

Next-Gen Protection Platform for Next-Gen Applications



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Webinar Abstract

As many enterprises start to bring applications designed for containerized platforms into production, they are faced with the challenge of meeting traditional resilience requirements for these new apps. Regardless of the platform choices, many organizations still require production applications and their data to meet specific service levels for data protection and recovery, disaster recovery, and long-term retention. While these requirements stem from external industry regulations, often the business imposes more stringent requirements upon itself. This is indeed the same driving force behind the rapid adoption of containers, Kubernetes and DevOps by businesses.

Zerto has been a leader in the VM protection space for over 10 years and when we ventured into building our next generation protection platform for next-gen app that utilize containers and Kubernetes, we quickly learned several new lessons. Zerto also engaged Enterprise Strategy Group to conduct a survey across enterprises to gather industry direction and validate requirements.

In this session, we will share some of the key survey results and the design considerations that have shaped the architecture pattern for a next-gen protection platform. We will bust the myth that next-gen applications relying on Kubernetes and container platforms do not need protection, and in turn illustrate what next-gen apps require.

About the Speaker



20 years experience in data protection and disaster recovery



Certified on GCP, AWS, and Azure



Climbed 132,674 ft during quarantine

About Zerto



10+ years
experience



8000+ customer
environments



Single platform
for all resilience



Survey Objectives with Enterprise Strategy Group (ESG)



Market Adoption



Understand challenges



Buyer Persona



Gauge feature preferences



ESG Survey Details

Quantitative Web-Based Survey

- 334 Respondents
- North America (US & Canada)
- Survey Dates: 6/12/2020 – 6/24/2020

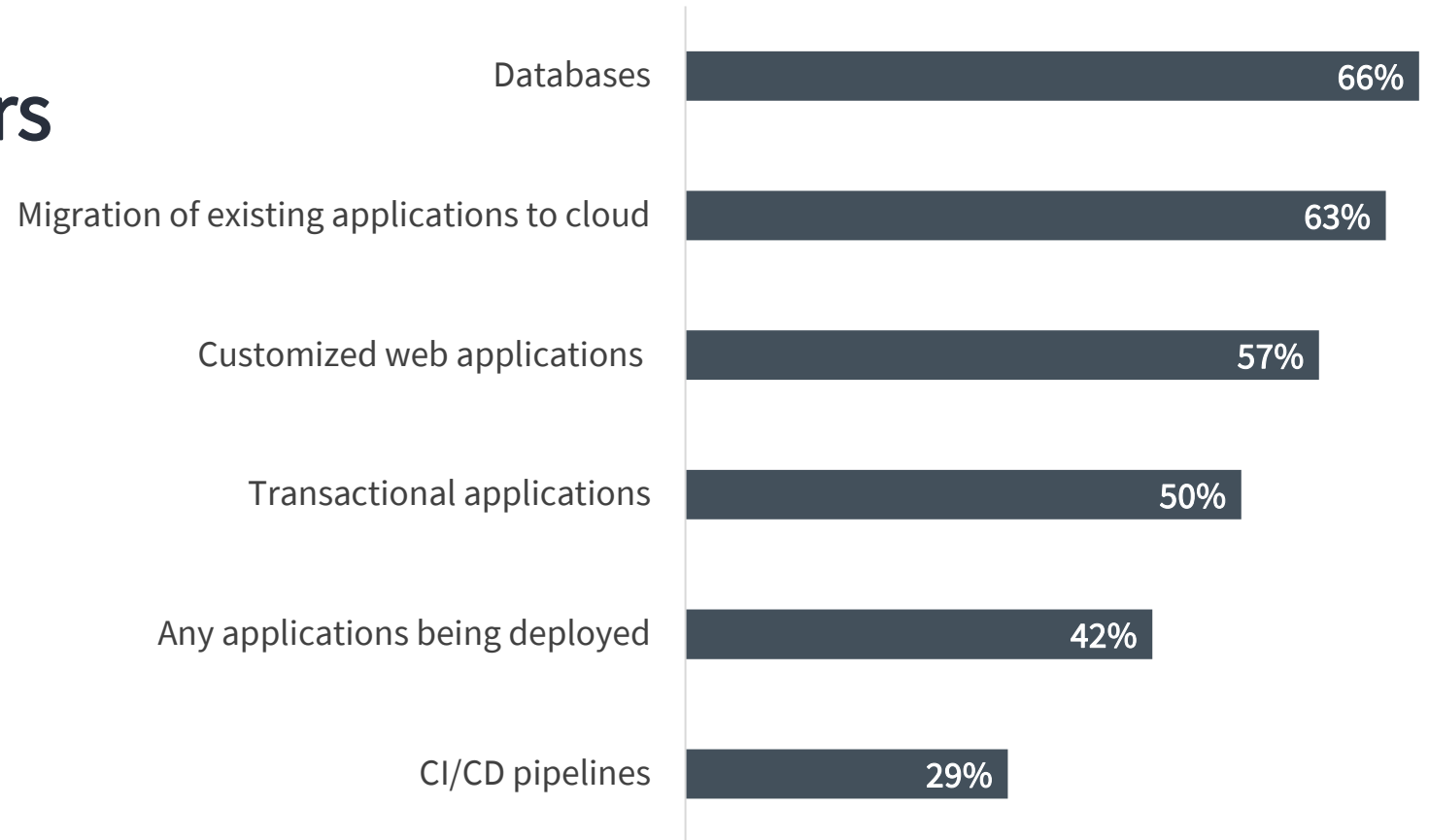
Survey Respondents

- IT operations professionals responsible for application environment and strategy
- Multiple Sizes
 - 32% midmarket
 - 68% enterprise
- All industry verticals

