



# EdgeX Monitoring

Metrics and Monitoring for EdgeX using  
Prometheus and Grafana

**DELL**Technologies

# EdgeX Current Monitoring “fuji”

- /ping

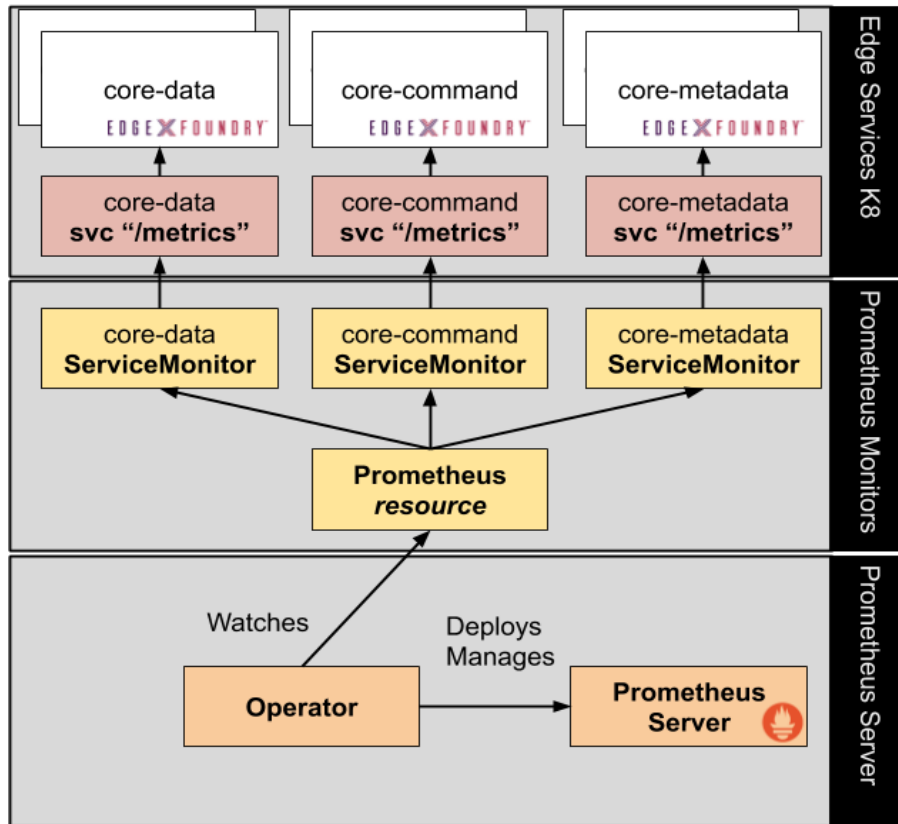
pong

- /api/v1/metrics

```
{  
  "Memory": {  
    "Alloc": 2713080,  
    "TotalAlloc": 6277594496,  
    "Sys": 72024312,  
    "Mallocs": 100760291,  
    "Frees": 100744480,  
    "LiveObjects": 15811  
  },  
  "CpuBusyAvg": 5.2285376960701635  
}
```

# Can we do better?

Metric instrumentation implemented with Prometheus



# How would this look?

## Simple example of core-services with /metrics endpoint

```
# HELP edge_http_request_duration_seconds How long it took edge to process the request, partitioned by status code, method and HTTP path.
# TYPE edge_http_request_duration_seconds histogram
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.0001"} 0
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.00015000000000000001"} 0
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.00022500000000000002"} 0
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.0003375"} 0
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.00050625"} 107
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.000759375"} 1341
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.00113906249999999999"} 3498
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.00170859374999999998"} 3871
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.00256289062499999996"} 3935
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.00384433593749999994"} 3968
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.00576650390625"} 3985
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.008649755859375"} 3994
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.0129746337890625"} 3997
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.01946195068359375"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.029192926025390625"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.043789389038085935"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.0656840835571289"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.09852612533569335"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.14778918800354002"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.22168378200531003"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.33252567300796504"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.49878850951194753"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="0.7481827642679213"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="1.12227146401882"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="1.68341219602823"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="2.5251168294042348"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="3.787675244106352"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="5.681512866159528"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="8.52226929923929"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="12.783403948858936"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="19.175105923288406"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="28.76265888493261"} 4000
edge_http_request_duration_seconds_bucket{code="200",method="get",path="/api/v1/addressable",service="edgex-core-metadata",le="43.143988327398915"} 4000
```

