



Installing and Remotely Running BYO Platform Confidence Test Software on a Service Partition

White Paper



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Enterprise Platforms & Services Division

Revision History

Date	Revision Number	Modifications
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09/04/2001	0.6	Changes added per review.
10/18/01	1.0	Final Draft
07/30/02	1-1	Updated for current platform support

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1. About this Whitepaper

This whitepaper describes how to install the Intel BYO Platform Confidence Test software on a service partition and then run the tests from a remote client.

The information contained in this document is intended to provide integrators and other customers with information on accessing additional server management features on a server

This whitepaper is divided into the following three sections:

- **Chapter 2:** describes the process for installing the BYO Platform Confidence Test to a service partition.
- **Chapter 3:** describes configuring the BYO Platform Confidence Test to allow it to be run remotely from a service partition using the Direct Platform Control module of Intel[®] Server Management.
- **Chapter 4:** describes the process for running the BYO Platform Confidence Test remotely from a service partition using the Direct Platform Control module of Intel Server Management.

2. Installing BYO Platform Confidence Test Software on a Service Partition

Complete the following steps prior to installing BYO Platform Confidence Test to a service partition.

1. Create the BYO Platform Confidence Test Floppy disk from the platform System Resource CD.
2. Install the service partition. For instructions on installing a service partition, refer to the *Getting Started with Intel Server Management* document that came with the server board.

Installing the BYO Platform Confidence Test software to the service partition requires rebooting the server to the service partition. This can be done locally at the server, either by pressing **F4** during BIOS POST or by entering BIOS (F2) Setup. In BIOS (F2) Setup, go to the **Server** menu, **Enable** the **Service Boot** option and exit BIOS (F2) Setup, saving changes (F10). Either option will cause the server to reboot to the service partition.

Once the server has completed booting to the service partition, create a directory called **Remote** (i.e., "mkdir remote"), and copy the contents of the BYO Platform Confidence Test floppy disk to that directory (i.e. "copy a:*.* c:\remote").

After copying the contents of the BYO Platform Confidence Test floppy disk, run the **xxxxTEST.exe** file from the **Remote** directory to extract the entire BYO Platform Confidence Test to that directory (i.e. for SCB2, type, c:\remote\SCB2TEST).

3. Configuring Intel BYO Platform Confidence Test

The BYO Platform Confidence Test requires some modifications before it can be successfully run remotely from a service partition. There are a total of 29 tests included in the BYO Platform Confidence Test. Sixteen test modules will function correctly in a remote environment. The remaining 13 tests will have to be disabled manually. If local diagnostics are desired in addition to the remote diagnostics, a second, unmodified version of the BYO Platform Confidence Test should be installed in a separate directory on the service partition. The tests that must be disabled are listed following, each with a short description.

- **SMP Processor Test Suite**
The purpose of this test module is to test local APICs and IOAPIC(s) on a multi-processor system.
- **BMC Test Suite**
This module checks functionality and sensors associated with the Baseboard Management Controller.
- **Hot Swap Controller**
This module tests the functionality of the Hot Swap Controller.
- **ICMB Test Suite**
This test module tests the functionality of the ICMB add-in module.
- **Programmable Interval Timer Test Suite**
This module tests the functionality of the system timers.
- **KB Test Suite**
This test module checks the keyboard controller, mouse port and KB LEDs.
- **SNOOP Test Suite**
This module tests cache/memory coherency.
- **Mouse Test Suite**
This test module verifies the functionality of the PS/2 mouse interface on the board or system under test
- **Floppy Drive Test Suite**
This test module is verifies the floppy controller and drive.
- **HDBIOS Test Suite**
HDBIOS is a series of tests designed to test hard disks at the BIOS level of compatibility.
- **ATI Rage XL* Test Suite**
This verifies the correct operation of the graphics subsystem.
- **Memory Test Suite**
This test module verifies the functionality of the DRAM and cache memory on the board or system under test. The subtests test extended memory from 1 MB to 16 MB and the first 640 KB of base memory.

- **Memory Stress Test Suite**

The purpose of this test module is to stress memory by performing random operations with random data to simulate system OS operation.

