

Kubernetes 中的资源 管理及调度

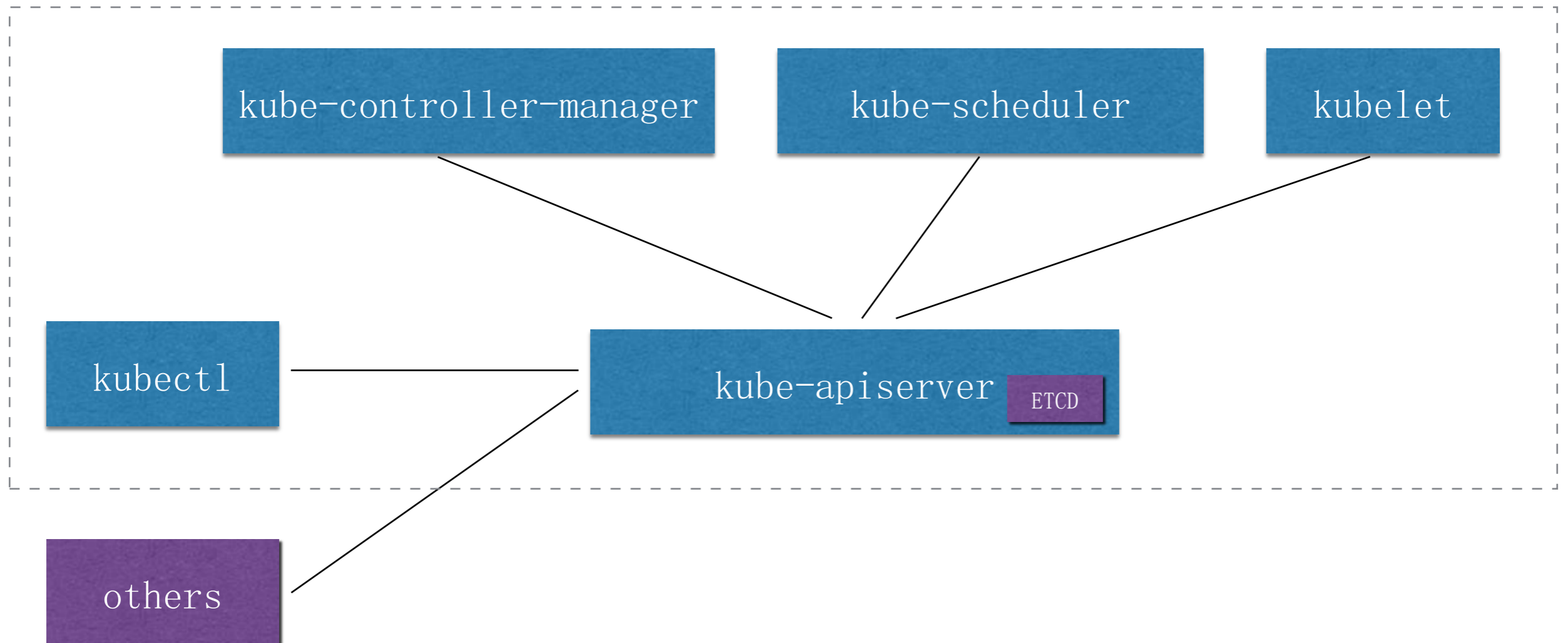
马达 (@k82cn)

