SIG ICT Services

Solomon Islands Government

Information & Communication Technology (ICT)

Technical Standards

1st JUNE 2022 (Validity: 6 months)

_____

The following SIG ICT Minimum Technical standards contained in this document have been introduced to guide the Solomon Island Government Ministries, Agencies and donor partners in procuring of ICT Hardware or Software that will be used by the Solomon Islands Government. The SIG ICT Minimum Technical standards applies to desktops computers, Monitors, All-In-One Desktop, Laptops, Servers, Photocopier, Printers and Multi-functional devices (MFDs). A Software Development guide with instructions on Software Purchase and Networking Equipment and Structured Cabling Works forms part of the standards.

The SIG ICT Minimum Technical standards ensures that ICT hardware and software are;

- Technically complete and compliant

- Fit for Purpose

- Sustainable over the estimated lifetime of the equipment

- Maintainable over the estimated lifetime of the equipment

- Poses no Security threat to the SIG ICT WAN and
  Infrastructure

Please contact the Solomon Islands Government - Information Communications Technology Services (SIG ICTS) on 24580/27668 or email SIG ICT Services-Client Support Team ClientSupport@sig.gov.sb for any queries regarding the SIG ICT Minimum Technical standards.

Important Notice

SIG ICTS will bring to the attention of the Ministry of Finance & Treasury (MoFT) executive with the intention of blacklisting any particular vendor or supplier who repeatedly and intentionally supplies ICT equipment including software or services that are non-compliant with these SIG ICT Minimum Technical standards or do not follow instructions in delivery of ICT equipment.

ICT Delivery Instructions.

All ICT equipment including Software purchased by SIG ministries must be delivered to the SIG ICT Services office at Lengakiki by the supplier according to the following steps.

I.   MoFT payments receives Payment Requisition for IT equipment.

II.   The purchase requisition is submitted to ICTS with Quotation of the IT equipment by MoFT Payments.

III.   ICTS verifies the specifications against the SIG ICT Minimum Technical standards.

IV.   A Standard SIG ICT Purchase Checklist (See Attachment B further below) is used for the verification process.

V.   If NON-Compliant Payment Requisition is returned to purchasing Ministry.

VI.   If compliant, the Standard SIG ICT Purchase Checklist is signed off and attached to the payment requisition and returned to MoFT payments for processing.

VII.   A SIG Local Purchase Order (LPO) will then be produced by MoFT payments.

VIII.   Upon an SIG LPO, the Supplier MUST deliver equipment to the ICTS office at Lengakiki, Honiara.

All ICT deliveries shall undergo a full compliance check that includes physical verification, technical auditing and Asset tagging and will be recorded into the SIG Asset management system.

Generic Standards.

1.0 Warranty

All ICT equipment must provide for a ONE -year ON-SITE hardware and labor maintenance warranty. The ONE-year ON-SITE hardware and labor maintenance warranty is to guarantee the repair or replacement of all faulty hardware within 14 working days after assessed by the supplier. The Supplier shall undertake initial inspection and fault diagnosis within three (3) working days of the fault being reported by ICTS. Faulty equipment must be reported to ICTS helpdesk via email HelpDesk@sig.gov.sb for initial diagnosis and escalation.

1.1 All motherboard/Hardware Drivers must be fully installed.

1.2 ALL hardware drivers and application software must have 64-bit versions supplied.

1.3 All software product Keys, Documentation and media shall be surrender to SIG ICTS office, at Lengakiki.

1.4 SIG shall ONLY accept **BRAND NEW** equipment. Refurbished/Used or second-hand computers will NOT be accepted for purchase by SIG and its agencies.

2.0 Desktops Computers for Windows OS.

SIG ICTS recommends systems that <u>meet or exceed</u> the following specifications:

2.1 Hardware Specifications

- Processor (CPU): i5 Processor (sixth generation or newer) or equivalent
- Memory: 4GB of RAM
- Internal Storage: 256GB Solid State Drive (SSD) & Sata 500GB
- Power: 240V ATX Power supply unit
- Network**:** On-board 10/100/1000 Mbps based Ethernet NIC
- USB Optical mouse, mouse pad, USB keyboard, all necessary cables
- UPS: 650VA with surge protection
- Optional: webcam

2.2 Monitors/Display.

- Minimum 20" Wide Screen LCD Monitor (1920×1080 native resolution) Video Input Interface/Ports: HDMI, DisplayPort, VGA.
- Power rating: 240V

2.3 Software: SIG ICT Services will be responsible for installing Windows OS and MS Office therefore all desktops computers should come only with trial versions of Windows OS and MS Office OR NO preinstalled software at all.

