

**FILE REFERENCE: 8/7/1/2/P/ICT STANDARDS/Version 8.13**

## **WESTERN CAPE GOVERNMENT**

### **ICT STANDARDS (July 2021)**

#### **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 Branch: for e-Innovation's drive to deliver excellent service and support to its client departments. A comprehensive list of benefits of standardisation is well documented in the IT Services Blueprint. The WCG Enterprise Architecture Board is the custodian of the ICT standards and all requests for standardisation or deviation from the standard will have to be submitted to the review board for consideration and approval. A full business motivation for standardisation and or deviation must be attached to each application.

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 Enterprise Architecture Board and **approved by the DDG: e-Innovation.**

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## SECTION 1: WCG ICT STANDARDS

### OPERATING SYSTEMS

<b>Workstation OS</b>	Windows 10 Enterprise Edition 64 bit (*see note)
<b>Server OS</b>	<ul style="list-style-type: none"> <li>• Ubuntu Linux Server LTS</li> <li>• Windows Server 2016 Standard</li> <li>• Windows Server 2016 Enterprise</li> </ul>
<p><b>*Please note: Windows 10 is the WCG standard operating system for new machines, where any software/hardware incompatibility issues are found, compatible Departmental machines will be utilised.</b></p>	

### MICROSOFT PRODUCTS

DESKTOP	
<b>Productivity Software</b>	MS Office O365 ProPlus (*see note) MS Mix Plugin <b>Note: MS Access is excluded from standard installation. It requires approval via official channels.</b>
<b>Diagrams and flowcharts</b>	Microsoft Visio 2016
<b>Project Management</b>	Microsoft Project 2013 (v2010 SP3 to be used for BizProjects)
<b>E-mail</b>	Microsoft Outlook
<b>Enterprise Communication</b>	Microsoft Yammer
<b>Internal and Workstream Collaboration</b>	Microsoft Teams
<b>Cloud Based Storage</b>	Microsoft One Drive for Business
<b>Anti-Virus Software</b>	Forefront Client Security
<p><b>2 Please note: MS Office O365 Pro Plus is the preferred standard, where any incompatibility issues are found, MS Office 2013 can be installed.</b></p>	
SERVER	
<b>Directory Services</b>	Windows Server 2008 R2 Active Directory
<b>Messaging</b>	Exchange Server 2013
<b>Configuration Manager</b>	System Centre Configuration Manager 2016
<b>Application Monitoring</b>	System Centre Operations Manager 2012 R2
<b>Data Protection</b>	System Centre Data Protection Manager 2010
<b>Host and application security</b>	<ul style="list-style-type: none"> <li>• Forefront Protection for Exchange Server 2010</li> <li>• Forefront Protection for SharePoint 2010</li> </ul>
<b>End user desktop Security</b>	Forefront Endpoint Protection 2010
<b>Identity Management</b>	Forefront Identity Management 2010 R2
<b>Web Security</b>	Forefront Threat Management Gateway 2010
<b>Relational DB Management System</b>	SQL Server 2016

<b>Virtualization</b>	<ul style="list-style-type: none"> <li>• Windows Server 2016 R2 Hyper-V</li> <li>• System Centre Virtual Machine Manager 2007</li> </ul>
<b>File Shares</b>	SharePoint 2010
<b>Document Security</b>	Rights Management Server (AD-RMS)
<b>3<sup>rd</sup> Party Access Solution</b>	Azure B2B
<b>Business Intelligence (BI)</b>	<ul style="list-style-type: none"> <li>• Microsoft BI Suite</li> <li>• Microsoft PowerBI</li> <li>• WebFocus (Only for WCED)</li> </ul>
<b>Customer Relationship Management (CRM) software</b>	Microsoft Dynamics (OracleCX in pilot phase)
<b>Internet applications and media experiences on the Web</b>	Microsoft Silverlight

