Cloud Computing and E-Commerce

Cloud Computing turns Computing Power into a Virtual Good for E-Commerrce



is Implementation Partner of



4FriendsOnly.com Internet Technologies AG

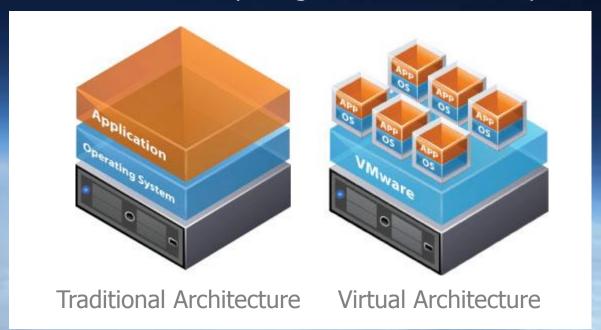
Outlook

- Virtualization
- Cloud Computing
- E-Commerce needs Scalability
- Intershop 7
- Amazon Web Services (AWS)
- ShopInSphere Cloud Empowered Intershop

Virtualization

From Traditional to Virtual Architecture

- Virtualization solves the problem by enabling several operating systems and applications to run on one physical server or "host."
- Each "virtual machine" is isolated from the others, and uses as much of the host's computing resources as it requires.



Computing Power becomes a Virtual Good

Cloud Computing

Not a real Definition

- Some network-based services (provided by real server hardware), which in fact are served up by virtual hardware, simulated by software running on one or more real machines.
- Such virtual servers/machines (VMs) do not physically exist and can therefore be moved around and scaled up (or down) on the fly without affecting the end user - like a cloud.

3 Layers of Cloud Computing

Specialization

Software as a Service (SaaS)

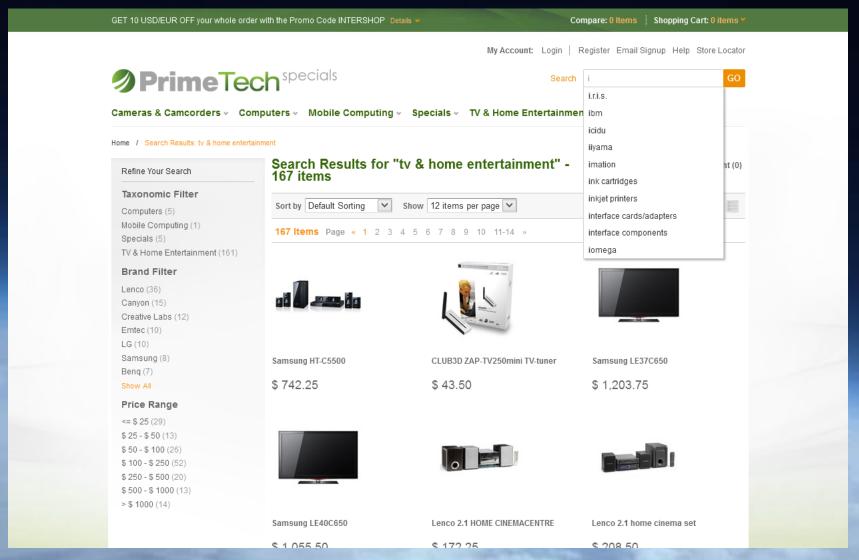
Platform as a Service (PaaS)

Infrastructure as a Service (IaaS)

