AWS re:Invent

STG202

What's new in AWS file storage

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MINDBODY

AWS re:Invent

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aws

Amazon FSx w/ DFS & IaC

…a presentation on acronyms!

FI+ME+RIX

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Life Before Amazon FSx – Existing Environment

Fitmetrix was an acquisition by MINDBODY

Software that provides real-time statistical data regarding your workouts

Heart Rate

Cadence

Zones

etc…

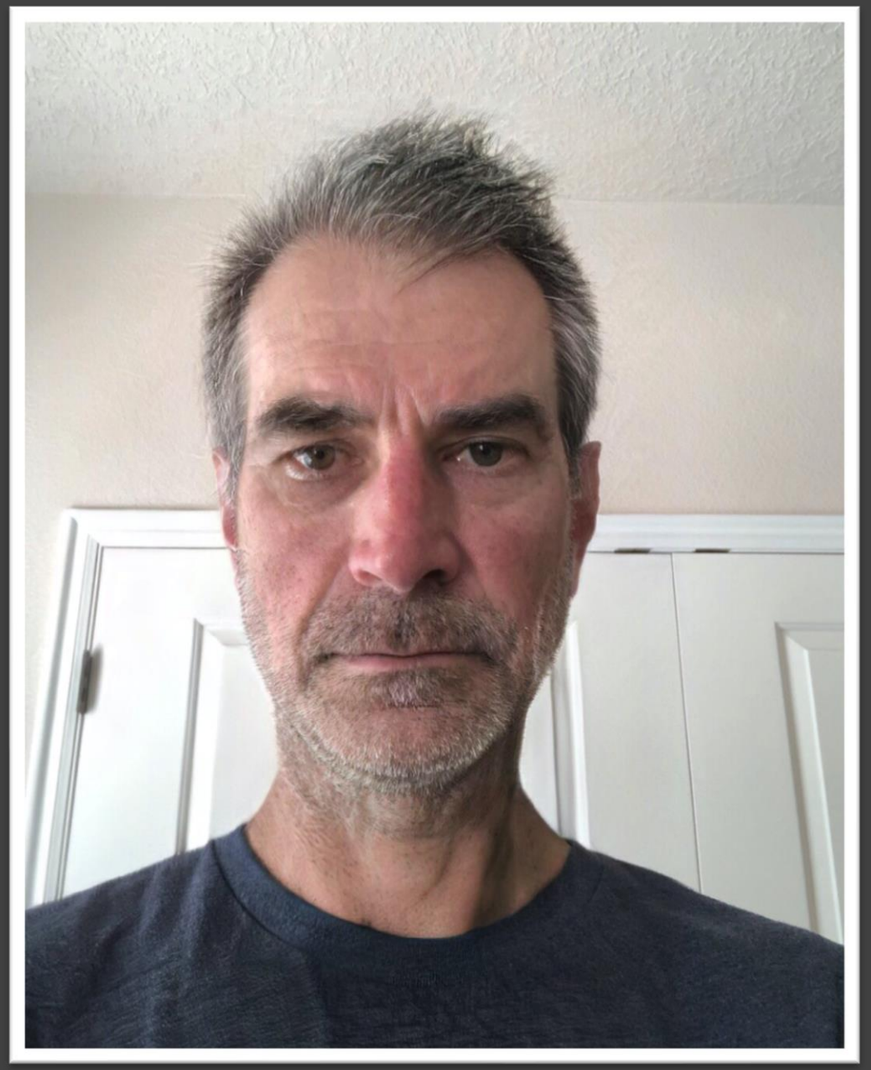
- Windows 2012 R2
- IIS 8.5
- Static Servers
- DFS on Each Box

