

**Cloud Computing  
Pay-per-Use for On-Demand Scalability**

**OGF25**

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IGT**

*Cloud Computing: Pay-per-Use  
for On-Demand Scalability*

# About IGT

**Knowledge sharing and networking  
Grid/Cloud Technologies – Industry Oriented**



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# IGT Cloud Computing Directory

<http://www.cloudcomputing.org.il/ccd/>

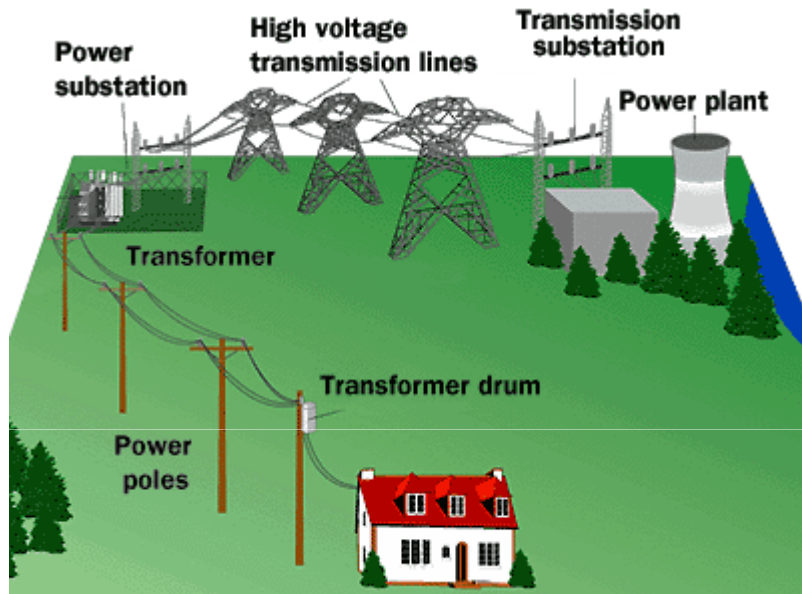
The screenshot displays the IGT Cloud Computing Directory website. At the top, there is a navigation bar with links for "IGT Cloud Computing Directory", "Salesforce", "Force.com", and "DAAS.com". Below this is a central hub labeled "IGT Cloud Computing Directory" with lines radiating to various categories:

- Platform as a Service (PaaS) Providers
- Cloud Grid Computing
- Cloud Infrastructure Software
- Cloud Integrators & Consulting
- Cloud Security
- Cloud Software Solutions
- Cloud Testing
- Desktop as a Service (DaaS)
- Hardware
- Infrastructure as a Service (IaaS) Providers
- Open Source
- Software as a Service (SaaS) Providers
- Standards

Below the navigation is a banner for "IGT 2008 The World Summit of Cloud Computing" held at the Wohl Center, Ramat Gan, Israel. The banner includes the Grid logo, the MAGNET logo, and two buttons for "Day 1 IGT2008 December 1st" and "Day 2 IGT2008 December 2nd".

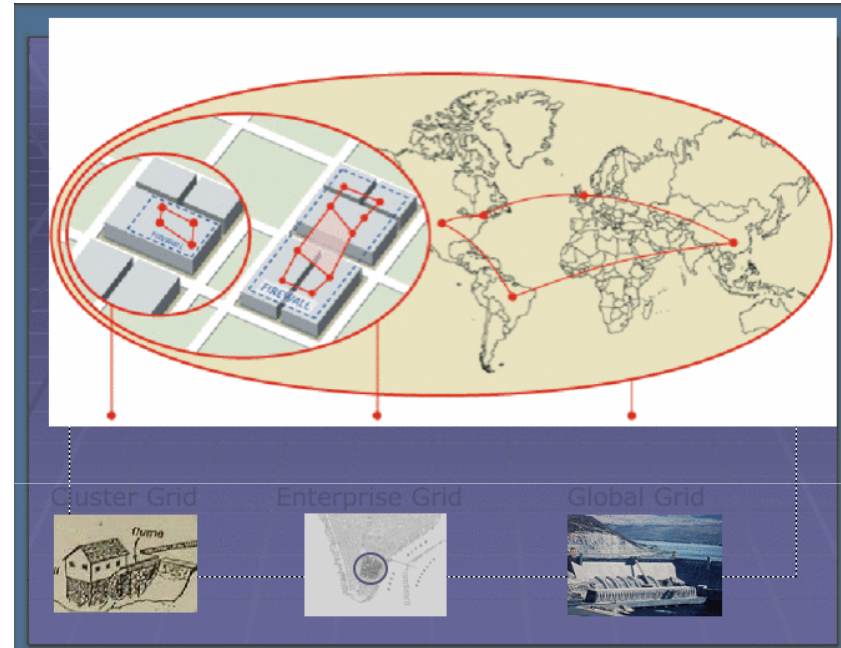
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# What is Cloud Computing? Think Power Grid



