

# XenSummit Asia

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## XCP Project Update

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# XCP History

Created in 2009

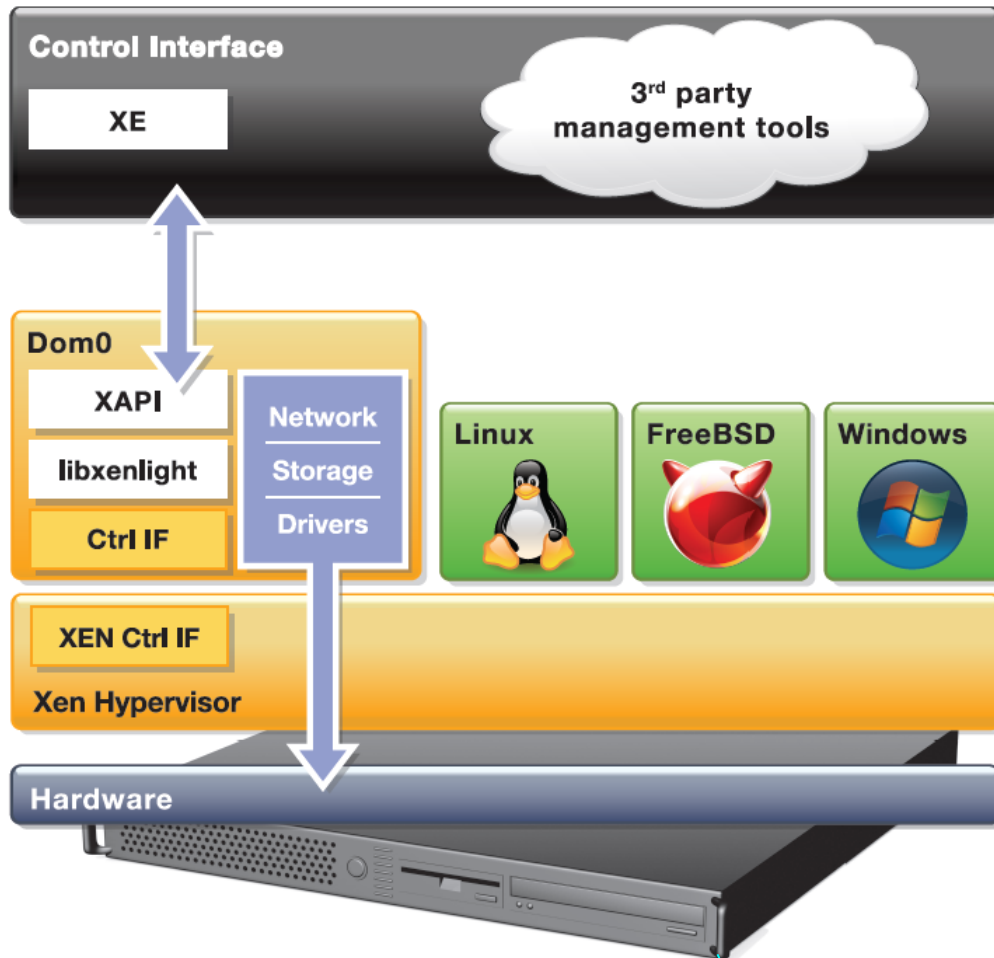
- XCP 1.0 in March 2011, XCP 1.1 in October 2011

Original Scope: expands Xens scope beyond the hypervisor

- create a full virtual infrastructure layer for cloud
  - Simplify and streamline use of Xen by cloud providers and vendors
  - Multi-tenant hosts, networking, storage, etc
  - *Promote greater standardisation of components between vendors*
  - *Promote interoperability between xen-based clouds and other clouds*
  - *Drive standards activities via DMTF*

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# XCP in a nutshell (now)