Survey: Workloads in containers

Question text:

What business applications/workloads are supported by your organization's container runtime environment? (Percent of respondents, N=334, multiple responses accepted)



Key Design Element: Stateful with Stateless



Evolving persistence inside containers



Avoid lock-in with VMs, PaaS, and SaaS



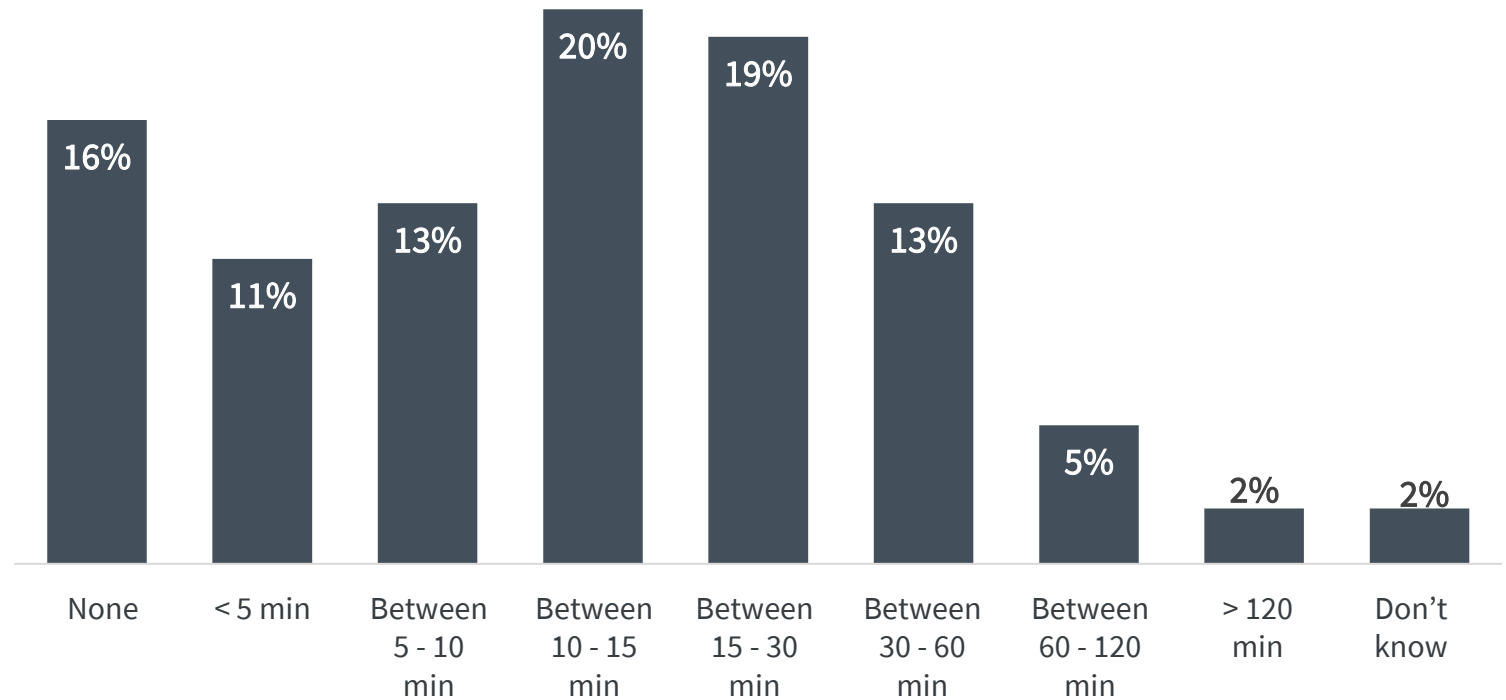
Orchestrate both stateful and stateless components

Survey: RPO Tolerance

Question text:

Considering “lost data” (or RPO) as data that must be re-created, how much data associated with container-based applications can be lost without significant impact to the business? (Percent of respondents, N=334)