## **Power Grid**

The Network is the Electricity



## **Compute Grid**

The Network is the Computer

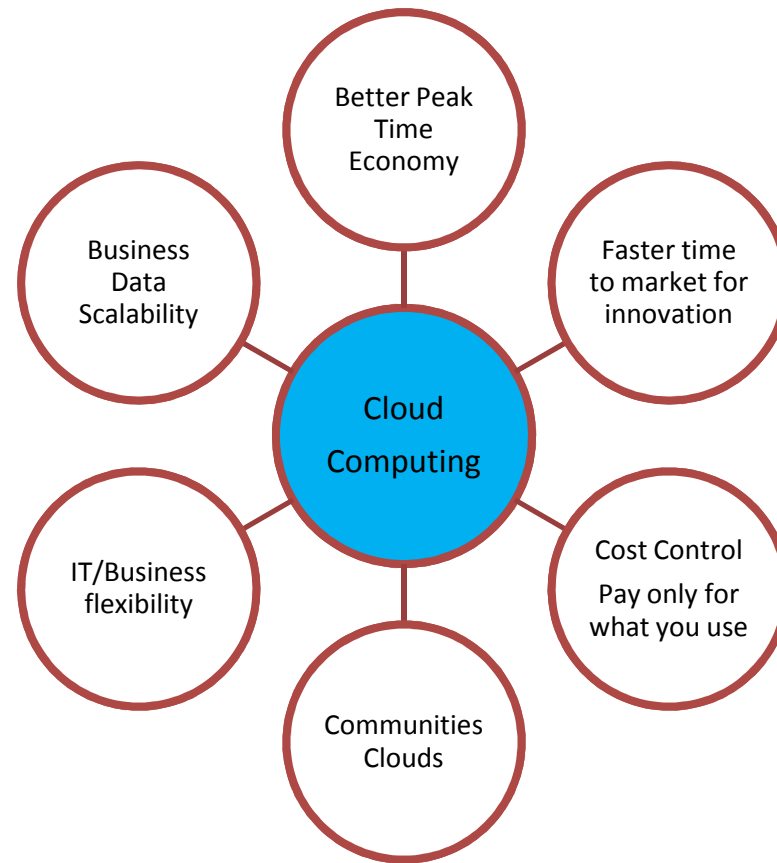
Provides On-Demand Transparent Services  
Pay per Use

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# The Need for Cloud Computing

