

# SUSE YES System Certification Kit 9.0

Desktop, Workstation and Laptop





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## About This Guide

This document is a step-by-step procedure manual for the SUSE Yes Certified™ system certification process.

### Audience

This manual is intended for users who have experience with computers, networking, Linux, and Microsoft Windows.

### Feedback

We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please contact your SUSE partner contact for feedback.

### Documentation Updates

For the most recent version of the System Test Tools and documentation, visit System Test Tools for SUSE LINUX <https://www.suse.com/partners/ihv/yes/system-test-tools-for-suse-linux.html>.

### Additional Information

For more Information on YES Certification, see:

SUSE YES Certified Program <https://www.suse.com/partners/ihv/yes/>

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# 1 SLED Configuration

Use this test suite to certify systems with SUSE Linux Enterprise Desktop (with latest SP).

## 1.1 Configuring the Hardware

### Minimum Requirements for System Under Test (SUT)

- ✓ Minimum SLED hardware requirements must be met on the SUT hardware. See the SLED OS online documentation for the SLED hardware requirements.
- ✓ Direct access to the System Under Test (SUT). Do not use remote access or SSH.
- ✓ Direct access to the Test Console (TC). Do not use remote access or SSH.
- ✓ Null modem serial cable (Required for systems with serial ports).
- ✓ 2 external USB drives min 2 GB (Required for systems with USB ports)
- ✓ 1 eSATA hard drive required for systems with an eSATA port.
- ✓ External speakers, if the SUT has a sound card.
- ✓ External Microphone, if SUT has a microphone jack.
- ✓ SLED 15 (latest SP) or SLES 12/15 (latest SP) + Workstation Extensions (optional).
- ✓ A monitor that supports the video adapter.
- ✓ 1 Ethernet port, minimum in the SUT and in the TC.
- ✓ If 3<sup>rd</sup>-party drivers are needed, please obtain them using the SUSE SolidDriver Program.
- ✓ We recommend that UEFI be enabled during testing (if the SUT supports UEFI).
- ✓ Enabling Secure Boot during testing is optional. If Secure Boot must be enabled during testing, a configuration note must be added to the Certification bulletin stating this.
- ✓ All SUT hardware (RAM, Disk, NIC, etc.) must be installed and configured prior to OS installation. Any hardware which you do not want tested must be removed from the system before installing the OS.
- ✓ Enable only the video adapter which you want listed on the bulletin. Make sure that all video adapter ports on the primary video adapter are connected to monitors before the OS install begins. The monitors must remain connected until all testing is completed. All secondary video adapters must be disabled or

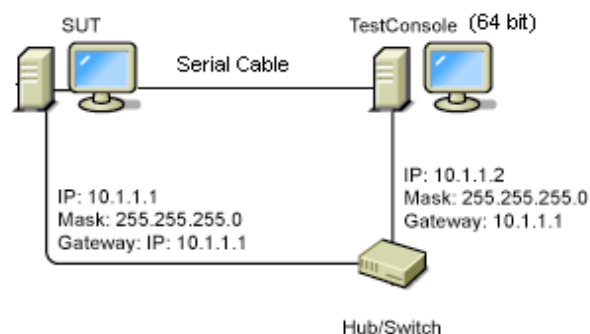




removed from the system before installing the OS unless you are planning to test a GPU with compute capability. If you are testing a GPU with compute capability, then you must either download the GPU compute test or the TC must have internet access to be able to download the GPU Compute test. To properly set up a NIC in the TC for internet access so that the test kit will know not to test it, please follow the steps in the section titled “Dealing with Unused NIC ports on the TC” in the TestConsole Setup and Configuration document. Please see the troubleshooting document for the manual install instructions of the GPU Compute tests.

- ✓ All NIC adapters and all WiFi adapters in the system are required to be configured and to be tested. Remove any NIC adapters and any WiFi adapters which you do not intend to configure and to test before installing the OS.
- ✓ For Wi-Fi capability, a Wireless Router matching the highest speed of the SUT Wi-Fi NIC.
- ✓ The TC NIC's must be as fast as or faster than the SUT NIC's. The switch between the TC and the SUT must be as fast as the fastest NIC's in the testing harness.

**Figure 1-1** Configuration for the testing with one Ethernet port.

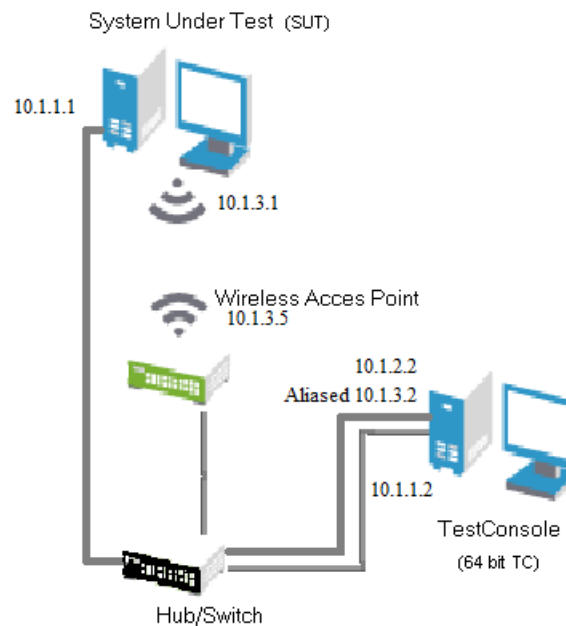


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**Note:** When assigning IP addresses to the NICs, do not use the range 192.168.101.0 through 192.168.101.255. These IP addresses are used in the Serial Port test.

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**Figure 1-2** Configuration for the tests with Wi-Fi and wired connection.



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**Note:** If a wired and wireless adapter are to be included on a certification bulletin then both must be tested using the SLED Workstation or SLED Laptop project.

---

## 1.2 Configuring SLE Environment (SUT)

The following instructions are for installing SLE on the SUT. Before doing so, please ensure that the TestConsole system has been set up according to the TestConsole documentation.

### 1.3 SLE PXE Install

1. Delete all partitions from all hard drives. Section "1.1 Removing the ELIO Boot Tables" in the Troubleshooting and Help Document has instructions for deleting partitions.
2. Remove all external devices (USB, eSATA, etc.) from the SUT.
3. Boot the SUT and enter the BIOS/UEFI configuration.
4. Ensure that network boot (PXE) is enabled in the BIOS/UEFI. If needed, press the appropriate key to enter the BIOS/UEFI and select the PXE boot during post. Exit out of the BIOS saving any changes which were needed.
5. PXE boot the SUT. The PXE server has to be the TC.



6. The SUSE SCK Install Main Menu will be displayed on SUT. Use the arrow keys (or the tab keys on some systems) to select the OS to install, then press <Enter>.
7. The steps below are for SLED 15 SP6. The OS specific Install screen will be displayed. Use the arrow keys (or the tab keys on some systems) to select the OS to install the option which best meets your needs, then press <Enter>. There may be a short delay after pressing enter then SUT will display the SLE GUI installation screen and the OS installation will begin. Each option is briefly explained below.
  - a. Single (hard) disk automated install – This option is appropriate for most systems with a storage configuration which appears as a single hard drive. All OS installation settings are completed for the user and are automatically installed on the SUT.
  - b. Multiple (hard) disk automated install – This is the same as single-disk install except the user will be provided with the ability to configure disk partitions and specify the OS installation location.
  - c. Manual install – The manual OS installation is like a DVD install. The user inputs all settings for each configuration screen during the OS install. If an automated install (single/multiple disk or No GUI Headless) was selected, then wait for the installation to complete. Once the OS installation has completed then proceed to section 1.x which applies to your SUT to set up the IP address on your SUT.
8. If a manual install was selected then proceed to the documentation Section 11, “Manually Installing SLED” then use the installation instructions for the OS which you chose to install.
9. If the SUT OS Install was a PXE Install then proceed to section 1.4.

## 1.4 Set up the IP Address information on the SLED SUT

1. For a SLED 15 SP6 SUT type root in the Username field, then click next.
2. On the password screen click on the gear/cog button.
3. Click on GNOME Classic.
4. Type in the root password, then press <Enter>. The password should be suse.
5. On the SUT, click on the top right of the screen, then click on the settings button (cog icon).
6. On the left side of the window, scroll down and click on Network.
7. In the wired box, click on settings icon (cog).
8. Click on the IP v4 tab (on the top).
9. Click on the Manual radio button.
10. In the IP Address box type the wired IP address which will be used by the SUT (i.e. 10.1.1.1).
11. In the Netmask box, type 255.255.255.0.
12. Click Apply on the top right.



13. Scroll down then click on About (on the bottom left).
14. Click on Device Name.
15. Type SUT in the Device Name field, then click Rename.
16. Click on the x at the top right to close the Settings window.
17. Reboot your SUT then login. To reboot click on the top right then click on the power icon, choose Restart.
18. Login to the SUT.
19. On the SUT open a terminal then type: ip a <Enter> to display all IP Addresses. The IP address should be 10.1.1.1. If the IP address is not 10.1.1.1, retrace your steps above to configure the NIC IP address.
20. If your SUT has Wi-Fi adapter then continue to the next section to set up the Wi-Fi IP Address otherwise go to section entitled Test kit installation.

## 1.5 Set up the Wi-Fi IP Address information on the SLED SUT

1. If your SUT has a Wi-Fi adapter, then continue here.
2. Using an Ethernet cable, connect your Wi-Fi router to your TC and configure your Wi-Fi router. The default recommended Wi-Fi router IP address is 10.1.3.5.
3. Login into the SUT.
4. The following steps will all be performed on the SUT.
5. Click on the top right of the screen, then click on the settings (cog icon).
6. On the left side of the window, scroll up and click on Wi-Fi.
7. Click on Your Wireless Network (Router name).
8. When prompted type in your wireless router password.
9. Click on the setting button (round gear/cog) next to your wireless router name. The setting button (round gear/cog) may take a while to appear.
10. Click on the IPv4 tab.
11. Click on the manual radio button.
12. In the Addresses field, type in your SUT wireless IP address (i.e. 10.1.3.1).
13. In the Netmask field, type in 255.255.255.0.
14. Turn off DNS and Routes by clicking on the on/off slide button to the right.
15. Click on the Security tab on the top.
16. On the Security drop down select from the drop-down choices the encryption used on your Wi-Fi router.
17. If there is an access/connection password on your Wi-Fi router then type the password into the password field.
18. Click apply on the top right.
19. Click on your Wi-Fi router listed in the Visible Networks list. Your SUT should now connect to your Wi-Fi router and the word connected will be listed next to your Wi-Fi router to indicate the connection. If the Wi-Fi connection is not successful, then repeat the steps above.



