CLI Commands

<u>adsl</u>

Name

adsl   Allows you to control the ADSL driver.

Synopsis

```
adsl start [options]
adsl stop
adsl connection [options]
adsl configure [options]
adsl bert [options]
adsl info [options]
adsl version
adsl help
```

Description

The adsl command controls the ADSL driver. This utility:

- starts and stops the driver.
- activates, deactivates, and controls the ADSL connection.
- configures the ADSL driver and connection parameters.
- starts, stops, and monitors the Bit Error Rate Test (BERT).
- displays status and information of the ADSL driver and connection.
- displays statistics for the ADSL driver and connection.

All information is displayed to stdout. A program or shell script that calls this utility can redirect stdout to a file and then parse the file in order to interpret the displayed output.

Commands

bert

Controls the ADSL BERT. This command can start/stop BERT and monitor its results.

configure

Configures ADSL connection parameters. This command takes the same parameters as the "start" command, except for [--up]. This command causes the ADSL PHY to retrain.

connection

Controls ADSL connection modes, such as up and down, and several special test modes. This command can also be used to specify tone selection for upstream and downstream.

help

Shows the syntax of the adsl command.

info

Displays information about the ADSL driver and PHY status.

start

Starts the ADSL driver. This command calls BcmAdsl_Initialize to initialize the driver and BcmAdsl_ConnectionStart to start the ADSL PHY connection if [--up] is specified. This command takes parameters that can specify various connection modes. These parameters are the same as in "configure" command.

stop

    Stops the ADSL connection and the ADSL driver. This command calls BcmAdsl_Uninitialize.

version

    Displays the ADSL version

Options

Options for the start and configure commands:

    adsl start [--up] [--mod <a|d|l|t|2|p|e|m>] [--lpair <(i)nner|(o)uter>]
    [--trellis <on|off>] [--snr <snrQ4>] [--bitswap <on|off>]
    or for Annex C:
    [--bm <(D)BM|(F)BM>] [--ccw]

    adsl configure [--mod <a|d|l|t|2|p|e|m>] [--lpair <(i)nner|(o)uter>]
    [--trellis <on|off>] [--snr <snrQ4>] [--bitswap <on|off>]
    or for Annex C:
    [--bm <(D)BM|(F)BM>] [--ccw]

    --up

        Calls BcmAdsl_ConnectionStart to start the ADSL PHY connection.

    --mod <a|d|l|t|2|p|e|m>

        a--all modulations allowed.
        d--G.DMT enabled.
        l--G.Lite enabled.
        t--T1.413 enabled.
        2--ADSL2 (G.992.3) enabled.
        p--ADSL2+ (G.992.5) enabled.
        e--Reach extended ADSL (Annex L) enabled.
        m--Double upstream (Annex M) enabled.

            •   More than one mode letter can be specified, to enable several modes.

    --lpair <(i)nner|(o)uter>

        (i)nner--inner loop pair is used.
        (o)uter--outer loop pair is used.

    --trellis <on|off>

        Enables or disables trellis coding.

    --snr <snrQ4>

        Specifies the Signal-to-Noise Ratio (SNR) margin as the Q4 number.

    --bitswap <on|off>

        Enables or disables ADSL bitswap

The following options only apply to Annex C:

--bm <(D)BM|(F)BM>

    <(D)BM|(F)BM>
    (D)BM - DBM mode
    (F)BM - FBM mode

--ccw

>Enables special CRC workaround for Centillium modems.

Option for the stop command:

adsl stop

Options for the connection command:

adsl connection [--up] [--down] [--loopback] [--reverb]
[--medley] [--noretrain] [--L3]
[--tones <xmtStart xmtNum xmtMap rcvStart rcvNum rcvMap>]

--up

>Starts the ADSL connection in normal mode.

--down

>Puts ADSL PHY in idle mode.

--loopback

>Puts the ADSL PHY in ATM cell loopback mode. In this mode, ADSL PHY will not try to establish connection.

--reverb

>Puts the ADSL PHY in test mode, which only sends a REVERB signal.

--medley

>Puts the ADSL PHY in test mode, which only sends a MEDLEY signal.

--noretrain

>The ADSL PHY will be trying to establish a connection as in normal mode, but once the connection is up, it will not retrain, even if the signal is lost.

--L3

>Puts the ADSL modem in the L3 power state.

