

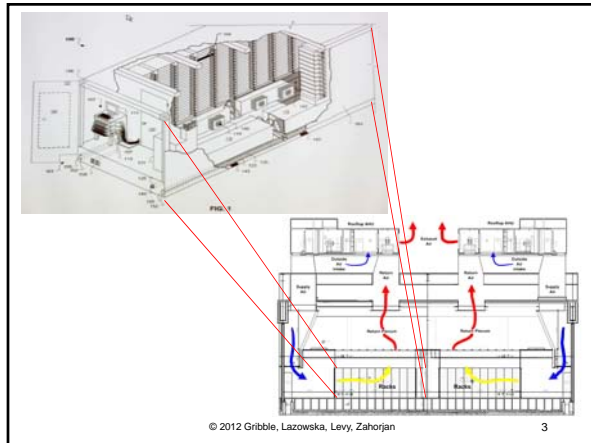
CSE 451: Operating Systems  
Spring 2012

Module 26  
Cloud Computing

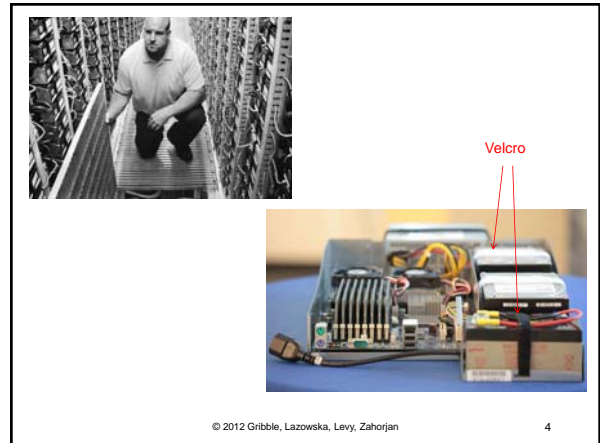
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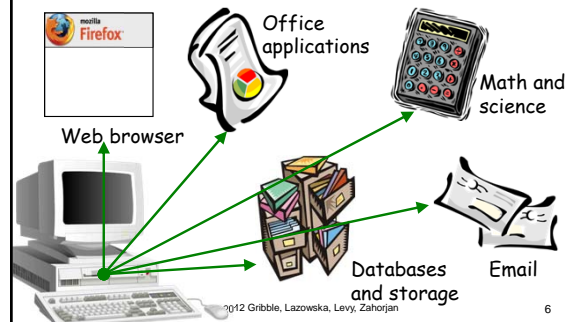


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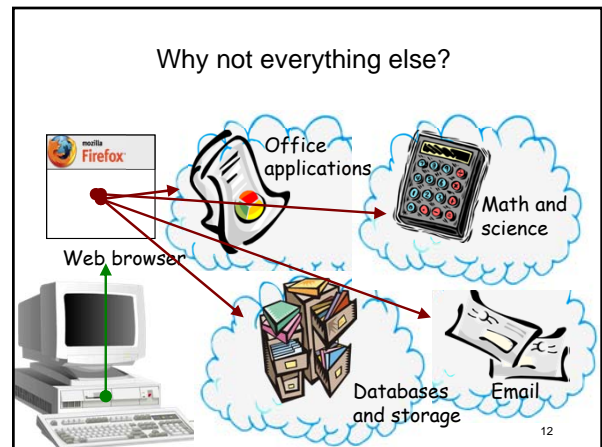
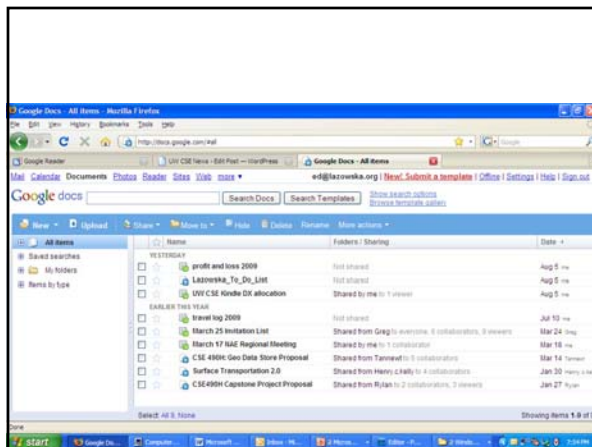
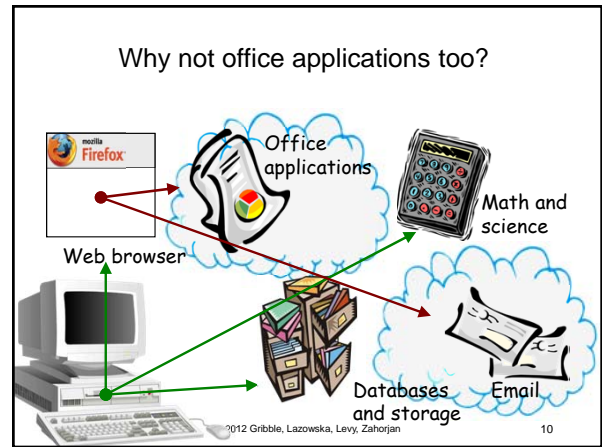
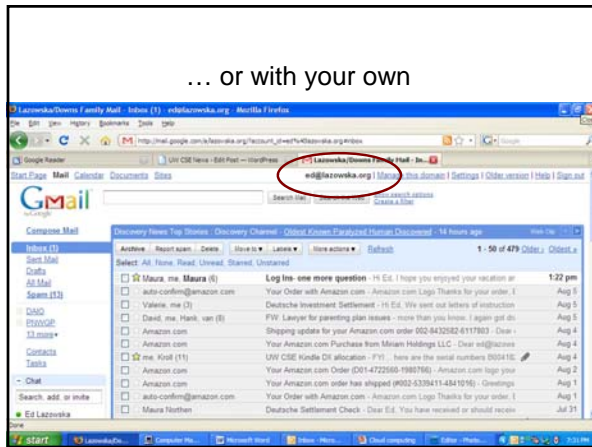
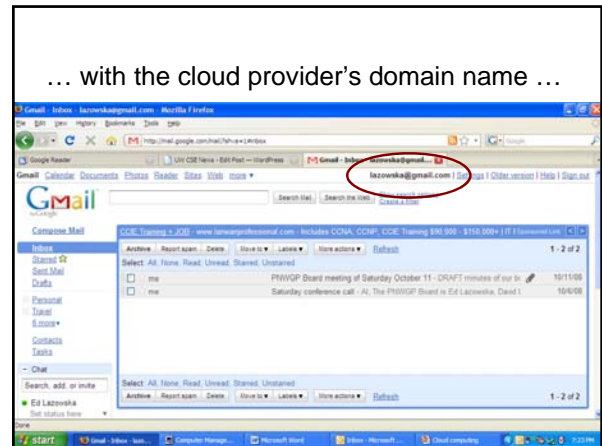
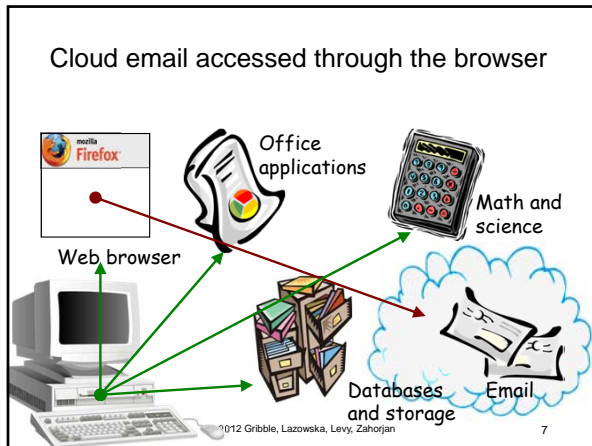
- A datacenter has 50 - 250 containers
- A container has 1,000 - 2,000 servers
- A server has two processors, 2 disks, tons of memory, battery backup
- Processors are chosen for power efficiency, not performance

