BEYOND PHYSICAL FITNESS

Melvin Hillsman

Open Source Community Manager

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› **mrhillsman**

  » Twitter, LinkedIn, IRC, Gmail, YouTube, etc

› **"Intellectual growth should commence at birth and cease only at death." – Albert Einstein**

  » Exploring is great, Experiencing is better

› **I like sports…a lot…watching the competing**

  » I do not play any today but did many when I was younger

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Last login: Mon Nov 1 17:46:36 on console
~ ⟫⟫ whoami
mrhillsman
~ ⟫⟫

› **Huawei**

  » Open Source Community Manager

› **OpenStack**

  » User Committee Chair

› **OpenLab**

  » Governance Member

› and other things…like father, husband, etc

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"If **you** don't do what's *best for your body*, you're the one who comes up **on the short end**."

- JULIUS ERVING

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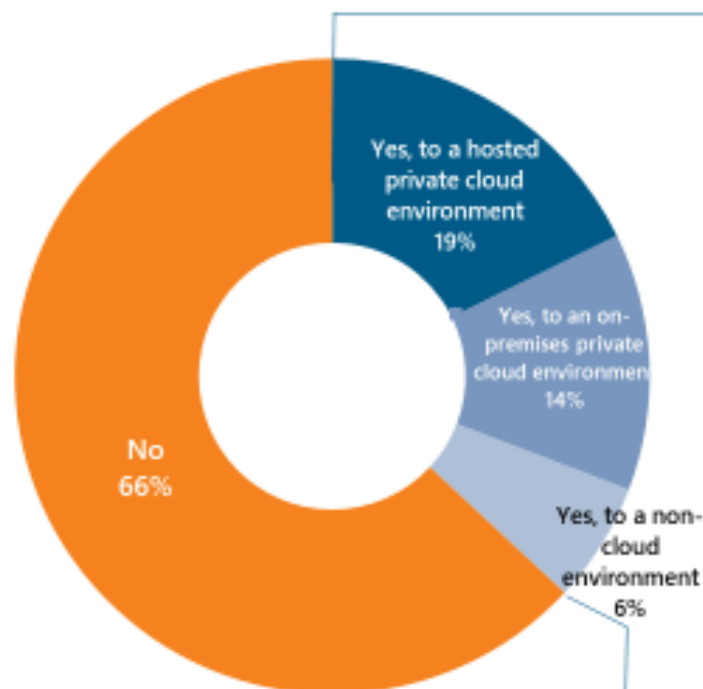
They need services that
MOVE MONEY

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They need services that
ROUTE PHONE CALLS

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Workload Execution Venues – A Constant Rebalancing Act
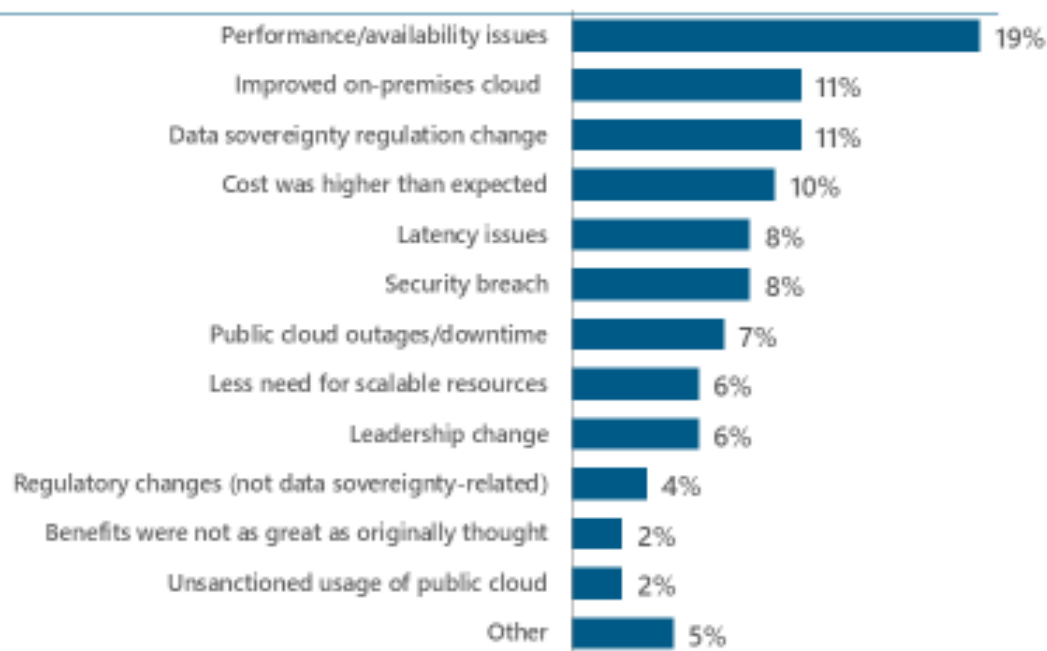## Public Cloud – Not Necessarily Forever

