

# Apache Mesos + Apache YARN = Myriad

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Myriad Project Lead

Mesosphere

Apache Mesos Committer

# Mesos from 10,000 feet

-  Open Source Apache project
-  Cluster Resource Manager
-  Scalable to 10,000s of nodes
-  Fault-tolerant, no SPOF
-  Multi-tenancy, Resource Isolation
-  Improved resource utilization

# Mesos is more than

## Yet Another Resource Negotiator

- ☰ Long-running services; real-time jobs
- ☐ Native Docker; cgroups for years;  
Isolate cpu/mem/disk/net/other
- 📄 Distributed systems SDK;  
~200 loc for a new app
- </> Core written in C++ for performance,  
Apps in any language



airbnb™

ebay

vimeo



NETFLIX



HubSpot



Time Warner Cable®



ignidata  
igniting business with data

xogito  
...radical thinking...

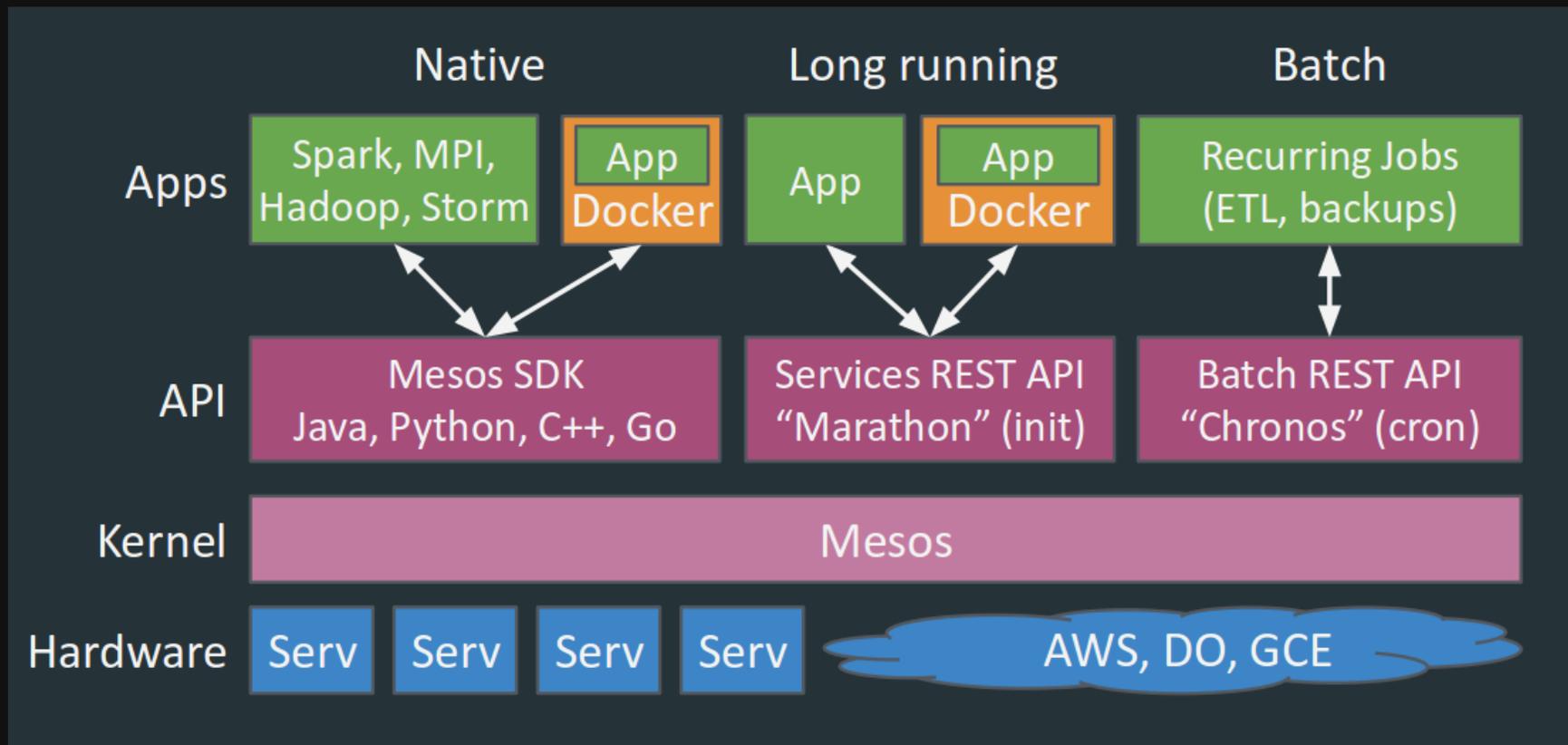
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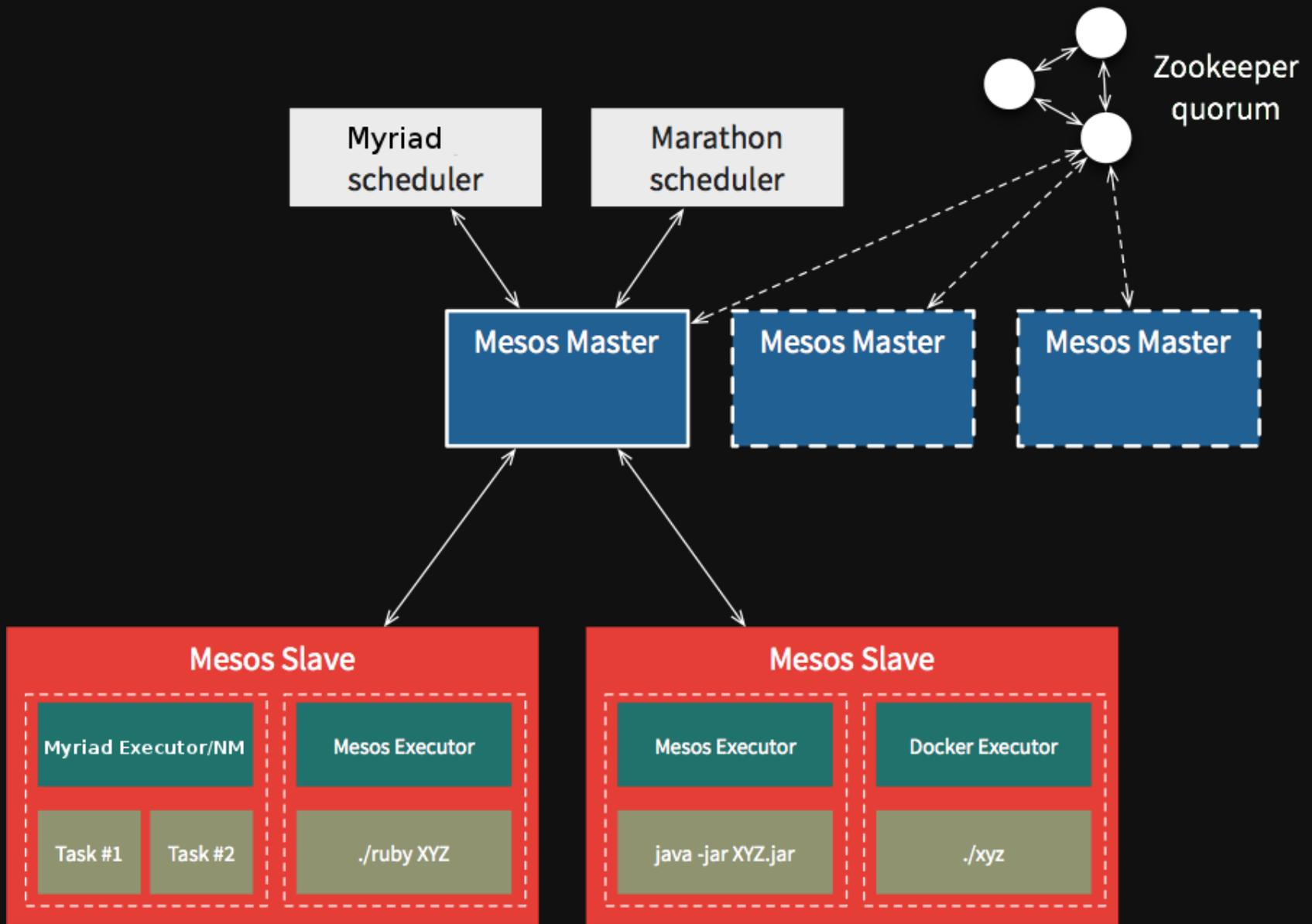


