

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK**

SOFTWARE FREEDOM CONSERVANCY,
INC. and ERIK ANDERSEN,

Plaintiffs,

v.

BEST BUY CO., INC., et al.,

Defendants.

Civil Action No. 09-cv-10155 (SAS)

DECLARATION OF RASHID KHAN

I, Rashid Khan, declare:

1. I am a Senior Manager of Software Engineering at Broadcom Corporation. I have personal knowledge of the facts set forth herein, and if called upon to testify, I could and would competently testify thereto. At Broadcom, I manage the team of software engineers responsible for the Linux operating system and bootloader for Broadcom's firmware used in Blu-ray products.

I. BACKGROUND

A. Broadcom's Products

2. Broadcom provides semiconductor devices (i.e., chips) that are used in Blu-ray players. Broadcom has numerous customers for these chips. In the case of Best Buy, Broadcom provides chips to an intermediate company named Desay, who then uses Broadcom chips to build Blu-ray players for Best Buy.

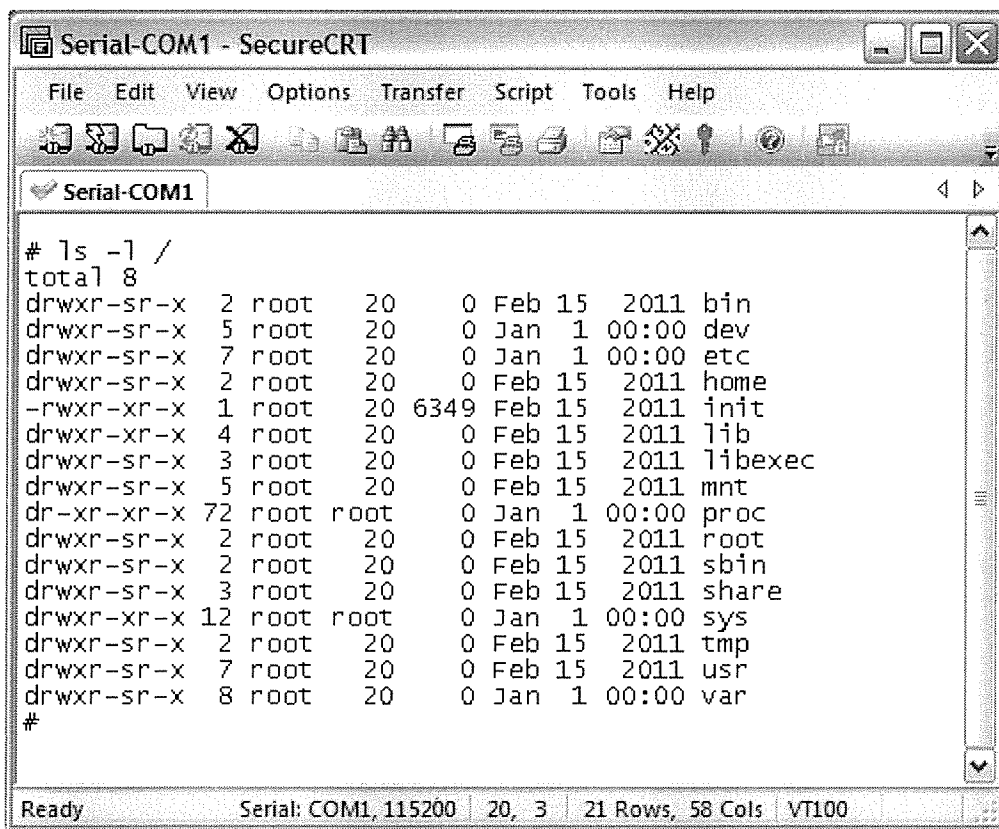
3. The particular Broadcom chips provided to Best Buy (via Desay) have changed over time as Broadcom has developed newer versions of its products. Broadcom currently provides Best Buy (via Desay) a Blu-ray chip called the BCM7630. In the past, Broadcom provided older generation Blu-ray chips (the BCM7601 and BCM7440), but those were phased out more than a year ago.

4. Broadcom also provides Desay firmware for use in Best Buy Blu-ray players. The firmware includes both proprietary Broadcom applications and open source programs (such

as the Linux operating system). In the past, Broadcom has also provided BusyBox in its firmware. However, as described below, Broadcom has recently developed a version that is designed to omit and remove any BusyBox code from its firmware used with the Blu-ray players.

B. The Linux Operating System and BusyBox.

5. In the Linux operating system, one can use a command prompt to perform various functions on the system. For example, if one enters the command `ls`, Linux displays the list of files in the current directory. This is illustrated in the screenshot below.



```

Serial-COM1 - SecureCRT
File Edit View Options Transfer Script Tools Help
Serial-COM1
# ls -l /
total 8
drwxr-sr-x 2 root 20 0 Feb 15 2011 bin
drwxr-sr-x 5 root 20 0 Jan 1 00:00 dev
drwxr-sr-x 7 root 20 0 Jan 1 00:00 etc
drwxr-sr-x 2 root 20 0 Feb 15 2011 home
-rwxr-xr-x 1 root 20 6349 Feb 15 2011 init
drwxr-xr-x 4 root 20 0 Feb 15 2011 lib
drwxr-sr-x 3 root 20 0 Feb 15 2011 libexec
drwxr-sr-x 5 root 20 0 Feb 15 2011 mnt
dr-xr-xr-x 72 root root 0 Jan 1 00:00 proc
drwxr-sr-x 2 root 20 0 Feb 15 2011 root
drwxr-sr-x 2 root 20 0 Feb 15 2011 sbin
drwxr-sr-x 3 root 20 0 Feb 15 2011 share
drwxr-xr-x 12 root root 0 Jan 1 00:00 sys
drwxr-sr-x 2 root 20 0 Feb 15 2011 tmp
drwxr-sr-x 7 root 20 0 Feb 15 2011 usr
drwxr-sr-x 8 root 20 0 Jan 1 00:00 var
#
Ready Serial: COM1, 115200 20, 3 21 Rows, 58 Cols VT100

```

In the above screenshot, the `#` symbol shows the Linux command prompt. When one types `ls -l /` and then hits the Enter key, the Linux operating system calls the program associated with the command `ls`. This `ls` program is used to display the list of files in the current directory.

