



Intellyx Briefing

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Diamanti: Redefining IT in a Developer-driven World

Trends

- Businesses need to continually introduce new digital services
- Innovation cycles have to shorten
- Application developers are adopting and driving disruptive technologies for faster time-to-market



kubernetes

Challenges

- Containerized applications are disrupting legacy data centers
- IT needs help moving containerized applications into production

Company

- Founded in 2013 by infrastructure experts from Cisco, VMware, Veritas
- Headquarters: San Jose, CA
- 42 employees
- Customers: Global 2000 Enterprises in Finance, Media, and Energy sectors



Enterprises Are Going ‘Cloud-Native’

29 BILLION

Docker downloads to date



More than 50%

of new workloads will be deployed in containers in 2018.

Gartner

>70% of enterprises

plan to deploy containers in production in 2018*



31% are modernizing

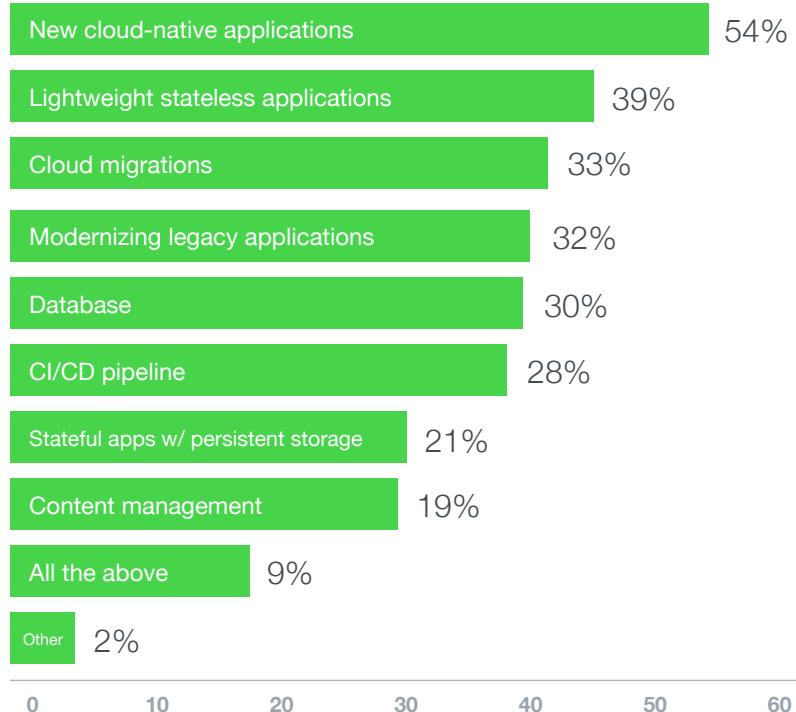
legacy apps with containers*



*Diamanti 2018 end-user survey

DIAMANTI SURVEY

How are containers being used?



Container Market Opportunities are Expanding Rapidly

\$1.6 BILLION

Global market value in 2018



30% CAGR

through 2022



43% of the channel

is already working with Docker today*



31% of the channel

is already working with Kubernetes*



Resellers view containers as the biggest channel opportunity since virtual machines*

"New Cloud-Native Applications" is the most common use case that the channel sees for containers
(46%)*

*Diamanti 2018 reseller survey

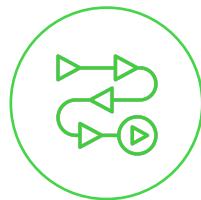
Major Challenges With Container Adoption



Day 1 (Hard)

Start to finish in minutes

- › Open-source, no vendor lock-in
- › Plug-n-play network, storage
- › Software-defined container policies



Day 2 (Harder)

Run containers in production

- › Guaranteed real-time SLAs
- › Infrastructure services
- › 24x7 full stack support



