

# BBned CPE Certification

## 1. Introduction

In order to minimize possible problems on DSL level, BBned requires a certification, based on DSP Code, for CPE/IAD's which will be connected to the BBned DSL network. This DSP Code can be valid for multiple CPE models/firmware combinations per vendor.

Therefore BBned maintains a list of certified CPE'-s, which contains CPE'-s (for Internet Access) and IAD'-s (Internet Access + Voice over DSL). These CPE'-s and IAD'-s have passed an interoperability test at DSL level with the current DSLAM platform (Alcatel ASAM for ADSL/POTS, ADSL/ISDN and SHDSL and also Cisco DSLAM for SHDSL) and successfully passed a duration test against the current DSLAM platforms (CPE/IAD remained trained for at least 12 hours).

The Certification can also be valid for other CPE models, of the same vendor, if the DSP Code is the same as the CPE model that actually went through the test and passed the certification.

Whenever a vendor wants to approve other models with the same DSP Code the vendor MUST supply to BBned:

- An overview (preferably via a website) of the models with the same DSP Code along with the firmware involved. DSP Code – model – firmware overview
- An official statement in which the vendor declares:
  - o The use of the same DSP Code in the concerned CPE's
  - o The provided overview is correct
  - o Do not implement new DSP code without new certification
  - o To take ownership in solving operational problems and initiate new certification if needed at CPE Vendor/Manufacturers cost.
- A description how to obtain the DSP Code and firmware version from the Certified CPE's and the other CPE's with the same DSP Code.

BBned personnel will not support CPE'-s or IAD'-s that are not on the BBned Certified CPE List. No support calls are to be accepted by BBned if an uncertified CPE or IAD is involved.

When a problem is not DSL related but, for instance, can be pointed down to the IP level, the ISP should contact the Vendor/manufacturer directly unless the CPE has been provided via BBned, than BBned will contact the Vendor/manufacturer.

## 2 Pre-testing at BBned Labs

BBned offers the possibility to the CPE vendor/manufacturer to perform a pre-test at the BBned labs. In the a pre-test the CPE vendor/manufacturer can test their CPE's against the DSLAM's BBned is using at different line-lengths and against several DSLAM profiles. SNR Margins and Loop attenuation can be obtained from the DSLAM side. The pre-testing can only be done at the DSL level. Tests on IP level cannot be carried out and will not be made available during the pre-testing period. A BBned engineer will be available during the testperiod.

This pre-testing will increase the chance that a CPE will pass the actual Certification test at Excentis (see also [Chapter 4.2](#)).

BBned will charge the CPE vendor/manufacturer E500,- per 0,5 day for using the BBned labs. Of course it is possible to test more than one CPE model in this period. To apply for pre-testing the CPE vendor/manufacturer must place a Purchase Order at BBned. **Note: The pre-test is NOT a certification.**

### 2.1 BBned contact for pre-test:

PO's must be placed in written format at:

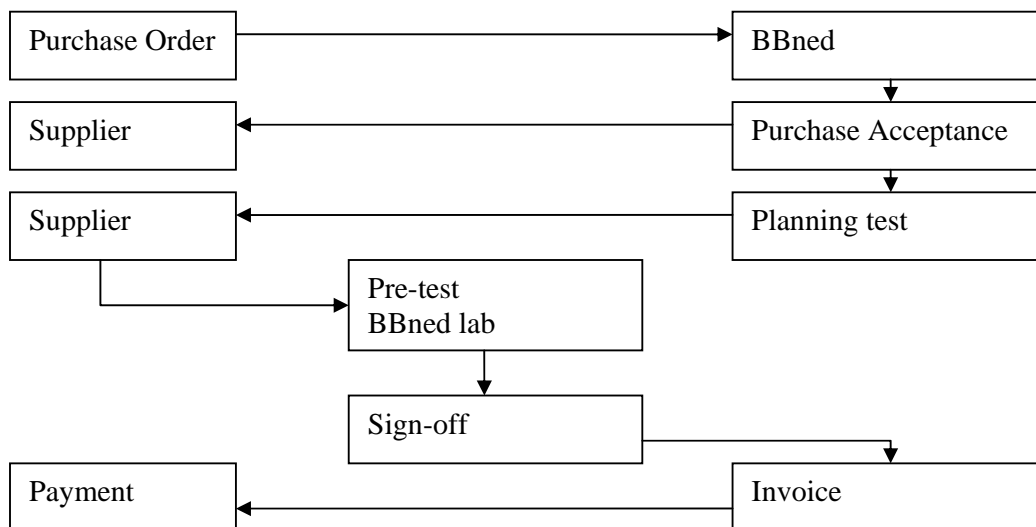
Dhr. G. Goorden  
BBned NV  
Planeetbaan 4  
2132HZ Hoofddorp

