Optimize Your Site for the Cloud

In This Lesson

‣ Balance of high performance and availability

‣ Comparison of server architecture

‣ Tools and techniques for optimizing
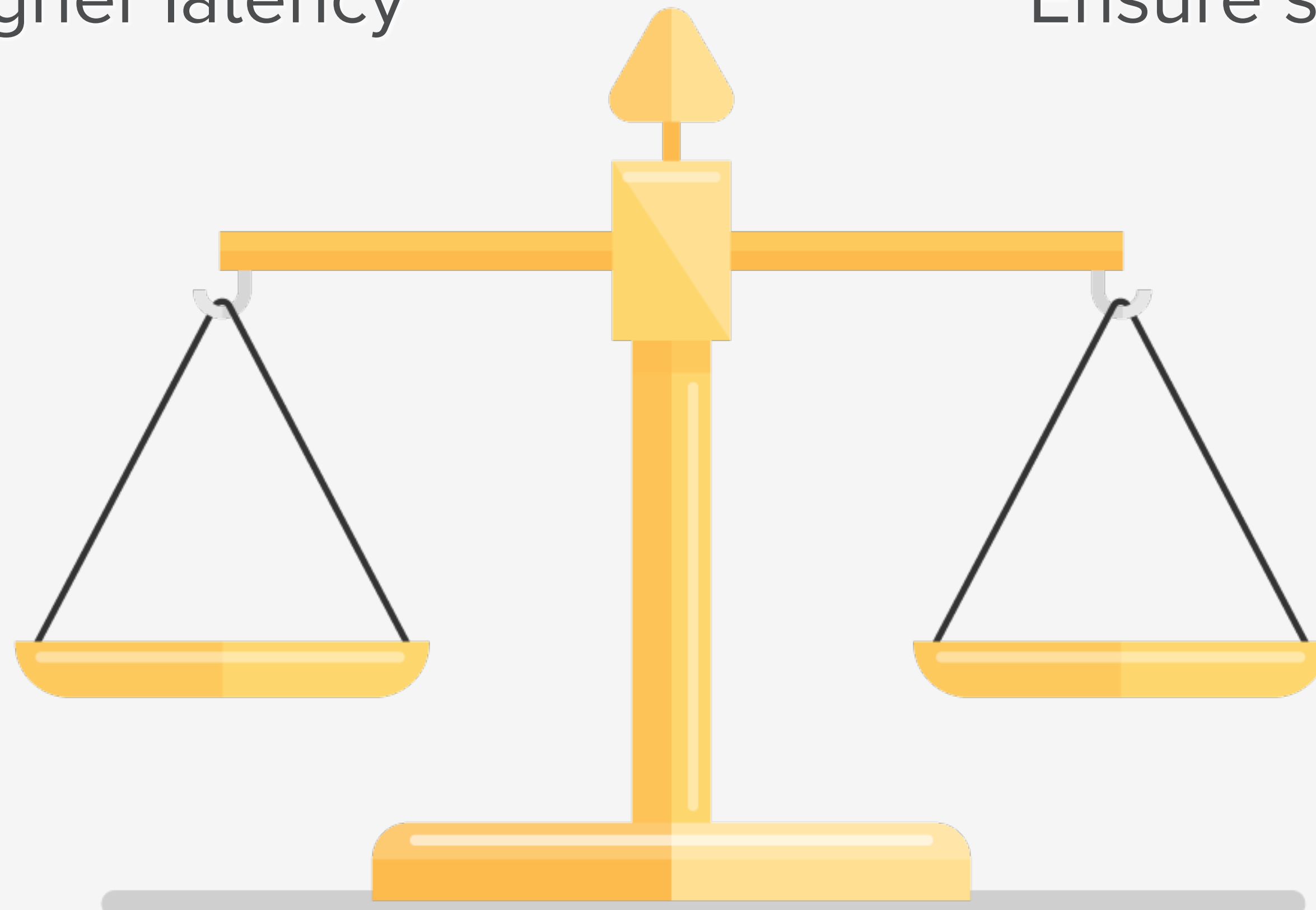
Pantheon's Balance

High Availability

More complex

Higher latency

High Performance

Reduce single point of failure

Ensure scalability

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PANTHEON

Single-server Stack

‣ Zero latency for database
‣ Single point of failure

Clustered Servers

‣ Load-balancers

‣ Database replication

‣ Remote backups

‣ Network File Systems (NFS)

‣ Higher latency

‣ Expensive to maintain multiple servers

‣ Scales by adding new hardware

Pantheon's Cloud Stack

‣ Application containers
‣ Cloud-based file systems
‣ Software scaling is fast
‣ Higher latency

Why the Cloud is Good

‣ Single server
  - Can't scale
‣ Traditional clustered hosting
  - Expensive; hard and risky to scale
‣ Design for the cloud on Pantheon
  - Smoothly scale from hundreds to millions of page views in software

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Preparing for the Cloud

‣ Identify key workflows
  • Focus effort
‣ Determine what is acceptable performance for:
  • Anonymous users
  • Authenticated users

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VARNISH CACHE

- ‣ Comes default with every Pantheon site
- ‣ Reduces server load
- ‣ Fast anonymous pages
- ‣ Caches pages and small objects
- ‣ May require cookie, caching adjustment
- ‣ No module required!

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redis

‣ Key-value store for Drupal caching
‣ Benefits authenticated users
‣ Reduces database queries, round trips
‣ Custom queries?
  • Use Drupal's cache_set() and cache_get()

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Reduce Number of Modules

‣ Evaluate each enabled module; is it needed?

‣ Less work for Drupal

‣ Aggregate gain across all page views

Analyze Queries and Code

‣ Profile page execution
  - New Relic is included at Pantheon
  - Devel module: https://drupal.org/project/devel
‣ Slow database query, PHP execution log
  - SFTP to /logs

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Page Transfer and Rendering

‣ Reduce unnecessary markup

‣ Aggregate and compress JavaScript, CSS

‣ Use a Content Delivery Network (CDN) for static content

‣ Front-end optimization tools:
  • YSlow.org
  • Google PageSpeed Insights
  • WebPageTest.org

A Lightweight Site

‣ Improve site experience, satisfaction

‣ No one answer. Use a combination of tools and techniques!

Recap

‣ Balance of high performance and availability
‣ Comparison of server architecture
‣ Tools and techniques for optimizing