IBM, CSL

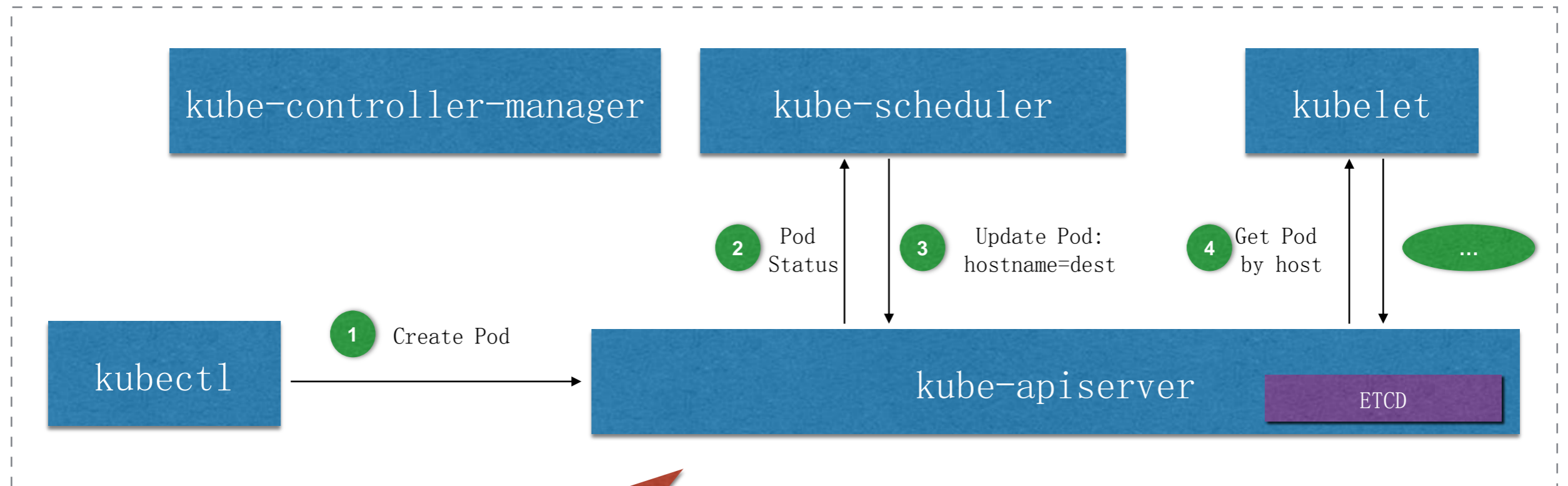
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- Kubernetes 调度流程
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- Kubernetes 1.7 (sig-scheduling)
- Q & A

