



CANONICAL

State of Ubuntu, OpenStack, and OFED testing and development

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04.23.2013

Canonical

- 600+ Employees
- Assurance and support
- Professional services
- IHV and ISV Certification
- Integrated Solutions



Ubuntu

- #1 Linux OS on Cloud and Desktop
- Freely available
- With updates
- No subscriptions

Technical Partner Program



Major features

Assigned partner manager
Technical assistance
Regular mutual roadmap reviews
2-way support escalation path

Benefits

Access to Canonical's roadmaps
Partner customers gain assurance
Preferred component vendor
Joint marketing



Agenda

- Ubuntu release cycle and maintenance
- Cloud, OpenStack and Ubuntu
- Current OFED support on Ubuntu - user space



Ubuntu release cycle and maintenance

Ubuntu overview



Time-based release

Predictable

'12.10' - 2012 October.

'13.04' - 2013 April.

Regular release

Every 6 months

For developers.

Support cycle reduced to 9 months starting 13.04.

Long Term Support (LTS) release

Every 2 years

For production.

5-year support.

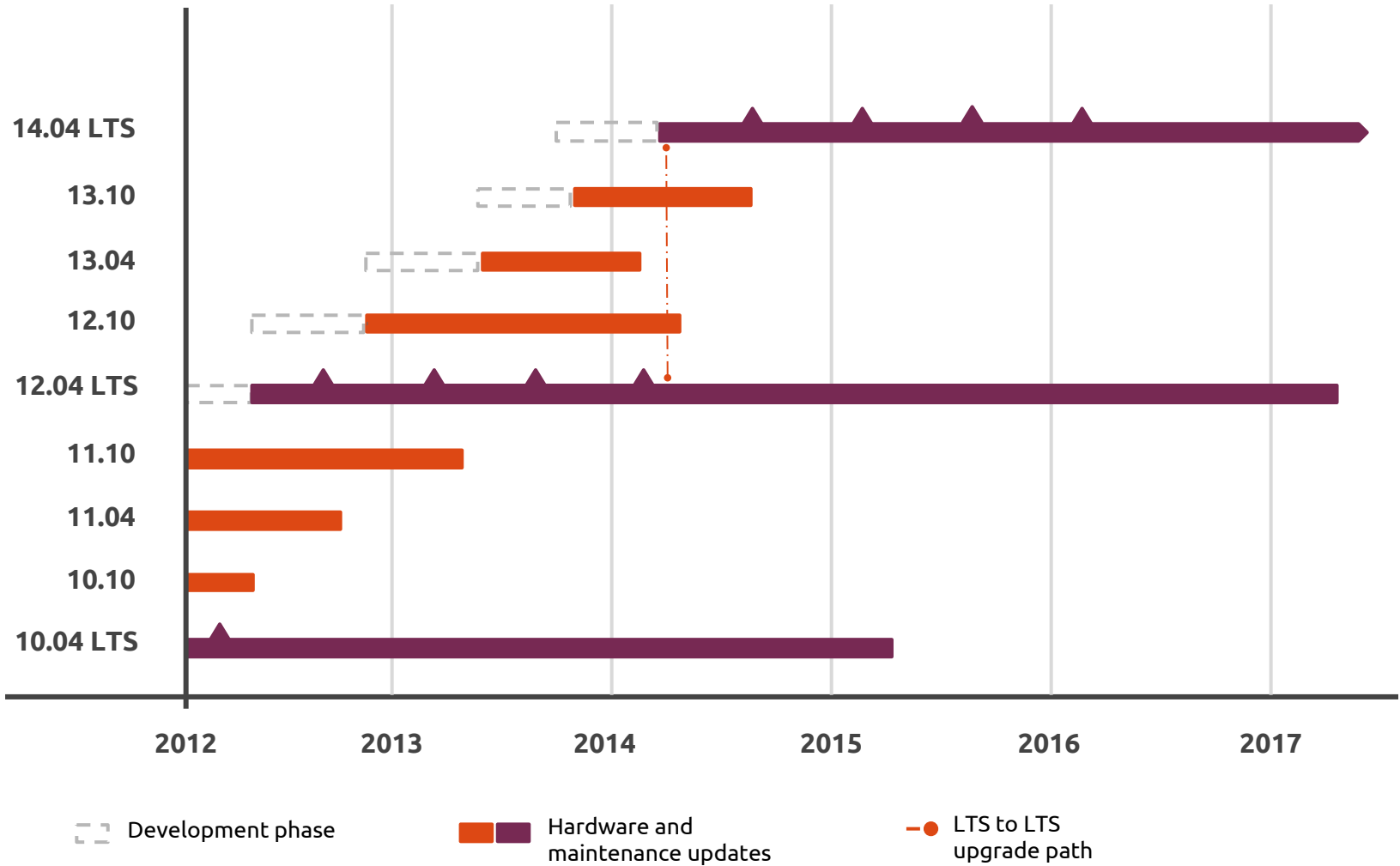
Support new hardware via point release.