IT is not my main business

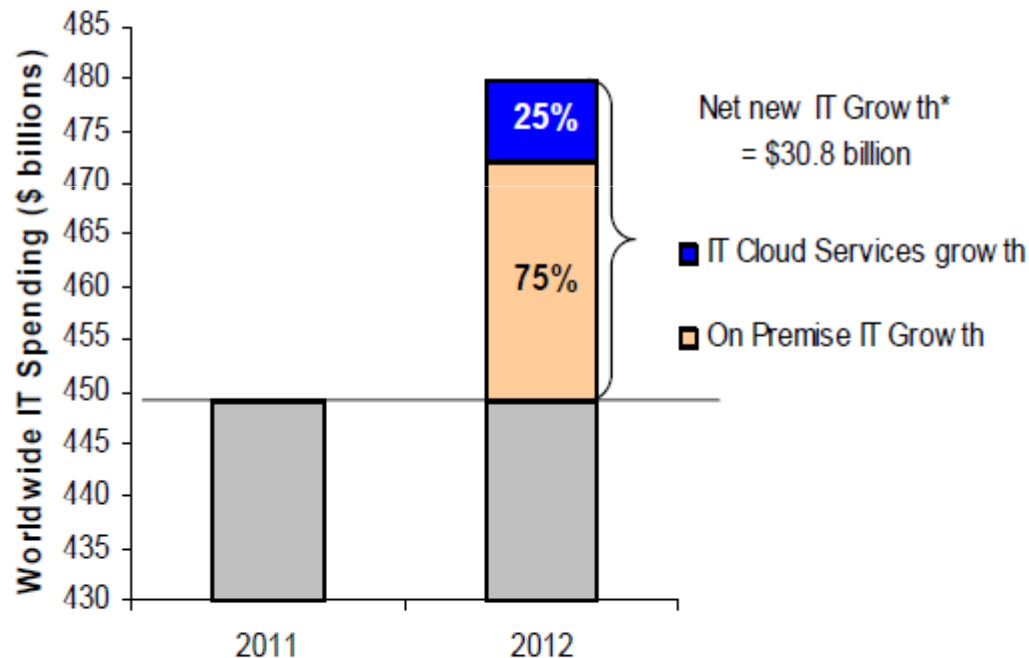
Economic Crisis-> Cut IT Costs NOW



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# Cloud Technology Spending Is Small Relative to Total But is a Big Part of Incremental Growth

## Sources of Incremental IT Spending\* Growth in 2012. Cloud vs. On-Premise



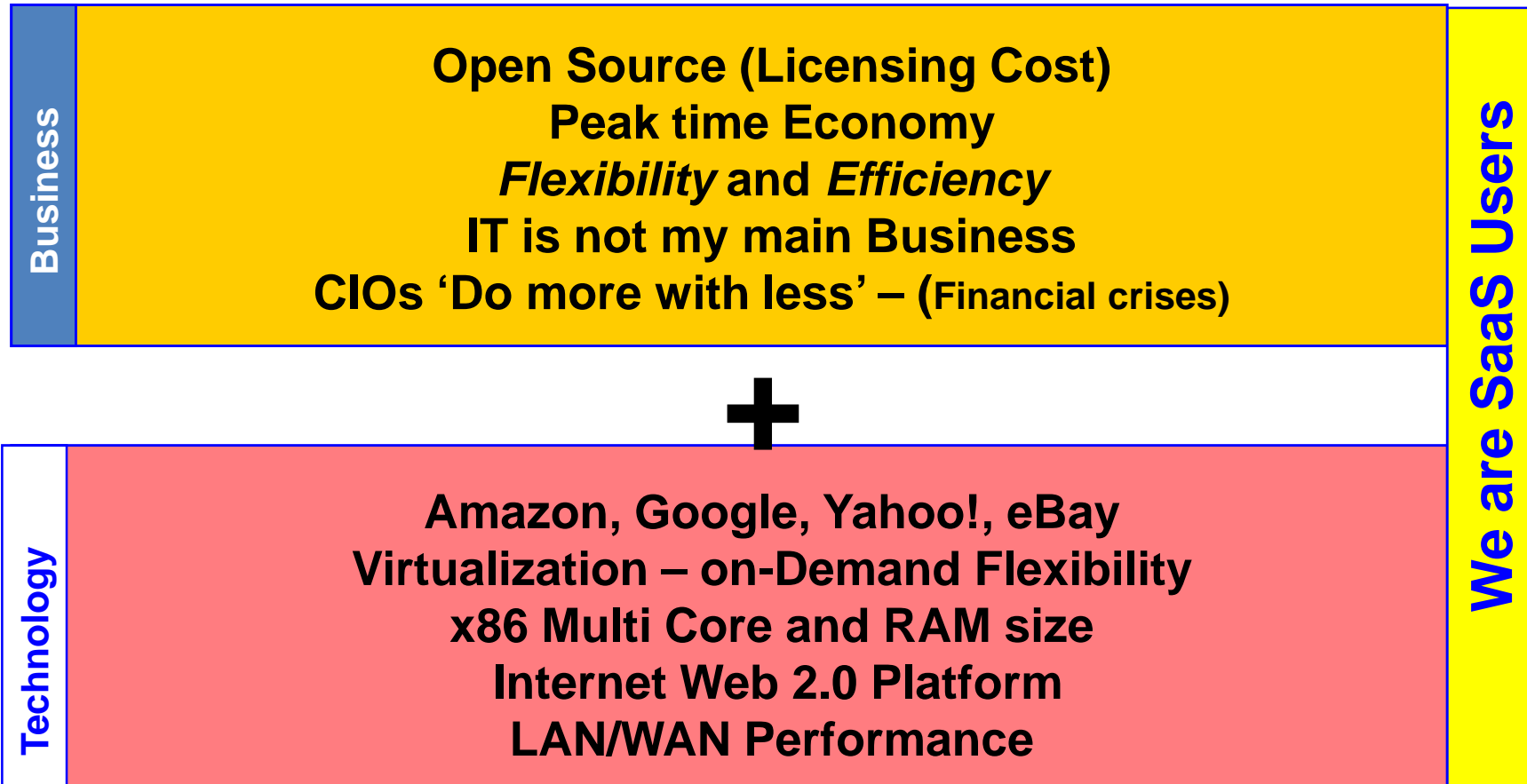
- ~\$16b or 4% of IT spending is for “cloud”, says IDC.
- By 2012 IDC forecasts \$42b, or 9%, of spending.
- Regardless, whether these point forecasts are right, we believe the 4 to 9% is the right way to think about this:
  - Small part of total but growing quickly
  - Increasingly large part of incremental spending



