
From: info@podi.com
Sent: Thursday, November 29, 2018 10:21 AM
Subject: Behind the Scenes: Web Site Hosting and Spam Filtering



Dear Kevin,

Like the proverbial paddling duck seen from above the water, all is calm and quiet, but under the surface the duck is paddling briskly to move across the pond. That's a good analogy for the daily operations of a Web site hosting service.

As seen from your browser, all appears calm and quiet, but back at the data center there is a lot going on to detect intrusions, stop attacks, protect data, and provide a stable Web platform.

Snapshot of PODI Server Activity	
> 500,000	Daily number of user requests handled by PODI web servers
0.6 seconds	Average request response time
Wednesday	Busiest day of the week
2,000	Number of low-level attacks per day
45	Number of critical or high severity attacks intercepted per day

PODI Server Profile

Potomac Digitek currently maintains six physical servers at the DataBank data center in Baltimore and, rather than refer to them by their numeric ID, we have named them after characters from the Little Rascals. We have three Web servers (Alfalfa, Breezy, and Micky), two database servers (Spanky and Mildred), and one email server (Darla). Daisy, a new Web server, is coming online before year-end.

The servers generate performance reports daily for review. Here's a small excerpt from a report showing the number of requests handled on each of the PODI Web servers during a recent week.

DataBank Hosting

Potomac Digitek partnered with DataBank (formerly Edge Web Hosting) for hosting services more than a decade ago. Since then our business relationship has strengthened and grown. Our teams know each other personally and communicate on a regular basis.

Important Hosting Services

Modern hosting services should include these important capabilities.

- **Physical Security:** The DataBank facility has robust physical security. Badge access is required to gain access to the outer offices. Additional screening and clearance is required to get into the server space.
- **High Availability:** DataBank's data center is located directly on a major Internet pipeline which provides access to the highest bandwidth and speeds. All connections are robust and redundant and are tested frequently.
- **Server Monitoring:** DataBank provides comprehensive round-the-clock monitoring of servers, applications, hardware, performance, and security. The Baltimore-based Support Desk is staffed around the clock. The support team monitors all servers in the data center and is quick to respond to monitoring alerts. Potomac Digitek and DataBank have designed and deployed additional monitoring to help maintain high availability of our servers.
- **Network Security:** Protecting web servers is an active and constantly evolving aspect of modern hosting. DataBank's state-of-the-art network security is multi-layered to provide the highest degree of protection. The defensive layering includes:
 - *Intrusion Detection Systems* – scans for new undocumented intrusions and issues alerts
 - *Intrusion Prevention Systems* – quarantines suspicious requests
 - *Firewall* – blocks known intrusion types
 - *Web Application Firewall* – filters, monitors, and blocks HTTP traffic to and from web applications
 - *File Integrity Monitoring* – validates operating system and application software files by comparing a current file's state to a known baseline
 - *Vulnerability Scanning* – detects and classifies system weaknesses in computers, networks, and communications equipment and predicts the effectiveness of countermeasures
 - *Multi-Factor Authorization* – requiring more than just a password to gain access to services
 - *And more!*
- **Software Patching:** Hosting also means keeping servers' operating systems patched to provide the latest protection and to prevent costly compromises.
- **Backups:** Every server is backed up daily. Although rarely used, we have had occasion to access these back-up files and they have helped clients quickly recover missing or lost data. Offsite copies are maintained which eliminates a single point of failure.
- **Recovery and Responsibility:** Databank is our "first responder." When problems arise, the DataBank team is alerted and responds rapidly. And they "own" the problem, including escalation to third parties. They solve 95% of issues without our direct involvement.



Continual Attacks

In addition to the 500,000 legitimate requests our servers handle each day, there are thousands of unwanted requests that are intercepted, analyzed, and handled.

Individuals and programs are constantly probing and scanning for weaknesses. A typical low-level probe is someone looking for WordPress administrative pages. We don't host or use WordPress, so these requests are easily detected and ignored.

Medium-level attacks may include hacked code and attempts to inject it into online forums, databases, and online forms. Remember guestbooks? Yeah, they were a magnet for this type of attack and are now long gone from the Web.

High- and critical-level attacks are more sophisticated and may disguise their real intent. Of these, Denial of Service (DoS) attacks are the most well-known. A DoS attacker tries to flood a web site with too many requests, overwhelming the site with bogus activity so legitimate requests cannot be addressed. A good hosting provider prepares strong defenses for such attacks by having extra bandwidth available, detection systems in place, and the ability to block or deflect such attacks if they surface.

Good Hosting is Worth the Investment

Hosting a Web site today is much more complex than you might think. And a weak hosting environment can cause down time, unrecoverable conditions, loss of data, and compromised personal information.

Invest in a good partner - like DataBank - to help keep your site up, running, and protected around the clock. As the DataBank tagline touts: *"we still want you to stay up and sleep more"*

Spam Filter Update

While our hosting company is detecting and stopping attacks on our server software, spammers are busy looking for weaknesses on Web pages. Often they submit spurious online forms in an effort to find vulnerabilities. To combat this abuse we developed a form Filtering Service. Here's an update on how it helps our clients.

Our form Filtering Service, released earlier this year, uses 14 different criteria to differentiate spam from legitimate online form submissions. For Filtering Service subscribers, we add a bit of code to their online forms and let the service detect and remove unwanted submissions.

You can read more about it in our [February 2018 newsletter](#).

Since the debut, the Filtering Service has been intercepting 30-50 unwanted form submissions each day. Early last week we started seeing an increase in the intercepts – not unusual before a national holiday. Spammers like to "test the waters" before a holiday period to help ensure their main attack – launched on or near the holiday – has a greater chance of success because targeted businesses are closed or operating with reduced staff.

On Tuesday our Filtering Service intercepted and removed 377 unwanted submissions – a new daily record. On Thursday, Thanksgiving Day, another new record was set as 582 submissions were intercepted and removed. But the main attack occurred on Saturday when 1,636 spam submissions were received and removed. In total, more than 2,500 unwanted form submissions were diverted away from email inboxes last week!

If you are dealing with unwanted form submissions and want to know how our Filtering Service can help, give us a call.

Other News and Notes

The [Association of Water Technologies](#) (AWT) just launched their 2019 Annual Conference site which includes our new scalable exhibit hall floor plan. [Click here for the floor plan page](#) .

[Bath and Kitchen Buyers Group](#) (BKBG) shareholders now have two new benefits for BKBG Shareholders – *Call to Action Guides* , informational marketing brochures that shareholders can customize for their organizations and an *online library of instructional videos* which promote successful sales, marketing, and management concepts.

[The Sulphur Institute](#) (TSI) debuted a micro-site for their premiere 2019 event – Sulphur World Symposium in Athens, Greece.