Is it really all going into the Cloud?

Dr Geoff Barrall
CEO Connected Data
Heard on Sand Hill Road…

- It’s all going into the cloud in the next two years
- Enterprises don’t want to manage their own storage
Cloud Storage
Cloud Storage – What is really happening?

- Cloud services have massive user base 400M+
- Most users don’t pay for cloud services (97% don’t pay)
- Cloud services cost more to run than they make per user resulting in massive losses (Box losing $160M on $110M in revenue)
- The economics are getting worse not better
- Race to the bottom
- Growing privacy concerns
- Dramatic 10B+ private valuations

Privacy and Security

Business Model

Cost!

Dropbox is peeking at your files
Dropbox stumbles over security and privacy of secret links
Hey, Dropbox, get off of my cloud
Apple, Microsoft go after popular service

China Continues to Block Dropbox Cloud Storage
Dropping Dropbox: Exploring alternatives
A lot of people have been caught off guard. I don’t think it was what many people thought about as they built these companies and technologies.

Silicon Valley is quite oblivious to the degree to which this crescendo of concern is building up in Europe. It’s an extremely important thing and Silicon Valley is underestimating it badly.

Source: Financial Times, “Tech chiefs in plea over privacy damage”
Enterprise Storage Market – Hardware Still Rules

- Most Enterprise storage revenue is in hardware
- Storage hardware is growing at 10% annually
- Pure cloud services are having little impact so far and growth is slowing
- Enterprises want to purchase and deploy hardware despite the fact users love the Dropbox model of file management
File Sharing - Pre-Cloud
File Sharing NFS & SMB (CIFS)

- Traditional file sharing protocols implemented on file servers or NAS appliances
- SMB was invented in 1990, SMB 2.0 was released in 2006, SMB 3.0 in 2012
- NFS was invented in 1984, NFS v3 in 1995 and NFS v4 in 2000
• Little has changed in this world from a users standpoint

• Key issues:
  – Very poor wide area or mobile support
  – File system is organized in one way only
  – IT support is required to make basic changes
SMB 3.0, still for files or really a block level replacement?

Big New Features in SMB 3

- Support for Remote VSS snapshots
- Multi-Channel to scale network performance
- SMBDirect for massive performance using RDMA
- Transparent Client Failover for fault tolerance
- Plus encryption, directory leases, BranchCache v2 and more!
Dropbox Changed Everything
Dropbox, really two things seen as one

A New Way of Managing and Sharing Files:
#1: Sync
#2: Shared Folder
#3: Links
#4: Versioning
#5: Mobile File System

Cloud Implementation
Dropbox Innovations #1 : Sync

• Sync Files
  – Replaces VPNs, Copy-Edit-Replace

  – Better because:
    • The user doesn’t make multiple copies of the same file
    • Much faster than a file share, especially over the wide area
Dropbox Innovations #2 : Shared Folders

• Shared Folders
  – Replaces CIFS, NFS

  – Better because:
    • The user can share with whomever they want, when they want
    • No need to involve IT
    • Each user can self organize their own file tree and name folders
      – THIS IS VERY IMPORTANT
Key Dropbox Innovations #3: Links

- Links to Share Individual Files
  - Replaces Email

  - Better because:
    - No file size limits
    - Many fewer copies of the same file are being made
Key Dropbox Innovations #4: Versioning

- Simple Access to File Versioning & Auditing
  - Replaces backup
  
  - Better because:
    - The user can simply recover deleted or modified files
    - Users can see who did what when to files and folders
Key Dropbox Innovations #5 : Mobile

- True mobile access and a mobile file system
  - Replaces NAS mobile add-ons

- Better because:
  - Files are available anywhere without a VPN
  - Mobile apps can share a common file system
  - You don’t have to understand anything about the underlying topology
Dropbox file management is not the cloud!

This is a new, better way of managing files, not an attribute of cloud storage

(It really needs but doesn’t have a name!)
The Post NAS World
It’s been said many times that everything is going into the cloud because nobody wants to manage their own storage …

… but actually there is little evidence that this is true and quite a bit to the contrary.
The Problem Facing CIOs….

Dropbox is out of control in the enterprise with 43% of users using it instead of legacy IT NAS systems against the wishes of corporate IT.

### Deployment Models for Dropbox by Organization Size

<table>
<thead>
<tr>
<th>Organization Size</th>
<th>Not used</th>
<th>Personally deployed, but used w/o IT’s blessing</th>
<th>Personally deployed, but used w/IT’s blessing</th>
<th>Deployed by IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 99 Employees</td>
<td>17.3%</td>
<td>26.3%</td>
<td>12.2%</td>
<td>5.7%</td>
</tr>
<tr>
<td>100-999 Employees</td>
<td>22.2%</td>
<td>30.1%</td>
<td>31.4%</td>
<td>6.3%</td>
</tr>
<tr>
<td>1,000+ Employees</td>
<td>39.5%</td>
<td>43.1%</td>
<td>37.9%</td>
<td>12.2%</td>
</tr>
</tbody>
</table>

*Source: Osterman Research, Inc.*
... and how Enterprises want to solve the issue.

70% of Enterprises are extremely interested in running their cloud service from their own datacenter.

We want cloud storage we can buy and own like NAS (NTAP) but that works like Dropbox.
The Reasons why Enterprises don’t want to use the public cloud…. 

You indicated that your organization would be interested in the ability to store some or all of its data on-premises. What is driving your organization’s interest in keeping its data on-premises? (Percent of respondents, N=190, multiple responses accepted)

- **Cost**
  - Flexibility and control over where data is stored: 54%
  - Ability to leverage existing on-premises infrastructure investments: 41%
  - Belief that we can secure and protect our data better than third-party services: 38%
  - Concern over accessibility of public cloud-based data to third parties: 36%

- **Privacy**
  - Need to comply with government regulations: 35%
  - Concern over OFS provider employees’ level of access to data: 34%
  - Local copy of data helps to mitigate performance concerns: 34%

- **Model**
  - Need to comply with industry regulations: 33%
  - Better balance of fixed (i.e., CAPEX) and variable (i.e., OPEX) costs makes budgeting easier: 31%

*Source: Enterprise Strategy Group, 2014.*
The Post NAS World (or is this NAS 2.0?)

- Branch Office
- Files are available at as many sites as required
- Partners / Clients
- Home Workers
- No more VPNs! Dropbox like simplicity for home workers
- Mobile Sales Force
- All users need to access company data is a mobile device or laptop. All new data is synced with HQ
- Data Center
- Simply scale users, performance or capacity
The user simply gets the Dropbox experience they love...
Example: Transporter

- Transporter uses existing infrastructure and purchased Transporter devices meaning it is highly profitable avoiding the backend costs that plague traditional cloud companies.

- This is exactly the same kind of disruption Skype brought to traditional telcos.

- For customers this means that it’s 100% private and data is stored onsite only. It is the only cloud that meets the needs of legal, financial and medical companies and also new anti-public-cloud legislation in countries like Germany, Japan, Russia and China.
In Conclusion….

- The relevance of SMB & NFS for file sharing and collaboration is in rapid decline

- Dropbox invented a whole new, better way to manage files

- This new method isn’t the cloud, that’s just the way it was first delivered

- New appliances can be designed that deliver the same benefits as the public cloud while preserving the privacy and control required by enterprises and the public
Thank You