## SOFTWARE

<b>Web Browser</b> ( <sup>3</sup> see note)	<ul style="list-style-type: none"> <li>• Edge</li> <li>• Internet Explorer 11</li> <li>• Google Chrome</li> <li>• Mozilla Firefox</li> </ul>
<b>Multimedia Design and Creative software</b>	Adobe Creative Cloud
<b>Electronic document viewer</b>	Adobe Reader 15
<b>Electronic document editor</b>	Adobe Acrobat (part of Creative Cloud)
<b>Integrated runtime for developers</b>	Adobe Air
<b>Media player plugin for web browser</b>	Adobe Flash
<b>Open and read secure EMC files</b>	Striata Reader
<b>Manage tax engagements with SARS</b>	e@syFile
<b>Mind Mapping</b>	Mind Manager 9.0
<b>Server Backup</b>	<ul style="list-style-type: none"> <li>• CA Disk Backup and Restore (Enterprise)</li> <li>• Legato (Data Centre)</li> </ul>
<b>Network Management</b>	Sintelligent Product Suite
<b>Telephone Management</b>	Proteus Telephone Management System
<b>Data Discovery and Mapping</b>	BMC ADDM
<b>Data Analysis and Statistical Software</b>	<ul style="list-style-type: none"> <li>• STATA</li> <li>• SPSS</li> </ul>
<b>Audit Analytics software</b>	ACL
<b>Enterprise Content Management (ECM)</b>	<ul style="list-style-type: none"> <li>• OpenText (Livelink) - All ECM components, including document management</li> <li>• J-Track (Document tracking)</li> </ul>
<b>Correspondence Tracking</b>	OpenText Correspondence Tracking Module
<b>Intranet: Web Content Management System and Portal</b>	OpenText Web Experience Management and OpenText Portal
<b>IT Service Desk</b>	BMC Remedy

<b>Web Content Management: Internet</b>	Drupal
<b>Online Survey tool</b>	Survey Monkey
<b>Enterprise Architecture tool</b>	Casewise (Archi in pilot phase)
<b>FTP Download Tool</b>	FileZilla
<b>Geographic Information System (GIS)</b>	ESRI ArcGIS (desktop and server)
<b>Business Process Management and Analysis</b>	iGrafx
<b>Organisational Design Software</b>	OrgPlus
<b>Terminal emulator for mainframe</b>	Winet
<b>BizProjects Reporting Tool</b>	Delivery Hub
<b>Enterprise Risk Management</b>	BarnOwl
<b>Digital Forensic Software Tools</b>	<ul style="list-style-type: none"> <li>• Intella Pro</li> <li>• Analyst Notebook</li> </ul>
<b>Issue and Bug Tracking System (for the Emergent Development Space)</b>	JIRA
<b>MS SharePoint &amp; EPM Monitoring Software</b>	Metalogix Diagnostic Manager
<b>Air dispersion modelling tools</b> <b>Air quality management, validation and reporting</b>	<ul style="list-style-type: none"> <li>• CalPuff, Aeromod View</li> <li>• Envidas ARM Software</li> </ul>
<b>Poisons Information Database</b>	Afritox
<b>Disaster Management (Fire, Risk &amp; Hazards)</b>	Fireweb
<b>Electronic measurement &amp; analysis of building plans</b>	DimensionX 2D
<b>Building, Structural and Civil Design, Modelling, Rendering &amp; Analysis</b>	<ul style="list-style-type: none"> <li>• Autodesk AEC Collection</li> <li>• PROKON Structural Analysis</li> </ul>
<b>AC System Design &amp; analysis</b>	<ul style="list-style-type: none"> <li>• HAP by Carrier (HVAC)</li> <li>• AMS Findfan</li> <li>• Daiken Psychrometric Diagram viewer</li> </ul>
<b>Electrical Engineering:</b> <b>Lighting and sensor simulation</b> <b>Electrical calculation &amp; Circuit Analysis</b>	<ul style="list-style-type: none"> <li>• ReluxDesktop</li> <li>• Schneider EcoStruxure Power Design - Ecodial</li> </ul>
<b>SARS eFiling</b>	<ul style="list-style-type: none"> <li>• SARS eFiling applet</li> </ul>

<sup>3</sup> 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.

