

How to Capture a Stack Trace

A stack trace can be captured via iLO and via serial cable. This guide will detail how to use iLO as that offers the most flexibility. Please note that if these steps are not followed **very closely** you could have a system that will not boot. Editing the grub.conf or the menu.lst files must be done with **great caution**

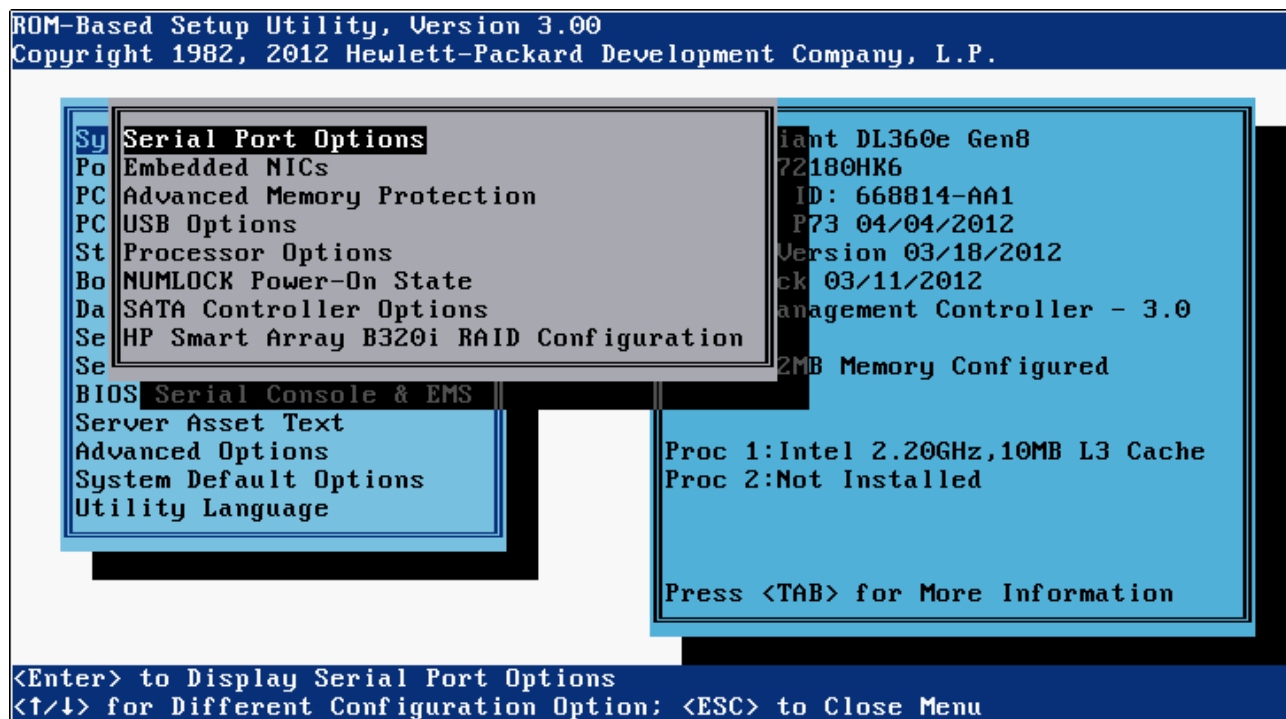
Bios Settings

Tree Description of Settings

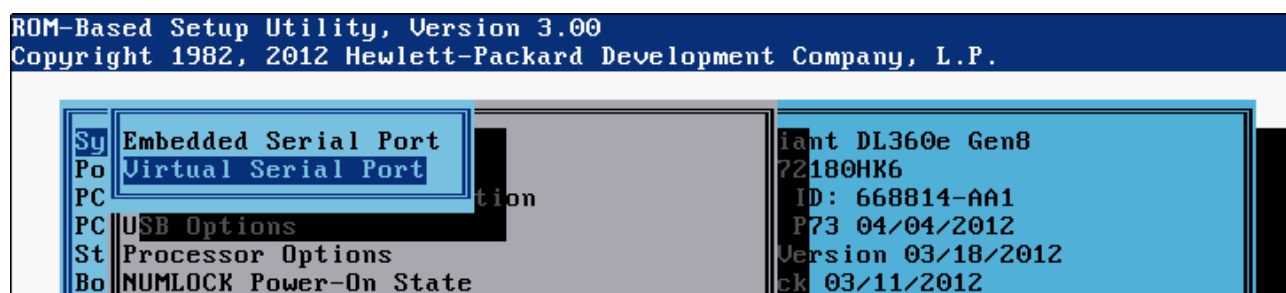
- System Options → Serial Port Options → Virtual Serial Port → **COM1**
- BIOS Serial Console & EMS → BIOS Serial Console Port → **COM1**
- BIOS Serial Console Baud Rate → **115200**