\*Includes enterprise IT spending on Business Applications, Systems Infrastructure Software, Application Development & Deployment Software, Servers and Storage  
Source: IDC, Oct 2008

# Why Now? – Cloud enablers

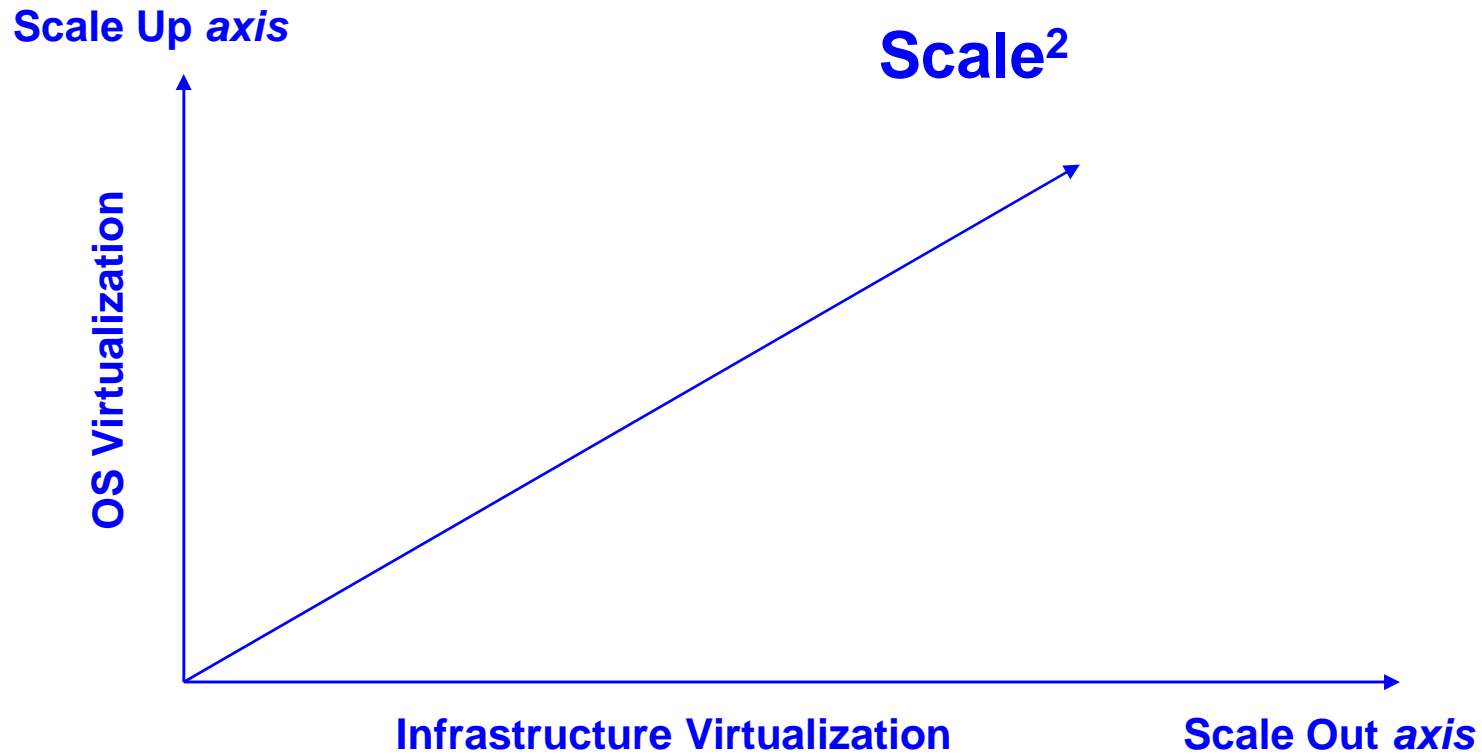
## Pay-per-Use for business Efficiency



## on-Demand Scalability for Data Efficiency

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**Virtualization is the Scalability enabler**  
**The power of Cloud Diagonal scaling = Scale-out + Scale-up**

