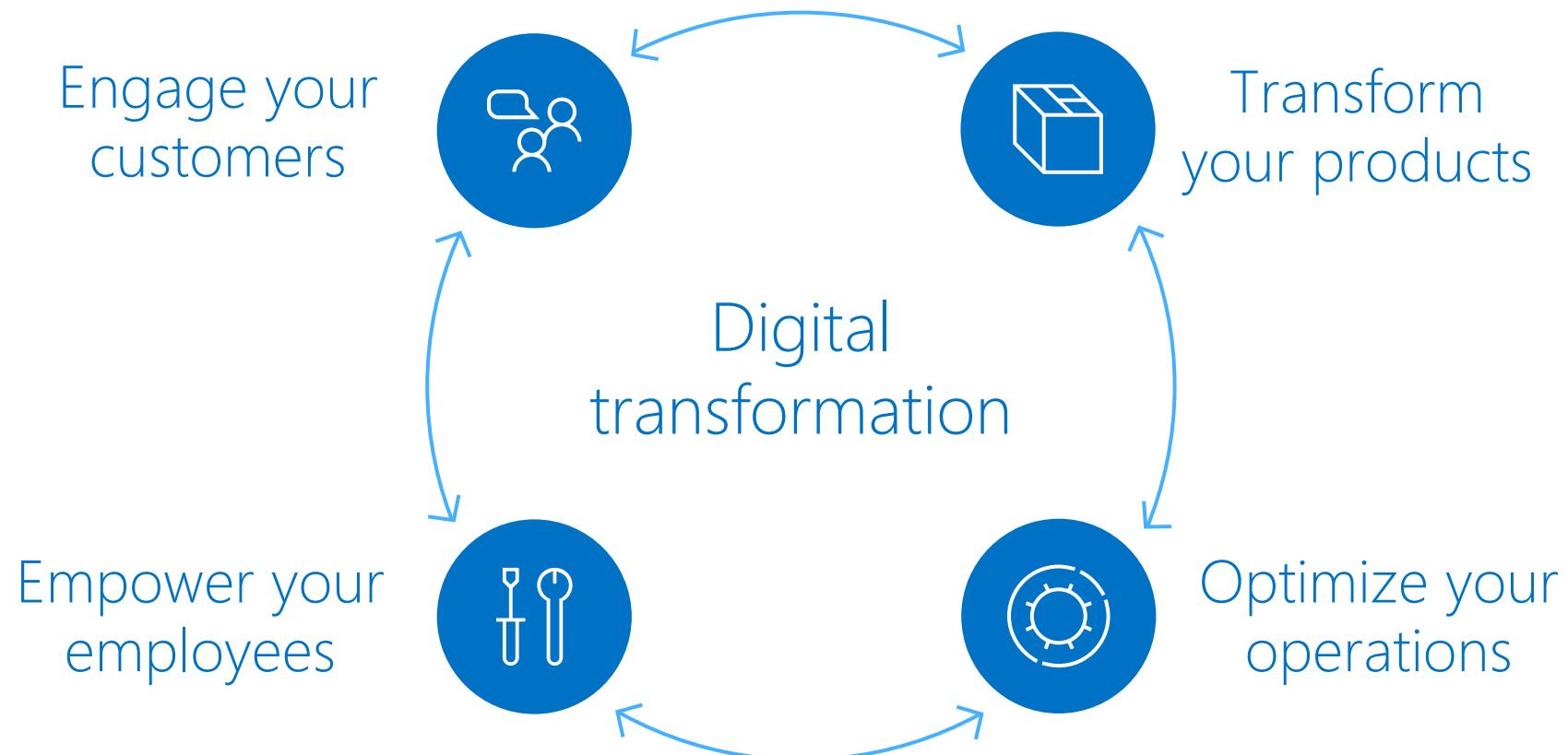


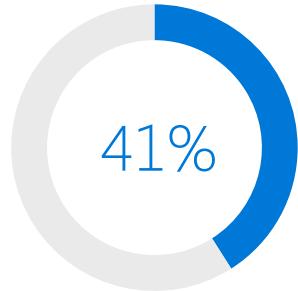


The Linux opportunity on Azure

Michael Li

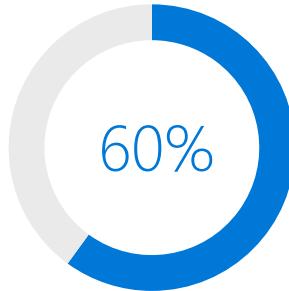


The role of Open Source in Digital Transformation



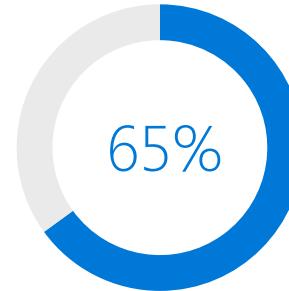
Open source increasingly drives modern applications

