

Specification of Competency Standards for ICT Operation and Support

Unit of Competency

Functional Area: System and Hardware Support

Title	Troubleshoot client device hardware issues
Code	107905L3
Range	This unit of competency applies to IT support personnel who are responsible for providing support for client devices. Client devices ranging from personal computer to smart mobile device could experience hardware issues during its operation and support personnel are requested to fix the issues. This UoC concerns the identification of hardware issues before it can be fixed.
Level	3
Credit	3
Competency	<p>Performance Requirements</p> <ol style="list-style-type: none"> 1. Knowledge for troubleshooting client device hardware issues <ul style="list-style-type: none"> • Possess good troubleshooting and problem analysis skills • Possess good knowledge of operating client devices • Possess good literacy skills for reading technical manuals of client devices • Possess good knowledge of the organisation's procedures for troubleshooting client devices • Possess basic knowledge of hardware protection procedures, such as use anti-static straps, etc. • Possess basic knowledge of the organisation health and safety guideline 2. Troubleshoot client device hardware issues <ul style="list-style-type: none"> • Comprehend symptoms, if any, prior issues appeared from problem report and/or discussion with user. For example: <ul style="list-style-type: none"> • Nothing came on when power button pressed • Blank screen but CPU unit appears to be running • System running very slow and continuously rebooting or hanged • System not responding to mouse and keyboard • Review maintenance records of the device, to determine if maintenance work has contributed or caused the issues • Prepare for troubleshooting: <ul style="list-style-type: none"> • Acquire all necessary technical and user manuals • Acquire tools to open the client device and tools for troubleshooting • Acquire device components or spare parts • Analyse and formulate a troubleshooting plan • Without opening to inspect the inside of the client device, perform checks for loose connections, power sockets, battery, display device, etc. • View the BIOS error message display code or listen for the number beeps sounded and verify the given code with technical manuals to identify BIOS detected error. For example: <ul style="list-style-type: none"> • 1 = Loose memory module • 2 = CPU error repair/replace mother board • 3 = display memory error repair/replace display card • Next stage of checking is to verify connected components have not affected the functioning of client device, such as: <ul style="list-style-type: none"> • Keyboards/mouse (swap with a known working component) • Battery low power on mobile device (swap with a fully charged battery) • Hard disk failure (listen for unusual noise) • Power supply unit failure (verify cooling fan is functioning and/or system light is on) • For intermittent issues, such as "system hang" or "randomly rebooting" under heavy system work load, identify cause of issue using combination of techniques, including but not limited to the following: <ul style="list-style-type: none"> • System log messages • Reproduce the issues with monitoring tools • Incorrect BIOS settings

	<ul style="list-style-type: none"> • Overheating components • Purpose-built hardware analysis device • For mobile device, once verified it is not battery problem and still cannot be started, return the devices to vendor who will use manufacture’s hardware problem analysis devices to identify the issues • Once the cause of issues have been identified, formulate a rectification action plan and clean the work area • Document and record the findings in accordance with the organisation procedures and standards <p>3. Exhibit professionalism</p> <ul style="list-style-type: none"> • Follow organisation safety guidelines and procedures when performing troubleshooting of client devices
Assessment Criteria	<p>The integrated outcome requirements of this UoC are the abilities to:</p> <ul style="list-style-type: none"> • Prepare well with troubleshooting work, having all the required tools and manuals for use during the troubleshooting process • Plan the troubleshoot work and systematically perform the troubleshooting to identify the issues or cause of issues • Follow the organisation safety procedures during the troubleshooting process
Remark	