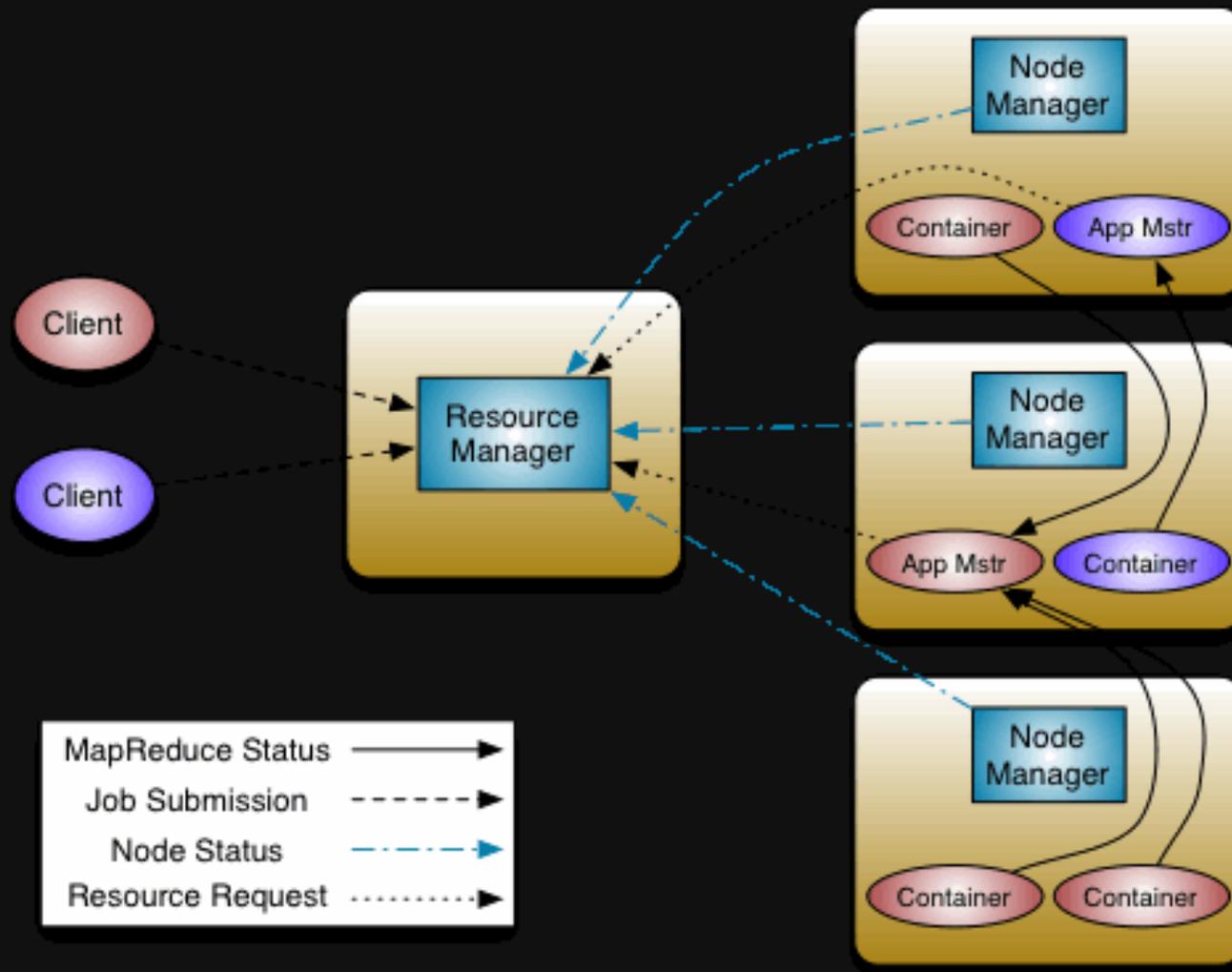
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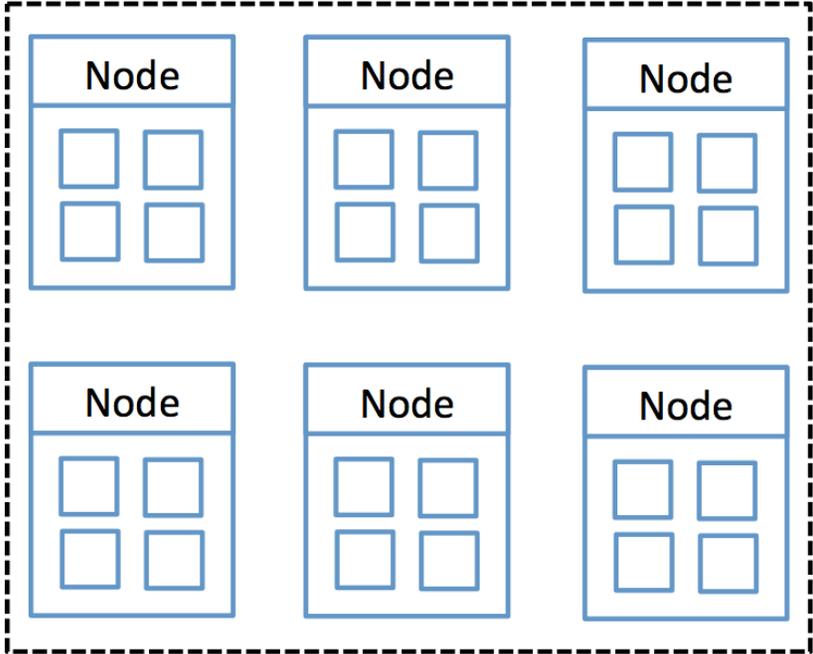
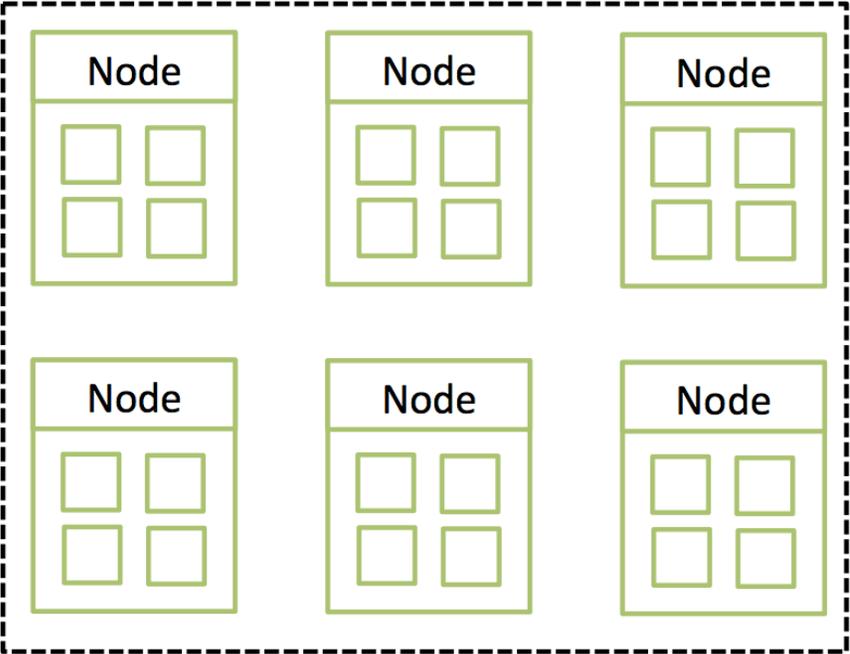
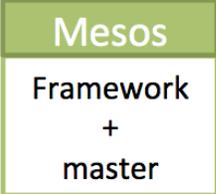


