

Connectionless OAM yang model

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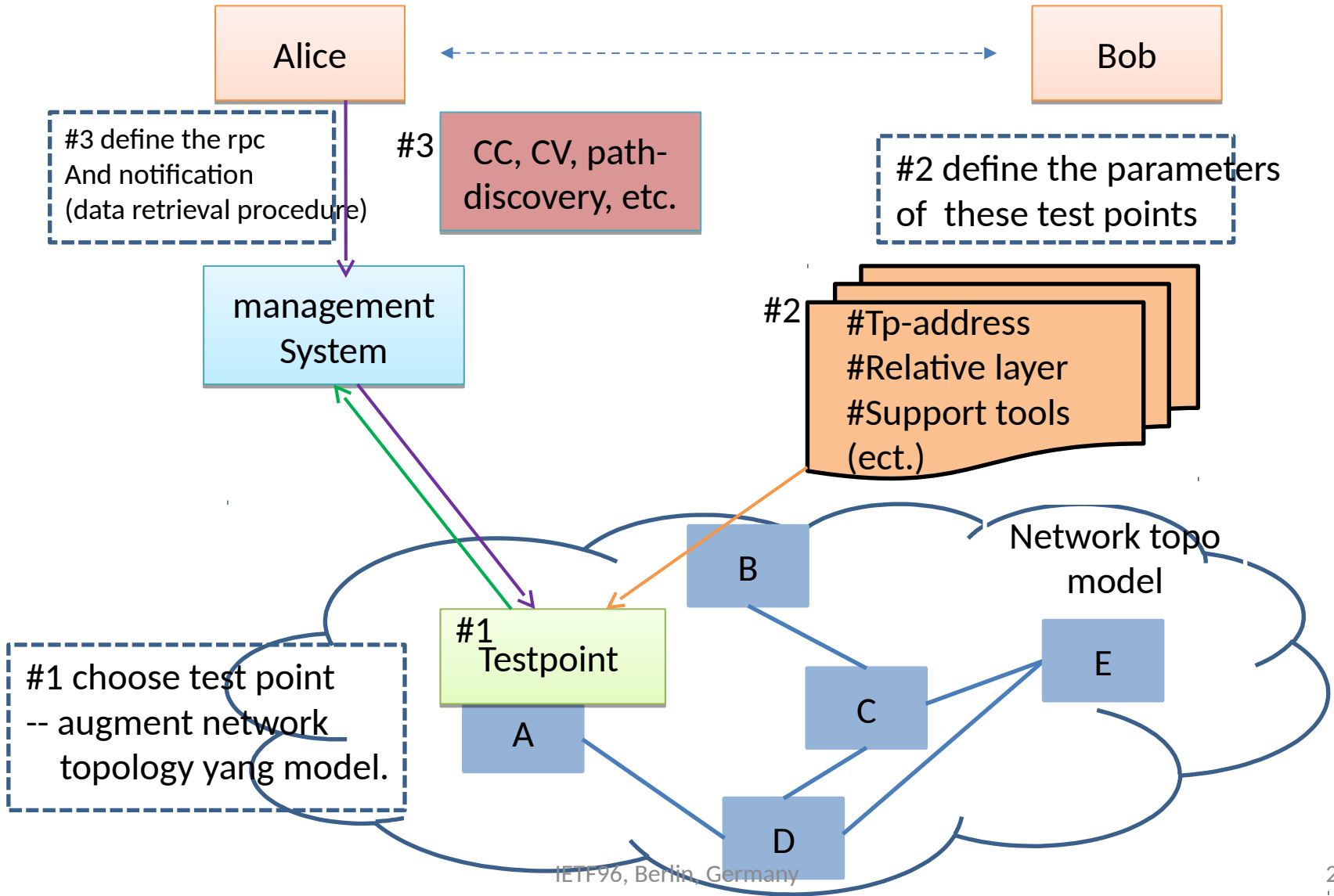
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Model design



