



Extending Istio Service Mesh with Envoy v2 APIs for Stateless and Stateful Services

Lightning Talk

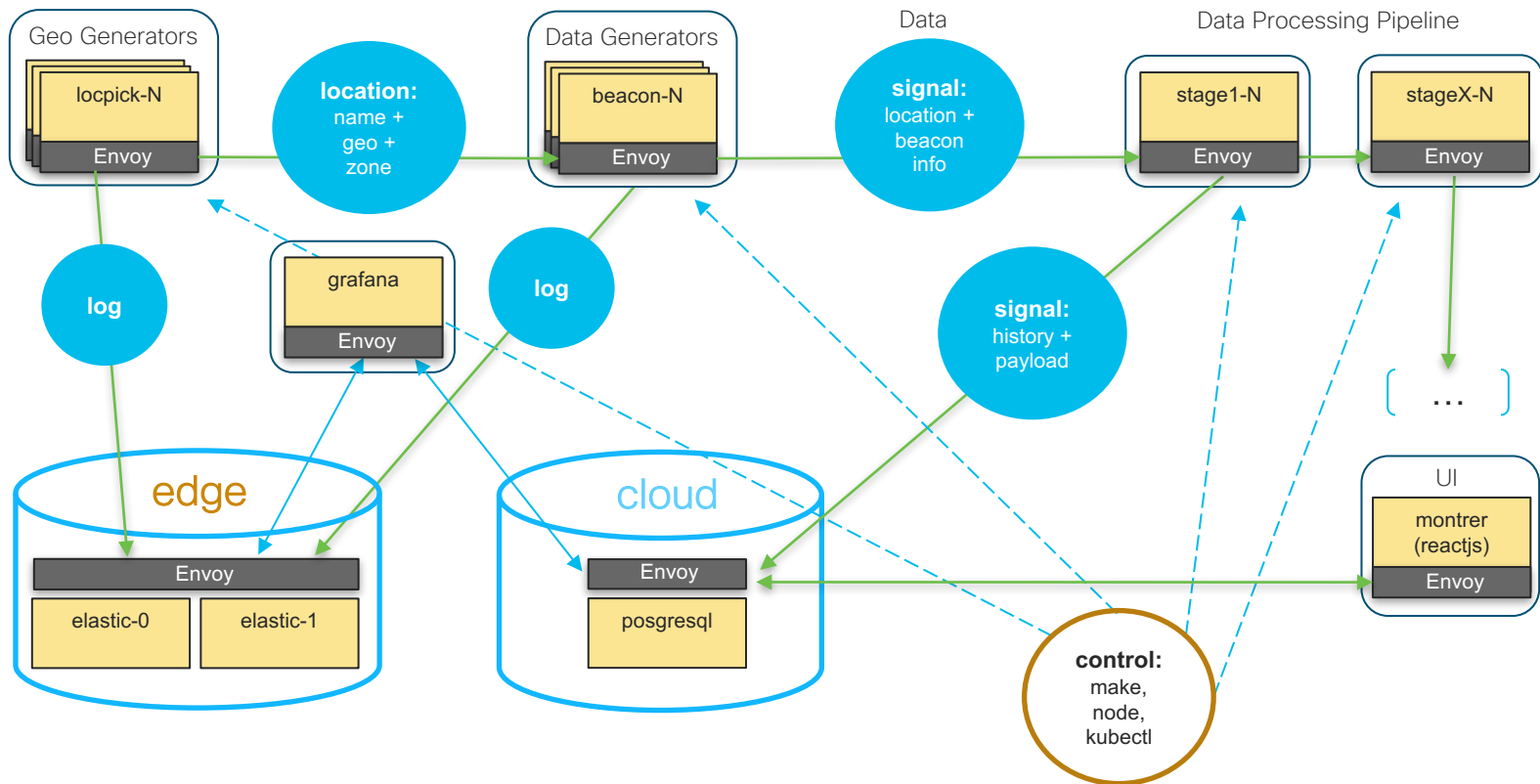
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What we did

- Created reference micro-service app - **Beatrak**
 - Includes Stateless and Stateful services
- Implemented various deployment types
 - Envoy v1 static / hot restart
 - Envoy v2 dynamic w/ simple ADS controller
 - Istio
- Explored the details of directly setting up Envoy in different use cases
- Explored mixing Istio service mesh and non-Istio Envoy fronted services

