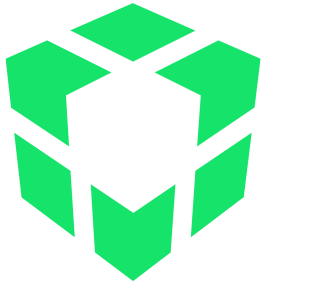
Rolling Update
还看Docker原生支持

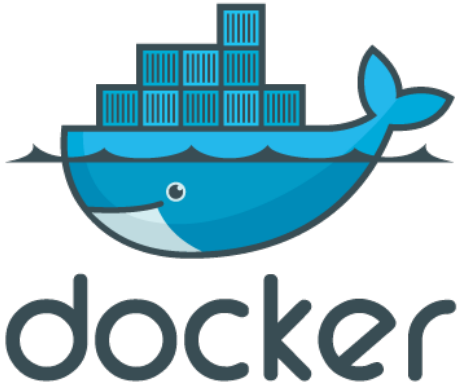
Allen Sun

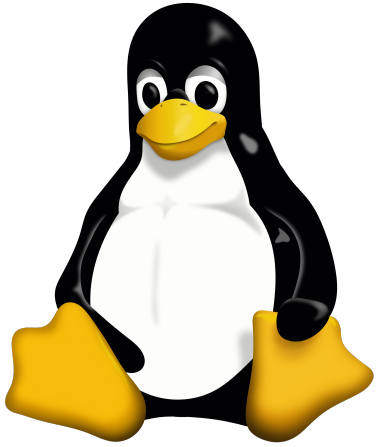
About me

- DaoCloud
- Docker
- Linux
- Open Source
- GitHub: allencloud



DaoCloud

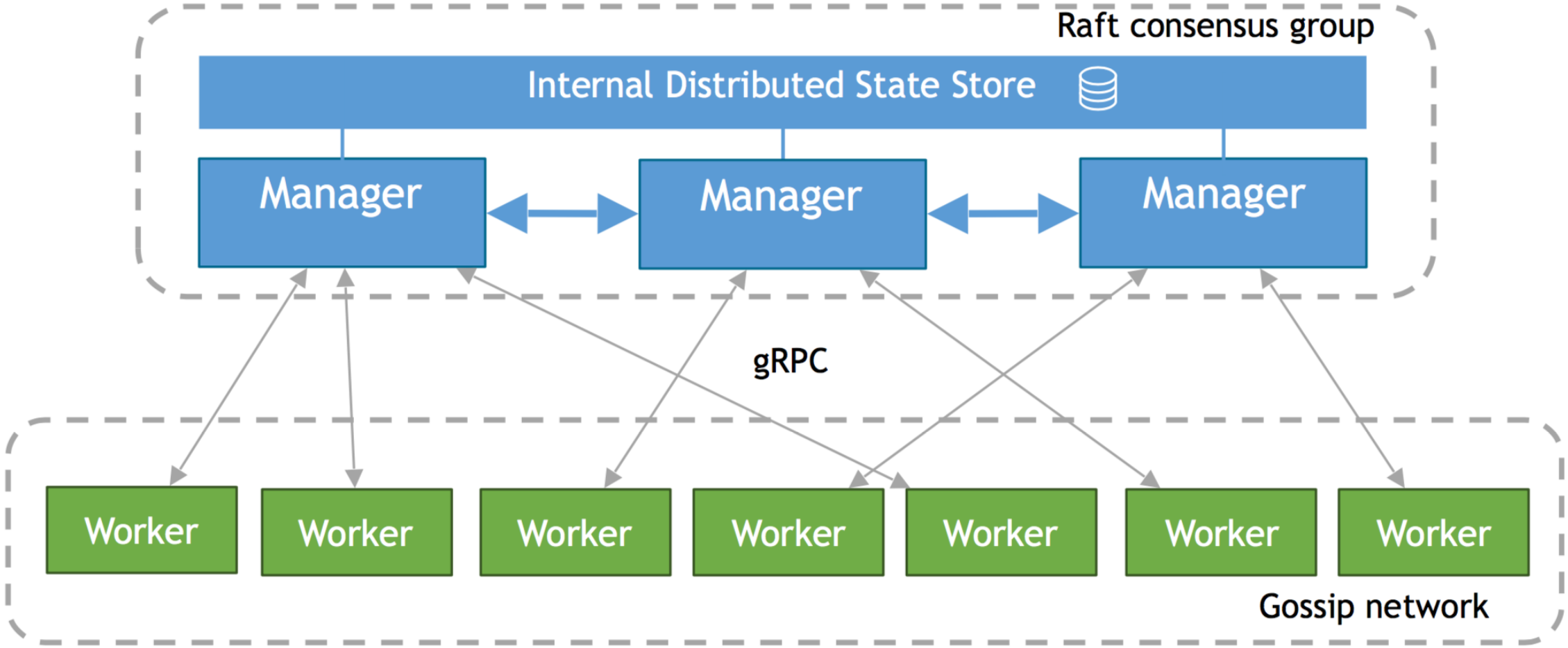




Agenda

- Docker Swarm Mode
- Rolling Update in Swarm
- Demo

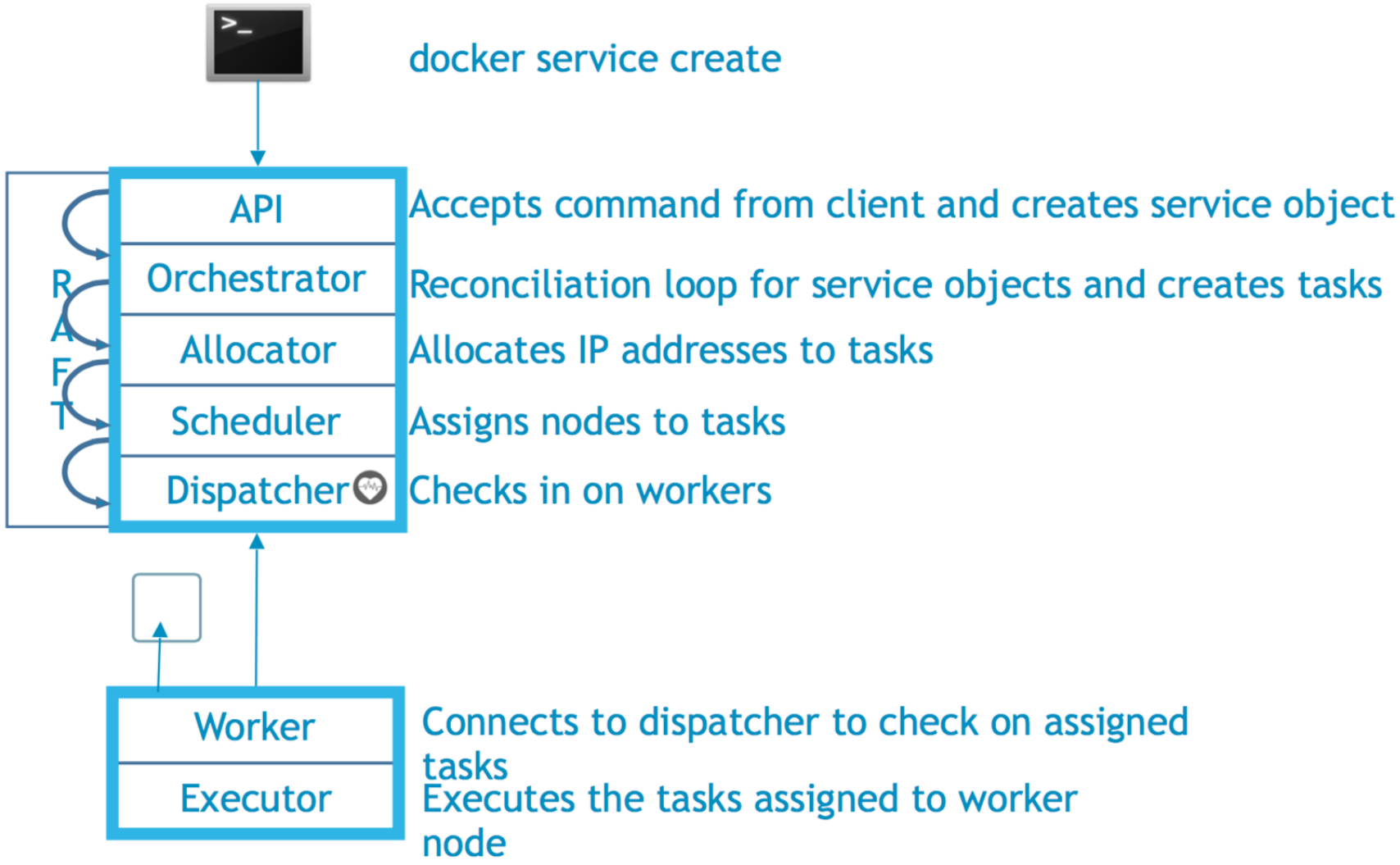
SWARM MODE的架构



SWARM MODE 服务

- 服务（Service）作为集群的操作对象，服务由任务（task）来实现，容器作为实现任务的一个执行方式
- 服务可以指定任务数量，也可以是全局任务（每个节点运行一个）
- 调度器管理任务的目标状态（desired state），分配资源给任务，选择节点来执行任务
- 节点支持将任务的状态推动到目标状态，反馈状态给管理节点
- 支持服务配置更新，滚动更新，回滚
- 内置overlay网络，DNS服务发现，负载均衡

SWARM功能模块


docker service create
API
Orchestrator
Allocator
Scheduler
Dispatcher
RAFT
Accepts command from client and creates service object
Reconciliation loop for service objects and creates tasks
Allocates IP addresses to tasks
Assigns nodes to tasks
Checks in on workers
Manager Node
Worker
Executor
Connects to dispatcher to check on assigned tasks
Executes the tasks assigned to worker node
Worker Node