Disabling these tests involves manually editing the COMPREH.PKG file included with the BYO Platform Confidence Test.

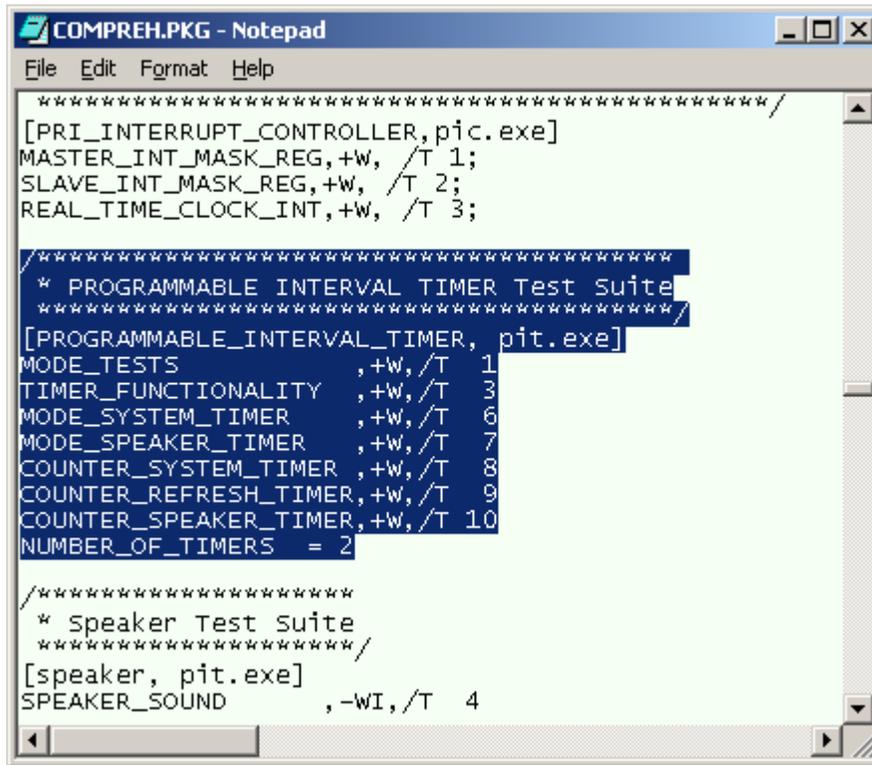
Use the following steps to disable the tests in the preceding list.

1. Create a backup copy of the COMPREH.PKG file called COMPREH.BAK (i.e., copy c:\remote\COMPREH.PKG c:\remote\COMPREH.BAK).
2. Open the COMPREH.PKG file, using a text editor such as the ROM-DOS* edit command on the service partition, or copy COMPREH.PKG from the service partition to a floppy disk and edit it using notepad.exe* in Microsoft Windows* (i.e., edit c:\remote\COMPREH.PKG).
3. Search the COMPREH.PKG file for each test heading described in the prior list. Refer to Figure 1 for an example of editing the Programmable Interval Timer Test Suite using notepad.exe.

```
COMPREH.PKG - Notepad
File Edit Format Help
*****/
[PRI_INTERRUPT_CONTROLLER, pic.exe]
MASTER_INT_MASK_REG, +w, /T 1;
SLAVE_INT_MASK_REG, +w, /T 2;
REAL_TIME_CLOCK_INT, +w, /T 3;
*****
* PROGRAMMABLE INTERVAL TIMER Test suite
*****/
[PROGRAMMABLE_INTERVAL_TIMER, pit.exe]
MODE_TESTS, +w, /T 1
TIMER_FUNCTIONALITY, +w, /T 3
MODE_SYSTEM_TIMER, +w, /T 6
MODE_SPEAKER_TIMER, +w, /T 7
COUNTER_SYSTEM_TIMER, +w, /T 8
COUNTER_REFRESH_TIMER, +w, /T 9
COUNTER_SPEAKER_TIMER, +w, /T 10
NUMBER_OF_TIMERS = 2
*****
* speaker Test suite
*****/
[speaker, pit.exe]
SPEAKER_SOUND, -wI, /T 4
```