Estimated mean = 22 minutes



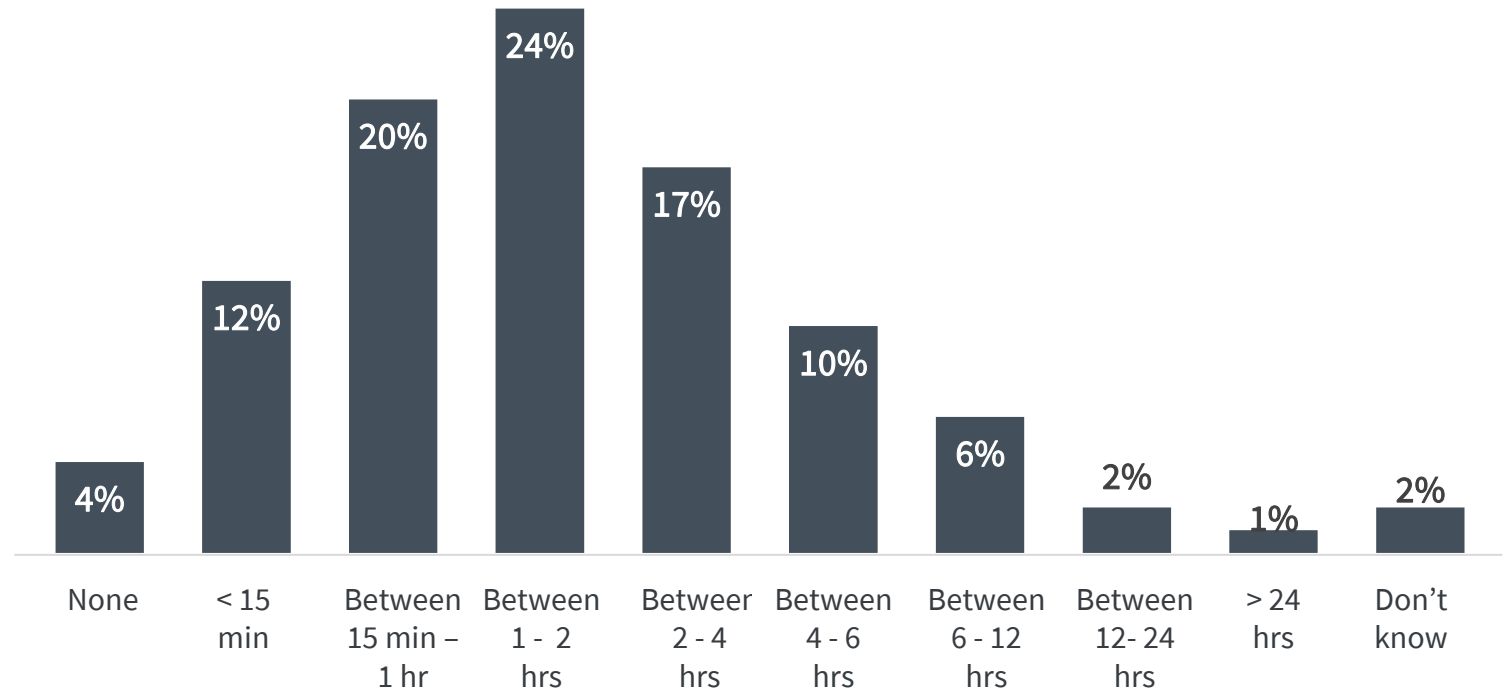
X = Data Loss

Survey: RTO Tolerance

Question text:

What is the amount of downtime your organization can tolerate from servers running container-based applications/workloads before making the decision to “failover/recover” to a BC/DR secondary site or service provider? (Percent of respondents, N=334)

Estimated mean = 2.87 hours



X = Downtime



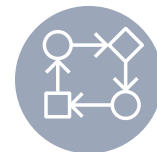
Key Design Element: Continuous Protection