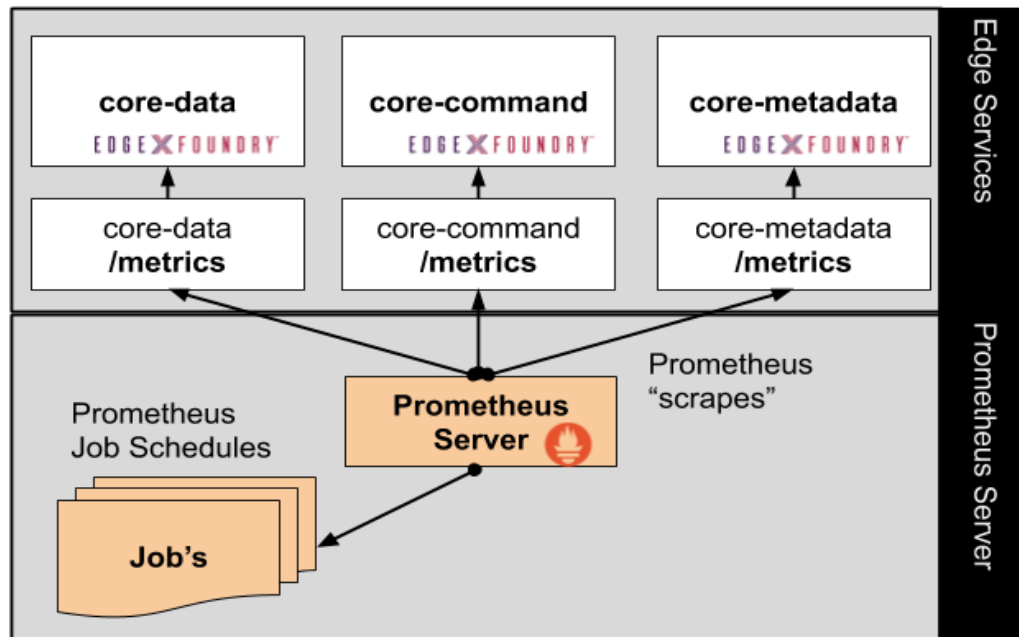
# Now what?

What can we do with that and what does it mean?

## DEMO

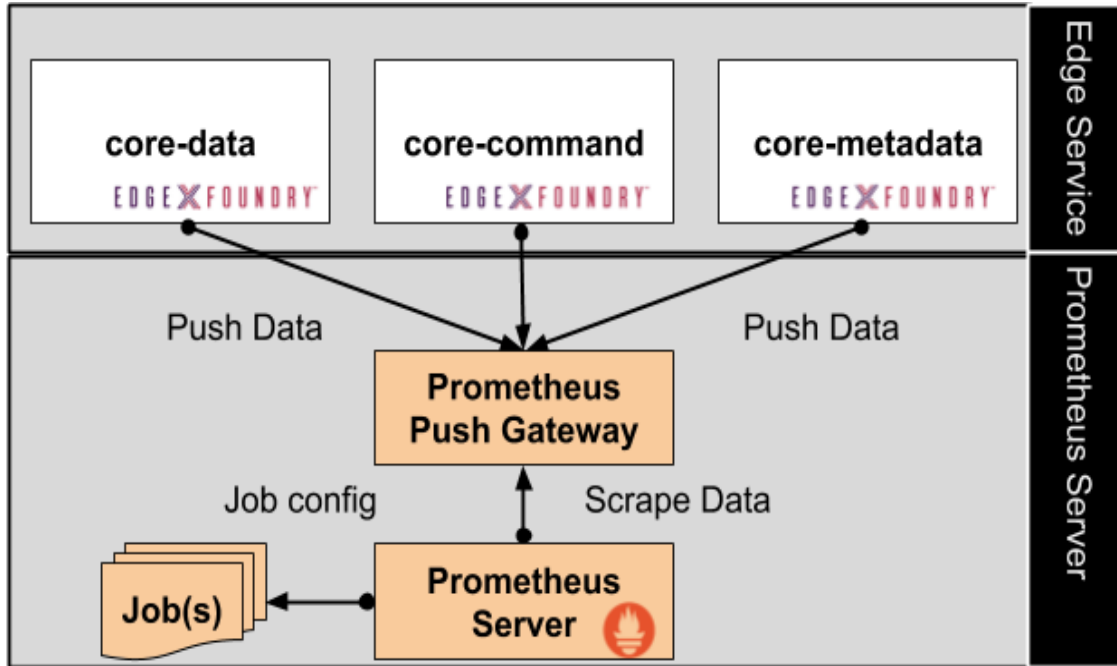
# Alternative no Kubernetes and scraping

