

AFS Best Practices in a Business Context

Pictage, Inc.

Storage Capacity

High Availability

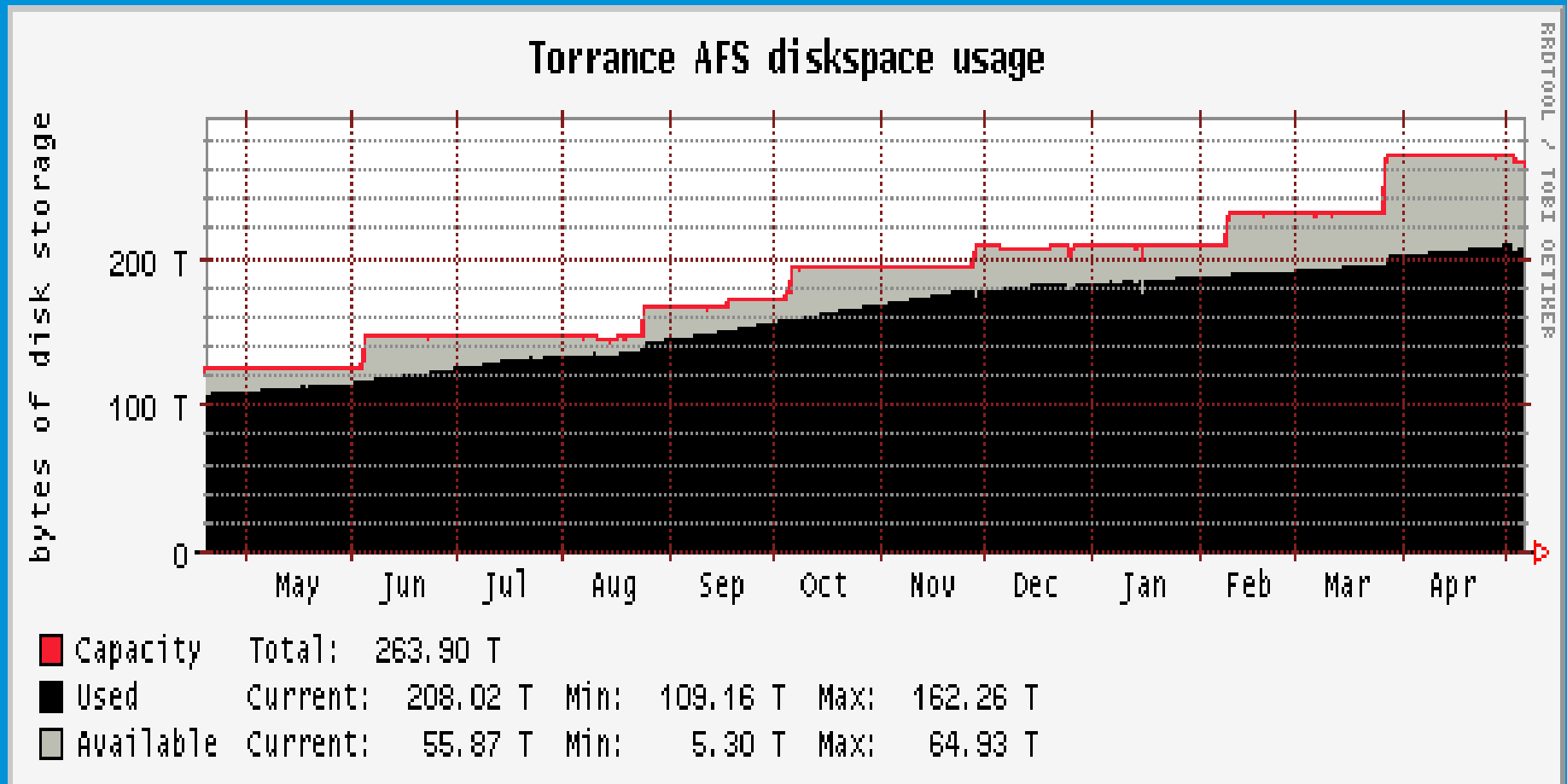
Distributed Computing

Contributions: Making a Difference

Storage Capacity Solutions

- Big Storage on a little budget.
- Low cost, off the shelf hardware
 - + Open Source robust fileserver software
 - = Successful Storage Solution
- Scalability is key. AFS grows with you!

Storage Capacity Growth



Storage Scalability

- Principles of Scalability
- Resource Management
 - Power
 - Temperature
 - Real Estate
- AFS supports gradual growth over time
Pay As You Go strategy

