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Abstract

This document defines test procedures for testing and certification of `Payload/Jitter buffer`. The test cases are based on requirements defined in "[Arrive_PWE_CodeChip_Payloadsize_And_Jitterbuffer_Rev1.2](#)" document.

Terminology

Acronym	Meaning
DUT	Device Under Test
PW	Pseudo-wire
SDH	Synchronous Digital Hierarchy

SONET	Synchronous Optical Network
TDM	Time Division Multiplexing

Scope

The Abstract Test Suite for Jitter/Buffer latency describes test procedures based on requirements defined in [G823](#) and [Arrive_PWE_CodeChip_Payloadsize_And_Jitterbuffer_Rev1.2](#).

An overview of the different groups of tests for [Jitter/Buffer latency](#) is provided as follows:

- Test cases for [change PayloadSize](#)
- Test cases for [change Jitter Buffer/Delay](#)
- Test cases for [force/generator Jitter tolerance from TDM tester](#)
- Test cases for [force/measure delay from CALNEX/ANUE tester](#)

References

Standard	Meaning
RFC4553	Structure-Agnostic Time Division Multiplexing (TDM) over Packet (SAToP)
RFC5086	Structure-Agnostic Time Division Multiplexing (TDM) Circuit Emulation Service over Packet Switched Network (CESoPSN)
RFC4842	Synchronous Optical Network/Synchronous Digital Hierarchy (SONET/SDH) Circuit Emulation over Packet (CEP)
G823	The control of jitter and wander within digital networks which are based on the 2048 kbit/s hierarchy

Compliance Levels

The key words **"MUST"**, **"MUST NOT"**, **"REQUIRED"**, **"SHALL"**, **"SHALL NOT"**, **"SHOULD"**, **"SHOULD NOT"**, **"RECOMMENDED"**, **"MAY"**, and **"OPTIONAL"** in this document are to be interpreted as described in [RFC 2119](#). All key words **MUST** be use upper case, bold text.

Test Status Definitions

MANDATORY status: This means that a test case **MUST** be executed because it verifies an absolute requirement or an absolute requirement dependent on an optional feature. If the requirement is absolute the test must be executed. If the requirement is absolute but dependent on an optional feature and that feature is supported, the test case must be executed. If the optional feature is not supported, the test case is not executed and it is declared as "not applicable".

OPTIONAL status: This word means that a test case **MAY** or **MAY NOT** be executed because it verifies a requirement that is not absolute. The decision to execute such a test case will usually depend on the ability to support a particular feature that is not tied to an absolute requirement. If such a test case is not executed it is declared as "not applicable".

Introduction

Pseudo-wire payload size supported range

Pseudo-wire payload size is configured in number of bytes in case of SAToP and CEP or number of DS1/E1 frame in case of CESoP. In the case of CESoP, payload size in bytes is calculated by number of DS0 slots in encapsulating NxDs0 multiplied with number of DS1/E1 frame configured for Pseudo-wire:

[CESoP payload size in bytes](#) = N * Number of DS1/E1 frames

Where: N is number of DS0 slots in encapsulating NxDs0

Minimum payload size in byte for each product and service is listed below.

Maximum payload size in byte of Pseudo-wire depends on how many bytes Ethernet header occupies in entire Ethernet packet and the maximum transmit unit

(MTU) supported for each kind of service. Ethernet header includes DA, SA, Ethernet type, VLAN tags and PSN header (MPLS, UDP-IPv4, UDP-IPv6, ...).

MTU is computed by Pseudo-wire payload plus Ethernet header. MTU for each product and service is also listed in below table. For example, let calculate maximum Pseudo-wire payload size for OCN card in case of DS3 SAToP service running with MPLS 1 label and 1 VLAN tag.

Ethernet header bytes = DA + SA + Ethernet type (2 bytes) + Vlan tag (4 bytes) + MPLS label (4 bytes) = 22 bytes

Maximum payload size = 2048 - 22 = 2026 bytes

OCN cards

Services	Minimum payload size in bytes	MTU (Note 2)
CESoP 8	(Note 1)	2048
DS1 SAToP	64	2048
E1 SAToP	64	2048
E3SAToP	256	2048
DS3SAToP	256	2048
VC11/VT1.5	CEP	104
VC12/VT-2	CEP	140
VC3/STS-1	CEP	256
VC4/STS-3c	CEP	783
VC4_4c/STS-12C	CEP	783
VC4_16c/STS-48C	CEP	783

DS3/E3 card

Services	Minimum payload size in bytes	MTU (Note 2)
CESoP 8	(Note 1)	2048
DS1 SAToP	64	2048
E1 SAToP	64	2048
E3SAToP	256	2048
DS3SAToP	256	2048
VC11/VT1.5	CEP	104
VC12/VT-2	CEP	140
VC3/STS-1	CEP	256