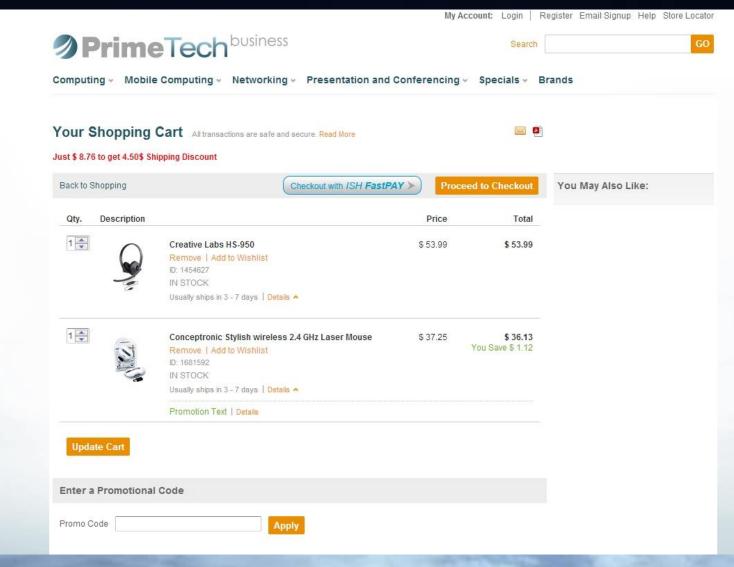
E-Commerce needs Scalability

- The online shop traffic vary strongly
 - Black Friday U.S. citizans buy their christmas presents on the day after Thanksgiving
 - Online retailers trigger sales by time-limited promotion campains
- Online retailers want to minimize costs
 - Pay for hardware only when it is needed
 - Use E-Commerce software which supports scalability
- E-Commerce SaaS using Cloud Computing

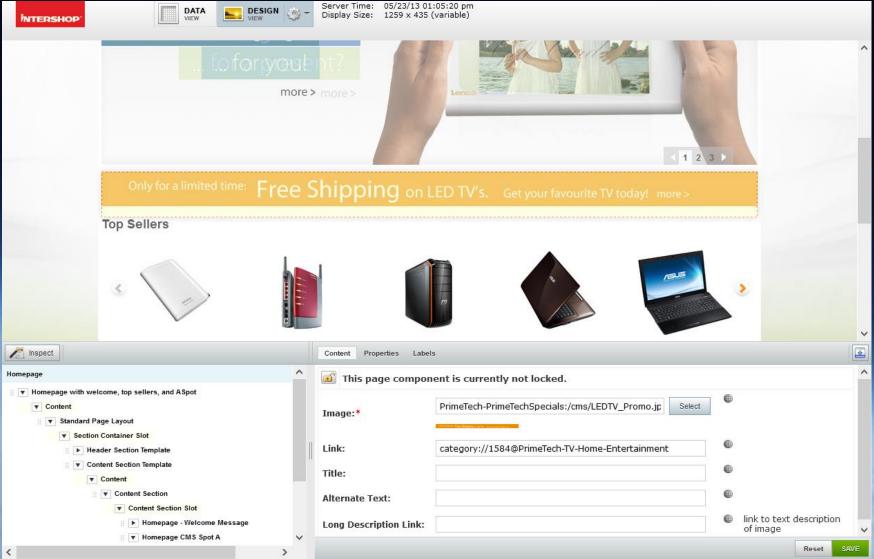
Intershop 7 – New Features (1/3) Integrated Solr Search Engine



Intershop 7 – New Features (2/3) Configurable Promotion Engine



Intershop 7 — New Features (3/3) Design View for Frontpage Editing



Intershop 7 Architecture

Web Adapter

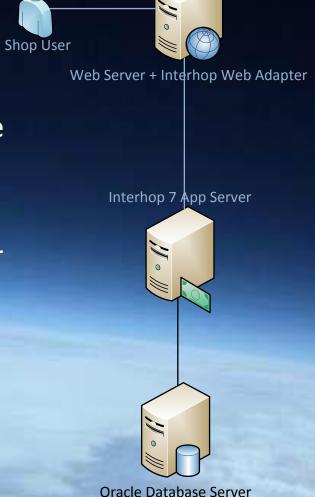
Intelligent page cache
Complex HTML pages
including many dynamic data will
be stored in the Web Adapter once
the App Server has created

App Server

Includes all the shop logic and Solr Written in Java and the Intershop graphical programming language (Pipelines).

Oracle Database Server

The main storage for the online shop (product data, user data ...)