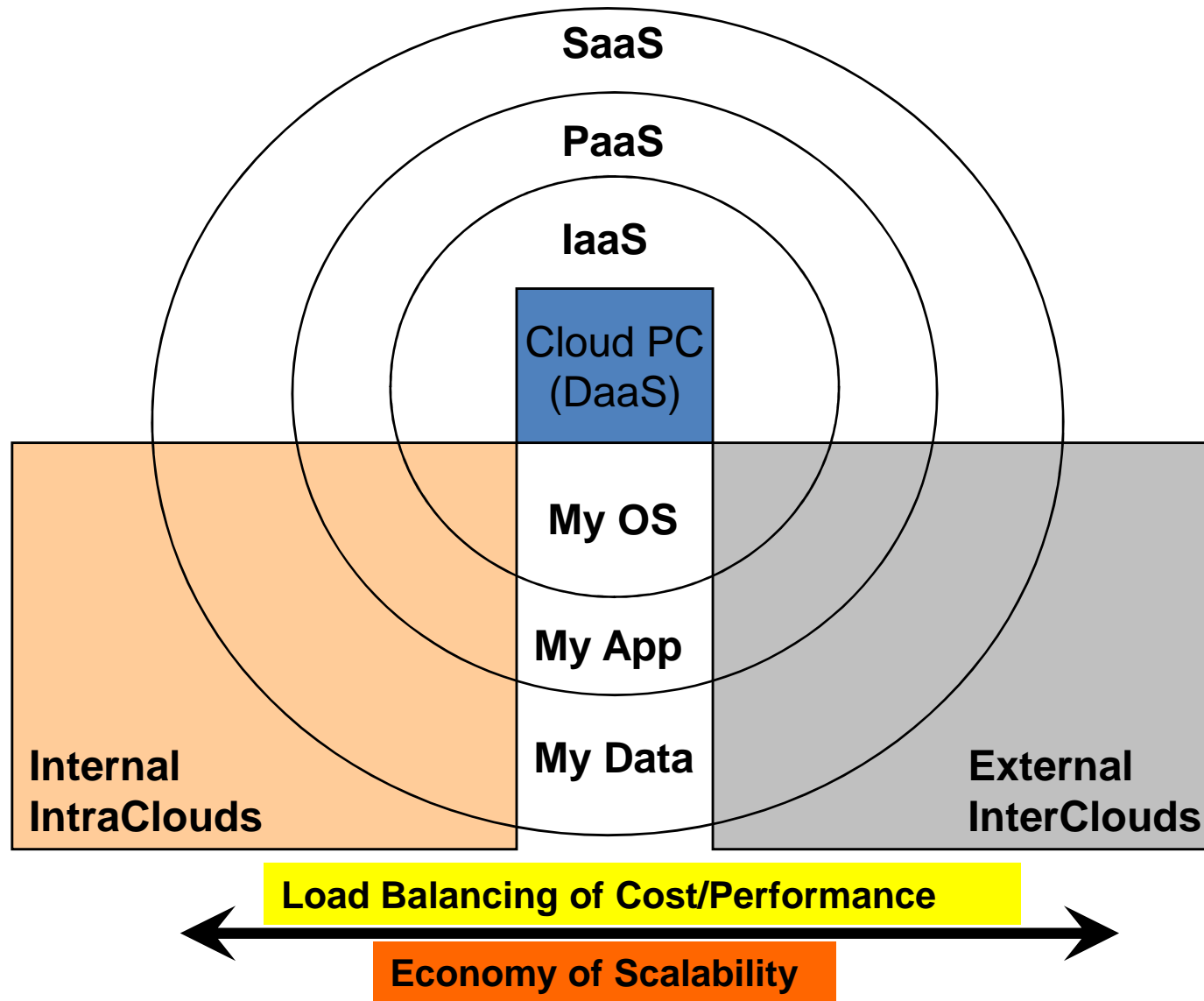


**Using 1000 servers for one hour costs the same as using one server