



Clarinet VoIP Applications

H.323 Profile Edition

Introduction

This document is intended to assist our customers with the configuration of the Clarinet LAN unit for H.323 applications. It covers the most common areas of operation but you are welcome to contact PDS at any time with any questions that you may have, and we will make every effort to support you.

The stages below are in the order that they should be followed for the first configuration. After this you can jump from section to section as required.

Opening a template profile

1. Start by selecting 'Profile' in the Clarinet Manager window followed by 'New' then 'LAN' and choose the most suitable profile from the list of:
LAN_simu_h323_endpoint_RAS_fs: A basic call generator/response profile using fast start.
LAN_simu_h323_endpoint_RAS_fs_RTP_analog: A fast start profile intended to send an RTP flow with speech or PESQ measurement
LAN_simu_h323_endpoint_RAS_ss: A basic call generator/response profile using slow start.
2. When prompted, change the name of the profile if you wish, say 'YES' to associate a filter and then select 'Lan_auto_h323' as the filter to use. Change the name of the filter if you wish and then click 'Next' followed by 'No' for the recording of statistics events.
3. Your main LAN profile will now open allowing you to define the speed and type of LAN connection. Click on the 'Call simulator' button to see the name of the IP profile that is associated with this LAN profile. Note the name of the IP profile and then close this window.

Opening the IP profile

4. Click on the 'P IP' button and open the IP profile that you noted in item 3 above.

Defining the protocol stack

5. The 'Choose protocol stack' button allows you to define the protocol used at each layer but this has been pre-defined to suit most applications.

Initialize emulators

6. Start by selecting 'Initialize emulators' which will open at the MAC level. Enter the MAC address that you would like your Clarinet unit to use.
7. Now select 'IP' and enter the required IP address for the Clarinet, a Subnet Mask and if you will be calling through a Gateway, the IP address of this Gateway. The window also allows you to enter any IP address that you would like to ping to verify operation. This ping may be sent manually from the real-time options window when your profile is running, or automatically by ticking the box.





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RAS settings

8. Click on 'H323' and select 'RAS settings' to enter the address on the Gatekeeper. This may be entered by clicking on the empty 'IP address : port' box and then selecting 'Add'. Replace the 0.0.0.0:00000 with the IP address and the port number (usually 1719) that you would like to use before clicking 'Add' again to enter this new Gatekeeper address in the Address list. Click to highlight the unwanted Gatekeeper addresses in the list and then click 'Remove' to delete them.
9. Access to the Gatekeeper Request, Registration Request and other such messages may be obtained by clicking on the 'Encode RAS messages' button. The template profiles have a pre-configured name of CLA231 (or CLA241) and dialled digits of 232 (or 241) so overwrite these if you have changed the IP address or wish to use a different name. To overwrite click at the end of the line that you wish to modify and press the backspace key to delete the entry. Type the new content that you wish to use and then press the 'Encode literal PDU' button to create the new HEX content for this PDU.
10. Click on 'Responder' to see the messages that will be used by your Clarinet system to respond to an incoming call. In the template profiles 'Call Proceeding' and 'Alerting' messages have been selected and configured. These may be replaced with 'Setup Ack' or 'Progress' messages if required and it is possible to select the state during which the 'Progress' message is launched. If you do not wish the Clarinet to accept any incoming calls remove the tick from the 'Accept incoming calls' box and then code any 'Release complete' message that you would like to use. The template profiles are pre-configured with 021 Call Rejected as the Cause. Fast start tunnelling may be generated in the Call Proceeding, Alerting or Connect message.
11. Press the 'Terminal Capability Set' button to see that our template profiles have been pre-configured to allow the most commonly requested codecs. Each copy of the Clarinet run-time software includes a license for two full duplex channels of the G729 codec. Click 'OK' to return to the top IP profile window.