20. Click on the x at the top right to close the Settings window.
21. Reboot your SUT then login. To reboot click on the top right then click on the power icon, choose Restart.
22. On the SUT open a terminal then type: `ip a` <Enter> to display all IP Addresses. The wireless IP address should be 10.1.3.1. If not, retrace your steps above to configure the wireless NIC. Once the wireless IP address is changed to 10.1.3.1, type “ping 10.1.3.1” from the TC to confirm connectivity before continuing.

## 1.6 Set up the IP Address information on the SLES SUT

1. If you are testing a SLES SUT with a wireless adapter, then do the following on the SLES SUT to configure the wireless adapter:
2. Open a Terminal and type `yast2 lan` <Enter>.
3. Click on the *Hostname/DNS* tab.
4. Type SUT into the Hostname Field.
5. Click on the Overview Tab.
6. Click on the wireless adapter, then click Edit.
7. Make sure the Wi-Fi adapter IP address is set to 10.1.3.1.
8. Click Next. The Wireless Network Card configuration screen will appear.
9. In the Network Name (ESSID) field, type in the name of your wireless router.
10. Click on the Authentication Mode drop down then choose the encryption method which your wireless router uses.
11. In the Encryption Key field type in the password for your wireless router (leave blank if wireless router does not have a password) and click Next.
12. Click the OK button in the YaST2-Network Settings window.
13. On the SUT open a terminal then type: `ip a` <Enter> to display all IP Addresses. The wireless IP address should be 10.1.3.1. If not, retrace your steps above to configure the wireless NIC. Once the wireless IP address is changed to 10.1.3.1, type “ping 10.1.3.1” from the TC to confirm connectivity before continuing.

## 1.7 Test Kit Installation

The Test Kit installation on the SUT will be completed later, after creating the test project. The testing instructions will have steps which will install the test kit onto the SUT. Proceed to Section 2.1, “Creating a New Test Project”.



## 2 SLED Pre-Testing and Preparation

### 2.1 Creating a New Test Project

1. Ensure that you have updated the products.txt file as instructed in the TestConsole documentation.
2. Click the *New* button on the menu bar. Direct Access to the TC, and SUT systems are required, do not use remote access, do not use SSH).
3. Click on the appropriate project (listed below) then click the select button.
  - Workstation – Full
  - Laptop/Tablet – Full
  - Workstation – Reduced (See the Reduced Testing Policies located at [https://www.suse.com/partners/ihv/pdf/System\\_Certification\\_Policies.pdf](https://www.suse.com/partners/ihv/pdf/System_Certification_Policies.pdf) Website to determine eligibility to use this test project).
4. A default unique project filename will be generated. The unique project filename contains a date-stamp and timestamp. You may choose a different unique project filename limited to 58 characters by typing a filename into the project file name field. Do not use more than 58 characters in the file name. Click on Save to save the project. Please use a unique project filename which has not been used previously.

---

**Note:** Do not put spaces or html control characters in the filename.

---

5. Follow any onscreen prompts.
6. Continue to the IP address Information.

### 2.2 IP Address Information

1. Review the IP addresses listed in the Project Contents window for SUT, and TC. Each IP address will be auto-detected.
2. The IP Address for the SUT will not be auto-detectable until after the test kit is installed onto the SUT. The default IP address of 10.1.1.1 will be listed. If the IP address for SUT is incorrect, do the following:
  - a. Double-click the SUT IP address.
  - b. Enter the correct IP address in the *Selection* field and click *OK*.
3. If the IP address for TC is incorrect, do the following:
  - a. Double-click the TC IP address to be changed.
  - b. Enter the correct IP address in the *Selection* field and click *OK*.
4. Repeat steps 3a and 3b for each TC IP address which needs to be changed.



## 2.3 Install Tests

The tests listed under the Install Tests section are part of the steps required to prepare for SUSE Yes Certification testing.

1. The install tests should all be displayed under the Install Tests category. If they are not displayed, click on the + in front of the Install Tests.
2. When testing SLED (latest service pack) on a SUT which includes a wired and wireless adapter, the WIRED adapter should be configured as the active adapter during the following tests:
  - Install Tests
  - Laptop Tests
  - Power Management Tests
  - Verify NIC 1
  - Verify Time Sync Setup.

## 2.4 Install Kit on SUT Test

### Test Objective:

This test will copy and install the Yes Certification Test Kit onto the SUT.

1. On TC, double-click Install Kit on SUT under the TestConsole project for the SUT.
2. A test kit install window will open on TC with interaction as follows in some steps below.
3. If prompted, In the open TC window, select the SUT IP address from the displayed list.
4. If prompted, type the SUT password (i.e. suse) then press <Enter>.
5. If prompted with a question "nfs://.... Remove the repo from the repository(Y/n)?" answer the question. This question may appear more than once.
6. When prompted, respond to the question "*is the SUT machine (IP Address) a laptop*" ?
7. If prompted with warning contact your "SUSE engineer" and this message appears to be caused by a tainted kernel, then press enter and continue with the Test kit Installation.
8. All SUT IP addresses should have been manually configured before now.
9. When prompted to "Enter a NIC number to modify...", make sure that all NIC's have an IP Address assigned then press C <Enter>. The default SUT Wi-Fi IP Address used by the test kit is 10.1.3.1. If an IP address is missing, then go back to section 1 to start over.



- a. If you encounter an message at the install screen message "Error: No other NIC cards were found on Network 10.1.3.1 ...", "Do you want to check (ping) again?", then the SUT IP addresses were not set up correctly. Go back to section 1 to setup the Wi-Fi IP address again.
10. On TC press <Enter> as prompted once the Test Kit installation has completed.
11. If the test reports as not successful, this may be due to kernel taint message. In the case of a tainted kernel message the test kit was Installed successfully.
12. If this test fails, reboot the TC, then try this test again.
13. If you are testing SLES 12 (current SP) and would like to install the optional workstation extensions rpms then please refer to section 5 in the end of the document.

## 2.5 Install Check Test

### Test Objective:

Verify that SLED and the test kit installed correctly.

Double-click *Install Check* under the TestConsole project for the SUT. Test performs a quick check and displays the results on the TestConsole.

## 2.6 Enable Component Check Test

### Test Objective:

This test prepares for the component check.

1. Double-click *Enable Component Check* under the TestConsole project for the SUT.
2. If the GUI login screen is not displayed on the SUT then on the SUT press <Ctrl><Alt><F7> at the same time to bring up the GUI. This step does not apply headless systems.
3. Login to the SUT. For a SLED 15 SP6 SUT:
  - a. Type root in the Username field, then click next.
  - b. On the password screen click on the gear/cog located next to the sign in button.
  - c. Click on GNOME Classic.
  - d. Type in the root password, then press <Enter>. The password should be *suse*.
4. For a SLES SUT, log in as root. The password should be *suse*.

## 2.7 Component Check Test

### Test Objective:





This test will gather system information about the SUT.

Ensure that all devices (e.g. wireless LAN adapter) are enabled before starting the Component Check Test. Any changes made to SUT (hardware, drivers, BIOS/firmware updates) after this test is run will not be detected in the system information screens. It is important that all hardware, drivers, BIOS/firmware updates which will be used during testing are installed on the SUT before starting the Component Check Test. All subsequent tests will be available once the validate install test and component check test are completed. If a detected component is deleted from the detected devices it can be listed again by starting the component check test again. Direct access to the TC, and SUT systems are required (do not access remotely, do not use SSH).

1. Double-click *Component Check* in the Project Contents pane.
2. Follow any on-screen prompts on TC.
3. Click Yes on the Open Edit Product/Report pop-up window.

## 2.8 Product and Report Information Entry

The Product and Report Information screen is the product information input tool for your Yes Certification Bulletin. The hardware information entered on the following screens will be the same information which appears on your Yes Certification bulletin. Please be accurate with all inputted information.

---

**Note:** Direct access to the TC, and SUT systems are required (do not access remotely, do not use SSH).

---

1. Click the Edit Product/Report button to open the Product & Report Information window.
2. Proceed to the next section (System Information Entry).

## 2.9 System Information Entry

The system information consists of all fields under the System tab. Much of the OS detected information will be filled in automatically, but it needs to be checked for accuracy. The fields are editable and can be corrected as needed. This is the information which will appear on the Yes Certification Bulletin. It is important to complete all information entry in this section accurately before testing the SUT.



**Figure 2-3** System Tab

Product & Report Information - Laptop/Tablet - Full (Laptop\_mic\_test\_Full-20220307-...)

File Report

View / Print Verify Import Report ? Ok

Company System Video LAN HBA Devices

System Name and Model  
Your product name

Computer Type  
Notebook

CPUs: (1) Intel(R) Core(TM) i7-3840QM CPU @  
(1) Core™ i7-3840QM Processor 2.80 GHz

Mother Board Revision  
Not Defined

Bios / UEFI  
UEFI-Legacy: GSET94WW (2.54) (08/12/2013)

Memory (Enter Integers Only)  
32 GB

Product Description  
Your product name or your company website URL. For example:  
Please visit the <fill in your company name> website at www.<your company website>.com for more information.

Configuration Note (such as special installation or configuration instructions)

**Important!** The information entered in these tabs will be used on your Yes Bulletin. Please verify your data.

---

**WARNING:** Ensure that all fields highlighted in yellow are filled out in the System tab before starting tests. Test Results will be cleared if these fields are changed. The system information fields are required to be completed for the test results submission file to successfully read into the SUSE Bulletin System (SBS).