for 1000 hours**

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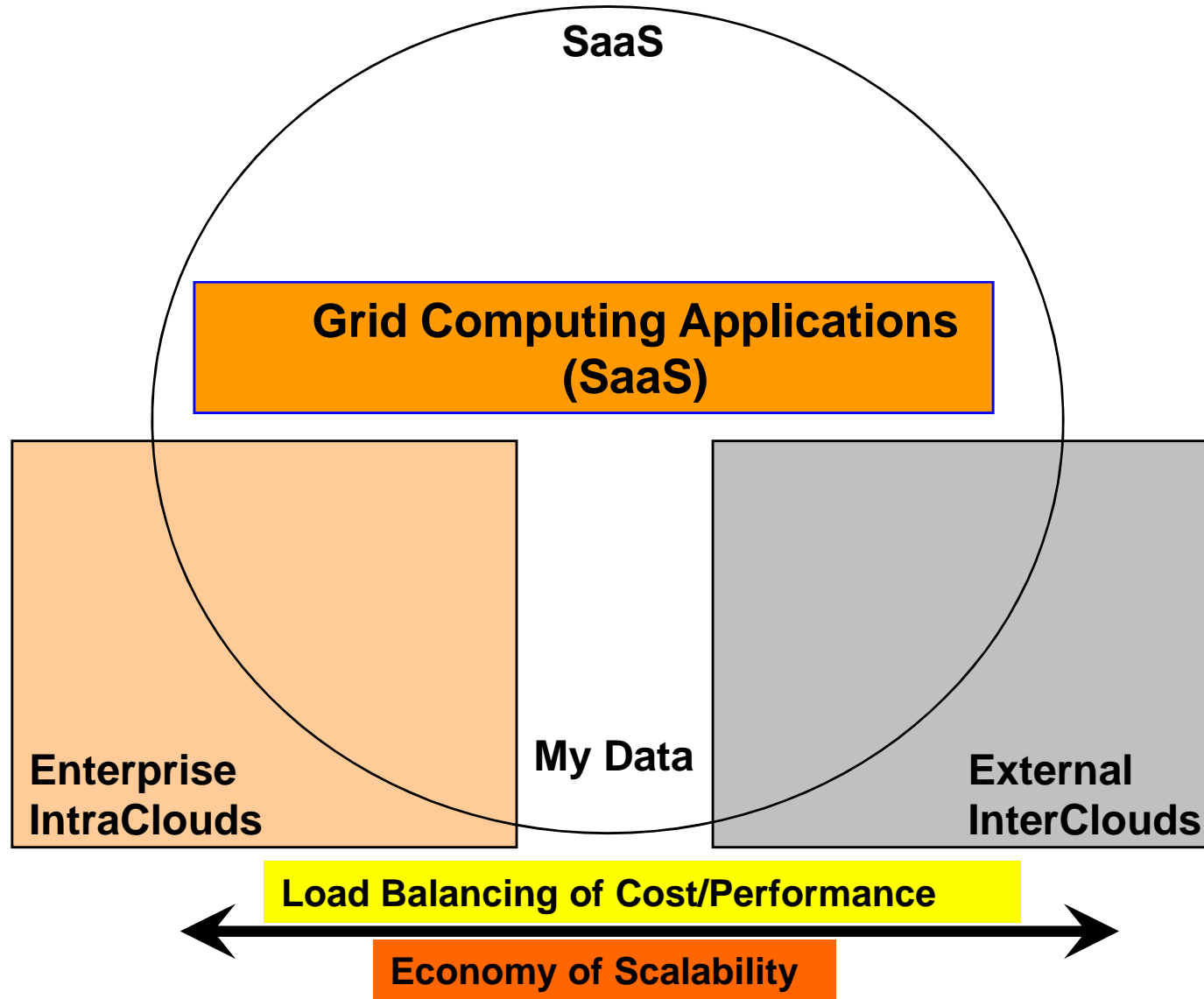