Generator

12. Click on 'Generator' to see a list of independent communications that may be launched by the Clarinet to fifty different destinations. Click 'Edit' to modify 'H323 Destination 1' which will be highlighted. Here you can enter a starting delay, which is the time after the start of the profile before this call will be launched. An empty starting delay box defines an infinite time, which means that the call must be launched manually using a menu that appears under the Clarinet Manager window as soon as the profile is running in real time. It is easy to select how many times you would like to repeat the call (up to 1 million), the inter-call delay and the duration of the call. In the 'Call active' portion of the Generator window you can select from a range sources to connect including 'None', 'RTP Simulator' or 'PESQ'. If RTP Simulator is selected you will need to define the required RTP profile which should be in the same folder. If PESQ is selected you will need to define the required Tx File (WAV reference file) which must be in the same folder and plug in the optional Clarinet PESQ key.

Note: In early Clarinet version 11 run-time software the RTP profile or the Tx File will need to be selected in the main IP profile window using the 'RTP Profiles' button or the 'Transmitted files' button before entering the Generator section.



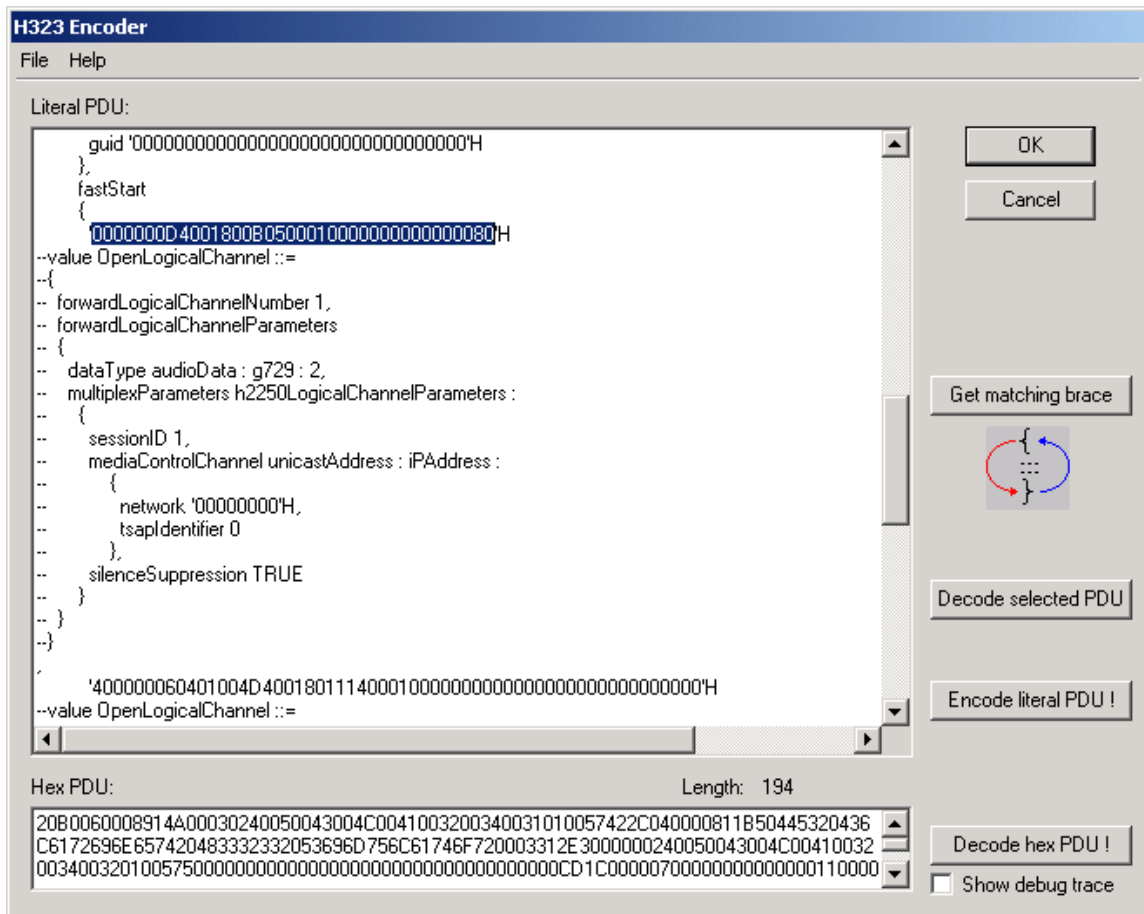
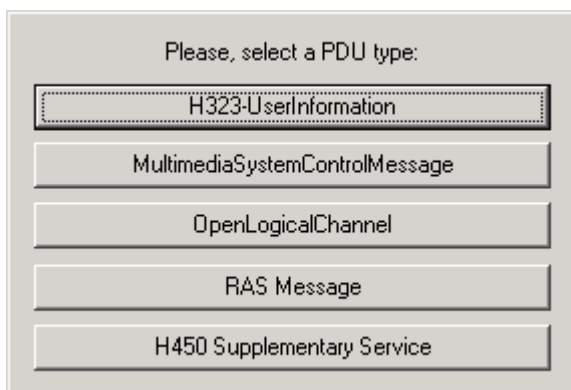