Continuous Replication for PVs



Low RPO Checkpoints & Tagging

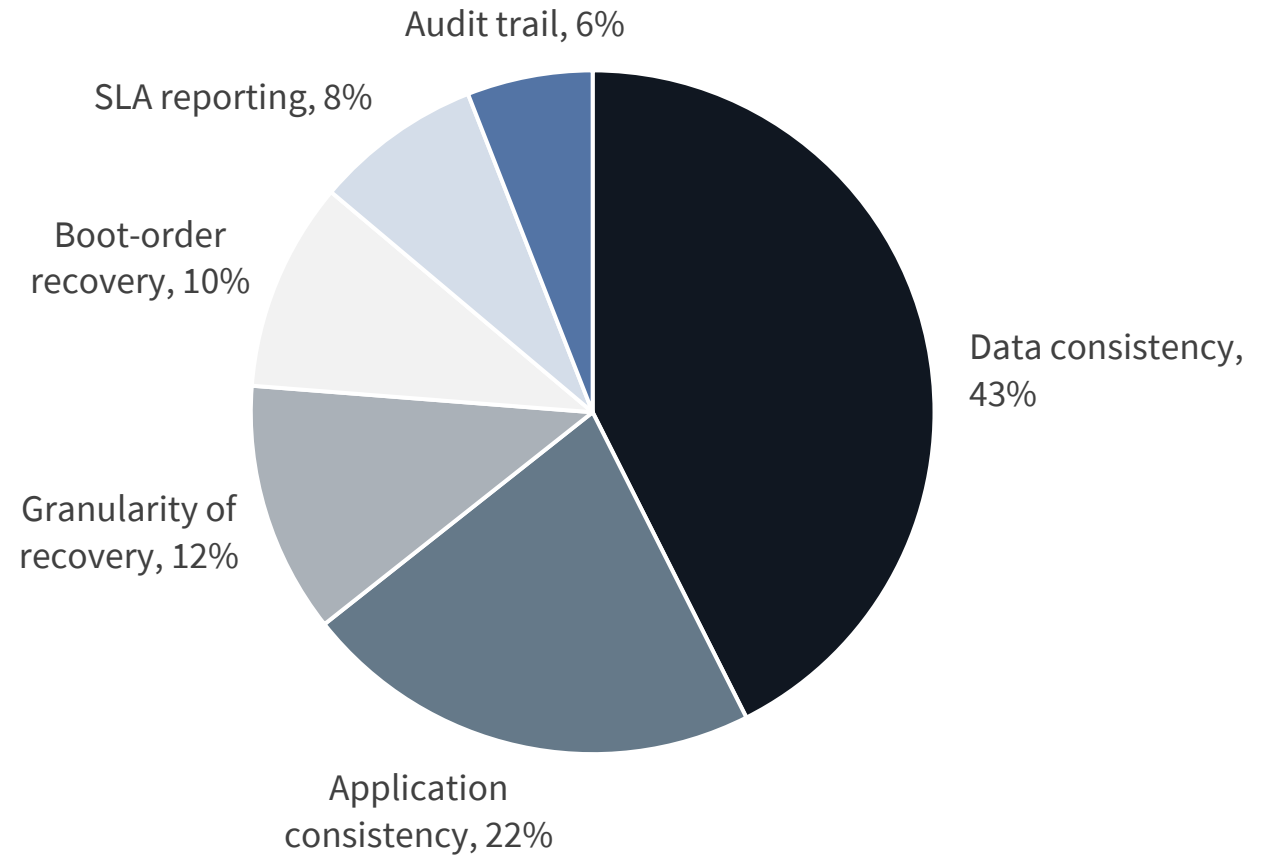


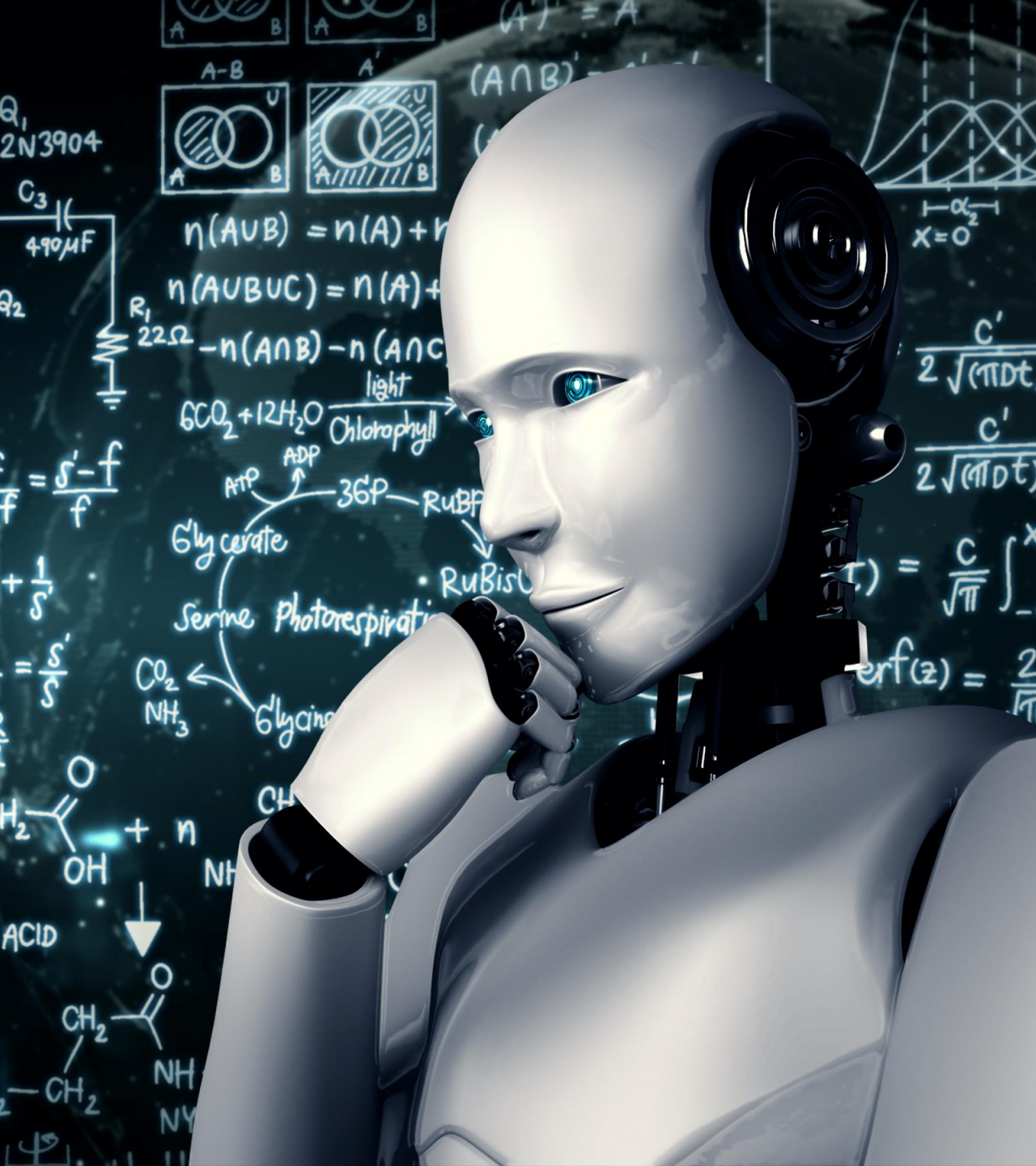
Ordered Recovery of Applications

Survey: Multi-Container App Recovery

Question text:

When it comes to the recovery of multi-container business applications, what capability is most critical to your organization? (Percent of respondents, N=334)