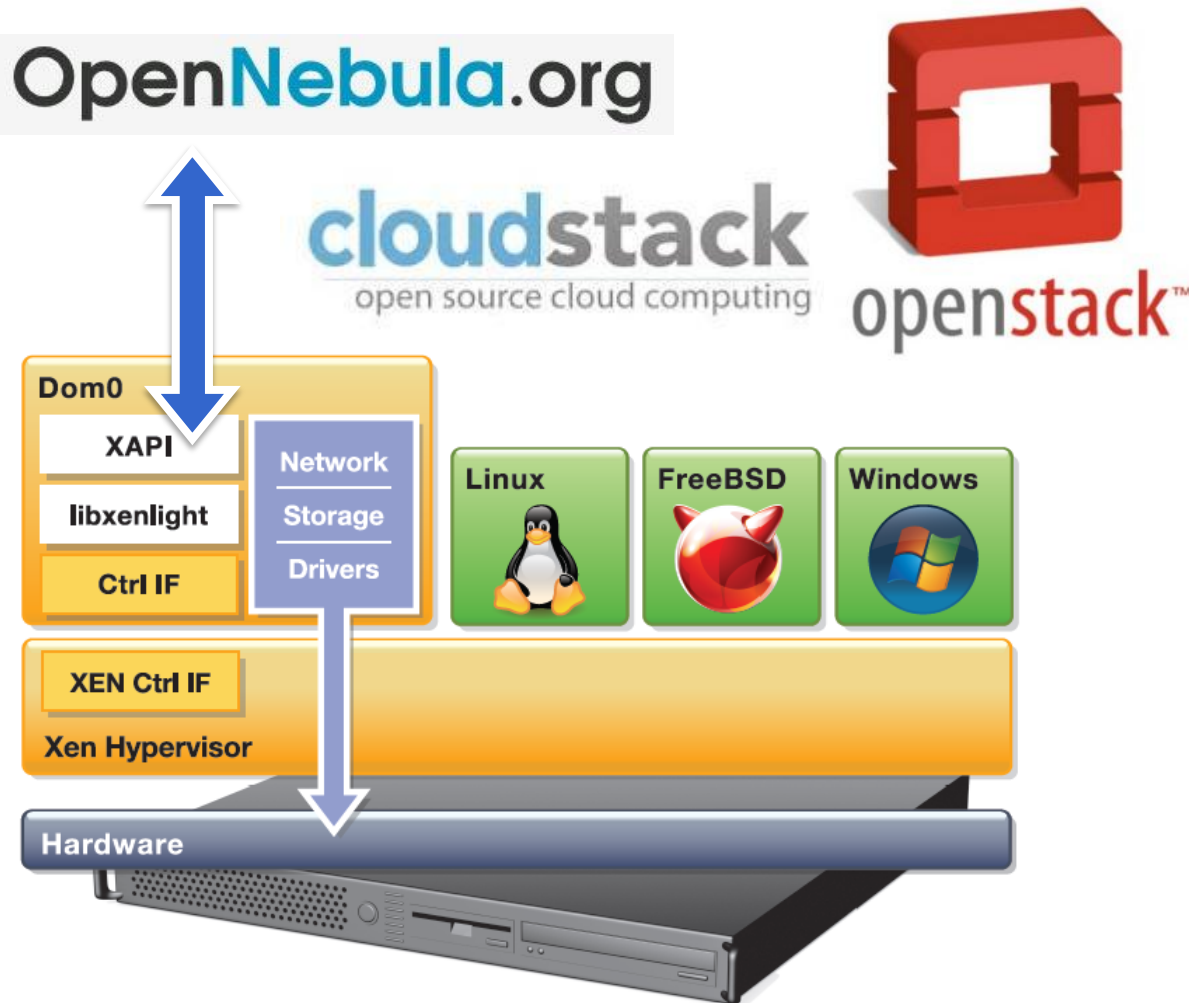


- Vertical stack for server virtualization
- Distributed as a closed appliance with CentOS 5.5 Dom0, misc DomU's, network & storage support and Xen API
- Really: an open source distribution of XenServer

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# XCP and Cloud Projects

OpenNebula.org



- OpenNebula (XCP 1.0)
- CloudStack (XCP 1.0 & 1.1)
- OpenStack (XCP 1.0 & 1.1)  
1<sup>st</sup> Openstack Cloud by Internap using Openstack + XCP

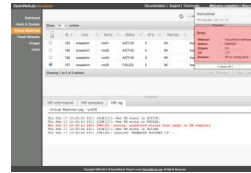
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OpenNebula is an open-source tool for the management of virtualized data centers



OpenNebula.org

Drivers to be released 2nd November!