Connection-less OAM model

- TP Address
 - Generic Representation of Test Point Address
- Tools
 - Describe Toolset for Fault detection and Isolation
- Oam Layers
 - In future, it can provide way to relate Oam Test Points for Connection Less
 - Default Level 0(same layer), so if relationship is not known it's not required to be implemented
 - Provide OAM Test points to relate to each other as same layer, client layer, and server layer.
- Path Discovery Data
 - Generic grouping for path discovery data
- Continuity check data
 - Generic grouping for continuity check data

Connection Less OAM Method Model

- RPC
 - Continuity Check
 - Support Reachability Verification
 - Continuity Checks are used to verify that a destination is reachable, and are typically sent proactively, though they can be invoked on-demand as well.
 - Path Discovery / Fault localization
 - Identify nodes along the route to destination Test point

Details of TP-address

```
+--rw (tp-address)?  
| +--:(mac-address)  
| | +--rw mac-address?      yang:mac-address  
| +--:(ipv4-address)  
| | +--rw ipv4-address?     inet:ipv4-address  
| +--:(ipv6-address)  
| | +--rw ipv6-address?     inet:ipv6-address  
| +--:(src-dst-address)  
| | +--rw src-ip-address?   inet:ip-address  
| | +--rw dst-ip-address?  inet:ip-address  
| | +--rw Interface?       if:interface-ref  
| +--:(fec)  
| | +--rw fec-type?         fec-type  
| | +--rw (fec-value)  
| | .....
```

Add for BFD.
(src-ip-address, dst-ip-address,
interface)

FEC is required for
MPLS OAM(RFC)

Details of location-type based list

+--rw (location-type)?

+---:(ipv4-location-type)

| +--rw test-point-ipv4-location-list

| +--rw test-point-locations* [ipv4-location]

| +--rw ipv4-location inet:ipv4-address

...

+---:(ipv6-location-type)

| +--rw test-point-ipv6-location-list

| +--rw test-point-locations* [ipv6-location]

| +--rw ipv6-location inet:ipv6-address

...

+---:(mac-location-type)

+---:(tunnel-location-type)

..

..