Power



Temperature



Real Estate



High Availability

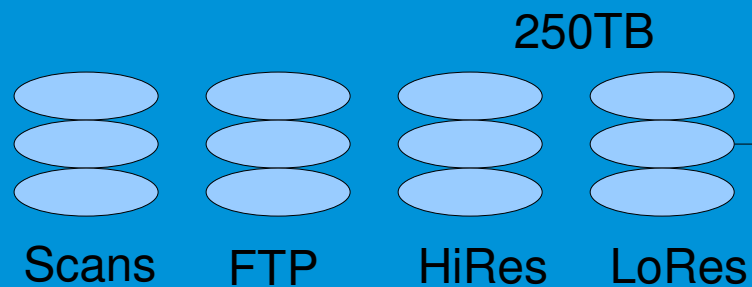
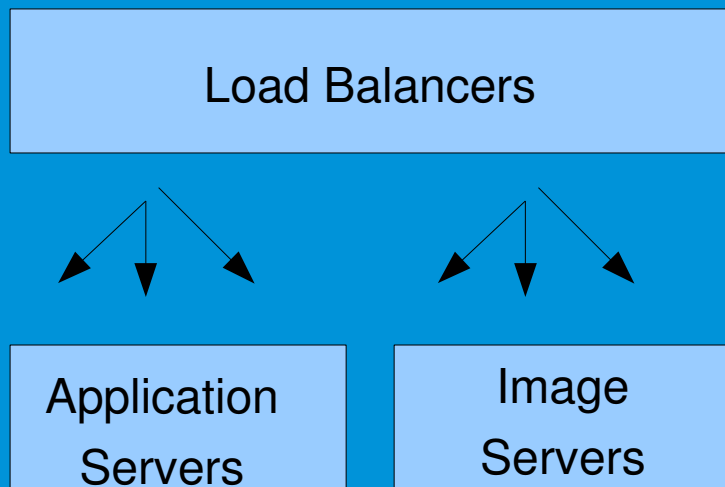
- The Challenge: maintain high resolution images for printing, display low resolution highly available images for the consumer web site.
- Issues: Balance storage capacity and processing power with consumer experience.
- Solution: AFS data replication of “proxy” images. Cache most often used images.

Distributed Computing

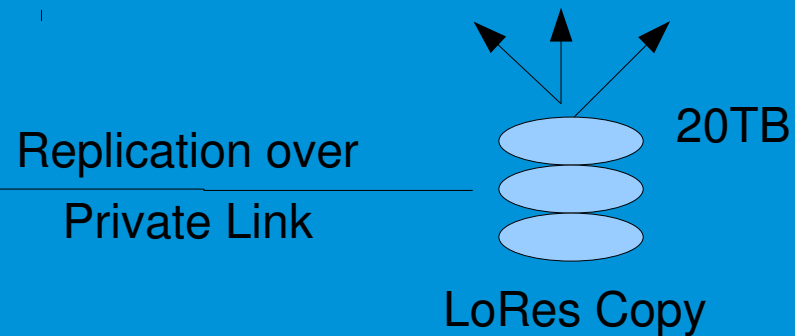
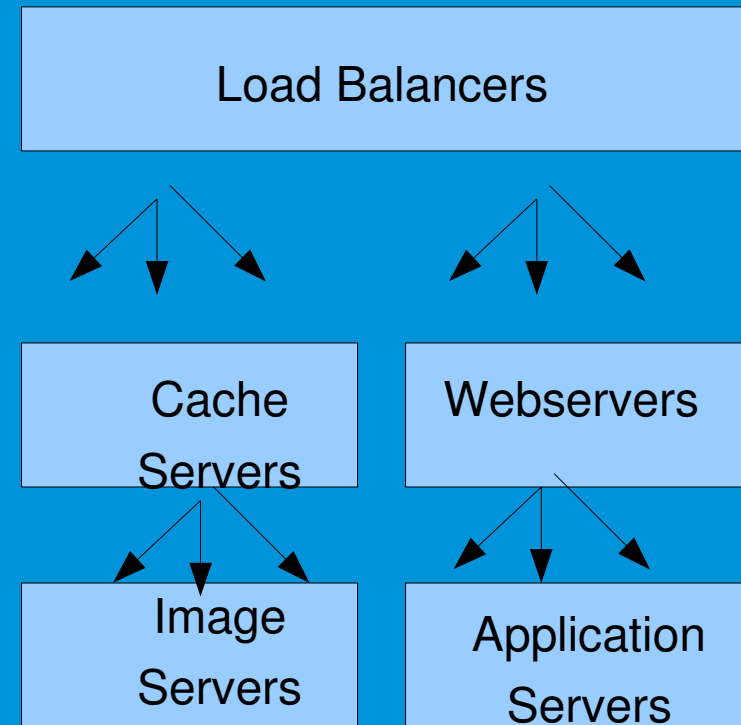
- Distributed Architecture:
 - No Single Point of Failure
- Multiple independent cells:
 - Testing, Scanning, FTP, Production
- Increase storage capacity at intervals to maintain high throughput
- Load balancing wherever possible.

All Webservers, Application Servers,
and Image Servers are diskless

Main Office



Remote Data Centers



Distributed Computing II

- Server Farm architecture
- Separate Storage and Computation
 - Use Low-power solutions where possible
- Supported by AFS diskless booting
- Disk Free == Risk Free
- O/S upgrade as simple as rebooting.
- Large scale != Large headache
- Monitoring for performance is critical.

Contributions:

Making a Difference

- As great as AFS is... improvements are still possible!
- Challenge: PhotoShop/AFS interaction issues over directories with many entries (>20,000).
- Open Source -> Collaboration
->Distributed Solutions
- Solution: Work with AFS for Windows developer to architect a proper solution.

...In Closing

- AFS is the Swiss Army Knife of Distributed, Scalable, Highly Available architecture.