DS1/E1 card

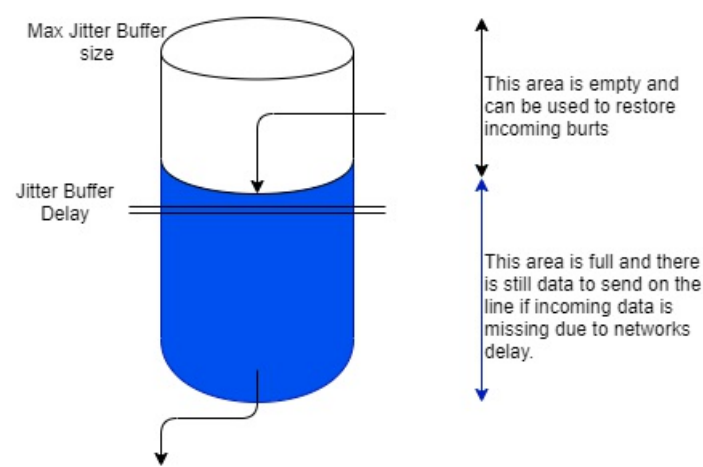
Services	Minimum payload size in bytes	MTU (Note 2)
CESoP 8	(Note 1)	2048
DS1 SAToP	64	2048
E1 SAToP	64	2048
E3SAToP	256	2048

Note 1: In the case of CESoP, the payload size must satisfy 2 constrains, CESoP payload size in bytes >= 8 bytes AND number of DS1/E1 frame>= 4 frames .

Note 2: MTU does not include FCS bytes .

Payload size is not always configured successfully even when its value is in supported range, payload size and jitter buffer size strictly depend on each other and also depend on remaining RAM resources using for jitter buffer.

Payload size and Jitter buffer dependency



In hardware view, jitter buffer size is configured in packets unit reflects the number of packets received from PSN side, temporarily stored in buffer before playing-out to TDM circuit. SDK allows user to configure jitter buffer in both microsecond unit and packets unit.

When user configures buffer size in microsecond unit, if it is accepted by supported range of microsecond, it is converted from microsecond unit to packets unit then configured to hardware by formula:

$$\text{NumBytes} = \text{Rate} * \text{BufferSizeUs}$$

$$\text{Jitter buffer size in packet unit} = (\text{NumByte} / \text{PayloadSize}) + 1 \text{ if remaining of NumByte / PayloadSize is greater than or equal to one third of PayloadSize}$$

Where:

- NumByte: The number of bytes corresponding to buffer size in microsecond and circuit rate
- Rate: Rate of Pseudo-wire's TDM circuit in byte per microsecond
- BufferSizeUs: Size of jitter buffer in microsecond
- PayloadSize: Pseudo-wire's payload size in bytes

For example, assume that there is a DS1 SAToP service running on OCN card with payload size 200 bytes, jitter buffer size 16ms and user would like to modify jitter buffer size for this Pseudo-wire to 32ms. New buffer size in packets is computed as below:

DS1 rate is 193 bytes per millisecond

$$\text{The number of bytes corresponding to 32 ms is } 193 * 32 = 6144 \text{ bytes}$$

$$\text{Jitter buffer size in packets unit is } 6144 / 200 + 1 = 31 \text{ packets}$$

Anytime user wants to change Pseudo-wire payload size or jitter buffer size in microsecond, new buffer size in packets unit is re-calculated from new payload size with current jitter buffer size (changing payload size) or new jitter buffer size with current payload size (changing jitter buffer size). This new buffer size in packets unit must satisfy the range that products support, otherwise, configuration will not be successful.

When user configures jitter buffer in packets unit, it must satisfy the supported range in packets, then it is converted from packets unit into microsecond unit to double check with supported range in microsecond. Input buffer size in packets unit is applied to hardware if it is accepted by both two constraints.

Formula to convert buffer in packets to microsecond unit:

$$\text{NumBytes} = \text{BufferInPacket} * \text{PayloadSize}$$

$$\text{BufferInUs} = \text{NumBytes} / \text{Rate} + 1 \text{ if remaining of NumBytes / Rate is larger than 0}$$

Where:

- NumBytes: The number of bytes corresponding to buffer size in packets and payload size in bytes
- Rate: Rate of Pseudo-wire's TDM circuit in byte per microsecond
- BufferInUs: Jitter buffer size in microsecond

The implementation limits the range of number of packets as jitter buffer size differently for each product and each service type as below.

OCN cards

Services	Minimum buffer size in packets	Minimum buffer size in microsecond	Maximum buffer size in packets	Maximum buffer size in microsecond

CESoP	6	250	2048	256000
DS1 SAToP	6	250	2048	256000
E1 SAToP	6	250	2048	256000
E3SAToP	6	250	2048	256000
DS3SAToP	6	250	2048	256000
VC11/VT1.5 CEP	6	250	2048	256000
VC12/VT-2 CEP	6	250	2048	256000
VC3/STS-1 CEP	6	250	8191	256000
VC4/STS-3c CEP	6	250	8191	256000
VC4_4c/STS- 12C CEP	6	250	8191	128000
VC4_16c/STS- 48C CEP	6	250	8191	64000

