

Service Assurance for Intent-based Networking Architecture & YANG Modules for Service Assurance

[draft-claise-opsawg-service-assurance-architecture-03](#)

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[draft-claise-opsawg-service-assurance-yang-05](#)

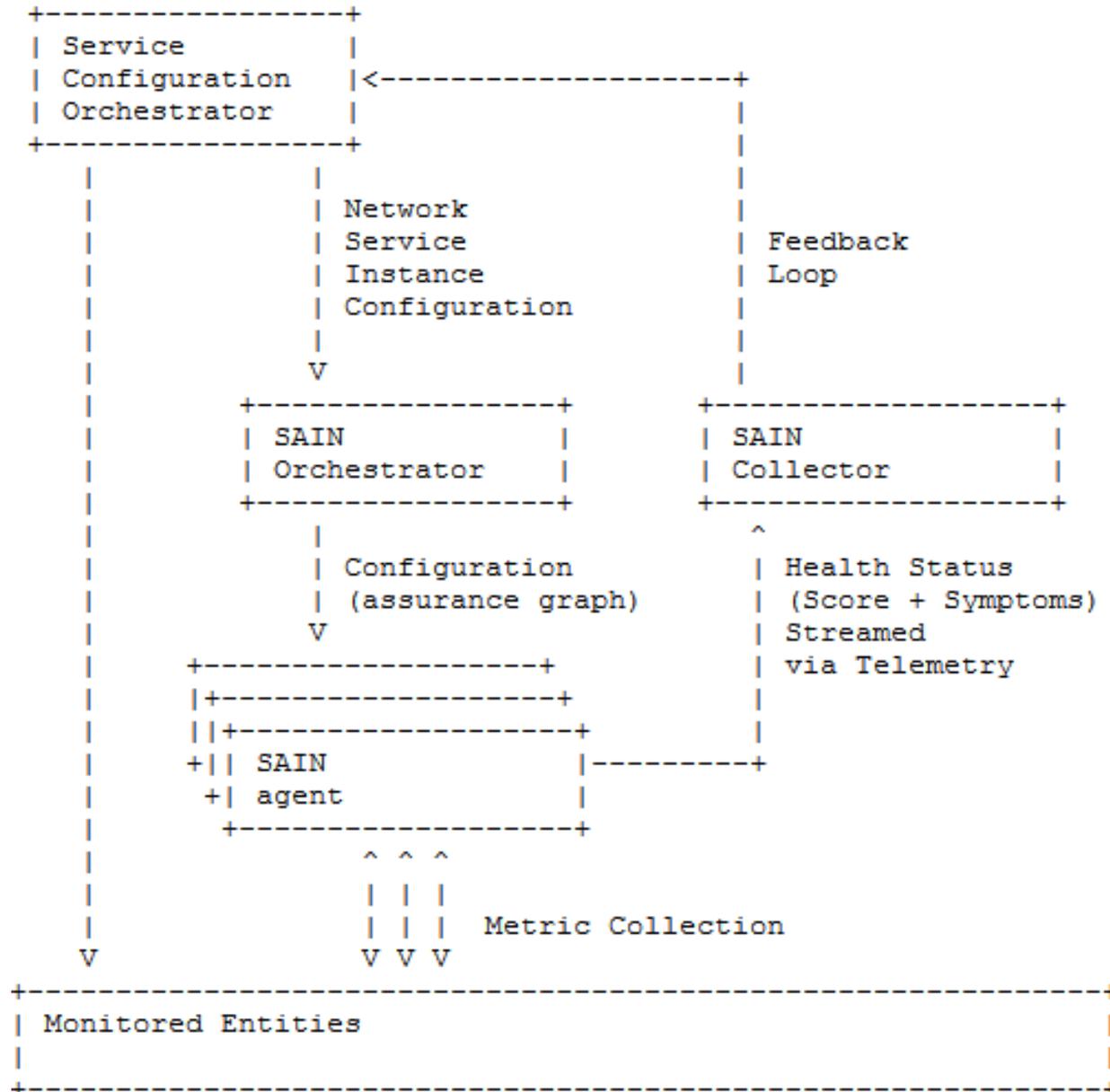
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IETF 108, Virtual

