

5 NEAT PROMETHEUS TRICKS

PROMQL AND THE POWER OF 1



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#1: BEATING UP AT SERVICE DISCOVERY

No one cares if one instance is down:

```
up{job="foo"} == 0
```

Are at least 3 instances up?

```
sum(up{job="foo"}) < 3
```

A ratio of healthy instances to total:

```
avg(up{job="foo"}) < 0.8
```

When service discovery takes your lunch:

```
sum(up{job="foo"}) < 3 OR absent(up{job="foo"})
```

#2: WHO'S BOUNCING YOUR APPS?

No one cares if an instance restarted 5 minutes ago:

```
time() - process_start_time_seconds < 300
```

Instances in a restart loop:

```
changes(process_start_time_seconds[1h]) > 3
```

All of your instances are restarting:

```
avg WITHOUT (instance) (  
  changes(process_start_time_seconds[1h]) > bool 3  
) > 0.5
```

#3: USING BUILD_INFO LIKE A PRO

Every application should export a `build_info` metric:

```
prometheus_build_info{goversion="go1.12.5",revision="<hash>",version="2.10.0"} 1
```

Shove the version label into other metrics:

```
go_memstats_alloc_bytes * on (instance)
  group_left(version) prometheus_build_info
```

Median memory usage across all instances:

```
quantile(0.5,
  go_memstats_alloc_bytes * on (instance)
  group_left(version) prometheus_build_info
) WITHOUT (instance)
```

#4: CHEATER'S GUIDE TO HISTOGRAMS AND SLOs

Make the SLO a parameter to the application and export it!

```
foobar_slo_seconds 10
```

Use these 3 Counters:

```
foobar_pipeline_events_total{handler="foo",client="iOS"} 42  
foobar_pipeline_events_errors_total{handler="foo",client="iOS"} 3  
foobar_pipeline_events_over_slo_total{handler="foo",client="iOS"} 1
```

SLO alert for 90% of events processed under 10 seconds for last 24 hours:

```
1 - rate(foobar_pipeline_events_over_slo_total[1d]) /  
  rate(foobar_pipeline_events_total[1d])  
< 0.9
```

#5: ESTIMATING STORAGE SPACE

Efficiency of the Gorilla algorithm:

```
rate(prometheus_tsdb_compaction_chunk_size_bytes_sum[1d])  
/  
rate(prometheus_tsdb_compaction_chunk_samples_sum[1d])
```

Median:

```
quantile(0.5,  
  rate(prometheus_tsdb_compaction_chunk_size_bytes_sum[1d])  
  /  
  rate(prometheus_tsdb_compaction_chunk_samples_sum[1d])  
) WITHOUT (instance)
```

THANK YOU!
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