## CLOUD

<b>Platforms</b>	<ul style="list-style-type: none"> <li>• Microsoft</li> <li>• Oracle</li> <li>• OpenText</li> <li>• ESRI</li> </ul>
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## 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 (Cel) has a strict End User Compliance 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 Compliance Test and have been approved by the DDG: Cel 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 Midrange PC	PC4 Advanced PC	PC_AIO2 Midrange AIO PC	Note1 Chromebook / Mobile thin client / Netbook	Note3 Thin and light notebook	Note4 Midrange business notebook		Note_WS Mobile technical workstation
<b>Platform</b>	X64 8-core 10g i3	X64 8-core 10g i5	X64 8-core 10g i3	Entry-level 2-core AMD / ARM / Intel 1GHz	X64 4-core 10g i5	X64 4-core 10g i3	X64 8-core 10g i7	X64 4-core 10g i5
<b>Memory</b>	8GB DDR-4	8GB DDR-4	8GB DDR-4	4GB	8GB DDR-4	8GB DDR-4	16GB DDR-4	8GB DDR-4
<b>Disk</b>	240GB SSD	240GB SSD	240GB SSD	32GB	240GB SSD	240GB SSD	480GB NVMe, RAID support	240GB SSD
<b>Video adaptor</b>	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Discrete Pro, OpenGL	Integrated
<b>Connectivity</b>	GigE	GigE	GigE	WiFi 5, 100BaseT pref, BT 4	WiFi 6, Gigabit, BT 5, WWAN upgr.	WiFi 6, Gigabit, BT 5, WWAN upgr.	WiFi 6, Gigabit, BT 5, WWAN upgr.	WiFi 6, Gigabit, BT 5, WWAN upgr.
<b>Screen Size</b>	21" LCD, 90+ ppi, anti-glare	23" LCD, 90+ ppi, anti-glare	23" LCD, 90+ ppi, anti-glare	10" LCD, 100+ ppi	12-14" LCD, 110+ ppi, anti-glare	14" LCD, 120+ ppi, anti-glare	11" multi-touch LCD, 110+ ppi	14" LCD, 130+ ppi, anti-glare

## ASSISTIVE HARDWARE & SOFTWARE <sup>(*see note*)</sup>

<b>Braille Display</b>	<ul style="list-style-type: none"> <li>• Focus 40</li> <li>• Orbit Reader 20 Advanced Braille Reader &amp; Notetaker</li> </ul>
<b>Magnification Devices</b>	<ul style="list-style-type: none"> <li>• Transformer HS CCTV Desktop Magnifier</li> <li>• ONYX Desktop HD 22" LCD</li> <li>• ONYX Desktop HD 24" LCD</li> <li>• Ruby XL HD</li> <li>• Explorer 5 HD</li> <li>• Acrobat Reader HD</li> <li>• Apple Devices Magnifier/Reader/OCR/ Scanner (iPad, iPhone, MacBook, iMac, accessories)</li> </ul>
<b>Headset</b>	<ul style="list-style-type: none"> <li>• Plantronics</li> <li>• Sennheiser</li> </ul>
<b>Voice Recognition Software</b>	Dragon Professional Natural Speaking
<b>Screen Reading/Magnification Software</b>	<ul style="list-style-type: none"> <li>• Zoomtext Magnifier/Reader</li> <li>• Zoomtext Fusion Magnifier/Reader</li> <li>• Jaws</li> </ul>
<b>Optical Recognition (OCR) Software</b>	Openbook
<p><sup>5</sup> 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

<b>Printers</b>	<ul style="list-style-type: none"> <li>• HP</li> <li>• Epson</li> <li>• Brother</li> <li>• Lexmark</li> </ul>
<p>* Please see appendix A for Enterprise Content Management scanners. The scanners should be selected based on specific departmental/Component requirements.</p>	
<b>Bar Code &amp; Label printers</b>	<ul style="list-style-type: none"> <li>• SATO</li> <li>• Eltron (Zebra)</li> <li>• Argox</li> </ul>
<b>Impact printers (dot matrix)</b>	Epson
<b>Load Balancing</b>	F5
<b>Routers</b>	Cisco
<b>LAN Switches</b>	Cisco
<b>Wireless Networking</b>	<ul style="list-style-type: none"> <li>• Cisco Aironet on LAN</li> <li>• Mikrotik – equipment and operating system (DoA only)</li> </ul>
<b>Cabling</b>	<ul style="list-style-type: none"> <li>• AT &amp; T Systemax (AVAYA) (unshielded twisted pair)</li> <li>• IIT Canon/ISCS (shielded twisted pair) / Nexans Panduit</li> <li>• Cat6 as a minimum requirement</li> </ul>
<b>Cabinets</b>	<ul style="list-style-type: none"> <li>• Modrac (Infrastructure)</li> <li>• HP (Servers)</li> </ul>
<b>UPS</b>	<ul style="list-style-type: none"> <li>• APC</li> <li>• Huawei</li> </ul>
<b>Queue Management</b>	Service Systems - Queue Management Systems