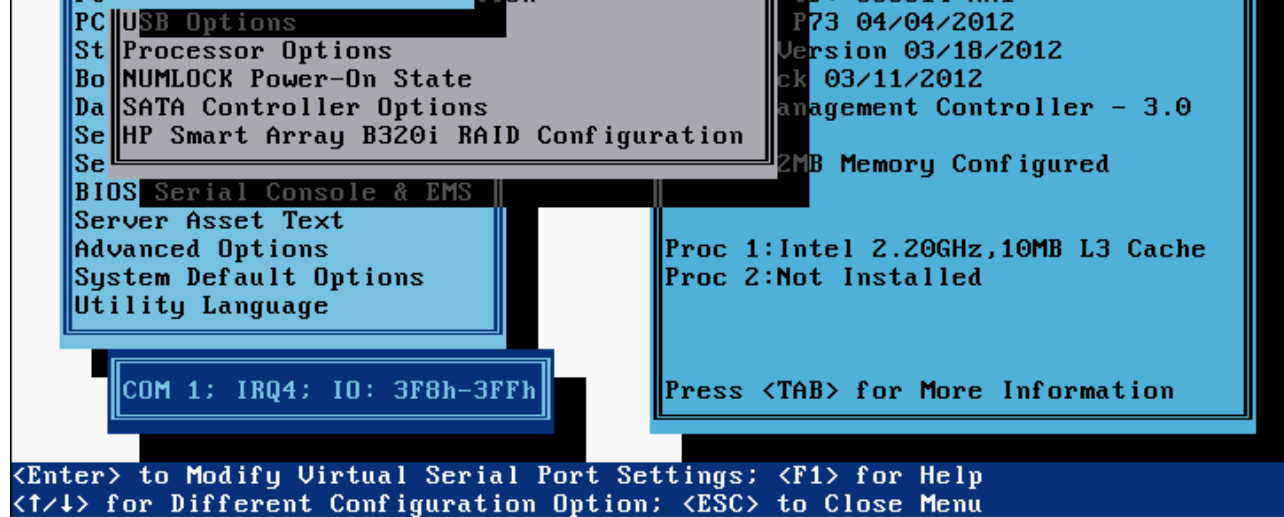
Screenshot Description of Settings

- Select System Options
- Select Serial Port Options

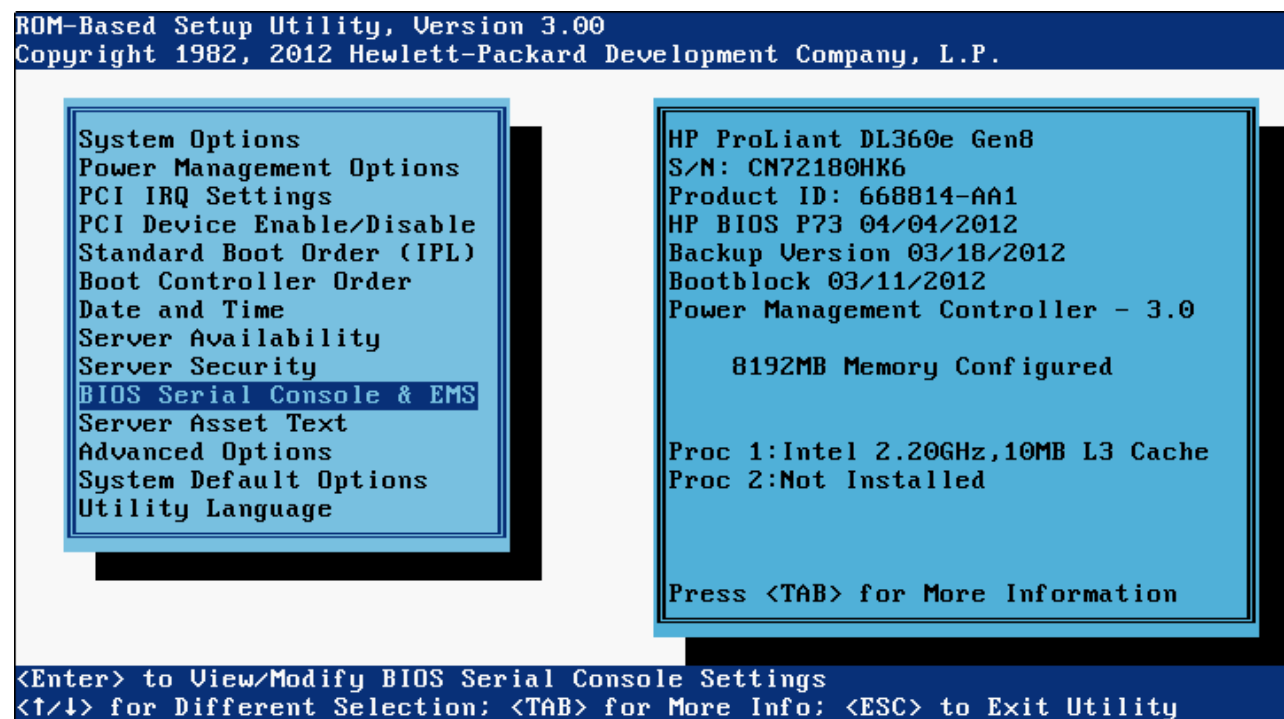


- Select Virtual Serial Port
- Set it to **COM1**

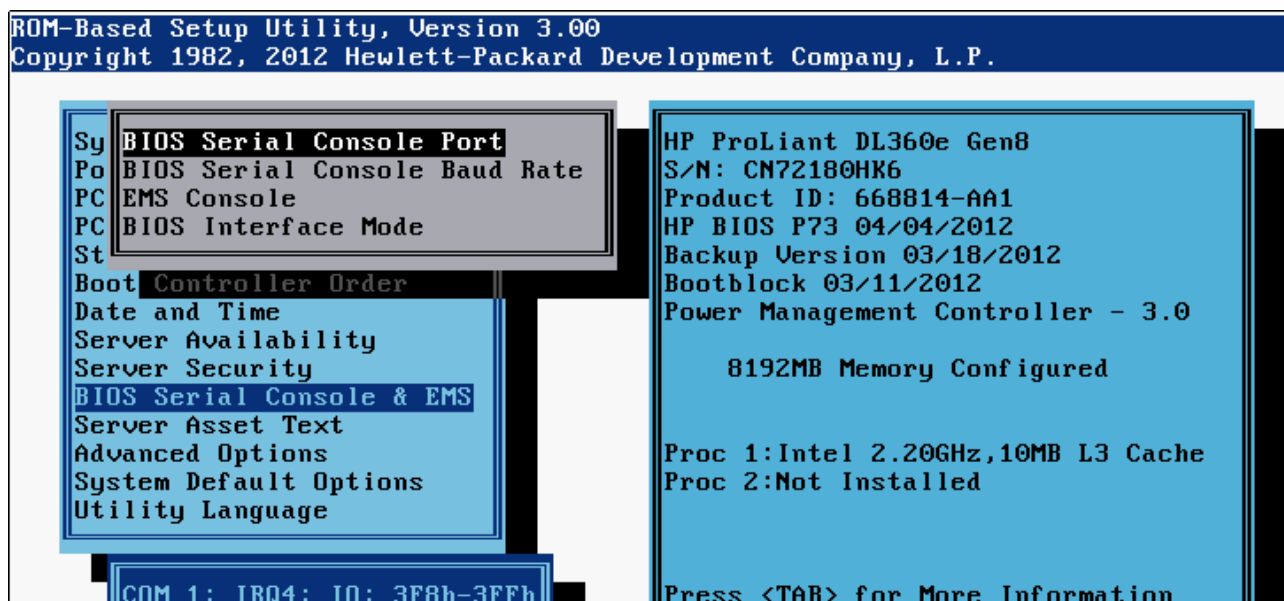




- Select BIOS Serial Console & EMS

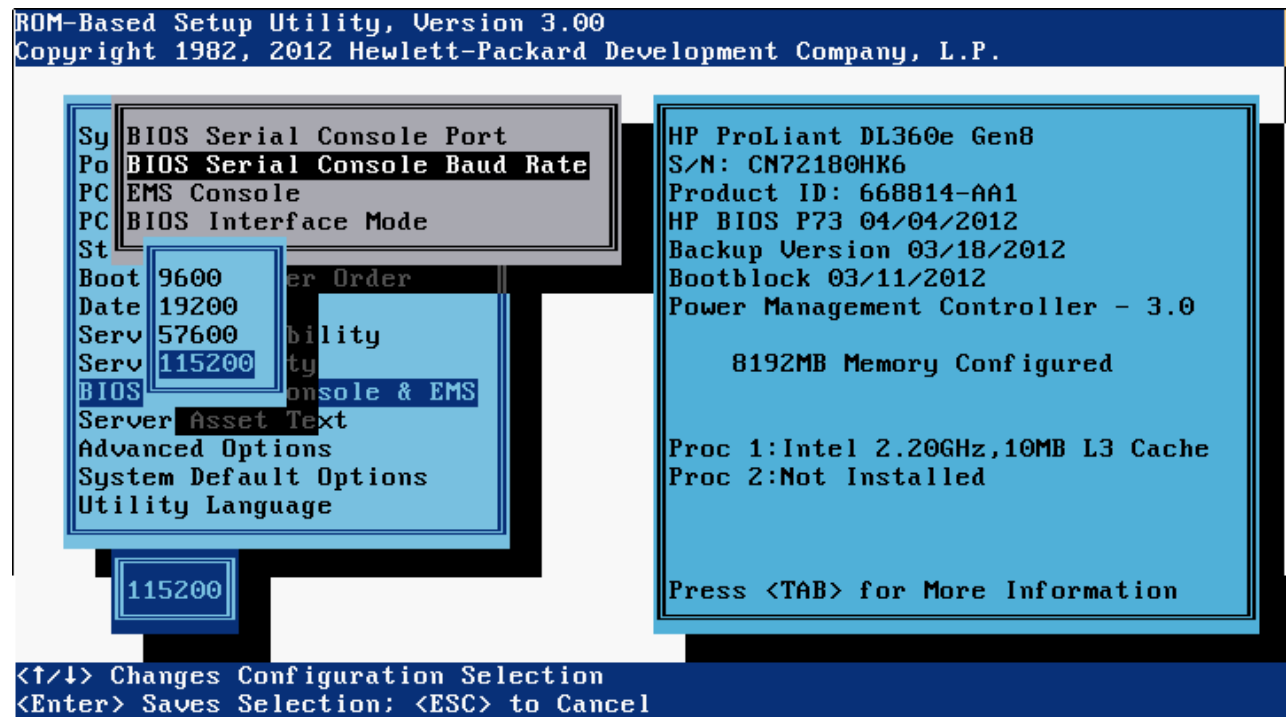


- Set BIOS Serial Console Port to COM1





- Set BIOS Serial Console Baud Rate to **115200**



iLo Settings

- Administration → Access Settings
- Ensure that SSH Access is **Enabled** and the Port is set to **22**

Administration

iLO Firmware

Licensing

User Administration

Access Settings