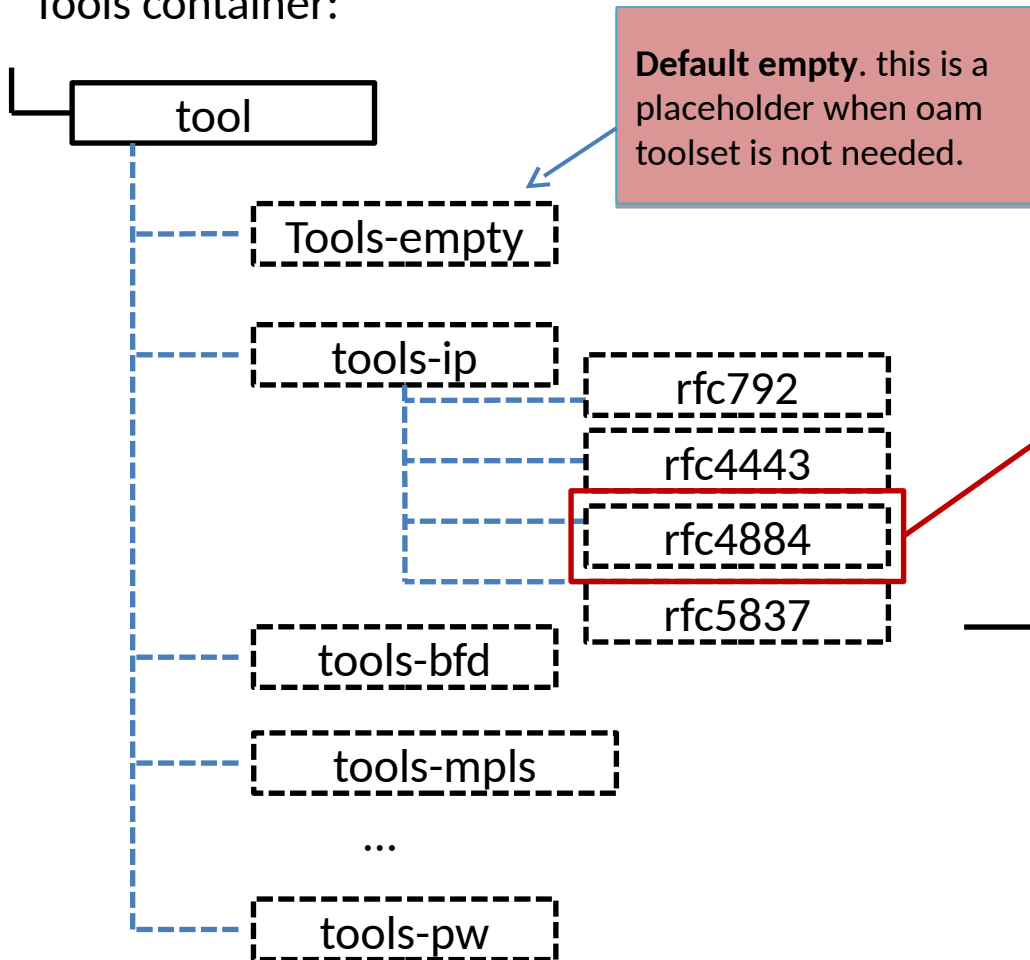
Ipv4 Test point location list

Ipv4 Test point address

Ipv6 Test point location type

Usage of “tools” attribute

Tools container:



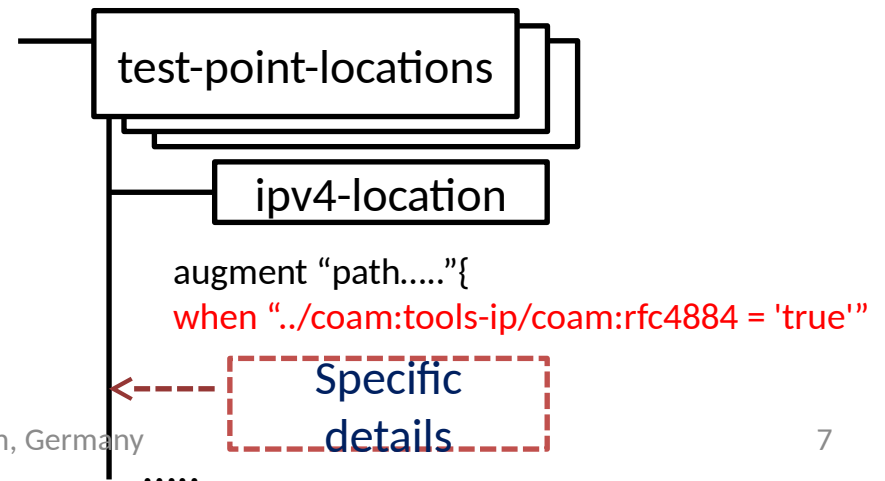
Usage example:

The tools container can serve as a **constraint condition** when the base model be extended to specific OAM technology.