--tones <xmtStart xmtNum xmtMap rcvStart rcvNum rcvMap>

>Specifies tones that can be used by the ADSL PHY.
>
>xmtStart--first tone used in the upstream direction (usually 0).
>
>xmtNum--number of tones in the upstream direction (usually 32).
>
>xmtMap--bitmap for tones used in the upstream direction. Specified as a hexadecimal string. Bit-value 0 means the corresponding tone is not used, and bit-value 1 means it is used.
>
>rcvStart--first tone used in the downstream direction (usually 32).
>
>rcvNum--number of tones in the downstream direction (usually 224).
>
>rcvMap--bitmap for tones used in the downstream direction. Specified as a hexadecimal string. Bit-value 0 means the corresponding tone is not used, and bit-value 1 means it is used.
>
>Tone configuration command does not cause the ADSL PHY to automatically retrain. To experience the effect of this command, the ADSL connection must be restarted using, for example, adsl connection -down, followed by the adsl connection -up command.
>
>Tone selection is not affected by the adsl configure commands and has to be explicitly changed. Default tone configuration (all tones enabled) is set by ADSL tones 0 32 0xFFFFFFFF 32 224 0xFF... (repeated 28 times).

Options for the bert command:

adsl bert [--start <seconds>] [--stop] [--show]

--start

> Starts the BERT.

> seconds--duration of the BERT in seconds.

--stop

> Stops the BERT.

--show

> Displays the BERT results to stdout in the following format:

```
BERT Status = [NOT] RUNNING
BERT Total Time = 10 seconds
BERT Elapsed Time = 10 seconds
BERT Bits Tested = 0x00000000045A6380 bits
BERT Err Bits = 0x0000000000000002 bits
```

> BERT status indicates whether the BERT is currently running. It can be used to monitor when the BERT is complete after it is started. The number of total bits and errored bits are displayed as 64-bit hexadecimal numbers.

Options for the info command:

adsl info [--state] [--show] [--stats] [--reset]

--state

> Displays the shortest message about the ADSL PHY connection state, for example:

```
adsl: ADSL driver and PHY status
Status: Showtime Channel: FAST, Upstream rate = 8064 Kbps, Downstream rate =
1024 Kbps
```

--show

> Displays more statistics about the ADSL connection.

--stats

> Displays all available statistics about the ADSL connection.

--SNR

> Displays the signal-to-noise ratio (SNR) per tone.

--reset

> Clears all statistic counters in the ADSL driver.

Exit Codes

Exit codes less than 100 are assigned by the ADSL driver. Exit codes of 100 or greater are assigned by the ADSL utility.

BCMADSL_STATUS_SUCCESS 0
BCMADSL_STATUS_ERROR 1
ADSL_GENERAL_ERROR 100
ADSL_ALLOC_ERROR 101
ADSL_INVALID_COMMAND 102
ADSL_INVALID_OPTION 103
ADSL_INVALID_PARAMETER 104
ADSL_INVALID_NUMBER_OF_OPTIONS 105
ADSL_INVALID_NUMBER_OF_PARAMETERS 106

Examples

A simple initialization.

```
adsl start [--up]
```

or
```
adsl start
adsl connection --up
```

A more complex initialization.

```
adsl start --up --mod dl --lpair I
```

or
```
adsl start
adsl connection --up --mod dl --lpair I
```

Getting in and out of the test modes.

```
adsl connection --reverb
...
adsl connection --up
```

Selecting tones.

```
adsl connection --tones 0 32 0xFEFFFF7F 32 224 0xFEFFFFFFFFFFFF7F
```

Selects tones from 1 to 31 for upstream and from 33 to 95 for downstream.

Starting and monitoring the BERT.

```
adsl bert -start 60
```

To run the BERT for 60 seconds. After about 20 seconds of the BERT running, the results appear:

```
adsl bert -show

adsl: BERT results:
BERT Status = RUNNING
BERT Total Time = 60 sec
BERT Elapsed Time = 20 sec
BERT Bits Tested = 0x0000000008B4C700 bits
BERT Err Bits = 0x0000000000000067 bits
```

After 60 seconds when the BERT has completed, the results of the -show command appear:

```
adsl bert -show

adsl: BERT results:
BERT Status = NOT RUNNING
BERT Total Time = 60 sec
BERT Elapsed Time = 60 sec
BERT Bits Tested = 0x000000001A1E5500 bits
BERT Err Bits = 0x0000000000000067 bits
```

Display minimal ADSL state.

```
adsl info --state

adsl: ADSL driver and PHY status
Status: Showtime Channel: FAST, Upstream rate = 8064 Kbps, Downstream rate = 1024
Kbps
```

Display complete ADSL driver and PHY status.

```
adsl info --show

adsl: ADSL driver and PHY status
Status: Showtime Channel: FAST, Upstream rate = 8064 Kbps, Downstream rate = 1024
Kbps
Mode G.DMT
Channel Fast
Trellis ON
Line Status No defect
Training status Showtime

Down Up
SNR (dB) 16.1 7.0
Attn (dB) 0.0 5.5
Pwr (dBm) 6.5 7.8
Max (Kbps) 11040 1088
Rate (Kbps) 0 0
K 0(0) 0
R 0 0
S 1 1
D 1 1
SF 25288 25286
SFErr 1 0
RS 0 0
RSCorr 0 0
RSUnCorr 0 0
HEC 1 0
OCD 0 0
LCD 0 0
ES 1 0
```