Intershop 7 Scalable E-Commerce

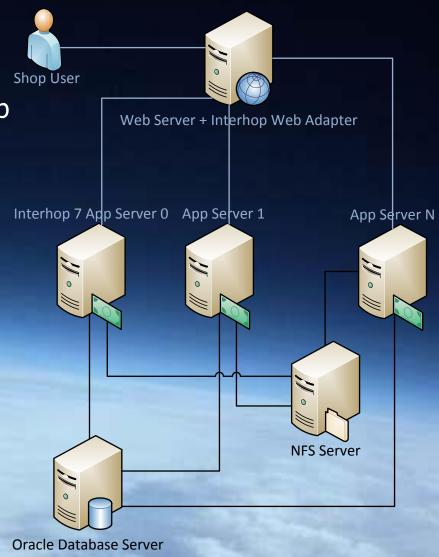
Multiple App Servers

The load from multiple users will be balanced by the Intershop Web Adapter across an almost unlimited number Intershop App Servers

For code updates only one App Server needs to be updated because all App Servers use a shared file system (from a NFS server)

Easy Scaling

Each App Server can be switch off and on easily



Amazon Web Services (AWS)

Relational Database Service (RDS)

Managed Oracle database service. Roll-back to each point of time possible. Oracle licence included. Payment depends mainly on the selected server instance (CPU speed, RAM) and time.

Elastic Compute Cloud (EC2)

EC2 allows scalable deployment of applications by providing a Web service. User can boot an Amazon Machine Image to create a virtual machine, which Amazon calls an "instance", containing any software desired.

A user can create, launch, and terminate server instances as needed, paying by the hour for active servers, hence the term "elastic".

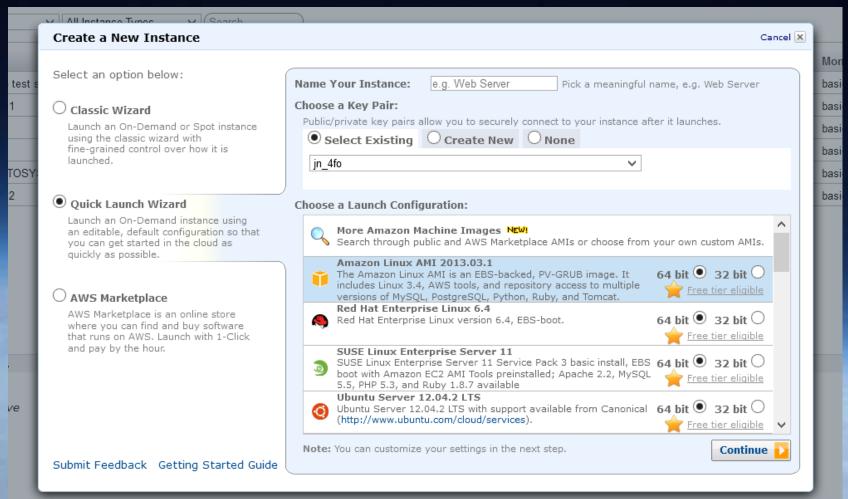
(http://en.wikipedia.org/wiki/Amazon_Elastic_Compute_Cloud)

EC2 Instance Types

API Name	Memory (GiB)	Cores/Compute Units	Instance Storage (GB)	32bit/64bit	I/O Performance	EBS-Optimizable	On-Demand Cost (Linux - per hour on US East 1)
m1.small	1.7	1/1	160	32/64	Moderate	No	\$0.060
m1.medium	3.75	1/2	410	32/64	Moderate	No	\$0.120
m1.large	7.5	2/4	850	64	Moderate	500 Mbit/s	\$0.240
m1.xlarge	15	4/8	1600	64	High	1000 Mbit/s	\$0.480
m3.xlarge	15	4/13	0 (EBS only)	64	Moderate	500 Mbit/s	\$0.500
m3.2xlarge	30	8/26	0 (EBS only)	64	High	1000 Mbit/s	\$1.000
t1.micro	0.6	1/(up to 2)	0 (EBS only)	32/64	Low	No	\$0.020
m2.xlarge	17.1	2/6.5	420	64	Moderate	No	\$0.410
m2.2xlarge	34.2	4/13	850	64	High	500 Mbit/s	\$0.820
m2.4xlarge	68.4	8/26	1690	64	High	1000 Mbit/s	\$1.640
c1.medium	1.7	2/5	350	32/64	Moderate	No	\$0.145
c1.xlarge	7	8/20	1690	64	High	1000 Mbit/s	\$0.580
cc1.4xlarge	23	2/33.5 (2 Intel Xeon X5570)	1690	64	Very High (10 Gbit)	?	\$1.300
cc2.8xlarge	60.5	2/88 (2 Intel Xeon E5- 2670)	3370	64	Very High (10 Gbit)	Not necessary	\$2.400
cr1.8xlarge	244	2/88 (2 Intel Xeon E5- 2670)	240 (SSD)	64	Very High (10 Gbit)	Not necessary	\$3.500
cg1.4xlarge	22	2/33.5 (2 Intel Xeon X5570) + 2 NVIDIA Tesla "Fermi" M2050 GPU	1960	64	Very High (10 Gbit)	Not necessary	\$2.100
hi1.4xlarge	60.5	16/35 (8 cores + 8 hyperthreads)	2*1024 (SSD)	64	Very High (10 Gbit)	Not necessary	\$3.100
hs1.8xlarge	117	16/35 (8 cores + 8 hyperthreads)	48000 (24 * 2TB drives)	64	Very High (10 Gbit)	Not necessary	\$4.600