DS3/E3 card

Services	Minimum buffer size in packets	Minimum buffer size in microsecond	Maximum buffer size in packets	Maximum buffer size in microsecond
CESoP	4	250	511	256000
DS1 SAToP	4	250	511	256000
E1 SAToP	4	250	511	256000
E3SAToP	4	250	511	256000
DS3SAToP	4	250	511	256000
VC11/VT1.5 CEP	4	250	511	256000
VC12/VT-2 CEP	4	250	511	256000
VC3/STS-1 CEP	4	250	511	256000

DS1/E1 card

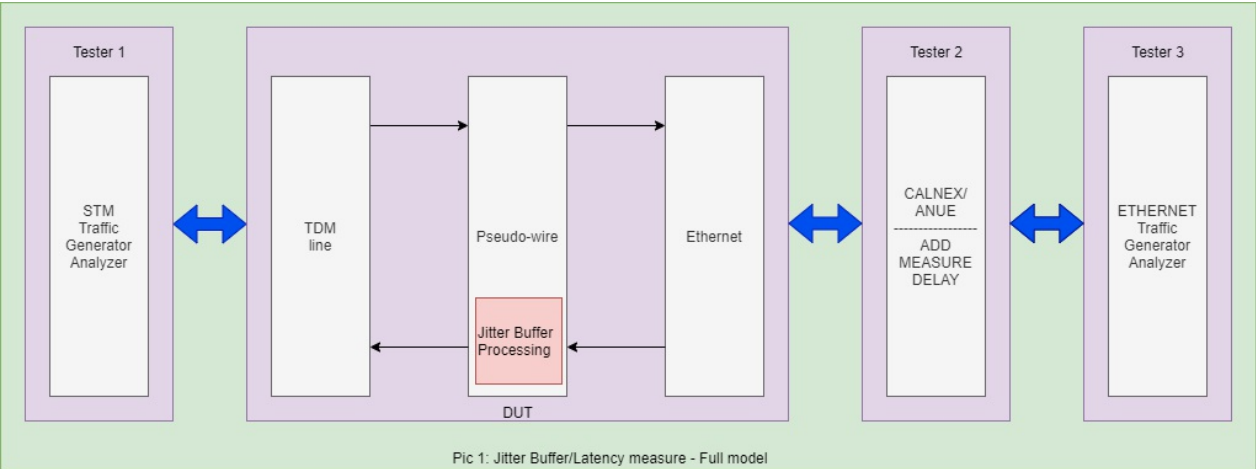
Services	Minimum buffer size in packets	Minimum buffer size in microsecond	Maximum buffer size in packets	Maximum buffer size in microsecond
CESoP	4	250	512	256000
DS1 SAToP	4	250	512	256000
E1 SAToP	4	250	512	256000

When jitter buffer size of a Pseudo-wire is configured, a part of RAM will be allocated with size corresponds with that buffer size, RAM allocation implementation is described in following part. Because RAM resources are limited, buffer size in packets unit (a combination of payload size and jitter buffer size in microsecond

or size in packets directly input by user) will NOT always be successfully applied to hardware, it strictly depends on how much free RAM resources remain.

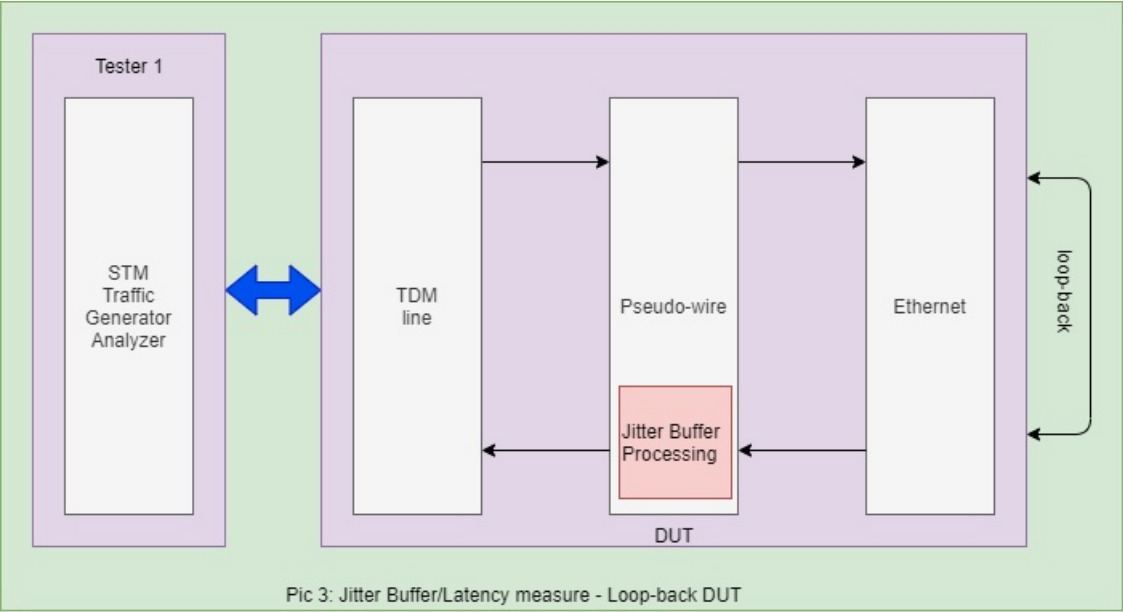
Test Configuration for "Jitter Buffer latency"