41% of decision makers say that increasing use of open source is a high or critical priority for 2016¹



Open source innovation is happening in the cloud

Over 60% of enterprises will adopt open source and open APIs for their cloud integration strategies³



Open source accelerates cultural transformation

65% of DevOps early adopters prefer commercial or community open source solutions²

The cloud is where open enterprise innovation happens

While funding for cloud infrastructure is a clear priority in 2017 (70% of respondents), security (50%) and management (48%) remain top of mind

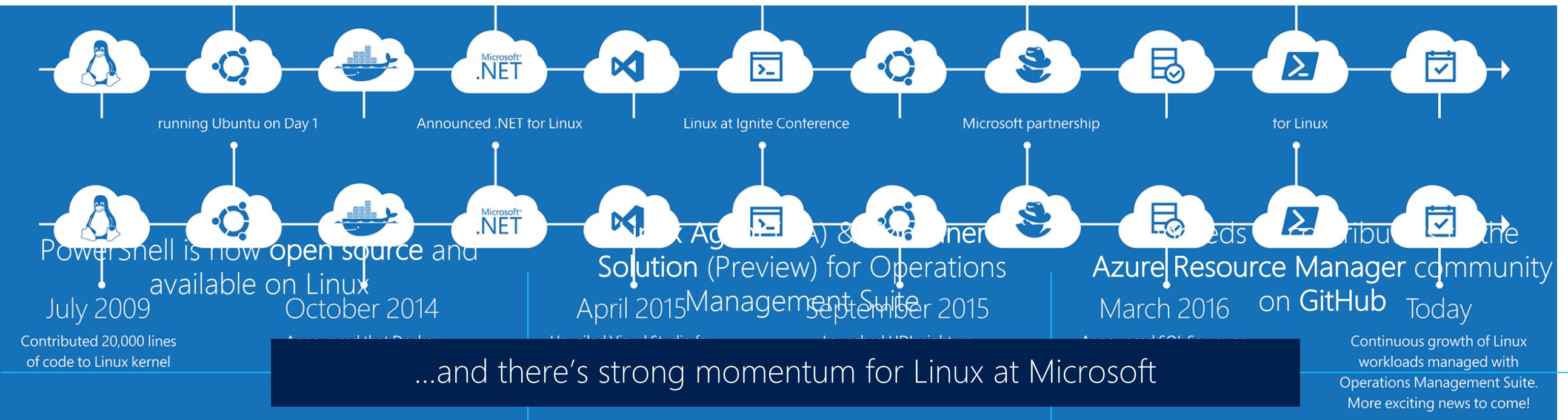
Microsoft & key Linux partnerships add value wherever our customers are in their cloud journey

Balance agility and open source driven innovation with manageability and security with the integrated support your customers needs



Leading enterprise Linux distributions

Microsoft + Linux: It's been a journey



4x growth in container customers in Azure since January, all with Docker on Linux!

Nearly 1 in 3 VMs in Azure run Linux today

60% of Azure Marketplace Images are Linux based!

Our Linux investments in the hybrid cloud

Linux support across our portfolio

Linux Integration Services (LIS) for full Linux guest integration

Broad portfolio including Hyper-V, System Center, Operations Management Suite, Microsoft Azure and Big Data & Analytics solutions

Some of Microsoft's PaaS services run on Linux, such as HDInsight or Azure Container Service

Sophisticated Linux guest features

Core management integration: shutdown, time sync, heartbeat

Generation 2 VMs & secure boot

Networking performance near bare metal, with vRSS and TCP offloads

PCI pass-thru and SR-IOV

Dynamic memory

Online backup of Linux VMs: no downtime

Virtual fibre channel

Standard operational interfaces

Operations Management Suite (fluentd collector)