3.0 Intel NUC PC Desktops

SIG ICTS recommends systems that <u>meet or exceed</u> the following specifications.

3.1 Hardware Specifications.

- Processor (CPU): i5 Processor or latest ☐ Memory: 4GB RAM.
- Internal Storage: 250 GB M.2 Solid State Drive (SSD) ☐ On board & Sata 500GB. 10/100/1000 Mbps Ethernet NIC ☐ On board Wireless NIC.
- USB Optical mouse, USB keyboard,and all necessary cables
- All appropriate cables necessary

3.2 Software: SIG ICT Services will be responsible for installing Windows OS and MS Office therefore all desktops computers should come only with trial versions of Windows OS and MS Office OR NO preinstalled software.)

4.0 All-In-One Desktop (AIO Systems): Specifications for Desktop computers (windows OS) are also applicable here.

5.0 Desktops Computers for Apple (MacOS). Please consult ICTS Assets and Procurement team for procurement of iMacs or similar.

6.0   Laptop for Windows OS.

SIG ICTS recommends systems that <u>meet or exceed</u> the following specifications.

6.0 Hardware Specifications.

- Processor (CPU): i5 Processor or latest ☐ Memory: 4GB RAM.
- Internal Storage: 250 GB M.2 Solid State Drive (SSD) ☐ On board & Sata 500GB. 10/100/1000 Mbps Ethernet NIC ☐ On board Wireless NIC.
- Padded Carry Case appropriate for delivered model
- All appropriate cables necessary
- 240V 3 pin APC Notebook Surge Protector

6.2 Software: SIG ICT Services will be responsible for installing Windows OS and MS Office therefore all desktops computers should come only with trial versions of Windows OS and MS Office OR NO preinstalled software.)

7.0 Laptops for Apple (MacOS)

SIG ICTS recommends systems that <u>meet or exceed</u> the following specifications.

7.1 Hardware Specifications;

- Model: MacBook Air/Pro
- Processor (CPU): Intel Core i5 or higher
- Memory: 4 GB RAM
- Internal Storage: 256 GB solid state or higher.
- Display: 13.3" LCD
- 802.11ac Wi-Fi adaptor
- Thunderbolt to Gigabit Ethernet Adapter
- Other: Lock, carrying case ☐ CD-ROM: DVD/CD-RW (optional)

7.2 Software Specifications.

- Mac OS 10.10.x (Yosemite) or higher
- iWork office suite or similar

8.0 Photocopier.

All photocopiers procure must have an option to connect to the network. Please contact the SIG ICT Services for advice when procuring photocopying equipment.

9.0 Printers.

All printers must have an inbuilt Ethernet network interface card. **Printers purchased for SIG Provincial offices MUST have inbuilt 1GB Ethernet network interface**. Please consult SIG ICT Services for any queries. Note: SIG ICT Services strongly recommend purchasing of LaserJet printers instead of Ink-jet, because they are durable and economically viable.

9.1 Mid-range black and white printer

SIG ICTS recommends systems that <u>meet</u> the following specifications.

- Ethernet-enabled
- Black toner only
- Duty Cycle less than 20,000 pages per month
- No scanning functions
- Includes a duplex unit
- No photocopy function

9.2 Mid-range Multifunction (Printer, Copier, Scanner)

SIG ICTS recommends systems that <u>meet</u> the following specifications.

- Ethernet enabled
- Black toner only
- Duty Cycle greater than 20,000 pages per month ☐ Scan to e-mail and file share. Multi-page scan.
- Output to jpg and pdf format
- Includes a duplex unit
- With Photocopying functionality
- Ethernet-enabled

9.3 Mid-Range Color printer

SIG ICTS recommends systems that <u>meet</u> the following specifications.

- Ethernet enabled
- Duty Cycle less than 20,000 pages per month
- No scanning functions
- Includes a duplex unit
- No photocopy function
- Ethernet enabled

10.0 Software Development guide

9.1 Develop requirement specs:

Any SIG ministry wishes to engage a software developer, must develop a comprehensive set of functional requirement specifications to be included in the request for quotation (RFQ) or request for tender (RFT). The SIG ICT Services IS team has in place the <u>SIG ICTS IS Development Procedure 2016</u> which can provide the governance and operational guidance when undertaking such works. Please email SIG ICT Services -IS Team <u>IS-Team@sig.gov.sb</u> for more information.