Issue & Proposal

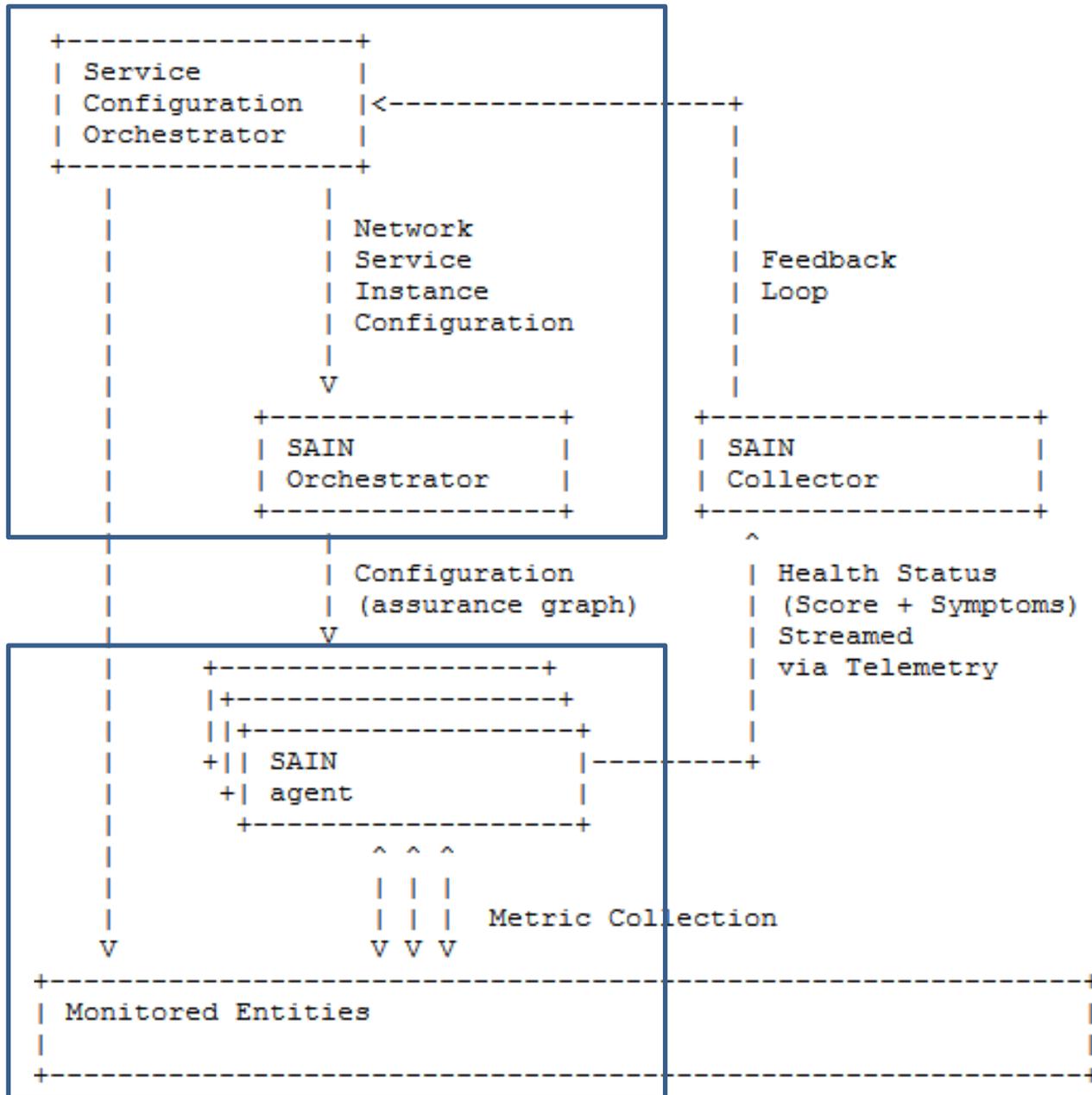
- Issues:
 - When a service degrades, where is the fault? what are the symptoms? what is the root cause?
 - When a network component fails, which services are impacted?
- Service Assurance for Intent-based Networking Architecture proposal:
 - Decompose the problem into smaller components (=subservices)
 - The assurance graph links those subservices to map the service “intent”
 - The subservices are assured independently
 - Infer a service health score
- This complements the end-to-end synthetic testing

