### @superguenter @dcos #smack

# POWERING PREDICTIVE MAPPING AT SCALE WITH SPARK, KAFKA & ELASTIC



Spark Summit West



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@superguenter

### HYPERSCALE MEANS VOLUME *AND* VELOCITY

Microseconds Hours Seconds Days Minutes Micro-Batch **Event Processing Batch** 

Reports what has happened using descriptive analytics

Solves problems using predictive and prescriptive analytics



Billing, Chargeback

Product Recommendations

Real-time Pricing and Routing



Predictive User Interface









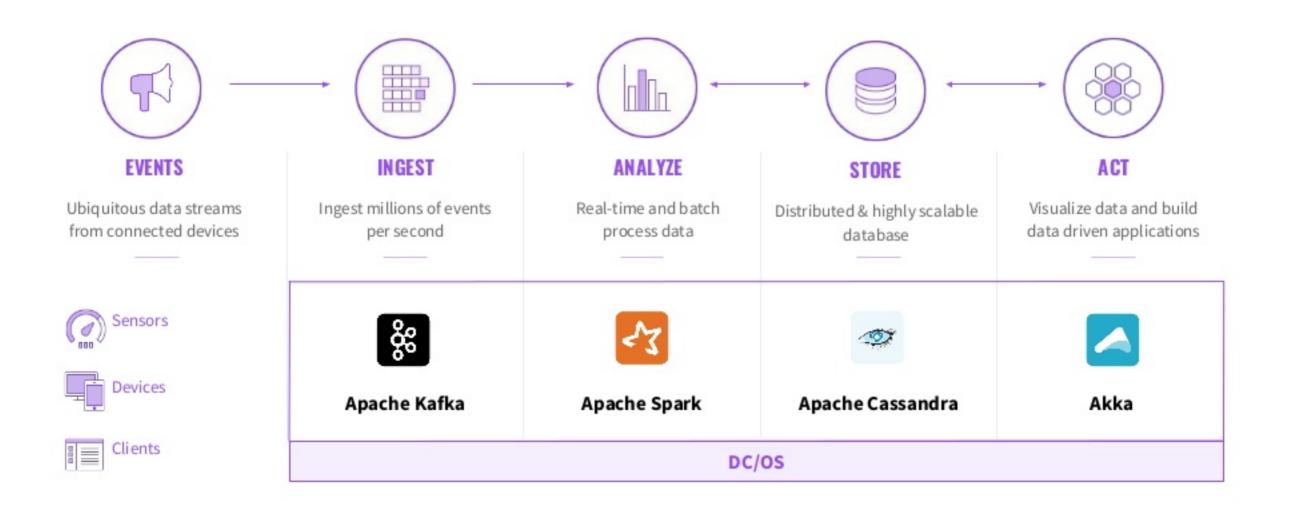




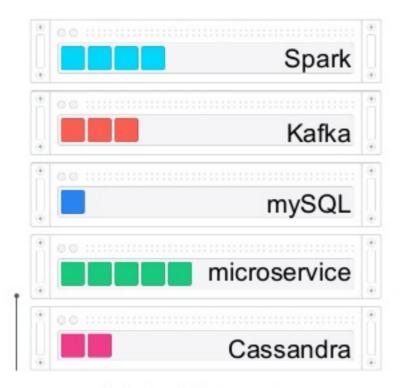