The purchase order must contain the following items:

- Expected time needed.
- Contact details (email address, etc).
- Invoice information.

### 2.2 Pre-test process:

The following process will be applied:



### 3. Which tests are parts of the CPE Certification test?

The tests below are carried out.

#### 3.1 Interoperability test:

The CPE needs to train against the several DSLAM profiles on different line lengths in the Alcatel ASAM used by BBned.

Training results are obtained for the next items:

- CPE Training time in seconds
- Achieved download speed
- Achieved upload speed
- Noise Margin for download
- Noise Margin for upload
- Attenuation for download
- Attenuation for upload

Measurement of above items with the next variables:

- ADSL Installed speeds (256/256, 512/512, 1024/512, 2048/1024kbps and 8064/1024) the first value corresponds with downstream and the second with upstream
- SDSL Installed speeds (264/264, 520/520, 1032/1032, 2048/2048, 2304/2304kbps) the first value corresponds with downstream and the second with upstream
- Line distances 0, 1, 2, 3, 4, 4,5 and 5 km
- ADSL2+ Installed speeds (24576/1400, 16000/1024, 12000/1024, 10000/1024, 8000/1024, 4000/1024)
- Line distances ADSL2+ 0, 1, 2, 3, 4 and 5 km
- For line distances (ADSL2+ ) at 6 and 7 km the installed speeds will be 128/128, 256/256, 512/256, 1024/512, 2048/1024 and 4000/1024)

For SDSL equipment, the currently used DSLAM equipment is:

- Alcatel ASAM line card SMLT-A (LDP7AA47.059)
- Cisco 6260 DSLAM. Card = STUC-8-TCPAM

For ADSL2+ POTS, the currently used DSLAM equipment is:

- Alcatel ASAM line card ABLT-D (L7D6AA47.061)

For ADSL2+ ISDN, the currently used DSLAM equipment is:

- Alcatel ASAM line card ABLT-F (L7D6AA47.061)

#### 3.2 Duration test

The CPE or IAD will be put on a fixed line length 1 km on the 'wide open' profile (ADSL 8064/1024, SHDSL 2304, ADSL2+ 24576/1400). During 12 hours the CPE (or IAD) must remain trained.

## 4. BBned CPE Certification; How does it work?

### 4.1 Who can apply for a 'BBned CPE Certification'?

Only CPE vendors/manufacturers may apply for a 'BBned CPE Certification'.

### 4.2 Where can you apply for a 'BBned CPE Certification' ?

BBned has outsourced the Certification to:

**Excentis**  
**Gildestraat 8**  
**9000 Gent**  
**Belgium**  
**phone +32.9.2692291**  
**fax +32.9.3293174**  
**email: [bbnedservices@excentis.com](mailto:bbnedservices@excentis.com)**



CPE Manufacturers who want to have their CPE(s) or IAD(s) certified for the BBned network need to contact Excentis and apply for a 'BBned CPE Certification'. Excentis will make available to the manufacturer a registration form that must be returned completed and signed for a valid submittal.

### 4.3 What do you need to provide to Excentis ?

The CPE vendor/manufacturer will send, per CPE, two units to Excentis including the manuals and drivers. These two units will remain at Excentis as reference for future certifications.