Architecture



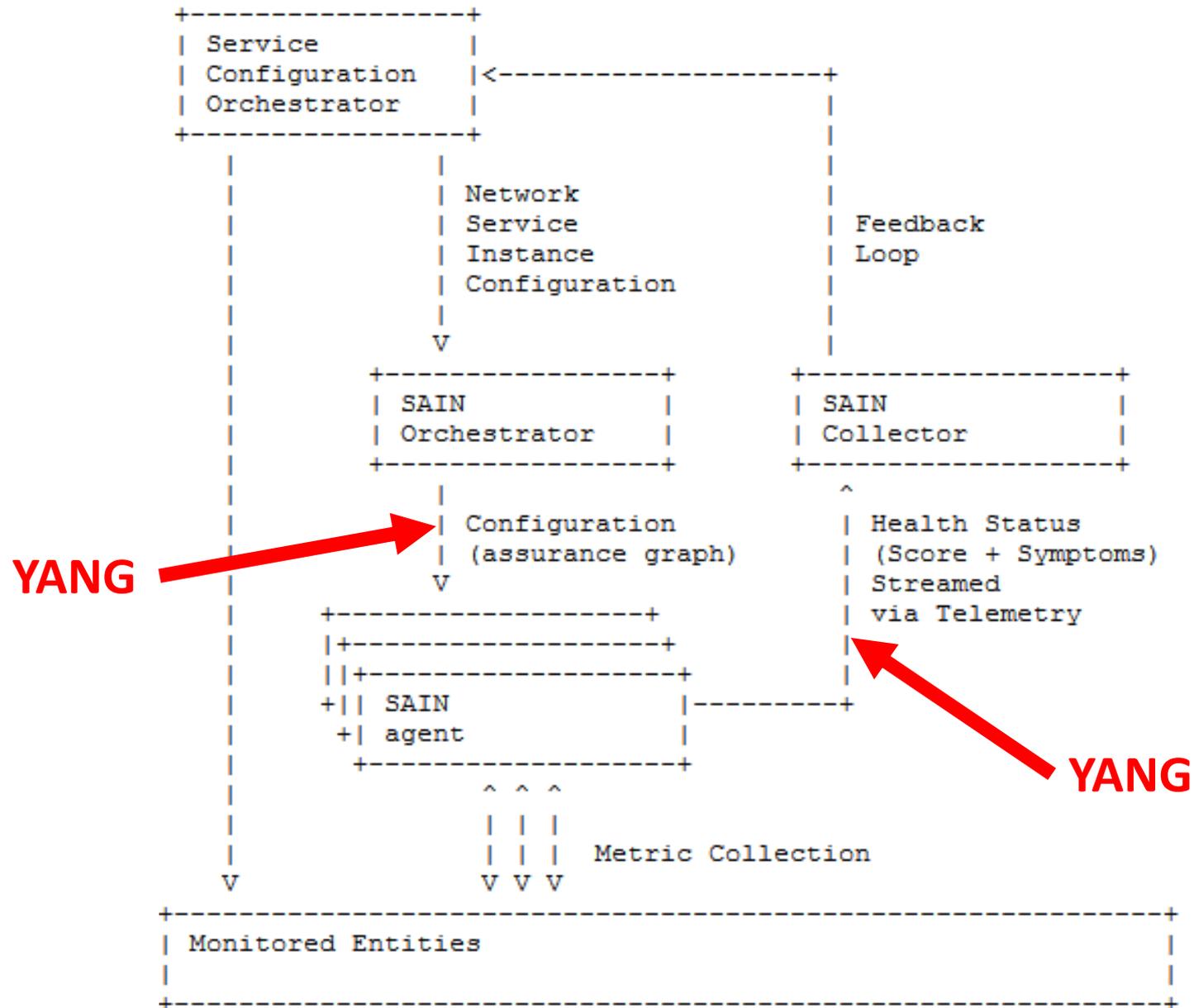
Flexible Architecture

Could be a single box

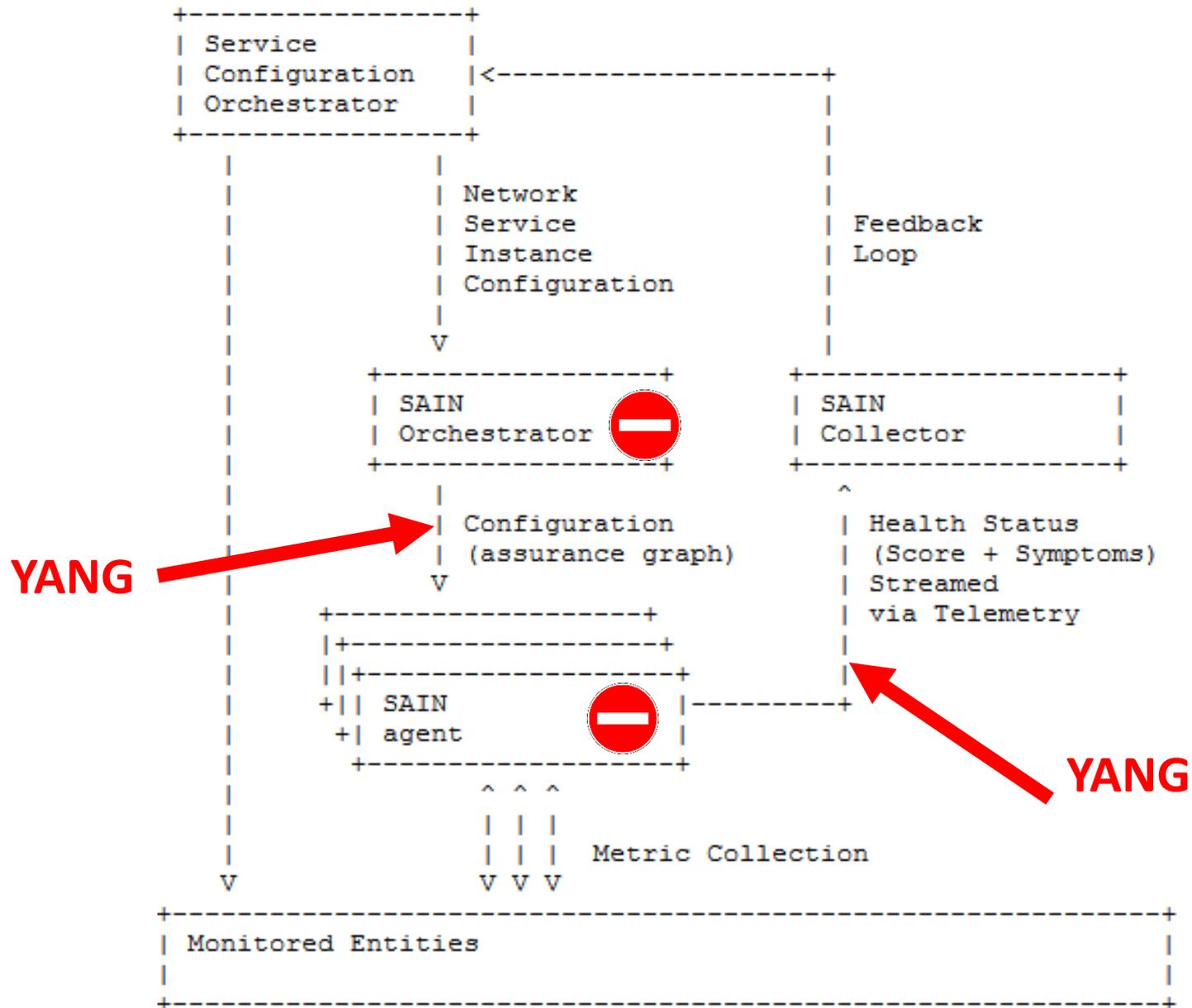


Agent could be in or off routers

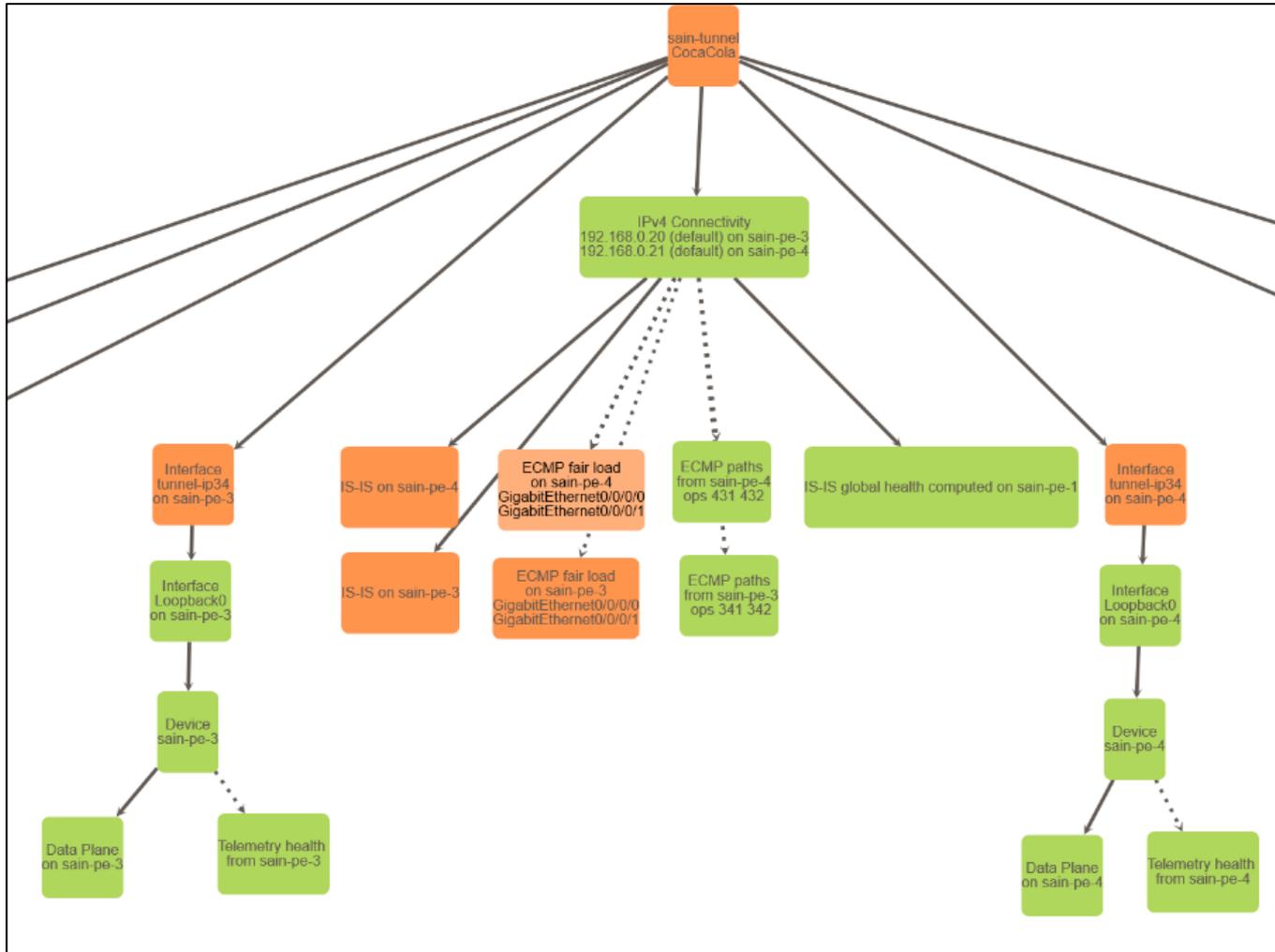
Open Architecture with YANG Models



Open Architecture with YANG Models



Assurance Graph PoC



ECMP fair load on sain-pe-3
 GigabitEthernet0/0/0/0
 GigabitEthernet0/0/0/1
Value: 0.5
 Expression tree

List of impacted services:

- sain-tunnel CocaCola
- I2vpn-p2p HSBC
- sain-tunnel-ipv6 RedBull

Symptoms/Root causes:

- Output traffic on interface GigabitEthernet0/0/0/0 in ECMP bundle with(GigabitEthernet0/0/0/1) is not fairly balanced
- Output traffic on interface GigabitEthernet0/0/0/1 in ECMP bundle with(GigabitEthernet0/0/0/0) is not fairly balanced

Changes since Last IETF

- Stressed the generic architecture:
 - applicable to wireline, wireless, 5G, VIM, etc.
- Timing: NTP is required all over the place
- Introduced the symptoms history start
 - "Date and time at which the symptoms history starts for this subservice instance, either because the subservice instance started at that date and time or because the symptoms before that were removed due to a garbage collection process."

Changes since Last IETF Hackathon: Lessons Learned

- Assurance graph version & last change now compulsory
 - while per sub-service last change remains optional
- Explain what a change means
- Rename symptoms “label” to “description”
 - Not to be confused with the subservice label

Questions & Feedback on both Presentations

- Going in the right direction?
- Time to provide more feedback?
- Considering as WG adoption in OPSAWG