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WESTERN CAPE GOVERNMENT

ICT STANDARDS (August 2025)

Document Overview

This document serves as a means to communicate the Western Cape Government's (WCG) Information and Communication Technology (ICT) standards to its end-users and relevant stakeholders.

One of the reasons for developing the ICT standards is to facilitate quick ICT investment decision turn-around times as well as standardisation of ICT asset investments. This in turn supports the Centre for e-Innovation's drive to deliver excellent service and support to its client departments. The WCG Enterprise Architecture Board (EAB) is the custodian of the ICT standards and all requests for standardisation or deviation from the standard will have to be submitted to the EAB via the Solutions Architecture Forum (SAF) for consideration and approval. Each application must include a full business motivation for standardisation and or deviation.

This document contains the following sections:-

- i. **Section 1:** List of ICT standards for the WCG corporate environment.
- ii. **Section 2:** List of ICT standards for the Western Cape schools.

Please note, **you still need to engage with your ICT Services Manager for all your ICT requirements**, to ensure that ICT equipment and services meet your business requirements. Also note that this list of standards will be updated on a regular basis as items are reviewed by the WCG EAB and **approved by the DDG: Centre for e-Innovation**.

Table of Contents

| | |
|------------------------------------------------------------------------|----|
| SECTION 1: WCG ICT STANDARDS | 3 |
| OPERATING SYSTEMS | 3 |
| MICROSOFT PRODUCTS | 3 |
| SOFTWARE | 4 |
| SECURITY | 5 |
| CLOUD | 6 |
| PERSONAL COMPUTING DEVICES | 7 |
| UNINTERRUPTIBLE POWER SUPPLIES | 8 |
| ASSISTIVE HARDWARE & SOFTWARE ^(5 see note) | 9 |
| HARDWARE & PERIPHERALS | 9 |
| GENERAL | 10 |
| 7.1 CISCO VALUE-ADDED RESELLER (VAR) for WCG | 10 |
| 7.2 HUAWEI VALUE-ADDED RESELLER (VAR) for WCG | 10 |
| 7.3 HP VAR for WCG | 10 |
| 7.4 PC VAR's for WCG | 11 |
| 7.5 OTHER: | 11 |
| ICT GOVERNANCE STANDARDS | 11 |
| SECTION 2: WESTERN CAPE EDUCATION (SCHOOLS ONLY) | 12 |
| DESKTOP | 12 |
| NETWORK | 12 |
| PRODUCTIVITY SUITE | 12 |
| HARDWARE | 12 |
| 1.1 END USER DEVICES | 13 |
| 1.2 NETWORK & PERIPHERAL DEVICES | 13 |
| 1.3 COMPONENT SPECIFICATIONS | 14 |
| SWITCHES | 14 |
| NETWORK STORAGE | 14 |
| OTHER | 14 |
| WARRANTIES | 15 |
| ANNEXURE A: ECM SCANNERS & PRINTERS | 16 |
| ANNEXURE B: CLOUD SUITES AND PLATFORM | 17 |

SECTION 1: WCG ICT STANDARDS

OPERATING SYSTEMS

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Workstation OS | Windows 11 Enterprise ^(1see note) Windows 10 Enterprise Edition 64 bit |
| Server OS | <ul style="list-style-type: none"> • MS Windows Server - All OEM supported versions • Oracle Server - All OEM supported versions • Oracle VM Server - All OEM supported versions • Ubuntu Linux Server - All OEM supported versions • Red Hat Enterprise Linux Server - All OEM supported versions |
| <p>¹Please note: Windows 11 is the WCG standard operating system for new machines, where any software/hardware incompatibility issues are found, compatible Departmental machines will be utilised.</p> | |

MICROSOFT PRODUCTS

| DESKTOP | |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Productivity Software | MS M365 ^(2see note) <i>Note: MS Access is excluded from standard installation. It requires approval via official channels.</i> |
| Generative AI | MS Copilot M365 (Only for use with M365) |
| Diagrams and flowcharts | MS Visio |
| Project Management | MS Projects for the Web |
| Enterprise Communication | MS Viva Engage |
| Internal and Workstream Collaboration | MS Teams |
| Cloud Based Storage | MS One Drive for Business |
| SERVER | |
| Directory Services | MS Azure Active Directory |
| Messaging | MS Exchange Online |
| Endpoint Configuration Management | MS Endpoint Configuration Manager |
| Relational DB Management System | Azure SQL |
| Virtualization | <ul style="list-style-type: none"> • Windows Server 2016 R2 Hyper-V • System Centre Virtual Machine Manager |
| File Shares | SharePoint Online |
| 3rd Party Access Solution | Azure AD B2B & B2C |
| Business Intelligence (BI) | <ul style="list-style-type: none"> • PowerBI Suite • WebFocus (Only for WCED) |
| Customer Relationship Management (CRM) software | OracleCX Platform |

