
Docker Networking and Service Discovery

by Michael Hausenblas

Beijing • Boston • Farnham • Sebastopol • Tokyo

O'REILLY®

Table of Contents

Preface.....	v
1. Motivation.....	9
Go Cattle!	10
The Docker Networking and Service Discovery Stack	10
2. Containers and Networking.....	13
Docker Networking 101	15
Docker Multi-Host Networking	20
3. Containers and Service Discovery.....	25
The Challenge	25
Technologies	27
Load balancing	32
Wrapping It Up	33
4. Containers and Orchestration.....	35
What Does A Scheduler Actually Do?	36
Vanilla Docker and Docker Swarm	37
Kubernetes	40
Apache Mesos	42
Hashicorp Nomad	44
Which One Should I Use?	46
5. And now?.....	51
References	51
Acknowledgements	52

About the Author	53
Index.....	55

Index

C

Cassandra, 42
Chronos, 42

D

DNS
 caching, 32
DNS-based service discovery, 30
Docker
 Multi-host networking, 3
 Security, 20
 Single-host networking, 3
Docker Swarm, 38

G

Google
 Borg, 40
 Omega, 45

I

IP address allocation, 19
IPAM, 21
IPVLAN, 20

L

Load balancing, 32
 Bamboo, 33

HAProxy, 32
Kubernetes, 33
Marathon, 33
Marathon servicerouter, 33
moxy, 33
traefik, 33
vamp-router, 33
vulcand, 33

M

Marathon, 42

N

Network security, 19
Networking, 15

P

Port allocation, 19

S

Service discovery, 25
 Lookup, 26
 Overview, 33
 Registration, 26
 Scalability, 26
Spark, 42