Key Design Element: Environment Awareness



Storage-agnostic Volume
Consistency



Entire K8s App

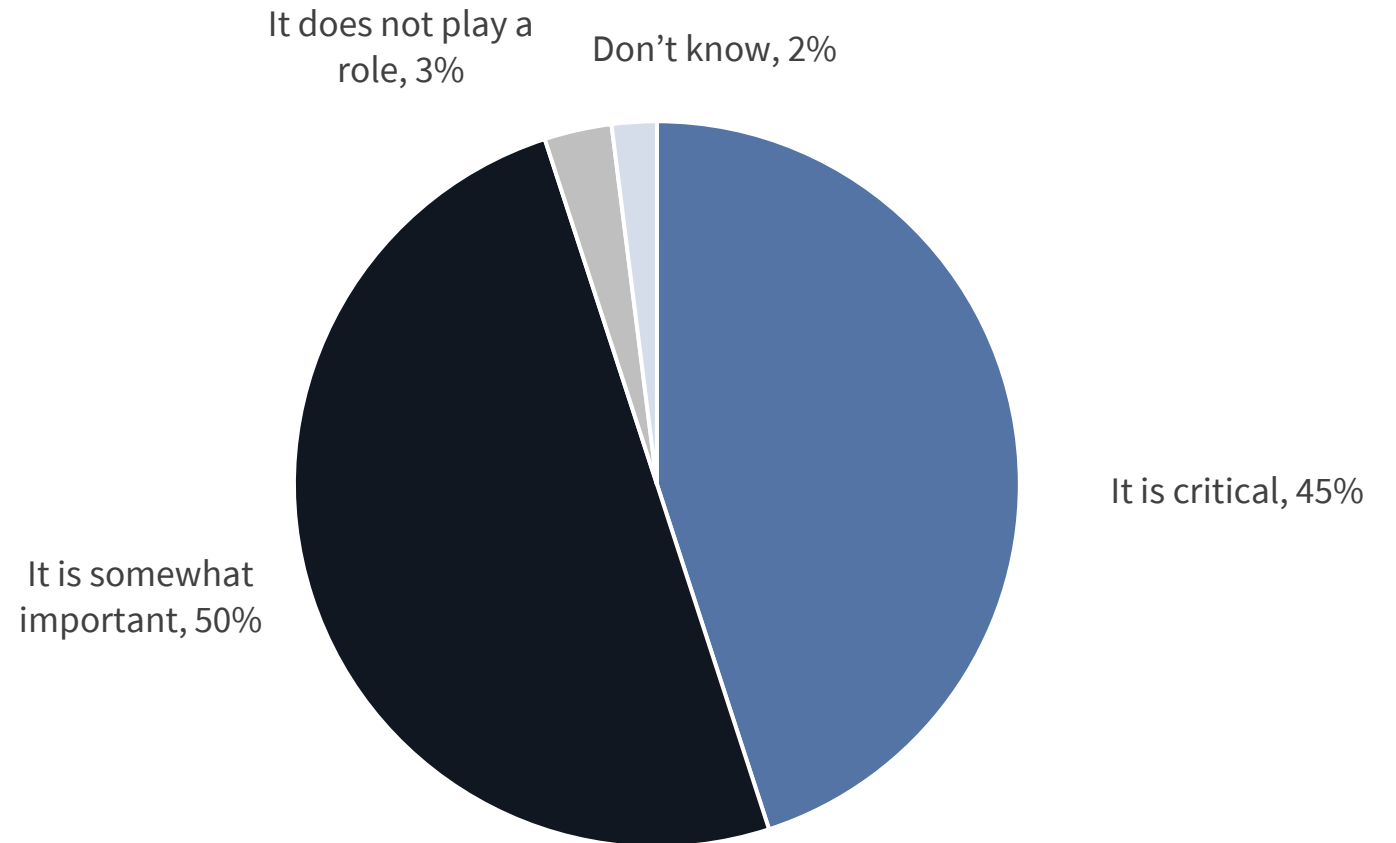


Virtual Protection Groups

Survey: Orchestration of Backup and Recovery

Question text:

What is the role of orchestration in
container backup and recovery?
(Percent of respondents, N=334)



```
Terminal
apiVersion: apps/v1
kind: Deployment
metadata:
  name: debian-dep
  labels:
    app: my-debian
  annotations:
    vpg: test_group
spec:
  replicas: 1
  selector:
    matchLabels:
      app: my-debian
  template:
    metadata:
      labels:
        app: my-debian
    spec:
      containers:
        - name: debian
          image: debian:stable
          command: ["/usr/bin/tail","-f","/dev/null"]
          volumeMounts:
            - mountPath: "/var/pvpath"
              name: external
      volumes:
        - name: external
          persistentVolumeClaim:
            claimName: my-vol-claim
```