Figure 1. COMPREH.PKG File

4. Highlight and delete the entire section following the test heading to be removed. Refer to Figure 2 for an example of editing the Programmable Interval Timer Test Suite.



```
COMPREH.PKG - Notepad
File Edit Format Help
*****/
[PRI_INTERRUPT_CONTROLLER, pic.exe]
MASTER_INT_MASK_REG,+w, /T 1;
SLAVE_INT_MASK_REG,+w, /T 2;
REAL_TIME_CLOCK_INT,+w, /T 3;

*****
* PROGRAMMABLE INTERVAL TIMER Test suite
*****/
[PROGRAMMABLE_INTERVAL_TIMER, pit.exe]
MODE_TESTS ,+w, /T 1
TIMER_FUNCTIONALITY ,+w, /T 3
MODE_SYSTEM_TIMER ,+w, /T 6
MODE_SPEAKER_TIMER ,+w, /T 7
COUNTER_SYSTEM_TIMER ,+w, /T 8
COUNTER_REFRESH_TIMER,+w, /T 9
COUNTER_SPEAKER_TIMER,+w, /T 10
NUMBER_OF_TIMERS = 2

/*****
* speaker Test suite
*****/
[speaker, pit.exe]
SPEAKER_SOUND , -WI, /T 4
```

Figure 2. COMPREH.PKG Section to Delete

5. Save the file. If the COMPREH.PKG file was edited on a different system, it must be copied back to the **Remote** directory of the service partition.

4. Running BYO Platform Confidence Test Software Remotely from a Service Partition

To run the diagnostics remotely, connect to the server using the Intel® Server Management module Direct Platform Control and reboot the server to the service partition.

Once the server has completed booting to the service partition, click on the **Run DOS Shell** button or select the **Run DOS Shell** option from the service partition menu as shown in Figure 3.