'Rolling Release' (TBD)

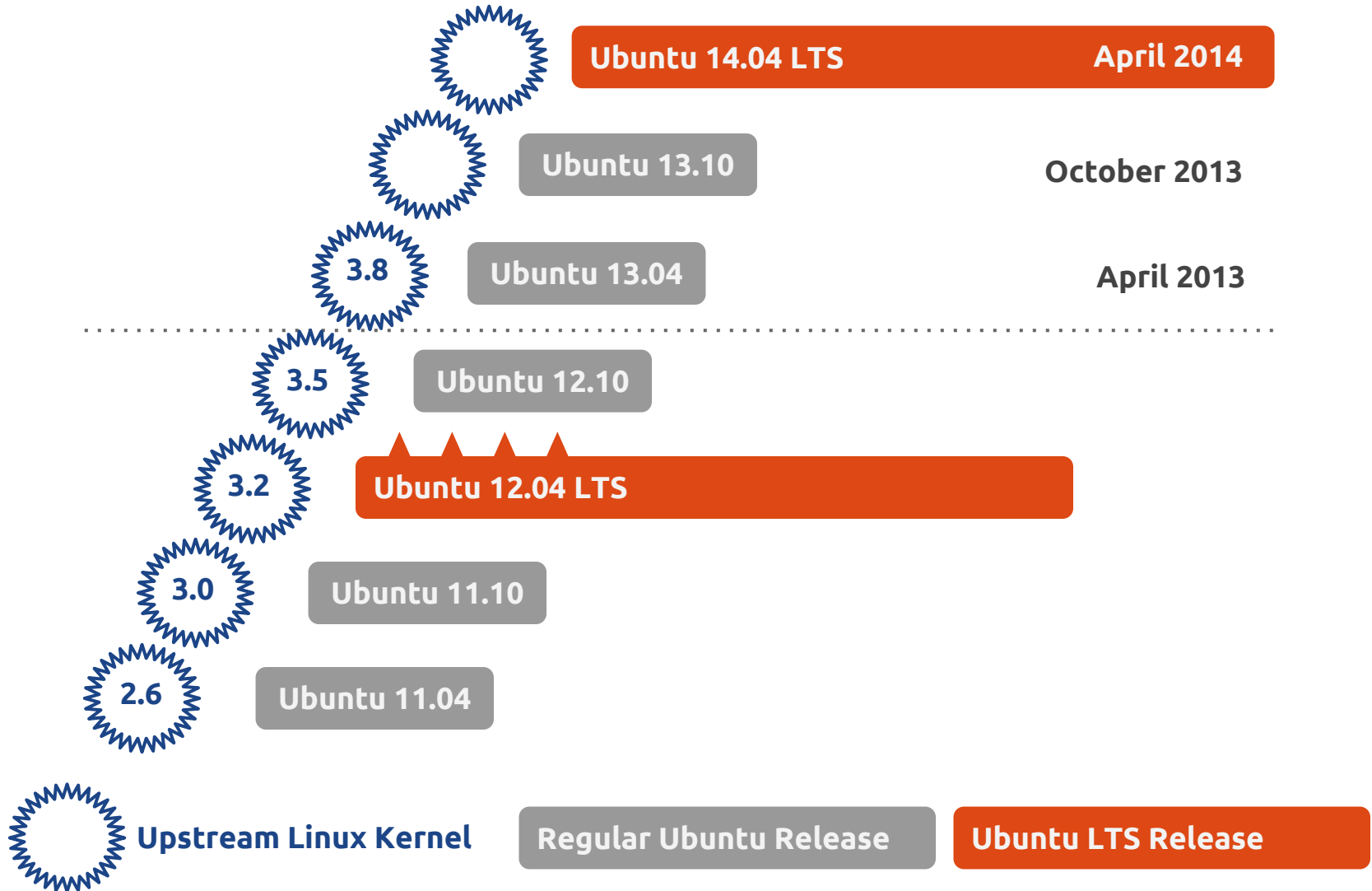
Daily

Implementation details still being worked out.

Ubuntu for server release cycle



Kernel in Ubuntu



Ubuntu developer summit - uds.ubuntu.com



ubuntu[®] developer summit

About

Register

Online on 14-16 May 2013
from 2pm-8pm UTC

Register to attend



UBUNTU DEVELOPER SUMMIT PRINCIPLES



Collaboration

UDS brings together a diverse range of participants and provides the perfect environment for mutual collaboration and best practice.