All test-cases for "Jitter Buffer latency" defined in this document should be executed using a single test topology as below :

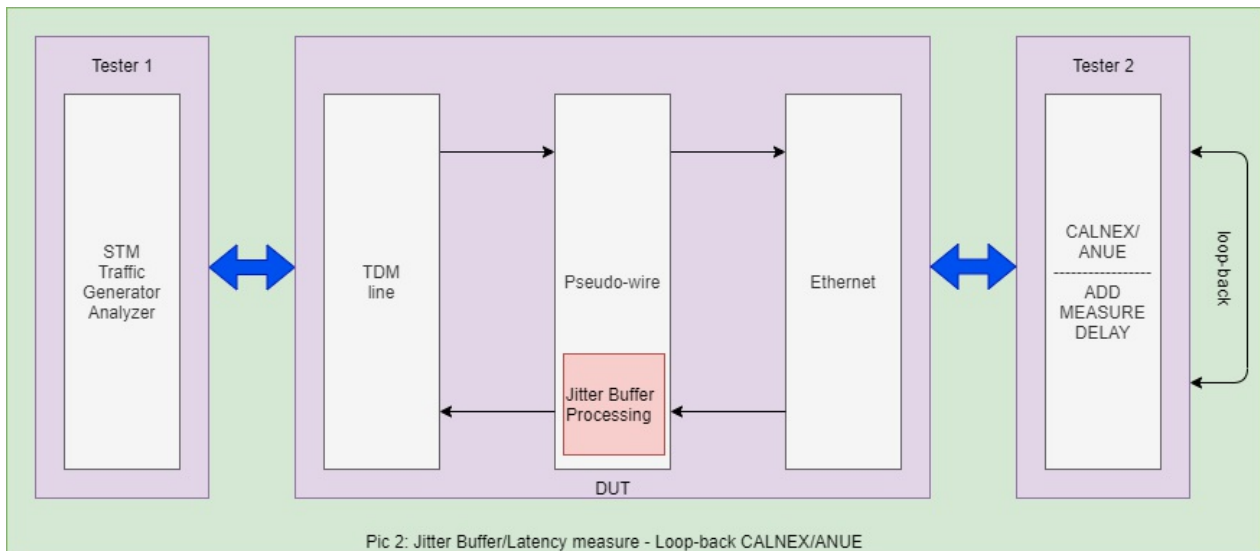


But, the Ethernet Tester **MUST** support generator/analyzer a format TDM over PW over ETH/IP . In Arrive lab, we can't do it. Therefore, we can work around that by some models as below.

- Test cases for change PayloadSize , change Jitter Buffer/Delay , force/generator Jitter tolerance from TDM tester :



- Test cases for force/measure delay from CALNEX/ANUE tester . Take note that we must use IOS, or work-around via Ethernet pass-through (if project support it, such as 3GMS project) to connect DUT with ANUE tester:



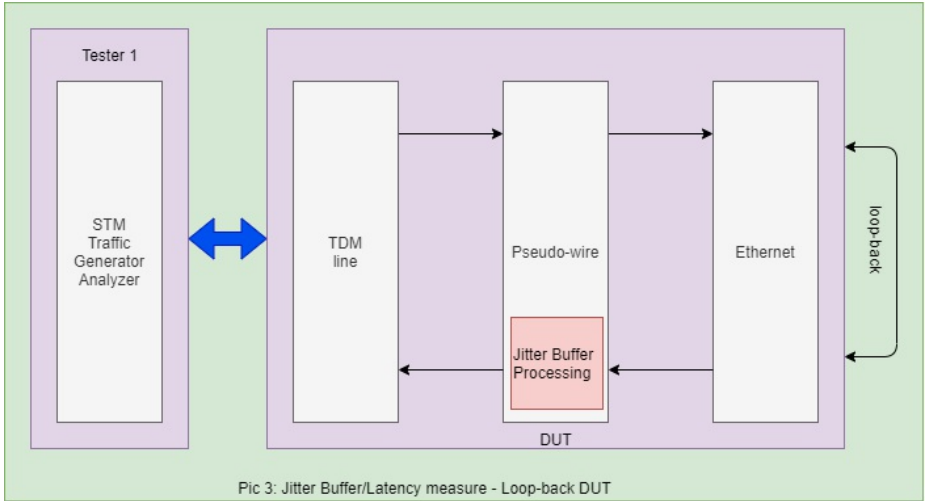
Test Case Template for "Jitter Buffer latency"