10.1 Acceptance testing:

Any SIG ministry wishes to engage a software developer, must develop a set of acceptance tests check list prior to acceptance testing. The SIG ICT Services can assist in providing technical guidance to development this acceptance tests checklist.

9.3 User and Training:

Any software developer engaged must provide the required documentations, user guide and user training at the final phase of the development cycle.

9.4 Payments for software development:

All payments for software/website development shall made in instalments, based on milestones of work completed. A final payment shall be made only upon handing over of

all the intellectual property and source code to SIG as well as the user guide and all other required documentations.

9.5 Support and maintenance.

Any software development contract sorted must be followed by an annual Support Level Agreement (SLA) which gets reviewed annually.

11.0 Software Purchase

Ministry wishes to purchase a new software must consult ICTS for advice or awareness regarding the software functionalities, scalability, sustainability, license agreement type, and capability to centrally installed to void the proliferation of different applications that serve the same purpose. The SIG ICTS IS team has in place the [SIG ICTS IS Team Proprietary Software Procurement Procedure 2016](#) which can provide the governance and operational guidance when undertaking such works. Please email IS-Team@sig.gov.sb for more information.

12.0 Networking Equipment

11.1 Switch
All new network switches must be an Enterprise PoE network managed layer 2 or Layer 3 switches, only Cisco and Hewlett Packard (HP Aruba) switches are acceptable on the SIG WAN.

12.0 Structure Cabling

The scope of work for the provision of carrying out Structured cabling in the SIG offices includes supply, installation, testing, labelling, documentation and commissioning.

Installation shall only be carried out by Structured Cabling contractors who hold a valid Structured Cabling certification from a recognized institution. Cabling certificates are

not transferrable and cannot be used by another Company to perform cabling works at any SIG offices. Established Network cabling providers who wish to perform work for SIG must provide a copy of their business registration, business license, tax identification number (TIN) and structured cabling certification/registration to ICTS for scrutiny and approval to be included in the Group email for SIG Certified Structured cabling providers. RFQs will only be emailed to those on the Group email list only.

Information on SIG Certified Cabling providers and their respective certification can be obtained by emailing ICTSU-InfraTeam@sig.gov.sb SIG will only engage Structured Cabling providers who are certified to carry out structured CAT6 cabling work.

All network cabling and cabling installation MUST meet Category 6 standards fully. As a guide please refer to the Australian Cabling Rules and Standards AS/CA S009: Installation requirements for customer cabling (wiring rules).

All data cabling installations are to be fully documented with data cabling diagrams that show the physical location of the cable runs within or between buildings.

Please contact the SIG ICT-Services for advice when procuring any networking equipment or cabling (LAN).

The Do's and Don'ts are presented in attachment A (see next page) to assist in achieving this aim.

Attachment A: Category 6 Installation. Do's and Don'ts.

Do	Run all cables in a "Star" configuration. That is to say that they all emanate from, and are "home run" to, one central location, known as the wiring hub. Visualize a wagon wheel, all of the spokes; start from one central point, known as the hub of the wheel.
Do	Keep all cable runs to a maximum of 90 meters (for each run).

Do	Maintain the twists of the pairs all the way to the point of termination, or no more than 1.3cm untwisted
Do Not	Skin off more than 2.5cm of the jacket when terminating
Do	Make gradual bends of the cable, where necessary. Radius No sharper than an SI 50 Cents coin.
Do Not	Allow the cable to be sharply bent, or kinked, at any time. This can cause permanent damage to the cables' interior.
Do	Dress the cables neatly with cable ties. Use low to moderate pressure.
Do Not	Over tighten cable ties. We recommend Hook and Loop (Velcro) Cable Ties for commercial installations.
Do	Cross-connect cables (where necessary), using cat 6 rated punch blocks and components.
Do Not	Splice or bridge category-6 cable at any point. There should never be multiple appearances of category 6 cable.
Do	Use low to moderate force when pulling cable.
Do Not	Use excessive force when pulling cable.
Do	Use cable pulling lubricant for cable runs that may otherwise require great force to install. (You will be amazed at what a difference the cable lubricant will make)