Workload Shifts from Public Cloud
% of respondents (n=249)

- Yes, to a hosted private cloud environment **19%**
- Yes, to an on-premises private cloud environment **14%**
- Yes, to a non-cloud environment **6%**
- No **66%**

Reasons for Public Cloud Workload Shifts
% of respondents (n=83)

Reason	%
Performance/availability issues	19%
Improved on-premises cloud	11%
Data sovereignty regulation change	11%
Cost was higher than expected	10%
Latency issues	8%
Security breach	8%
Public cloud outages/downtime	7%
Less need for scalable resources	6%
Leadership change	6%
Regulatory changes (not data sovereignty-related)	4%
Benefits were not as great as originally thought	2%
Unsanctioned usage of public cloud	2%
Other	5%

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Hybrid Hopes: Most Businesses Move Toward Integrating On-Premises and Off-Premises Cloud Environments

Reasons for Multiple Infrastructure Environments (Aggregate View)

% of respondents using multiple infrastructure environments to operate individual workloads (aggregate view) (n=419)

Reason	%
Improving performance/availability	47%
Optimizing for cost	40%
Isolating sensitive business data	33%
Migrating between infrastructure environments	33%
Meeting regulatory or data sovereignty requirements	33%
Adding new functions to existing deployments	32%
Adding geographic diversity/reducing latency	26%
Other	6%
