Stellar

Discussion: Running Core & Horizon

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Stellar

- Agenda
  - Configuring Quorum Sets
  - Monitoring Core
  - Launch a Blockdaemon node
  - Discussion / Questions

Read That Fine Manual!

- https://www.stellar.org/developers/stellar-core/software/admin.html
- https://www.stellar.org/developers/horizon/admin.html
- https://github.com/stellar/packages/blob/master/README.md

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Demo Time! :)

https://github.com/brahman81/core-monitoring-demo

Quorum Sets

- Integral part of SCP, configures fault tolerance, who we trust
- Greatly simplified format since v11
- Stellarbeat.io - quorum monitor

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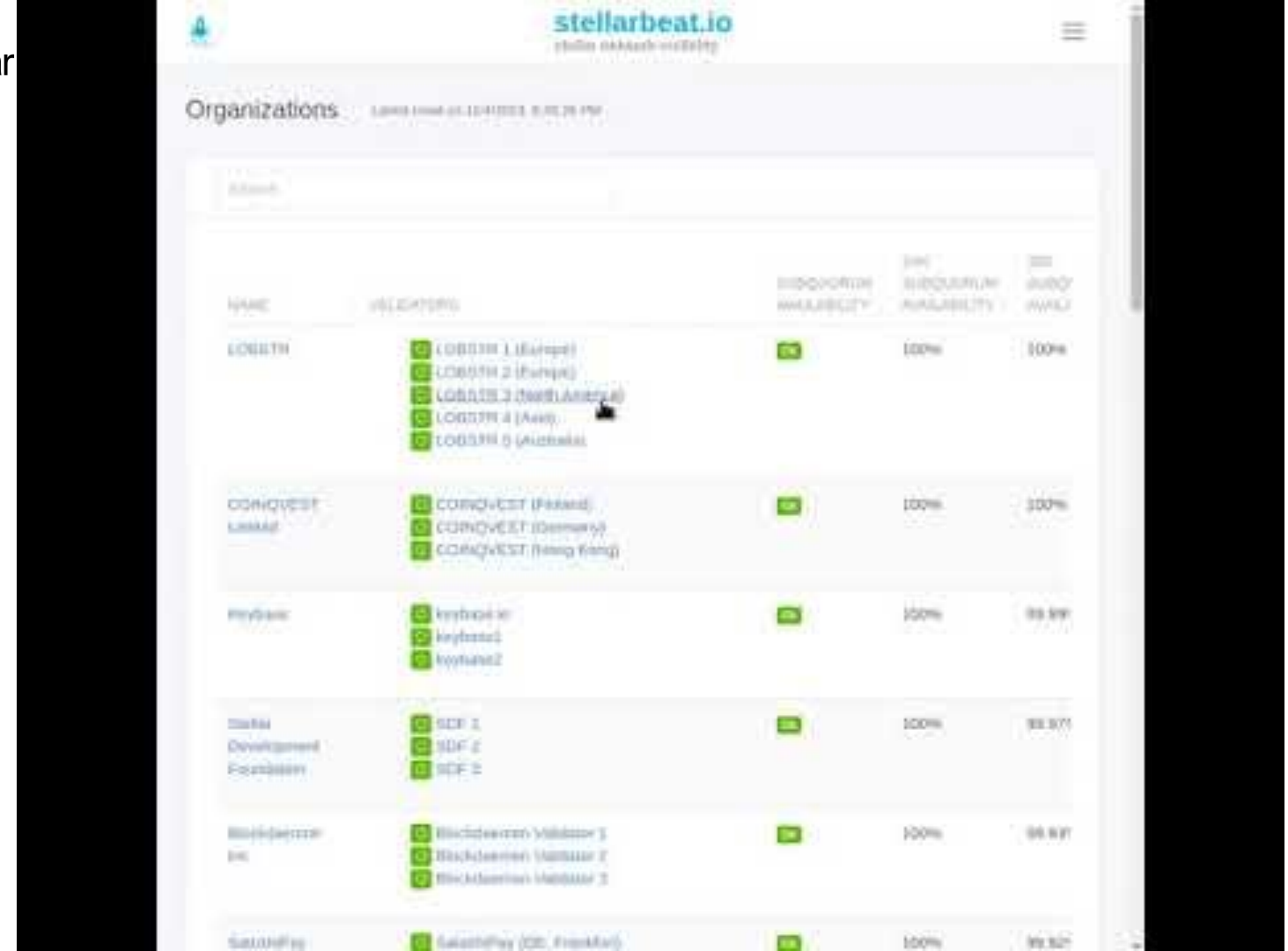