# Mesosphere DCOS









Mesos  
Framework  
+  
master

YARN  
Resource  
Manager

Node

 Mesos task

 YARN task

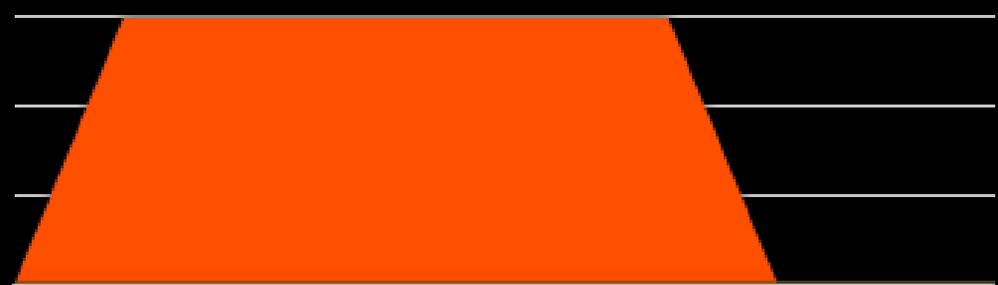




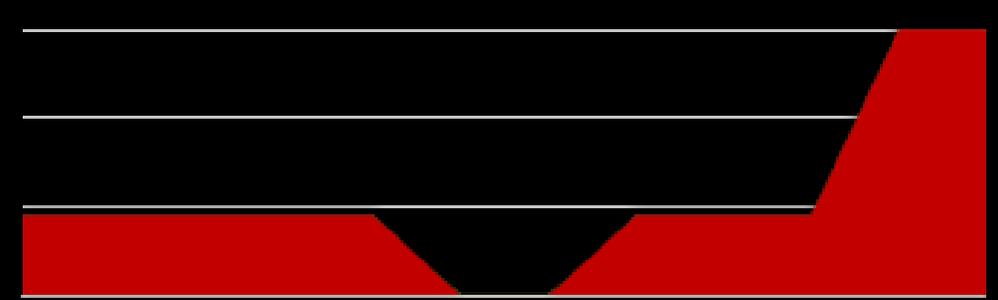
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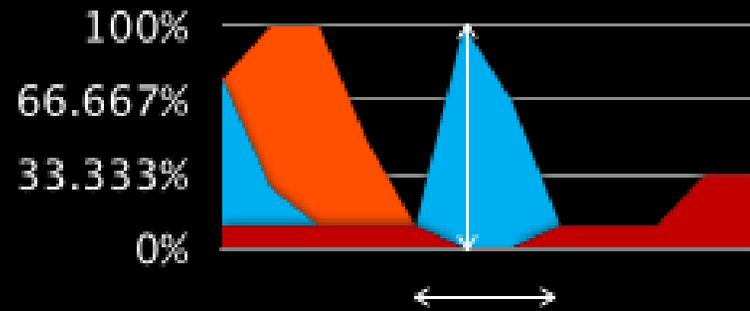
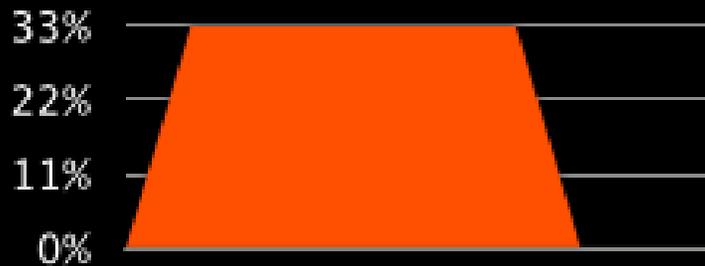
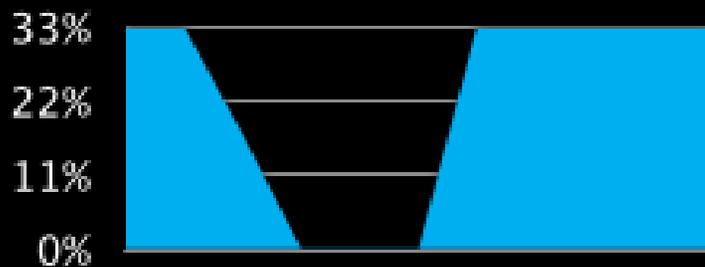


