



**BACKBLAZE**  
ONLINE BACKUP

# Backblaze

MSST

6/02/15

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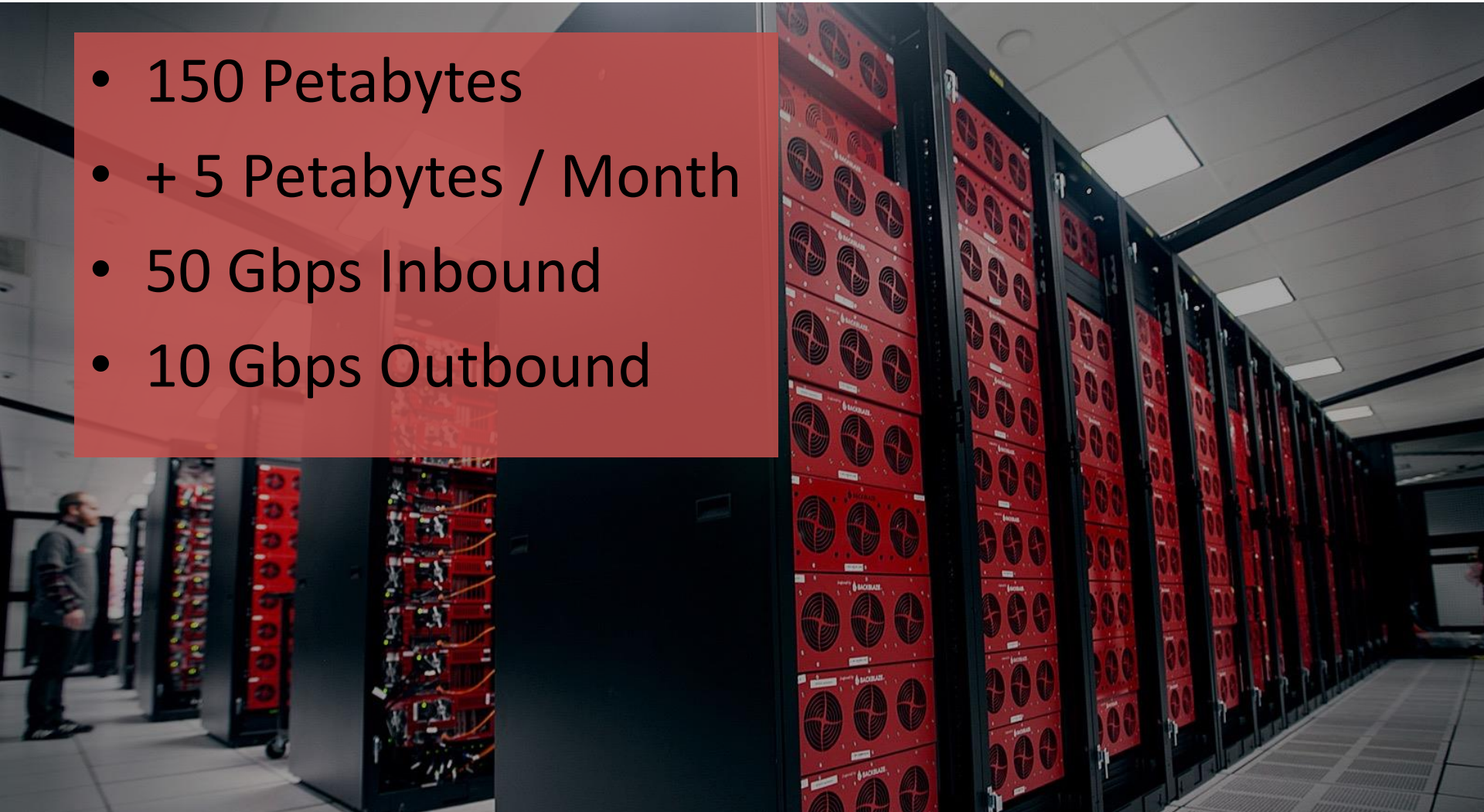
Unlimited Storage

\$5

Just \$5/Month

# Current Backblaze Storage

- 150 Petabytes
- + 5 Petabytes / Month
- 50 Gbps Inbound
- 10 Gbps Outbound



# Space Cost Comparison

<b>Tape Drive</b>	<b>Hard Drive</b>
<i>Components &amp; Costs</i>	<i>Components &amp; Costs</i>
2.5 TB / tape	6 TB / hard drive
160 MB / sec / tape	6 Gb / sec / hard drive
\$36 Cost / tape	\$230 Cost / hard drive
30 PB / robot	45 Hard drives / Storage Pod
20 Gbps / robot	270 TB / Storage Pod
\$300,000 Cost / robot	\$2,650 Cost / Storage Pod
<i>Tape Components Needed</i>	<i>Storage Pods Needed</i>
60,000 Tapes	25,000 Hard drives
5 Robots	556 Storage Pods
<i>Cost of Tape Components</i>	<i>Cost of Storage Pod &amp; Drives</i>
\$2,160,000 Cost of tapes	\$5,750,000 Cost of hard drives
\$1,500,000 Cost of robots	\$1,473,400 Cost of Storage Pods
<b>\$3,660,000 Total cost</b>	<b>\$5,750,000 Total cost</b>

Note: Assumes LTO-6 tape and Scalar i6000 robot

# But...

- Need random access to data
- Impossible to have real-time access
- Difficult to shard data for reliability
- Non-trivial to continuously validate data
- Impossible to reclaim space

Thus...

Tape is suboptimal for  
**cloud-scale multi-tenant**  
backup architectures



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