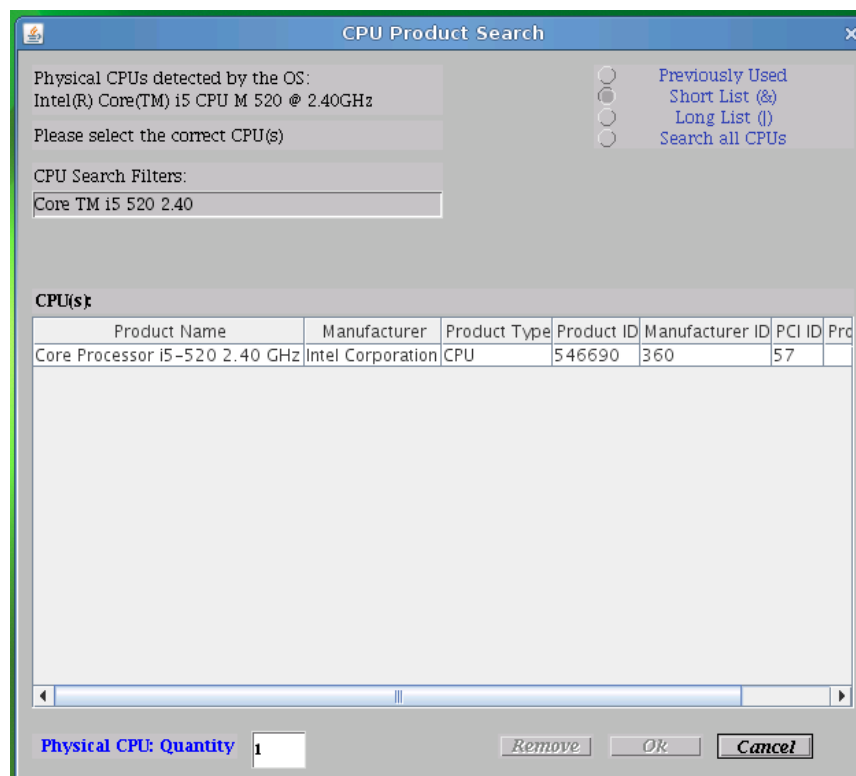
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1. Enter the System Information. The detectable information will be filled in automatically.
  - a. If missing or incorrect, enter the System Name and Model.
  - b. If missing or incorrect, choose the Computer Type from the drop down list.
  - c. If missing or incorrect, enter the Mother Board Revision.
  - d. If missing or incorrect, enter the system BIOS/UEFI version information.  
There are three possible options to be reported in the BIOS / UEFI field: UEFI, BIOS or UEFI-Legacy.
2. Edit this field to be the correct information. The line must display one of the following:



- UEFI: <version> <date> – This means that the firmware on the hardware platform is UEFI and the system was booted in its UEFI enabled configuration. It also means that the SLED OS on the SUT was installed and booted using the UEFI boot loader (ELILO).  
Example: UEFI: AJ152 (12/24/2013).
  - BIOS: <version> <date> – This means that the firmware on the hardware platform is a traditional BIOS and the system was booted through the BIOS. It also means that the SLED OS on the SUT was installed and booted using the traditional or legacy boot loader (GRUB).  
Example: BIOS: AJ152 (12/24/2013).
  - UEFI-Legacy: <version> <date> – This means that the firmware on the hardware platform is UEFI and was booted UEFI. It also means that the SLED OS on the SUT was installed and booted using the traditional or legacy boot loader (GRUB).  
Example: UEFI-Legacy: AJ152 (12/24/2013).
3. If missing or incorrect, enter the system Memory (RAM) then choose from the drop-down the units of measure (e.g., Megabytes, Gigabytes, etc.).
  4. Select the CPU in the SUT.

**Figure 2-4** CPU Selection Window



5. Click the '+' button next to the CPU's field.
6. Select the appropriate CPU from the filter list. The short list of the closest detectable matching CPU/s will be listed on the screen. If this is the correct CPU and the quantity which is in your SUT then click on the CPU to select it and click OK.
7. If needed use a search filter to find the CPU in the SUT. If the correct CPU was not detected, there are 3 additional filter methods to use when searching for the CPU. The CPU should be selected from the results when using any of these filters. The filter types are: previously selected, short list, long list, and search all CPU's. These can be selected by clicking on the associated radio button on the screen. Below is an explanation of each filter

- **Previously Selected** - This filter will display all CPU's previously used.
  - **Short List** - This is the default filter when the screen is opened. The CPUs containing all of the auto detected criteria will be displayed.
  - **Long List** - CPUs containing any part of the auto detected criteria will be displayed.
  - **Search all CPU's** - This is an editable interactive search filter. The editable search field will appear. Enter any information to search on. If no search criteria is entered, then all CPU's will be listed.
8. If the correct CPU still does not appear in the filter list after using each of the search filters, then choose a substitute CPU for testing. Propose the new unlisted CPU in SBS.
  9. See the SBS users guide for more information.
  10. The CPU quantity will also be automatically filled in. If CPU quantity is missing or incorrect, then enter the correct quantity.
  11. To remove a CPU, select a different CPU and click OK.
  12. Enter the Product Description
  13. The product description field on a YES CERTIFIED bulletin is a way to include additional information about your product that is important, but that is not listed elsewhere on the bulletin.

#### Requirements for the Product Description:

- Product description must be in English and may not exceed 1,000 characters.
- Do not use carrots < > in the product description.
- Do not use special characters such as trademarks or copyrights in the product description.
- Do not make claims that are difficult or impossible to substantiate, especially over time.

#### Some examples include the following:

- Do not use phrases like "this is the best...", "fastest...", etc.)



- Do not make statements about product lines or product series. It must be specific to the product tested and the configuration listed in the specific bulletin.
- Do not compare your product to a competitor's product or with other products on the market.
- If a component category is not listed on the bulletin in the tested configuration area, but was part of the tested configuration, it may be included in the product description.
- Do not indicate optional adapter/driver configurations. A separate bulletin is required for each adapter / driver pair.
- Do not list alternate processor family, unless test results are submitted for these alternate processors.
- If alternate configurations of components are available and desired on a bulletin (video, hard drives, keyboards, etc.), then a separate bulletin must be created. If it is desired to list a "variety of options" (hard drives, optical drives, etc. are available), then each must have a separate bulletin.

---

**Note:** SUSE reserves the right to remove any information from the bulletin submission that is deemed questionable with regards to this process at its own discretion.

---

- Any required installation or configuration instructions should not be in the product description but should instead be included in the configuration notes section of the bulletin. To provide additional marketing information about your product, the following options are provided:
  - A URL where additional product information can be obtained can be included in the product description. Note that the bulletin becomes a static document, so use a link that is not likely to change (you may want to use your company Web site).
14. Enter configuration notes into the *Configuration Note* field. Configuration Notes may also be added to the Yes Certification Bulletin after the bulletin submission is read into the SBS database.
- If any boot parameters were used for the OS Installation on the SUT, please enter this information into the *Configuration Note* field.
  - Add any configuration information that an end-user would need to know when using the system.

## 2.10 Company Information Entry

The company information consists of all fields under the Company tab.

1. Select the Company tab.



**Figure 2-5** Company Tab

Product & Report Information - Laptop/Tablet - Full (Laptop\_mic\_test\_Full-20220307-...)

File Report

View / Print Verify Import Report ? Ok

Company System Video LAN HBA Devices

Certification Type (16)  
Workstation

Test Kit Version (363)  
System Certification Kit 8.7.0-12.1

Test Kit Directory  
/opt/suse/testKits/system

Company (258849)  
Company Not Selected

Testing Company (258849)  
Company Not Selected

Company URL (optional)

**Important!** The information entered in these tabs will be used on your Yes Bulletin. Please verify your data.

2. Enter the system manufacturer company name.
  - a. Click the '+' next to the Company field.
  - b. Select your company name by clicking on it. The first time that a company name is selected it will automatically be entered into the testing company name field.

---

**Note:** If your company name is not listed in the company drop down list, leave the default name "Company Not Selected". Your company will automatically be added to SBS after your first bulletin submission. See the SBS users guide for more information about adding a company to SBS.

---

- c. Click *Select*.
3. Change the Testing Company name if it is different from the system manufacturer company name.
  - a. Click the '+' next to the Testing Company field.
  - b. Select the testing company name by clicking on it.
  - c. Click *Select*.



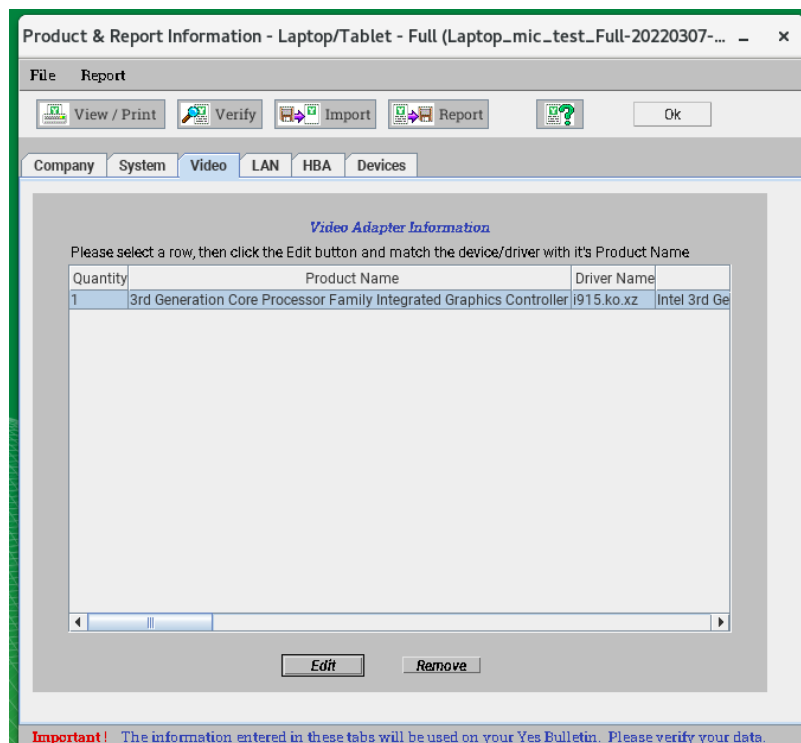
4. Type in the Company URL (optional). Do not fill in a URL if “Company Not Selected” is being used.



## 2.11 Video Device Information Entry

1. Click the Video tab to select the Video Adapter used in testing.
2. Click on the first video adapter listed and click *edit*.

**Figure 2-6** Video Tab



3. All previously selected adapters will be displayed. Select the appropriate adapter from the filter list and click OK.
4. Repeat these steps for each additional adapter in the SUT.
5. If the correct adapter is not detected, use a filter to search for the correct adapter. The adapter should be selected from results of one of these filters. Each filter can be selected by clicking the associated radio button.

Below is an explanation of each filter.

- **Previously Selected** – This is the default filter when the screen is opened, which displays all previously selected adapters.
- **Short List** – Displays adapters containing all auto-detected criteria.
- **Long List** – Displays adapter/s containing any part of the auto-detected criteria.
- **Search all Devices** – This interactive search filter allows you to enter any searchable information. If no search criteria is entered, then all adapter's will be listed. You may want to search for part or all of the device or name. For example to search for an NE 2000, search for NE or 2000. You can also search for the *Company* or *ID number*.