### S.M.A.C.K. STACK



### **NAIVE APPROACH**



Industry Average 12-15% utilization

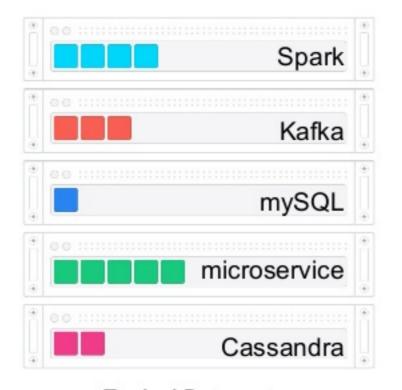
**Typical Datacenter** 

siloed, over-provisioned servers, low utilization

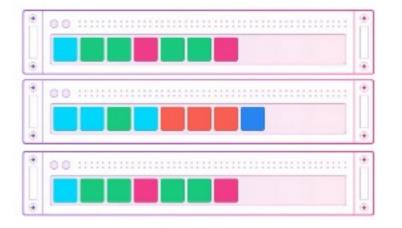
### DC/OS APPROACH



### MULTIPLEXING OF DATA, SERVICES, USERS, ENVIRONMENTS

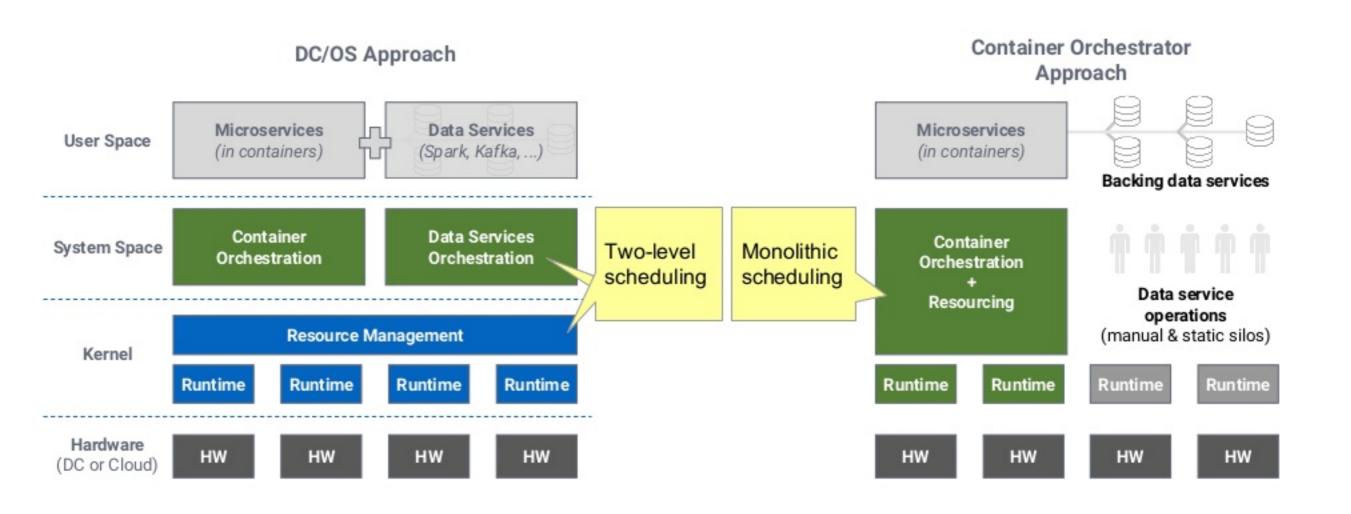


Typical Datacenter siloed, over-provisioned servers, low utilization



DC/OS
automated schedulers, workload multiplexing onto the same machines

### DC/OS APPROACH TO CONTAINER ORCHESTRATION



# EXAMPLE: REAL-TIME CAR TRACKING

### GEO-ENABLED IoT

## esri

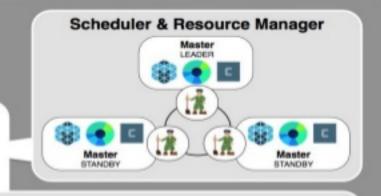