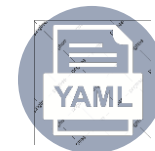
Key Design Element: APIs and Automation



Data Protection as Code



K8s API Extension for data protection

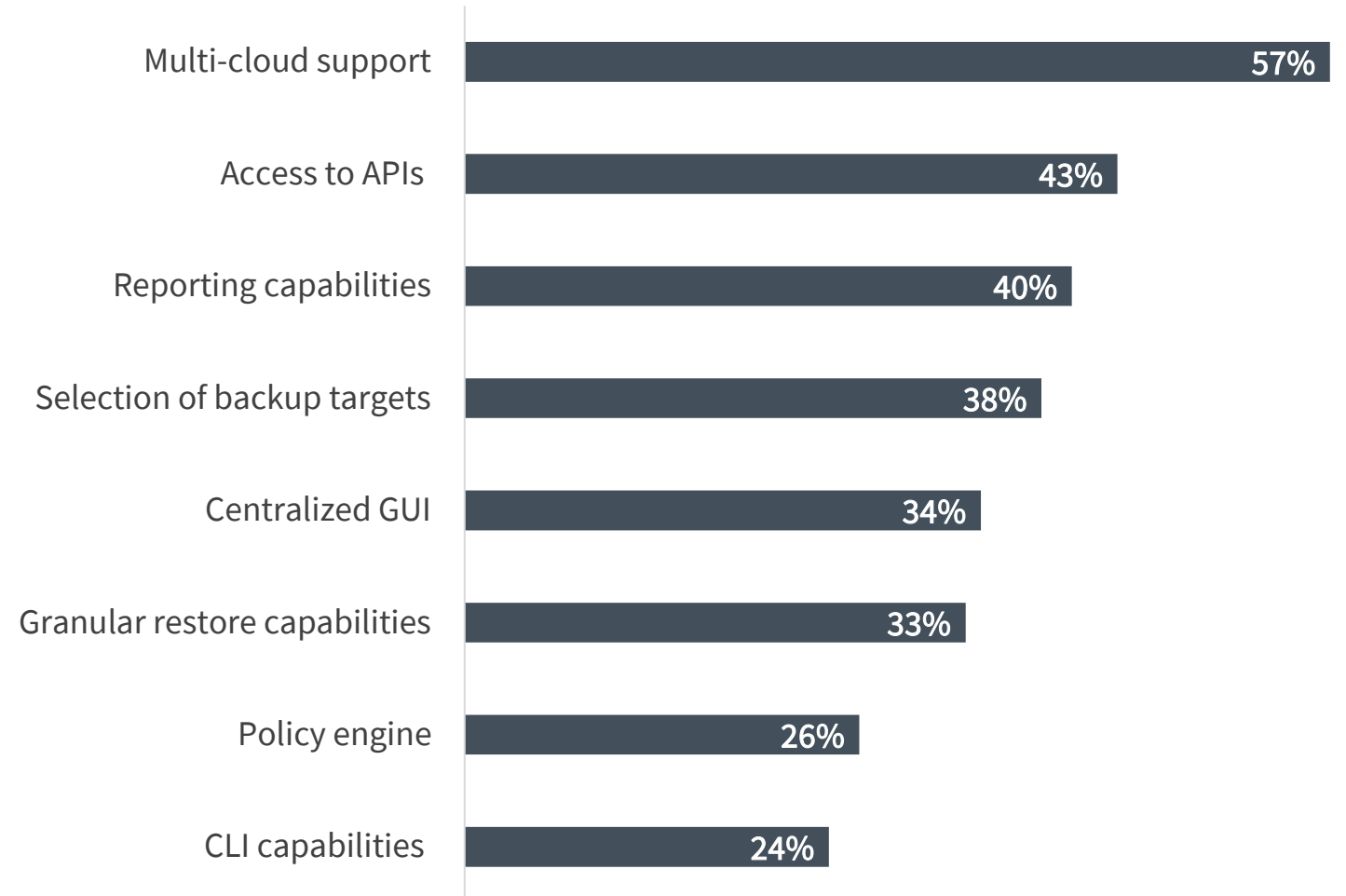


Declarative Configuration

Survey: Features Importance

Question text:

What features are most important when it comes to backing up your organization's container environments? (Percent of respondents, N=334, multiple responses accepted)