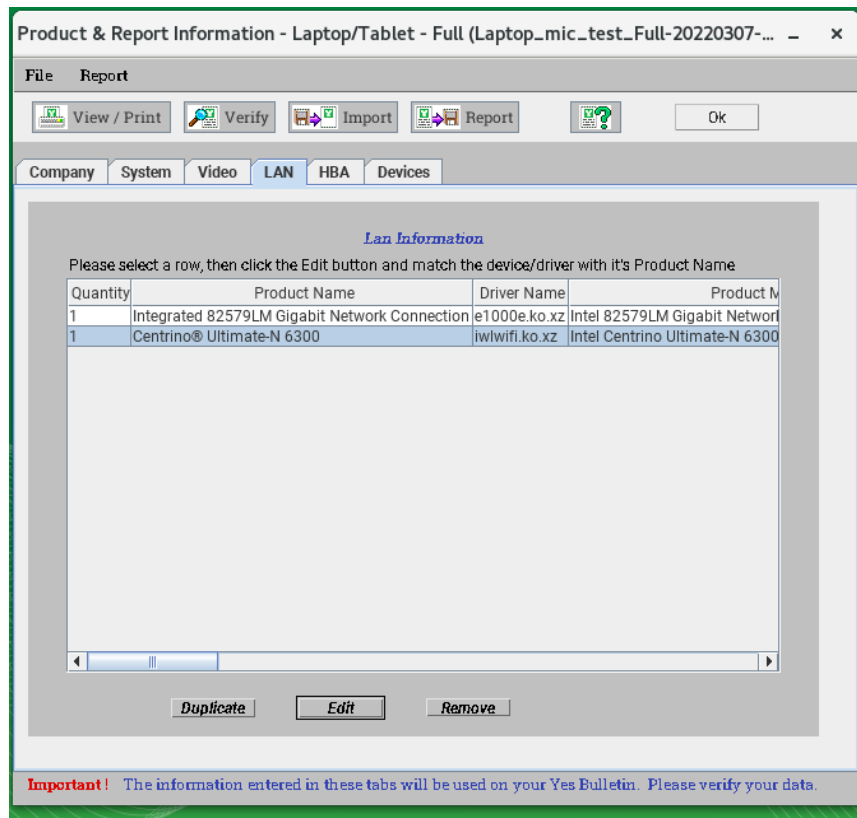


- **Propose New Device (not found in database)** – This is the method used to propose new adapters. If the adapter cannot be found, then it must be proposed as a new adapter.
6. If the correct adapter cannot be found with the filters, then it must be proposed. Click the *Propose new device* radio button and enter the adapter product name.
  7. If the device type is not correct use the drop-down menu to select the correct type.
  8. Click the *Manufacturer* drop down to select the manufacturer and click *OK*.
  9. After the bulletin submission file is read into SBS, a manufacturer URL will need to be added for the proposed device. See the SBS Users Guide for more information about adding a URL.
  10. The adapter quantity will also be automatically filled in. If the adapter quantity is missing or incorrect, then enter the correct quantity.
  11. Click *OK*. Repeat these steps until all adapters are selected.
  12. To remove a driver or adapter, click the *Edit Product/Report* button. Click the *Video* tab. Select the driver or adapter and click *remove*.
  13. Follow any onscreen prompts.
  14. To restore a deleted driver, close the *Product & Report Information* screen by clicking on the *OK* button at the top right.
  15. Double-click *Component Check* in the *Project Contents* pane.
  16. Click on the *Edit Product/Report* button.
  17. Click on the appropriate tab. The removed driver will be listed.
  18. Repeat these steps until all adapters in the SUT are listed

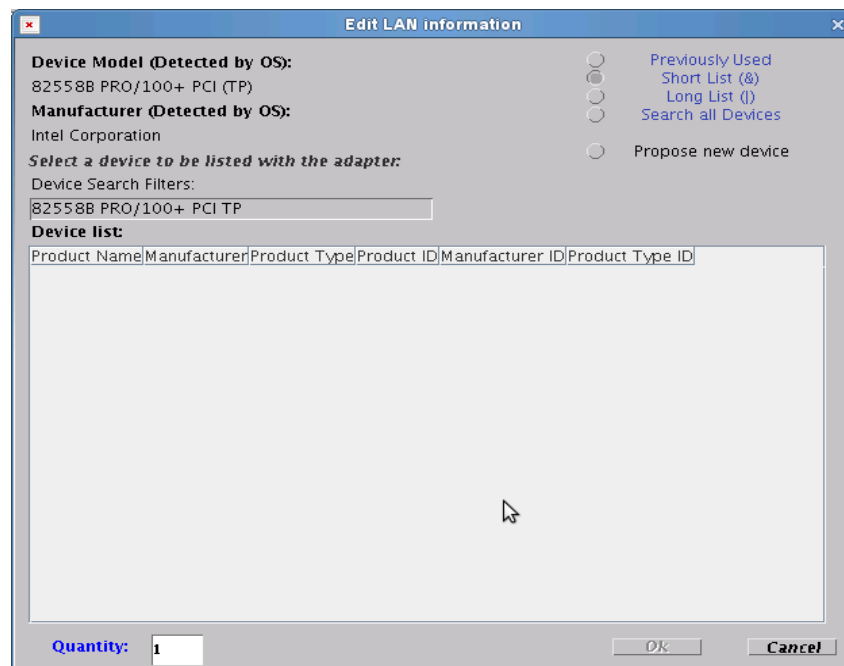
## 2.12 LAN Device Information Entry

1. Click the *LAN* tab to select all LAN Adapters used in testing.
2. Click on the first LAN adapter listed and click *Edit*.



**Figure 2-7-1** LAN Tab

3. All previously selected adapters will be displayed. Select the appropriate adapter from the filter list and click OK.

**Figure 2-7-2** LAN selection window

4. Repeat these steps for each additional adapter in the SUT.
5. If the correct adapter is not detected, use a filter to search for the correct adapter. The adapter should be selected from results of one of these filters. Each filter can be selected by clicking the associated radio button.

Below is an explanation of each filter.

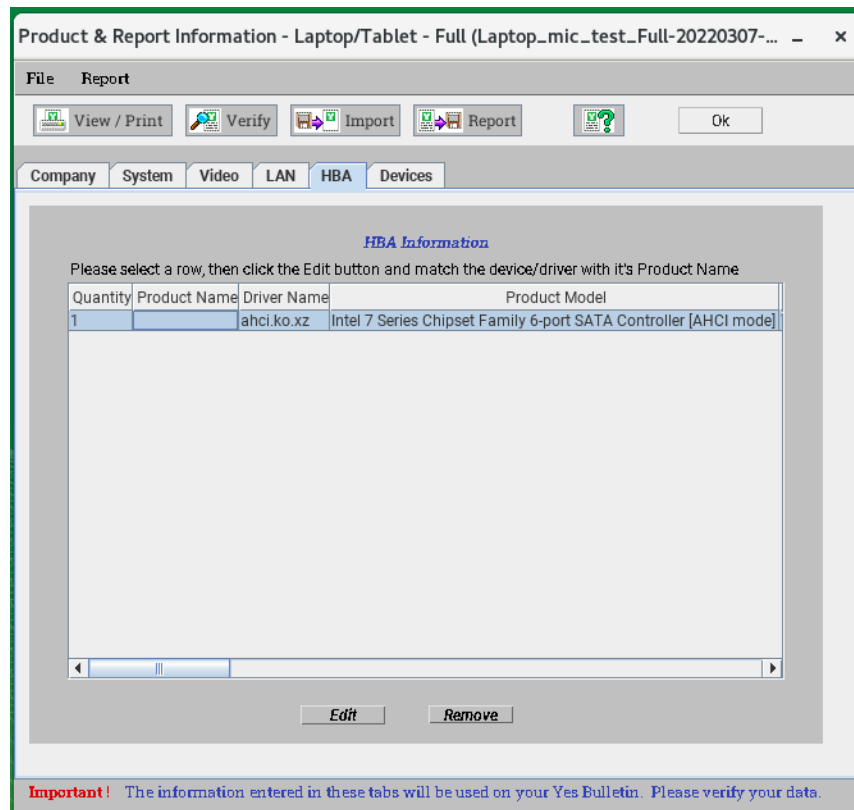
- **Previously Selected** – This is the default filter when the screen is opened, which displays all previously selected adapters.
  - **Short List** – Displays adapters containing all auto-detected criteria.
  - **Long List** – Displays adapter/s containing any part of the auto-detected criteria.
  - **Search all Devices** – This interactive search filter allows you to enter any searchable information. If no search criteria is entered, then all adapter's will be listed. You may want to search for part or all of the device or name. For example to search for an NE 2000, search for NE or 2000. You can also search for the *Company* or *ID number*.
  - **Propose New Device (not found in database)** – This is the method used to propose new adapters. If the adapter cannot be found, then it must be proposed as a new adapter.
6. If the correct adapter cannot be found with the filters, then it must be proposed. Click the *Propose new device* radio button and enter the adapter product name.
  7. If the device type is not correct use the drop-down menu to select the correct type.
  8. Click the *Manufacturer* drop down to select the manufacturer and click *OK*.
  9. After the bulletin submission file is read into SBS, a manufacturer URL will need to be added for the proposed device. See the SBS Users Guide for more information about adding a URL.
  10. The adapter quantity will also be automatically filled in. If the adapter quantity is missing or incorrect, then enter the correct quantity.
  11. Click *OK*. Repeat these steps until all adapters are selected.
  12. To remove a driver or adapter, click the *Edit Product/Report* button. Click the *LAN* tab. Select the driver or adapter and click remove.
  13. Follow any onscreen prompts.
  14. To restore a deleted driver, close the *Product & Report Information* screen by clicking on the *OK* button at the top right.
  15. Double-click *Component Check* in the *Project Contents* pane.
  16. Click on the *Edit Product/Report* button.
  17. Click on the appropriate tab. The removed driver will be listed.
  18. Repeat these steps until all adapters in the SUT are listed



## 2.13 HBA Device Information Entry

1. Click the HBA tab to select the HBA used in testing.
2. Select the first HBA listed and click *edit*.

**Figure 2-8-1** HBA Tab



3. All previously selected adapters will be displayed. Select the appropriate adapter from the filter list and click OK.
4. Repeat these steps for each additional adapter in the SUT.
5. If the correct adapter is not detected, use a filter to search for the correct adapter. The adapter should be selected from results of one of these filters. Each filter can be selected by clicking the associated radio button.

Below is an explanation of each filter.

