

NSF/IUCRC CAC PROJECT

MONITORING, VISUALIZING, AND PREDICTING HEALTH STATUS OF HPC CENTERS

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AGENDA

- ▶ Methodology for calculating power consumption for each job
- ▶ Demo of Metrics Builder

METHODOLOGY

Job 1



Job 2



Job 3



Job 4

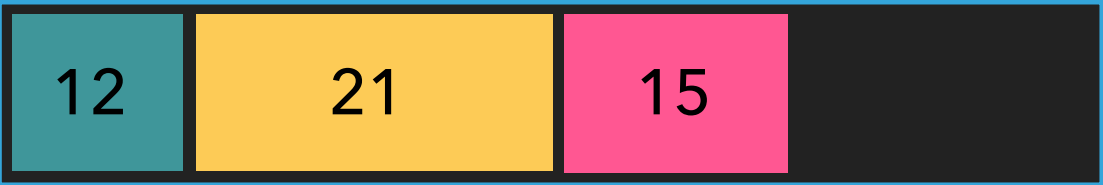


72Cores



Node 1

48Cores



Node 2

54Cores



Node 3

METHODOLOGY

Job 1



Job 2



Job 3



Job 4



Node 1



Node 2



Node 3

METHODOLOGY

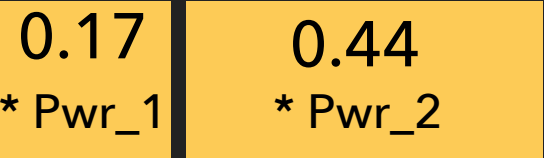
Job 1



Job 2



Job 3



Job 4



METHODOLOGY

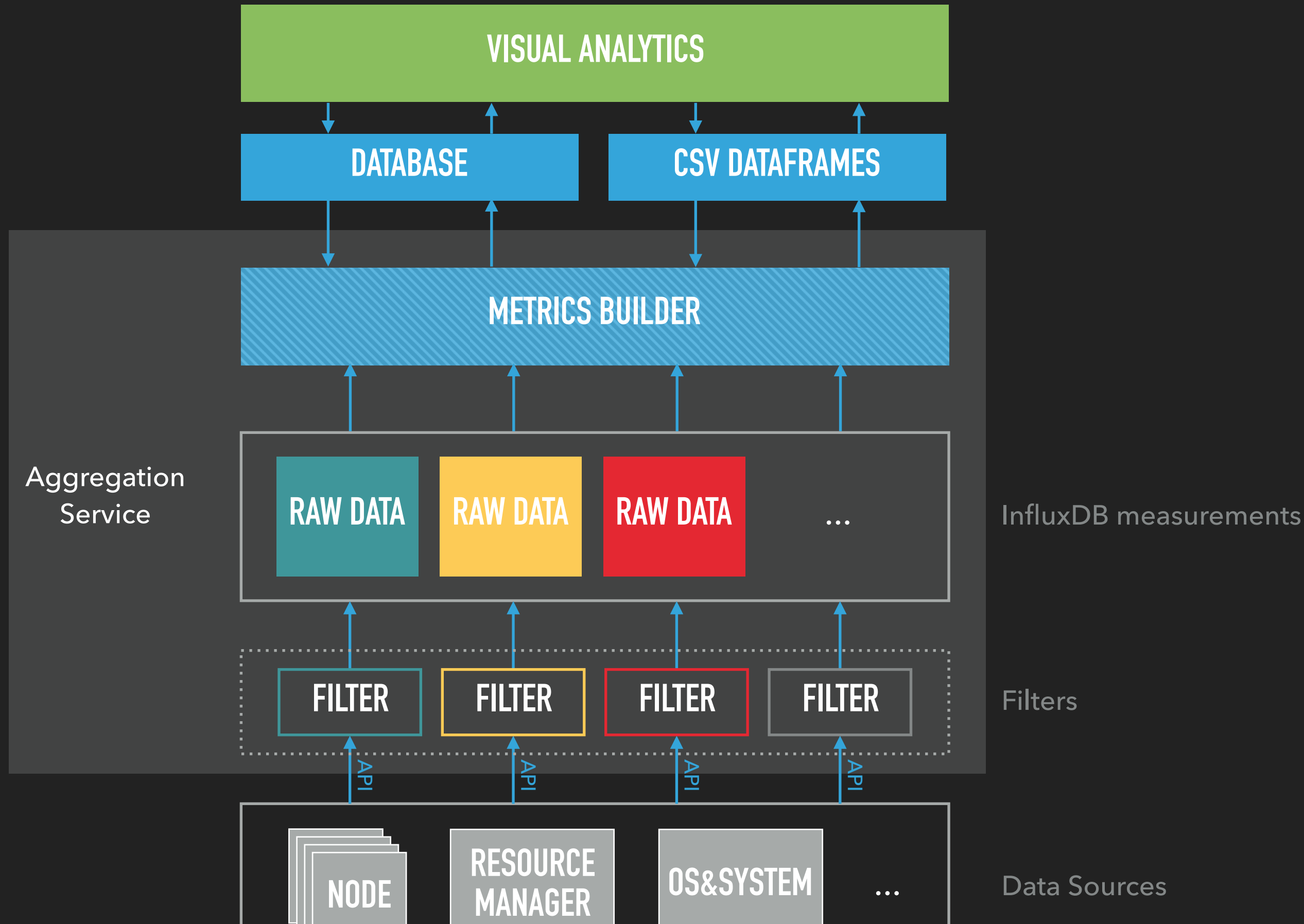
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{
  "ExecHosts": [
    "10.101.10.36",
    "10.101.3.33",
    "10.101.3.44",
    "10.101.5.18",
    "10.101.9.30"
  ],
  "JobId": 919049,
  "OccupationPct": [
    1.0,
    1.0,
    1.0,
    1.0,
    1.0
  ],
  "PowerConsumedWatts": [
    277.0,
    286.0,
    285.0,
    254.0,
    284.0
  ],
  "StartTime": "Wed Sep 11 20:29:06 CDT 2019",
  "TimeStamp": "Thu Sep 12 18:01:42 2019",
  "TotalPowerConsumedWatts": 1386.0,
  "User": "hge"
},
```

Job 919049

```
{
  "ExecHosts": [
    "10.101.10.42",
    "10.101.4.44",
    "10.101.8.17",
    "10.101.8.4",
    "10.101.9.1"
  ],
  "JobId": 921788,
  "OccupationPct": [
    0.17,
    0.56,
    0.09,
    0.33,
    0.22
  ],
  "PowerConsumedWatts": [
    34.85,
    91.84,
    22.14,
    60.06,
    42.68
  ],
  "StartTime": "Thu Sep 12 13:08:29 CDT 2019",
  "TimeStamp": "Thu Sep 12 18:01:42 2019",
  "TotalPowerConsumedWatts": 251.57,
  "User": "sabaty"
},
```

Job 921788

MONITORING FRAMEWORK



Demo



QUESTIONS?/COMMENTS?