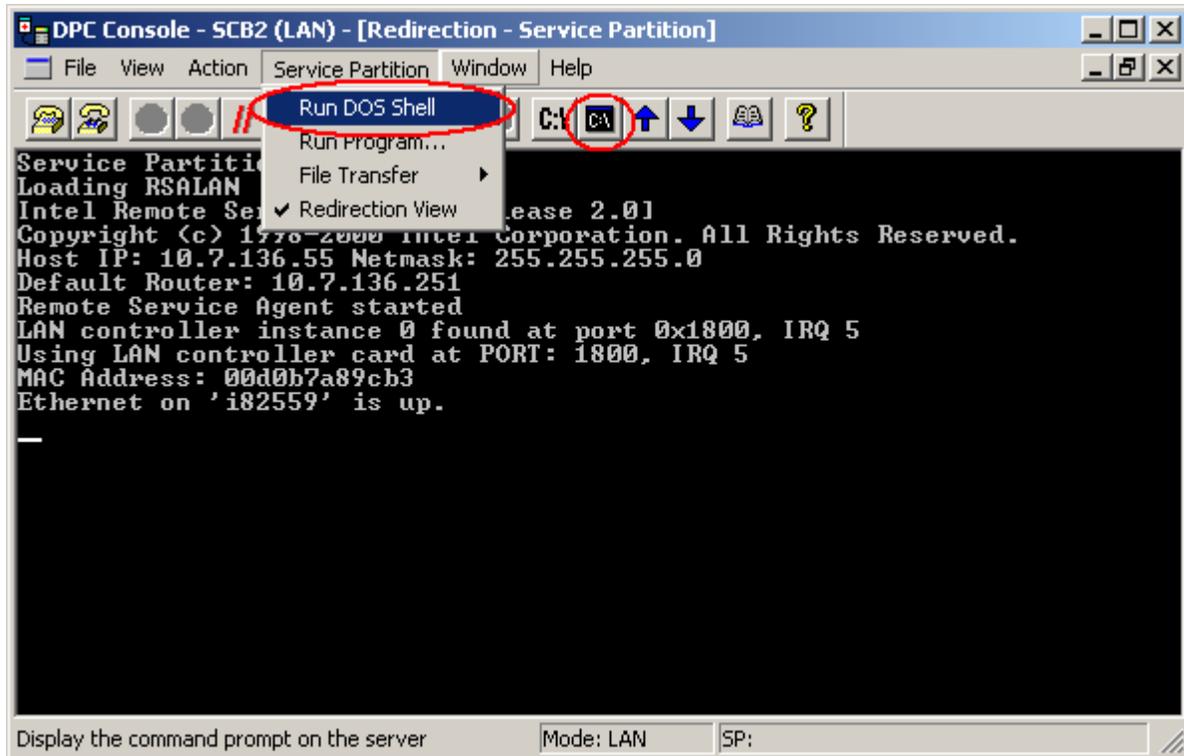
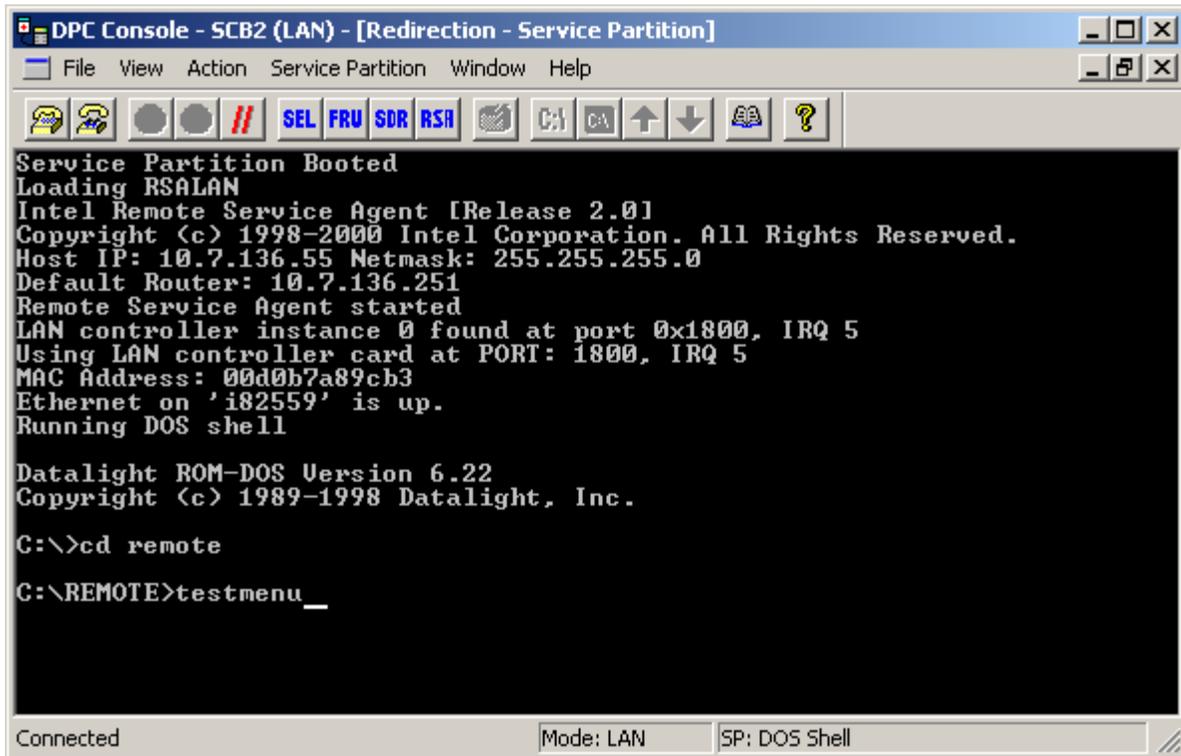


