

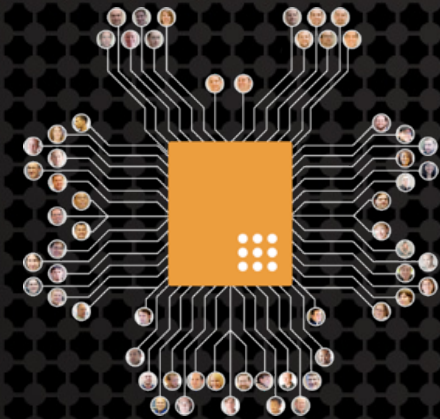
# Choosing Enterprise Backup Software to Protect a Mobile World

Presented By  
Andrew Renz, Sr. Enterprise Engineer, Code 42

# codefortytwo software

## About Us

- Developing enterprise-level software since 2001
- Headquartered in Minneapolis - MN
- 120+ Employees worldwide\*
- Serving the Fortune 1 to the Fortune 10000
- **CrashPlan - Consumer**
- **CrashPlan PRO - SMB**
- **CrashPlan PROe - Enterprise**
- 100 PB + 1PB/week



MISSION : To protect the world's data

## Quick about me:

- 6 Years Apple, IS&T Desktop Engineer
  - Global NetBoot/NetInstall
  - Global Backup solutions
    - CrashPlanPROe for Apple employees
  - Collaboration and Wiki services
  - New release software certification
  - Acquisition "Mac" training
  - Keynote training
- 2 Years Code 42, Enterprise Engineer
  - Oracle, Expedia, SanDisk, Intuit, Genentech, Intel, Nike



# Butterflies in the Amazon: **How I got here**

**THE HUB**

High hopes for women's volleyball | back page

### API score plummets 20 points at DHS

By Steve Hensale  
HHS Staff

From the outside, people may think the quality of teaching and education at Davis High School slumped significantly last year. It would not be a ridiculous assumption based on the recent drop in the school's Academic Performance Index (API) scores.



Cawley reported that while DHS's overall API scores went down, most minority groups

### Finding their place at Davis High School



Students participate in a Friendship Day activity. In addition to their regular duties, Friendship Day facilitators organized a Newcomers' Reception at the beginning of this school year. See the full story on page 4.

### New teachers start new year

By David Julian  
HHS Staff

Ten thousand books. That's how many the Davis High School library staff distributed in the first four days of school, headed this year by new librarian Stacy Desideri. Desideri is among 17 staff and faculty members new to DHS this year.

Desideri grew up in Pleasanton, Texas, and moved to Sacramento for senior year of high school. She transferred to Davis for the past 12 years. Desideri attended Sacramento State where she got a degree in English. She then taught English at Sacramento City College and at a middle school in Elk Grove.

So why the switch from teacher to librarian?

"I've always loved books," Desideri said. "The idea of getting paid for being around 30,000 books all day long sounded really appealing."

Desideri got a librarian credential and then worked. "My plan was to sit and teach until a librarian position opened up," she said. She knew the DHS librarian Sharon Hallberg

**Minority faces barriers to Blue B**

# Truth about Backup: **Industry Secrets**

## The industry's dirty secrets

- Backup is only useful if its in more than one location
- It's not just for failed hardware
- Backups should be treated equally as originals
- If it doesn't happen transparently and frequently, it will fail
  - (we're human after all)
- Garbage in, garbage out
- The restores are what matter



# Today's Topic: ~~Server~~ User backup

- For servers, we really want
  - Replication
  - Resiliency
  - Scalability
- Backup for when "fit hits the shan"
  - Failure
  - Disaster
- No magic bullet

# Backup Evolution: **How we got here**

- Manual copy
- Backup software (Automatic copy)
- Network
- Cloud



- Continuous backup
- Versioning
- Encryption
- Deduplication
- Self-service restore
- Multi-destination

# Terminology: **What is NOT backup?**

- File servers
- Dropbox/Box/Sugarsync
- iCloud
- Network home directories
- That old HD
- RAID
- RSYNC\*
- Time Machine





# Theme: **Protect the edge**

- Data lives on laptops
  - 58% mission-critical corporate data - Gartner
  - Must be protected automatically and continuously
- Protect where data is created
- Always connected