Ideas

UDS is a hotbed of ideas. It's where we get together to find creative solutions to common problems. The result? A better Ubuntu for everyone.



Planning

Solutions are documented, specifications are written, and work items are assigned across all those participating in solutions.



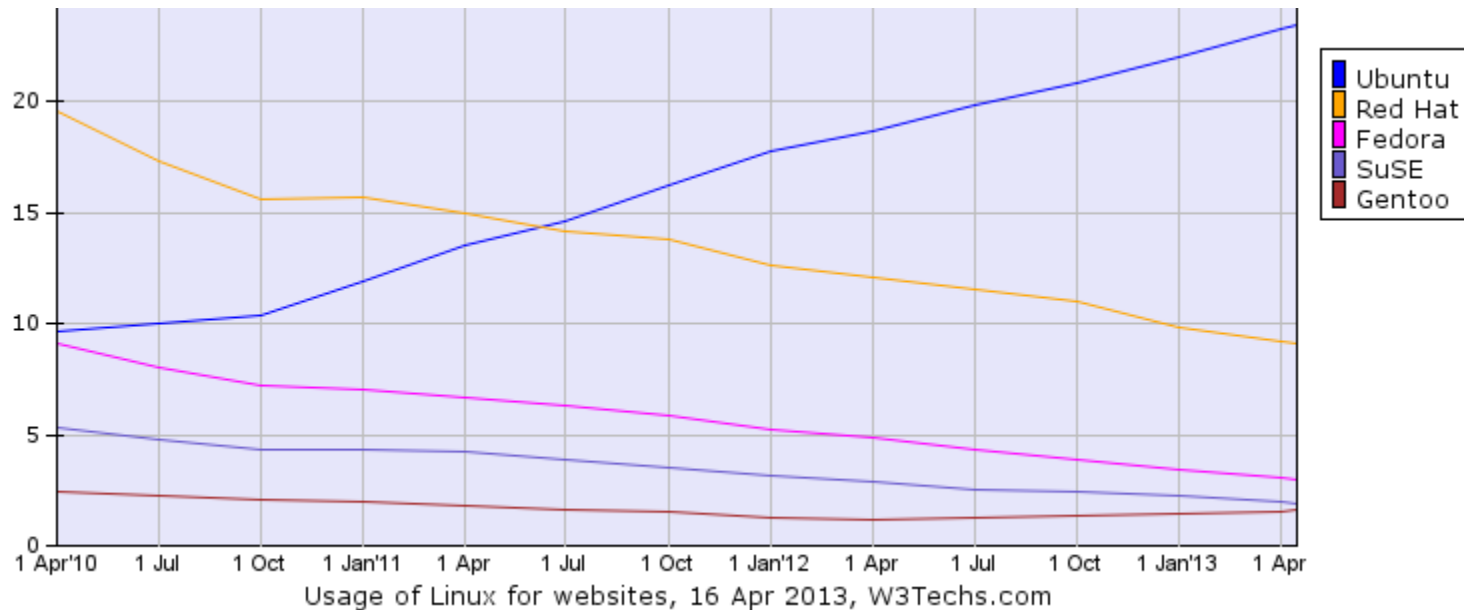
Discussion

The bulk of UDS is discussion sessions. We explore problems and develop solutions together, pooling our collective experience.