Security

Network

Management

- Applying new Port or Lights-Out functionality settings will restart iLO and terminate browser connect
- Changes to the Idle Connection Timeout may not take place immediately in current user sessions but

Service

Secure Shell (SSH) Access	Enabled
Secure Shell (SSH) Port	22
Remote Console Port	17990
Web Server Non-SSL Port	80
Web Server SSL Port	443
Virtual Media Port	17988
SNMP Access	Enabled
SNMP Port	161
SNMP Trap Port	162

Apply

IPMI/DCMI

☒ Enable IPMI/DCMI over LAN on Port 623

Apply

- Set Idle Connection Timeout to **Infinite**
- Set Serial Command Line Interface Status to **Enabled**
- Set Serial Command Line Interface Speed to **115200**

Access Options

Idle Connection Timeout (minutes)

Infinite

iLO Functionality

Enabled

iLO ROM-Based Setup Utility

Enabled

Require Login for iLO RBSU

Disabled

Show iLO IP during POST

Enabled

Serial Command Line Interface Status

Enabled - No Authentication

Serial Command Line Interface Speed

115200 (bits/second)

Minimum Password Length

8

Server Name

T-tower

Authentication Failure Logging

Enabled - Every 3rd Failure

Apply

After making these changes you should **log out of all iLO sessions** on this system (including any ssh sessions) to make sure the changes take effect.