Type	Description
Test Name	Name derived from reference documents
Test Type	Conformance or Performance
Test Status	Mandatory, Conditional Mandatory or Optional
Test Configuration	Succinct description of the test bed configuration
Test Configuration Schematic	Test bed schematic. The variables can augment it
Test Procedure	Succinct description of the test procedure
Results	Pass or Fail

Test cases for change PayloadSize

Test cases for change PayloadSize: Change Under size

Type	Description
Test Name	Test cases for change PayloadSize: Change Under size
Test Type	Conformance
Test Status	Optional
Test Configuration	Set-up normal traffic on the topology. Make sure that traffic is OK

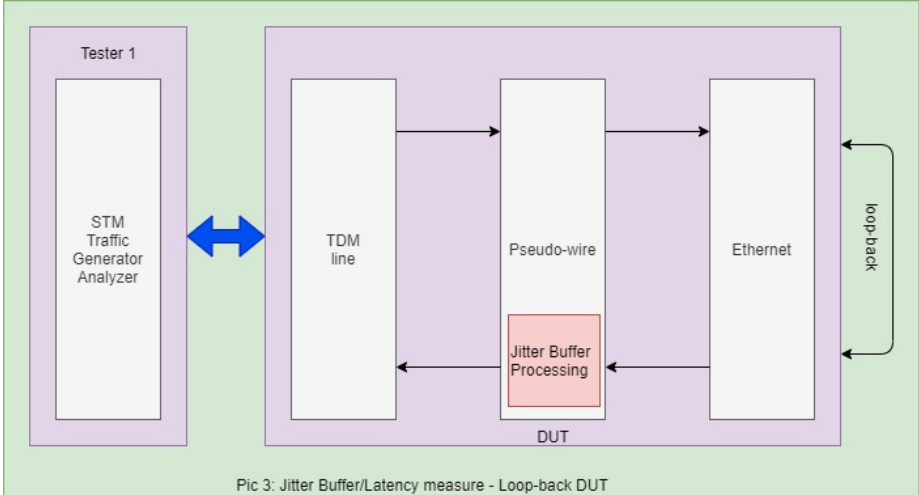
Test Configuration Schematic	 <p>Pic 3: Jitter Buffer/Latency measure - Loop-back DUT</p>
Test Procedure	<p>Setup normal traffic. Make sure that traffic is OK</p> <p>Check Payload Pw constrain.</p> <p>Configure random PWs with undersize payload. Make sure SDK must return error and block that configure.</p> <p>The traffic MUST not be impacted.</p>
Results	Pass or Fail

Result testing

IM	Result
Eomer (3GMS)	PASSED
Eowyn 10G	PASSED
Eowyn 5G	PASSED
Elboron (10GMS)	PASSED
Denethor (DS1)	PASSED
Bilbo (DS3)	PASSED

Test cases for change PayloadSize: Change Over size

Type	Description
Test Name	Test cases for change PayloadSize: Change Over size
Test Type	Conformance
Test Status	Optional
Test Configuration	Set-up normal traffic on the topology. Make sure that traffic is OK

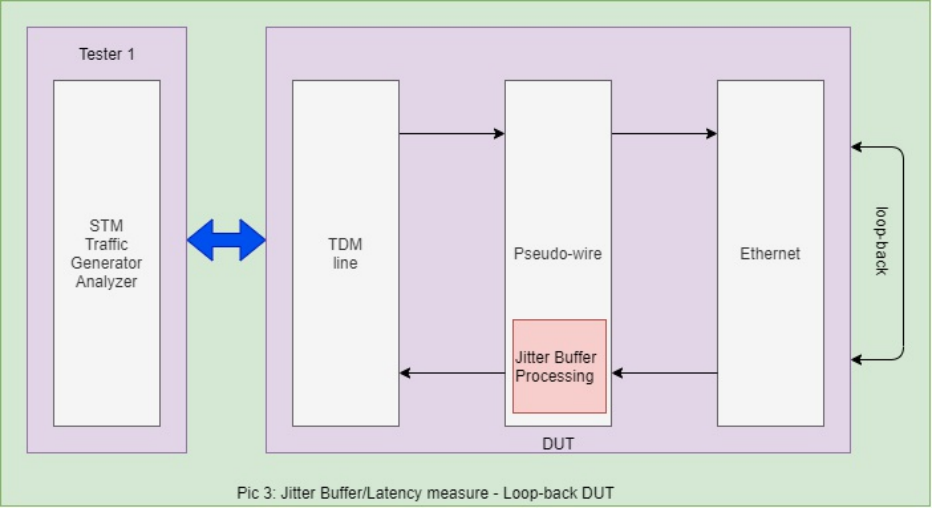
Test Configuration Schematic	 <p>Pic 3: Jitter Buffer/Latency measure - Loop-back DUT</p>
Test Procedure	<p>Setup normal traffic. Make sure that traffic is OK</p> <p>Check Payload Pw constrain.</p> <p>Configure random PWs with oversize payload. Make sure SDK must return error and block that configure.</p> <p>The traffic MUST not be impacted.</p>
Results	Pass or Fail