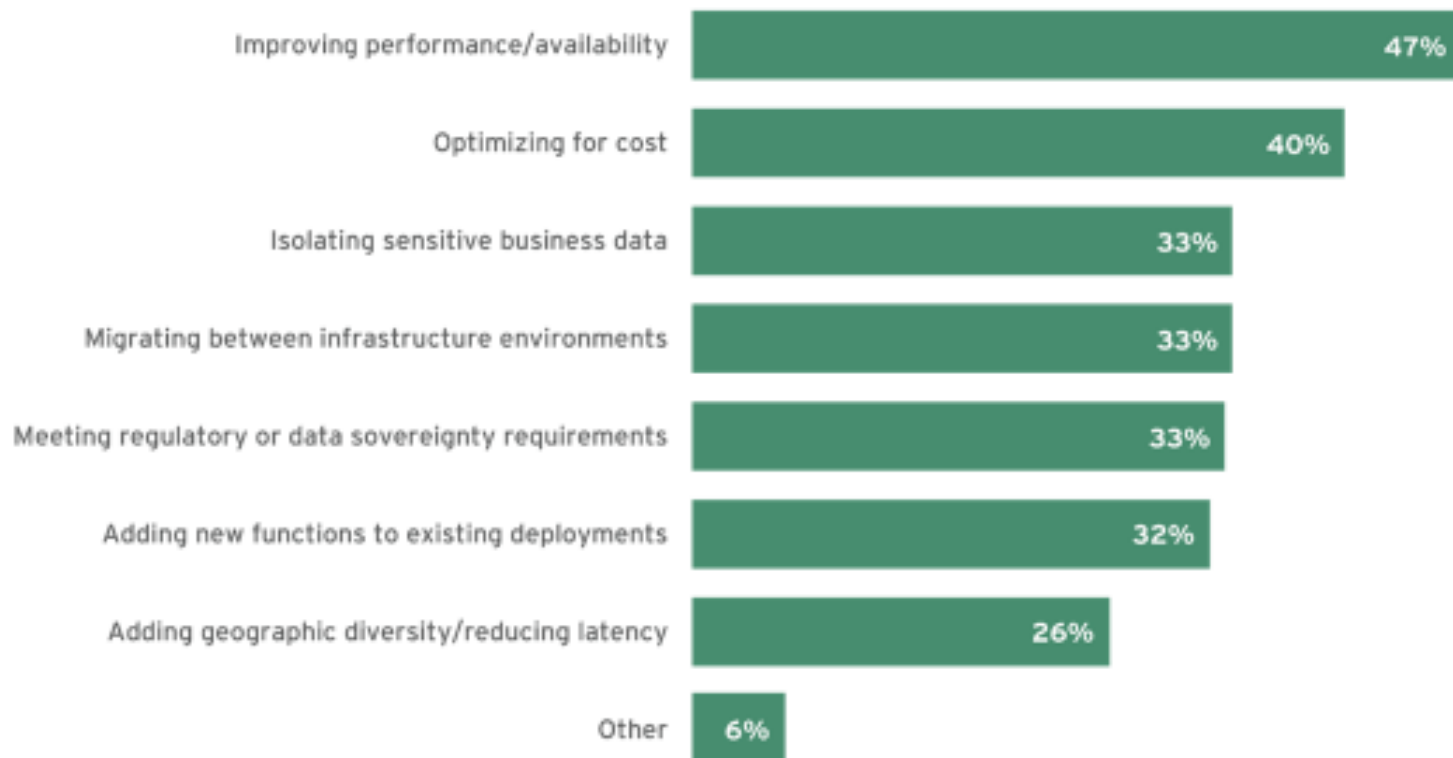
Q: Which, if any, of the following best describe your organization's reasons for using multiple infrastructure environments to operate (Workload)? Please select all that apply.
Source: 451 Research, Voice of the Enterprise, Cloud, Hosting and Managed Services, Workloads and Key Projects, 2018
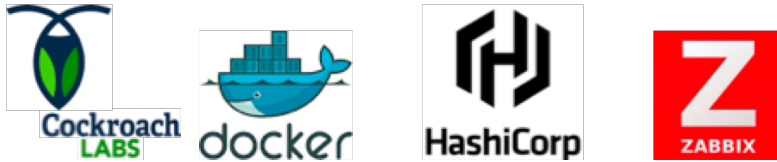
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OPEN SOURCE CLOUD ECOSYSTEM

Public/Private Cloud Users

Service Providers

M/W ISVs

Platform Vendors

OpenStack Projects

Open Source Projects

› Many public cloud service providers across six continents

› Hundreds of affiliated open source projects

› Public, private, hybrid, and community clouds

› Open source and proprietary software

› Users across all business sectors

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OPENLAB – AN ECOSYSTEM DEVELOPMENT COMMUNITY

› **Enable the testing, reporting, and development of tools and applications for multi-cloud environments**

› **Ecosystem Development – Prompts and Motives (why join?)**

» Explicit customer requests (need support for product X from vendor Y)

» Customer technical requirements (need feature or function)

» Volunteer entrants (3rd parties wanting access)

» Serve business needs (amplify opportunities, ASPs, ecosystem scope)

» Energize ecosystem (create buzz and pull)

WHY OPENLAB EXISTS?