Do Not	Use oil, or any other lubricant, not specifically designed for cable pulling. Oil, or other lubricants, can infiltrate the cable, causing damage to the insulation.
Do	Keep cat6 cables as far away from potential sources of EMI (electrical cables, transformers, light fixtures, etc.) as possible
Do Not	Tie cables to electrical conduits, or run cables within or along an electrical conduit or lay cables on electrical fixtures.
Do	Install proper cable supports, spaced no more than 1.5 meters apart.
Do Not	Install cable that is supported by the ceiling tiles (this is unsafe, and is a violation of the building codes).
Do	Always label every termination point. Use a unique number for each cable segment. The idea here, is to make moves, adds, changes, and troubleshooting as simple as possible.
Do	Always test every installed segment with a cable tester. "Toning" alone, is not an acceptable test.
Do	Always install jacks in such a way as to prevent dust and other contaminants from settling on the contacts. The contacts (pins) of the jack should face up on flush mounted plates, or left, right, or down (never up) on surface mount boxes.
Do	Always leave extra a slack on the cables, neatly coiled up in the ceiling or nearest concealed place. It is recommended that you leave at least 1.5 meters at the work outlet side, and 3 meters at the patch panel (wiring hub) side.
Do Not	Never install cables "taught" in the ceiling, or elsewhere. A good installation should have the cables loose but never sagging.
Do	Always use grommets to protect the cable where passing through metal studs or anything that can possibly cause damage to them.

Do	Choose either 568A or 568B wiring standard, before you begin your project. Wire all jacks and patch panels for the same wiring scheme (A or B).

Do Not	Mix 568A and 568B wiring on the same installation.
Do Not (1 exception)	Use staples on category-6 cable that crimp the cable tightly. The common T-18 and T-25 cable staples are not recommended for category 6 cable. The <u>T-59 insulated staple gun</u> is ideal for fastening cat5 & 6 and fiber optic cabling as it does not put any excess pressure on the cable.
Do	Always obey all local, and national, fire and building codes. Be sure to "fire stop" all cables that penetrate a firewall. Use plenum rated cable where it is mandated.

Notes and Explanations for Do's and Don'ts

Ideally, the data extension cord install should smoothly pass the data, from one end to another without altering the signal (transmitted from device to device) in any way.

Consider this fact to be Rule #1, and is perhaps the most important statement that we can make. There are many very technical issues concerning UTP cabling.   No matter how technical, these issues all boil down to that one simple fact.   You would probably need an Electrical engineering degree to fully understand all of the theories that go into transmitting data over UTP cabling. All that you need to know as an installer are the few simple facts, or do's and don'ts. It is no more complicated than that. Almost all of the rules (do's and don'ts) above are designed to adhere to Rule #1. The others are necessary to promote a neat, orderly, safe and professional installation.

Routing and ducting of cables

The requirements of this Clause are intended to minimize the induction of power and noise signals onto data communication and telecommunication cables, which could result in data corruption.

Data communication and telecommunication cables shall be routed in relation to power cables (for computer equipment, lighting, air-conditioning or any other purpose) or related equipment, to avoid induced interference. The guide for achieving this is set out as follows:

(a) The minimum separation distance between such cables or their related equipment shall be no less than the distances given in Table 3.1.

Table 3.1   Separation Between power and Data cable.

Criteria Ratio	Unshielded Power	Shielded Power Cables
	30	25
≤1	0	50
>1 ≤2	40	150
>2 5	0	300

Where it is necessary for power and data communication cables to cross, they may do so at less than the above-required distance provided that the maximum available separation is observed and that the cables cross only at right-angles, with straight sections on each side of the crossing point. The minimum straight length shall be the difference between the appropriate distances listed above and the distance between the two cables at cross-over.

(b) Data communication cables shall not be laid in the same duct as power or other conductors, as specified above, with less than the above separation unless electrically separated by a screen which is connected to the safety earth system.

NOTE: Routing one group or the other through a metal conduit, earthed as specified, will satisfy this requirement.

See Attachment B: Standard SIG ICT Purchase Checklist

WEDNESDAY, 16 MARCH 2022

STANDARD SIG ICT PURCHASE CHECKLIST

Requisition NO	[Keywords]	Asset Type	
IT Supplier		Product type	
SIG Ministry		Asset Cost	
Department			
Asset User		Location	

Requirement check:	(✔)	(X)
Hardware Specifications checked against SIG-ICTS Technical Standards		
Software Specifications checked against SIG-ICTS Technical Standards		
One year ON-SITE hardware and labour maintenance warranty with equipment		
Query:		

The attached requisition [Keywords] **has been checked and verified against the SIG ICT Technical Standards on the date_____ and is;**

Compliant	**Non-Compliant**
Please proceed with SIG LPO	Please withhold and refer to Query
Auditing officer	**Authorizing Officer**
Name:	Name:
Sign: _____	Sign: _____

For further enquiries, Please contact SIG ICT Asset and Procurement team on ClientSupport@sig.gov.sb.