SOFTWARE

| | |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Web Browser ^(3 see note) | <ul style="list-style-type: none"> • MS Edge • Google Chrome • Mozilla Firefox |
| Multimedia Design and Creative software | Adobe Creative Cloud (see Annexure B) |
| Video Animation Software | <ul style="list-style-type: none"> • Adobe Animate • Vyond Video Studio |
| Electronic document viewer | Adobe Acrobat Standard |
| Electronic document editor | <ul style="list-style-type: none"> • Adobe Acrobat Pro (part of Creative Cloud) • PDFsam Basic |
| Bulk email service | SendGrid |
| Bulk text messaging service | Transversal Messaging Service Solution (TMSS) |
| .Net development document processing | SyncFusion Essential Studio incl TestStudio |
| Database Management Tools | Quest Toad |
| Open and read secure EMC files | Striata Reader |
| Manage tax engagements with SARS | e@syFile |
| Mind Mapping | Mind Manager |
| Plagiarism Checker | Turnitin |
| Server Backup | <ul style="list-style-type: none"> • MS Data Protection Manager 2019 • EMC/Legato Networker (Data Centre) |
| Network Management | Sintelligent Product Suite |
| Telephone Management | Proteus Telephone Management System |
| Quantitative and Qualitative Data Analysis and Statistical Software | <ul style="list-style-type: none"> • STATA • SPSS • Nvivo |
| Audit Analytics software | <ul style="list-style-type: none"> • ACL • Teammate+ |
| Enterprise Content Management (ECM) | <ul style="list-style-type: none"> • OpenText (Livelink) - All ECM components, including document management • J-Track (Document tracking) |
| fCorrespondence Tracking | OpenText Correspondence Tracking Module |
| Intranet: Web Content Management System and Portal | OpenText Web Experience Management and OpenText Portal |
| IT Service Desk | BMC Remedy |
| Web Content Management: Internet | Drupal |
| Online Survey tool | QuestionPro |
| Enterprise Architecture tool | Essential Cloud |
| FTP Download Tool | FileZilla |
| Geographic Information System (GIS) | ESRI ArcGIS (desktop and server) |
| Business Process Management and Analysis | Nintex Process Platform |
| Logical Data Warehouse | Denodo |
| Organisational Design Software | OrgPlus |
| Terminal emulator for mainframe | Winet |
| Enterprise Risk Management | BarnOwl |

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital Forensic Software Tools | <ul style="list-style-type: none"> • Intella Pro • Analyst Notebook • Paladin • Vound - W4 • Arsenal Image Mounter • FTK Imager • Autopsy • Kape • Tableau Imaging Software |
| Issue and Bug Tracking System (for the Emergent Development Space) | JIRA |
| MS SharePoint & EPM Monitoring Software | Metalogix Diagnostic Manager |
| Air dispersion modelling tools Air quality management, validation and reporting | <ul style="list-style-type: none"> • CalPuff, Aeromod View • Envidas ARM Software |
| Poisons Information Database | Afritox |
| Disaster Management (Fire, Risk & Hazards) | Fireweb |
| Electronic measurement & analysis of building plans | DimensionX 2D |
| Building, Structural and Civil Design, Modelling, Rendering & Analysis | <ul style="list-style-type: none"> • Autodesk AEC Collection • PROKON Structural Analysis |
| AC System Design & analysis | <ul style="list-style-type: none"> • HAP by Carrier (HVAC) • AMS Findfan • Daiken Psychrometric Diagram viewer |
| Electrical Engineering: Lighting and sensor simulation Electrical calculation & Circuit Analysis | <ul style="list-style-type: none"> • ReluxDesktop • Schneider EcoStruxure Power Design - Ecodial |
| SARS eFiling | <ul style="list-style-type: none"> • SARS eFiling applet |
| <p>³ Please note: Edge and Internet Explorer 11 is the preferred standard for new installations, where any tested and proven incompatibility issues with software applications are found, Google Chrome and Mozilla Firefox may be requested.</p> | |

SECURITY

| | |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Firewall | <ul style="list-style-type: none"> • Cisco Firepower Firewalls appliances • Cisco Firepower Management Centre appliances • Cisco Firepower Threat Defence appliances |
| Anti-Virus Software | <ul style="list-style-type: none"> • MS Defender for Endpoint • MS Defender for Identity • MS Defender for SQL |
| Data Protection | <ul style="list-style-type: none"> • MS Data Protection Manager 2019 • MS Azure Information Protection |
| End user desktop Security | <ul style="list-style-type: none"> • MS Defender for Endpoints • MS Bitlocker |
| Host and application security | MS Defender for Office 365 |
| Network Security | Cisco ISE (appliances) for network authentication and policy management |

| | |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | (Active Auth/Wi-Fi Auth/ Endpoint Security/ Data communication device auth replacing ACS/ Auth for network infracture) |
| Web Security | Azure Application Gateway |
| Security and Events Management | MS Sentinel |
| Vulnerability Management | <ul style="list-style-type: none"> • Qualys – part of the Managed Security Service • MS Defender Threat and Vulnerability Management (licence) |
| Zero-trust security Platform | Cisco Duo (Cloud) licences |
| Proxy Services | Cisco Web Security Appliances Cisco Umbrella |
| DNS protection and secure gateways | Cisco Umbrella |