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Personal computing



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## Consider ...

- Sharing is easy
- Someone else does backup
- Someone else handles software updates
- There's 7x24x365 operations support, auxiliary power, redundant network connections, geographical diversity
- Scalability – both up and down – is instantaneous
- Many fewer demands on the local operating system and machine

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## Amazon Elastic Compute Cloud (EC2)

- \$0.68 per hour for
  - 4 cores of 2.5 GHz 64-bit Xeon or Opteron
  - 15 GB memory
  - 1.69 TB scratch storage
- Need it 24x7 for a year?
  - \$3900
- \$0.085 per hour for
  - 1 core of 1.2 GHz 32-bit Intel or AMD
  - 1.7 GB memory
  - 160 GB scratch storage
- Need it 24x7 for a year?
  - \$490

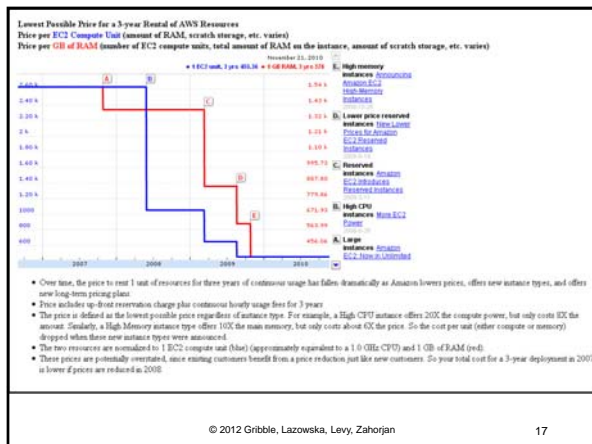
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- This includes
  - Purchase + replacement
  - Housing
  - Power
  - Operation
  - Reliability
  - Security
  - Instantaneous expansion and contraction
- 1000 processors for 1 day costs the same as 1 processor for 1000 days!

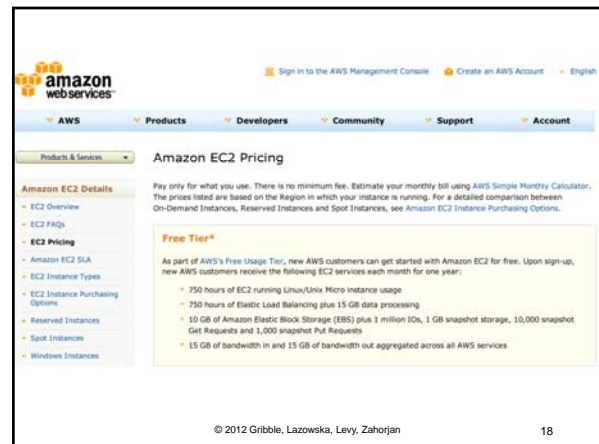
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### Animoto: EC2 Instance Usage