Cloud, OpenStack and Ubuntu

#1 Linux distribution for WWW

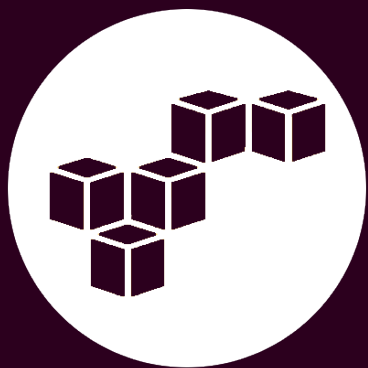


- #1 commercially supported Linux distribution for the modern web
- Surpassed RHEL in 2011
- RPM based distributions are now the minority
- Ubuntu server ever more dominant in cloud infrastructure (OpenStack, etc.)
- Even stronger positioning in public cloud guests (EC2, Rackspace, etc.)

Server fully certified



Ubuntu is #1 Public Cloud Guest



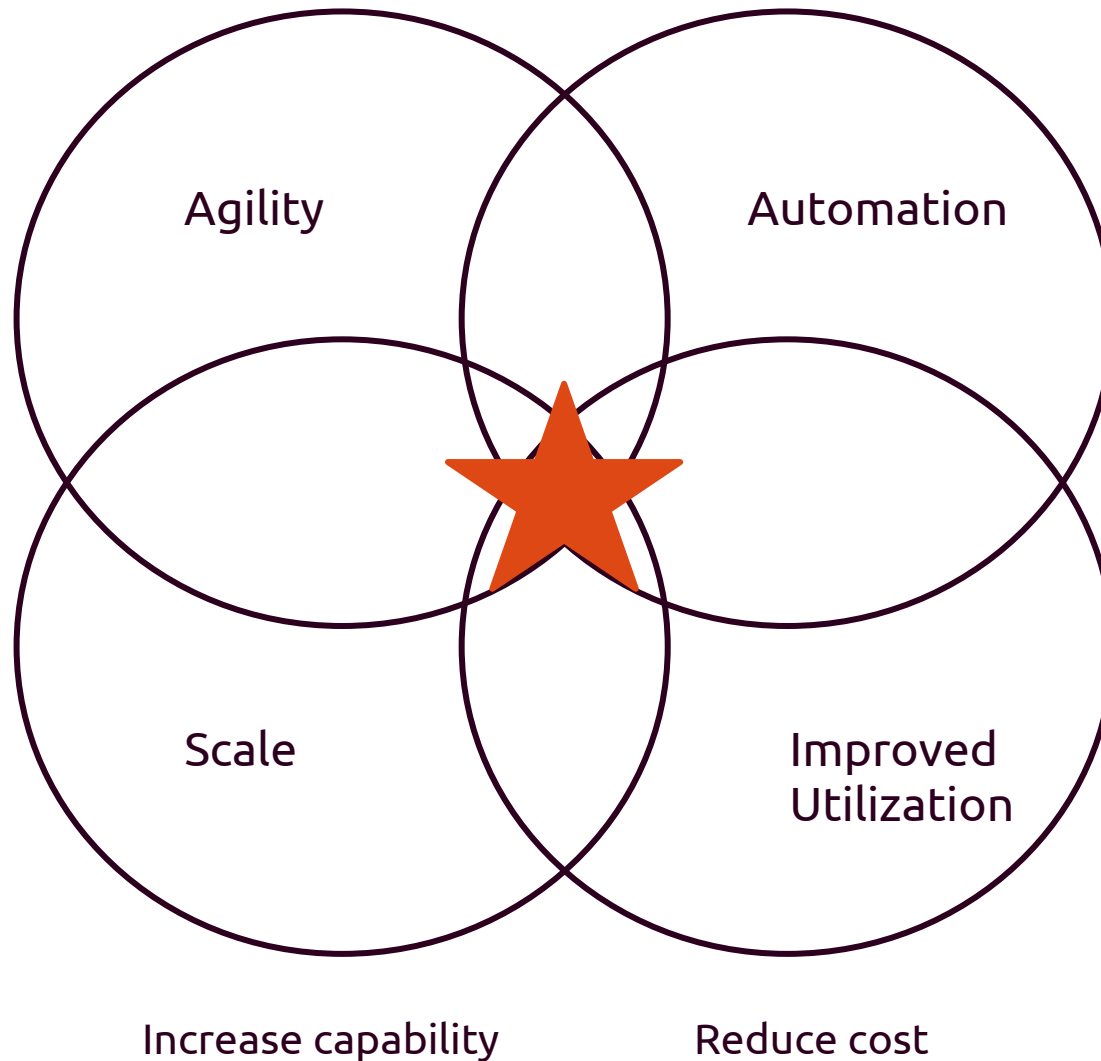
Capitalizing on Compute



Businesses that will be relevant in 2020 will be those who can cost effectively harness data and compute to:

- Bring new services to market rapidly
- Interact with customers via any device
- Use shared resources to cater for peaks
- Use data to create greater value products and services

Cloud Motives





What is OpenStack

Mission: To produce an ubiquitous Open Source Cloud Computing Platform that will meet the needs of public and private cloud providers regardless of size, by being simple to implement and massively scalable.

Who is behind OpenStack

Board members
24

Canonical, Rackspace, Cisco, AT&T,
IBM, Dell, HP, Nebula, Piston,
Yahoo & others

Technical leads
13

Nebula, HP, Rackspace, AT&T,
VMware & others

Individual members
5,600

From 87 countries.
850 organizations.