Key Design Element: Going Native



Design as a K8s application

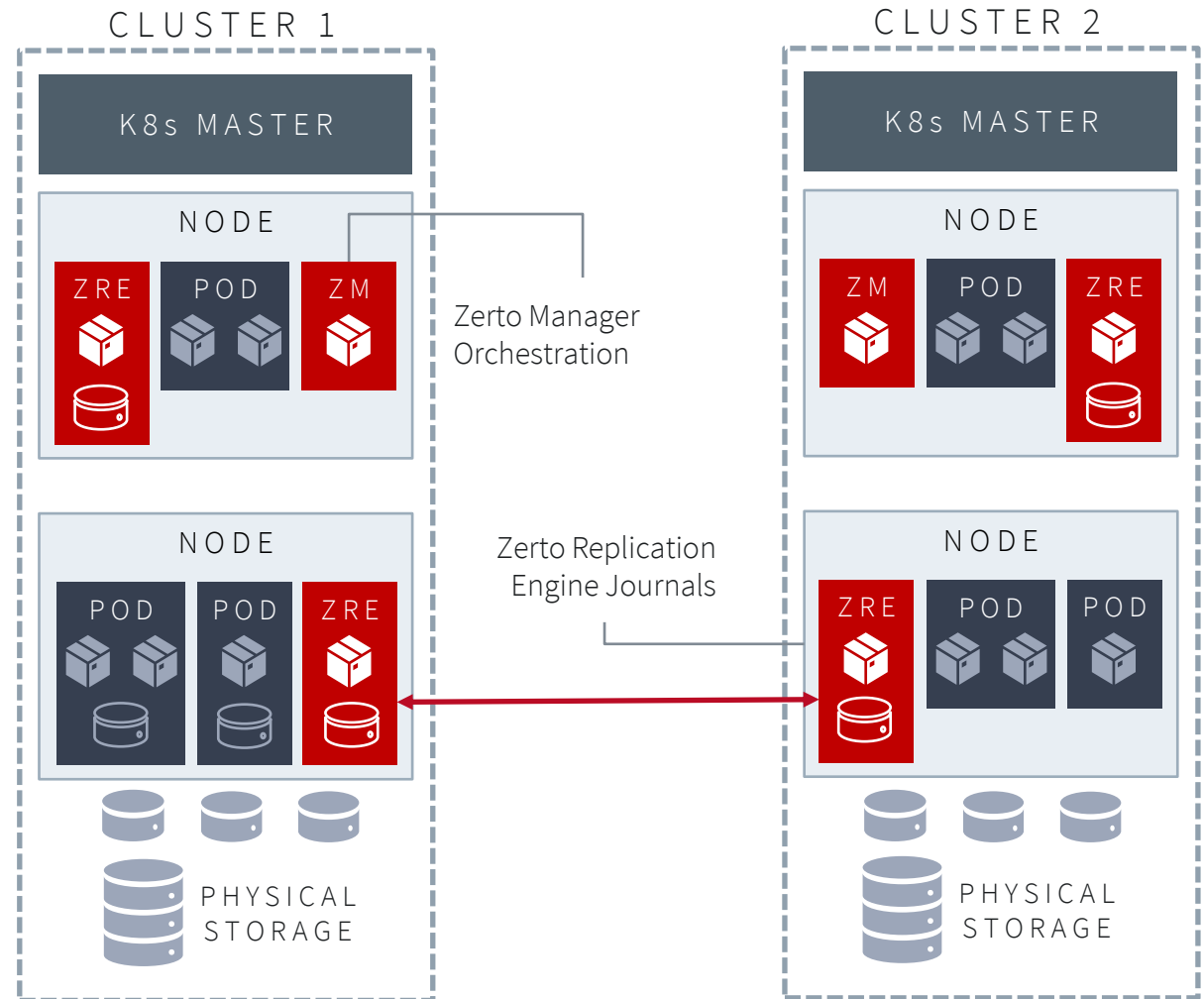


Platform Independence



Scale with the environment

Key Design Element: Hybrid and Multi-Cloud Architecture



Key Design Element: Deep Analytics

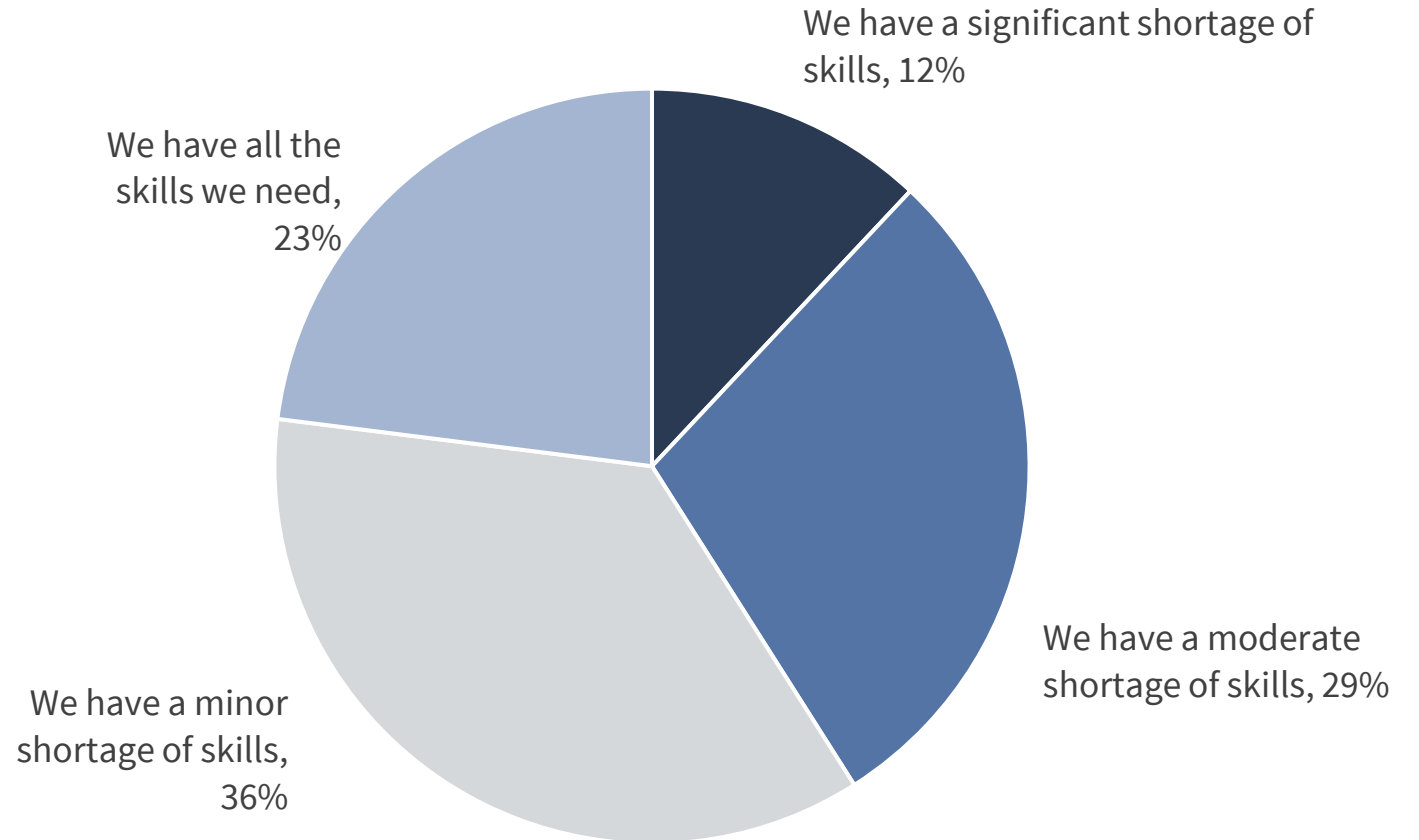
The screenshot displays the Zerto Analytics interface for 'Cloud Native' protection. The top navigation bar includes the Zerto logo, 'Cloud Native' title, a 'Filter by Zorg' dropdown, a 'What's New' button, and a user profile for 'yonatan.shilansky@zerto.com'. Below the navigation, a summary row shows key metrics: Protection Rate at 70%, Total Stateful Sets at 56, Total Deployments at 63, Total Config Maps at 63, Active Alerts at 27, and Running Tasks at 38. A date range filter is set to 'May 14 2019 - May 15 2019'. The main content area features a table of Virtual Protection Groups (VPGs) with columns for Status, VPG Name, Protection Status, State, Protected Site, Recovery Site, Stateful Sets, Deployments, Services, Config Maps, and Journal History. A search bar and 'Group by: None' dropdown are positioned above the table. A settings menu is open on the right, listing various columns that can be toggled on or off, such as Status, VPG name, Protection Status, State, Protected Site, Recovery Site, Stateful Sets, Deployments, Services, Config Maps, Journal History, Actual RPO, Namespace, Pods, and Volumes. The table lists several VPGs, including L11_SD17_R06 (Meeting SLA), L33_SD06_R17 (Not Meeting SLA, Disconnected from peer), L04_SD22_R02 (Meeting SLA), L34_SD38_R17 (Not Meeting SLA, Site disconnection), L36_SD16_R18 (Meeting SLA, Zerto Virtual Manager paused protection), L06_SD36_R03 (Meeting SLA), 158toGC (Meeting SLA), L40_SD21_R20 (Not Meeting SLA, Error), G -> G (Meeting SLA), and VPG91 (RPO Not Meeting SLA, Recovery is possible).