6. There are many other commands that one can enter to perform different operations on Linux. For example, `pwd` is used to display the current directory, and `ps` can be used to show processes that are running on the system. These commands – and the programs used to implement them – have been around for decades and pre-date BusyBox.

7. BusyBox is a set of utilities designed for use in embedded Linux environments (such as Blu-ray players and other consumer devices using Linux). In an embedded environment, software developers commonly try to develop smaller packages that use less memory. BusyBox takes the collection of pre-existing Linux commands (e.g., **ls**, **pwd**, **ps**, etc.; see Paragraphs 4-6) and provides them in a smaller package designed for embedded environments.

8. To the best of my knowledge, Broadcom provides to Desay the materials that are required for Best Buy to fully comply with the licensing terms for BusyBox (under the GPL, version 2.0). Among other things, Broadcom provides Desay with the complete source code for BusyBox along with the scripts used to control compilation and installation of the executable.

II. INTERACTIONS WITH SFC

9. I understand that Software Freedom Conservancy (SFC) alleges that Best Buy has not complied with the terms of the GPL with respect to BusyBox. In the interest of supporting Best Buy, Broadcom has participated in multiple rounds of settlement discussions between SFC and Best Buy. In each round, SFC has sent a list of demands to Best Buy and Broadcom. However, the vast majority of SFC's demands have had nothing to do with BusyBox.

10. In the initial rounds, SFC sent demands relating to the build instructions for Broadcom's firmware. Broadcom has always provided the "scripts used to control compilation and installation of the executable" (GPL version 2.0, ¶ 3) for programs licensed under the GPL. However, Mr. Kuhn at the SFC demanded additional information because he was unable to figure out how to use Broadcom's scripts to build the software. While Broadcom believes that Mr. Kuhn's demands go far beyond what the GPL version 2.0 actually requires, in the interest of advancing settlement discussions, Broadcom prepared a detailed set of build instructions and submitted them to SFC. On September 22, 2010, Mr. Kuhn sent me an email stating that Broadcom's "new instructions are very well written; they are probably among the best C&CS instructions I've seen in years." Attached as Exhibit A is a copy of Mr. Kuhn's email.

11. However, later that same day Mr. Kuhn sent me a second email (attached as Exhibit B) with a litany of new demands. Most of these demands have nothing to do with

BusyBox. For example, the first demand relates to the build process for the bvdlibs binaries. Bvdlibs are libraries used by proprietary Broadcom applications. These files are separate computer programs that are not part of BusyBox.

12. In the same email, Mr. Kuhn demanded that Broadcom publish the source code for a number of other files, such as bcmdriver.ko. The bcmdriver.ko file is a proprietary Broadcom driver (i.e., not licensed under the GPL). This driver is a completely separate computer program from BusyBox. Likewise, Mr. Kuhn demanded the source code for a number of .so files that are unrelated to BusyBox.

13. Since the Round 5 comments (Exhibit B), SFC has submitted rounds of additional comments. Recently Broadcom has received an seventh round of comments from SFC. Most of the comments in Round 7 have nothing to do with BusyBox and instead complain about features in other computer programs.

III. BROADCOM CREATED A NEW VERSION OF ITS FIRMWARE TO REMOVE BUSYBOX

14. As discussed in Section I.A. above, the BusyBox software is simply a collection of pre-existing Linux commands in small package designed for embedded Linux environments. In reviewing the BusyBox code, I determined that it includes the code for hundreds of Linux commands, but Blu-ray players using Broadcom chips only need to use a fraction of the total.

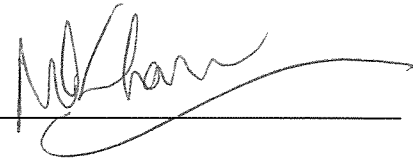
15. In late 2010, Broadcom began work on revised firmware to create a distribution that completely removes BusyBox from the Blu-ray player. To do so, Broadcom determined the set of Linux commands that are actually needed for Blu-ray players. Then we located copies of the programs used to execute these Linux commands from sources other than BusyBox. (Because this is open-source software, the programs used to execute these commands are readily available on the Internet.) Broadcom then independently created its own release for use in embedded systems.

16. On February 18, Broadcom provided the revised release to Desay for use in Best Buy Blu-ray players. The revised release includes a configuration file. Under the default setting,

when Desay compiles the software, the compiled software does not include any BusyBox code. Thus, if Desay uses the default settings for Best Buy, the firmware that is loaded into Best Buy Blu-ray players does not contain any BusyBox code. Broadcom has also provided Desay and Best Buy with instructions on how to upgrade any Blu-ray players in inventory with the revised firmware (i.e., to remove all BusyBox code).

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct, and that this declaration was executed this 23rd day of February, 2011, in Andover, Massachusetts.

By: _____

A handwritten signature in black ink, appearing to read 'Rashid Khan', written over a horizontal line.

Rashid Khan
Senior Manager, Software Engineering
Broadcom Corporation