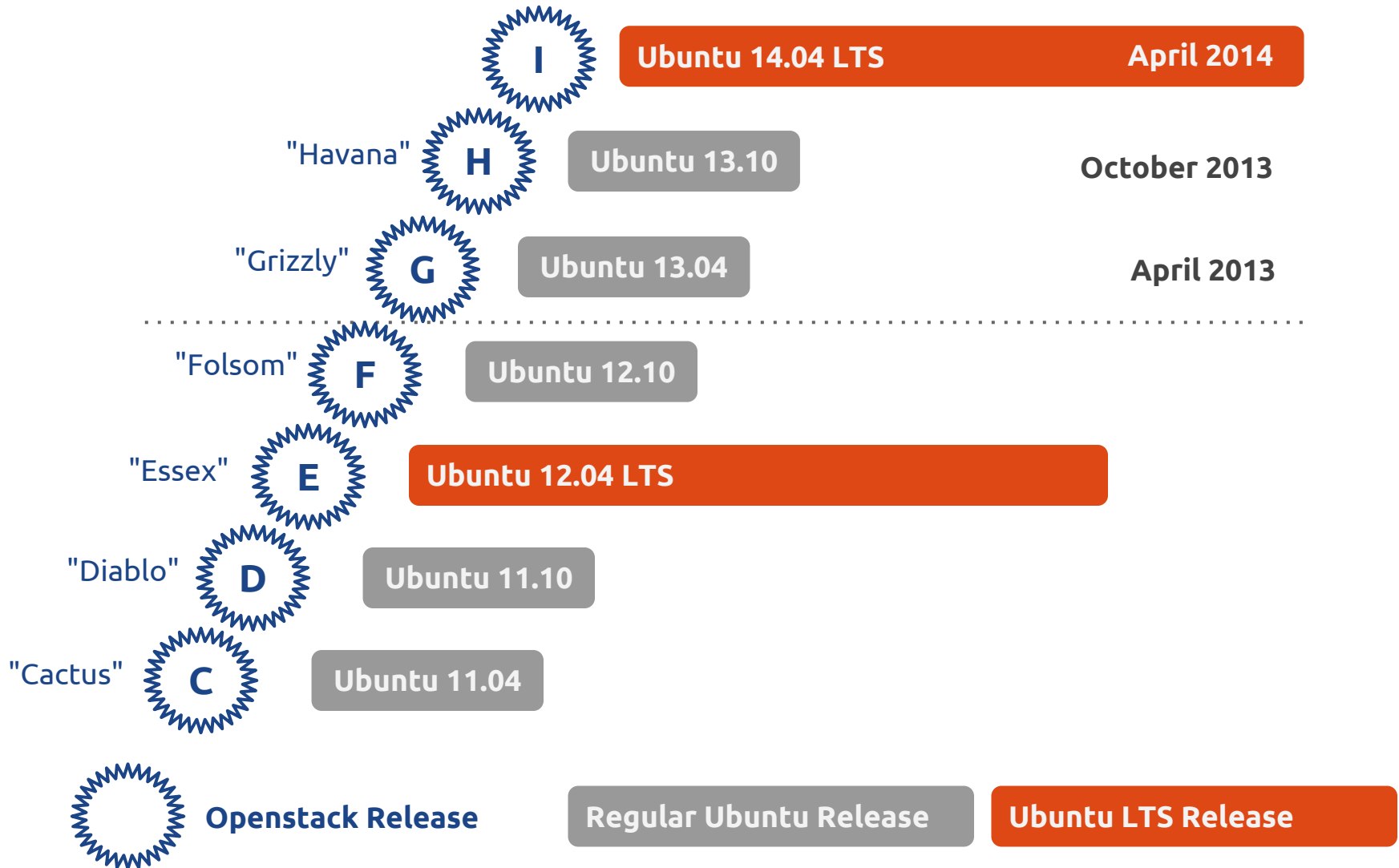


- Fast
- Easy
- Standard
- Stable

Reference OS for OpenStack deployment