# Software: **Client**

## Required features

- Engineered for laptops/mobile
- Continuous, Automatic protection
- Invisible performance
- "Macness"
- User-initiated restores
- Cross-platform
- Privacy
- Deployability
- Integration



# Software: **Client**

## What to look for

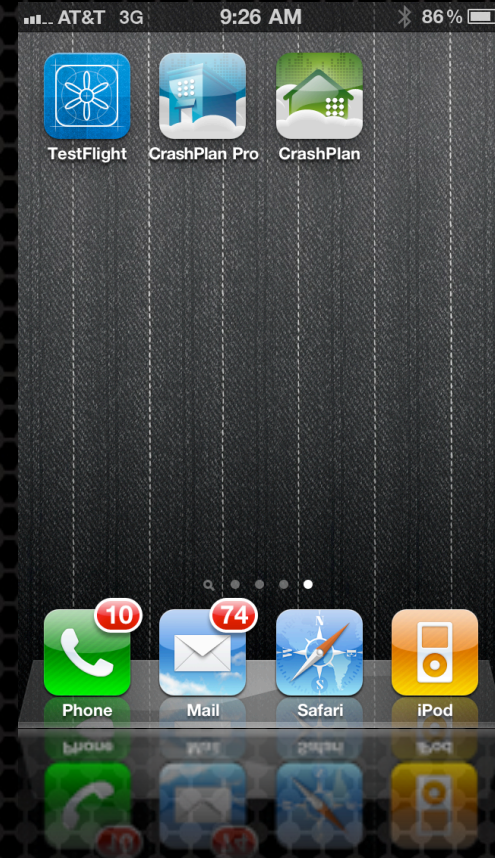
- Throttles
- Resiliency
- Minimum interference
- Versioning
- Meta-data
- New Mac OS feature support (gatekeeper)
- Admin controls
- Automatic updates



# Software: **Mobile**

## Why this matters

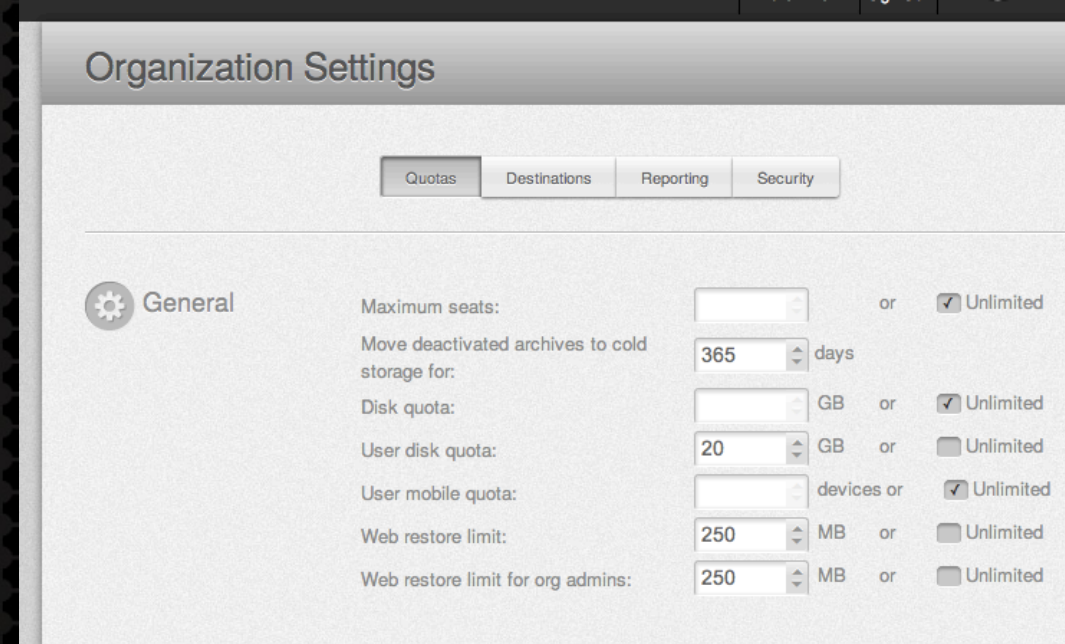
- Productivity and morale booster
- Liberate computer data onto other devices
- Ubiquity
- Simplicity
- We will eventually back up mobile devices



# Software: **Mobile**

## What to look for

- Central policy management
- Encrypted data/passcode
- Caution: No true mobile backup solution for iOS\*
- Throttles