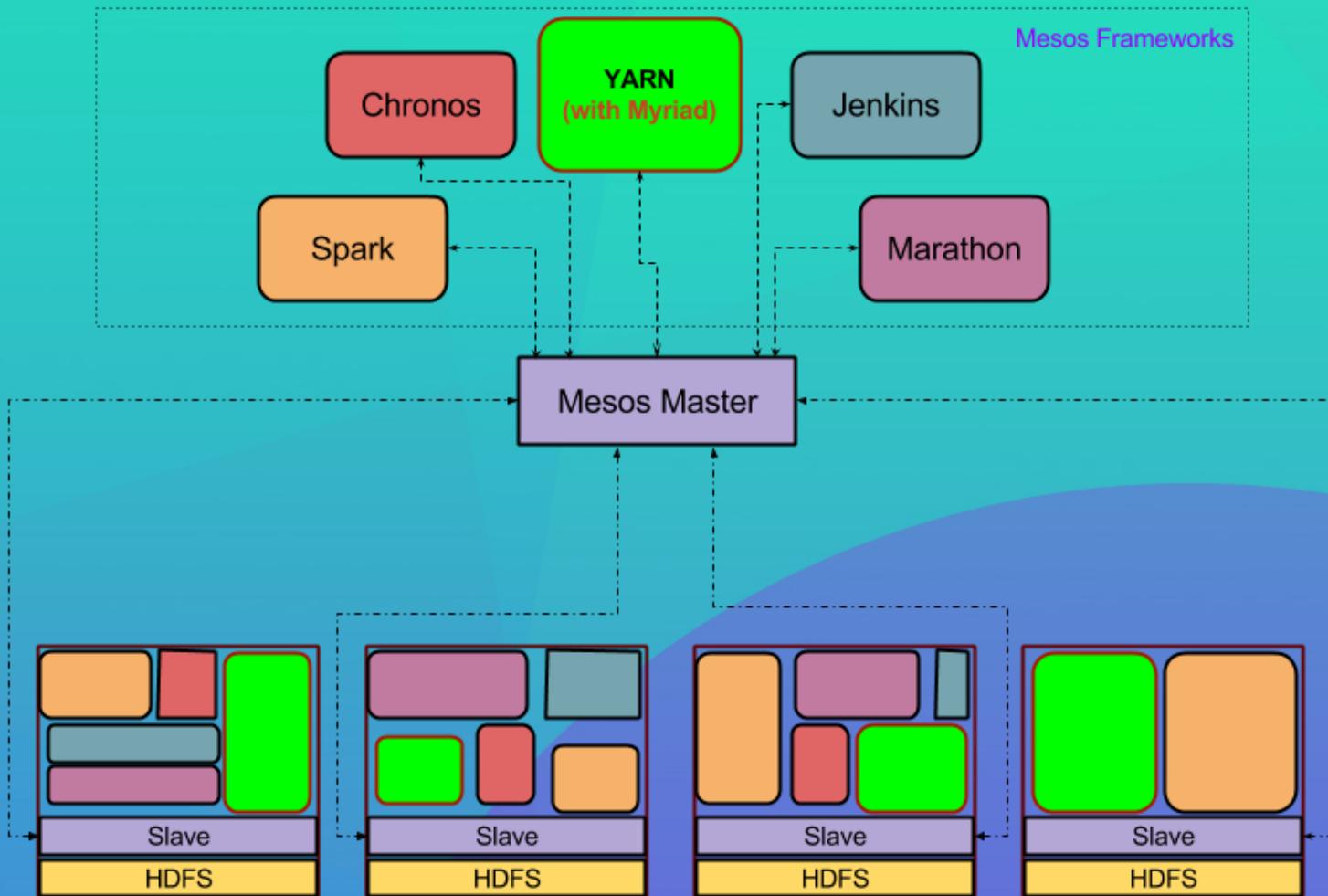
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