Kubernetes 总体结构

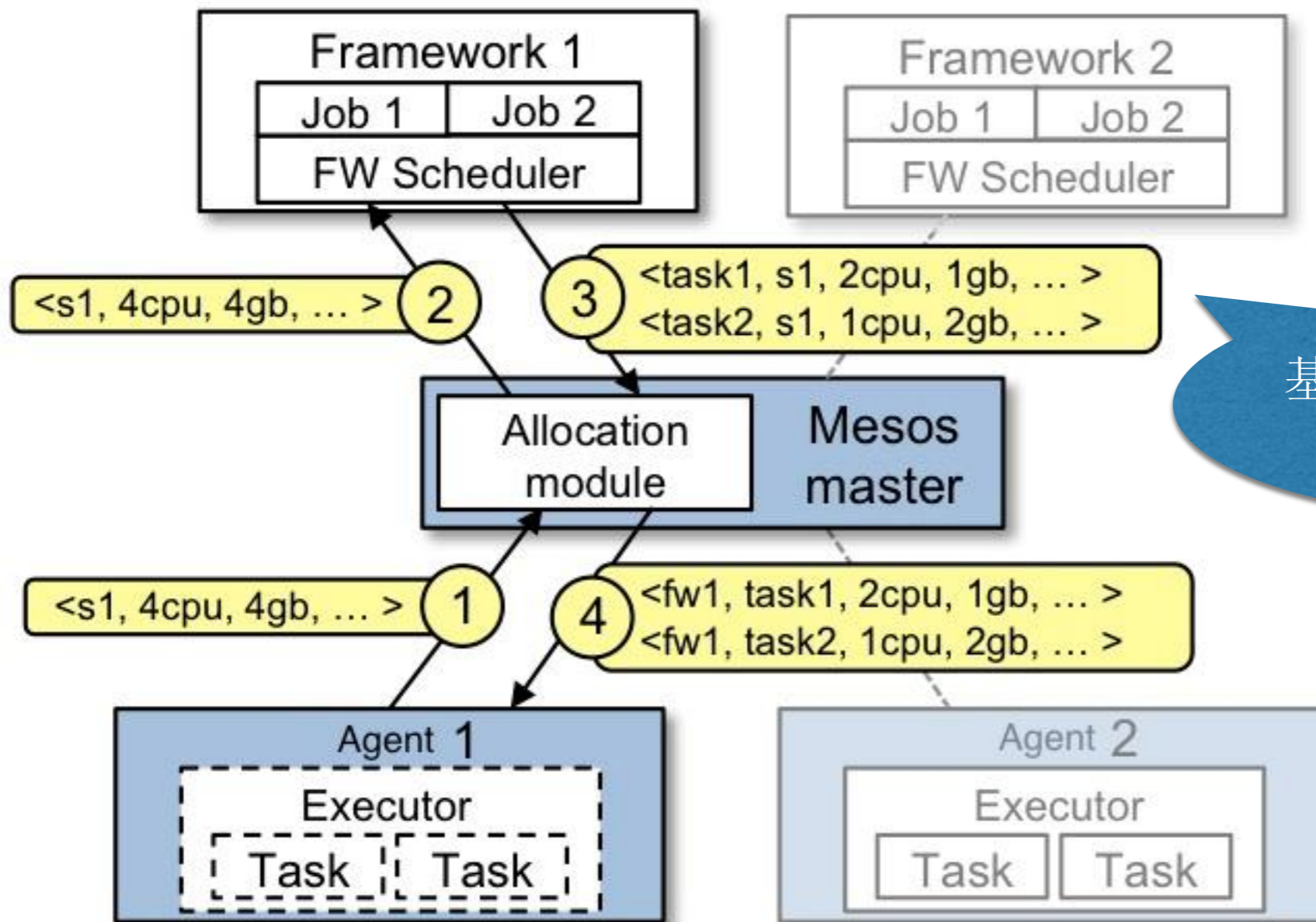


Kubernetes 调度流程



基于共享数据的资源
分配与访问

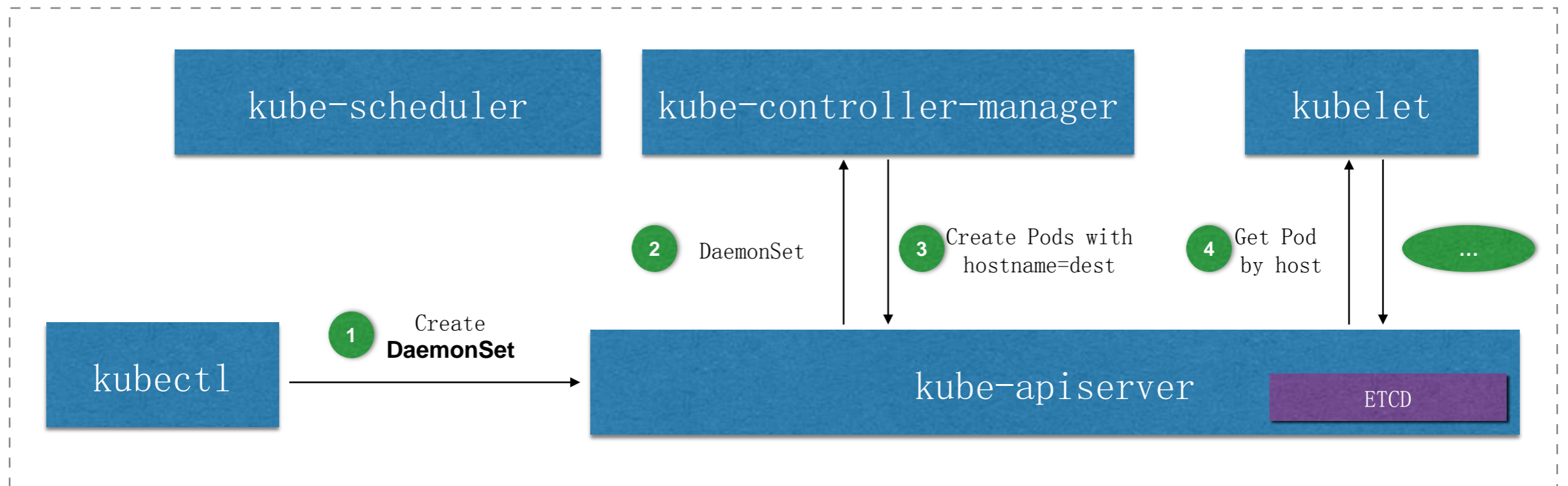
Mesos 调度流程



基于接口的资源分配
与访问

