

OsmoPCU - Bug #4180

Regression in osmo-ttcn3-hacks broke f_bssgp_wait_ul_ud()

08/29/2019 03:45 PM - osmith

Status:	Resolved	Start date:	08/29/2019
Priority:	Normal	Due date:	
Assignee:	osmith	% Done:	100%
Category:			
Target version:			
Spec Reference:			

Description

Currently we have four ttcn3 tests in PCU_Tests.ttcn3, but we are not running them in jenkins yet. This patch broke these tests ("BSSGP_Emulation: Abandon "BssgpDecoded" intermediate structure"):

<https://gerrit.osmocom.org/c/osmo-ttcn3-hacks/+13865>

With this patch, the following function in PCU_Tests.ttcn does not match the expected message anymore and runs into the timeout:

```
function f_bssgp_wait_ul_ud(template PDU_BSSGP exp) runs on dummy_CT {
  timer T := 5.0;
  T.start;
  alt {
    [] BSSGP[0].receive(exp) {
      log("found matching BSSGP UL-UNITDATA PDU");
    }
    [] T.timeout {
      setverdict(fail, "Timeout waiting for ", exp);
      mtc.stop;
    }
  }
}
```

It gets called like this:

```
for (var integer i := 0; i < sizeof(us.tbf.llc_pdu_enc); i := i+1) {
  f_bssgp_wait_ul_ud(tr_BSSGP_UL_UD(g_mmctx.tlli, ?, us.tbf.llc_pdu_enc[i]));
}
```

Log message as it fails to match:

```
16:19:03.049284 mtc PCU_Tests.ttcn:331 Matching on port BSSGP[0] failed: Type of the first message in the queue is not @BSSGP_Types.PDU_BSSGP.
```

The actual message is of type @MobileL3_Types.PDU_L3_MS_SGSN and looks like this:

```
16:23:31.232353 mtc PCU_Tests.ttcn:334 Receive operation on port BSSGP[0] succeeded, message from
4: @MobileL3_Types.PDU_L3_MS_SGSN: {
  discriminator := '0000'B,
  tiOrSkip := {
    skipIndicator := '0000'B
  },
  msgs := {
    gcc := '0102030405060708090A0B0C0D0E0F101112131415161718191A1B1C1D1E1F20212223242526272829
2A2B2C2D2E2F303132333435363738393A3B3C3D3E3F404142434445464748494A4B4C4D4E4F505152535455565758595A
5B5C5D5E5F606162636465666768696A6B6C6D6E6F707172737475767778797A7B7C7D7E7F808182838485868788898A8B
8C8D8E8F909192939495969798999A9B9C9D9E9FA0A1A2A3A4A5A6A7A8A9AAABACADAEAFB0B1B2B3B4B5B6B7B8B9BABBC
BDBEBFC0C1C2C3C4C5C6C7C8C9CACBCCCDCECFD0D1D2D3D4D5D6D7D8D9DADBDCEDEDFE0E1E2E3E4E5E6E7E8E9EAEBECEDE
EEFF0F1F2F3F4F5F6F7F8F9FAFBFCFDFEFFF000102030405060708090A0B0C0D0E0F101112131415161718191A1B1C1D1E
1F202122232425262728292A2B2C2D2E2F303132333435363738393A3B3C3D3E3F404142434445464748494A4B4C4D4E4F
505152535455565758595A5B5C5D5E5F606162636465666768696A6B6C6D6E6F707172737475767778797A7B7C7D7E7F80
```

```

8182838485868788898A8B8C8D8E8F909192939495969798999A9B9C9D9E9FA0A1A2A3A4A5A6A7A8A9AAABACADAEAFB0B1
B2B3B4B5B6B7B8B9BABBBBCDBEBFC0C1C2C3C4C5C6C7C8C9CACBCCDCECFD0D1D2D3D4D5D6D7D8D9DADBDCDDDEDFE0E1E2
E3E4E5E6E7E8E9EAEBECEDEEEFF0F1F2F3F4F5F6F7F8F9FAFBFCFDFF000102030405060708090A0B0C0D0E0F10111213
1415161718191A1B1C1D1E1F202122232425262728292A2B2C2D2E2F303132333435363738393A3B3C3D3E3F4041424344
45464748494A4B4C4D4E4F505152535455565758595A5B5C5D5E5F606162636465666768696A6B6C6D6E6F707172737475
767778797A7B7C7D7E7F808182838485868788898A8B8C8D8E8F909192939495969798999A9B9C9D9E9FA0A1A2A3A4A5A6
A7A8A9AAABACADAEAFB0B1B2B3B4B5B6B7B8B9BABBBBCDBEBFC0C1C2C3C4C5C6C7C8C9CACBCCDCECFD0D1D2D3D4D5D6D7
D8D9DADBDCDDDEDFE0E1E2E3E4E5E6E7E8E9EAEBECEDEEEFF0F1F2F3F4F5F6F7F8F9FAFBFCFDFF000102030405060708
090A0B0C0D0E0F101112131415161718191A1B1C1D1E1F202122232425262728292A2B2C2D2E2F30313233343536373839
3A3B3C3D3E3F404142434445464748494A4B4C4D4E4F505152535455565758595A5B5C5D5E5F606162636465666768696A
6B6C6D6E6F707172737475767778797A7B7C7D7E7F808182838485868788898A8B8C8D8E8F909192939495969798999A9B
9C9D9E9FA0A1A2A3A4A5A6A7A8A9AAABACADAEAFB0B1B2B3B4B5B6B7B8B9BABBBBCDBEBFC0C1C2C3C4C5C6C7C8C9CACBCC
DCECFD0D1D2D3D4D5D6D7D8D9DADBDCDDDEDFE0E1E2E3E4E5E6E7E8E9EAEBECEDEEEFF0F1F2F3F4F5F6F7F8F9FAFBFCFD
FE'O
    }
} id 4