The screenshot shows the 'Organization Settings' interface with the 'General' tab selected. The settings are as follows:

Setting	Value	Unit	Option
Maximum seats:	[Empty]		<input checked="" type="checkbox"/> Unlimited
Move deactivated archives to cold storage for:	365	days	
Disk quota:	[Empty]	GB	<input checked="" type="checkbox"/> Unlimited
User disk quota:	20	GB	<input type="checkbox"/> Unlimited
User mobile quota:	[Empty]	devices	<input checked="" type="checkbox"/> Unlimited
Web restore limit:	250	MB	<input type="checkbox"/> Unlimited
Web restore limit for org admins:	250	MB	<input type="checkbox"/> Unlimited

# Software: **Server**

## Features



- Centralized management
- Directory services integration
- Cross-platform
- Admin restore
- Web restore
- Automatic client upgrades
- Alerting and reporting
- Tiered administration
- Flexible roles
- Integration

# Software: **Server**

What to look for

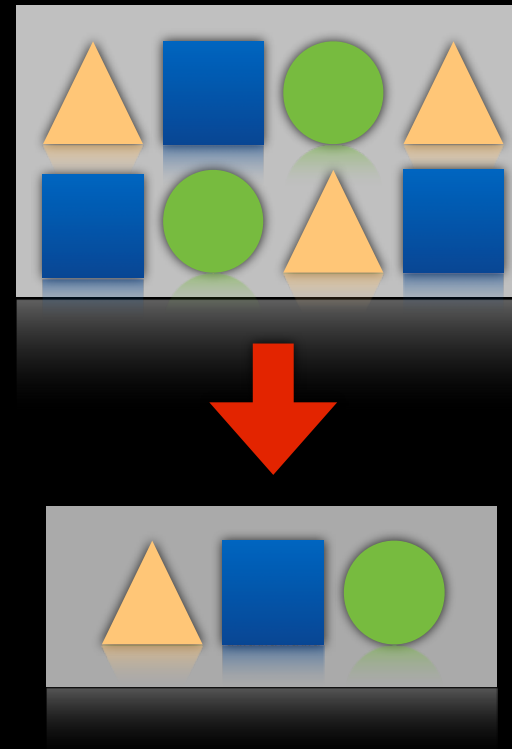


- Gleaning
- Archive verification
- Scalability
- Flexibility
- API
- Tape is 4-letter word

# Technology: **Deduplication**

Must have #1

- Client-side vs server-side
  - Pitfalls of “global” deduplication
- Bandwidth
- Storage
- Scalability





# CRASHPLANPRO<sup>e</sup>

Byte-level data de-duplication

Detect, Analyze, Compress & Encrypt

Transmit

Store

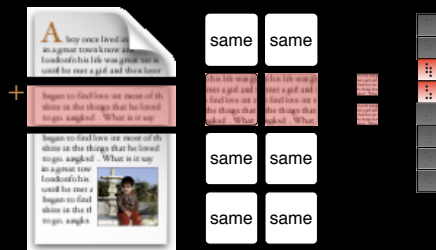
New file



A<sub>1</sub>



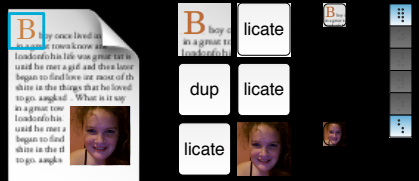
File changes



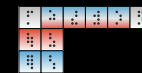
A<sub>2</sub>



Save as



B<sub>1</sub>



# Technology: **Security**

Must have #2

- Encryption
  - Data
  - Transmission
- Access controls
- Key escrow
- Admin restores
- Logging/Auditing



# Decisions: **Choosing a vendor**

Be careful!

- Free\*
  - "No such thing as a free lunch" - Dr. Hart
- Server backup products
  - Atempo Live Backup, CommVault Simpana, EMC Avamar, HP Data Protector, IBM Tivoli Storage Manager FastBack, Symantec Backup Exec DL, IronMountain/Autonomy/HP Connected
- From the ground-up products
  - Code 42 CrashPlan PROe, Copiun Data Manager, Datacastle RED and Druva inSync
- Cloud only products- Mozy, Carbonite, Green/Blue
- What storage services do they offer?
- Macs!
- Progress of development
- Technology



Lions, tigers and Clouds oh my!