Result testing

IM	Result
Eomer (3GMS)	PASSED
Eowyn 10G	PASSED
Eowyn 5G	PASSED
Elboron (10GMS)	PASSED
Denethor (DS1)	PASSED
Bilbo (DS3)	PASSED

Test cases for change PayloadSize: Change In-range

Type	Description
Test Name	Test cases for change PayloadSize: Change In-range size
Test Type	Conformance
Test Status	Optional
Test Configuration	Set-up normal traffic on the topology. Make sure that traffic is OK

Test Configuration Schematic	 <p>Pic 3: Jitter Buffer/Latency measure - Loop-back DUT</p>
Test Procedure	<p>Setup normal traffic. Make sure that traffic is OK</p> <p>Check Payload Pw constrain.</p> <p>Configure random PWs with payload in range that constrain. Make sure SDK execute that configure successfully.</p> <p>The traffic MUST recovery after clear status.</p>
Results	Pass or Fail

Result testing

IM	Result
Eomer (3GMS)	PASSED
Eowyn 10G	PASSED
Eowyn 5G	PASSED
Elboron (10GMS)	PASSED
Denethor (DS1)	PASSED
Bilbo (DS3)	PASSED

Test cases for change Jitter buffer

Test cases for change Jitter buffer: Change Under size

Type	Description
Test Name	Test cases for change Jitter buffer: Change Under size
Test Type	Conformance
Test Status	Optional
Test Configuration	Set-up normal traffic on the topology. Make sure that traffic is OK

Test Configuration Schematic	<p>Pic 3: Jitter Buffer/Latency measure - Loop-back DUT</p>
Test Procedure	Setup normal traffic. Make sure that traffic is OK Check Jitter buffer Pw constrain. Configure random PWs with undersize Jitter buffer. Make sure SDK must return error and block that configure. The traffic MUST not be impacted.
Results	Pass or Fail

Result testing

IM	Result
Eomer (3GMS)	PASSED
Eowyn 10G	PASSED
Eowyn 5G	PASSED
Elboron (10GMS)	PASSED
Denethor (DS1)	PASSED
Bilbo (DS3)	PASSED

Test cases for change Jitter buffer: Change Over size

Type	Description
Test Name	Test cases for change Jitter buffer: Change Over size
Test Type	Conformance
Test Status	Optional
Test Configuration	Set-up normal traffic on the topology. Make sure that traffic is OK

Test Configuration Schematic	<p>Pic 3: Jitter Buffer/Latency measure - Loop-back DUT</p>
Test Procedure	<p>Setup normal traffic. Make sure that traffic is OK</p> <p>Check Jitter buffer Pw constrain.</p> <p>Configure random PWs with oversize Jitter buffer. Make sure SDK must return error and block that configure.</p> <p>The traffic MUST not be impacted.</p>
Results	Pass or Fail

Result testing

IM	Result
Eomer (3GMS)	PASSED
Eowyn 10G	PASSED
Eowyn 5G	PASSED
Elboron (10GMS)	PASSED
Denethor (DS1)	PASSED
Bilbo (DS3)	PASSED

Test cases for change Jitter buffer: Change In-range

Type	Description
Test Name	Test cases for change Jitter buffer: Change In-range size
Test Type	Conformance
Test Status	Optional
Test Configuration	Set-up normal traffic on the topology. Make sure that traffic is OK

Test Configuration Schematic	<p>Pic 3: Jitter Buffer/Latency measure - Loop-back DUT</p>
Test Procedure	<p>Setup normal traffic. Make sure that traffic is OK. Check Jitter buffer Pw constrain. Configure random PWs with Jitter buffer in range that constrain. Make sure SDK execute that configure successfully. The traffic MUST recovery after clear status.</p>
Results	Pass or Fail

Result testing

IM	Result
Eomer (3GMS)	PASSED
Eowyn 10G	PASSED
Eowyn 5G	PASSED
Elboron (10GMS)	PASSED
Denethor (DS1)	PASSED
Bilbo (DS3)	PASSED

Test cases for force/generator Jitter tolerance from TDM tester

Type	Description
Test Name	Test cases for force/generator Jitter tolerance from TDM tester
Test Type	Conformance
Test Status	Optional
Test Configuration	Configure data path on DUT and start Jitter Tolerance function on Tester

Test Configuration Schematic	<p>Pic 3: Jitter Buffer/Latency measure - Loop-back DUT</p>
Test Procedure	Setup normal traffic, make sure that traffic is OK. Configure data path on DUT and start Jitter Tolerance function on Tester. Start measure jitter Tolerance for the following cases. After Tester finished, save/check result. The traffic MUST recovery after clear status.
Results	Pass or Fail