Kernel Arguments

Every Operating system will take the same common commands, they are:

```
console=tty0 console=ttyS0,115200
```

Please note these are **case sensitive**

The kernel boot messages must also be shown. This is done differently on RHEL and SLES

To make the change permanent, please see the next section. These changes **must** be made permanent if you are doing reboot testing or trying to reproduce any intermittent bug

Suse Linux Enterprise Server (SLES)

SLES10

At the Boot Options, please enter **splash=verbose console=tty0 console=ttyS0,115200**



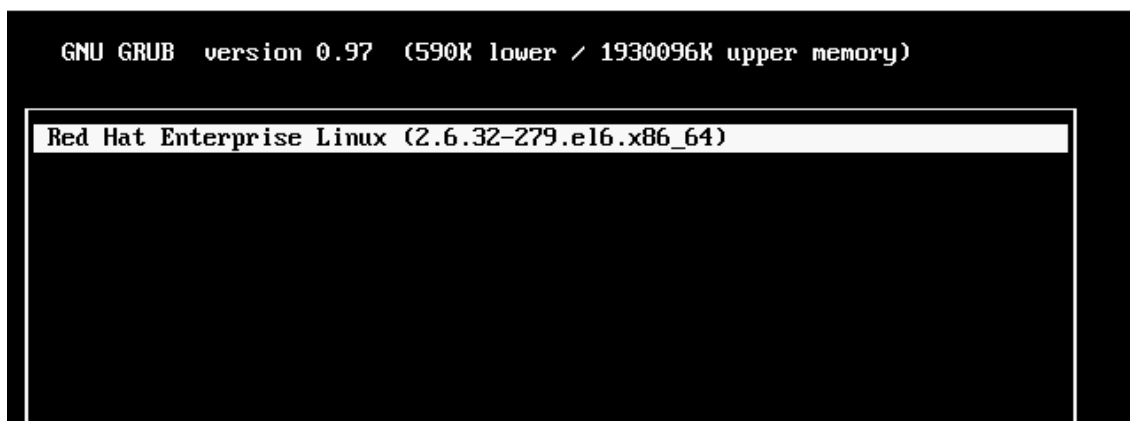
SLES11

Follow instructions for Sles10

Redhat Enterprise Linux (RHEL)

RHEL 6

- Press any key to stop the countdown
- At this screen **press e**



Use the ↑ and ↓ keys to select which entry is highlighted.
Press enter to boot the selected OS, 'e' to edit the
commands before booting, 'a' to modify the kernel arguments
before booting, or 'c' for a command-line.

- Highlight the line that begins with **kernel**
- press **e**

GNU GRUB version 0.97 (597K lower / 1930128K upper memory)

root (hd0,0)

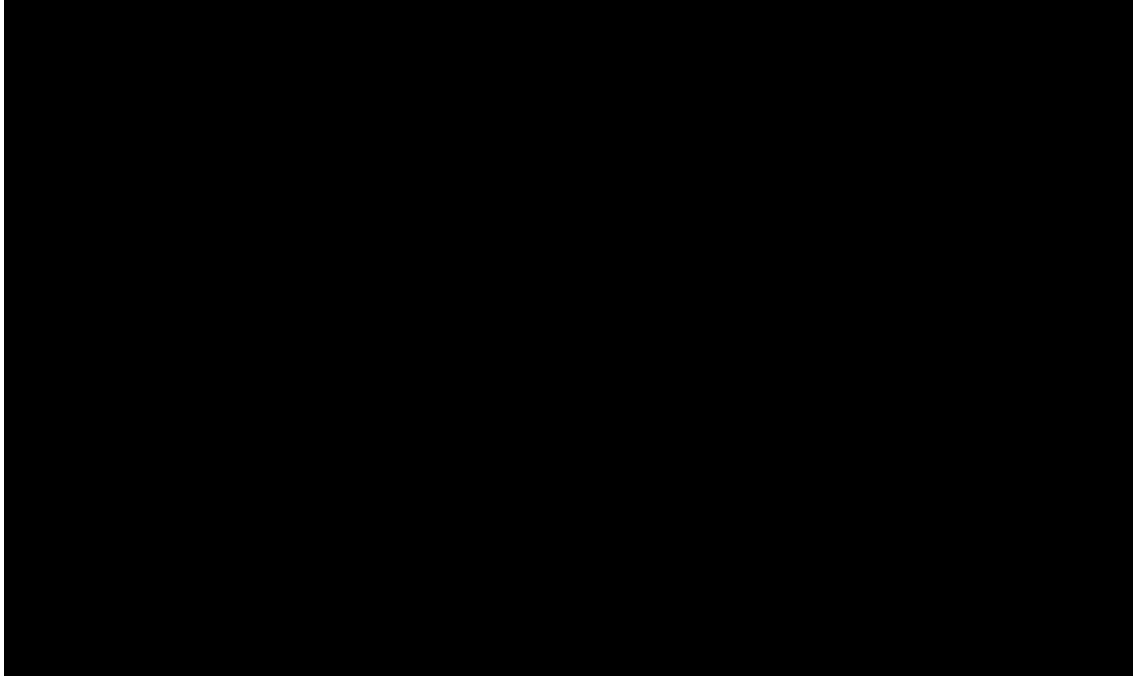
kernel /vmlinuz-2.6.32-279.el6.x86_64 ro root=UUID=5b6105b1-7959-4e16-
initrd /initramfs-2.6.32-279.el6.x86_64.img