PowerShell, Hyper-V Manager

System Center

3rd party solutions in Azure

ARM/Azure Stack

Expanding to the Linux ecosystem

PowerShell

SQL Server

.NET Core

Visual Studio Code

We support the leading Linux distributions



Enterprise Distributions



redhat



SUSE®

ORACLE®
LINUX

ubuntu®

Used by customers where supported
Linux is critical for the workload
solution e.g. LOB Apps, E-Commerce

"Free" Distributions



Core OS

ubuntu®

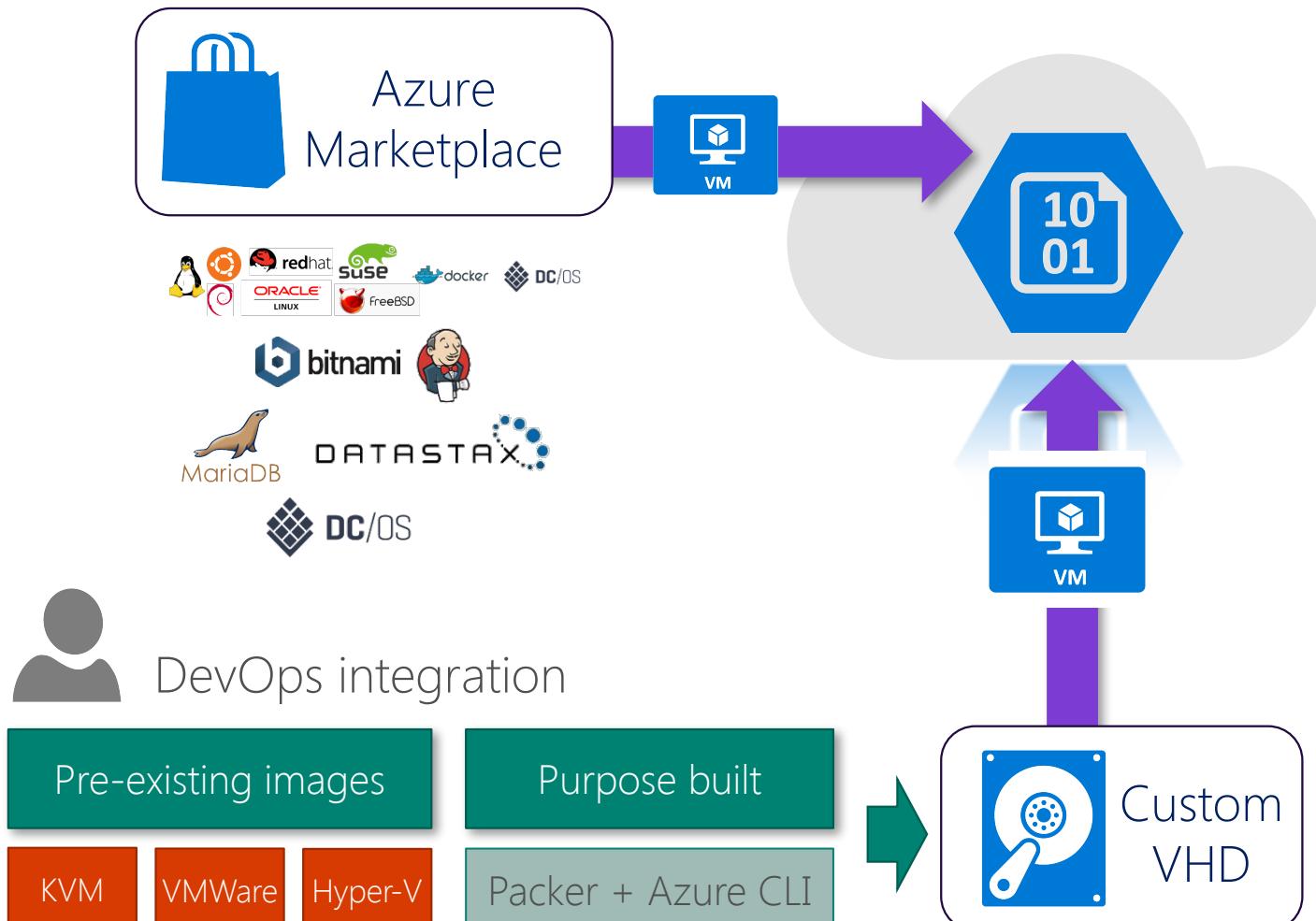


CentOS

debian
GNU/Linux

Used by customers where supported
is less critical for the workload solution
e.g. dev/test, HPC