# When and what do I want to move between Internal & External Clouds?



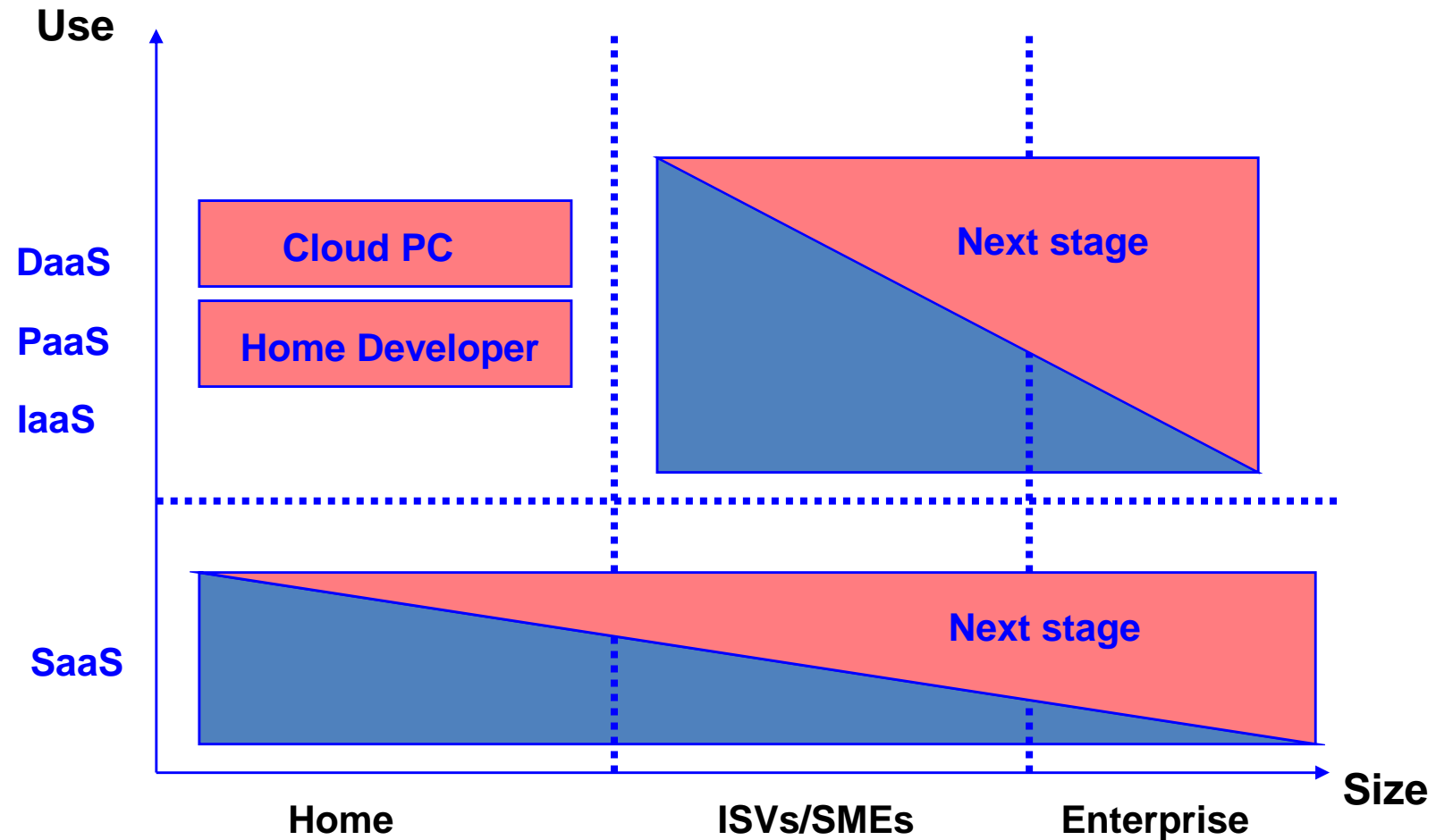
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# Grid Computing as SaaS



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# The Evolution of Public Clouds Use



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# Is Cloud On-Demand?

Infrastructure Resource	On-Demand Services
CPUs	Yes
Storage	Yes
Network Bandwidth	No
RAM	No
OS Loading	Yes
OS Migration	Not Yet
VPN	Not Yet
Grid on Cloud	Yes
Cost/Performance SLA	No
Cloud of Clouds	No

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# Main Cloud Challenges

- **Legal (local & International)**
- **Scalable software architecture**
- **Interoperability standards**
- **SLA Standards**
- **Security**
- **Management**
- **Dynamic Network Bandwidth**
- **Freedom of cloud choice**

# Thank You!

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