Where do we store our data?

# Storage: **Pure Cloud**

## Benefits

- Zero Infrastructure
- Instant startup
- Signup, authenticate and restore from anywhere
- Data stored offsite



# Storage: **Pure Cloud**

## Considerations

- Slower backup and restores
  - Not a good solution for time sensitive data\*
- Limited/No LDAP integration
- Service provider has data AND encryption keys



# Storage: **Pure Cloud**

What to look for

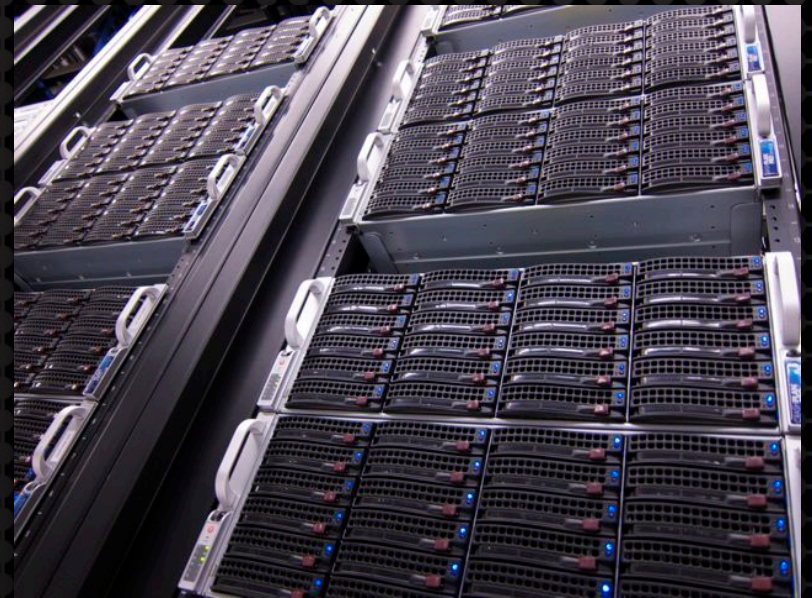
- Seeding
- Disk-to-mail restore
- Certifications
- Global locations
- Safe harbor
- Bandwidth/usage caps
- Multi-tenant / Single-tenant
- Reporting



# Storage: **Private Cloud**

## Benefits

- Completely private
- Use your infrastructure
- Managed appliances
- Fastest possible backup and restore
- Easily exposed into DMZ for Internet backup