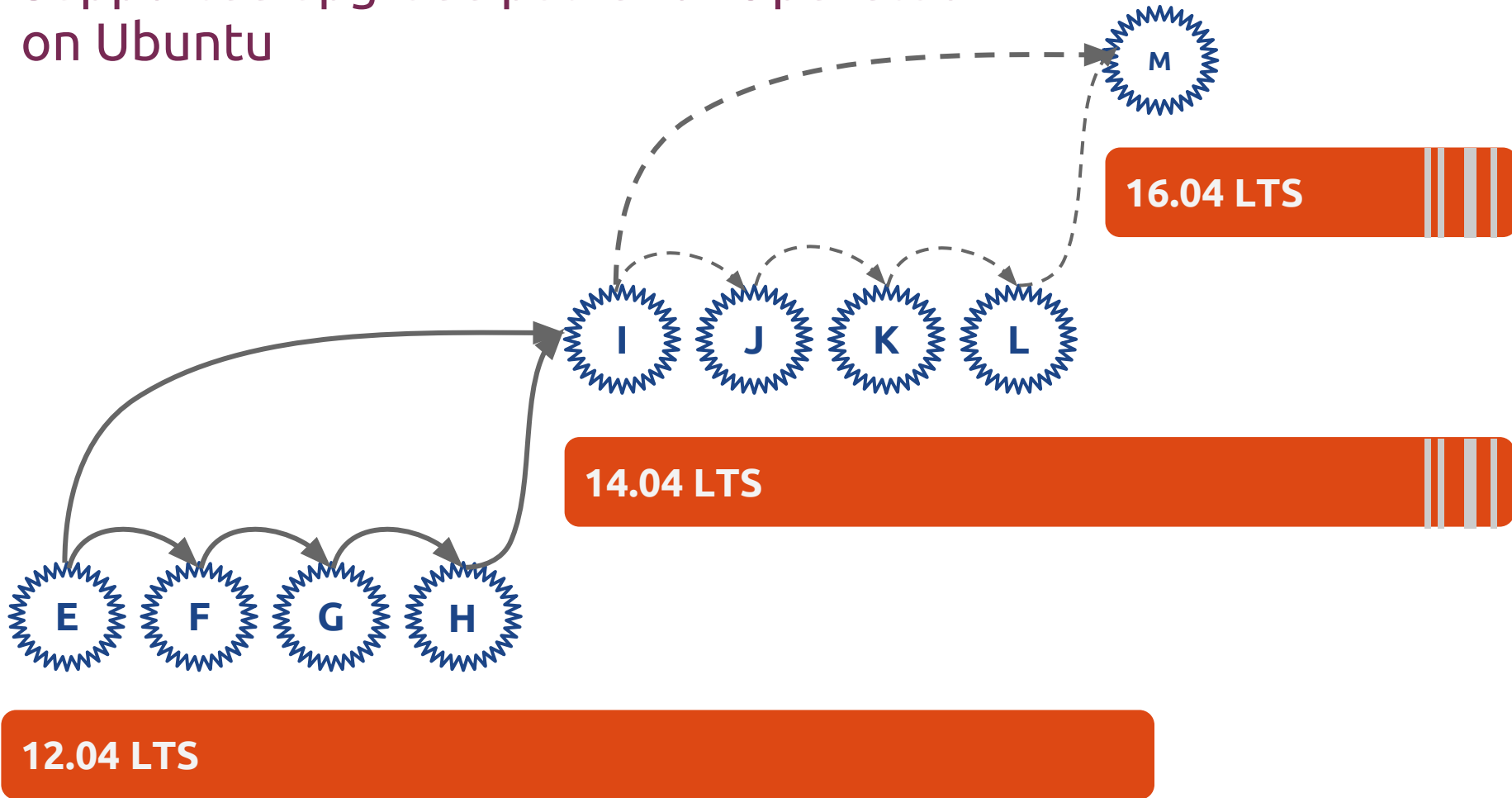
OpenStack 'Bexar' is default IAAS in Ubuntu since 2010