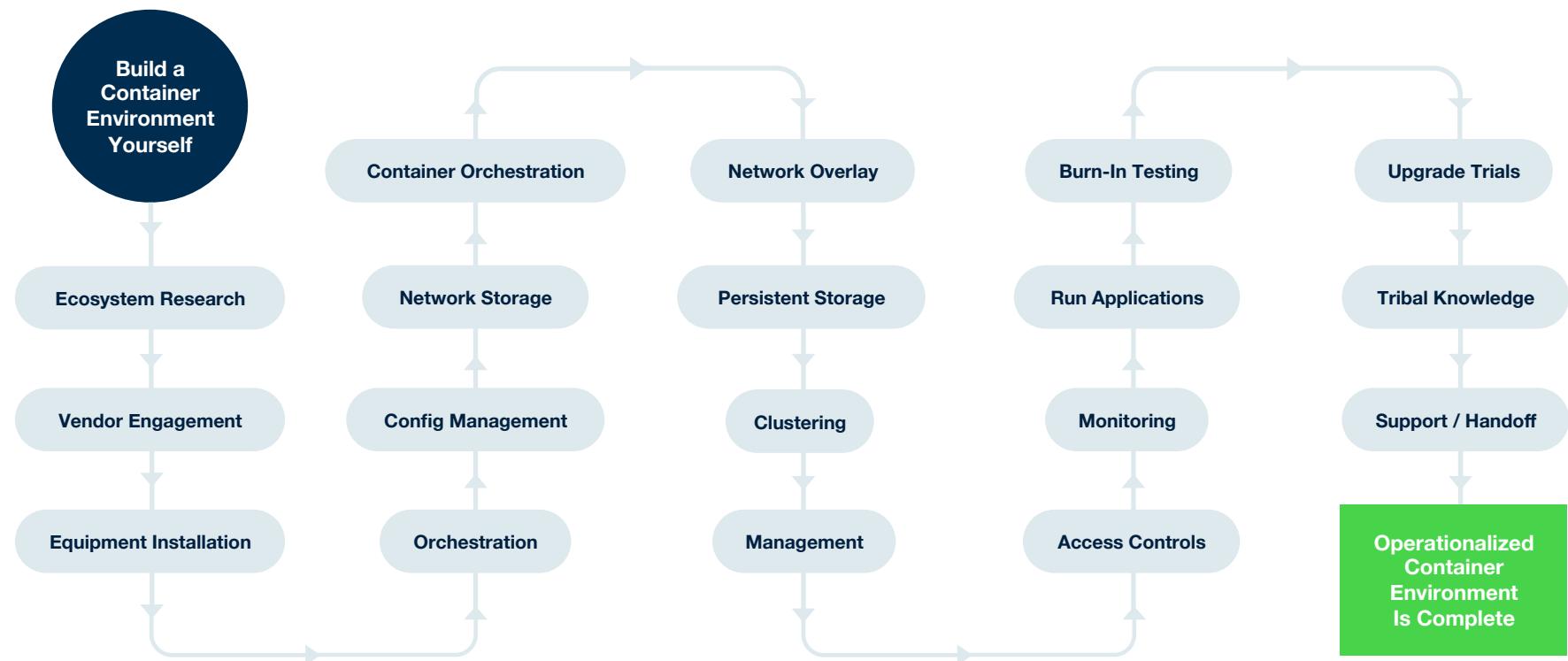
Day 3 (Hardest)