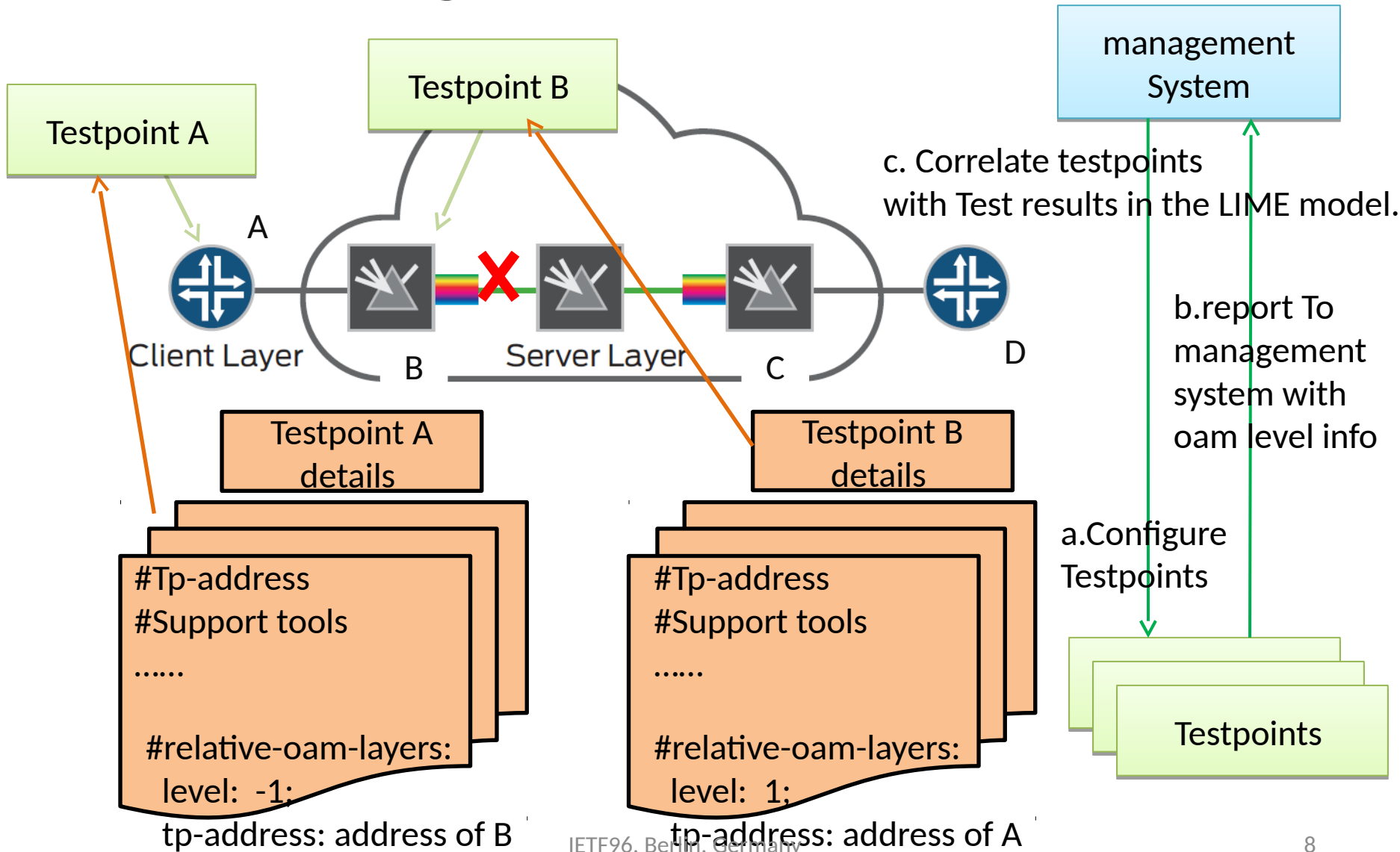
For example: If we want to extend to a Multi-Part Messages ICMP:

`“../coam:tools-ip/ coam:rfc4884”
should be set to “true” :`

Then add these specific details:



Usage of "OAM layer"



ML discussion Recap

- connectionless OAM model should be limited to continuity check, reachability verification.
 - The test-point and many other acronyms should add to Terminology section.
 - Some parameters in tool may not appropriate, such as RFC5880, RFC5885, RFC5882, RFC6375, RFC6428.
 - The description of the model provided in Section 3 doesn't map to the model hierarchy.
 - The oper object should be made clear in the document.
 - The IPv4-location and IPv6-location(cc-ipv4-sessions-statistics and cc-ipv6-sessions-statistics) should be collapsed into one.
 - Break Model in Two modules Oam Data and Oam Data retrieval Methods
 - Long-lived oam session
 - Does it make sense to present oam-layer in this model?
 - Whether it need a pair of source and destination addresses and TLV address?
 - Is FEC really an attribute of TP-location?
 - Does it really need to enumerate all of the tools?
- Agree, and fix in 01 version
- Agree, and fix in 04
- Agree, fix in next revision
- Discussed in Interim

Next Step

- Fix the open issues raised on the list
- Add Common Session Information as it's applicable to BFD and TWAMP/OWAMP
- Performance Monitoring to be added as separate draft

Appendix: Model Structure