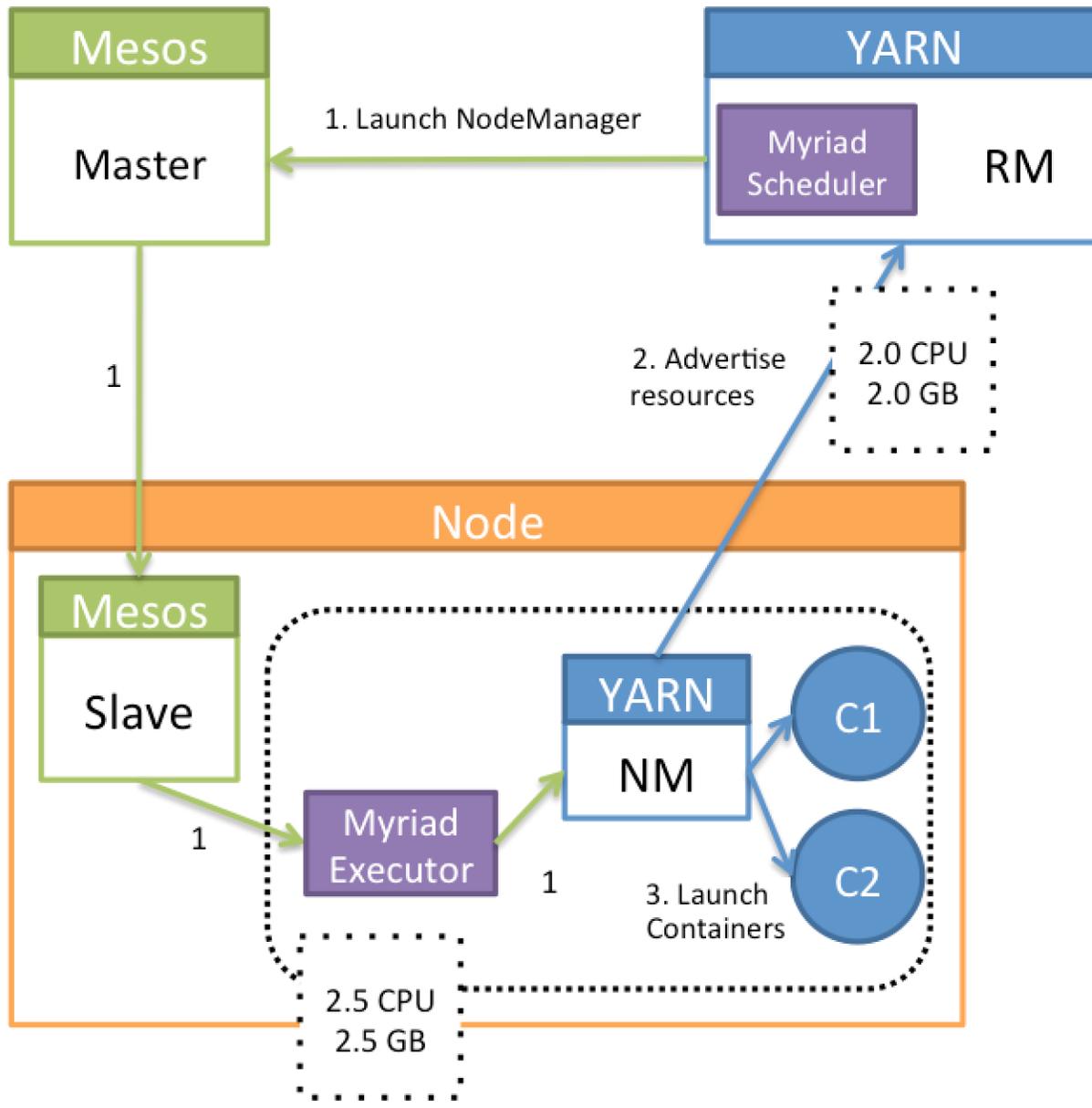