Expand with multi-cloud

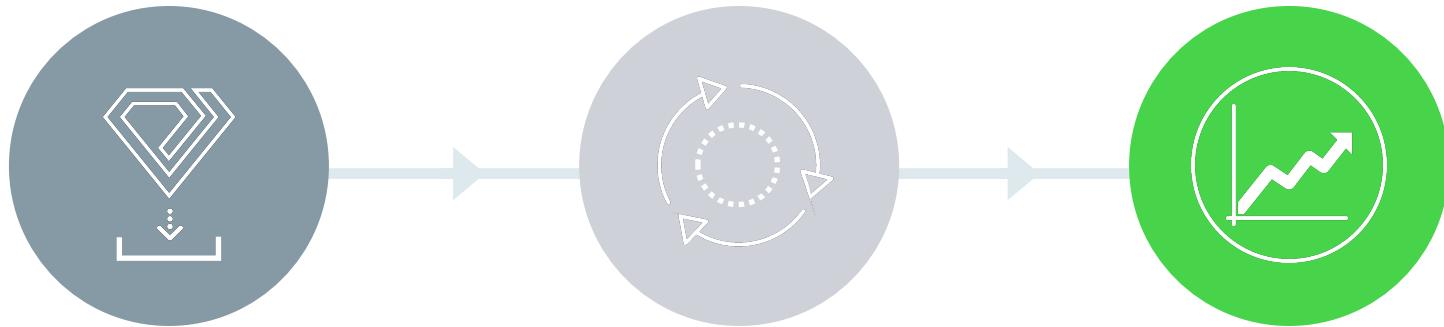
- › Quick movement of containers across cloud environments
- › Seamless scalability
- › Policy-driven

**Diamanti Eliminates Virtualization Overhead
and Enhances Simplicity, Efficiency, and Scaling**

Do-It-Yourself Approach to Container Infrastructure



Deploy Containers in 15 Minutes With Diamanti



Install Diamanti

Rack and stack, then load IPs and Docker images

```
$ dctl cluster create my-cluster [args]  
$ dctl network create my-network [args]  
$ dctl volume create my-volume [args]  
$ kubectl create -f my-deployment.yaml
```