<b>VOIP Phones</b>	Desk Phone	<ul style="list-style-type: none"> <li>• Polycom VVX201</li> <li>• Polycom VVX410</li> <li>• Avaya 9601</li> <li>• Avaya 9608</li> </ul>
	Conference Speaker Phone	Polycom SoundStation IP 5000
	Analogue VOIP Gateway	<ul style="list-style-type: none"> <li>• AudioCodes MP-112-4O-SIP 2fxo ports Gateway</li> <li>• AudioCodes MP-114-4O-SIP 4fxo ports Gateway</li> </ul>
	VOIP Switchboard	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 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



### 7.3 PC VAR's for WCG

- Lenovo
- HP
- Dell

### 7.4 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:

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

<b>Workstation OS</b>	Windows 10 Education
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### NETWORK

<b>Network OS</b>	Windows Server 2019 / 2016 Standard Edition (Multipoint / CAT)
<b>E-mail</b>	Microsoft Outlook 2016 / 2019 Microsoft Office 365  *Note: Email for teaching and learning is subject to schools choice and discretion.
<b>Anti-Virus Software</b>	<ul style="list-style-type: none"><li>• ClamWin Free Antivirus</li><li>• Microsoft Windows Defender (Windows 10 / Server 2016 only)</li></ul>
<b>Virtualization</b>	Microsoft Hyper-V Virtual Manager
<b>Directory Services</b>	Microsoft Active Directory
<b>Web Security</b>	IPFire Opensource Firewall
<b>Wireless</b>	Min – 802.11G/N/AC
<b>Cabling</b>	Ethernet Min - CAT 5e, or CAT 6
<b>Cabinets</b>	Min 42U (see SLAN specifications)

### PRODUCTIVITY SUITE

<b>Office Software</b>	<ul style="list-style-type: none"><li>• MS Office Professional 2019 / 2016</li><li>• MS O365</li></ul>
<b>Imaging Software</b>	Symantec Ghost Version 11 (Legacy) or 12 (UEFI Systems)
<b>Browsers</b>	<ul style="list-style-type: none"><li>• Edge</li><li>• Internet Explorer 11</li><li>• Chrome</li><li>• Firefox</li></ul>

### HARDWARE

The Centre for e-Innovation (CeI) 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: Cel via the Architecture Review Process can be added to the catalogue.

Type	Description
<b>Basic, Presentation, eAdmin, Backup Workstation / Server for CAT, IT &amp; EGD(Schools)</b>	Lenovo Acer HP Dell Mustek / Mecer Pinnacle / Proline Fujitsu
<b>Notebooks (Schools)</b>	Lenovo Acer HP Dell Mustek / Mecer Pinnacle / Proline Fujitsu
<b>Chromebooks / Tablet Devices</b>	Not product specific based on specifications as outlined in the Component Specification Table.
<b>Mini / Micro Computers</b>	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: Cel via the Architecture Review Process can be added to the catalogue.

