

How to enable PC/SC support for Dell Contactless Reader

By ridrix

Finally I found the solution!

In a follow up to my post on the "[Dell embedded contactless reader](#)", here is how you enable PC/SC support for this reader.

Select Dell Latitude and Precision systems comes with an embedded contactless smart card reader. Out of the box, this reader is not PC/SC enabled. The contactless reader is only available through the CV chipset (Dell Credentials Vault), meaning that it will only work in PBA (Pre Boot Authentication), and when enrolling a contactless card through the Dell supported software (EmbassySuite/ControlPoint).

PC/SC support means that you can use this reader in your own and third-party programs, by using the standard PC/SC smartcard API.

I have contacted Dell about PC/SC support for the contactless reader, but they could not provide me with any information (they barely knew what PC/SC was).

After some frustration, I started searching through the installed files (Broadcom/Wave Systems), and I finally found the solution.

There is a utility called "ushradiomode64.exe" in the folder "c:\Program Files\Broadcom Corporation\Broadcom USH Host Components\CV\bin".

This utility takes 1 parameter, namely the operation mode of the Contactless Reader Radio:

Example to Enable CV Only Radio Mode:

```
ushradiomode -c
```

Example to Enable Normal Radio Mode:

```
ushradiomode -n
```

"CV Only Radio Mode" is the default mode, and in this mode the reader is only available to the CV/PBA. In "Normal Radio Mode", the reader becomes visible in Device Manager, and can be found when enumerating the PC/SC terminals attached to the system.

Here is how you enable "normal" mode (meaning that the reader will now become listed under "Smart card readers" in Device Manager):

1. Make sure you have installed the latest version of the "Dell ControlPoint Security Device Driver Pack" from <http://support.dell.com>. (Latest version as of 2009-10-09 is v1.1.30 A07)
2. Open command prompt:
Start -> Run -> cmd.exe
3. Type the following 2 commands:

```
cd c:\Program Files\Broadcom Corporation\Broadcom USH Host Components\CV\bin ushradiomode64.exe -n
```

4. reboot (to make windows load the PC/SC driver)

When the system starts up again, check Device Manager and confirm that there are now 2 entries under “Smart card readers”, both called “USB Smart Card Reader”. (1 for the Contactless and 1 for the Contacted smartcard reader).

I haven't tested many cards yet, only retrieved the ATR* from a 1k Mifare Classic Card.

(* Note that contactless cards don't have ATRs. The ATR in this case is generated by the reader or PC/SC driver for the reader. Using the ATR here is just a simple way to check that the reader at least can detect the contactless card.)