TJandPals.com Hosting/Server Architecture Improvement – July 30, 2012

Current server setup
Monthly costs:

1. Dedicated server for TJandPals.com $730.00
2. Firewall for dedicated server $145.00
3. Cloud server for DOAM $45.11

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                                     $920.11

TJandPals.com is currently hosted by Rackspace using a dedicated Dell server:

1. Windows 2008 Standard, 64-bit
2. 3, 73GB SAS hard drives (~140GB total), 8GB RAM
3. RAID 5

diaryofamom.tjandpals.com is being hosted by Rackspace using a cloud server:

1. CentOS (Linux-based) web server
2. 40GB hard drive, 1GB RAM

Umachaka began a 12 month contract with Rackspace on February 14, 2011 for these services. This period ended on February 13, 2012. Umachaka is now on a month-to-month plan and any services to be cancelled require 30-days notice to Rackspace. A cancellation would be done via a ticket on myrackspace.com.

The dedicated Windows server was decided upon for the following reasons (among others):

1. .NET functionality for TJ's Club (built by Shaul, who only builds in Microsoft .NET, and not PHP/Linux)
2. Massive amounts of traffic for the TJAP Website

Proposed server setup
Cancel the dedicated server and firewall. Get 3 Rackspace cloud servers and one load balancer on a non-contractual basis (the 3rd cloud server is just for MySQL, for the Wordpress sites). We would run the cloud-based system alongside the dedicated server-based system until we were absolutely sure it is working properly.

Monthly costs (based on a 730 hour month – 30 days):

1. 3 Cloud servers $131.40
2. 1 Load balancer with SSL Termination $47.45
3. Bandwidth, based on 27GB/month $4.86
4. Storage on Cloud Files (2GB) $0.20

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                                  $184.21

Monthly Savings: $735.90

Cloud server configuration details:

1. 3 CentOS (Linux-based) web servers
   a. 40GB hard drive, 1GB RAM
2. 1 Load balancer, using Zeus' load balancing technology
   a. This allows us to quickly load balance multiple cloud servers for optimal resource utilization
   b. It allows 10,000 visitors to be on the site at once

This setup does not include additional "Managed Service Level" service. This would give us dedicated Rackspace service, were there to be problems with the hosting (monthly cost: $275.20). For what we're doing now, we don't need it. Once we're at the point where we do need it, we would need a dedicated server administrator on staff.

Discussion

Using a cloud server vs. a dedicated server (RECOMMENDED – Cloud Server):

1. Advantages
   a. We can scale the system up or down to what we need by incrementally adding/removing cloud servers, versus spending a sizeable amount on a 2nd dedicated server, were the site traffic to increase substantially
   b. We would have a "distributed" setup, which means that all of our eggs would not be in one basket, as they are right now with the one dedicated server (this is also good for backup purposes)
      i. Right now if our dedicated server goes down, we're dead in the water
   c. David is fluent in PHP
      i. He can build a backend system that can give us more refined control over page generation
         1. Later, we can expand this into a full-fledged CMS if we want
      ii. We would have a proper editor for HTML coding
      iii. Lisi also knows PHP which means between her and David, we have 2 people for maintenance
      iv. Right now we're locked into Shaul's system, and we don't have a .NET programmer to adapt it to whatever changes we may need (also, PHP programmers are more readily available than .NET programmers)
   d. We would have the freedom to shut down one of the servers and do maintenance
   e. We can run Wordpress (DOAM, and the future Parent-Teacher blog) in the environment it was meant for (Linux)
   f. DOAM URL would be at tjandpals.com/diaryofamom, which would be great for SEO purposes
2. Disadvantages
   a. Time it'll take David to conduct the migration and setup – 3 days, barring any unforeseen issues, and assuming that the design has been worked out in detail beforehand
   b. If we had the resources to re-activate TJ's Club, it might need to be rebuilt in PHP
      i. Keep in mind though, that Shaul may not be available to work with us if we wanted to keep it in .NET

ii. Also, if we needed to keep TJ's Club in a Windows environment, we could host TJ's Club on another server, separate from the main site

Using Linux vs. Windows for the cloud servers (RECOMMENDED – Linux):

1. Advantages
    a. The future, local development server should mirror the live servers, which means that the local server would be Linux, which is free software. If we went with Windows, we would have to buy software for the local development server.
    b. David's development environment is Mac and the dedicated server is Windows. We want these 2 environments to be similar, and Mac and Linux are similar.
2. Disadvantages
    a. If TJ's Club is going be re-integrated throughout the entire site, and the person programming it requires .NET, it may be better to do it all on a single Windows system
    b. If we require any backend software that is Windows only, then it can't run on Linux. The opposite, however, is true as well.

Next Steps

1. Decide which server configuration to use
2. Assuming we decide to go with the cloud servers setup
    a. Architect the details of the configuration
    b. Purchase the new configuration from Rackspace
    c. Setup the new configuration
    d. Test the new configuration alongside the dedicated server for a week (at least)
    e. Assuming the test goes well, file a ticket to cancel the dedicated server and its firewall