CLOUD

| | |
|------------------|---------------------------------------------------------------------------------------------------------------------|
| Platforms | <ul style="list-style-type: none"> • Microsoft • Oracle • OpenText • ESRI |
|------------------|---------------------------------------------------------------------------------------------------------------------|

PERSONAL COMPUTING DEVICES

WCG aligns to MIOS v6 and SITA’s Technical Product Certification (TPC) process which prescribes profiles for personal computing devices. The table below represents the profiles WCG have standardised on. Additional profiles will only be added when a transversal business need is identified, investigated and found feasible. **The hardware specifications listed within each profile are minimum requirements; procurement specifications must equal or be higher than listed specifications.**

The Centre for e-Innovation (Ce-I) has a strict End User Compliancy Test, which tests devices against a predefined set of standards, to determine which models of end user devices can be supported and maintained on the WCG corporate network. End user devices which have been issued with a SITA Product Certificate, has passed the WCG End User Compliancy Test and have been approved by the DDG: Ce-I via the Architecture Review Process are documented and managed in the WCG Product Catalogue which is available at: <https://mygov.westerncape.gov.za/services/it-policies-documents-and-forms>

The WCG Product Catalogue contains all the relevant procurement information and must be used in conjunction with the WCG standards list for procurement purposes. Only devices listed in the WCG Product Catalogue can be procured for use on the WCG network.

| SITA Profile | Desktops | | | | Notebooks | | | | | Tablets | | |
|---------------|------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------------------------|----------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------------|------|
| | PC3 | PC4 | PC_AIO1 | PC_AIO2 | Note1 | Note3 | Note4 | Note5 | Note_WS | Note_Tab (1) | Tablet 1 | |
| Item Name | Midrange PC | Advanced PC | Entry-level all-in-one PC | Midrange all-in-one PC | Low-end laptop / Chromebook | Thin and light laptop | Midrange business laptop | Advanced business laptop | Mobile technical workstation | Convertible / 2-in-1 laptop | Basic tablet | |
| Platform | X64 multi-core | | | | X64 multi-core | | | | | X64 multi-core | N/A | |
| CPU | 13g i3 | 13g i5 | 13g i3 | 13g i5 | ARM/X64 2GHz | 13g i5 | 13g i5 | 13g i7 | 13g i7 | 13g i5 | 1GHz dual-core | |
| Memory | 16GB DDR-4 | | | | 16GB DDR-4 | | | | | 32GB DDR-5 | 16GB DDR-5 | 16GB |
| Storage | 480GB SSD | 480GB NVMe | 256GB SSD | 480GB SSD | 120GB SSD | 480GB NVMe | 480GB NVMe | 480GB NVMe | 1TB NVMe | 480GB NVMe | 32GB | |
| Video adaptor | Integrated | Integrated | Integrated | Integrated | Integrated | Integrated | Integrated | Discrete | Discrete Pro | Integrated | N/A | |
| Connectivity | GigE | | | | WiFi 5, 100BaseT pref, BT 4 | | | | | WiFi 6, GigE, BT 5, WWAN upgr. | WiFi 5, BT, USB, GPS pref, LTE pref | |
| Screen Size | 21"+ LCD, 90+ ppi, anti-glare | 23"+ LCD, 90+ ppi, anti-glare | 21"+ LCD, 90+ ppi, anti-glare | 23"+ LCD, 90+ ppi, anti-glare | 13"+ LCD, 100+ ppi | 12-14" LCD, 110+ ppi, anti-glare | 14"+ LCD, 120+ ppi, anti-glare | 14"+ LCD, 130+ ppi, anti-glare | 14"+ LCD, 130+ ppi, anti-glare | 11"+, 110+ ppi | 7"+ multi-touch, IPS, 150ppi | |
| OS | MS Windows 11 | | | | MS Windows 11 | | | | | MS Windows 11 | | |
| Security | TPM, Secure Boot, Lock slot, Biometric support | | | | TPM, Secure Boot, Lock slot, Biometric support | | | | | N/A | | |

UNINTERRUPTIBLE POWER SUPPLIES

WCG aligns to MIOS v6 and SITA’s Technical Product Certification (TPC) process which prescribes profiles for uninterruptible power supplies. The table below represents the profiles WCG have standardised on. Additional profiles will only be added when a transversal business need is identified, investigated and found feasible. The hardware specifications listed within each profile are minimum requirements; procurement specifications must equal or be higher than listed specifications.

All UPS’s on the SITA Certified Database adhere to the WCG Corporate environment requirements where these units will be installed – w.r.t. environmental requirements, which include space requirements (floor standing as well as for cabinet / rack mounting), uptime and network connectivity for remote access and monitoring. Only devices listed in the SITA Product Database within the listed profiles below can be procured for use on the WCG network.