Load Balancer

#### public agents

104.40 .-- .-marathon-lb 10.0.0.5

104.40.--. marathon-lb 10.0.0.6

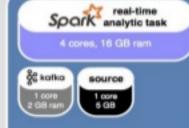


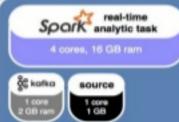


96 cores, 336 GB ram, 18 TB ssd



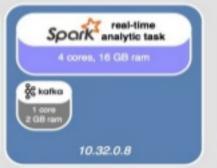
#### private agents





















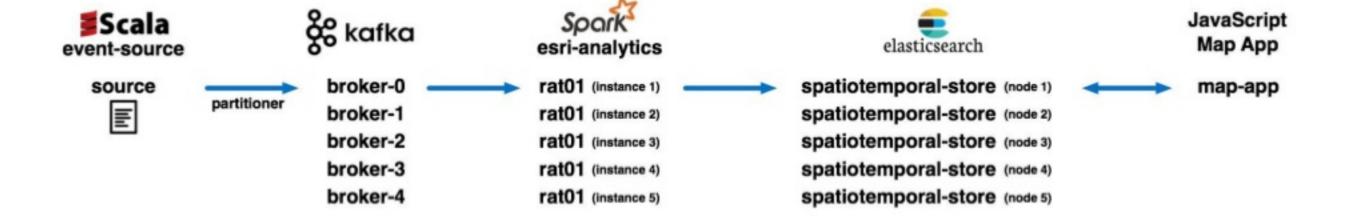


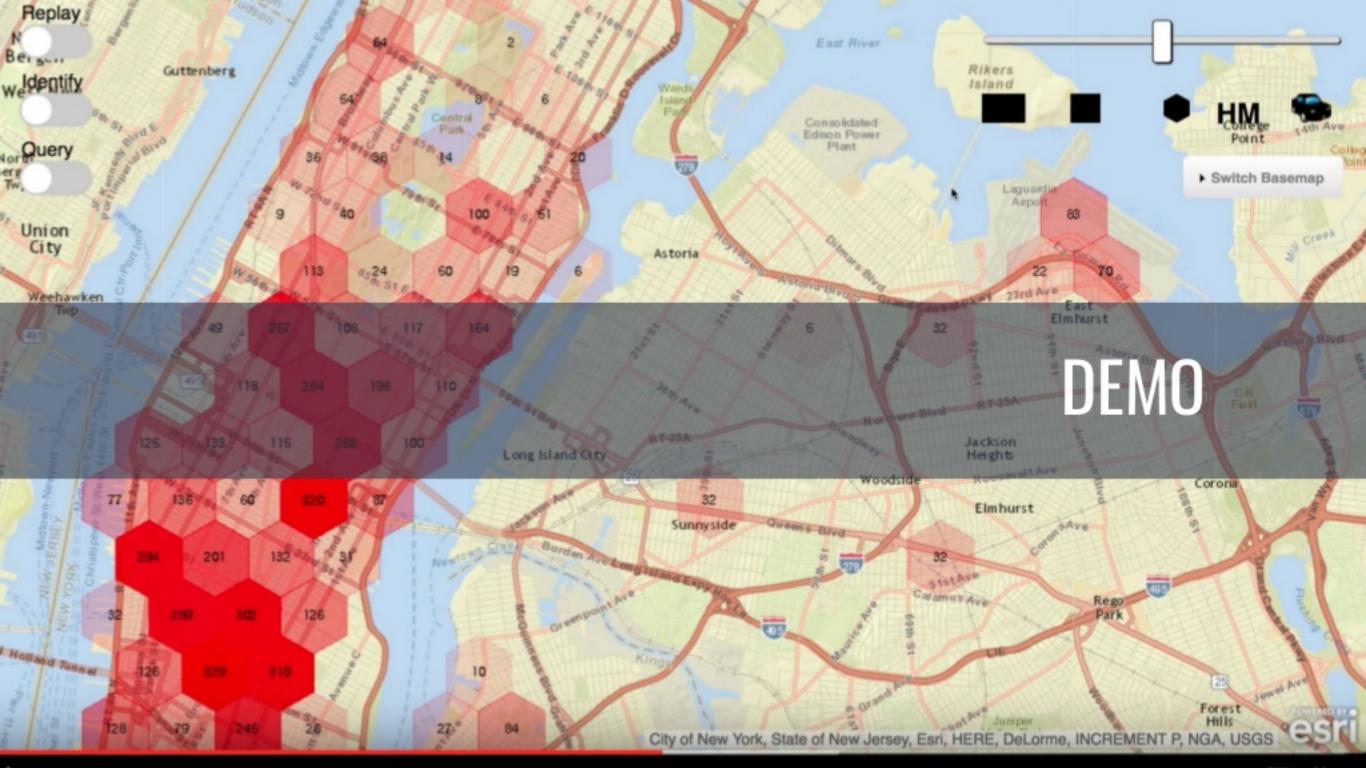






### **DATA FLOW**







@dcos



chat.dcos.io



users@dcos.io



/groups/8295652



/dcos /dcos/examples /dcos/demos

### THANK YOU!

### ANY QUESTIONS?