

How to install IBM Cell SDK 3.0 on PS3

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For those of you want to play the IBM Cell Broadband Engine (Cell BE). Have fun!

1. Install Fedora 7 with kernel 2.6.23

- Follow instructions here:

http://www.ibm.com/developerworks/blogs/page/powerarchitecture?entry=ibomb_ps3_sdk30_fc7. Remember to select XFCE (a lightweight desktop) when you install Fedora.

- Change the /sbin/boot-game-os file to this (it is used to boot back to the SONY game os):

```
#!/bin/sh
```

```
/sbin/other-os-flash-util -b /dev/ps3flash >> /dev/null ||
```

```
{
```

```
exit 0;
```

```
}
```

reboot

2. Download Cell SDK 3.0

From http://www.ibm.com/developerworks/power/cell/pkgdownloads.html?S_TACT=105AGX16&S_CMP=LP. Click the "Fedora 7 download page" to download the installation rpm, the Developer package and the Extras package.

3. Install SDK on PS3

- Update and install some packages:

```
yum update selinux-policy selinux-policy-targeted
```

```
yum install rsync sed tcl wget
```

- Install sdk (assume the the installation rpm and the isos are stored at /root/cell/cellsdk/)

```
/etc/init.d/yum-updatesd stop
```

```
rpm -ivh cell-install-3.0.0-1.0.noarch.rpm
```

```
cd /opt/cell
```

```
cellsdk --iso /root/cell/cellsdk/ install
```

- Use "/opt/cell/cellsdk verify" to check packages of Cell SDK. Use yum to install optional packages you need.

4. Install Java, Eclipse

- Download Java from <http://www.ibm.com/developerworks/java/jdk/linux/download.html>. Select "32-bit iSeries/pSeries J2SE Version 1.4.2" and then the file "IBMJava2-142-ppc32-SDK-1.4.2-9.0.ppc.rpm". Note: For IE, you may need to change the security level (turn off "protected mode") temporarily to download the file from IBM.

- Download Eclipse 3.2.2 from <http://archive.eclipse.org/eclipse/downloads/drops/R-3.2.2-200702121330/index.php>. Select this file: "eclipse-SDK-3.2.2-linux-gtk-ppc.tar.gz".

- Download CDT for Eclipse from:

<http://www.eclipse.org/downloads/download.php?file=/tools/cdt/releases/callisto/dist/3.1.2/org.eclipse.cdt.sdk-3.1.2-linux.ppc.tar.gz>

- Install Java:

```
cellsdk --iso /root/cell/cellsdk/ mount
```

```
yum install libXp
```

```
yum install compat-libstdc++-33
```

```
rpm -ivh IBMJava2-142-ppc32-SDK-1.4.2-9.0.ppc.rpm
```

```
update-alternatives --install /usr/bin/javac javac /opt/IBMJava2-ppc-142/bin/javac 120
```

```
update-alternatives --install /usr/bin/java java /opt/IBMJava2-ppc-142/jre/bin/java 120
```

```
alternatives --config javac
```

```
alternatives --config java
```

add "PATH=\$PATH:/opt/IBMJava2-ppc-142/jre/bin" to your .bash_profile.

- Install Eclipse:

```
tar -xzf eclipse-SDK-3.2.2-linux-gtk-ppc.tar.gz
```

add "PATH=\$PATH:/cellsdk_addon/eclipse3.2.2/eclipse" to your .bash_profile, where "/cellsdk_addon/eclipse3.2.2/eclipse" is the folder of the decompressed eclipse.

- Install CDT:

```
tar -xzf org.eclipse.cdt.sdk-3.1.2-linux.ppc.tar.gz
```

Run Eclipse with "eclipse -vm /usr/java/j2sdk1.4.2_16/jre/bin/java".

In Eclipse, select Help>>Software Updates>>Find and Install...>>Search for new features to install>>New Local Site.... Add a local site at "file:/cellsdk_addon/CDT3.1.2/eclipse/" to install CDT, where "/cellsdk_addon/CDT3.1.2/eclipse/" is the folder of the decompressed CDT.

- Exclude updates to some packages:

```
add "exclude=blas kernel numactl oprofile" to /etc/yum.conf
```

- Restart yum-updatesd:

```
/etc/init.d/yum-updatesd start
```

5. Install SDK IDE

- Install the cellide package:

```
/opt/cell/cellsdk --iso ~/cell/cellsdk/ mount
```

```
yum install cellide
```

- In Eclipse, select Help>>Software Updates>>Find and Install...>>Search for new features to install>>New Local Site.... Add a local site at "file:/opt/cell/ide/com.ibm.celldt.update/" to install the cell ide in Eclipse.

- Install the alf-ide-template package:

```
yum install alf-ide-template
```

6. Set Fedora and XFCE (Optional)

- Use "startxfce4" to load xfce:

Xfce Menu>>Autostarted applications :remove all except Network Authentication.

The default X terminal has a problem when drag the window. Change the properties of the X terminal emulator to use xterm (/usr/bin/xterm).

Add Eclipse to the menu. Remember to add option "-vm /usr/java/j2sdk1.4.2_16/jre/bin/java" for Eclipse.

- Turn off some services:

```
chkconfig bluetooth off
```

```
service bluetooth stop
```

```
chkconfig hidd off
```

```
service hidd stop
```

```
chkconfig yum-updatesd off
```

```
service yum-updatesd stop
```

```
chkconfig cpuspeed off
```

```
service cpuspeed stop
```

```
chkconfig firstboot off
```

```
service firstboot stop
```

```
chkconfig isdn off
```

```
service isdn stop
```

7. Run the "Hello Cell"

- Compile samples included in the SDK:

```
cd /opt/cell/sdk/src
```

```
for i in /*.tar; do tar -xf $i; done
```

```
make
```

- Run "Hello Cell":

cd /opt/cell/sdk/usr/bin/tutorial

simple