Stellar

Home Domains

```
[[HOME_DOMAINS]]
HOME_DOMAIN="www.stellar.org"
QUALITY="HIGH"
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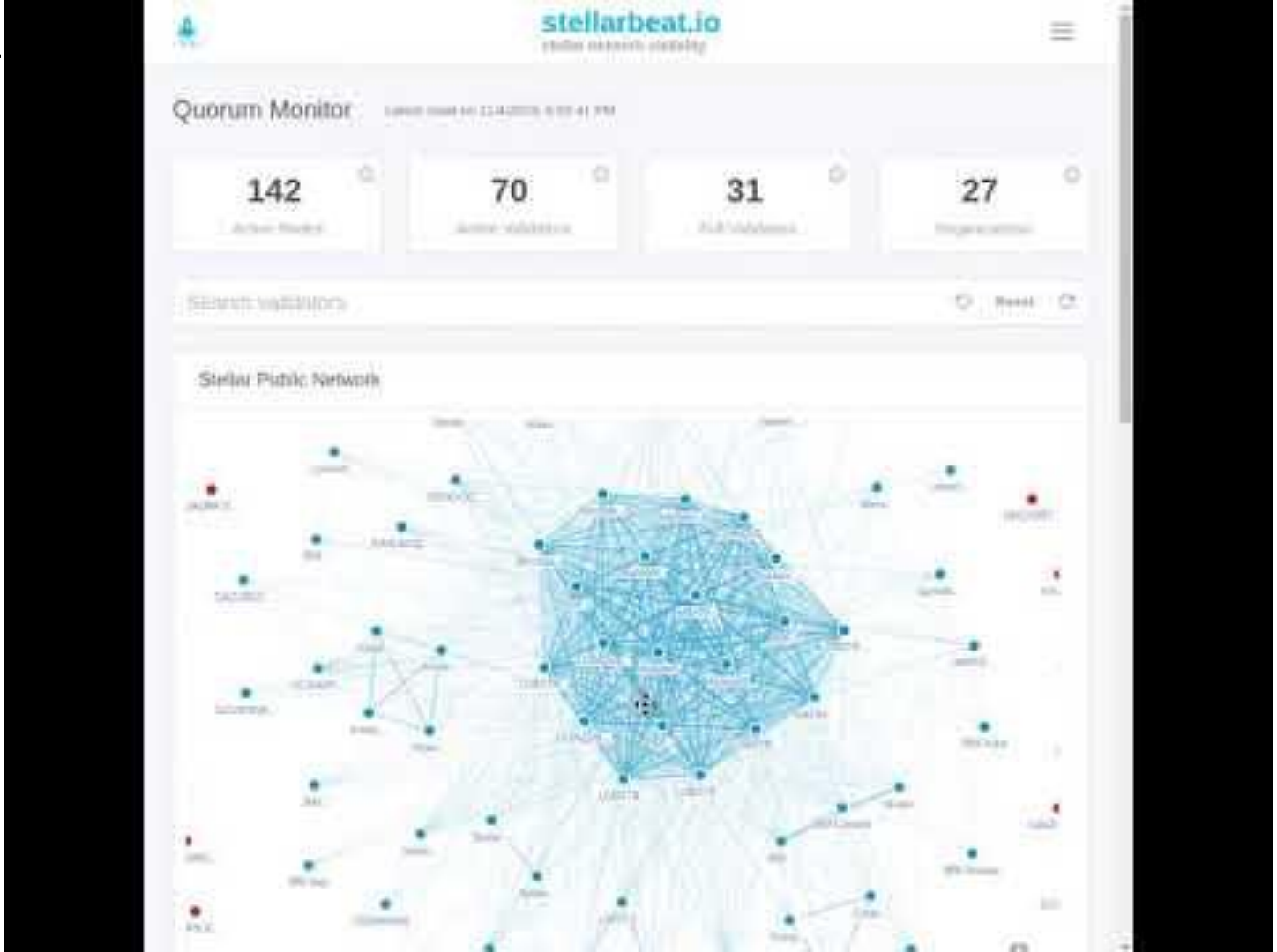
stellarbeat.io
Quorum Monitor
142
70
31
27
Stellar Public Network

Stellar

Validators