- **Previously Selected** – This is the default filter when the screen is opened, which displays all previously selected adapters.
- **Short List** – Displays adapters containing all auto-detected criteria.
- **Long List** – Displays adapter/s containing any part of the auto-detected criteria.
- **Search all Devices** – This interactive search filter allows you to enter any searchable information. If no search criteria is entered, then all adapter's will be listed. You may want to search for part or all of the device or name. For example



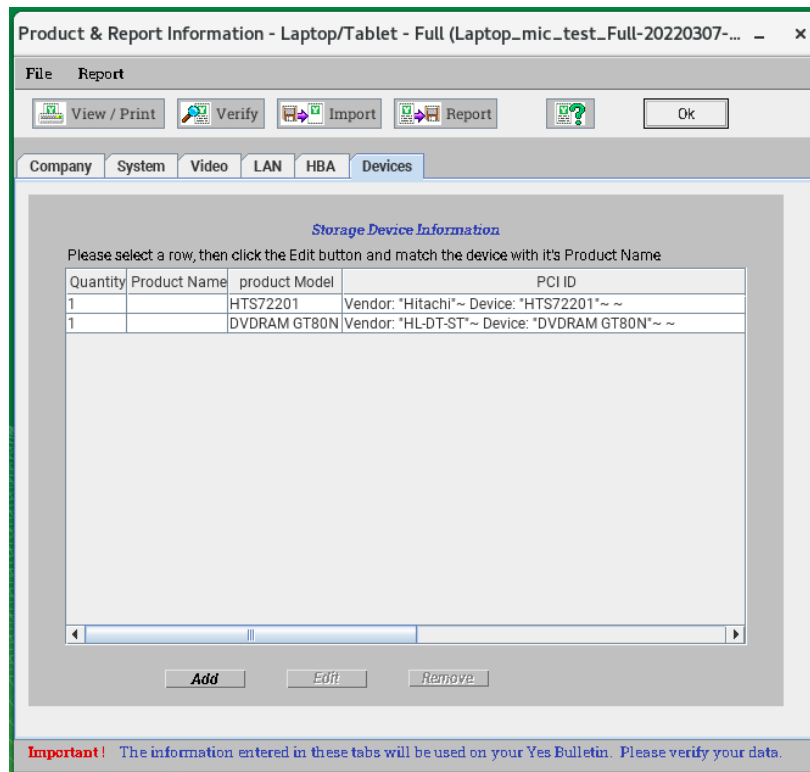
to search for an NE 2000, search for NE or 2000. You can also search for the *Company* or *ID number*.

- **Propose New Device (not found in database)** – This is the method used to propose new adapters. If the adapter cannot be found, then it must be proposed as a new adapter.
6. If the correct adapter cannot be found with the filters, then it must be proposed. Click the *Propose new device* radio button and enter the adapter product name.
  7. If the device type is not correct use the drop-down menu to select the correct type.
  8. Click the *Manufacturer* drop down to select the manufacturer and click OK.
  9. After the bulletin submission file is read into SBS, a manufacturer URL will need to be added for the proposed device. See the SBS Users Guide for more information about adding a URL.
  10. The adapter quantity will also be automatically filled in. If the adapter quantity is missing or incorrect, then enter the correct quantity.
  11. Click OK. Repeat these steps until all adapters are selected.
  12. To remove a driver or adapter, click the *Edit Product/Report* button. Click the HBA tab. Select the driver or adapter and click remove.
  13. Follow any onscreen prompts.
  14. To restore a deleted driver, close the *Product & Report Information* screen by clicking on the OK button at the top right.
  15. Double-click *Component Check* in the *Project Contents* pane.
  16. Click on the *Edit Product/Report* button.
  17. Click on the appropriate tab. The removed driver will be listed.
  18. Repeat these steps until all adapters in the SUT are listed

## 2.14 Storage Device Information Entry

1. Click the *Devices* tab to select all devices used in testing.
2. Select the first device listed and click *edit*.



**Figure 2-9-1** Devices Tab

3. All previously selected devices will be displayed. Select the appropriate device from the filter list and click OK.
4. Repeat these steps for each additional device in the SUT.
5. If the correct device is not detected, use a filter to search for the correct device. The device should be selected from results of one of these filters. Each filter can be selected by clicking the associated radio button.

Below is an explanation of each filter.

- **Previously Selected** – This is the default filter when the screen is opened, which displays all previously selected devices.
  - **Short List** – Displays devices containing all auto-detected criteria.
  - **Long List** – Displays devices containing any part of the auto-detected criteria.
  - **Search all Devices** – This interactive search filter allows you to enter any searchable information. If no search criteria is entered, all devices will be listed. You may want to search for part or all of the device or name. For example to search for an NE 2000, search for NE or 2000. You can also search for the *Company* or *ID number*.
  - **Propose New Device (not found in database)** – This is the method used to propose new devices. If the device cannot be found, then it must be proposed as a new device.
6. If the correct device cannot be found with the filters, then it must be proposed. Click the *Propose new device* radio button and enter the device product name.



7. If the device type is not correct use the drop-down menu to select the correct type.
8. Click the *Manufacturer* drop down to select the manufacturer and click *OK*.
9. After the bulletin submission file is read into SBS, a manufacturer URL will need to be added for the proposed device. See the SBS Users Guide for more information about adding a URL.
10. The quantity will also be automatically filled in. If the quantity is missing or incorrect, enter the correct quantity and click *OK*.
11. Repeat these steps until all devices are selected.
12. To remove a device or driver, click the *Edit Product/Report* button.
13. Click the *Device* tab, select the item and click *remove*.
14. Follow any onscreen prompts.
15. To restore a deleted driver, close the *Product & Report Information* screen by clicking on the *OK* button at the top right.
16. Double-click *Component Check* in the *Project Contents* pane.
17. Click on the *Edit Product/Report* button.
18. Click on the appropriate tab. The removed driver will be listed.
19. Repeat these steps until all SUT devices are listed



## 2.15 Verify Device Information Entry

Check for hardware that has not been added to the SUT hardware information list.

1. Click *Verify* in the Product & Report Information window to review the Errors.
2. If there are any "ERROR ... Missing...: " messages do the following:
  - a. Write down the missing devices. Follow the instructions in section 2.4... to add all missing System, Company, LAN, HBA, Video or Device information.
  - b. Click *OK* to close the Exception Information window.
3. Repeat for each driver ERROR...missing... message.
4. Once all missing hardware has been added, click *OK* in the *Product & Report Information* window.

## 2.16 Saving the Test Project

1. Click *Save* (at the top of the screen) to save the project.
2. Begin testing the system now according to the requirements for the test project.

Follow the testing instructions in the next section for the testing that you will perform. Run the tests in the order listed in this document.

During testing, TestConsole may prompt the tester for IP addresses, usernames, passwords, and user directory context for the SUT. We have not documented all on screen prompts for each individual test. The answers to the on screen questions should be obvious. If your SUSE DS contract includes support from an assigned SUSE engineer, you may contact that engineer for additional assistance.





## 3 Manual Workstation / Laptop Tests

Most tests in this section have 4 possible testing outcomes, pass, fail, pass w/warning and not applicable. The starting test result is untested. Below is an explanation of the possible outcomes.

**PASS** test result – indicates that the tested configuration has completely passed the testing requirements.

**PASS w/WARNING** test result – indicates that the tested configuration has passed the testing requirements but may have configuration issues which are in question. A PASS w/WARNING test result will need to be reviewed by a SUSE engineer when the test results are submitted. If there were warning messages on the SUT during the test, review these messages with regards to your hardware.

**FAIL** test result – indicates that the tested configuration has failed the testing requirements. There are many possible reasons. This may be due to improper configuration or steps missed during installation, setup or testing.

**NOT APPLICABLE** test result – indicates that the test does not apply to the tested configuration.

**NOT SUPPORTED** test result – indicates that the test cannot be run because the functionality is not supported by the hardware. This test result typically requires a configuration note.

### 3.1 Brightness Test

**Test Overview:** This test must pass in order for power management to display yes on the YES bulletin. For more information about power management requirements, see the YES Certified System Test Kit Policy document.

**Test Objective:** Verify that the setting of the display brightness is compatible with the OS.

---

**IMPORTANT:** Run this test only if you are performing certification on a laptop or notebook.

---



1. Double-click *Brightness Test* in the TestConsole project for the SUT.
2. Follow the onscreen instructions in the new console window that appears on the SUT.

---

**Notes:** If the brightness test reports a PASS w/WARNING result, the automated portion failed. Brightness cannot be controlled through the OS. If the test returns an untested result, run the test again before any other test. This includes the test not appearing to run.

---

## 3.2 Brightness Keys Test

**Test Overview:** This test must pass in order for power management to display yes on the YES bulletin. For more information about power management requirements, see the YES Certified System Test Kit Policy document.

**Test Objective:** Verify that the keyboard can be used to set the screen brightness.

---

**IMPORTANT:** Run this test only if you are performing a SLED certification on a laptop/notebook system.

---

1. Double-click the *Brightness Keys Test* in the TestConsole project for the SUT.
2. Follow the onscreen instructions in the new console window that appears on the SUT.

## 3.3 Lid Close Test

**Test Overview:** This test must pass in order for power management to display yes on the YES bulletin. For more information about power management requirements, see the YES Certified System Test Kit Policy document.

**Test Objective:** Verify that closing and opening the laptop lid is compatible with the OS.

---

**IMPORTANT:** Run this test only if you are performing a SLED certification on a laptop/notebook system.

---

1. Double-click the Brightness Keys Test in the TestConsole project for the SUT.



2. Follow the onscreen instructions in the new console window that appears on the SUT.

---

**Note:** If the test returns an untested result then run the test again before any other test. This includes the test not appearing to run.

---

## 3.4 Battery Test

**Test Overview:** This test is required for systems that can be powered by a battery (not an external UPS). The battery must be fully charged prior to starting this test. If the SUT does not have a battery, skip to the next test. This test must pass in order for power management to display yes on the bulletin. For more information about power management requirements, see the YES Certified System Test Kit Policy document.

**Test Objective:** Verify the OS can properly monitor the usage of the battery on the system.

---

**IMPORTANT:** Run this test only if you are performing a SLED certification on a laptop/notebook system.

---

1. Double-click the Battery Test in the TestConsole project for the SUT.
2. Follow the onscreen instructions in the new console window that appears on the SUT.

## 3.5 Video Test

**Test Objective:** Verify that the display sleep functionality works on the system.

1. Double-click *Video Test* in the TestConsole project for the SUT.
2. Follow the on-screen instructions in the new console window that appears on the TC. Message windows may also appear on the SUT.

## 3.6 Touchscreen Test

**Test Objective:** Verify that the touchscreen functions correctly with the OS.



1. Double-click *Touchscreen Test* in the TestConsole project for the SUT.
2. Follow the onscreen instructions in the new console window that appears on the SUT.

---

**Note:** If the test result returns an untested result then run the test again before any other test. This includes the test not appearing to run.

---

## 3.7 Speaker Test

**Test Overview:** This test is required for systems which support audio output or which have built in speakers.

**Test Objective:** Verify that the sound card and speakers are compatible with the OS.

1. Double-click the *Speaker Test* in the TestConsole project for the SUT.
2. Follow the onscreen instructions in the new console window that appears on the SUT.

## 3.8 Microphone Test

**Test Objective:** Verify that the sound card and the usage of a microphone are compatible with the OS.

1. Double-click the *Microphone Test* in the TestConsole project for the SUT.
2. Follow the onscreen instructions in the new console window that appears on the SUT.

## 3.9 Volume Keys Test

**Test Overview:** This test is required for systems with built in volume control keys on the keyboard.

**Test Objective:** Verify that the volume keys are compatible with the OS.

1. Double-click the Volume Keys Test in the TestConsole project for the SUT.
2. Follow the onscreen instructions in the new console window that appears on the SUT.