Fig.4

Now you need to press the 'Decode selected PDU' button to see the following window:



The Clarinet (Fig. 4) has already identified the PDU type to be 'OpenLogicalChannel' so press this button to see the window shown in Fig.5 overleaf:

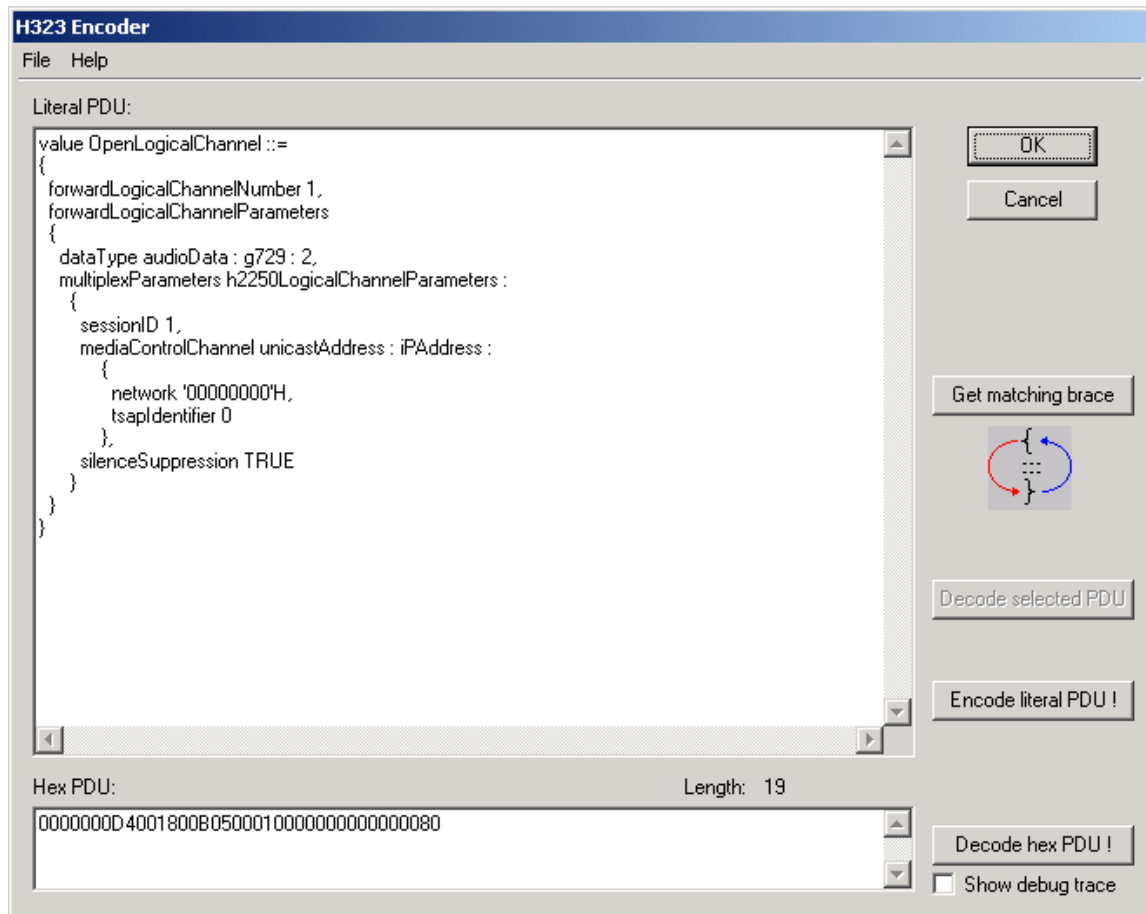


Fig.5

Now you will see a new ASN.1 editor for this Open Logical Channel