ROLLING UPDATE

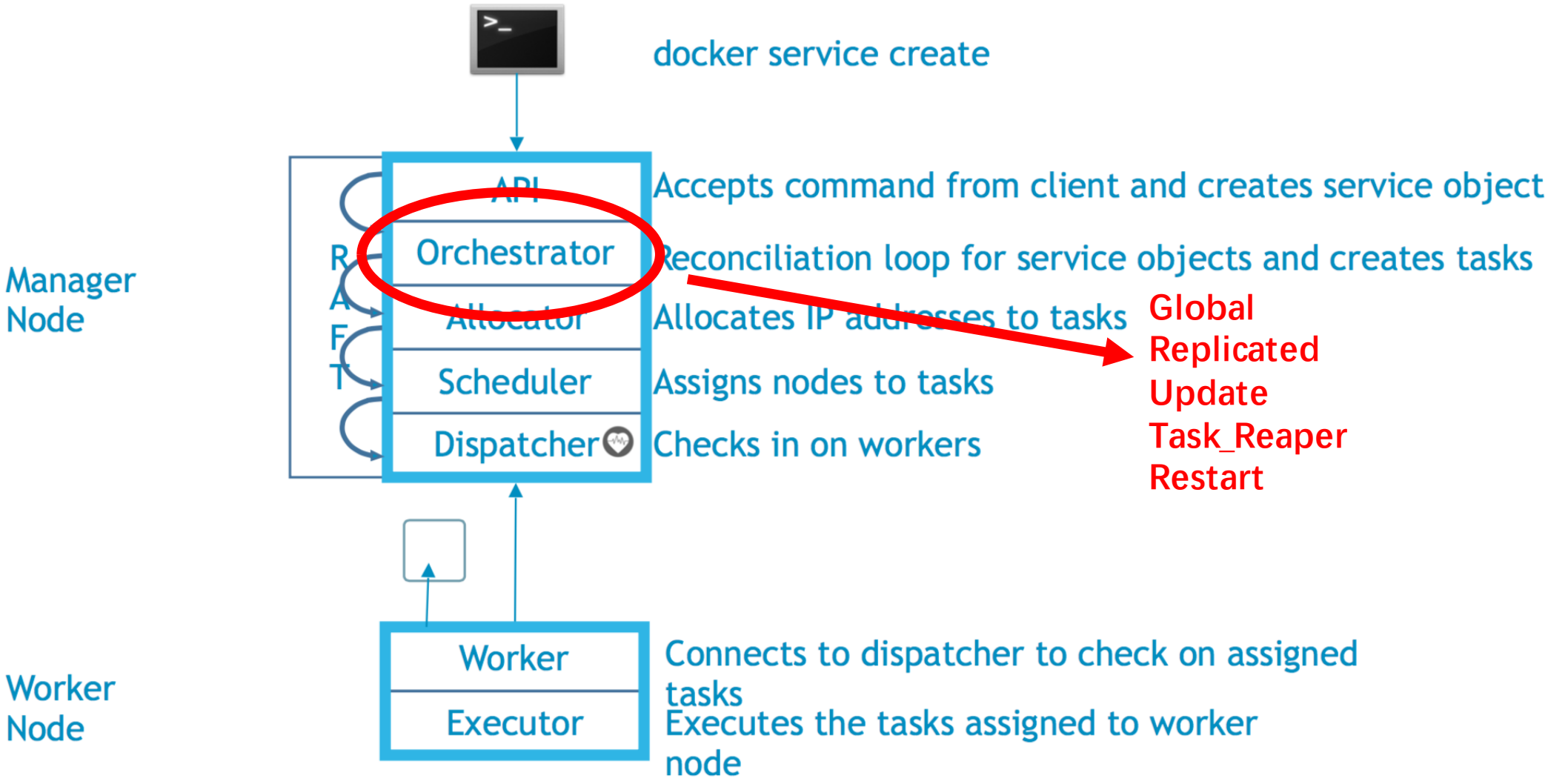
- 迭代（更新一个新版本）
- 业务连续性
- 风险的规避方式

ROLLING UPDATE & ORCHESTRATION