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# History of Myriad

- 💡 **Mohit Soni from eBay builds prototype, presents at MesosCon**
- 🧪 **Santosh Marella from MapR attends Mesosphere HackWeek, builds independent prototype**
- 💬 **Adam introduces Mohit and Santosh, both prototypes merged together**
- 👥 **Myriad accepted into Apache Incubator March 1, 2015**

# Myriad improves Mesos

- ⚙️ **Tighter integration with Hadoop frameworks like HBase, Hive, Pig**
- ⚙️ **Borrow resources from Hadoop when traffic spikes for tier-1 services**
- ⚙️ **Backfill unused resource capacity with best-effort Hadoop jobs**
- 🔗 **No Mesos code changes necessary**

# Myriad improves Hadoop

📶 Elastic scaling

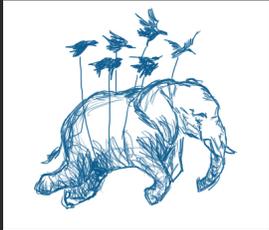
💣 Fault-tolerant: Maintain NM capacity

📄 Share resources with other workloads, improve resource utilization

🗑️ Multiple isolated Hadoop clusters sharing node resources and DFS

🔗 No YARN/Hadoop code changes

# Learn More!



[Apache Myriad Incubator Proposal](#)

[Apache Myriad Incubator Status Page](#)

<https://github.com/mesos/myriad>

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<http://mesos.apache.org>

<https://github.com/apache/mesos>

<http://mesosphere.com>