```
[[VALIDATORS]]
NAME="Blockdaemon Validator 1"
HOME_DOMAIN="stellar.blockdaemon.com"
PUBLIC_KEY="GAAV2GCVFLNN522ORUYFV33E76VPC22E72S75AQ6MBR5V45Z5DWVPWEU"
ADDRESS="stellar-full-validator1.bdnodes.net"
HISTORY="curl -sf https://stellar-full-history1.bdnodes.net/{0} -o {1}"
```

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[[VALIDATORS]]
NAME="Blockdaemon Validator 1"
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ADDRESS="stellar-full-validator1.bdnodes.net"
HISTORY="curl -sf https://stellar-full-history1.bdnodes.net/{0} -o {1}"

[[VALIDATORS]]
NAME="Blockdaemon Validator 2"
HOME_DOMAIN="stellar.blockdaemon.com"
PUBLIC_KEY="GAVXB7SBJRYHSG6KSQHY74N7JAFRL4PFVZCNWW2ARI6ZEKNBJSMSKW7C"
ADDRESS="stellar-full-validator2.bdnodes.net"
HISTORY="curl -sf https://stellar-full-history2.bdnodes.net/{0} -o {1}"
```

Stellar

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```
[[VALIDATORS]]
NAME="Blockdaemon Validator 1"
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HISTORY="curl -sf https://stellar-full-history1.bdnodes.net/{0} -o {1}"

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PUBLIC_KEY="GAVXB7SBJRYHSG6KSQHY74N7JAFRL4PFVZCNWW2ARI6ZEKNBJSMSKW7C"
ADDRESS="stellar-full-validator2.bdnodes.net"
HISTORY="curl -sf https://stellar-full-history2.bdnodes.net/{0} -o {1}"

[[VALIDATORS]]
NAME="Blockdaemon Validator 3"
HOME_DOMAIN="stellar.blockdaemon.com"
PUBLIC_KEY="GAYXZ4PZ7P6QOX7EBHPIZXNWY4KCOBYWJCA4WKWRKC7XIUS3UJPT6EZ4"
ADDRESS="stellar-full-validator3.bdnodes.net"
HISTORY="curl -sf https://stellar-full-history3.bdnodes.net/{0} -o {1}"
```

Monitoring

- We us Prometheus and Grafana
- core exposes it’s metrics natively on http://localhost:11626/metrics
- stellar-core-prometheus-exporter (http://localhost:9473/metrics/)
- SDF Grafana dashboards (https://grafana.com/orgs/stellar)
- stellar-account-prometheus-exporter

Stellar