Figure 3. DPC Console / Run DOS Shell Option

At the ROM-DOS prompt, change to the **Remote** directory, and type **testmenu** to start the BYO Platform Confidence Test. Refer to Figure 4 for an example.



```
DPC Console - SCB2 (LAN) - [Redirection - Service Partition]
File View Action Service Partition Window Help
SEL FRU SDR RSR
Service Partition Booted
Loading RSALAN
Intel Remote Service Agent [Release 2.0]
Copyright (c) 1998-2000 Intel Corporation. All Rights Reserved.
Host IP: 10.7.136.55 Netmask: 255.255.255.0
Default Router: 10.7.136.251
Remote Service Agent started
LAN controller instance 0 found at port 0x1800, IRQ 5
Using LAN controller card at PORT: 1800, IRQ 5
MAC Address: 00d0b7a89cb3
Ethernet on 'i82559' is up.
Running DOS shell

Datalight ROM-DOS Version 6.22
Copyright (c) 1989-1998 Datalight, Inc.

C:\>cd remote
C:\REMOTE>testmenu_
```

Connected Mode: LAN SP: DOS Shell

Figure 4. Starting BYO Platform Confidence Test

When launched, the BYO Platform Confidence Test will launch to a menu, as shown in Figure 5.

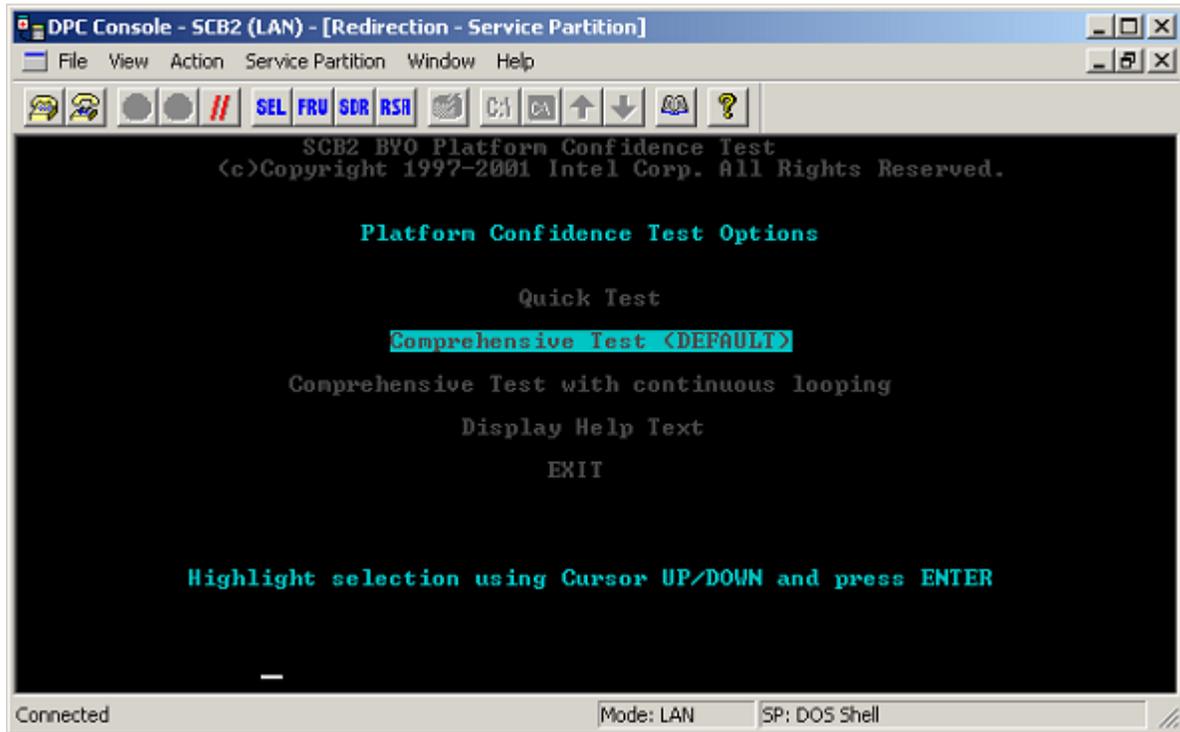


Figure 5. BYO Platform Confidence Test Menu

For more information about the BYO Platform Confidence Test, refer to the document, *Intel Server Board Platform Confidence Test Installation and Operating Instructions* for your server board. This document can be found at <http://support.intel.com/support/motherboards/server/>