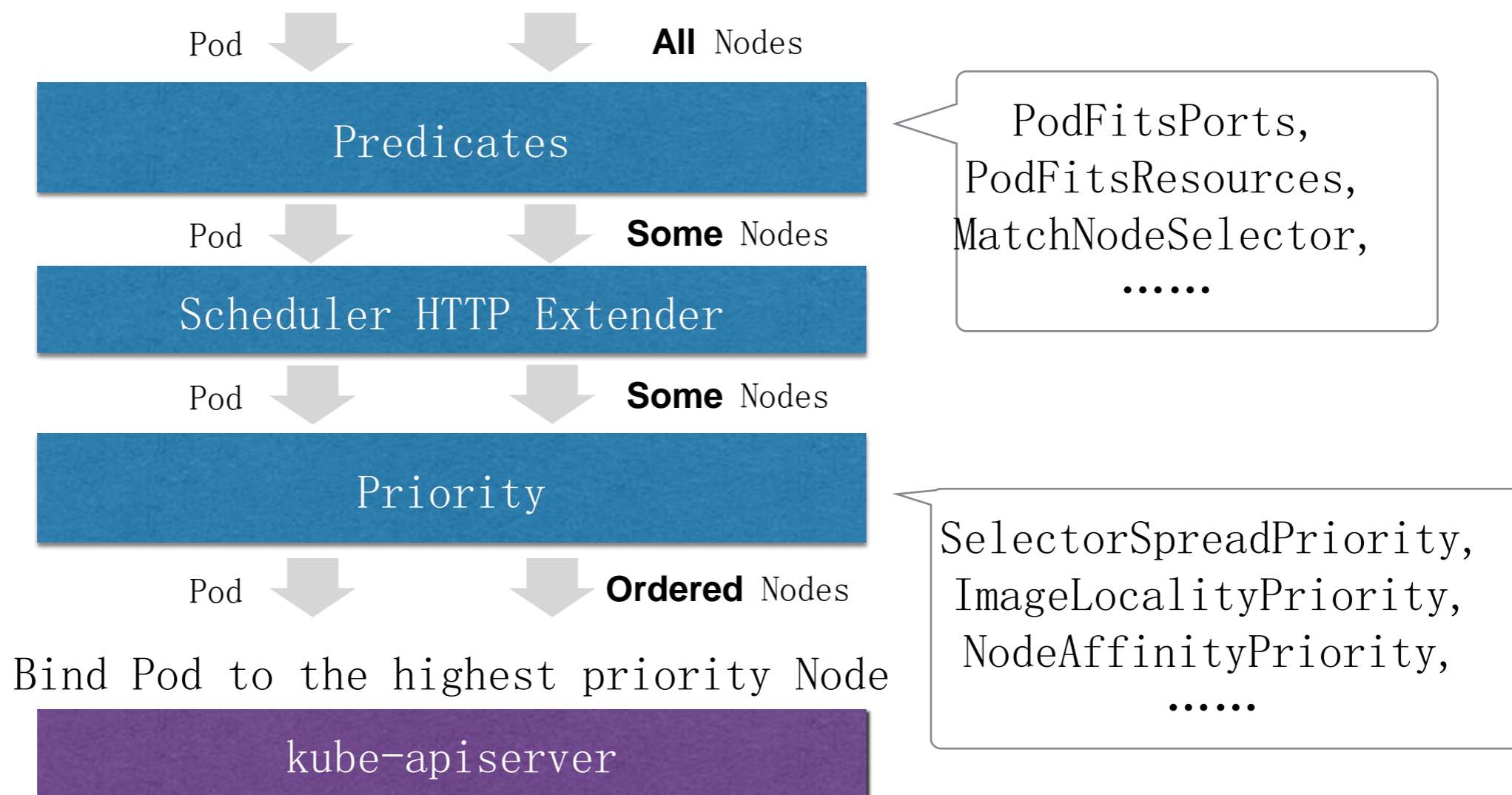
包括IBM Spectrum
Computing的产品

Kubernetes 调度流程



For **DaemonSet**, **kube-controller-manager** creates Pods with **hostname**, does not involve **kube-scheduler**