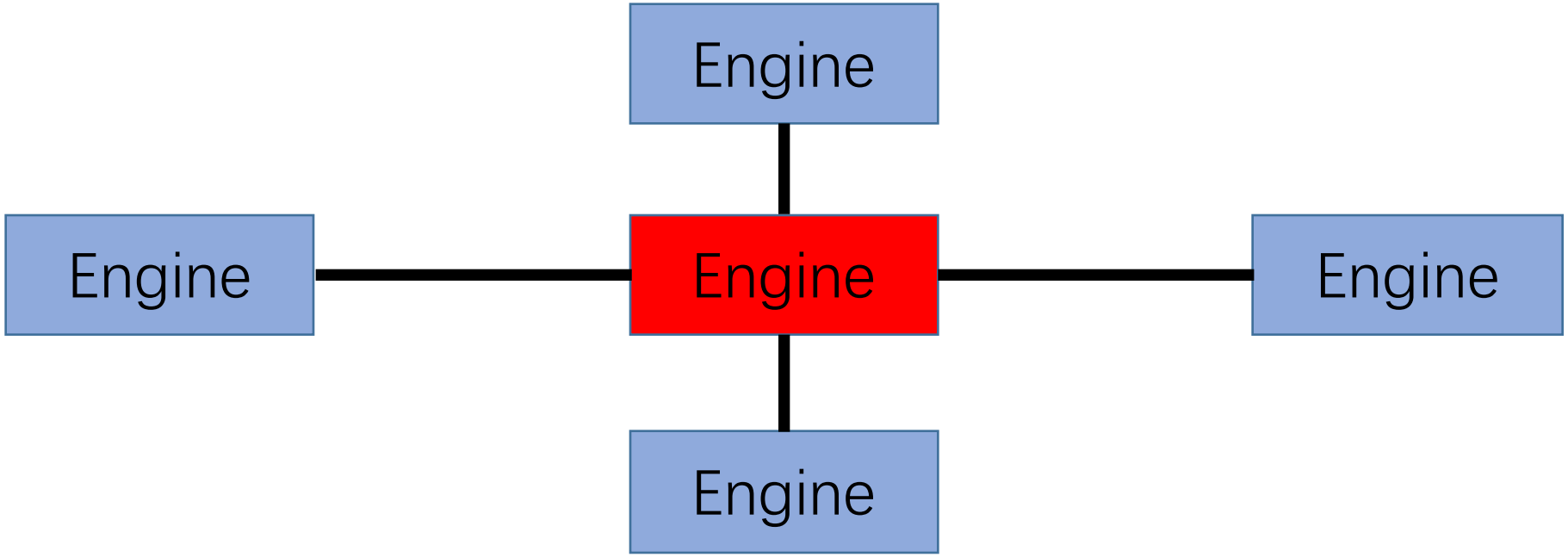
$ docker service **update** *--image redis:3.0.7 redis*
redis

