OsmoSTP - Feature #2005

STP: Allow VTY configuration of M3UA ASP side

04/10/2017 12:03 PM - laforge

Status: Closed
Priority: Normal
Assignee: laforge
Category: Target version:

Start date: 04/10/2017
Due date:
% Done: 100%

Description
If we wanted to interconnect multiple osmo-stp (or even with other signalling gateways), we would need a way to use the ASP-side implementation of libosmo-sigtran from the VTY of OsmoSTP. This is currently not possible, but all related code should be there.

Related issues:
Related to libosmo-sccp + libosmo-sigtran - Bug #2351: unify sccp instance co... Closed 07/06/2017

History
#1 - 07/10/2017 10:17 PM - laforge
- Related to Bug #2351: unify sccp instance configuration added

#2 - 07/10/2017 10:18 PM - laforge
- Assignee set to laforge

#3 - 10/11/2017 01:17 AM - laforge
- Assignee changed from laforge to dexter

I think this has long been resolved? We are using M3UA in ASP mode from osmo-bsc and osmo-msc. Please confirm.

#4 - 10/13/2017 01:23 PM - dexter

I am not sure. We never tried it or even thought about it. When I get it correct, this would be a configuration where e.g. two OsmoSTP are connecting to each other. This means that one of them must take the client role. The topology could be something like this:

osmo-bsc (ASP) <-------- (STP) OsmoSTP (ASP) <-------- (STP) OsmoSTP (STP) <-------- (ASP) osmo-msc

I think this is something we have to test in order to be sure that it really works.

#5 - 10/29/2017 06:33 PM - laforge
- Priority changed from Normal to Low

#6 - 09/04/2019 09:26 AM - laforge
- Assignee changed from dexter to laforge

#7 - 10/08/2019 02:59 PM - laforge
- Tracker changed from Bug to Feature
- Assignee changed from laforge to pespin
- Priority changed from Low to Normal

The M3UA protocol defines various roles of M3UA endpoints: SGW, ASP and IPSP.

osmo-stp currently implements only the SGW (Signaling Gateway) role, allowing external M3UA entities in ASP role to connect to it. It does not permit the SGW to operate in ASP role to connect to external SGWs

The implementation of this feature will include

1. Extension of the VTY interface to operate the osmo-stp send of the M3UA link in ASP mode
2. Extension of the osmo-stp internal implementation to behave accordingly
3. Implementation of automatic test cases in TTCN-3

05/15/2020
I've made an initial implementation as part of laforge/wip, but it requires thorough testing before pushing for inclusion. There are two new VTY commands for specifying the SCTP role (client / server) and the xUA role (sg / asp).

Initial testing shows that the ASP transitions through ASPUP and ASPAC as expected. However, both the ASP and the SG are sending NOTIFY to each other, which is probably not how it's supposed to be. We need to suppress NOTIFY generation if we're not in SG role.

NOTIFY problem has been fixed. They are now suppressed when operating in ASP role.

The ASP side config looked like this:

```plaintext
cs7 instance 0
point-code format 24
asp asp-sender 2905 9999 m3ua
local-ip 127.0.0.1
remote-ip 127.0.0.1
role asp
sctp-role client
as as-sender m3ua
asp asp-sender
routing-key 1023 23
route-table system
update route 23 16777215 linkset as-sender
```

while the SG side looked like that:

```plaintext
cs7 instance 0
point-code format 24
asp asp-sender 9999 2905 m3ua
local-ip 127.0.0.1
remote-ip 127.0.0.1
as as-sender m3ua
asp asp-sender
routing-key 1023 23
route-table system
update route 23 16777215 linkset as-sender
listen m3ua 2905
accept-asp-connections dynamic-permitted
```

the routing doesn't yet make sense in the above configs, I'm just pasting them to illustrate how to use the 'role' and 'sctp-role' commands to switch a given section into operating as client/ASP towards another SG.

This is implemented in https://gerrit.osmocom.org/#/c/libosmo-sccp/+/15974/ and https://gerrit.osmocom.org/#/c/libosmo-sccp/+/15975/ - automatic tests (all passing) are in the laforge/wip branch of osmo-ttcn3-hacks.git.

Once it passes code review, it will be in master.
all code/patches in master; tests are executed automatically and pass, see those including clnt in the name at
https://jenkins.osmocom.org/jenkins/job/ttcn3-stp-test/test_results_analyzer/

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