Result testing

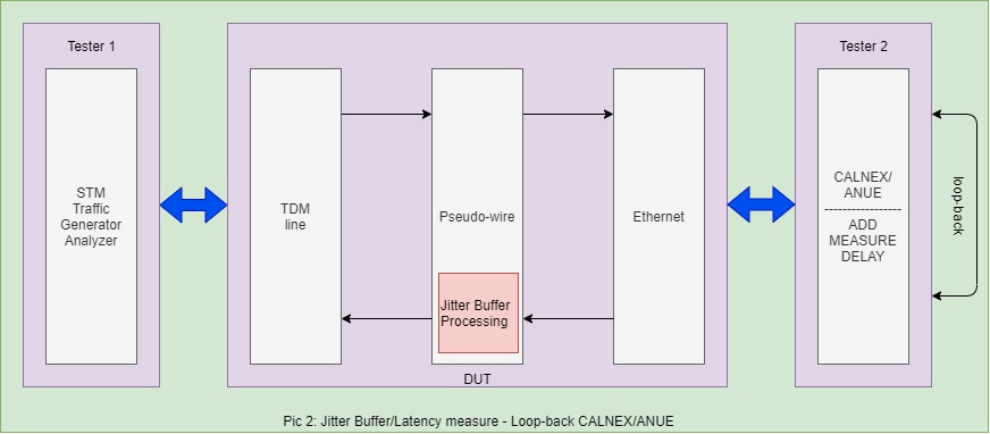
Note: This result is w ith the old version (It's not support mode De1 SAToP, 64bytes, 2us)

IM	Result
Eomer (3GMS)	PASSED
Eowyn 10G	PASSED
Eowyn 5G	PASSED
Elboron (10GMS)	PASSED
Denethor (DS1)	PASSED
Bilbo (DS3)	PASSED

Test cases for force/measure delay from CALNEX/ANUE tester

Test cases for force/measure delay from CALNEX/ANUE tester: Anue cfg Constance Delay

Type	Description
Test Name	Test cases for force/measure delay from CALNEX/ANUE tester: Anue cfg Constance Delay
Test Type	Conformance
Test Status	Optional
Test Configuration	Configure data path on DUT and Anue cfg Constance Delay (=50ms)

Test Configuration Schematic	 <p>Pic 2: Jitter Buffer/Latency measure - Loop-back CALNEX/ANUE</p>
Test Procedure	<p>Setup normal traffic (Ex : cfg JB at DUT is : JB size = 32ms , JD size = 16ms (1ms/1pkt : DS1 pw payload size 192bytes)), make sure that traffic is OK.</p> <p>Check Pw counters, delay of network make delay ~1pk.</p> <p>The traffic MUST recovery after back to normal and clear status.</p>
Results	Pass or Fail

Result testing

Note: This result is with the old version (It's not support mode De1 SAToP, 64bytes, 2us)

IM	Result
Eomer (3GMS)	PASS
Eowyn 10G	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Eowyn 5G	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Elboron (10GMS)	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Denethor (DS1)	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Bilbo (DS3)	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)

Test cases for force/measure delay from CALNEX/ANUE tester: Increase Constance Delay

Type	Description
Test Name	Test cases for force/measure delay from CALNEX/ANUE tester: Increase Constance Delay
Test Type	Conformance
Test Status	Optional
Test Configuration	Configure data path on DUT and Anue cfg Constance Delay (=50ms)

Test Configuration Schematic	<p>Pic 2: Jitter Buffer/Latency measure - Loop-back CALNEX/ANUE</p>
Test Procedure	Many steps, check it detail as below
Results	Pass or Fail

Test Procedure

- Follow the test-case Test cases for force/measure delay from CALNEX/ANUE tester: Anue cfg Constance Delay
- At ANUE: Increase Constance Delay up to 65 ms (with step 1ms) (Min of jitterbuffer = 2pkt) * Counter NumPktsInJitterBuffer is decreased num-pkt equal of ms increse at Annue ** When Annue up to 64ms : data path still ok , NumPktsInJitterBuffer = 1+ some-bytes ** When Annue up to 65ms --> `counter RxJitBufUnderrunEvents set = num-pkt/1ms * ms_increse_atAnnue - (num-pkt/1ms*JDsize - JBmin) = 1(65-50) -(116 -2) = 1 (Because in this case 1pkt/1ms --> JDsize min = 14 , if npkt/1ms with n>2 --> delay can increse at Annue can up to 15ms with data path OK : from 50ms->65ms , just count Underrun when increse more than 15ms) ** If Annue increse more than 15 ms (Ex: up to 70ms) --> counter RxJitBufUnderrunEvents set = num-pkt/1ms * (ms_increse_atAnnue - (JDsize - JBmin)) = 1((70-50) - (16-2)) = 6` ** After Underrun Event occur(interrupt PW set) , check again JB of PW ,it must be center again , counter NumPktsInJitterBuffer ~ JDsize (turn to beginning value w hen set up data path OK)