## 3.10 External Mouse Test

**Test Overview:** This test is required for systems which are able to have an external secondary USB mouse. If the SUT does not have the ability to plug in an additional mouse, skip to the next test.

**Test Objective:** Verify that the OS can properly detect and use an external mouse on the system.

---

**IMPORTANT:** Run this test only if you are performing a SLED certification on a laptop/notebook system.

---

1. Double-click the *External Mouse Test* in the TestConsole project for the SUT.
2. Follow the onscreen instructions in the new console window that appears on the SUT.

## 3.11 External Keyboard Test

**Test Overview:** This test is required for systems that can use a secondary external keyboard (USB). If the SUT does not have a way to plug in an additional keyboard (in addition to the built-in keyboard), skip to the next test.

**Test Objective:** Verify the OS can detect and use an external keyboard with the system.

---

**IMPORTANT:** Run this test only if you are performing a SLED certification on a laptop/notebook system.

---

1. Double-click the *External Keyboard Test* in the TestConsole project for the SUT.
2. Follow the onscreen instructions in the new console window that appears on the SUT.

## 3.12 External Monitor Test

**Test Objective:** Verify that the external monitor functions correctly with the OS. Start the test with no external monitor connected.



---

**IMPORTANT:** Run this test only if you are performing a SLED certification on a laptop/notebook system.

---

1. Double-click the *External Monitor Test* in the TestConsole project for the SUT.
2. Follow the onscreen instructions in the new console window that appears on the SUT.

## Optical Device Tests Overview

**Test Overview:** The Optical Device Tests are always required. The Optical Device Tests will detect and test all optical devices which are directly connected to the SUT. If the SUT does not have an optical device then the test will return the test result of "NOT APPLICABLE". Virtual optical devices (Virtual DVD, Virtual CD, etc) will not be tested but will cause a "**PASS w/WARNING**" result.

**Test Objective:** Verifies that the optical devices function correctly with the other devices in the system. Yes Certification requires that the most capable functionality of each optical device be tested. The most capable function is always write capability.

Optional:

1. The capabilities of the optical device can be determined before testing the devices.
2. Determine the capabilities of the optical device by looking up the specs on the device.
3. Place the appropriate media into each optical device. See table 2-2 below to determine which media to place into the optical media device.

---

**Note:** If a SUSE Hardware Detection pop up appears, place a check mark next to *Do not ask again* and click *No* or *Cancel* to not open the application.

---

- a. During the testing the test will prompt on SUT if the wrong media is in the optical media device.
  - b. Incorrect media will result in a test failure within several minutes.
4. If the tests fails, due to incorrect media, simply replace the media with the correct media then restart the optical media test.



**Table 2-2** CD-ROM/DVD Test Matrix

Drive Features	Media to place into drive
CD	Test with CD media with 600MB or more of data on it
CD-RW	Test with blank CD-RW media
CD-R	Test with blank CD-R media
DVD	Test with DVD media with 3GB or more of data on it
DVD-RW	Test with blank DVD-RW or DVD-R media
DVD+RW	Test with blank DVD+RW or DVD+R media
DVD-R	Test with blank DVD-R media
DVD+R	Test with blank DVD+R media
No Features line found	See <code>/proc/sys/dev/cdrom/info</code> for features.
Blu-ray	Not supported on SLE. Test a DVD instead.

**Note:** Verify that the write speed of the CD or DVD writable media matches the optical drive write speed. If the write speed of the media is slower than the write speed of the optical drive, the test may fail.

## 3.13 Optical Verify/Write Test

**Test Overview:** This test will exercise the optical devices write capability. If the SUT does not have an optical device with write capability then the test will return the test result of "NOT APPLICABLE". Blu-ray is not supported in SLE, please use a DVD for testing Blu-ray devices. This test is required to be completed prior to the stress tests on all systems. Do not remove the written media after the test has completed. Once the test has completed the written media will be used for the Optical Read Test during the 12 hour stress tests.

**Test Objective:** Verify that the optical write capability functions correctly with the OS.

1. Determine if the optical device supports auto-trayclose.
  - a. On SUT type `eject <Enter>` at the command line to eject the CD/DVD.
  - b. On SUT type `eject --trayclose <Enter>` at the command line to close the tray. If the tray closes and the command does not return an error then it is supported.



---

**IMPORTANT:** If the optical device does not support auto-tray close then the tester will need to manually close the tray during testing.

---

2. On the SUT place a blank writable (or rewritable) media that supports the maximum write speed of the drive into each optical media device. If prompted, *Cancel* at the choose what application to open prompt.
3. Double-click the *Optical Verify/Write Test*. The Test will begin. Messages generated during this test will pop up on the TC.

## 3.14 Hibernate Test

**Test Overview:** Hibernate is NOT supported on SLE 15 SP3 without a fix. If you are testing SLE 15 SP3 then see the hibernate fix instructions in the back of this document. This test must pass in order for power management to display yes on the YES bulletin. For more information about power management requirements, see the YES Certified System Test Kit Policy document.

**Test Objective:** Verify the OS can correctly place the system into and recover from hibernation mode.

1. Double-click the *Hibernate Test* in the TestConsole project for the SUT.
2. Follow the onscreen instructions in the new console window that appears on the TC.
3. If the Hibernate test fails, a possible workaround is to answer Y and type "systemctl hibernate" at the SUT Console.

## 3.15 Sleep Test

**Test Overview:** This test must pass in order for power management to display yes on the YES bulletin. For more information about power management requirements, see the YES Certified System Test Kit Policy document.

**Test Objective:** Verify the OS can correctly place the system into and recover from sleep mode.

1. Double-click the *Sleep Test* in the TestConsole project for the SUT.
2. Follow the onscreen instructions in the new console window that appears on the TC.





3. If the sleep test fails, a possible workaround is to answer Y and then type "systemctl suspend" from a SUT Console

## 3.16 Kdump Test

**Test Overview:** The kernel crash dump (kdump) test requires a minimum of 5 GB of free disk space and up to free disk space equivalent to the amount of RAM installed in the system. SLED requires more disk space on the / (root) partition than the equivalent amount of RAM for the test to properly run. If you want to run kdump over the Network on SLED 15 SP3 then the kdump settings will need to be changed. See the back of this document for Instructions.

**Test Objective:** Verify that the OS and hardware can correctly perform a kdump.

---

**Note:** Kdump is not supported on secure boot systems (when secure boot is enabled).

---

1. Double-click the *Kdump Test* in the TestConsole project for the SUT.
2. Follow the onscreen instructions on TC. A reboot may occur multiple times to perform and complete the kdump test.
3. Log in as root and click next.
4. On the password screen click on the gear/cog located next to the sign in button.
5. Select GNOME Classic enter suse for the root password, then press <Enter>.
6. If a prompt appears in the top right about logging into the wireless network, click on it and enter your WiFi Router password.

## 3.17 GPU Compute Test

**Test Overview:** The GPU Compute test will only exist in the workstation project and will Not exists in the laptop project. This test will check the GPU's ability to compute. This is NOT a video test. Run this test only if you have a compute GPU/DPU. To run this test your TC will need Internet access for the GPU test to be downloaded. To properly set up a NIC in the TC so that the test kit will know not to test it, please follow the steps in the section titled "Dealing with Unused NIC ports on the TC" in the TestConsole Setup and Configuration document.

1. This test is enabled by default.
2. Double-click the GPU Compute test.
3. If the GPU Compute test fails reboot the SUT then run the GPU Compute test again.



4. Run the component test again after the GPU Compute test has been run. The newly installed GPU drivers will be detected by the component check test, this will allow the GPU drivers to be listed on the YES Certification bulletin.

If you would like to manually download and install the Nvidia cuda files then follow the steps below:

1. Goto <https://developer.nvidia.com/cuda-toolkit>
2. Click on the green box "Download now".
3. Click on the "Linux" Operating System box.
4. Click on the Architecture(x86\_64 or arm64-sbsa) of your SUT.
5. Follow the instructions below for the Architecture which you have chosen.
  - a. For the x86\_64 Architecture click on the SLES box. Click on the Installer Type which you want to use (rpm local, rpm network, runfile). Follow the onscreen instructions.
  - b. For arm64-sbsa click on the Native box then click on the SLES box. Click on the Installer Type which you want to use (rpm local, rpm network, runfile). Follow the onscreen instructions.

## 4.0 Automated Workstation / Laptop Tests

### 4.1 Serial Port Test

**Test Overview:** This test is only required for systems with serial ports. This test is run independently from all other tests.

**Test Objective:** Verify that the Serial Port functions in the system.

---

**IMPORTANT:** When assigning IP addresses to the NICs, do not use the range 192.168.101.0 through 192.168.101.255. These IP addresses are used in the Serial Port Test.

---

1. Connect the SUT serial port 1 and TC serial port 1 using a serial crossover cable or a serial null modem cable.



---

**Note:** Com port 1 must = ttyS0 and have a speed setting of 115,200. We have had success using settings 3f8 and IRQ4.

---

2. Double-click *Enable Serial Port 1 Test* in the TestConsole project for the SUT.
3. Double-click the *Serial Port 1 Test* to begin the test.

---

**Note:** If the serial port test is experiencing problems, then please refer the serial port debug section in the troubleshooting document.

---

## 4.2 CPU Frequency Test

**Test Overview:** This is a fully automated test, there will not be any user interaction required. This test must pass in order for power management to display yes on the YES bulletin. For more information about power management requirements, see the YES Certified System Test Kit Policy document.

**Test Objective:** Verify that the OS can change and monitor CPUs that support multiple frequencies.

---

**IMPORTANT:** Ensure that the Auto Frequency (different vendors have different names for this) changing is enabled in the system setup. This test may take more than 10 minutes depending on the number of CPU cores in the system.

---

1. Double-click the *CPU Frequency Test* in the TestConsole project for the SUT.

## 4.3 Fan Thermal Test

**Test Overview:** This test is fully automated, there will not be any user interaction required.

**Test Objective:** Verify that the OS can properly monitor the change of temperature and fan states (on/off) on the SUT.

1. Double-click the *Fan Thermal Test* in the TestConsole project for the SUT.
2. The glxgears automated gears may be displayed on the SUT as part of the testing.



## 4.4 Throttling Test

**Test Overview:** This test is fully automated, there will not be any user interaction required.

**Test Objective:** Verify the OS can properly change throttling settings on CPUs (if supported).

1. Double-click the *Throttling Test* in the TestConsole project for the SUT.

## 4.5 Firmware BIOS Test

**Test Overview:** This test is optional. It will test the BIOS/firmware.

**Test Objective:** Verify that the BIOS/firmware is compatible with the OS.

1. Double-click the *Firmware BIOS Test* in the TestConsole project for the SUT

## 4.6 Verify Setup NIC Test

**Test Overview:** If the NIC Verify test fails, check the NIC configuration to ensure that the hardware is set up correctly. A **"PASS w/WARNING"** may indicate the NIC speed is not detectable with ethtool, therefore unable to verify the network is set up correctly. All NIC adapters and all WiFi adapters in the system are required to be configured and to be tested.