Openstack matches Ubuntu cadence



Long-Term Support on LTS

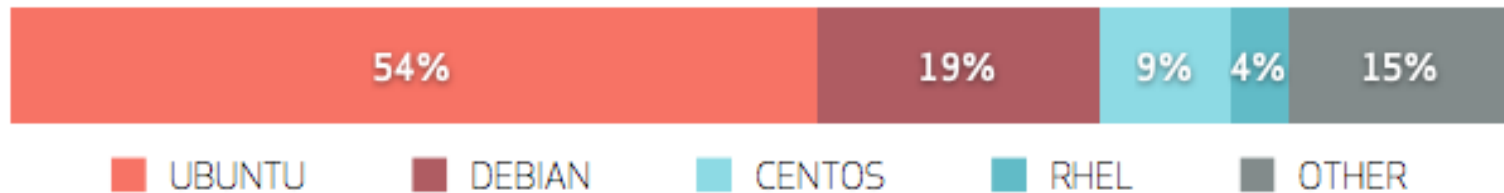
Supported upgrade paths for Openstack on Ubuntu



54% chose Ubuntu to host Ceph clusters



SERVER OS



On the server-side, Ubuntu is king. Over half of those polled said they were currently running, or planning to run, their clusters on Ubuntu.

We worked hard early last year to make sure that the Ceph experience on Ubuntu was great, and similar efforts are currently being put into the other major distributions.

Ubuntu and Debian combined (the apt-get cabal!) account for all but two of the production clusters reflected in this Census.

ANSWER	#
Ubuntu	43
Debian	15
CentOS	7
RHEL	3
Other	12

<http://ceph.com/community/results-from-ceph-census>



Current OFED support on Ubuntu (userspace)

OFED 3.5 and Ubuntu



OFED 3.5 Components	Ubuntu	11.10	12.04	12.10	13.04
OpenSM (opensm 3.3.15-1)	3.3.15-2 raring	<	<	<	>
IB diags (infiniband-diags 1.6.1-1)	1.6.1-1 raring	<	<	<	=
IB MAD (libibmad 1.3.9-1)	1.3.9-1 raring	<	<	<	=
IB User MAD (libibumad 1.3.8-1)	1.3.8-1 raring	<	<	<	=
IB communication manager (libibcm 1.0.5-1)	1.0.4-1.1	<	<	<	<
IB CM assistant (ibacm 1.0.7-1)	Not found	-	-	-	-
IB bonding (ib-bonding 0.9.0-43)	Not found	-	-	-	-
IB fabric simulator (ibsim 0.5-0.1.g327c3d8)	0.5-x	>	>	>	>
IB network and path diagnostics (ibutils 1.5.7-0.1.g05a9d1a)	1.5.7-1 raring	<	<	<	=
RDMA verbs (libibverbs 1.1.6-1)	1.1.6-1 quantal, raring	<	<	=	=
RDMA connection manager (librdmacm 1.0.16-1)	1.0.16-1 raring	<	<	<	=