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

### 1.3 COMPONENT SPECIFICATIONS

Component	Recommended	High-end	Notes
<b>Processor</b>	<b>Workstation / Notebook / MiniPC / Tablet / Handheld:</b> Latest intel / ARM based desktop or mobile processor	<b>Workstation / Notebook / MiniPC / Tablet / Handheld:</b> Latest intel / ARM based desktop or mobile processor	<ul style="list-style-type: none"> <li>Processor capability varies between notebooks and workstations</li> <li>Processors with vPro capability preferred but not required</li> </ul>
<b>Chipset</b>	<b>Workstation / Notebook / MiniPC / Tablet / Handheld:</b> Latest intel / ARM based desktop or mobile chipset		<ul style="list-style-type: none"> <li>Chipset with vPro capability (Intel Only) preferred but not required</li> </ul>
<b>Memory</b>	<b>Laptops/ Tablets (Mid to High) /Desktops / MiniPC</b> 4GB	8GB (or higher for Windows 10-64bit)	Only consider going beyond 4GB if planning on going 64Bit
	<b>Handheld/Tablets (low spec)</b> 3GB		
<b>Disk</b>	500GB Hard Drive / 128GB (min) SSD (Desktop / Laptop / MiniPC / Tablet)	500GB Hard Drive / 128GB (min) SSD (Desktop / Laptop / Tablet / MiniPC)	
	64GB+ handheld / Low spec Tablet		
<b>Video adaptor</b>	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
<b>Optical drive (Server / Desktops / Laptop)</b>	DVD Writable	DVD Writable	DVD Writable
<b>Out of Band Management</b>	vPro (Desktops / Laptop)		
<b>BitLocker / Similar</b>	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 CEI Schools LAN Research and Development and available on the WCG Schools Product Catalogue

## NETWORK STORAGE

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

## OTHER

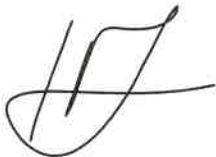
Any other specific WCG Schools ICT equipment requirements must be approved via the standard official channels.

## WARRANTIES

### Recommendation from the WCG Ce-I is that:

- All hardware procured must include a 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.
- 
- 

### APPROVED



Hilton Arendse  
2021.07.14  
11:55:47 +02'00'

**HR ARENDSE**

**DEPUTY DIRECTOR GENERAL: e-INNOVATION**

**Date:**

## ANNEXURE A: ECM SCANNERS & PRINTERS

	SCANNING SPEED @ 200DPI B/W	ADF CAPACITY	RECOMMENDED DAILY VOLUME (MAX)	MINIMUM DOCUMENT SIZE	Output Resolution	Imprinting	Notes
<b>Kodak i3200</b>	60 ppm, DUPLEX	150	15 000	A3	COLOUR/GREYSCALE/B&W (DPI) 1200 dpi	Post scan (Optional Attachment)	High volume
<b>Kodak i3400</b>	80 ppm	250	20 000	A4	landscape, letter/A4 size, black and white/ grayscale/ colour) 1200 dpi	Optional	High volume
<b>Fujitsu Image Scanner FI-6670</b>	90 ppm	200	15 000	A3	600 DPI	YES (Optional Attachment)	High volume scanning
<b>Fujitsu Image Scanner FI-7180</b>	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
<b>FUJITSU Image Scanner ScanSnap S1100i</b>	up to 8 ppm	1		A4	600 dpi	No	Very light and USB powered mobile scanner.



## ANNEXURE B: FUTURE ICT STANDARDS

This section includes all **ICT proof of concepts (POC)** and **pilots** that have been approved for future implementation, as well as the proposed implementation period. WCG follows an ICT Value Chain approach which enables WCG ICT investments to deliver outputs that enable the delivery of stakeholder benefits at optimal value. The diagram below is a graphical view of the WCG ICT Value Chain, for more detail, please refer to the WCG ICT Value Chain v1.0 document.