**Test Objective:** Verify that the NIC configuration is correct including LAN speeds and IP addresses. This test must pass before starting the stress tests.

Below are the default IP address's.

- SUT NIC 1 (default) IP address 10.1.1.1
  - TC NIC 1 (default) IP address 10.1.1.2
  - SUT NIC 2 (default) IP address 10.1.2.1
  - TC NIC 2 (default) IP address 10.1.2.2
  - SUT NIC 3 (default) Wireless NIC IP address 10.1.3.1. Tested during *Verify Setup - Wireless NIC*.
  - TC NIC 3 (default) IP address 10.1.3.2 for testing the Wireless Network.
  - SUT NIC 4 (default) IP address 10.1.4.1
  - TC NIC 4 (default) IP address 10.1.4.2 and so on
1. Each NIC IP address should be auto-detected. Ensure that each IP address is correct.
  2. Double-click *Verify Setup NIC* in the TestConsole project for the SUT.



## 4.7 Verify Time Sync Setup Test

**Test Objective:** Verify that the time is correctly synced between the SUT and the TC. This test must pass before starting the stress tests.

1. Ensure that the IP address for the adapter is correct.
  - SUT NIC 1 (default) IP address 10.1.1.1
  - TC NIC 1 (default) IP address 10.1.1.2
2. The following needs to be done on SUT.
3. On SUT open a Terminal.
4. For SLED 15 SP3 type chronyc sources <Enter>, otherwise type ntpq -p <Enter>.
5. The onscreen output should be as follows:

```
remote      refid      st  t when poll reach  delay  offset  jitter
=====
*10.1.1.2   LOCAL(0)   11  u   343  1024  377    2.109  -1.076  0.891
```

Interpretation of relative output:

“remote” needs to be the IP address of TC.

The “\*” in front of the remote IP address and “reach” of **377** means everything is in sync.

If the time is not synchronized, check the configuration and the IP addresses.

After boot, the time synchronization can take up to 30 minutes. The average time for synchronization is about 10 minutes.

6. Close the ntpq window once the time is synced.
7. Double-click Verify Time Sync Setup in the TestConsole project for the SUT.
8. If the test fails, follow the onscreen instructions.
9. If the onscreen instructions do not solve the problem, see the Time Sync troubleshooting section of the Troubleshooting and Help document

## 5.0 Stress Test Suite

**Test Overview:** As each test is set up, the actual test will be added into a folder called *Stress Tests* in the *Project Contents* pane. The stress tests will be started at the same time and run together to stress the overall system more efficiently and reduce testing time. After all testing is complete the *Get Test Logs Test* is the final test. Do not run the *Get Test Logs Test* until all testing is completed.



## 5.1 Memory/CPU Test Setup

**Test Overview:** Verify that the CPU's and memory function correctly under stress for an extended amount of time. This test does not require any setup.

## 5.2 Hard Disk/RAID Test Setup

**Test Overview:** The Hard Disk/RAID device test is required. The Hard Disk/RAID test detects and tests all Hard Disks and/or RAID devices which have a mountable partition. The hardware RAID testing is for hardware RAID only, it is not intended for testing software RAID. This test will exercise SCSI, SATA, eSATA, SAS, and Fibre Optic connected devices. If the SUT does not have a Hard Disk/RAID device the test will return "NOT APPLICABLE".

**Test Objective:** Verify the Hard Disk or RAID and driver functions correctly with the system.

1. If you want to list an eSATA port on the bulletin then connect the eSATA device to the eSATA port. The eSATA device must be tested during the certification tests. See "USB Test Setup" instructions to format external drives.
2. This test is enabled by default and will run with the stress tests.

## 5.3 NIC Test

**Test Overview:** If the test fails, troubleshoot the NIC setup by reviewing the configuration information in the TestConsole Document to ensure that the hardware is set up correctly. A "**PASS /WARNING**" result may indicate that the SUT NIC speed is not detectable with ethtool. If the SUT NIC speed is not detectable with ethtool then the tests are unable to verify that the network configuration is setup correctly. All NIC adapters and all WiFi adapters in the system are required to be configured and to be tested.

**Test Objective:** Verify the NICs function correctly under stress for an extended amount of time. The Verify Setup – NIC tests are required to be run and pass prior to starting this test.

## 5.4 Time Sync Test

**Test Overview:** Verify that the time remains synced between the SUT and the TC. This test does not require any setup.

## 5.5 Optical Read Test

**Test Overview:** This test is required to be run on all systems. If the SUT does not have any optical devices, the test will return "NOT APPLICABLE". Blu-ray is not supported in SLE, please use a DVD for testing in Blu-ray devices. This test will exercise the read capabilities of all



optical devices attached to the SUT. Do not remove any written media created from the Optical Verify/Write Test, it will be used during this Optical read test.

**Test Objective:** Verifies that the Optical devices function correctly with the other devices in the system.

1. This test is enabled by default and will run with the stress tests. Messages generated during this test will pop up on the TC.

## 5.6 USB Test Setup

**Test Overview:** The USB device test is always required. If the SUT does not have a USB controller then the test will return the test result of "NOT APPLICABLE". The USB test will detect and test all USB devices which have a mountable partition. This test is intended for exercising 2 USB storage devices connected to the SUT. If the SUT has 2 USB ports then plug a USB device into each port. When a USB keyboard or a USB mouse is using one of the 2 USB ports then an external USB hub is required to ensure that 2 USB storage devices are tested. A USB Keyboard, or a USB Mouse and USB hard drive can be plugged into the USB hub and the other USB hard drive is plugged into the other USB port. If the SUT has only 1 USB port then only 1 USB storage device must be tested. The volume name on the USB storage device must not have any spaces in the name.

**Test Objective:** Verifies the USB port functions correctly with other devices in the system.

1. The USB storage device needs to be formatted and partitioned for Linux. If the USB storage device has already been partitioned using the procedure below, then you do not need to format the device again. The USB storage device only needs to be partitioned once using the below procedure. To format the USB device follow the steps below.
  - a. Plug the USB device into the TC.
  - b. Open a terminal prompt and type `yast2 disk` <Enter>.
  - c. Click *Yes* at the warning.
  - d. Double click on the USB storage device (e.g., `/dev/sdb` or `/dev/sdc`).
  - e. Click *Delete* to remove existing partitions on the USB storage device.
  - f. If prompted click *Continue* at the warning screen about unmounting the drive.
  - g. Click *Yes* to really delete the partition.
  - h. If prompted click *Continue* to unmount the drive.
  - i. Click *Add* to create a new partition on the USB storage device.
  - j. Click the *Primary Partition* radio button then click *Next*.
  - k. Click the *Maximum Size* radio button then click *Next*.
  - l. Click *Next*, for the default Role (Data and ISV Application).



- m. Choose XFS from the file system drop down, then click *Finish* (while in the add partition screen).
  - n. Click *Next* on the Expert Partitioner screen. Click *Finish* on the summary screen. The formatting will begin.
  - o. Unplug the USB storage device from the TC then plug it into the SUT.
2. Connect the USB storage devices to the SUT. If there are USB ports on the front and the back of the SUT, then plug one USB storage device into the front USB port and the other USB storage device into a back USB port.
3. If prompted to open a new hard disk, click *No*.
4. This test is enabled by default and will run with the stress tests

## 5.7 Error Check Test

**Test Overview:** Verify no errors exist on the SUT. This test does not require any setup.

## 5.8 Starting Stress Test Suite

**Test Objective:** Verify system devices function correctly together in a high load situation for an extended period of time. All tests in the *Stress Test Suite* must be started within a 1-hour period, or the *Verify Stress Tests* will fail. If this did not occur, all tests should be canceled and completely restarted. All *Stress Tests* must run for a minimum of 11 hours together, or 3 hours together during the reduced testing project.

1. Double-click the *Stress Tests* folder.
2. Click "Continue" in response to the "Verify run" pop-up window. This will start all of the stress tests which were set up.
3. Wait 15 minutes and check if any of the tests have failed.
4. If any tests have failed within the first hour:
  - a. Correct the problem (see "Troubleshooting and Help Documentation").
  - b. Restart the failing test within the first hour by double clicking on the failed test.

## 6 Verify Stress Tests

**Test Objective:** This test is required for all systems. This test will ensure that all stress tests were run as expected and according to the testing policy.

1. After Stress Tests have completed double-click the *Verify Stress Test* to begin this test.





## 7 Evaluating Results of Stress Tests

1. After all the tests have completed, check to see if any tests have failed.  
If a test has failed, check the test configuration setup then return to the Section entitled, "Starting the Stress Tests". All tests must be run in parallel as defined in the section entitled, "Stress Tests".

## 8 Post-Testing Cleanup

1. If USB storage devices were used during testing, then safely remove them from the SUT.
2. If CD/DVD media was used during testing, then safely remove it from the SUT.
3. If a floppy diskette was used during testing then remove it from the SUT,

## 9 Get Test Logs

**Test Objective:** This test is required for all systems. This test will gather all test logs in preparation for the creation of the test results submission file.

1. Double-click *Get Test Logs* in the TestConsole project for the SUT. This test can take time to complete. We have seen systems with 5 TB of RAM take 2 hours to complete this test.

---

**IMPORTANT:** Do not run the *Get Test Logs Test* until all testing is completed.

---

2. If prompted answer the on screen questions.
3. Continue to section 3.12 "Creating the Bulletin Submission File"

## 10 Creating a Bulletin Submission File

**Overview:** We refer to the test results .zip file as the bulletin submission file. The bulletin submission file is used to create the Yes Certification Bulletin in the SUSE Bulletin System (SBS). The steps in this section will create the bulletin submission (.zip) file which you will read into SBS to create the Yes Certification Bulletin.

1. Open the project file. If the project file is already opened, skip to step 2.

---

**IMPORTANT:** If the project file is already open and you have just completed the tests, save the project before creating the bulletin submission (.zip) file.

---



- a. Click the *TestConsole* icon on the desktop
  - b. Click *Project > Open Test Project > Existing*.
  - c. Select the appropriate project.
  - d. Click *Select* to open the project.
2. Create the bulletin submission (.zip) file.
  - a. Click *Edit Product/Report*.
  - b. Click *Report*.