Use the ↑ and ↓ keys to select which entry is highlighted.
Press 'b' to boot, 'e' to edit the selected command in the
boot sequence, 'c' for a command-line, 'o' to open a new line
after ('O' for before) the selected line, 'd' to remove the
selected line, or escape to go back to the main menu.

- remove **rhgb** and **quiet**

[Minimal BASH-like line editing is supported. For the first word, TAB
lists possible command completions. Anywhere else TAB lists the possible
completions of a device/filename. ESC at any time cancels. ENTER
at any time accepts your changes.]

<=pc KEYTABLE=us rd_NO_DM rhgb quiet



- add `console=tty0 console=ttyS0,115200` this is **case sensitive**

```
[ Minimal BASH-like line editing is supported. For the first word, TAB
lists possible command completions. Anywhere else TAB lists the possible
completions of a device/filename. ESC at any time cancels. ENTER
at any time accepts your changes.]

x=pc KEYTABLE=us rd_NO_DM console=tty0 console=ttyS0,115200
```

RHEL 5

Follow instructions for RHEL 6

Special Note about Install Time

When you are installing the OS for the first time you will need to add another option to the command line. **In this order**

```
console=tty0 console=ttyS0,115200 console=vga
```

Making the Changes Permanent

This Step **MUST** be followed, if you are doing any sort of reboot testing or long running test.

SLES

To make the changes permanent:

- (as root) edit the file

```
/boot/grub/menu.lst
```

- To every line that **starts with kernel** add the same options as above

```
splash=verbose console=tty0 console=ttyS0,115200
```

SLES - Xen

For the Xen kernels, you will need to edit **/boot/grub/menu.lst**. Find the section that has the XEN kernel in it. You can look for **xen.gz**. In that section add **console=vga,com1 com1=115200** to the line that has **/boot/xen.gz**.

It should look **similar** to this:

```
kernel (hd0,1)/boot/xen.gz console=vga,com1 com1=115200
```

In that same section, there is a line that has **vmlinuz** in it. To that line add **console=tty0 console=xvc0,115200**

It should look **similar** to this:

```
module (hd0,1)/boot/vmlinuz root=/dev/sda3 splash=verbose console=tty0 console=xvc0,115200
```

It is important not to delete anything, only add to the section.

RHEL

To make the changes permanent:

- (as root) edit the file

```
/boot/grub/grub.conf
```

- To every line that **starts with kernel** remove **rhgb** and **quiet**
- Add

```
console=tty0 console=ttyS0,115200
```

RHEL - Xen

For the Xen kernels, you will need to edit **/boot/grub/grub.conf**. Find the section that has the XEN kernel in it. You can look for **xen.gz**. In that section add **com1=115200,8n1** to the end of the line that has **xen.gz** in it.