The SITA Certified Database can be found here:

https://www.sita.co.za/sites/default/files/documents/Product_Certification/SITA_Product_Database.pdf

| SITA Profile | UPS_OL1 ¹ | UPS_OL2 ¹ | UPS_OL3 ¹ | UPS_OL4 ¹ |
|-------------------------------------------------------|--------------------------------------------------------------|----------------------|------------------------------|--------------------------------------------------|
| | Entry-level on-line UPS | Midrange on-line UPS | Advanced on-line UPS | Advanced 3-phase on-line UPS |
| Design | On-line double conversion, pure sinewave | | | 3-phase on-line double conversion, pure sinewave |
| Load supported ² | 900W + | 2700W + | 4.5 KW + | 9 KW + |
| Power rating | 1 KVA + | 3 KVA + | 5 KVA + | 10 KVA + |
| Efficiency (load-bearing capacity) | 90% | | | |
| Runtime @ full load | 5 minutes | | | |
| Max recharge time | 4 hours | 6 hours | 8 hours | 10 hours |
| Outputs | 4x C13 | 6x C13, 1x C19 | 6x C13, 1x C19 or hard-wired | Hard-wired |
| Input tolerance (while bearing 50% load) ³ | 120 - 270VAC, 50Hz ±15% | | | 250 - 450VAC, 50Hz ±15% |
| Monitoring & Management | SNMP / Network Card (Compulsory) | | | |
| Form factor | Rack-mount / Tower, preferably convertible | | | Standalone |
| Battery Type ⁴ | Lithium-Ion battery capable model (Compulsory ⁵) | | | |
| Standards | IEC 60240-1, IEC 60240-2, pref IEC 60240-3, IEC 60240-4 | | | |
| OS certification | Windows, Linux, mainstream hypervisors | | | |
| Support SLA | 5-year on-site, 4-hour response, NBD fix | | | |

Notes:

- ¹. All current On Line (OL) models have surge protection capability.
- ². Regardless of the KVA rating, the UPS must be sized to meet the specified Watts.
- ³. Acceptable deratings at lower voltages will be allowed.
- ⁴. Recommended for longer UPS uptime and battery lifetime.
- ⁵. Compulsory if Lithium-Ion battery capable model is available on the ‘SITA Certified Product Database’ at time of procurement. If not, similar Lead-acid model on SITA database to be procured.

ASSISTIVE HARDWARE & SOFTWARE ^(5 see note)

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Braille Display | <ul style="list-style-type: none"> • Focus 40 • Orbit Reader 20 Advanced Braille Reader & Notetaker |
| Magnification Devices | <ul style="list-style-type: none"> • Transformer HS CCTV Desktop Magnifier • ONYX Desktop HD 22" LCD • ONYX Desktop HD 24" LCD • Luna 6 • Ruby XL HD • Explorer 5 HD • Acrobat Reader HD • Apple Devices Magnifier/Reader/OCR/ Scanner (iPad, iPhone, MacBook, iMac, accessories) |
| Hearing | <ul style="list-style-type: none"> • Plantronics • Sennheiser • Air pods Pro • Hearing Aids Tier level 1 and 2 (incl accessories & batteries) <ul style="list-style-type: none"> ○ Phonak ○ Unitron ○ Widex ○ Oticon ○ Starkey ○ Resound ○ Cochlear ○ Medel ○ Advanced Bionics |
| Voice Recognition Software | Dragon Professional Natural Speaking |
| Screen Reading/Magnification Software | <ul style="list-style-type: none"> • Zoomtext Magnifier/Reader • Zoomtext Fusion Magnifier/Reader • Jaws |
| Optical Recognition (OCR) Software | Open-Book |
| <p>⁵ Please note: Requests for assistive software and hardware must go via the ICT Services Manager in consultation with James Chatwind (james.chatwind@westerncape.gov.za) before logging a call at the service desk.</p> | |

HARDWARE & PERIPHERALS

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Printers | <ul style="list-style-type: none"> • HP • Epson • Brother • Lexmark |
| <p>* Please see appendix A for Enterprise Content Management scanners. The scanners should be selected based on specific departmental/Component requirements.</p> | |
| Bar Code & Label printers | <ul style="list-style-type: none"> • SATO • Eltron (Zebra) • Argox • Brady |
| Impact printers (dot matrix) | Epson |
| Load Balancing | F5 |
| Routers | Cisco |
| LAN Switches | <ul style="list-style-type: none"> • Cisco • Huawei |
| Wireless Networking | <ul style="list-style-type: none"> • Cisco • Huawei • Mikrotik – equipment and operating system (DoA only) • Ubiquiti– equipment and operating system (DoA only) |

| | | |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cabling | | <ul style="list-style-type: none"> • GlobalSix • AT & T Systimax (AVAYA) (unshielded twisted pair) • ITT Canon/ISCS (shielded twisted pair) / Nexans Panduit • CAT6 as a minimum requirement |
| Servers & Cabinets | | <ul style="list-style-type: none"> • GlobalSix • Modrac (Infrastructure) • HP (Servers) |
| Queue Management | | Service Systems - Queue Management Systems |
| VOIP | IP Phones <ul style="list-style-type: none"> • Standard handset • Operator console • Conference phone | <ul style="list-style-type: none"> • Polycom • Yealink |
| | Analogue VOIP Gateway | <ul style="list-style-type: none"> • AudioCodes MP-112-4O-SIP 2fxo ports Gateway • AudioCodes MP-114-4O-SIP 4fxo ports Gateway |
| | VOIP Switchboard | <ul style="list-style-type: none"> • Interaction Desktop Software |