PDU and you will notice that the HEX content of this smaller PDU is much shorter. You can edit the on screen data perhaps to change the codec type as shown in Fig.6 overleaf:

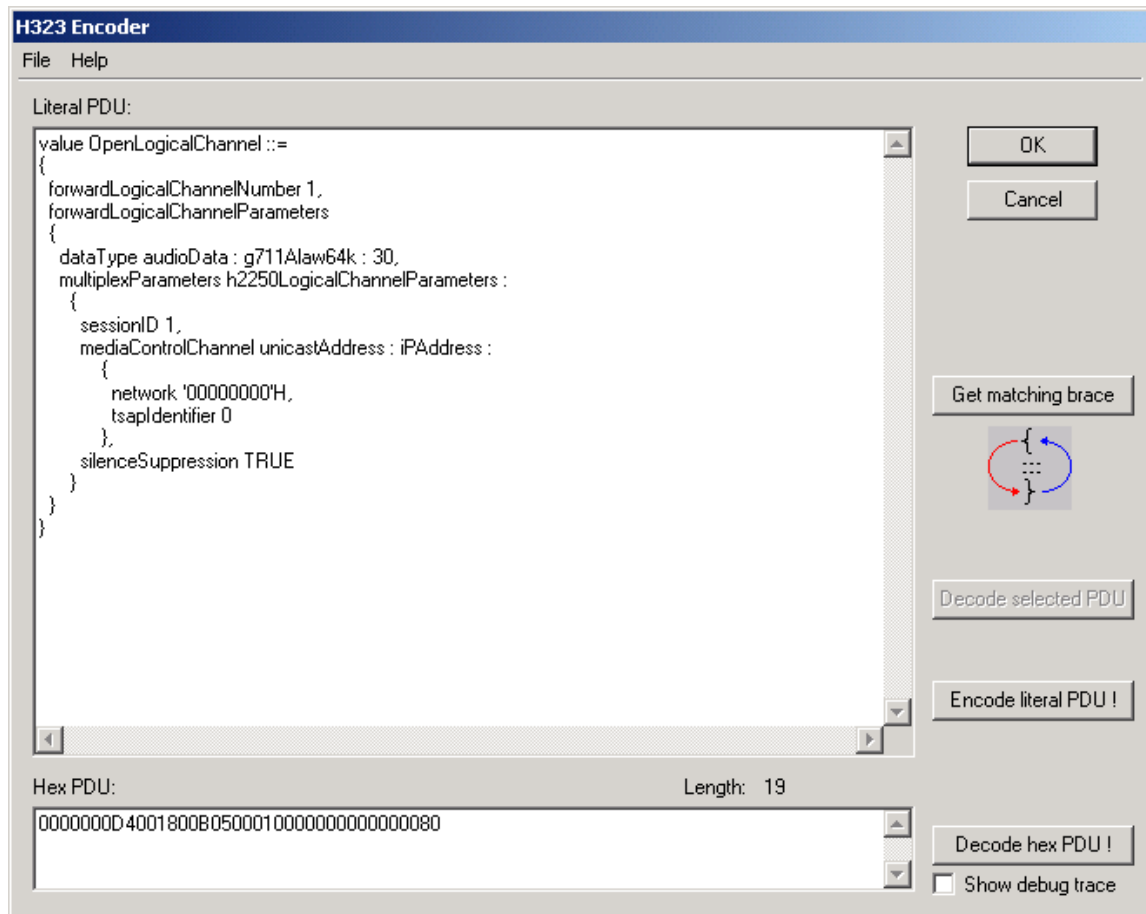


Fig.6

Now you will need to press the 'Encode literal PDU button' to update the Hex PDU to the correct values as shown Fig.7 overleaf:

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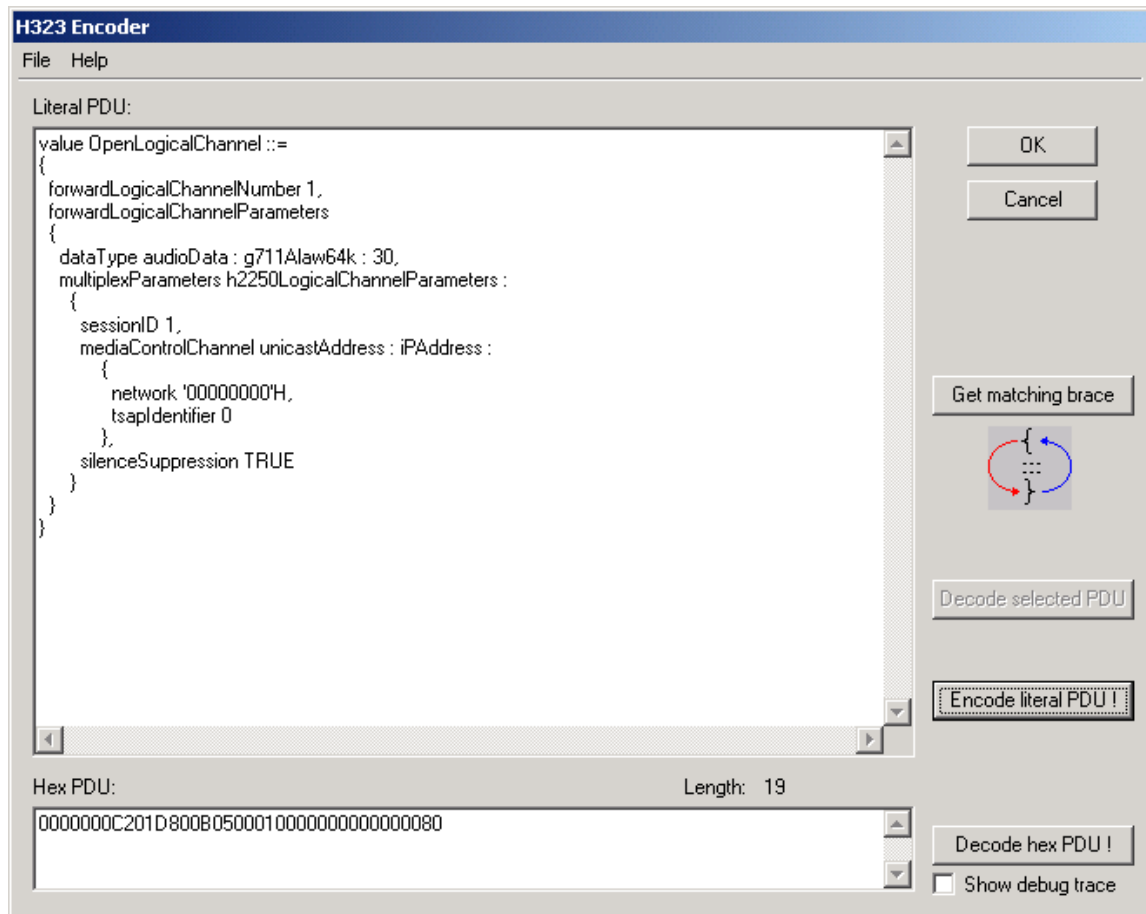


Fig.7

You will notice that HEX D4001 after the first seven 0's has now changed to C201D. Click 'OK' to add this new content in to the Literal PDU of the call Setup message as shown in Fig.8 overleaf:

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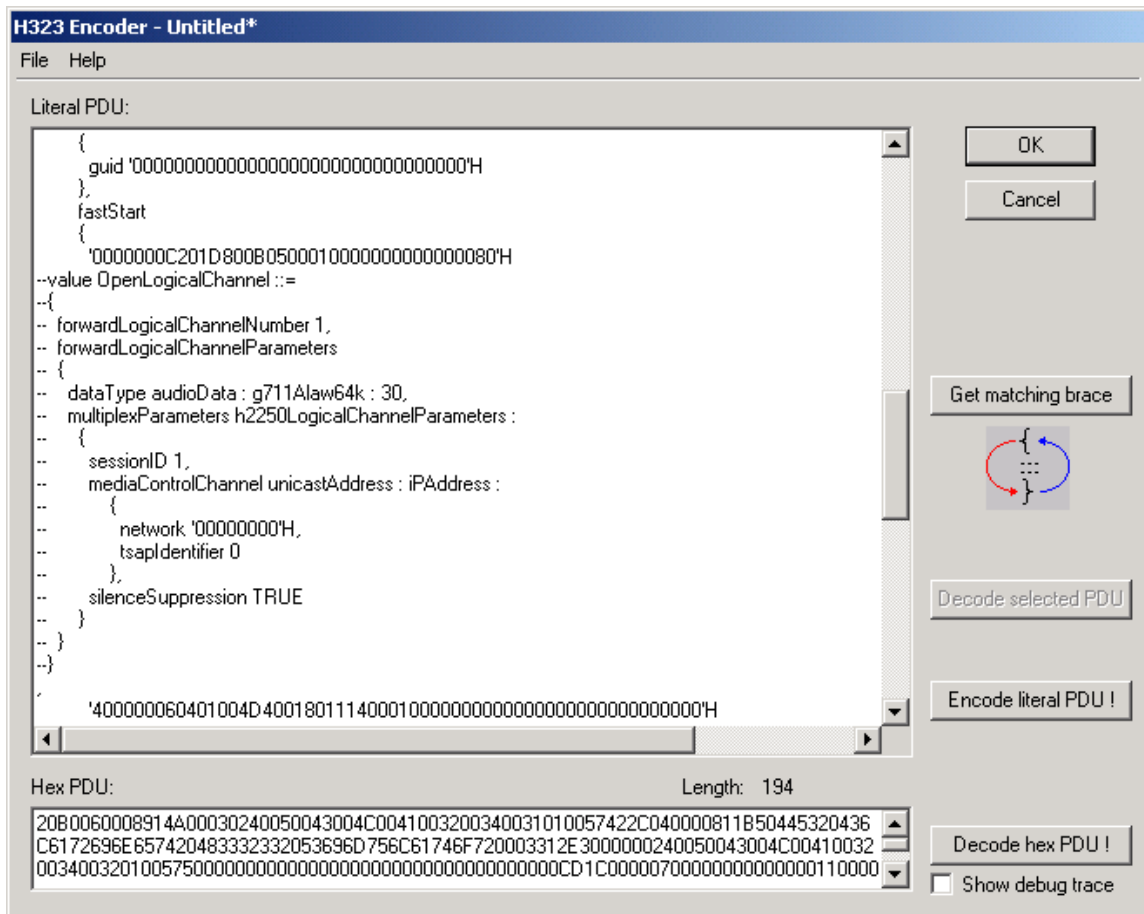


Fig.8

We hope that this introduction allows you to see the versatility of the Clarinet system when used for H.323 simulation or analysis. In this document we edited just one outgoing call but this may be copied and pasted in to any position in the H323 Destination (1-50) list. This allows the main configuration to be saved in one or all calls and the user may then edit each call independently making subtle changes to meet the required application.

For more information and assistance, please do not hesitate to contact PDS by telephone, via our Website: <http://www.pds-test.co.uk> or via e-mail: support@pds-test.co.uk