Linux images in Azure



Endorsed distros

Endorsed distros are published, maintained and supported by partners, curated & tested by Microsoft, with most distros maintaining repos in each Azure region for fast updates

	Red Hat Enterprise Linux
	CoreOS
	Ubuntu
	OpenLogic CentOS-based
	SUSE Linux Enterprise Server
	openSUSE
	Oracle Linux

Standard Images

Support by Microsoft on Azure-related platform issues, and limited support for Linux issues

Premium Images

Microsoft is the point of contact and engages with partner on behalf of customer, partner provides 24/7 support (incl. updates, patches)

Available for Red Hat Enterprise Linux and SUSE Linux Enterprise Server

Open Source on Azure

DevOps



Clients



APACHE CORDOVA™

Management



SCALR
CLOUD MANAGEMENT

Applications



PaaS &
DevOps



App Frameworks
& Tools



Databases &
Middleware



Couchbase

Infrastructure



redhat



bitnami

ORACLE
LINUX

FreeBSD



Azure Open Source App Platform

Stakeholders

Developers



Virtual
Machines

Stateful and
stateless one-
off solutions

VM Scale
Sets

Scalable
solutions

Container
Service

Scalable,
orchestrated
Docker images
deployed into
containers

Operations



Batch

Custom High
Performance
Computing
solutions

DBAs and data scientists



Business



Virtual Machines	VM Scale Sets	Container Service	Batch	Open Source PaaS	Service Fabric	Environments	App Service	Web, Mobile & API	Logic	Functions
Stateful and stateless one-off solutions	Scalable solutions	Scalable, orchestrated Docker images deployed into containers	Custom High Performance Computing solutions	Cloud Foundry, OpenShift	Custom Microservice-based stateless and stateful solutions	All the goodness of App Service in a dedicated environment	Template based rapid development web, mobile and API solutions	Orchestrated workflow based integration solutions	Serverless event driven experience	

Build on the infrastructure

Lift-and-shift + net new on Linux

Docker

Build on the platform

Cloud-born

LOB



Microsoft Azure

Growing your cloud business with leading Open Source ISV's

Cloud Infrastructure



Enterprise Linux provider with infrastructure management, middleware, SAP and container offerings

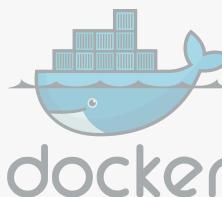


Enterprise Linux provider with strong presence in HPC and SAP

Application Innovation



Infrastructure configuration and provisioning tools. Enable management of both Windows and Linux infrastructure



Container provider. Docker provides an additional layer of abstraction and automation of operating-system-level virtualization on Windows and Linux to avoid the overhead of starting and maintaining virtual machines



OPENSHIFT[®]
by Red Hat[®]

Red Hat® OpenShift is a container application platform that brings docker and Kubernetes to the enterprise.



Contributor and commercial provider for Cloud Foundry which is an open source, multi cloud application platform as a service (PaaS)

Big Data & Analytics



Providers of Apache Hadoop software, support and services, and training to business customers



Data platform provider, powered by the open-source Apache Cassandra (a NoSQL database known for achieving continuous uptime at scale for real-time operational transactions).

Azure + Open Source - Practices & Partner Scenarios

Practices	Partner Practice Scenarios	Extending through Open Source	Leading OSS ISV's:	Partner Examples
Cloud Infrastructure	Data Center Transformation	Capture Linux based infrastructure	 	    
	Infrastructure Provisioning (Hybrid Cloud & Virtualization)	Extend Hybrid cloud with Open Source		
	Hybrid Management (Disaster Recovery & Back-up)	Extend security & management with Linux ecosystem		
Application Innovation	DevOps	Leverage Open Source DevOps tools (Chef, Puppet, etc).	    	      
	Application Development (Web & Mobile)	Leverage JAVA, Node.Js and other OSS frameworks for app development		
	App Modernization & Integration	Modernize existing applications & migrate to the cloud using containers		
Data Platform & Analytics	Data Platform Modernization and Mission Critical Applications	Leverage Open Source RDBMS technologies like Postgres, MySQL, etc	  	      
	Business Intelligence, Big Data and Data Analytics	Bring Hadoop based solutions to Azure through Cloudera & Hortonworks		