Run Applications

Run your Docker images and K8s pod templates

Drive Business Forward

You and your customers can now focus on applications and business needs

The Diamanti Bare-Metal Container Platform



Bare-metal hardware



Low-latency NVME
flash storage



Plug-and-play
networking



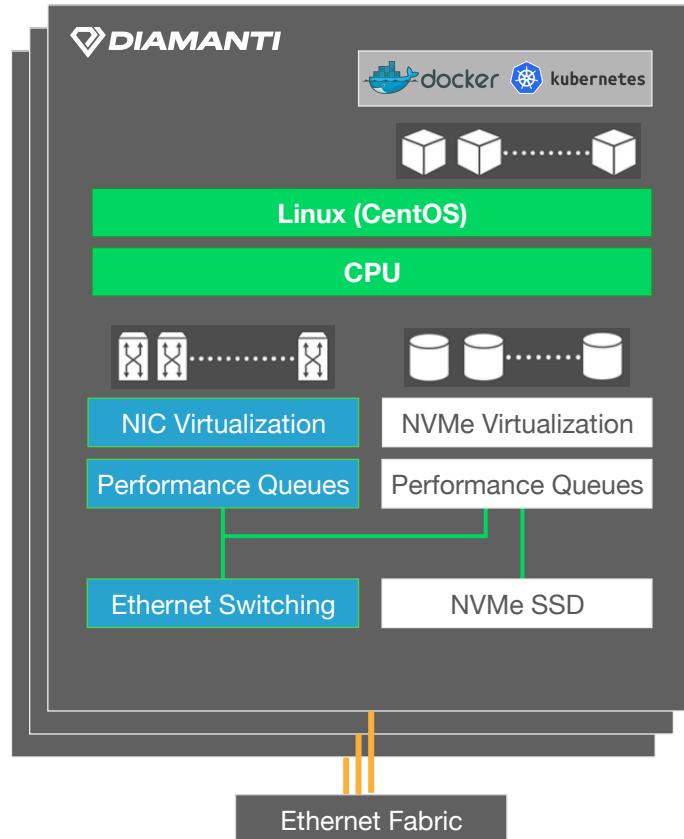
Open-source Docker and
Kubernetes



Full-stack support



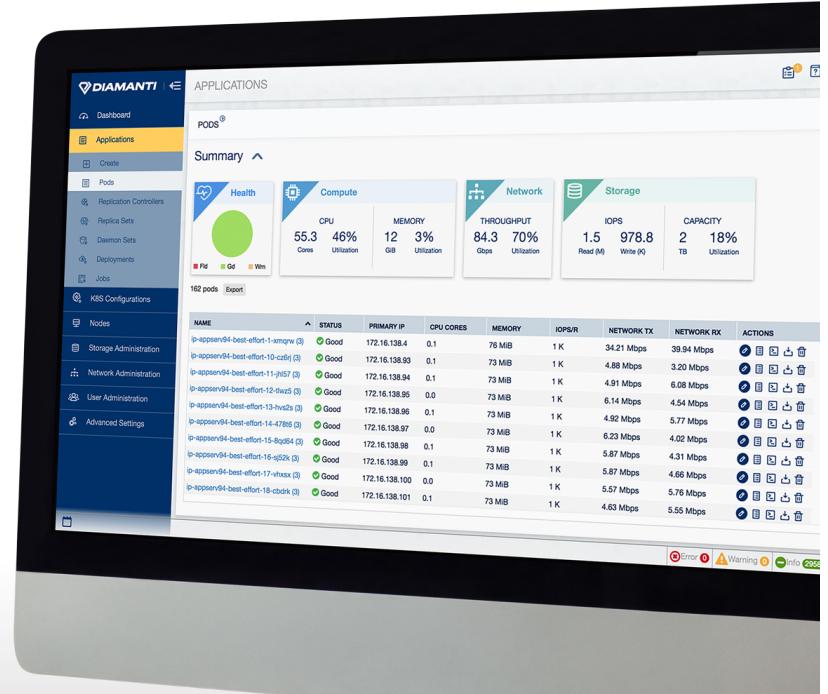
Under The Hood: Diamanti Bare-Metal Platform



- Unmodified Docker 1.12 and Kubernetes 1.8 (certified) pre-installed on top of CentOS
- Intel x86 architecture
- Custom network and storage controllers
 - Dedicated processors offload overhead from CPU
 - SR-IOV / CNI networking for overlay-less L2 network interfaces
 - High availability persistent storage via NVMe
 - Enables granular control of throughput and high utilization
- Hypervisor

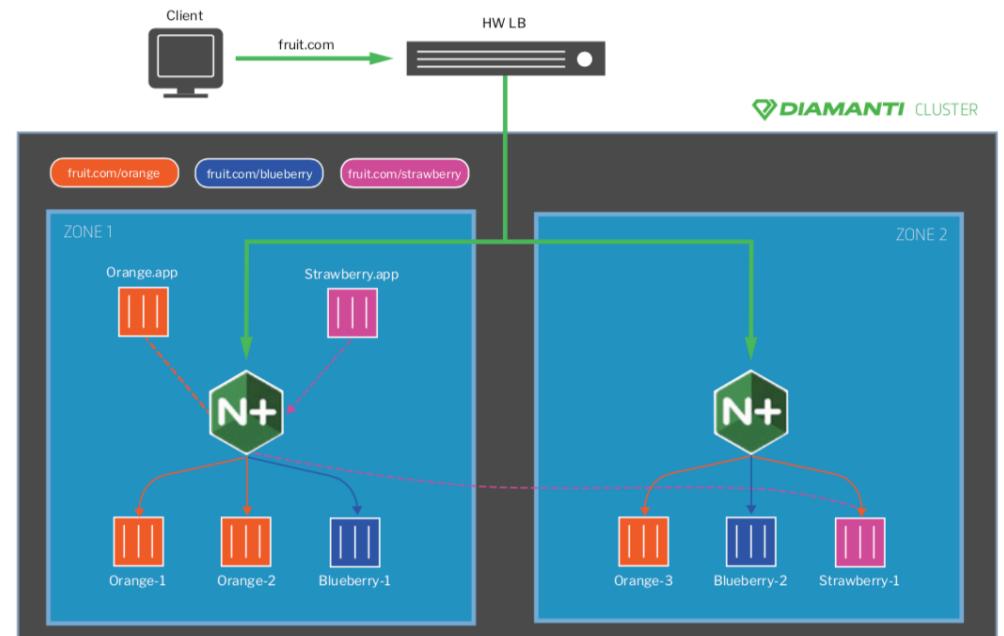
Diamanti OS: End-to-End Control of Your Infrastructure