Beatrak - IOT Data Beacon Tracker



Montrer UI

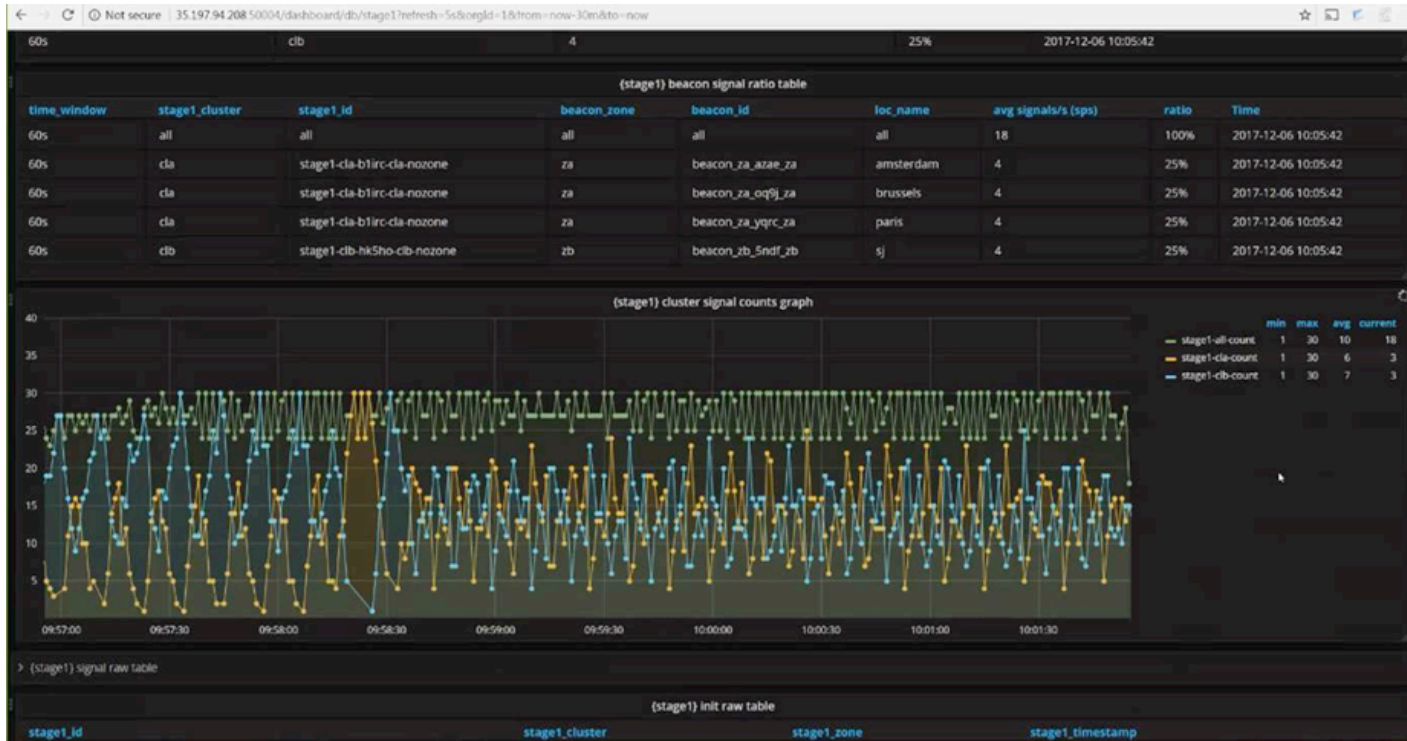
- Example: 14 beacons weighted-routed to 2 stage clusters

loc.name	loc.zone	beacon_id	beacon_zone	stage1_id	stage1_zone	stage1_cluster	signals/s	signal %	last
amsterdam	za	beacon_za_azae_za	za	stage1-clb-hk5ho-clb-nozone	nozone	clb	3	12	2017-12-06 09:51:09
amsterdam	za	beacon_za_azae_za	za	stage1-cla-b1irc-cla-nozone	nozone	cla	1	5	2017-12-06 09:51:09
brussels	za	beacon_za_oq9j_za	za	stage1-clb-hk5ho-clb-nozone	nozone	clb	3	12	2017-12-06 09:51:09
brussels	za	beacon_za_oq9j_za	za	stage1-cla-b1irc-cla-nozone	nozone	cla	1	5	2017-12-06 09:51:09
la	zb	beacon_zb_ik9fu_zb	zb	stage1-clb-hk5ho-clb-nozone	nozone	clb	3	12	2017-12-06 09:51:09
la	zb	beacon_zb_ik9fu_zb	zb	stage1-cla-b1irc-cla-nozone	nozone	cla	1	5	2017-12-06 09:51:09
paris	za	beacon_za_yqrc_za	za	stage1-cla-b1irc-cla-nozone	nozone	cla	1	5	2017-12-06 09:51:09
paris	za	beacon_za_yqrc_za	za	stage1-clb-hk5ho-clb-nozone	nozone	clb	3	12	2017-12-06 09:51:09
sf	zb	beacon_zb_c4yul_zb	zb	stage1-clb-hk5ho-clb-nozone	nozone	clb	3	12	2017-12-06 09:51:09
sf	zb	beacon_zb_c4yul_zb	zb	stage1-cla-b1irc-cla-nozone	nozone	cla	1	5	2017-12-06 09:51:09
sj	zb	beacon_zb_5ndf_zb	zb	stage1-cla-b1irc-cla-nozone	nozone	cla	1	5	2017-12-06 09:51:09
sj	zb	beacon_zb_5ndf_zb	zb	stage1-clb-hk5ho-clb-nozone	nozone	clb	3	12	2017-12-06 09:51:09



Grafana Dashboard

- Example: 4 beacons even weight to 2 stage clusters



References

- Beatrak
 - <https://github.com/ciscosystems/beatrak>
- Envoy
 - <https://www.envoyproxy.io/docs/envoy/latest/intro/intro.html>
- Envoy API V2
 - https://www.envoyproxy.io/docs/envoy/latest/configuration/overview/v2_overview.html
- Istio
 - <https://istio.io/docs/>