```

Without the regression, the message looks like this:

```

16:07:08.144611 mtc PCU_Tests.ttcn:331 Receive operation on port BSSGP[0] succeeded, message from
4: @BSSGP_Emulation.BssgpDecoded : {
  bssgp := {
    pdu_BSSGP_UL_UNITDATA := {
      bssgpPduType := '01'O,
      tLLI := '59B5D42D'O,
      qos_Profile := {
        peak_Bit_Rate := '0000'O,
        precedence := '100'B,
        a_bit := '0'B,
        t_bit := '0'B,
        c_r_bit := '0'B,
        peakBitRateGranularity := '00'B
      },
      cell_Identifier := {
        iEI := '08'O ("\b"),
        ext := '1'B,
        ...

```

So... the patch looks good, but I'm wondering what is missing to make it properly decode the message again, and return the right type.

[lynxis](#), [laforge](#): any idea?

Related issues:

Related to OsmoPCU - Bug #3925: Missing PCU_Tests.ttcn UL TBF tests	New	04/15/2019
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History

#1 - 08/29/2019 03:46 PM - osmith

- Related to Bug #3925: Missing PCU_Tests.ttcn UL TBF tests added

#2 - 08/29/2019 03:49 PM - osmith

#3 - 08/30/2019 08:28 AM - osmith

The problem is in the `f_send_bssgp_dec` function:

```

private function f_send_bssgp_dec(BssgpDecoded dec, BSSGP_Client_CT vc_conn, BSSGP_SP_PT pt := BSSGP_SP) runs
on BSSGP_CT {
  if (ispresent(dec.l3_mt)) {
    pt.send(dec.l3_mt) to vc_conn;
  } else if (ispresent(dec.l3_mo)) {
    pt.send(dec.l3_mo) to vc_conn;
  } else if (ispresent(dec.sndcp)) {
    pt.send(dec.sndcp) to vc_conn;
  } else if (ispresent(dec.llc)) {

```

```
    pt.send(dec.llc) to vc_conn;
  } else {
    pt.send(dec.bssgp) to vc_conn;
  }
}
```

When I change it to always send dec.bssgp, the test passes again:

```
private function f_send_bssgp_dec(BssgpDecoded dec, BSSGP_Client_CT vc_conn, BSSGP_SP_PT pt := BSSGP_SP) runs
on BSSGP_CT {
  pt.send(dec.bssgp) to vc_conn;
}
```

I've tested that this change does not cause any breakage in the PCU and PCU-SNS testsuites, and now I'm testing whether it works with the SGSN testsuite too. If it does, I'll submit this as patch.

#4 - 08/30/2019 10:12 AM - osmith

My proposed patch above breaks the SGSN tests, so that won't work. I'll try to find a better solution.

Meanwhile I found an unrelated bug in the "Abandon BssgpDecoded" patch and submitted a fix:
<https://gerrit.osmocom.org/c/osmo-ttcn3-hacks/+/15348/1>

#5 - 09/02/2019 07:27 AM - osmith

- Status changed from New to In Progress
- % Done changed from 0 to 90

[laforge](#) recommended to add a configurable encoding depth, and set it to the BSSGP layer for the existing PCU tests. This works and resolves this issue:

<https://gerrit.osmocom.org/c/osmo-ttcn3-hacks/+/15377>

#6 - 09/02/2019 09:27 AM - osmith

- Status changed from In Progress to Resolved
- % Done changed from 90 to 100