- Streamline container deployments on Kubernetes
- Define container-granular policies and monitor performance across the platform
- Fine-tune resource consumption across application containers with QoS
- Operate securely through authentication and role-based access controls (RBAC)



Diamanti and NGINX: Advanced Load Balancing and HA for K8S

- › Customer roadblocks to mitigating downtime:
 - › Container network configuration
 - › QoS
 - › Infrastructure HA
- › Diamanti enables rapid Kubernetes infrastructure deployment with:
 - › Plug-n-play networking
 - › Multi-zone clustering
 - › Container-granular QoS
- › NGINX Plus Ingress controller deploys on Diamanti K8S cluster to deliver load balancing that conforms to microservices-based applications



Diamanti Benefits



Speed

- 15-minute container infrastructure deployment
- 2,400,000+ IOPS
- 100µs latency across cluster



Simplicity

- Easy to buy
- Easy to deploy
- Easy to manage
- Easy to scale



Efficiency

- 50% less infrastructure
- 70% lower TCO
- Integrates with modern workflows



Control

- Container-granular policies and monitoring
- Predictable performance
- Guaranteed SLAs
- No vendor lock-in

Customer Success: Fortune 50 Bank

Profile:

- Large global bank serving 16M Canadian, American, and international customers
- 81,000 employees, worldwide

Challenge:

- Migration away from Oracle for cost, agility
- Paid \$6K per CPU
- 3 weeks to deploy new clusters

Initial approach:

- DIY infrastructure to support containerized DBaaS
- \$1.2M HW/SW investment
- 48 nodes & 4 dedicated FTEs

Zero Downtime

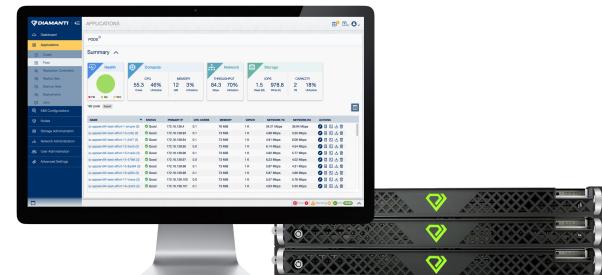
16x
Footprint reduction

23x
Faster deployment

\$14M
TCO savings over 3 years

Solution:

- Installed and configured 3-node Diamanti D10 cluster
- Deployed PostgreSQL, MongoDB, SQL Server and MariaDB on Diamanti in minutes, vs. weeks
- Saved \$1.2M in Oracle license costs
- Added D10 nodes dynamically with zero service disruption



 DIAMANTI

Case Study: Containers for Multi-cloud

Profile:

- › Fortune 50 energy institution
- › Internal legacy energy grid mapping app EOL
- › Moving to GridOS (containerized)
- › Distributed energy grid management and analytics
- › Container infrastructure challenge (architect, support, operations)
- › Gross geography (40 miles)
- › Multi-cloud

Challenge:

- › Tried several alternatives:



APPRENDA



openstack



SUSE CaaS Platform



Pivotal Cloud Foundry



3 Days
Start to finish

10x
Footprint reduction

9x
Faster

\$6-9M
TCO savings over 5 years

Solution:

- › Solution up and running 3 days
- › Purpose-built
- › Cross geography integration
- › \$6-9M+ TCO savings over 5 years
- › Removal of IBM Websphere license
- › 9x faster than legacy
- › > 50% reduction





Thank you!



Appendix

Diamanti Bare-Metal Container Stack