› **Users**

› **OpenStack native APIs**

› **Existing multi-cloud ecosystem**

› **Open Source approach**

› **Reliability**

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MOTIVATIONS OBVIOUSLY DIFFER BY SEGMENT

| Pain Point	OpenStack CSPs	ISVs	OS Projects	Platform Vendors	Public/Private Cloud Users
Difficulty of release planning & maintenance across OpenStack implementations	◆	◆	◆	◆	
Meeting evolving requirements and supporting evolving workloads			◆	◆	◆
Difficulty testing across the range of OpenStack-based clouds	◆		◆	◆	
Gaining awareness and acceptance in the OpenStack ecosystem	◆	◆		◆	
Need for Tools / SDKs for building apps on OpenStack		◆	◆		◆
Difficulty testing across OpenStack-based clouds		◆			◆
Difficulty porting / updating middleware on OpenStack		◆	◆		
Need for support and collaboration around integrations and test results			◆		◆
Productization of OpenStack in multiple, interoperable contexts				◆	

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EXAMPLE PAIN POINTS TO ADDRESS

› **Need for Tools / SDKs for building apps on OpenStack**

  » Up-to-date toolkits for a variety of language bindings (Python, C, Java, etc.)
  » Broker for "providers" (API abstractions)– collaborate and contribute

› **Difficulty testing across OpenStack-based clouds**

  » Cloud hosting resources for integration and testing
  » Test suites and published results create a baseline for software product testing
  » Reduce impact of customized (forked) OpenStack implementations

› **Difficulty of release planning & maintenance across OpenStack implementations**

  » Test results and roadmap ease software product management on OpenStack
  » Integrate your offering with an ecosystem solution

› **Gaining awareness and acceptance in the diffuse OpenStack ecosystem**
  » Validate your offering as part of the "standard" solution
  » Reach markets beyond your current commercial focus at low cost
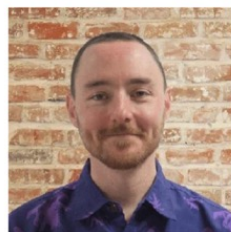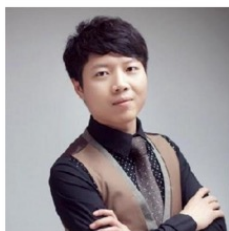
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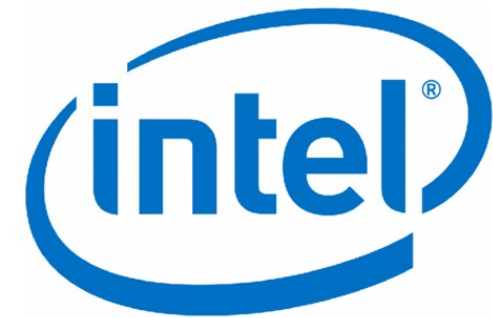
Joe Topjian
gophercloud
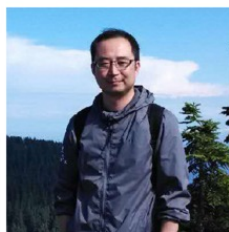
Chen Rui
OpenLab

Angus Lees
Kubernetes

Liu Sheng
OpenLab
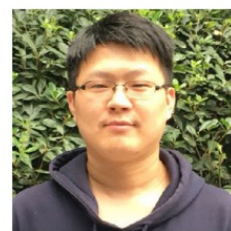
Jian-Feng Ding
OpenLab

Lingxian Kong
Kubernetes

Marco Volz
BOSH

Dolpher Du
OpenLab

Saverio Proto
Kubernetes

Zhu Li
OpenLab

Chris Hoge - OpenStack
Davanum "Dims" Srinivas - Kubernetes
Jinghan Sun - OpenLab
Joe Topjian - Terraform
Jon Perritt - gophercloud
John Griffith - Cinder (OpenStack)
Michael Johnson - Octavia (OpenStack)
Mohammed Naser - Infra (OpenStack)
Fengyun Pan - Kubernetes
Yuquan Ren - Kubernetes

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HOW OPENLAB WORKS

› **Governance**

  » Governance led by seeding members – OpenStack Foundation, Huawei and Intel

  » Loosely structured, but expected to evolve as needed

  » Adheres to the Four Opens

› **Code and Companies (so far)**

zuul		
nodepool		
diskimage-builder		
support apps, i.e. geard		
CI Software Components	**Public, Private, & Hybrid Clouds**	**Academic Lab / Project Support**