Kubernetes 调度流程



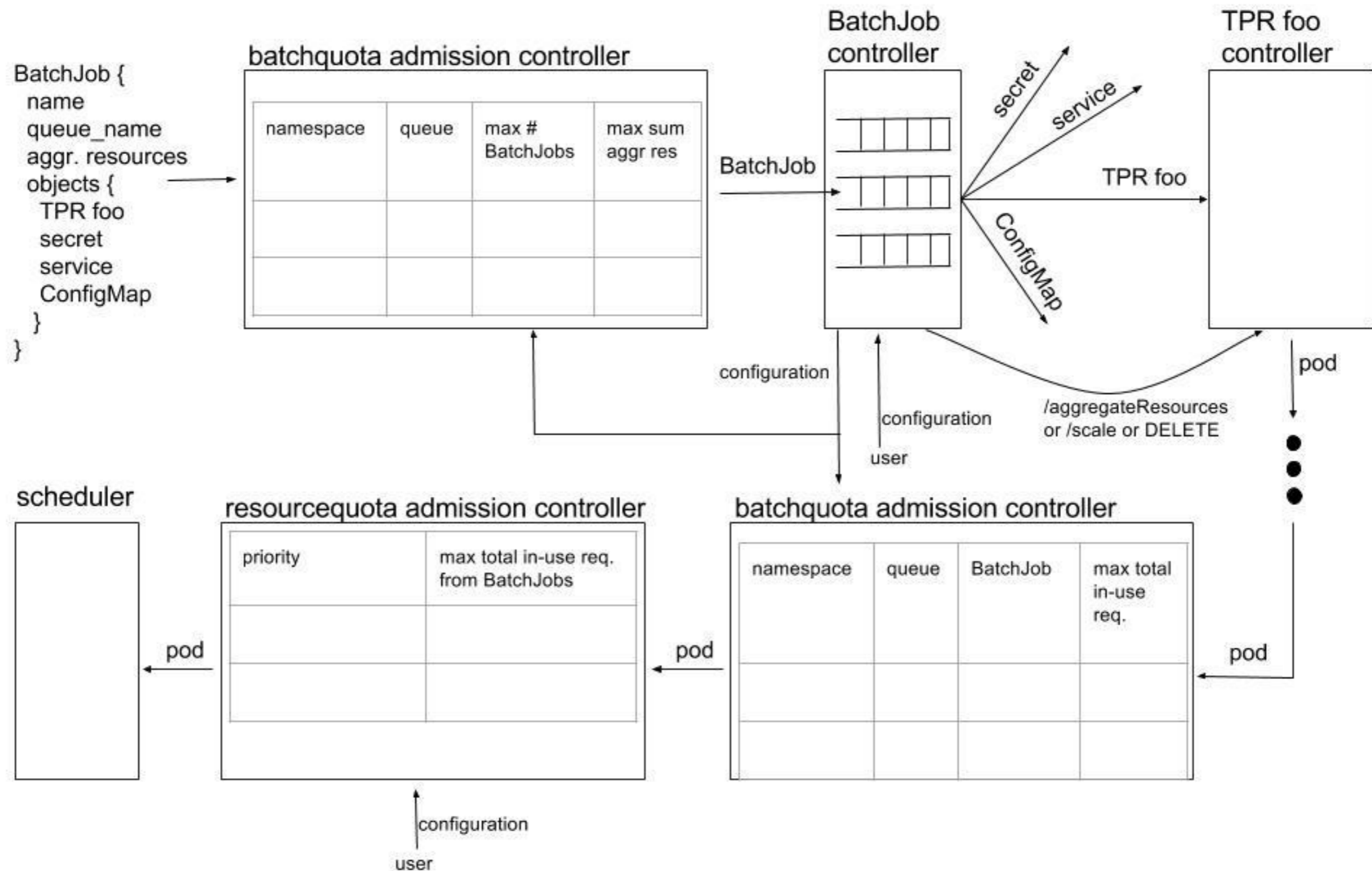
Kubernetes 1.6 (sig-scheduling)

- Multiple Scheduler to beta
- PodAffinity to beta
- **Taint/Tolerant**
- Test code coverage improvement

Kubernetes 1.7 (sig-scheduling)

- Priority/Preemption
- **BatchJob**
- ...