XAPI

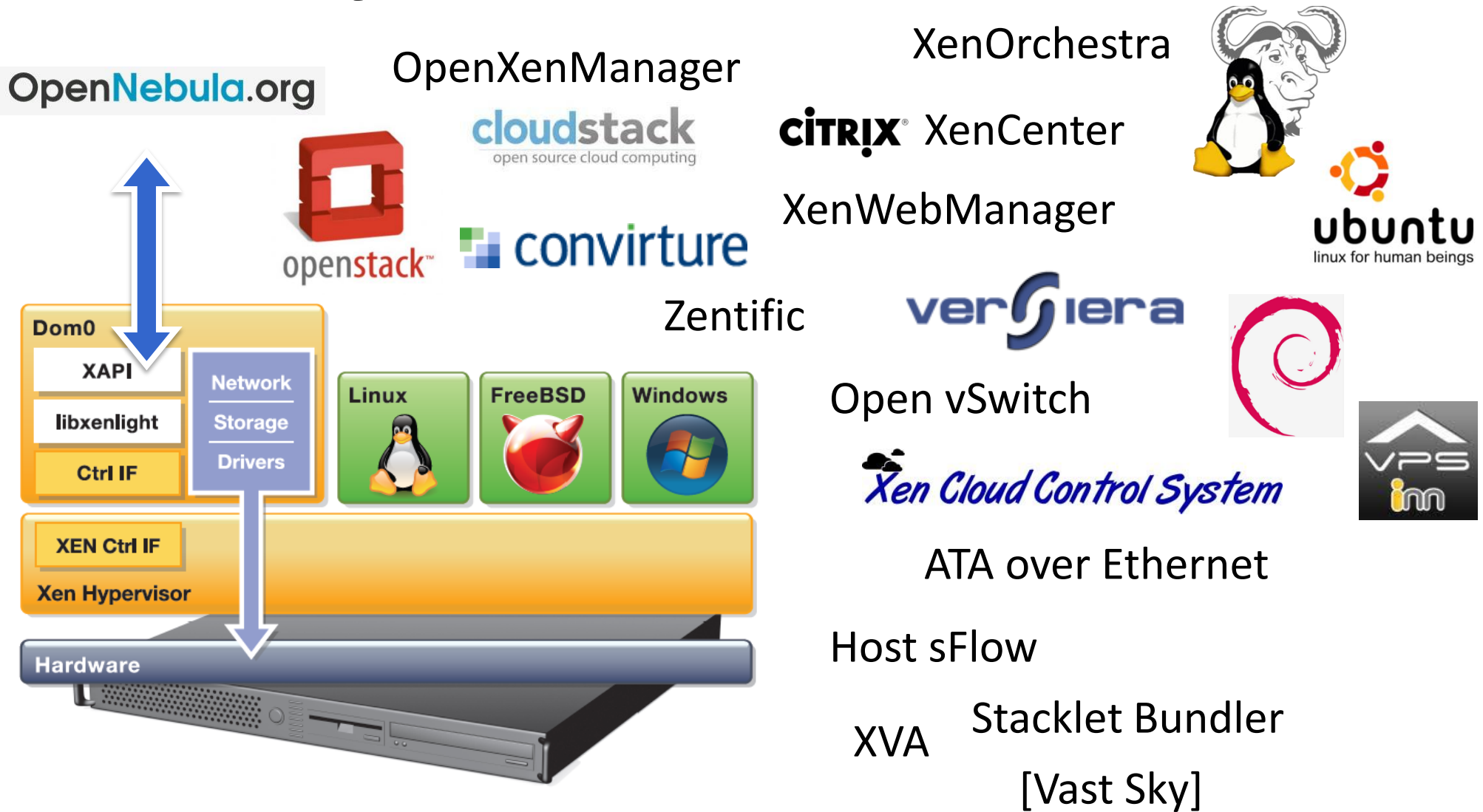


OpenNebula provides cloud orchestration to XCP with an adaptable, extensible, proven, and interoperable architecture