---

**IMPORTANT:** If the Report Error window appears, continue to step 3. If not, skip to step 4.

---

3. Report errors.
  - a. Click on the x in the upper right corner of the Report Error window to close the window.
  - b. Click *Verify*.
  - c. Click an exception in the scroll window.
  - d. Click *Edit Explanation*.
  - e. Enter the explanation.
  - f. Click *OK* in the explain exception window.
  - g. Repeat steps c through f until all unresolved exceptions are explained.
  - h. Click *OK* in the Exception Information window.
  - i. Click *Report*. If the screen appears stuck, then click on the terminal screen at the bottom then click inside the screen.
4. Complete the creation of bulletin submission (.zip) file.
  - a. We strongly recommend keeping the displayed project filename. However, another filename can be used.

---

**Note:** Do not put spaces in the file name.

---

- b. Click *Save* to generate the bulletin submission (.zip) file.
  - c. Click on *Finish* or click on *View Report Summary* to view the reported information in a browser.
  - d. If a browser window is open to view the Report Summary then close it.
  - e. Click *OK* to exit the Product and Report Information window.
5. Copy the bulletin submission (.zip) file from the `/opt/suse/testKits/system/results` directory to a USB drive or CD.
6. Ex: if copying the bulletin submission (.zip) file to a USB thumb drive, at a terminal prompt on TC type: `cp <bulletin submission (.zip) file> /media/usb<Tab> <Enter>`.



## 10.1 Submitting a Bulletin Submission File Into SBS

**Overview:** We use a database called the SUSE Bulletin System (SBS) to generate and manage the SUSE Yes Certification Bulletins. The Steps below will help you to read the bulletin submission .zip file into SBS and begin the bulletin creation process.

1. Open a web browser to SBS: <https://www.suse.com/nbswebapp/yesCert.jsp>
2. Login into SBS.
3. Read the bulletin submission file (.zip) into SBS.
  - a. Click on New Submission, then browse to your bulletin submission file (.zip).
  - b. Click Upload.

The bulletin is now in the SBS system. There is still work to do on the bulletin submission while in SBS. In the SBS User Guide read through the Overview part of the of the bulletin States section.

Afterward go to section F.2 of the SBS User Guide for the instructions to move the bulletin from Open State to Review for processing. If you cannot access SBS, then contact your SUSE Developer Services contract person for SBS access



# 11 Manually Installing SLED

This section covers the following topics for manual OS installations:

- Section 11.1, “Configuring the Hardware for SLED Testing”
- Section 11.2, “Manually Installing SLED 15 SP6 on SUT”
- Section 11.3, “Manually Installing the Test Kit on the SLED 15 SP6 SUT”
- Section 11.4, “Starting the Tests”

## 11.1 Configuring Hardware for SLED Testing

If a wired and wireless adapter are in the system, then both must be tested using the SLED Workstation or SLED Laptop project. The wired and wireless NICs will be tested during the Verify Setup and Stress test suites.

## 11.2 Manually Installing SLED 15 SP6 on SUT

1. Make sure the NICs in the TC match the highest speed NIC in the SUT.
2. Delete all existing partitions from all hard drives. Section “A.1.1 Removing the ELIO Boot Tables” has instructions which will delete any and all existing partitions. If this is a PXE manual installation skip to step 7.
3. Create a SLED 15 SP6 bootable Installation thumb drive to be used to install the SLED 15 SP6 onto the SUT. You will need at least a 16 GB drive. The OS will use about 12 GB of disk space on a hidden partition which is created. The process may take minutes to complete.
  - a. Make sure that the SLE 15 SP6 ISO Image is copied onto the TC hard drive.
  - b. Plug the Thumb drive into the TC.
  - c. Open a terminal.
  - d. Type `dd if=PATH_TO_SLE_15_SP6_ISO_IMAGE of=USB_STORAGE_DEVICE bs=4M`
  - e. After the bootable thumb drive creation is completed, unmount and remove the thumb drive.
4. Plug the SLED 15 SP6 bootable installation thumb drive into your SUT.
5. Boot your SUT to the SLED 15 SP6 bootable installation thumb drive.
6. Select *Installation* <Enter> (before the 20 second timeout expires).

For a PXE manual install start here:

7. If prompted click *No* to the Network is not configured...message in the Updating the installer screen.
8. Select SUSE Enterprise Desktop 15 SP6.
9. Select the English (US) language and English (US) keyboard Layout then click next.
10. Select *I Agree to the License Terms*, then click *Next*.



11. If prompted click *Next* in the Network Settings screen. The network will be set up in the next section during the Test Kit installation on this SUT.
12. Click the *Skip Registration* radio button on the Registration screen.
13. Click *OK* at the skipping registration warning prompt, then click *Next*.
14. Select the following packages to be installed on the Extensions and Modules Selection screen.
  - ✓ Basesystem
  - ✓ Desktop Applications Module
  - ✓ Development tools Module
  - ✓ SUSE Linux Enterprise Workstation Extensions 15 SP6
  - a. Click next.
15. If prompted click *Next* in the Add On Product or Media Type or Installation Options screen.
16. Select *Gnome Desktop(x11)* in the system role screen then click *Next*.
17. Click *Next* on the Suggested Partitioning screen. If previous OS installs failed then use the following steps on your system.
  - a. Click on Guided Setup.
  - b. If prompted with the Select Hard Disk Screen, click on the Choose What To Do With Existing Partitions drop down field then select *Remove even if not needed*. For the Choose What To Do With Other Partitions drop down field select *Remove even if not needed*. Click on *Next*.
  - c. Click on *Next* on the Partitioning scheme screen.
  - d. Uncheck Enable Snapshots, Uncheck propose separate home partition.
  - e. Click on *Next* on the Filesystem Options screen.
  - f. Click on *Next* on the Suggested Partitioning screen.
18. Adjust the region and time zone to match your region and time zone.
  - a. Click on your region in the *Region* pull down menu on the left side or click on your time zone in the map.
  - b. Click on your time zone in the *Time Zone* pull down menu on the right side or click on your time zone in the map.
19. Set the system clock to match the time of the TC system on your test rack.
  - a. Click the *Other Settings* button.
  - b. Change the Current time and Current date to be the same as the TC time and date.
  - c. Click the *Accept* button.
  - d. Click the *Next* button to complete the setup of the Clock and Time Zone screen.
20. Configure the Local User and authentication.
  - a. Click the *Skip User Creation* radio button on the Local User screen.
  - b. Click *Next* in the Local User screen.
21. Set the Password for the System Administrator user root.
  - a. Type *suse* in both fields for the System Administrator root user password.
  - b. Click *Next*.
  - c. Click *Yes* in *The password is too simple* message window.



22. Disable the firewall by clicking on *disable* next to *firewall will be enabled*. The display will change to *firewall will be disabled*.
23. Enable the SSH service by clicking on *enable*, located next to *SSH service will be disabled*. The display will change to *SSH service will be enabled*.
24. Click *Install* to start the installation.
25. If prompted click I agree at any confirm prompt windows.
26. Click *Install* in the Confirm Installation window.
27. The file copying will begin. After the OS installation completes, the system will restart.
28. Proceed to Section 11.3 “Manually Installing the Test Kit on the SLED 15 SP6 SUT”..

## 11.3 Manually Installing the Test Kit on a SLED 15 SP6 SUT

Proceed to **Section 11.4 “Starting the Tests”**.

## 11.4 Starting the Tests

Begin at Section **1.4 Set up the IP Address information on the SLED SUT**.



## 12 Installing Workstation Extensions on SLES 12

1. From the SUT, open a Terminal and type "ip a" to see the IP address of eth0.
2. Next type "ssh 10.1.1.2"
3. Enter "suse" for the password.
4. Type "scp /root/Downloads/SLE-12-SP5-WE-DVD-x86\_64-DVD1.iso 10.1.1.201:/root/Desktop"
5. Type "exit" <Enter> to end ssh session.
6. Type "yast2" and click the Add-On Products icon.
7. Click the Add button.
8. Click the Local ISO Image... radio button and click Next.
9. Click the Browse button then click through to /root/Desktop.
10. Select SLE-12-SP5-WE-DVD-x86\_64-DVD1.iso and click Open then Next.
11. Agree to the License Agreement Terms and click Next.
12. Click Accept, Accept, and Continue.
13. Click Finish.
14. Skip Registration and click OK at the Warning.
15. Click Next and Yes to skip registration.
16. Click Ok to close the window.
17. Close the Administrator Settings window and proceed to Section 2.4 – Creating a New Test Project.



## 13 Document Revision History

Date	Description
May 2023	Added manual cuda download steps to GPU compute test section.
April 2023	Added steps to the GPU compute test.
January 2023	Updated for the 8.8 Test kit and SLE 15 SP5. Updated the Utah address.
June 2022	Changed filename length limit instructions from 70 to 58. Changed page size to 8.5 x 11. Minor numbering changes were made.
April 2022	Moved sections: "Configuring SLED 15 SP3 for kdump over the network" and "Hibernate fix for SLE 15 SP3" to Troubleshooting and Help document.
March 2022	Changed Fonts for latest branding. Added screen shots from the 8.7 test kit.
December 2021	Migrated to latest SUSE Branding.
June 2021	Added to hibernate test that it is NOT supported on SLE 15 SP3.  Also removed the usage of YAST 2 LAN to change the device name when SLED network manager is being used. Added solutions for hibernate test on SLE 15 Sp3. Added the network kdump configuration information.
April 2021	Updated the doc for SLED 15 SP5. Rewrote the SLED IP address setup instructions and broke it into sections. Also placed the IP address sections in an earlier location than in previous workstation documents. Reordered 20+ tests to match the 8.6 test kit.
February 2021	Added section to install Workstation extensions onto SLES 12.
October 2020	Added steps to create a bootable SLED 15 SP2 installation thumb drive.
July 2020	Converted to new corporate branding
May 2020	Changed fonts to Works Sans





March 2020	Updated for the 8.5 Test kit. Changed SLE 15 SP1 to SP2
January 2020	Updated copyright to 2020. Removed floppy disk test
November 2019	Updated the Verify Setup NIC section to match the test project
October 2019	Moved Battery Test to match test project order.
September 2019	Updated the Yes Program Guide URL.
July 2019	Updated the Doc for the 8.4 Test kit. Removed SLED 12 SP4, EOL is 12/31/2019
May 2019	Added instructions for configuring up a wireless adapter on SLES
March 2019	Updated/rewrote the steps to format the USB storage device in the USB Test Setup section
February 2019	Updated for SLED 15 SP1 and test kit 8.3. Wireless was changed to become SUT Wireless IP Address 10.1.3.1 and TC Wireless IP Address 10.1.3.2. Removed NIC 1 Reduced test. Removed Firewire instructions
November 2018	Rewrote and shortened the wireless setup steps for SLES 12 SP4. Added that this test is optional to the Firmware BIOS test.
October 2018	Added some steps to Verify Setup – Wireless NIC for SLED 12 SP4
September 2018	Updated for SLE 12 SP4 and the 8.2 test kit. Added some information in the Verify setup – Wireless NIC test
July 2018	First separated public release of this document
February 2017	Creation of the independent SLED document