It should look **similar** to this:

```
kernel /boot/xen.gz-<kernel_Ver> com1=115200,8n1
```

In that same section, there is a line that has **vmlinuz** in it. To that line add **console=tty0 console=ttyS0,115200**

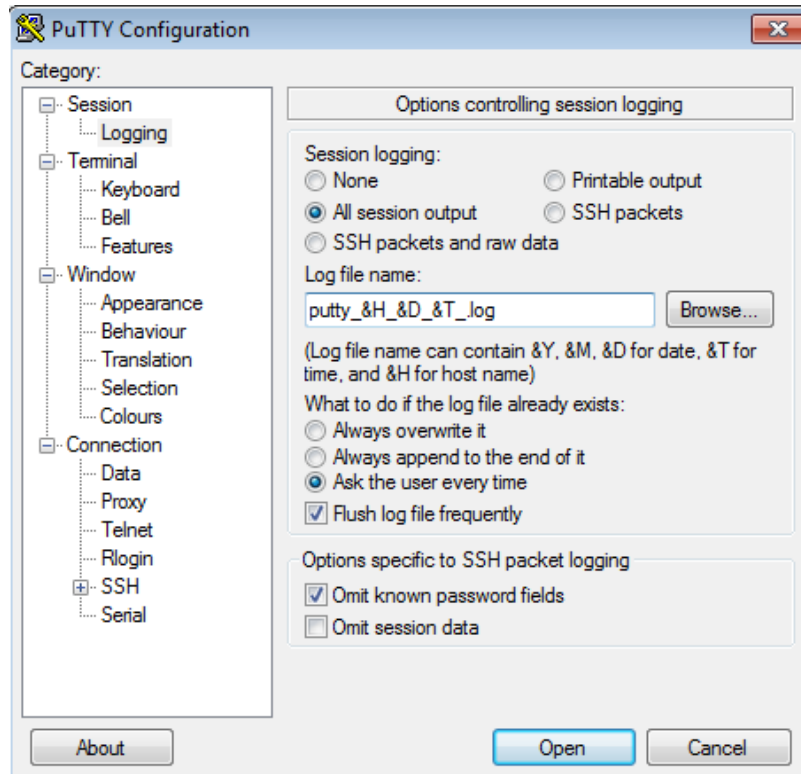
It should look **similar** to this:

```
module /boot/vmlinuz-2.6.18-92.el5xen ro root=LABEL=VG_i386 console=tty0  
console=ttyS0,115200
```

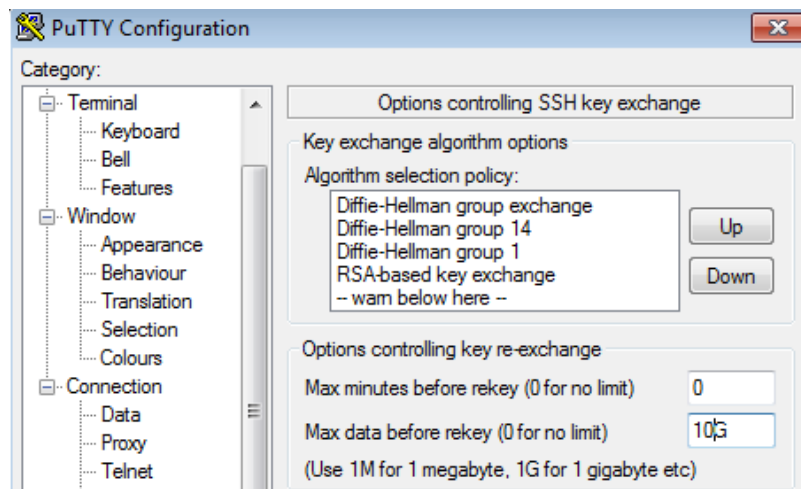
SSH to the iLO IP Address

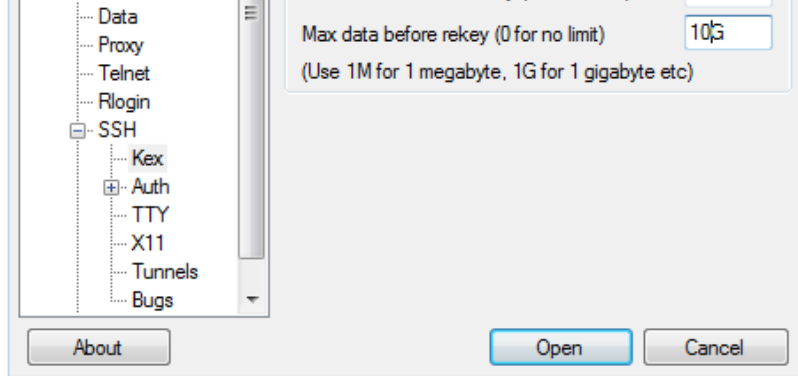
You should use an ssh client (such as putty) to log all session output. **The log is the most important part, you will need to send it to the developer.** To configure logging:

- Download putty: <http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html> [<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>]
- Configure Logging, enter **putty_&H_&D_&T_log**



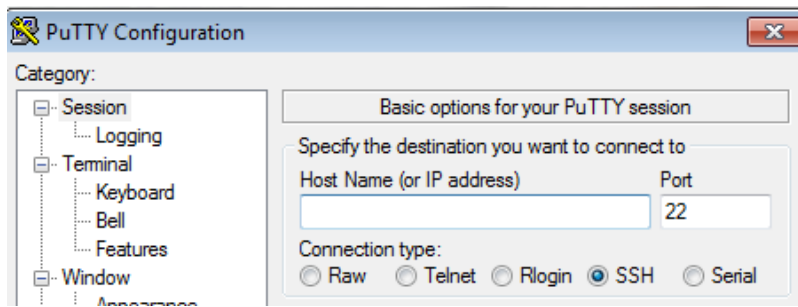
- If you need to log for more than 1 hour, turn off the key exchange **this option should only be used in a lab setting**
- To turn off key exchange **connection** → **SSH** → **Kex**
- Change Max minutes before rekey to zero
- Change Max data before rekey to 10GB



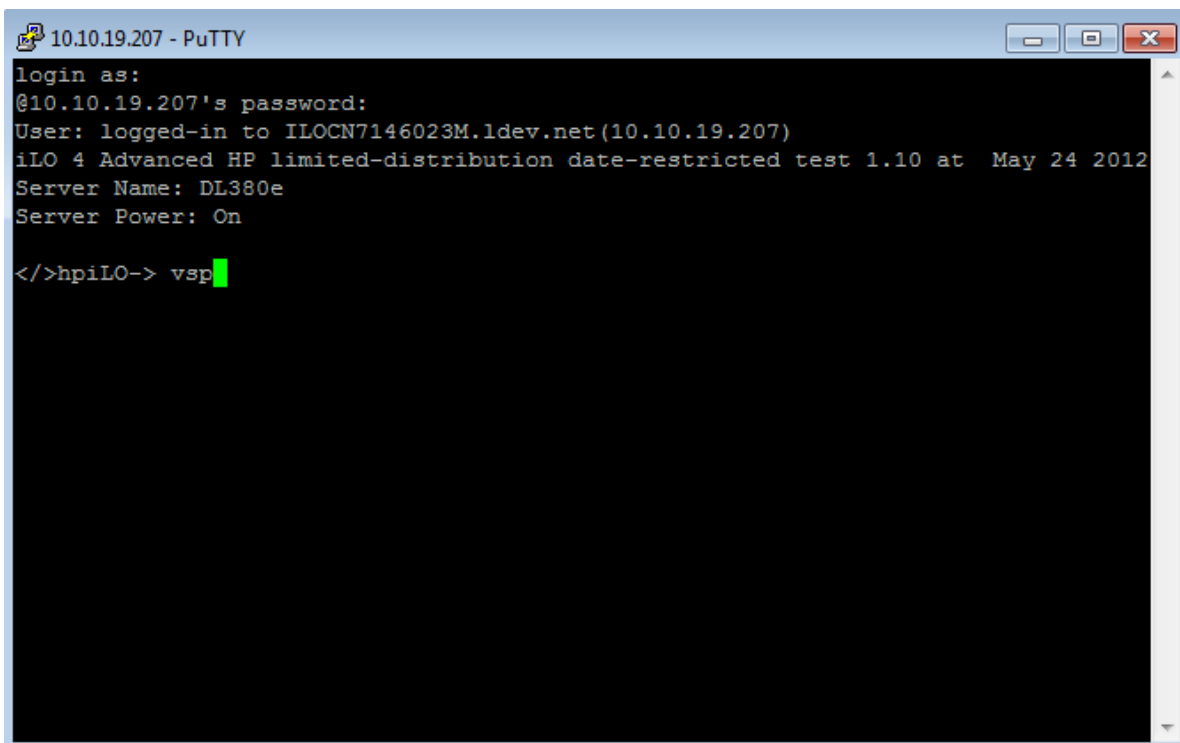


- Connect to iLO

input the iLO IP Address



- enter vsp



- You should see console output from linux