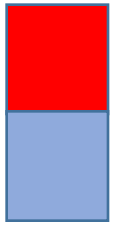
①停止相应的任务
②更新停止任务的信息
③为更新后的任务启动新容器
④若容器启动成功，进行下一次更新
⑤若容器启动失败，中止更新

SWARM功能模块


docker service create
Manager Node
API
Orchestrator
Allocator
Scheduler
Dispatcher
RAFT
Accepts command from client and creates service object
Reconciliation loop for service objects and creates tasks
Allocates IP addresses to tasks
Assigns nodes to tasks
Checks in on workers
Global
Replicated
Update
Task_Reaper
Restart
Worker Node
Worker
Executor
Connects to dispatcher to check on assigned tasks
Executes the tasks assigned to worker node

SWARM MODE



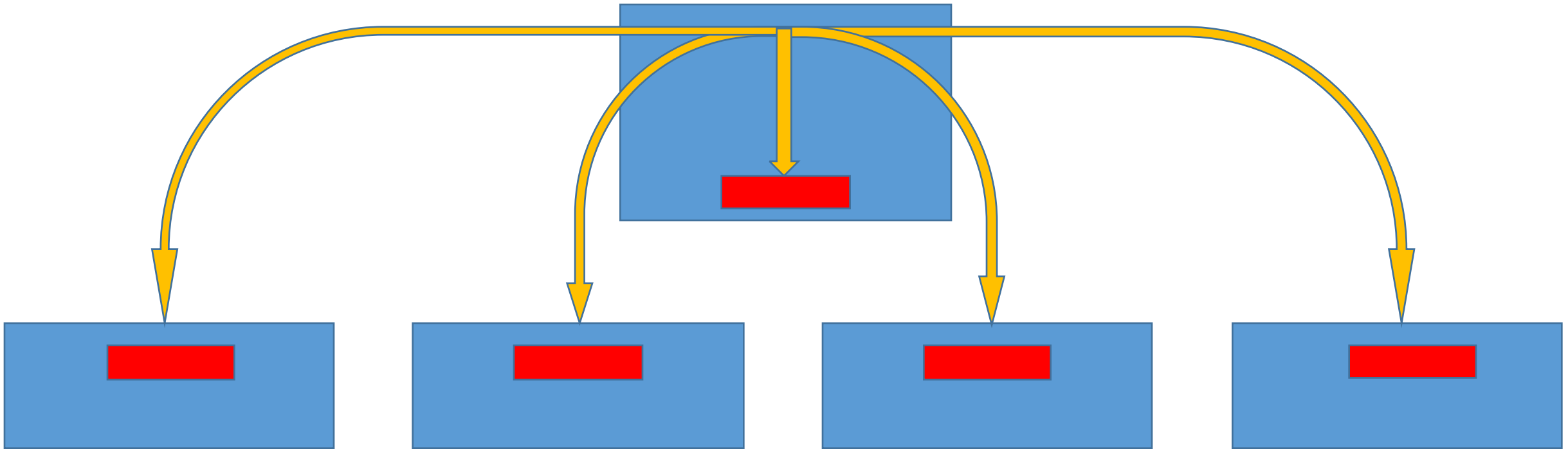


$ docker swarm init
$ docker swarm join <manager ip>:2377

docker service create --name allen --replicas=5 -p 30001:80 alpine sl

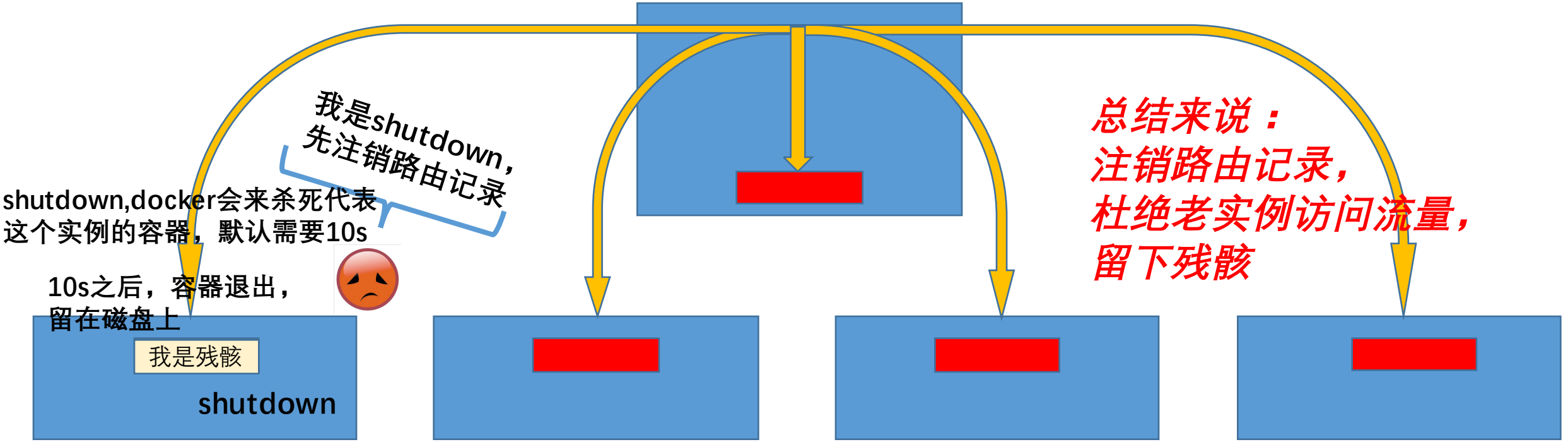
1. 创建指定数量的服务实例，这里是5

2. 支撑网络功能，每个服务实例完成服务注册，确保可以实现依据LVS完成的负载均衡



用户需要在现有系统中，使用新发布的alpine:v2.0版本来滚动升级线上的应用

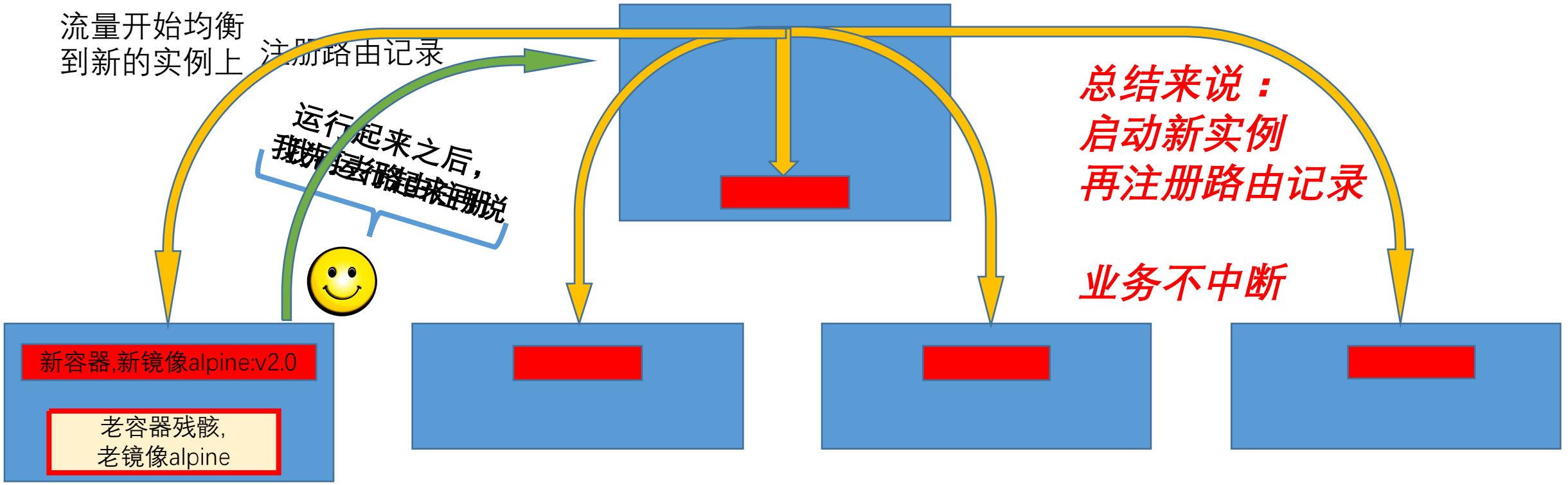
docker service update --update-delay=20s --update-parallelism=1 --image alpine:v2.0 allen