OFED 3.5 and Ubuntu



OFED 3.5 Components	Ubuntu	11.10	12.04	12.10	13.04
DAPL 2.0 (dapl 2.0.36-1)	2.0.19-1.1	<	<	<	<
IB performance test (perftest 2.0.0.27.g2edd80a)	1.2-OFED-1.4.2-2 l, o, p, q, r	<	<	<	<
Socket and RDMA performance (qperf 0.4.9)	Not found	-	-	-	-
RDS support (rds-tools 2.0.4)	1.4.1-OFED-1.4.2-1 o, p, q, r	<	<	<	<
SRP/IB tools (srptools 0.0.4-0.1.gce1f64c)	0.0.4-1.2 o, p, q, r	=	=	=	=
Open MPI (openmi 1.4.3-1)	1.4.5-1 q, r	>	>	>	>
Open iSCSI (open-iscsi-generic 2.0-869.2)	2.0.873 q, r	>	>	>	>
SCSI target (tgt-generic 0.1-20080828)	1:1.0.7-1ubuntu3	>	>	>	>
SDP (libsdp 1.1.108-0.17.ga6958ef)	1.1.99-2.1	<	<	<	<
netstat for SDP (sdpNetstat 1.60-0.3.gb6e7425)	1.60-1	=	=	=	=

OFED 3.5 and Ubuntu



OFED 3.5 Components	Ubuntu	11.10	12.04	12.10	13.04
QLogic Truescale PSM (infinipath-psm 3.1-364.1140)	Not found	-	-	-	-
Chelsio T3 RNIC (libcxgb3 1.3.1-1)	1.3.1-1 quantal, raring	<	<	=	=
Chelsio T4 RNIC (libcxgb4 1.2.0-1)	Not found	-	-	-	-
IBM HCA (libehca 1.2.2-0.1.g69e1a88)	Not found	-	-	-	-
QLogic HCA (libipathverbs 1.2-1)	1.2-1 precise, quantal, raring	<	=	=	=
Mellanox ConnectX HCA (libmlx4 1.0.4-1)	1.0.4-1 quantal, raring	<	<	=	=
Mellanox HCA (libmthca 1.0.5-0.1.gbe5eef3)	1.0.6-1 oneiric, p, q, r	>	>	>	>
Intel NetEffect Eth (libnes 1.1.3-1)	1.1.3-1 quantal, raring	-	-	=	=
Mellanox firmware tool (mstflint 1.4-1.23.g5c2032a)	1.4-OFED-1.4.2-1 o, p, q, r	<	<	<	<
QLogic VNIC tools (qlvnictool 0.0.1-0.1.ge27eef7)	0.0.1-3 raring	=	=	=	>

OFED 3.5 and Ubuntu - Summary



What is missing ...

- Fabric management tools: ibacm, ib-bonding
- Hardware specific user space library: infinipath-psm (QLogic Truescale), libcxgb4 (Chelsio T4), and libehca (IBM)
- Utility qperf

What is not the latest ...

- dapl
- libibcm
- mstflint
- perftest
- rds-tools
- libsdp

Resources and non-OFED related development



- Ubuntu in UNH/IOL
 - 4 Ubuntu systems available for OFA members
 - ganymede.ofa, 12.10, Mellanox ConnectX-3
 - leda.ofa, 12.04.1, Mellanox ConnectX-3
 - elara.ofa, 12.10, Mellanox ConnectX-2
 - io.ofa, 12.04.1, Mellanox ConnectX-2
- Non-OFED related development
 - DHCP over IB: isc-dhcp-[client/server] >=4.2.4-5ubuntu1
 - udev rules
 - networking interface renaming
 - network manager integration
 - SR-IOV/KVM



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Questions?

Thank you