GENERAL

7.1 CISCO VALUE-ADDED RESELLER (VAR) for WCG

- The selected partner(s) must be at least a Cisco Certified GOLD partner, and be locally based in Cape Town.
- In accordance with this the WCG requires from a Cisco Gold partner to have the following minimum skills based in Cape Town:
 - Current technical Cisco certifications (to include at least 2 x CCIE). To provide the following details per CCIE based in Cape Town (Surname, Name, Certification date and CCIE number, Valid until, Specialization field)
- Registered Cisco Gold partners based within Cape Town, must have the following local Cisco specialization:
 - IP Telephony
 - Wireless LAN and WAN
 - Security
- Must at least have a Cisco shared support contract in place.
- Must have direct access to Cisco technical support teams and programs.

7.2 HUAWEI VALUE-ADDED RESELLER (VAR) for WCG

- The selected partner(s) must be at least a Huawei Certified GOLD partner, and be locally based in Cape Town.
- In accordance with this the WCG requires from a Huawei Gold partner to have the following minimum skills based in Cape Town:
 - Current technical Huawei certifications (to include at least 2 x HCIE). To provide the following details per CCIE based in Cape Town (Surname, Name, Certification date and CCIE number, Valid until, Specialization field)
- Registered Huawei Gold partners based within Cape Town, must have the following local Huawei specialization:
 - LAN
 - Wireless LAN
 - Security
- Must at least have a Huawei shared support contract in place.
- Must have direct access to Huawei technical support teams and programs.

7.3 HP VAR for WCG

- In accordance with this WCG requires, from a HP partner, to have the following minimum certification in HP products, based in Cape Town:
 - Certified HP Partner
 - Servers – as per HP certified requirements.
 - Storage - as per HP certified requirements.
- Current HP certifications (technical resources) required from a selected partner(s). To provide the following details per resources based in Cape Town (Surname, Name, HP Certification Number, Date obtained, Validity, Specialization field)
- The locally HP selected partner(s) must have the following local HP specialization:
 - HP MASE (Master Accredited System Engineer) – Servers and Storage
 - HP ASE (Accredited System Engineer) - Servers and Storage
 - HP AIS (Accredited Integration Specialist) - Servers and Storage

7.4 PC VAR's for WCG

- Lenovo
- HP
- Dell

7.5 OTHER:

- Any other specific WCG ICT equipment requirements need to be approved via the standard official channels.

ICT GOVERNANCE STANDARDS

WCG will base its IT framework developments on the following best standard frameworks:

| | |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Corporate Governance components in IT Governance | King IV [IoD] |
| IT Governance Model | <ul style="list-style-type: none"> • ISO 38500 [ISO/IEC] model • SANS 38500 model |
| Corporate governance of IT | <ul style="list-style-type: none"> • ISO 38500 [ISO/IEC] • SANS 38500 |
| IT Governance Framework | COBIT [ISACA] |
| Data Management Framework | DAMA |
| IT Data & Interoperability Standards | Minimum Interoperability Standards for Government Information Systems (MIOS) |
| IT Risk Management | Risk IT Framework [ISACA] |
| IT Value Management | Val IT Framework [ISACA] |
| IT Services Management | ITIL Framework [OGC] |
| IT Security | <ul style="list-style-type: none"> • ISO 27k family of standards [ISO/IEC] • SANS 27k family • CIS Benchmarks |
| Enterprise Architecture | <ul style="list-style-type: none"> • TOGAF • GWEA (based on TOGAF) |
| IT Project Management | <ul style="list-style-type: none"> • PRINCE II • PMBOK |
| Business Process Modelling standard | Business Process Model and Notation v2.0 (BPMN v2.0) |

It is understood that:

- These standards are for future implementation, to be worked towards as resources allow. Until such time the status quo will be retained. All new framework development and all major revisions of existing frameworks will be according to these standards, however.
- Frameworks will not necessarily be adopted as is. WCG will follow the "apply and explain" approach, adapting the frameworks for its own situation and explaining these adaptations in its own frameworks.
- The SANS and ISO frameworks are identical, but if differences should arise the SANS versions [South African] will receive preference.
- Where national government frameworks are implemented alongside the international best practice ones, the WCG frameworks will give preference to the national ones or explain why the best practice ones are preferred.
- For new implementations, preference will be given to the latest version of the best practice framework, but when new versions are implemented existing WCG frameworks based on the older version will be retained until a revision is justified.

