



Technical Configuration Requirements and Guidelines

Use the following technical configuration requirements and guidelines to prepare your computers and network to administer exams. This information applies to computers running all components of the testing system: LSCP (cache proxy), administrative station and testing workstations unless stated otherwise.

You may require assistance from the local technical staff at your test center to implement these computer and network configurations. Contact the [help desk/technical support](#) for any questions or concerns regarding the information below.

1. **Computer Requirements:** Please refer to the [CTAS Facility Requirements \(PDF\)](#) for the hardware, software and connectivity specifications. Hosting the LSCP does not require a computer running a server operating system. The operating system should reside on and boot from the computer's local hard disk. Virtual machines and thin clients are not supported.
2. **Administrative Privileges:** Administrative privileges are required to install and operate Unify software on each computer. Users running Windows® 8.1 or 10 must set User Account Control to NEVER NOTIFY.
3. **Windows User Account/Login:** The Unify applications are launched via desktop shortcuts. These shortcuts are specific to the user's Windows profile. If a different Windows account is used, the Unify shortcuts will not appear on the desktop. To create shortcuts for a different user, launch the Unify application from the Start menu.
4. **Desktop Firewalls:** We strongly recommend that desktop security firewalls (Internet Security Suites or Windows built-in firewalls) should be configured to allow unrestricted network communication between computers running the Administrative Station, LSCP and Testing Workstation applications.
5. Add the following Unify applications to the **whitelist** of the virus scan suite applications, network/desktop firewalls or other security configurations such that the applications are not blocked:

- admlauncher.exe
- admLauncherHelper.exe
- admLauncherMain.exe
- admLauncherMainUpdater.exe
- bin.exe
- catalina.bat
- etschrome.exe

jar.exe
java.exe
javaw.exe
jre.exe
lscplauncher.exe
lscplaunchermain.exe
lscplaunchermainupdater.exe
setclasspath.bat
startup.bat
UnifyAdminInstaller.exe
UnifyCPInstaller_PROD.exe
UnifyVToolInstaller_PROD.exe
UnifyWksInstaller.exe
vtool.exe
vtoollauncher.exe
vtoollaunchermain.exe
vtoollaunchermainupdater.exe
wkslauncher.exe
wkslauncherhelper.exe
wkslaunchermain.exe
wkslaunchermainupdater.exe
wkswinproc.exe

6. **Other Desktop Security Configurations:** Desktop security systems, such as **Deep Freeze, Drive Shield, Fortress**, and similar products, control which software can permanently reside on the computer hard drive by erasing a software installation after a system reboot or at a scheduled time must be **DISABLED on the LSCP computer**. Not disabling such security configurations will result in loss of candidate test responses data. In addition, disable such configurations on all testing workstations prior to the test delivery.
7. **Local Area Network (LAN) and Internet Connectivity:** All test delivery computers MUST reside on the same subnet of the LAN with **no blocking** of any TCP ports. Use network switches (do not use hubs) that support 100 Mbps or higher on the LAN. All computers must be connected to the internet via a broadband internet connection with a minimum download speed of 4Mbps and upload speed of 1Mbps.
8. **Wi-Fi** is permitted for testing workstation communications provided Wi-Fi Protected Access II (**WPA2**) encryption is used. **Cache proxy and Admin station must use wired (Ethernet) connections.**
9. **LAN-WAN Separation:** If your Local Area Network (LAN) is configured in a way that LAN connectivity is interrupted when you lose internet connectivity, you should consider alternative devices or configurations to prevent this by isolating the LAN device (network switch) from Wide Area Network device (internet router) for your testing facility or lab. Isolating the LAN device will allow you to continue to deliver tests that are already launched in the event the internet connectivity is lost. However, a new test launch or a restart will require internet connectivity to be restored.

10. **Network Firewalls:** Test centers that access the internet via firewalls or proxy servers should ensure:
 - a. TCP ports 443 and 80 are open.
 - b. **ets.org** must be added as a trusted domain to allow file download/upload without content filtering. **Note:** Do not use a fixed IP address in place of ets.org for trusted sites.
 - c. Download of files with extension types **EXE, JAR, JNLP, XML** and **DLL** must be allowed.
11. **LSCP Computer IP Address:** Configure the LSCP computer either by assigning it a fixed IP address or by configuring your DHCP Server(s) such that the lease renewal process assigns it the same IP address as it had prior to renewal. DO NOT run desktop security applications such as **ESET** or **Kaspersky** in a way that would result in masking the cache proxy IP address as it will prohibit network communication between administrative stations, LSCP and testing workstations.
12. **Multiple LSCP Configurations:** All test delivery computers that are launched for a unique test center ID or site code and reside on the same subnet must be located near each other because they are part of one test delivery system. If the physical locations are different, then each delivery system must reside on a different subnet in order to use the same test center ID (site ID).
13. **Windows System Locale and keyboard settings:** The Windows system locale (language for non-Unicode programs) must be set to English (United States) on all test delivery computers. If it is set to any other language, the workstation will display an error message when attempting to launch the test. Also ensure that English (United States) is set as default app language with **US Qwerty** keyboard.
14. **Non-U.S. English Computer Names:** DO NOT use non-U.S. English characters for computer names.
15. **Configure Power Options:** All test delivery computers' **Power Schemes** should be configured so that the hard disk and monitor stays ON and the systems do not go into hibernation or standby mode during the test delivery.
16. **Configure Desktop Screen Savers:** All test delivery computers' **Desktop Screen Savers** should be disabled.
17. **Configure Instant Messenger Services,** such as **MSN® Messenger** or similar applications, in such a way that they do not run automatically at the time of startup or login to Windows. Running these applications may not allow you to launch iBT on the testing computers.
18. **Video Display Colors:** iBT software requires the display adapter to be set for 32-bit colors.
19. **Wide Screen Monitors:** Wide screen monitors must support an aspect ratio of 4:3.
20. **Headsets and Audio Test:** Always use iBT certified headsets to ensure good quality audio response recording. While preparing test stations, run the Verification Tool **Audio Recording and Playback** test and ensure the audio playback quality is good.
21. **Unify Software Installers:** Required installers are available at <https://unifyinfo.ets.org> (or <https://ibtprod.ets.org/ibt/unifyinfo.jsp>). Reboot the computer after the installation is complete.
22. **Microsoft® .NET requirement:** Microsoft dot NET version 4.0 or higher must be installed on all testing computers. You can download and install version 4.6.1 from the Unify software installer's link.

23. **Screen Magnification Software:** [Install ZoomText software](#) to test candidates who have been authorized to use the screen magnification and/or modifiable colors (color switching) accommodations.
24. **Positioning LSCP and Administrative Station:** The administrative station should be located near the testing workstations, preferably inside the testing room near the entrance or just outside the entrance. This allows for good flow when staff are checking in test takers at the admin station and escorting them to their assigned testing stations. It is acceptable for the LSCP to be located in another room, but it should be nearby so the Test Center Administrator can access it easily.
25. **Hardware or Software Changes:** Whenever a testing computer's hardware or software is changed or upgraded, you are required to run the "Round Trips" demo test on one at least one testing workstation and "Quick Launches" on the remaining workstations at least a day before your next test administration date to verify that everything is working as expected after changes are applied.