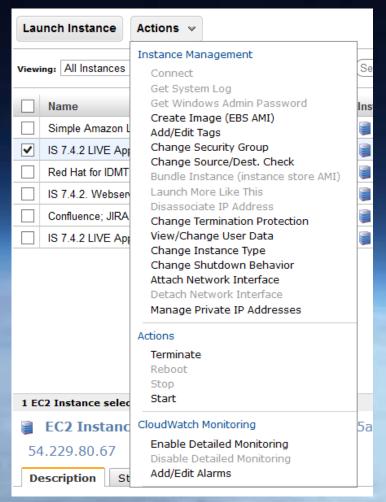
Elastic Compute Cloud (EC2)

Create a New Instance

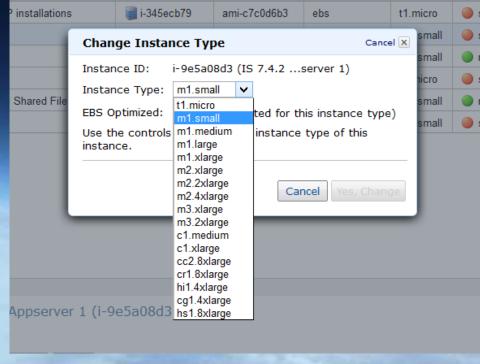


Elastic Compute Cloud (EC2)

Instance Management

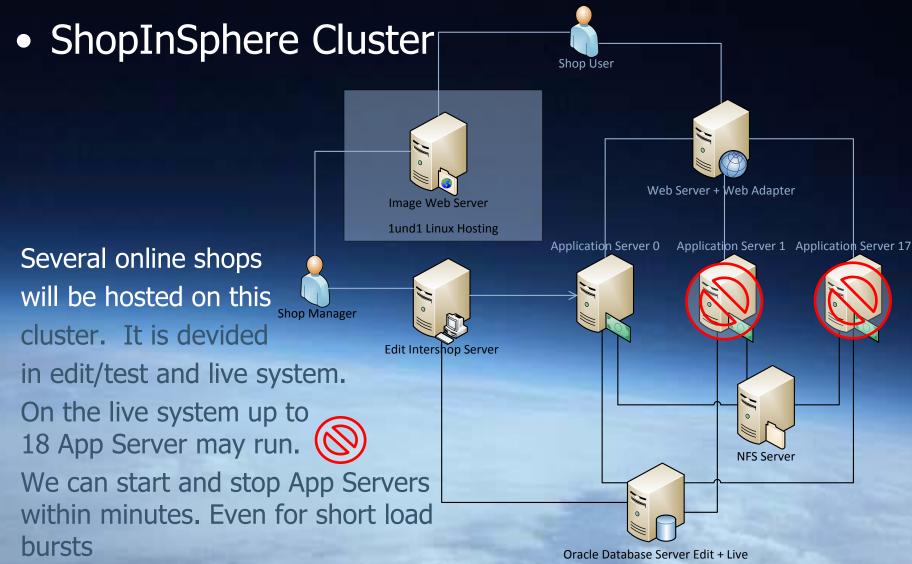


Change Instance Type



ShopInSphere.de (Start Q1/2014)

Cloud Empowered Intershop



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www.ShopInSphere.de

Thank you
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