SECTION 2: WESTERN CAPE EDUCATION (SCHOOLS ONLY)

DESKTOP

| | |
|-----------------------|-------------------------|
| Workstation OS | Windows 10/11 Education |
|-----------------------|-------------------------|

NETWORK

| | |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network OS | Windows Server 2019 / 2022 Standard Edition (CAT/IT) |
| E-mail | Microsoft Outlook 2019 / 2021 Microsoft Office 365 <small>*Note: Email for teaching and learning is subject to schools choice and discretion.</small> |
| Anti-Virus Software | Microsoft Windows Defender (Windows 10 / 11 / Server) |
| Virtualization | Microsoft Hyper-V Virtual Manager |
| Directory Services | Microsoft Active Directory |
| Wireless | Min – 802.11G/N/AC/AX |
| Cabling | Ethernet Min - CAT 6 |
| Cabinets | Min 42u (see SLAN specifications) |

PRODUCTIVITY SUITE

| | |
|------------------------|--------------------------------------------------------------------------------------------------------|
| Office Software | <ul style="list-style-type: none">• MS Office Professional 2019 / 2021• MS O365 |
| Browsers | <ul style="list-style-type: none">• Edge• Chrome• Firefox |

HARDWARE

The Branch: e-Innovation (Ce-I) has a strict Schools LAN Evaluation process, which tests devices against a predefined set of standards, to determine which devices models can be supported and maintained on the WCED Schools LAN.

The WCG Schools Product Catalogue contains all the relevant procurement information and must be used in conjunction with the WCG standards list for procurement purposes. Only devices listed in the WCG Schools Product Catalogue can be procured for use on the Schools LAN.

1.1 END USER DEVICES

The table below is a summary of the Value-added Resellers (VAR's) of end user devices for WCED Projects.

The device models and specifications which are supported from these VAR's are documented and managed in the WCG Schools Product Catalogue. Only end user devices that have been issued with a SITA Product Certificate, has passed the Ce-I Schools LAN Research and Development Evaluation and been approved by the DDG: Ce-I via the Architecture Review Process can be added to the catalogue.

| Type | Description |
|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Basic, Presentation, eAdmin, Backup Workstation / Server for CAT, IT & EGD(Schools) | Lenovo Acer HP Dell Mustek / Mecer Pinnacle / Proline Fujitsu |
| Notebooks (Schools) | Lenovo Acer HP Dell Mustek / Mecer Pinnacle / Proline Fujitsu |
| Chromebooks / Tablet Devices | Not product specific based on specifications as outlined in the Component Specification Table. |
| Mini / Micro Computers | Intel Acer Lenovo Dell HP Mustek / Mecer Pinnacle / Proline Fujitsu |

1.2 NETWORK & PERIPHERAL DEVICES

The table below is a summary of the Value-added Resellers (VAR's) of network and peripheral devices for WCED Projects.

The device models and specifications that are supported from these VAR's are documented and managed in the WCG Schools Product Catalogue. Only devices that have passed the Ce-I Schools LAN Research and Development Evaluation and been approved by the DDG: Ce-I via the Architecture Review Process can be added to the catalogue.

| Type | Description |
|-----------------------------------------|-----------------------------------|
| 1U File and Replacement Servers | Intel Quad Core Xeon based Server |
| UPS | Min - 1000VA On-line USB |
| Printers / Scanners | Brother, Epson, HP |
| Switches and Wireless AP's | Xirrus, Cisco, Huawei |
| Projectors | Epson, BenQ, Acer, InFocus |
| Smartboard & Imaging Devices | Smarttech, Epson |

1.3 COMPONENT SPECIFICATIONS

| Component | Recommended | High-end | Notes |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor | Workstation / Notebook / MiniPC / Tablet / Handheld: Latest intel / ARM based desktop or mobile processor | Workstation / Notebook / MiniPC / Tablet / Handheld: Latest intel / ARM based desktop or mobile processor | <ul style="list-style-type: none"> Processor capability varies between notebooks and workstations Processors with vPro capability preferred but not required |
| Chipset | Workstation / Notebook / MiniPC / Tablet / Handheld: Latest intel / ARM based desktop or mobile chipset | | <ul style="list-style-type: none"> Chipset with vPro capability (Intel Only) preferred but not required |
| Memory | Laptops/ Tablets (Mid to High) /Desktops / MiniPC 16GB | 16GB (or higher for Windows 10/11-64bit) | Only consider going beyond 8GB if planning on going 64Bit |
| | Handheld/Tablets (low spec) 4GB | | |
| Disk | 256GB (min) SSD (Desktop / Laptop / MiniPC / Tablet) | 256GB (min) SSD (Desktop / Laptop / Tablet / MiniPC) | |
| | 128GB+ handheld / Low spec Tablet | | |
| Video adaptor | 4GB (if not on-board graphics) or higher | Depends on specific user needs | DirectX 12 (min) with Windows Display Driver Model (WDDM) 1.3 or Higher |
| Optical drive (Server / Desktops / Laptop) | DVD Writable | DVD Writable | DVD Writable |
| Out of Band Management | vPro (Desktops / Laptop) | | |
| BitLocker / Similar | TPM (Microsoft based Devices) | | Trusted Platform Module is used to authenticate hardware devices on a hardware level |

SWITCHES

Devices must be SITA Certified, evaluated by Ce-I Schools LAN Research and Development and available on the WCG Schools Product Catalogue

NETWORK STORAGE

Devices must be SITA Certified, evaluated by Ce-I Schools LAN Research and Development and available on the WCG Schools Product Catalogue

OTHER

Any other specific WCG Schools ICT equipment requirements must be approved via the standard official channels.