Kubernetes 1.7: BatchJob



Kubernetes 1.7: BatchJob

- **Case 1:** The resource

requirement is sum of each

executor (the number of total

tasks is unknown)

- **Case 2:** The resource

requirements is sum of non-

terminal tasks (pending +

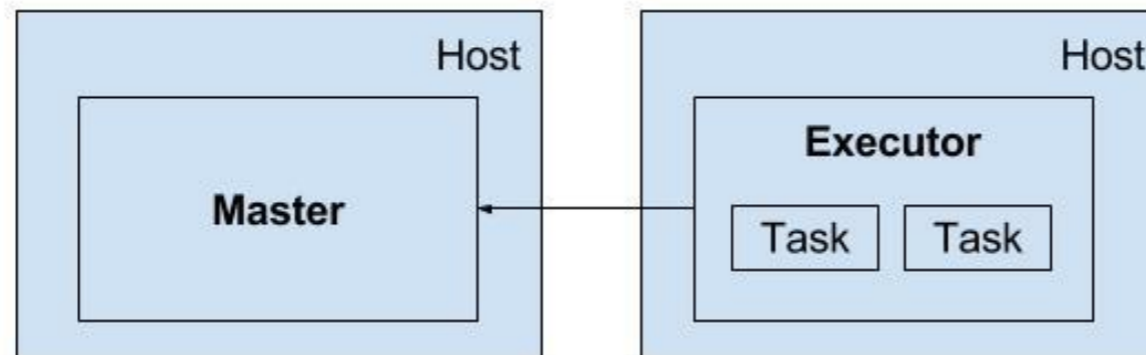
running), but the total number

task is unknown

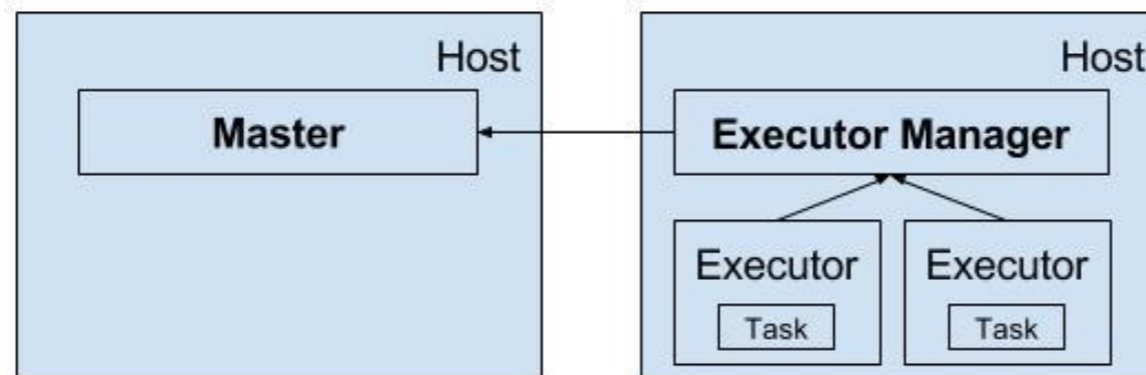
- **Case 3:** The resource

requirement is sum of total tasks

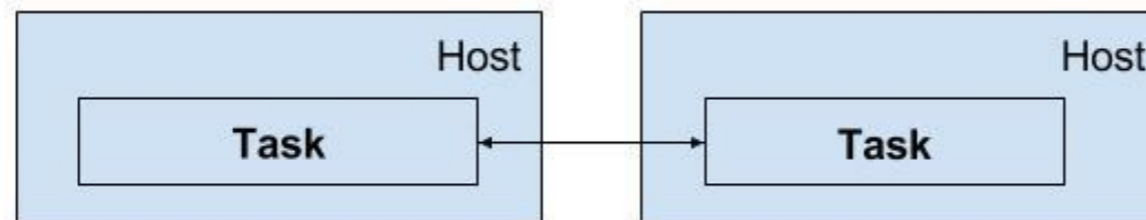
Case 1:



Case 2:



Case 3:



Kubernetes 1.7: Batch Job Reference

- Design Doc:
https://docs.google.com/a/google.com/document/d/1-H2hnZap7gQivcSU-9j4ZrJ8wE_Wwcf0kTeAGjzUyLA/edit?usp=sharing
- Related Issues:
 - Manage multiple applications in Kubernetes ([#36716](#))
 - Preemption priority schema ([#22212](#))
 - Rescheduler
(<https://github.com/kubernetes/community/blob/master/contributors/design-proposals/rescheduling.md>)

Thank You !!!