Provide tools to create and manage wikis, blogs and discussion boards and allow collaboration by group * Provide access through web browsers |  |

* + 1. Geographic Information System Software 1

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| --- | --- | --- |
| **Geographic Information System Software 1 [Item No. 34070] mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide tools to capture, store, analyse, and share geographic information including maps and spatial data * Provide centralised management of GIS resources including maps and spatial data * Provide tools to build and run mapping applications through the Internet * Shall be compliant with Open Geospatial Consortium (OGC) standards including:   + Web Map Service (WMS)   + Web Coverage Service (WCS) * Keyhole Markup Language (KML) |  |

* + 1. Geographic Information System Software 2

|  |  |  |
| --- | --- | --- |
| **Geographic Information System Software 2 [Item No. 34071] mark asterisk in bracket if it is necessary** | | |
| Model / Feature No. (1) | |  |
| Product Description (1) | |  |
| **Specifications** | | |
| Specifications Reference (2) | |  |
| Features | * Provide tools for map creation, advanced analysis, data management, and Web GIS integration with geographic database * Perform analysis on geographic data to discover spatial patterns and relationships * Generate reports and charts |  |

Notes:

(1) Information given on brand, name, model or feature number and manufacturer shall be able to uniquely identify the proposed product. Accessories (e.g. mounting kit, cable, power cord, additional RAM, etc.) to be delivered along with each proposed Hardware and Software items should be specified clearly in the “Product Description”. If the proposed product is a bundle of several items (items other than accessories), the aforesaid information shall be given with respect to each bundled item and in the same sequence. If there are any discrepancies between the information given in this form and accompanying technical literature, subject to any clarification which may be made by the Government, the accompanying technical literature shall prevail.

(2) Applicants shall state the exact location of the technical information as found in the product literature published by the original manufacturers/developers and/or other supporting technical information in the proposal (Filename/Section/Page).

Sample Illustration - Specifications of Add-on Hardware and Software Items

Sub-category B1 - Server System [Ref.: Section 1.1 of this Appendix]

Server Computer [Ref.: Section 1.1.1 of this appendix]

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| --- | --- | --- |
| **Server Computer [Item No. 31000] \*** | | |
| Model / Feature No. (1) | | UX 888A |
| Product Description (1) | | A-brand A123 Server |
| **Specifications** | | |
| Specifications Reference (2) | | Vol.1/Pt.3/App F/Sect 2.1.13/Page 1  A-brand A123 Server data sheet |
| Processor | * 64-bit processor(s) | * 64-bit processor (ABCD E7-8899 10-Core - 2.40 GHz ) |
| Memory | * At least 30GB | * 64 GB DDR3 RAM * Support up to 1TB |
| Internal storage | * At least 300GB | * Six (6) 6Gb SAS ports   1.2TB (raw capacity) 10K rpm HDD |
| Network interface | * At least four (4) x GbE port(s) | * Four (4) x GbE ports |
| Others | * Provide two (2) hot swap power supply units with redundant capability * Embedded Trusted Platform Module (TPM) | * Two (2) hot swap power supply units with redundant capability * Embedded Trusted Platform Module (TPM) |
| Operating system | * Support one of the prevailing server operating systems, e.g. Windows, Linux or equivalent | * Support AIX and Oracle Solaris |
| Green Requirement | * Shall comply with mandatory requirement of Green Product Code D06 | * Comply with mandatory requirement of Green Product Code D06 |

Sub-category B4 - Server Application Software [Ref.: Section 1.4 of this Appendix]

Any software item other than client/device access licences under this sub-category\*:

The propsoed IT product for admission to this sub-category is :

*Database Software 1 (Licence) [34000]*

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[Ref.: Section 1.4.1 of this appendix]

Database Software 1 (Licence) [Ref.: Section 1.4.2 of this appendix]

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| --- | --- | --- |
| **Database Software 1 [Item No. 34000]** | | |
| Model / Feature No. (1) | | ABC Database Server Edition |
| Product Description (1) | | ABC Database Server Edition V1.0 with development suite |
| **Specifications** | | |
| Specifications Reference (2) | | Vol.1/Pt.3/App D/Sect 8.1.13/Page 1  ABC-brand Database Server data sheet |
| Features | * Provide the database engine supporting relational database model and SQL * Support ISO 10646 and HKSCS coded in ISO 10646 or support GB 18030 * Provide interactive tools supporting data browsing, sorting and record filtering under interactive mode * Include tools such as graphical querying tool, report writer and form designer * Provide application development capability with macro language support and built-in program debugger | * Provide RDBM database engine supporting SQL * Support ISO 10646 and HKSCS coded in ISO 10646 * ABC interactive tools for data browsing, sorting and record filtering * ABC SQL tool for querying and report development. * ABC application suite for development capability with macro language support and built-in program debugger |
| Supported Operating System platform | * Able to run on Windows platform or Linux platform or equivalent | * Run on Windows server. |