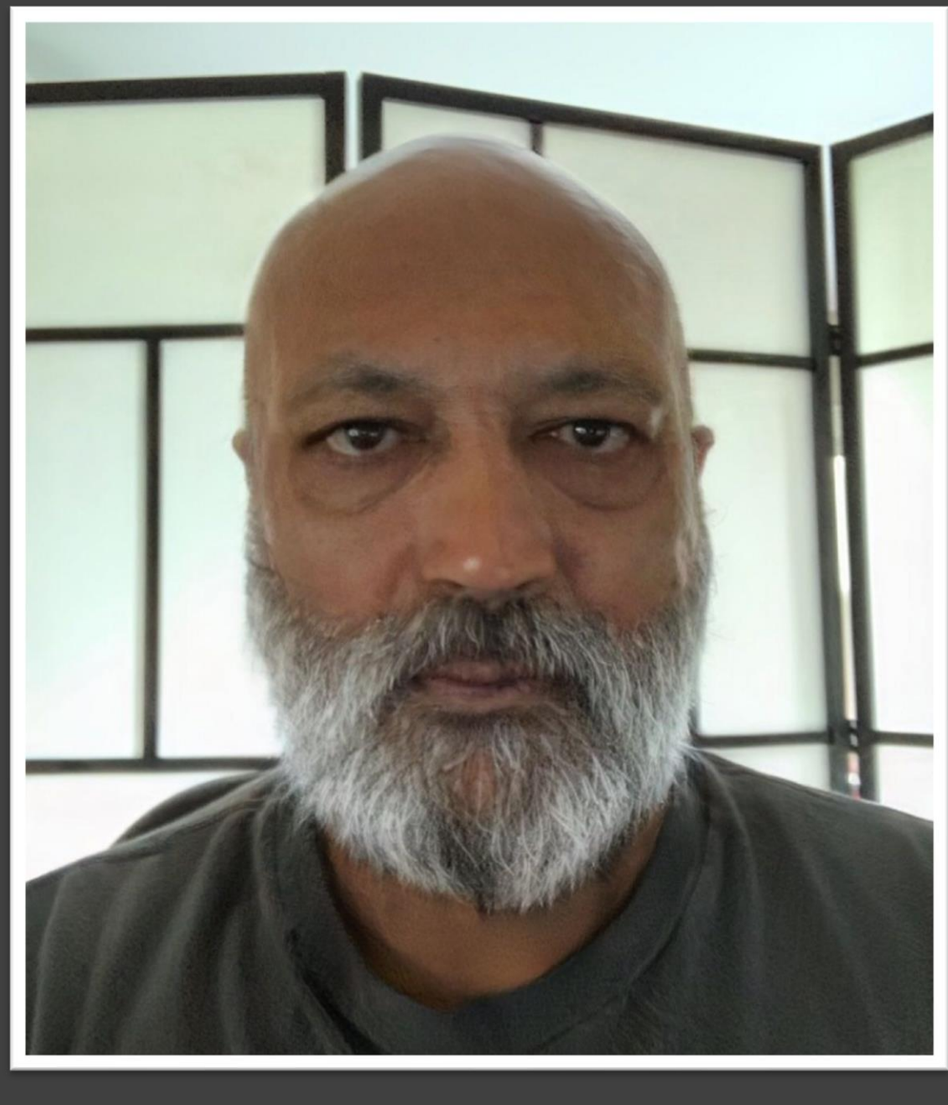
- MSFT Web Deploy
- n x Storage Costs
- n x Backups to Manage!
- n x Web Configs!

- Limited Ability to Scale
- Errors with code pushes
- DFS Not in Sync
- Developer Credentials

- 24–72 hours to rebuild machine
- Deployments 8–10 Weeks

Life Before Amazon FSx Volumes – Rapid Aging





Life After Amazon FSx
New Environment w/ IaC!

- Flexibility to Implement IaC
- Single Volume to deploy code
- One backup to manage
- Shared IIS Web Config
- Auto Scaling groups and SSM
- Updated Images w/ Patching & IIS
- New Server Spin up Time – 7 Minutes!
- Scale up AND Out – Saves Money
- Deployments every 2 weeks!

Azure DevOps

WAIT!

What about HA?

We experienced a service outage during a FSx Maintenance Window

FSx at the time our implementation was NOT HA

Quickly put on our Engineering Hats

Designed IaC with DFS Servers

2 FSx Volumes in different AZs

2 DFS Hosts across different AZs

No More Downtime!

Rumor mill…FSx HA coming soon?

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Storage Migration

CODENAME: ASPEN

Moving to the Cloud!

...where the beer flows like wine

Existing Environment

100+ Million Files!

- EMC Isilon (48 TB)
- Replicating to Different DC with AWS Backup Isilon
- Shutting down DC
  - What do we do now?
- Not Your Typical 48 TB
  - OVER ~100 MILLON FILES
- Many traditional approaches didn't work
  - Stub Files bigger than actual files!

Migration & Solution

- AWS Snowball Edge
- W/ Help of AWS Support
- Batched up Files ~70,000 Subdirectories
- File Partition lists of 10k / SubDir using fpart
- Tar all partition lists
- Looped through tar files doing 10 parallel process using GNU Parallel
- Sequential transfer using straight <aws s3 cp> 3+ years!!
- 28 Days from submitting the Snowball Job in AWS until the Files were in the S3 Bucket

Post Migration:

AWS DataSync

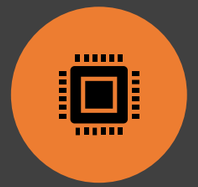
Setup AWS DataSync to keep files in Sync between on-premises array and Amazon S3 bucket

Using Various combinations of Include & Exclude Filters to separate folders for processing

Broke our ~70K sub directories down alphabetically

Run 28 Agents to handle the workload

Used IaC to build AWS Lambda & Amazon CloudWatch Events to invoke the various 28 agents on staggered scheduling



Amazon Storage Gateway endpoint to do any restoring from Amazon S3

Perfectly staged inoffensive group hug

Thank you!

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