XCP provides a complete cloud platform to OpenNebula, with enhanced security, storage and network virtualization

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# XCP EcoSystem



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**ONGOING WORK IN XCP**

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# Upcoming XCP releases

- XCP 1.1 (released)
  - Mostly bug fixes since XCP 1.0
- Next major release scheduled for Q1'2012
  - Tentatively named XCP 1.5
  - Will have Xen 4.1, Linux 2.6.32
  - New features: Disaster Recovery, GPU passthrough, 1TB host memory
  - New guest support: Solaris, Ubuntu 10.10, RHEL 6.0



# Project Kronos

- Make the XAPI toolstack independent of CentOS 5.5
- Extend the delivery model
  - Deliver Xen, XAPI and everything in between (storage manager, network support, Ocaml libs, etc.) via your favourite Linux distro

*“apt-get install xapi” or “yum install xapi”*

- The Plan:
  - Initially Debian and Ubuntu (12.04)
  - Later any major Linux distro (Fedora, etc.)



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# Project Kronos

Why are we doing this?

- More easily consumable
- This is what cloud orchestration projects prefer
  - Pick your OS
  - Pick the hypervisor
  - Pick the cloud orchestration stack
  - Go
- Because it's the right thing to do (and because it's just really cool)

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# Project Kronos : What works so far

XCP Feature	Working in Kronos on Debian?	Working in Kronos on Ubuntu?
HVM guests	YES	Needs testing
PV guests (netboot install)	YES	YES
PV guests (ISO install)	NO	NO
Open vSwitch	NO	NO
Bridge networking	YES*	YES*
OpenXenManager integration	YES	YES
XenCenter integration	YES	Needs testing
Resource Pooling	YES	Needs testing
NFS/ext3 storage back-ends	YES	YES

\*) Manual configuration required

?) Testing required for confirmation

# Project Kronos : Next Steps

- Milestone 1
  - First release to coincide with Ubuntu 11.10
  - Published as Ubuntu and Debian apt repo
- Milestone 2
  - Second release to coincide with Ubuntu 12.04 LTS
  - Will be in Debian unstable and Ubuntu repos
- Follow along with development
  - [http://wiki.xen.org/xenwiki/XAPI on debian](http://wiki.xen.org/xenwiki/XAPI_on_debian)
  - [http://wiki.xen.org/xenwiki/Kronos Supported Features](http://wiki.xen.org/xenwiki/Kronos_Supported_Features)