```
$ wget https://github.com/prometheus/prometheus/releases/download/v2.13.1/prometheus-2.13.1.linux-amd64.tar.gz && sudo tar xvf prometheus-2.13.1.linux-amd64.tar.gz --strip-components=1 prometheus-2.13.1.linux-amd64/prometheus
--2019-11-04 21:44:56--  https://github.com/prometheus/prometheus/releases/download/v2.13.1/prometheus-2.13.1.linux-amd64.tar.gz
Resolving github.com (github.com)... 192.30.253.113
Connecting to github.com (github.com)|192.30.253.113|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://github-production-release-asset-2e65be.s3.amazonaws.com/68389921/c0040700-f109-11e9-946c-40b97454e08d?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWNJYAX4CSVEH53A%2F20191105%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20191105T085457Z&X-Amz-Expires=300&X-Amz-Signature=f6c8160d4f32e1e71df56a90eeb5e9c1a2236b0dbe05726bb0c8099a5fc969f96&X-Amz-SignedHeaders=host&actor_id=0&response-content-disposition=attachment%3B%20filename%3Dprometheus-2.13.1.linux-amd64.tar.gz&response-content-type=application%2Foctet-stream [following]
--2019-11-04 21:44:57--  https://github-production-release-asset-2e65be.s3.amazonaws.com/68389921/c0040700-f109-11e9-946c-40b97454e08d?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWNJYAX4CSVEH53A%2F20191105%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20191105T085457Z&X-Amz-Expires=300&X-Amz-Signature=f6c8160d4f32e1e71df56a90eeb5e9c1a2236b0dbe05726bb0c8099a5fc969f96&X-Amz-SignedHeaders=host&actor_id=0&response-content-disposition=attachment%3B%20filename%3Dprometheus-2.13.1.linux-amd64.tar.gz&response-content-type=application%2Foctet-stream
Resolving github-production-release-asset-2e65be.s3.amazonaws.com (github-production-release-asset-2e65be.s3.amazonaws.com)... 52.216.1.144
Connecting to github-production-release-asset-2e65be.s3.amazonaws.com (github-production-release-asset-2e65be.s3.amazonaws.com)|52.216.1.144|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 57079650 (54M) [application/octet-stream]
Saving to: 'prometheus-2.13.1.linux-amd64.tar.gz'

prometheus-2.13.1.linux 100%[=========================>]  54.43M  3.45MB/s    in 16s

2019-11-04 21:45:14 (3.31 MB/s) - 'prometheus-2.13.1.linux-amd64.tar.gz' saved [57079650/57079650]

prometheus-2.13.1.linux-amd64/prometheus
$ wget -q -O - https://packages.grafana.com/gpg.key | sudo apt-key add - && sudo add-apt-repository "deb https://packages.grafana.com/oss/deb stable main"

OK
$ sudo apt-get update && sudo apt-get install -y  stellar-core-postgres stellar-core-prometheus-exporter stellar-core-utils grafana
Hit:1 http://us.archive.ubuntu.com/ubuntu xenial InRelease
Get:2 http://security.ubuntu.com/ubuntu xenial-security InRelease [109 kB]
Hit:3 https://packages.grafana.com/oss/deb stable InRelease
Hit:4 https://apt.stellar.org/public stable/ InRelease
Hit:5 http://us.archive.ubuntu.com/ubuntu xenial-updates InRelease
Get:6 http://us.archive.ubuntu.com/ubuntu xenial-backports InRelease [107 kB]
Get:7 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [720 kB]
Get:8 http://security.ubuntu.com/ubuntu xenial-security/main i386 Packages [607 kB]
Get:9 http://security.ubuntu.com/ubuntu xenial-security/universe amd64 Packages [463 kB]
Get:10 http://security.ubuntu.com/ubuntu xenial-security/universe i386 Packages [399 kB]
Fetched 2,455 kB in 34s (71.9 kB/s)
```

Stellar

Stellar Core Full
Health Summary
1
100%
2
0
0
0
-7.60 hour
-7.60 hour
4 s
12
12
No
0
0
0
State Info
Version info
Ledger
Ledger age

Tips & Tricks

- stellar-core
  - Prefer to connect to a local core database over unix domain sockets
  - Use the fastest disk available (buckets/database)
  - Monitor your nodes!
- stellar-horizon
  - Backup your Horizon database (cloud snapshots, pg_dump, etc)
  - If using SSD storage set random_page_cost = 1
  - stellar-horizon db reingest range is your friend

Stellar

Thanks!

Any questions https://keybase.io/kranon