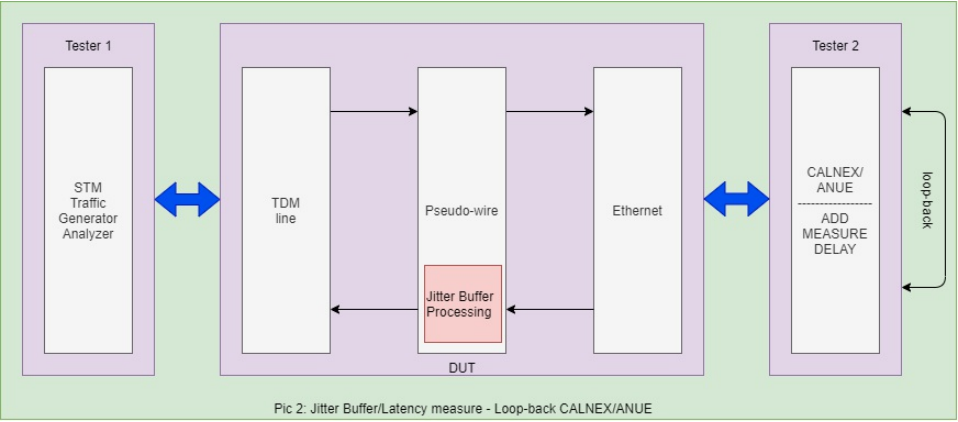
Result testing

Note: This result is w ith the old version (It's not support mode De1 SAToP, 64bytes, 2us)

IM	Result
Eomer (3GMS)	DS3_SAToP over LIU: PASSED. VC3_CEP over STM16: FAILED. VC4_CEP over STM16: FAILED. VC4-4C_CEP over STM16: FAILED. DS3_SAToP over STM16: PASSED.
Eowyn 10G	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Eowyn 5G	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Elboron (10GMS)	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Denethor (DS1)	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Bilbo (DS3)	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)

Test cases for force/measure delay from CALNEX/ANUE tester: Decrease Constance Delay

Type	Description
Test Name	Test cases for force/measure delay from CALNEX/ANUE tester: Decrease Constance Delay

Test Type	Conformance
Test Status	Optional
Test Configuration	Configure data path on DUT and Anue cfg Constance Delay (=50ms)
Test Configuration Schematic	 <p>Pic 2: Jitter Buffer/Latency measure - Loop-back CALNEX/ANUE</p>
Test Procedure	Many steps, check it detail as below
Results	Pass or Fail

Test Procedure

- Follow the test-case Test cases for force/measure delay from CALNEX/ANUE tester: Anue cfg Constance Delay
- At ANUE: Decrese Constance delay down n to 33ms (w ith step 1ms) * Counter NumPktsInJitterBuffer is increased num-pkt equal of ms decresed at Annue ** When Annue down to 34 ms : data path still ok , NumPktsInJitterBuffer = 31 + some-bytes < JbSize(32ms) ** When Annue down to 33ms --> counter RxJitBufOvrrunEvents set = (JDsize + ms_decrease_atAnnue) * num-pkt/1ms = (16+(50-33)) * 1 = 33 ** If Annue decrease more than 16 ms (Ex: down to 30ms) --> counter RxJitBufOvrrunEvents set = num-pkt/1ms * (JDsize + ms_decrease_atAnnue) = 1(16+(50-30)) = 36' ** After Overrun Event occur(interrupt PW set) , check again JB of PW ,it must be center again , counter NumPktsInJitterBuffer ~ JDsize (turn to begining value w hen set up data path OK)

Result testing

Note: This result is w ith the old version (It's not support mode De1 SAToP, 64bytes, 2us)

IM	Result
Eomer (3GMS)	PASSED
Eowyn 10G	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Eowyn 5G	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Elboron (10GMS)	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Denethor (DS1)	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Bilbo (DS3)	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)

Test cases for force/measure delay from CALNEX/ANUE tester: Force drop packet/In range

In Annue , can use Delay Gaussian , Internet , Uniform to test JB Tolerance by set min - max range-delay

Type	Description
	Test cases for force/measure delay from CALNEX/ANUE tester: Force drop packet/In

Test Name	range
Test Type	Conformance
Test Status	Optional
Test Configuration	Configure data path on DUT and Anue cfg Constance Delay (=50ms)
Test Configuration Schematic	
Test Procedure	Many steps, check it detail as below
Results	Pass or Fail

Test Procedure

- Follow the test-case Test cases for force/measure delay from CALNEX/ANUE tester: Anue cfg Constance Delay
- At ANUE: enable Drop. Then, Force drop packet = Num count and Force continue drop packet
 - Check RxLostPackets = Num count in Annue, Num Tx pkt = NumRx pkt + RxLostPackets , If Annue choose "Select 1 in 5 pkts" : check Tx pkt ~ LostPacket * 5
 - Check NumPktsInJitterBuffer : not be decreased continuously (w hen drop not all, RxJitBufUnderrunPackets = 0)

Result testing

Note: This result is w ith the old version (It's not support mode De1 SAToP, 64bytes, 2us)

IM	Result
Eomer (3GMS)	PASSED
Eowyn 10G	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Eowyn 5G	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
Elboron (10GMS)	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)
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Bilbo (DS3)	COULD_NOT_TEST (This project is not supported Eth-passthrough and we don't use IOS to connect DUT to ANUE via ETH)