Metric instrumentation implemented with Prometheus



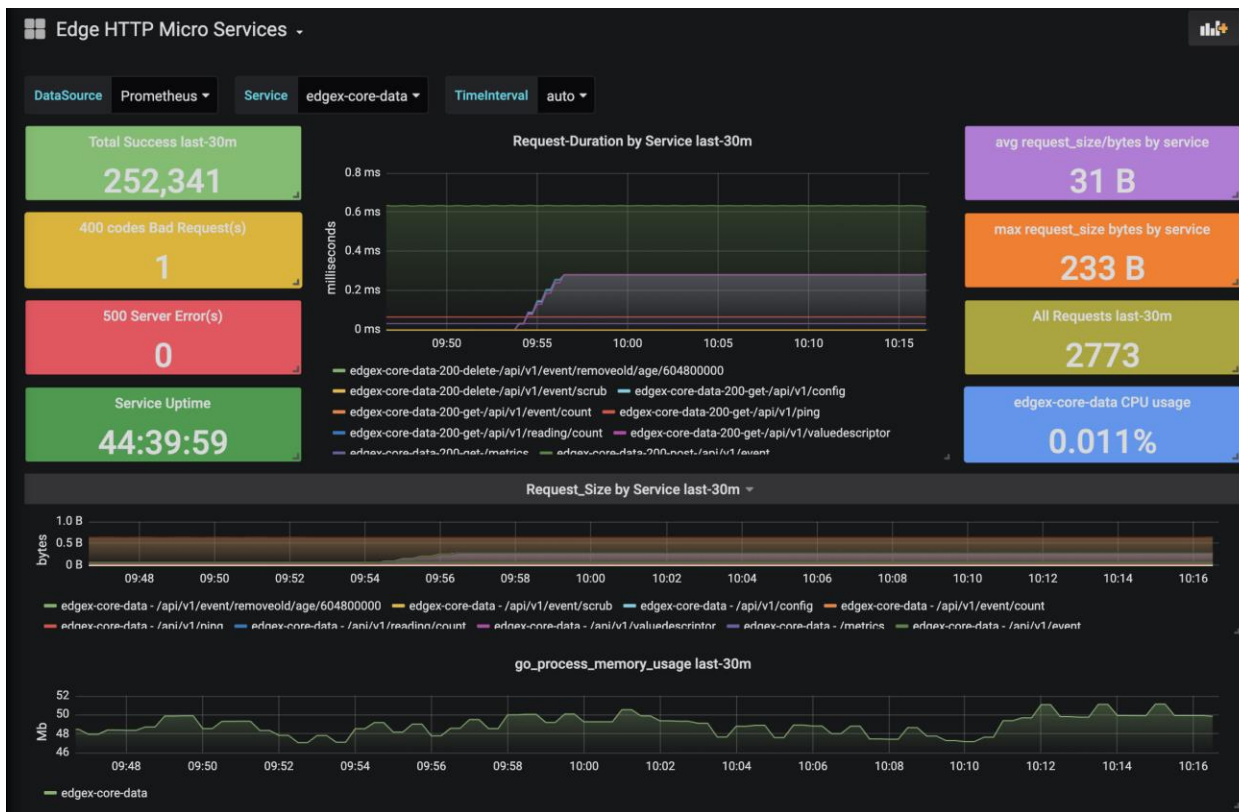
# Alternative no Kubernetes with PUSH

Metric instrumentation implemented with Prometheus no scraping. Services push metrics to a Gateway



# Grafana Visualization

## Metric visualization using Grafana





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