Cloud Computing
and your increasingly off-shore info world

http://www.flickr.com/photos/35375520@N07/3680331543

A short talk for REACH
With Shelly Drumm and Chrstine Kreger
I have no idea what you're talking about.

Psst! You're probably already using it.
69% of us were using the cloud in 2008. More now.

- Gmail
- Yahoo! Mail
- Pix on Flickr, Facebook, Picasa
- Google Docs, Zoho, or Microsoft Office Live
- Blogspot or Wordpress.com
- Dropbox

http://tinyurl.com/pewcloud
Well, since you asked. . . No. Not even close.

That's it?! Gmail? That's all there is to it?
It's not unlike electricity

http://www.flickr.com/photos/frankhg/850696163/sizes/o/
Different Kinds of Cloud Computing

- **Software as a Service (SaaS)**
  - Google Docs
  - Salesforce
  - Dropbox, Carbonite (StaaS)

- **Infrastructure as a Service (IaaS)**
  - RackSpace
  - Amazon Elastic Compute Cloud
  - [http://tinyurl.com/cloud-sd](http://tinyurl.com/cloud-sd)

- **Platform as a Service (PaaS)**
  - Yahoo! Pipes
Not to mention...

- **Public Cloud**
  - All resources provisioned over the net from 3rd parties

- **Community Cloud**
  - Several organizations sharing infrastructure dynamically

- **Hybrid Cloud**
  - Transitional?
  - Could be web server is cloud hosted, database server in the building

- **Private Cloud**
  - Is it really a cloud set up if it doesn't have all the benefits of the cloud?
Case Study: John C. Fremont Library

The challenges:

- No unified email system
- No shared calendaring
- 1 Decrepit web server running ILS
- 1 PT underpaid server guy
  - Who graduated from HS and went to college
- No money; small staff
Solution 1: Google Apps (SaaS)

What they got
- Consistent, branded email
- Shared calendaring
- Production and collaboration tools a la Microsoft Office suite

What they spent
- $0
- 2 hours of staff time
Solution 2: RackSpace (IaaS)

What they got

- Reliable servers
- Elasticity/Scaling
- Server professionals managing, updating their servers
- Stress reduction

What they spent

- $20/month (pops up to $30 in the summer)
- $1500 a year for a tech consultant
# Let's Do the Math

**Roll your own:**

<table>
<thead>
<tr>
<th>Initial outlay</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange Server:</td>
<td>$500</td>
</tr>
<tr>
<td>Web Server:</td>
<td>$400</td>
</tr>
<tr>
<td>+MS Office:</td>
<td>$500 (?)</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$1400</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual costs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jesse:</td>
<td>$2000</td>
</tr>
<tr>
<td>3 year replacements:</td>
<td>$150</td>
</tr>
<tr>
<td>+Software upgrades:</td>
<td>$50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$220</strong></td>
</tr>
</tbody>
</table>

**Up in the cloud:**

<table>
<thead>
<tr>
<th>Initial outlay</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>$0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual costs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Google Apps:</td>
<td>$0</td>
</tr>
<tr>
<td>RackSpace:</td>
<td>$270</td>
</tr>
<tr>
<td>+Consultant:</td>
<td>$500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$77</strong></td>
</tr>
</tbody>
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0
Other benefits

- Less stress
- More uptime
- Redundancy/backups
- Anytime/Anywhere access to docs, cal, email
- Collaboration on docs
Other SaaSes

- Library specific
  - LibLime hosted Koha (AspenCat)
  - OCLC Webscale Management Service
  - LibGuides
- Library-useful
  - Postini
  - Cloud backups
  - Panda
- What are YOU using?
More on Benefits: Organizational

- More flexibility and nimbleness
- IT can focus on project planning, less on nuts and bolts
- Manage knowledge, not technology
More on Benefits: Economic

- More bang for buck
- Low barrier to entry
- Gives small orgs the "computing power of the big boys"
- No "idle hours"
More on Benefits: Technological

- Redundancy & Scalability on Demand
- Easier maintenance
- Security?
All those benefits! Sign me up!

Of course, it's not all moonlight and roses.
Some Drawbacks

- Downtime is out of your control
  http://tinyurl.com/forced2blog
- What if Google goes out of business?
- Shared infrastructure could lead to sluggish performance
  - SLAs important!
- Data portability? Make sure of it!

- Privacy!
What Now? What Next?

- Rise of standards--[http://tinyurl.com/cloudmanifesto](http://tinyurl.com/cloudmanifesto)
- Consolidation of providers
- Rise of cloud computing start-ups
  - Rise of start-ups that rely on low barrier of entry
- First major Outages
- The cloud-based OS and the cloud-centered device
- Game changer
A hundred years ago, companies stopped generating their own power with steam engines and dynamos and plugged into the newly built electric grid. The cheap power pumped out by electric utilities didn’t just change how businesses operate...

**It set off a chain reaction of economic and social transformations that brought the modern world into existence.**

- Nicolas Carr, *The Big Switch*
http://tinyurl.com/cloudCSL