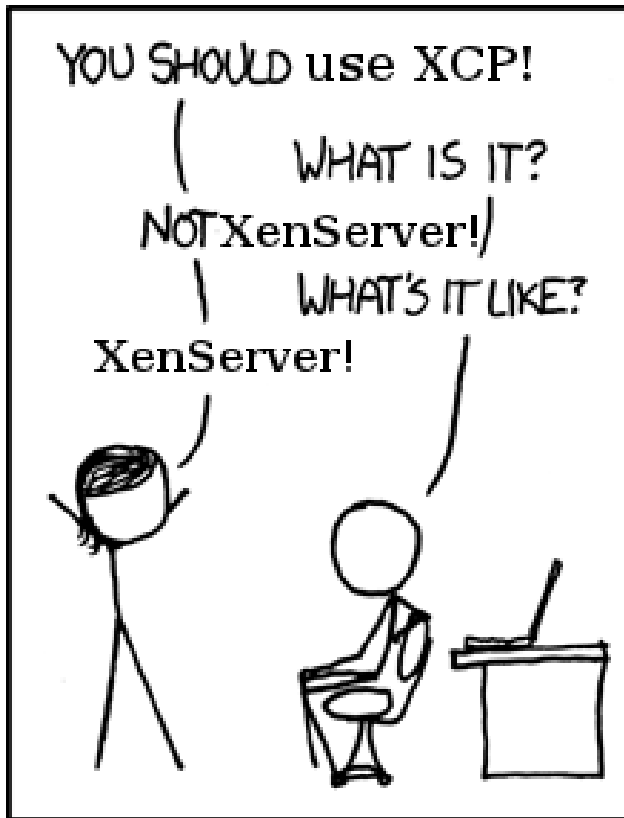


**WHERE IS XCP GOING**

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# XCP & XenServer



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<http://xkcd.com/918/>

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# Where we're headed

- XCP becomes XenServer “unstable”  
(or the “Fedora of RHREL”)
  - More experimental development such as project Kronos
  - More flexibility for users of Xen
- Tracking unstable hypervisor/kernel
- More open development model
- XenAPI toolstack is more easily consumable
- Supporting the cloud and cloud projects
  - Optimized for cloud use-cases
  - Optimized for how usage patterns in cloud projects

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# XCP Vision

- XCP is the configuration of choice for clouds
- XCP bridges the gap between Open Source Xen and XenServer / XCP communities
- XCP becomes the Xen Community Platform

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**WHAT DOES THIS MEAN FOR YOU?**



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# Decisions, decisions, decisions, ...

- XCP or Xen
  - Built & tested ISO vs. source distribution
  - “Xen Linux” vs. PVOPS (via latest Linux Distro’s)
- XCP or another Xen Product
  - openSuse | Suse Linux Enterprise
  - Oracle VM
- XCP or XenServer
  - [http://wiki.xen.org/xenwiki/XCP/XenServer\\_Feature\\_Matrix](http://wiki.xen.org/xenwiki/XCP/XenServer_Feature_Matrix)
- XCP or Kronos
  - Maturity vs. more flexibility & better consumability
  - “Xen Linux” vs. PVOPS



The image shows a feature matrix table for XenServer products. The table compares various features across five product tiers: Xen Cloud Platform, XenServer Free, XenServer Advanced, XenServer Enterprise, and XenServer Platinum. Features include Cost/Licensing, XenServer hypervisor, IntelliCache, Resilient distributed management architecture, VM disk snapshot and revert, XenCenter management, Conversion tools, XenMotion® live Migration, Heterogeneous pools, Dynamic Memory Control, Performance alerting and reporting, Distributed virtual switching management tool, High availability, Host power management, Live memory snapshot and revert, Role-based administration, Dynamic workload balancing, Provisioning services (virtual), StorageLink, Web self-service with delegated admin, Automated VM protection and recovery, Site recovery, Lab manager with self-service portal, and Provisioning services (physical). The table uses 'X' to indicate feature availability and 'Paid/Citrix EULA' to denote licensing requirements for certain features.

Features	Xen Cloud Platform	XenServer Free	XenServer Advanced	XenServer Enterprise	XenServer Platinum
Cost/Licensing	Free/Open Source (Multiple Licenses <sup>1</sup> )	Free/Citrix EULA			
XenServer hypervisor	X	X			
IntelliCache	X	X			
Resilient distributed management architecture	X	X	X	X	X
VM disk snapshot and revert	X	X	X	X	X
XenCenter management	X	X	X	X	X
Conversion tools	X	X	X	X	X
XenMotion® live Migration	X	X	X	X	X
Heterogeneous pools	X	X	X	X	X
Dynamic Memory Control	X	X	X	X	X
Performance alerting and reporting	X	X	X	X	X
Distributed virtual switching management tool	X	X	X	X	X
High availability			X	X	X
Host power management				X	X
Live memory snapshot and revert	X		X	X	X
Role-based administration	X		X	X	X
Dynamic workload balancing	X			X	X
Provisioning services (virtual)				X	X
StorageLink				X	X
Web self-service with delegated admin				X	X
Automated VM protection and recovery				X	X
Site recovery				X	X
Lab manager with self-service portal	X			X	X
Provisioning services (physical)				X	X





**QUESTIONS**

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