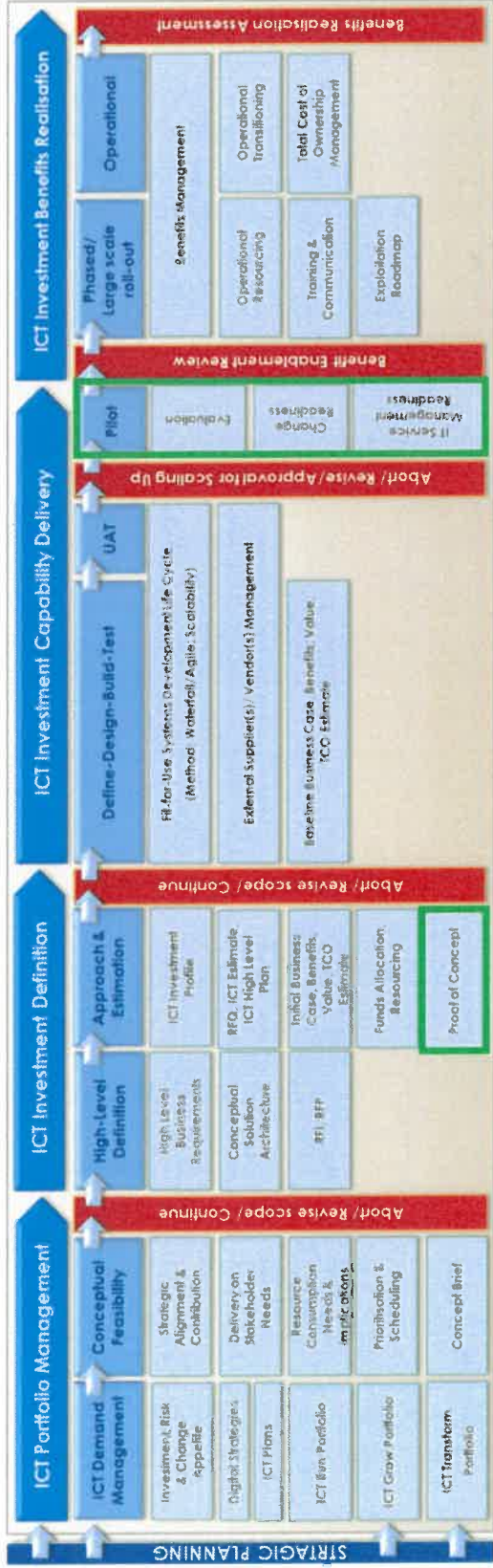


Figure 1: WCG ICT Value Chain

### 1. PROOF OF CONCEPT (POC)

The WCG ICT Value Chain specifies that a proof of concept (POC) be done as part of the ICT Investment Definition stage. A POC is the realization of a certain method or idea to demonstrate its feasibility and to verify that some concept or theory has the potential of being used. A proof of concept is usually small and may or may not be completed.

Business Need	Solutions	Department	Requester	Duration

## 2. PILOT

The WCG ICT Value Chain specifies that a pilot roll-out be done as part of the ICT Investment Capability Delivery stage. A pilot project refers to an initial roll-out of a system into production, targeting a limited scope of the intended final solution. The scope may be limited by the number of users who can access the system, the business processes affected, the business partners involved, or other restrictions as appropriate to the domain. The purpose of a pilot project is to test the solution in a controlled production environment.

<b>Business Need</b>	<b>Solutions</b>	<b>Department</b>	<b>Requester</b>	<b>Duration</b>
Citizen Relationship Management (CRM)	OracleCX Suite	DotP, DHS, TPW, DSD	Ms N Mngqibisa	11/2018 – 03/2020
Neighbourhood Watch Communication	MS Kaizala	DoCS	Ms A Fortune	01/2019 – 03/2022
EA Repository	Archi	DotP: ICT P&D	Mrs C Conradie	12/2019 – 03/2022