第一步：
随机找到一个运行中的实例（原因是更新并发数update-parallelism为1，所以只找一个），
对其的状态设置为shutdown

用户需要在现有系统中，使用新发布的alpine:v2.0版本来滚动升级线上的应用

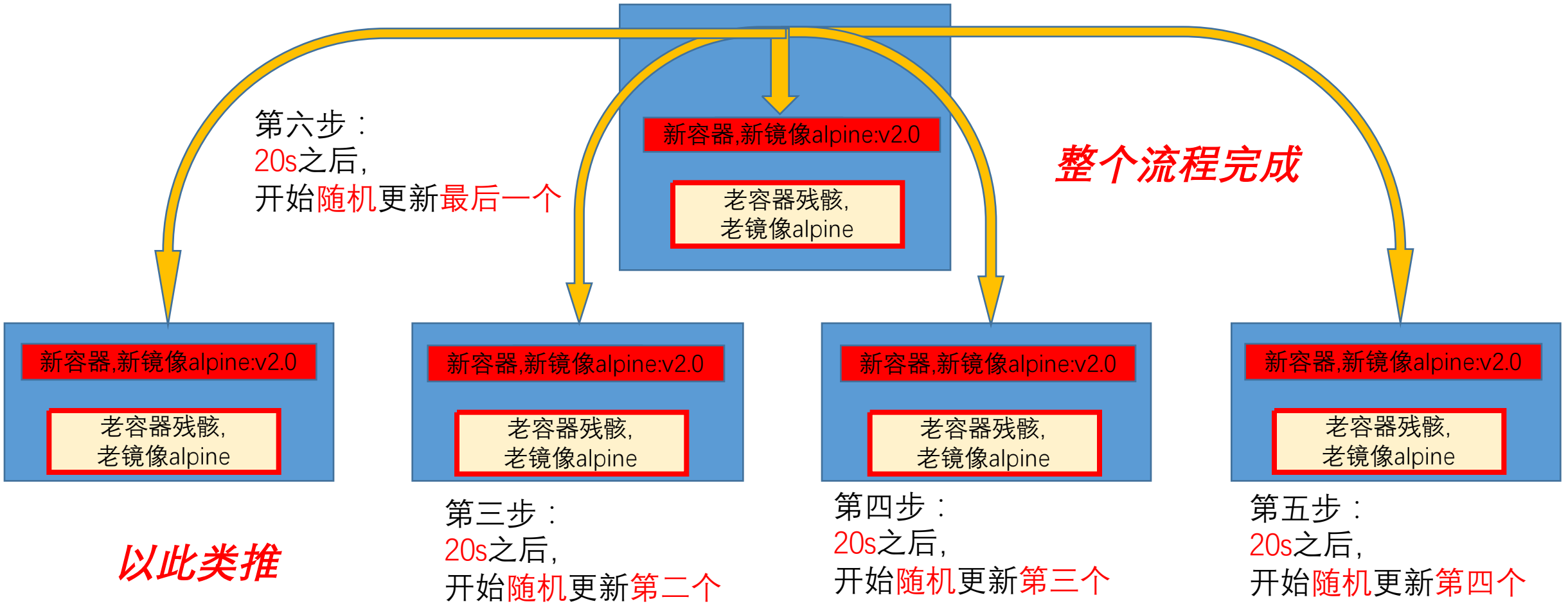
docker service update --update-delay=20s --update-parallelism=1 --image alpine:v2.0 allen



第二步：
在shutdown的实例基础上，
创建一个新的task

用户需要在现有系统中，使用新发布的alpine:v2.0版本来滚动升级线上的应用

docker service update --update-delay=20s --update-parallelism=1 --image alpine:v2.0 allen



local profile (bash) ⌘1 | root@ubuntu: ~ (ssh) ⌘2 | root@ubuntu: ~ (... ⌘3

root@ubuntu: ~

```
root@ubuntu:~# docker swarm init
Swarm initialized: current node (xp3dw5s7pnl8sremprtbvgqo4) is now a manag
er.

To add a worker to this swarm, run the following command:

    docker swarm join \
    --token SWMTKN-1-1zqgd7abwqdd0fxs0s5oks8gro004040ogyzu5i8gnua3fwgwy-d4
swsd1rcfeiyc17dpad3um3q \
    192.168.0.11:2377

To add a manager to this swarm, run 'docker swarm join-token manager' and
follow the instructions.

root@ubuntu:~#
```

root@ubuntu: ~ (ssh)

```
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS               NAMES
```

Q&A