Status	VPG Name	Protection Status	State	Protected Site	Recovery Site	Stateful Sets	Deployments	Services	Config Maps	Journal History
✓	L11_SD17_R06	Meeting SLA		DGUREVICH_...	HV_176.30_S...	1	1	2	0	Actual: 2h 1h 6h 12h 1d 2d 3d 5d
✓	Self	Meeting SLA		DGUREVICH_...	HV_176.30_S...	2	2	1	0	Actual: 2w 1h 6h 12h 1d 2d 3d 5d
✗	L33_SD06_R17	Not Meeting SLA	Disconnected from peer no recovery points	HV_160.30_S...	Longrun_UTM2	0	0	4	2	Actual: 2h 1h 6h 12h 1d 2d 3d 5d
✓	L04_SD22_R02	Meeting SLA		HV_160.30_S...	Longrun_UTM2	3	1	1	1	Actual: 2w 1h 6h 12h 1d 2d 3d 5d
✗	L34_SD38_R17	Not Meeting SLA	Site disconnection	DGUREVICH_...	HV_176.30_S...	1	1	2	1	Actual: 2h 1h 6h 12h 1d 2d 3d 5d
✓	L36_SD16_R18	Meeting SLA	Zerto Virtual Manager paused protection	DGUREVICH_...	HV_176.30_S...	1	2	2	2	Actual: 2w 1h 6h 12h 1d 2d 3d 5d
✓	L06_SD36_R03	Meeting SLA		HV_160.30_S...	Longrun_UTM2	0	2	3	0	Actual: 2h 1h 6h 12h 1d 2d 3d 5d
✓	158toGC	Meeting SLA		VC_Longrun_...	Longrun_UTM3	2	0	3	1	Actual: 2w 1h 6h 12h 1d 2d 3d 5d
✗	L40_SD21_R20	Not Meeting SLA	Error	DGUREVICH_...	HV_176.30_S...	2	0	1	1	Actual: 2w 1h 6h 12h 1d 2d 3d 5d 1w 2w 3w 7 Sec
✓	G -> G	Meeting SLA		DGUREVICH_...	HV_176.30_S...	3	1	2	1	Actual: 2h 1h 6h 12h 1d 2d 3d 5d 1w 2w 3w 7 Sec
✗	VPG91	RPO Not Meeting SLA	Recovery is possible	VC_Longrun_...	Longrun_UTM3	1	1	1	0	Actual: 2w 1h 6h 12h 1d 2d 3d 5d 1w 2w 3w 7 Sec

Survey: Skillset

Question text:

How would you characterize your organization's available level of skills when it comes to container backup and recovery requirements? (Percent of respondents, N=334)



Key Design Element: Resources & Education



Online materials and POV



myZerto Hands-on Lab



Technical Preview Download

Thank you