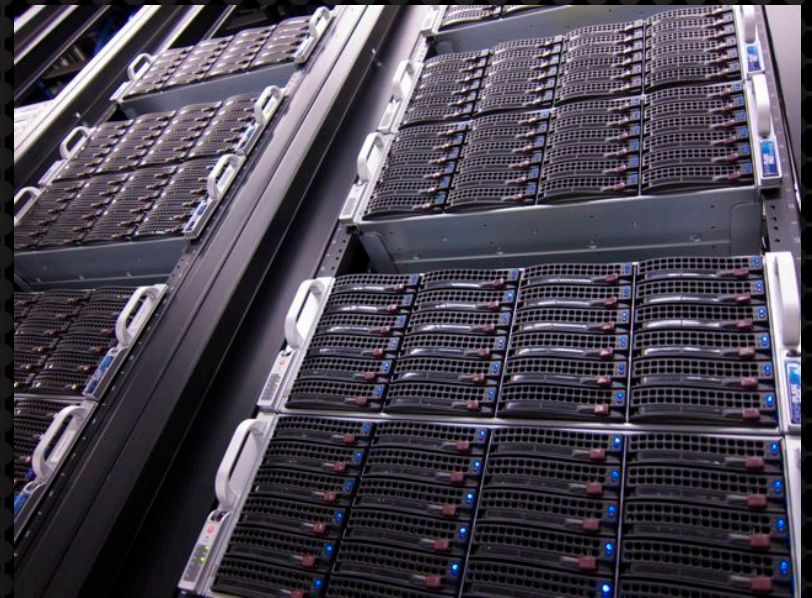




# Storage: **Private Cloud**

## Considerations

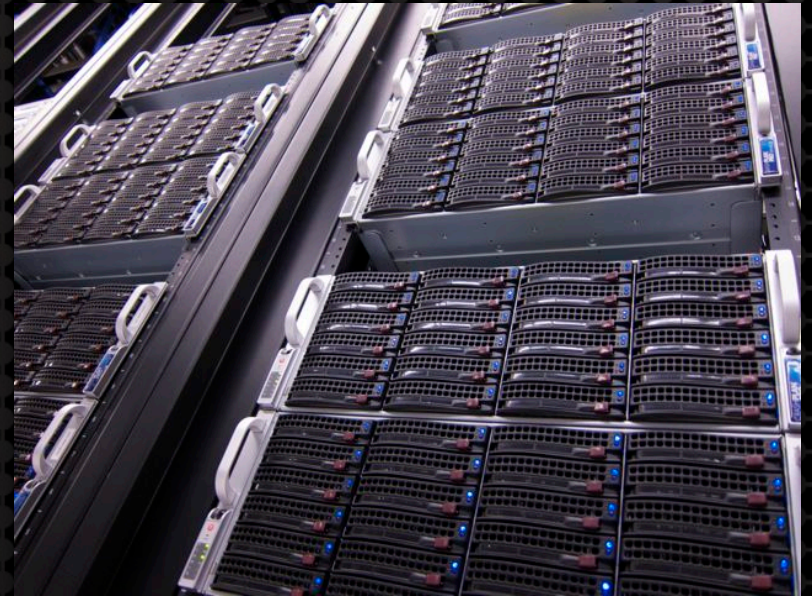
- Power and network
- BYOS requires care and feeding
- Complex network setup for DMZ/  
Internet backup
- Not offsite



# Storage: **Private Cloud**

## What to look for

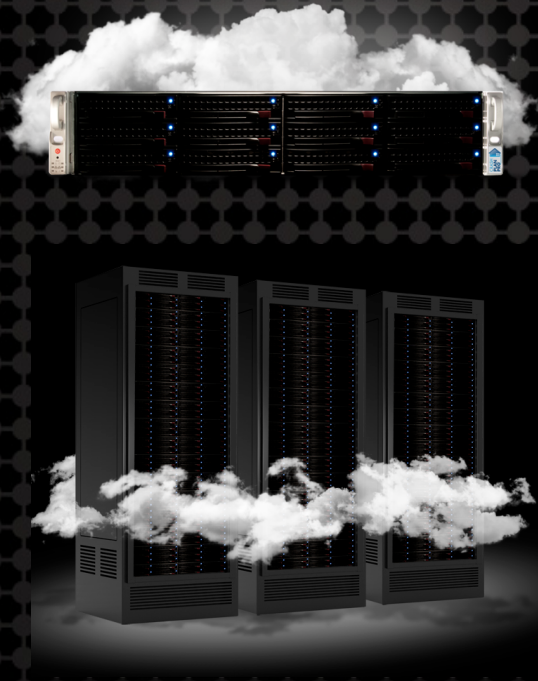
- Multiple destinations
- Managed appliances
  - Best of both worlds
- Server best practices still apply



# Storage: **Hybrid Cloud**

## Benefits

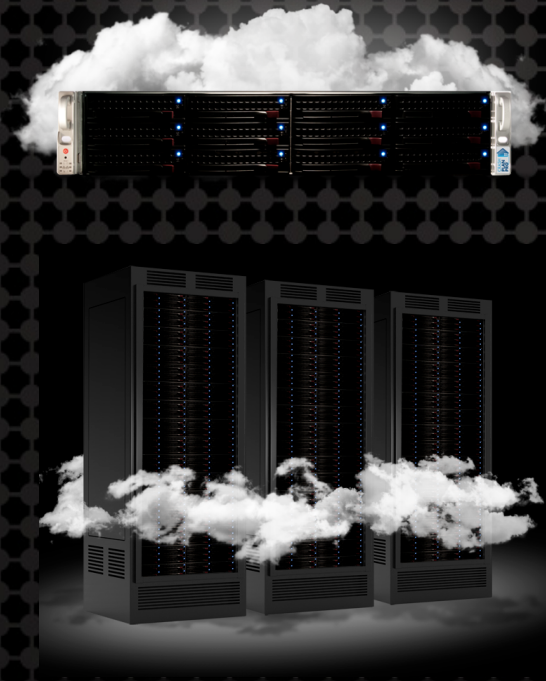
- Policies and encryption keys stay private
- Ensure users are on corporate network before restore
- Full LDAP support-
  - Location/dept, Admin attributes, status etc
- Onsite storage for VIP users, migrations, DRN holds
- API, logging and audit options