WARRANTIES

Recommendation from the WCG Ce-I is that:

- All hardware procured must include a minimum of a 3-year warranty (NOT OPTIONAL) on-site support. This will minimize out-of-warranty issues and trigger auto-refresh for departments thereby improving user productivity and Ce-I service delivery.
 - **Servers** - All new WCG servers (excl. Schools Networks) need to be purchased standard with a 3-year onsite warranty (next business day response).
 - **Routers** – All new WCG routers (excl. Schools Networks) need to be purchased standard with a 3-year onsite warranty.
 - **LAN Switches** – All new WCG switches (excl. Schools Networks) need to be purchased standard with a 3-year onsite warranty.
 - **UPS** - All new WCG UPS's (excl. Schools Networks) need to be purchased standard with a minimum 3-year onsite warranty. However, in instances where an extended warranty for an additional 2-years is available, the option for a total of 5-year onsite warranty to be procured.
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APPROVED

EGSAAN SAMAAI

ACTING DEPUTY DIRECTOR GENERAL: e-INNOVATION

Date:

ANNEXURE A: ECM SCANNERS & PRINTERS

| | SCANNING SPEED @ 200DPI B/W | ADF CAPACITY | RECOMMENDED DAILY VOLUME | MAXIMUM DOCUMENT SIZE | Output Resolution | Imprinting | Notes |
|---------------------------------------------------------------|--------------------------------|--------------|-----------------------------|--------------------------------------------|------------------------------------------------------------------------------|------------------------------|--------------------------------------------------------|
| Kodak S3060 | 60 ppm, DUPLEX | 300 | 25 000 | A3 | COLOUR/GREYSCALE/B&W 600 dpi | YES (Optional Attachment) | High volume |
| Kodak S3100 | 100 ppm | 300 | 45 000 | A4 | landscape, letter/A4 size, black and white/ grayscale/ colour) 600 dpi | YES (Optional Attachment) | High volume |
| Fujitsu Image Scanner FI-6670 | 90 ppm | 200 | 15 000 | A3 | 600 dpi | YES (Optional Attachment) | High volume scanning |
| Fujitsu Image Scanner FI-7180 | 80ppm | 80 | 6 000 | 216 mm x 355.6 mm (8.5 in. x 14 in.) | Colour (24-bit), Grayscale (8- bit) 50 to 600 dpi | YES (Optional Attachment) | Ideally suited for desktop scanning applications |
| FUJITSU ScanSnap iX100 Wireless Mobile Scanner | up to 11 ppm | 1 | | A4 | 600 dpi | No | Very light and USB powered mobile scanner. |

ANNEXURE B: CLOUD SUITES AND PLATFORM

| Adobe Creative Cloud Suite (Ce-I installation support only) | |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Graphic Design & Illustration | |
| Photoshop | Image editing and compositing. |
| Illustrator | Vector graphics and illustration. |
| InDesign | Page design, layout, and publishing. |
| Adobe Express | Simple design for social media, flyers, and more. |
| Adobe Fresco | Digital painting and drawing. |
| Adobe Fireworks | Web design and prototyping (Discontinued but available for download). |
| Video & Motion | |
| Premiere Pro | Professional video editing. |
| After Effects | Motion graphics and visual effects. |
| Premiere Rush | Simplified video editing for social media. |
| Animate | Vector animation and interactivity. |
| Character Animator | Real-time animation of 2D characters. |
| Media Encoder | Encoding and conversion of video files. |
| Prelude | Video logging and ingest. |
| Photography | |
| Lightroom | Photo editing and organization (desktop-based). |
| Lightroom Classic | Photo editing with file-based organization. |
| Photoshop Camera | Mobile photo editing with AI features. |
| UI/UX Design | |
| Dreamweaver | Web design and development. |
| Adobe Capture | Turns photos into design elements like patterns, vectors, and brushes. |
| 3D & AR | |
| Adobe Dimension | 3D design and rendering. |
| Substance 3D Collection | Texturing, modeling, and rendering (Includes Substance Painter, Designer, Sampler, and Stager). |
| Adobe Aero | Augmented reality experiences. |
| Medium | 3D sculpting and modeling in VR (Part of the Substance suite). |
| Mixamo | 3D character rigging and animation. |
| Adobe Fuse | 3D character creation (Discontinued but still available for existing users). |
| Audio | |
| Audition | Audio recording, mixing, and restoration. |
| PDF & eSignatures | |
| Acrobat Pro | PDF editing and creation. |
| Adobe Sign | Digital signatures and form management. |
| Collaboration & Assets | |
| Adobe Bridge | Asset management and organization. |
| Adobe Stock | Access to stock images, videos, and assets. |