### 4.4 Costs

There will be costs for the Certification test and costs for shipping of equipment (CPE or IAD).

#### 4.4.1 Certification test Cost

These costs amount will be invoiced by Excentis separately and directly to the CPE vendor/manufacturer. Bbned is not a party in the relation between Excentis and the CPE vendor/manufacturer. Excentis may be contacted directly for recent tariffs.

#### **4.4.2 Shipping Cost**

The CPE shipping towards Excentis will be done at CPE Vendor/Manufacturers cost and effort. All costs (including customs, import) need to be paid by the CPE Vendor/Manufacturers. All imports must be made on a permanent basis. If failed unit's needs to be shipped back to the CPE Vendor/Manufacturers this will be done at the CPE Vendor/Manufacturers costs. The manufacturer has the responsibility to provide to Excentis the necessary paperwork for customs.

#### **4.5 Lead Time of the 'BBned CPE Certification'**

Excentis performs the tests within 1month after Excentis received both the CPE and the full payment. Excentis will only start the certification test after Excentis has received the payment in full.

#### **4.6 Test results**

The test results are provided by Excentis to the CPE Vendor/Manufacturer and to BBned in parallel.

#### **4.7 Pass Criteria**

The 'BBNED CPE Certification board' will decide whether the CPE or IAD passed or failed based on the test results and the pass criteria. If the results meet the pass criteria the CPE is 'BBned certified' and is put on the BBned certified list. If the results do not meet the pass criteria the CPE failed the test.

BBned will communicate to the CPE Vendor/Manufacturer whether the CPE or IAD passed or failed the certification test.

If the CPE Vendor/Manufacturer adjusted the CPE (software or hardware) the CPE Vendor/Manufacturer may decide to apply for a new 'BBned CPE Certification' entering the whole process again. All tests need to be repeated completely. For the avoidance of doubt: this recertification will take place at the expensed of the CPE vendor/manufacturer.

#### **4.8 During which period a CPE certification remains valid?**

A CPE Certification is valid until the next upgrade of the BBned DSLAM platform. BBned will take the expenses of the recertification of all Certified CPE's at that moment. If a certified CPE passes the recertification test the CPE remains on the BBned Certified CPE list. If a CPE fails the recertification the CPE Vendor/Manufacturer will be notified by BBned and may develop a new software and/or hardware. The 'failed CPE' will have to re-enter the BBned certification test again at the expenses of the CPE Vendor/Manufacturer.

When the certification period for a specific CPE/Firmware exceeds the three-year period, the CPE will remain on the list until the next DSLAM upgrade.

## 5. Field Problems

The BBned CPE Certification is a process to filter out most problems with specific CPE'-s. Obviously not everything is tested so it is possible that problems still occur even if the CPE has been certified. If this is the case BBned will contact the CPE vendor/manufacturer explaining the nature of the problem.

### 5.1 New firmware already available

It may be possible that there is a solution for the problem in a more recent version of the DSP Code (or firmware).

In that case this recent DSP Code version/firmware must be tested. Firstly at the lab and if that has been passed successfully in the Field.

BBned will perform the certification of this new CPE/Firmware combination in the BBned Labs.

### 5.2 New update/patch/fix needs to be developed

Maybe more investigations are required and then the vendor must supply a unit for reproduction possibilities in the lab to BBned. The research needed to overcome the problem will be performed by the CPE vendor/manufacturer. The CPE vendor/manufacturer may use the BBned Labs, if available, to troubleshoot the problem. This troubleshooting may result in an update/patch/fix to solve the specific problem. BBned will certify this update/patch/fix at their labs. The update/patch/fix is developed only to solve the specific problem(s). No new features are to be built in.

### 5.3 New firmware version

If the CPE vendor/manufacturer does not want to provide an update/patch/fix but wants to build the update/patch/fix into a new firmware release (including new features) the CPE has to follow the CPE process (via Excentis) at the expense of the CPE vendor/manufacturer.