# Storage: **Hybrid Cloud**

## Considerations

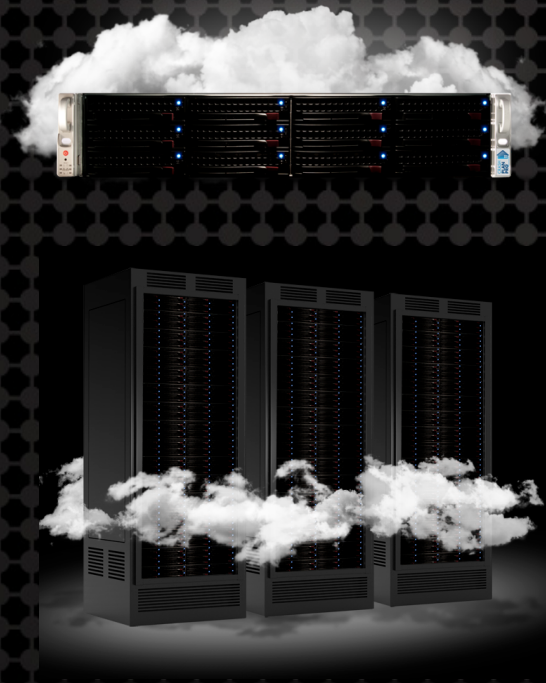
- Additional server
- More complicated
- Authentication from anywhere requires additional network setup



# Storage: **Hybrid Cloud**

What to look for

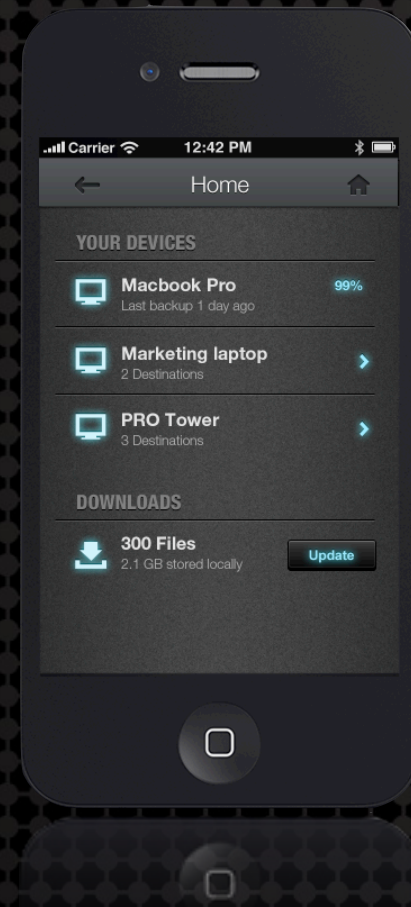
- Managed appliances for full "cloud like" experience
- Multiple destinations
- Protect Master DB



Backup is more than an  
Insurance Policy

# Beyond Backup: **Ubiquity**

- Easy file access from anywhere
  - Another computer
  - Web browser
  - Mobile



# Beyond Backup: **Legal & Discovery**

- Instant computer snap-shot
- Unlimited versioning
  - File change history
- Archive containment





# Beyond Backup: **Migrations**

- Transfer-free migration
- No additional software
- Across architecture
  - Win XP <-> Win 7
  - Win 7 -> Win 8
  - Win <-> Mac
  - Linux <-> Win
- Mac deployment
  - Win -> Mac



## Beyond Backup: **Lower IT headcount**

- Self-service restores meets enterprise
- Tight directory services integration
  - Auto quarantine
  - Auto geographic routing
  - Auto policy management
- Example: Code 42 is a services company
  - One stop shop
- Cloud

What's happening at Code 42

# Code 42: What's new

- **CrashPlan PROe 3.2**
  - Realtime HTML5 management console
  - Load balancing
  - Mobile devices
  - Push restores
  - Tons of new LDAP/Security features
  - Backup sets, network blacklists, adoption, custom roles, menu bar
- **PROe 3.3**
  - Gatekeeper installers
  - Proxy support, custom web themes
  - Bug fixes
  - VMDK product
- **New clouds! Australia**



# Q&A

Thank you!  
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