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"Teamwork is the ability to **work together** toward a common vision. The ability to direct individual accomplishments *toward organizational objectives*. It is the fuel that allows common people to **attain**

uncommon results"

- ANDREW CARNEGIE

CURRENT INFRA - VMs DONATED BY 6 CLOUDS

› **Additional Infrastructure Added**

» CI Infrastructure

– Net New – SWITCH, Linaro, CityNetwork, ChameleonCloud

– Increased Capacity – VEXXHOST and OTC

PROVIDER	RESOURCE TYPE	CAPACITY	
OTC	VM	100	
VEXXHOST	VM	100	
CHAMELEONCLOUD	VM	15	
SWITCH	VM	8	
LINARO	VM	5	
CITYNETWORK	VM	50	

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CURRENT INFRA – AVAILABLE BUT NOT INTEGRATED

› **Additional Infrastructure Added**

  » Non-CI Infrastructure

    – CloudLab, ChameleonCloud, GENI, emulab, FIT IoT-LAB, OneLab

PROVIDER	RESOURCE TYPE	CAPACITY	
CLOUDLAB	Dedicated Server	1800	
CHAMELEONCLOUD	Dedicated Server	525	
GENI	Dedicated Server	500+	
emulab	Dedicated Server	496	
FIT IoT-LAB	IoT	2071	
OneLab	WSN	119	

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NEW PARTNERSHIPS, PROJECTS, AND PARTICIPANTS

› **PROJECTS**

  » cluster-api-openstack

  » adoptopenjdk

  » spinnaker*

  » many SDKs

    – ansible

    – rust-openstack

› **PARTNERSHIPS**

  » ARM

  » Packet

  » Nordix Foundation

  » OpenCI

Participant
Joe Topjian
Dmitry Tantsur
Monty Taylor
Gilles Dubreil
Lingxian Kong
Saverio Proto
Angus Lees
Michael Johnson
Jon Perritt
Marco Volz
Sebastian Heid
Wavell Watson

Company
Cybera
RedHat
CatalystIT
SWITCH
Bitnami
Rackspace
SAP

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What's Available

Hardware

- Dedicated Servers
- OpenStack VMs
- non-OpenStack VMs
- Network devices
- OpenStack Baremetal

Environment

- Shareable configuration
- Federation
- Geographically dispersed

HELPING FACILITATE SUCCESS

› Collaboration reduces cost in creation and maintenance of integrations

› Ready-to-use SDKs accelerate integration

› Cloud test platforms speed and reduce the cost of integration and testing

› Release planning and updated test platforms
speed and reduce the cost of maintenance

› Published test results give OpenStack users
worldwide confidence in your solution

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DELIVERING FOR EXAMPLE

› **Access to…**

  » Ready-to-deploy integrations shared by other OpenLab participants

  » OpenStack roadmap features and bug reports that may affect integrations

  » Integration experience and best practices around

    – High availability

    – Low /zero-downtime and skip-level upgrades

    – Impact of maintenance and upgrades

› **Assurance that integrations…**

  » Function across extended, maintenance, and latest releases

  » Rehost easily across clouds and versions

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GETTING INVOLVED IS KEY

› **Share our and your integrations, tests, test results**

› **Leverage OpenLab SDKs, test platform, tests, and test results**

› **Contribute infrastructure**

» Public, private, hybrid, multi-cloud OpenStack powered clouds

» Freemium and demo versions of apps as "on-ramps" and test workloads

› **Contribute developer time**

» Software and DevOps Engineers

» Project managers, QA/QE engineers, marketing, etc.

» Does not have to be full-time commitment

› **Contribute insight**

» Share your OpenStack ecosystem, come help make OpenLab successful

QUESTIONS?

› **https://openlabtesting.org**

› **freenode: #askopenlab**

› **GitHub: https://github.com/theopenlab/ocean/issues/new**

› **email: info@openlabtesting.org**