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|---------------------------------|----------------------------------------------------------------------------|
| Creative Cloud Libraries | Shared assets and libraries for collaboration. |
| Font Management | |
| Adobe Fonts | Access to a library of fonts. |
| Other Tools | |
| InCopy | Professional writing and editing. |
| Adobe Spark | Quick content creation for web and social (integrated into Adobe Express). |
| Story Plus | Collaborative screenwriting (Discontinued). |

| Autodesk Architecture, Engineering & Construction (AEC) Collection (Ce-I installation support only) | |
|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Building Design | |
| Revit | BIM (Building Information Modeling) for architectural design, MEP, and structural engineering. |
| AutoCAD | 2D and 3D CAD software for design, drafting, and modeling. |
| AutoCAD Architecture | AutoCAD tailored for architectural design. |
| AutoCAD MEP | AutoCAD tailored for mechanical, electrical, and plumbing (MEP) design. |
| AutoCAD Electrical | AutoCAD tailored for electrical design. |
| AutoCAD Mechanical | AutoCAD tailored for mechanical design. |
| FormIt Pro | Early-stage 3D sketching and conceptual design with energy analysis. |
| Insight | Building performance analysis for energy and environmental design. |
| Recap Pro | Reality capture software for converting reality data into 3D models. |
| Navisworks Manage | Project review software for coordination, model simulation, and clash detection. |
| Navisworks Simulate | Model visualization and simulation. |
| 3ds Max | 3D modeling, animation, and rendering software, often used for visualization and design. |
| Advance Steel | Software for steel detailing and fabrication. |
| Infrastructure Design | |
| Civil 3D | Civil engineering design and documentation software for transportation, land development, and water projects. |
| InfraWorks | Infrastructure planning and design software with conceptual design and analysis capabilities. |
| Vehicle Tracking | Software for vehicle swept path analysis for transportation design. |
| ReCap Pro & Leica Cyclone Field 360 | Reality capture and 3D scanning software. |
| Dynamo Studio | Computational design and automation software for BIM processes. |
| Construction | |
| BIM 360 | Cloud-based construction management platform for project delivery. |
| Revit Live | Interactive visualization for Revit models. |
| Fabrication CADmep | Design, detailing, and documentation software for MEP contractors. |
| Fabrication ESTmep | Cost estimation software for MEP contractors. |
| Fabrication CAMduct | HVAC and sheet metal fabrication software. |

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|-----------------------------------------------|---------------------------------------------------------------------------------------------|
| Structural Bridge Design | Software for bridge analysis, design, and load-rating. |
| Analysis & Simulation | |
| Robot Structural Analysis Professional | Structural analysis software for complex buildings and structures. |
| Autodesk CFD | Computational fluid dynamics simulation for analysis of fluid flow and thermal performance. |
| Autodesk Rendering | Cloud rendering service for creating photorealistic images. |
| Collaboration & Data Management | |
| Autodesk Docs | Cloud-based document management for AEC projects. |
| Autodesk Drive | Cloud storage service for managing project files and data. |

| MS Azure Platform Services (Ce-I installation & software support) | |
|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Security and Identity Management | <ul style="list-style-type: none"> • Azure Identity Manager • Azure Key Vault • Azure Management Groups • Azure Sentinel • Azure Active Directory • Azure Defender for Cloud • Azure Firewall • Azure App Proxy |
| Hybrid and Multi-Cloud Management | <ul style="list-style-type: none"> • Azure Arc |
| 3rd Party Access (3PA) | <ul style="list-style-type: none"> • Azure AD (B2B & B2C) • Microsoft Entra |
| Storage | <ul style="list-style-type: none"> • Azure Page Blobs / Premium Storage • Azure File Storage • Azure Blob Storage • Azure Archive / Cool Storage |
| Database Management | <ul style="list-style-type: none"> • Cosmos DB • Azure SQL Elastic Pools • Azure SQL • Azure Synapse |
| Network Connectivity and Edge Services | <ul style="list-style-type: none"> • Microsoft Express Route • Microsoft Azure Load Balancer |
| Monitoring and Management | <ul style="list-style-type: none"> • Azure Monitor / App Insights • Azure Management Groups • Azure Recovery Services Vault • Microsoft Purview (formerly Azure Data Catalog) |
| Integration | <ul style="list-style-type: none"> • Azure Logic Apps • Azure Event Hub • Azure Event Grid • Azure Service Bus • Azure API Manager • Azure Data Factory • Azure FHIR |
| Application Development | <ul style="list-style-type: none"> • Azure DevOps • Azure Functions • Azure App Services • Azure Kubernetes Service • Azure Power Platform • Azurite Storage Emulator |

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|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <ul style="list-style-type: none"> • Azure Power Platform |
| Virtualisation | <ul style="list-style-type: none"> • Azure Virtual Desktop (pilot) |
| Analytics and Big Data | <ul style="list-style-type: none"> • Azure Data Factory • Azure Data Lakes • Azure Cognitive Services • Azure Machine Learning |
| Business Intelligence | <ul style="list-style-type: none"> • Azure Cognitive Services • Azure Databricks • Power BI Premium |