## ANNEXURE C: SUITES AND PLATFORM

<b>Adobe Creative Cloud Suite (Ce-I installation support only)</b>	
<b>Photos</b>	
Digital photo processing and editing	Adobe Lightroom
Image editing and compositing	Adobe Photoshop
Image editing for websites and apps	Adobe Fireworks
<b>Graphic Design</b>	
Vector graphics and illustration	Adobe Illustrator
Page design, layout, and publishing	Adobe InDesign
3D Content Creation	Adobe Dimension
Cinematic visual effects and motion graphics	Adobe After Effects
PDF creation and editing	Acrobat DC
Graphics, web pages and video story design	Adobe Spark
Vector Converter	Adobe Capture
Copywriting and editing collaboration tool	Adobe InCopy
Centralised creative asset manager	Adobe Bridge
Image Repository	Adobe Stock
<b>Videos</b>	
Video production and editing	Adobe Premiere Pro
Online video creation and sharing	Adobe Premiere Rush
Cinematic visual effects and motion graphics	Adobe After Effects
Audio recording, mixing and restoration	Adobe Audition
Animation creator	Adobe Animate
Realtime Animation	Adobe Character Animator
Media encoder for all platforms	Adobe Media Encoder
Video metadata ingest, logging and tagging	Adobe Prelude
<b>Illustrations</b>	
Digital drawing and painting	Adobe Fresco
<b>UI &amp; UX</b>	
Vector based UX design tool	Adobe XD
Websites, app design and coding	Adobe Dreamweaver
Wireframes, layouts, or mock-ups creation	Adobe Comp
<b>3D &amp; AR</b>	
AR authoring and viewing platform	Adobe Aero Desktop
Texturing and materials authoring of 3D designs	Substance
3D Modelling for VR	Medium
Avatar creation and rigging software	Mixamo
3D Human models and characters creation	Adobe Fuse

<b>Autodesk Architecture, Engineering &amp; Construction (AEC) Collection (Ce-I installation support only)</b>	
<b>BIM &amp; CAD</b>	
Plan, design, construct, and manage buildings	Revit
Civil engineering design and construction documentation software	Civil 3D
2D and 3D CAD	AutoCAD
Civil infrastructure conceptual design and analysis	InfraWorks
Clash detection and advanced coordination, 5D analysis, and simulation	Navisworks Manage
Cloud-based Project information management	Autodesk Docs
<b>Building Design</b>	
3D Modelling software for steel detailing	Advance Steel
Reality capture and 3D scanning software and services	ReCap Pro Leica Cyclone Field 360
Fast, high-resolution renderings in the cloud	Autodesk Rendering
Create visual logic to design workflows and automate tasks	Dynamo Studio
<b>Infrastructure Design</b>	
Building performance analysis software	Insight
Advanced BIM-integrated structural analysis and code compliance verification tool	Robot Structural Analysis Professional
Vehicle swept path analysis software	Vehicle Tracking
Structural bridge analysis software	Structural Bridge Design
<b>Construction</b>	
Intuitive 3D sketching app with native Revit interoperability	FormIt Pro
3D Modelling, animation, and rendering software for design visualization	3ds Max
MEP detailing and documentation software	Fabrication CADmep
CAD-aware cloud storage for individuals and small teams	Autodesk Drive

<b>MS Azure Platform Services (Ce-I installation &amp; software support)</b>	
<b>Security and Identity Management</b>	<ul style="list-style-type: none"> <li>• Azure Identity Manager</li> <li>• Azure Key Vault</li> <li>• Azure Management Groups</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>• Azure Page Blobs / Premium Storage</li> <li>• Azure File Storage</li> <li>• Azure Blob Storage</li> <li>• Azure Archive / Cool Storage</li> </ul>
<b>Database Management</b>	<ul style="list-style-type: none"> <li>• Cosmos DB</li> <li>• Azure SQL Elastic Pools</li> <li>• Azure SQL</li> </ul>
<b>Network Connectivity and Edge Services</b>	<ul style="list-style-type: none"> <li>• Microsoft Express Route</li> <li>• Microsoft Azure Load Balancer</li> </ul>
<b>Integration</b>	<ul style="list-style-type: none"> <li>• Azure Logic Apps</li> <li>• Azure Event Hub</li> <li>• Azure Event Grid</li> <li>• Azure Service Bus</li> <li>• Azure API Manager</li> <li>• Azure Data Factory</li> <li>• Azure FHIR</li> </ul>
<b>Application Development</b>	<ul style="list-style-type: none"> <li>• Azure Functions</li> <li>• Azure App Services</li> <li>• Azure Container Services</li> <li>• Azure Power Platform</li> </ul>
<b>Analytics and Big Data</b>	<ul style="list-style-type: none"> <li>• Azure Data Factory</li> <li>• Azure Data Lakes</li> </ul>
<b>Business Intelligence</b>	<ul style="list-style-type: none"> <li>• Azure Synapse</li> <li>• Azure Databricks</li> <li>• Azure Machine Learning</li> <li>• Power BI Premium</li> </ul>