

the Availability Digest

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123-Reg Deletes Hundreds of its Hosted Websites

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The U.K. website hosting service 123-Reg accidentally wiped out hundreds of its customers' websites when it ran a maintenance script with a software bug. The hosting service provider operates an "unmanaged" hosting service and does not provide backups for its customers. Though it encourages customers to maintain backup copies of their websites, most do not. For those customers without backup copies, their websites may be irretrievably lost.



123-Reg

123-Reg is the U.K.'s largest domain registrar and one of its largest website hosting providers. It has issued 3.5 million domain names and hosts 1.7 million websites.



123-Reg operates 115,000 servers in its global data centers. Running on each physical server are several virtual private servers (VPSs), each dedicated to one customer. Each VPS hosts several virtual machines (VMs), each of which hosts a website for the customer owning the VPS. In effect, multiple customers share a single server that appears to be a dedicated system to the customer.

Most companies hosting websites on 123-Reg are e-commerce businesses relying on their websites for sales.

Software Bug Wipes Out Hundreds of Web Sites

On Saturday morning, April 16, 2016, 123-Reg ran a script to find unused VPSs. The intent was to delete old VPSs that were no longer being used. An error in the script showed no virtual machines running on some live VPSs that were, in fact, quite active with functioning websites. This caused these VPSs to be deleted. The VPSs on 67 of the 123-Reg servers were wiped clean. As a result, 123-Reg mistakenly deleted a number of the 1.7 million sites it hosts.

When customers first started complaining that they could not reach their websites, 123-Reg told them that it was a connectivity problem. Later, they changed that prognosis to a capacity issue caused by a customer running resource-intensive tasks that worked around restrictions. It took a day or so for 123-Reg to realize that the problem was caused by deleted VPSs as a result of their maintenance error. It took two days for them to admit that there may be catastrophic data loss. Some customers reported that the fault had effectively "deleted their businesses."

At this point, though the service was an unmanaged service, the company committed a large number of resources to help restore service back to normal as quickly as possible. It retained a leading data restoration company, Kroll Ontrack, to help it with the process. However, seven days after the incident,

only 26 of the 67 affected servers had been restored. 123-Reg admitted that much of the data may never be recovered. Those websites would be lost forever.

Unless, of course, the customer had backed up its website locally. In this case, the customer could restore its website on the 123-Reg systems and be back in business. 123-Reg issued a notice to its customers saying:

“Customers that have a local backup of their VPS are advised to rebuild their servers. If you are currently offline and would like to restore from your own backup to save time, we can set you up a new VPS image.”

123-Reg Post Mortem

Richard Winslow, the 123-Reg Brand Director, emailed the following explanation to the company's customers:

Dear Customer:

I am writing to you to explain what happened to some VPS services on 16.04.16. This email is to detail what our steps have been. I am committed to open communication with all customers and would like to take this opportunity to explain in detail.

So what happened to some services? As part of a clean-up process on the 123-reg VPS platform, a script was run at 7am on 16.04.16. This script is run to show us the number of machines active against the master database. An error on the script showed 'zero-records' response from the database for some live VPS. For those customers, this created a 'failure' scenario - showing no VM's and effectively deleting what was on the host. As a result of our team's investigations, we can conclude that the issues faced having resulted in some data loss for some customers. Our teams have been and continue to work to restore. What have we done? We have been working with an extended team of experts and have left no stone unturned. Our teams have been working long into the night to restore as much as we possibly can. We have also invested in external consultants to recover, in the best way possible.

We have recovery running on the VPS servers and some are restoring to new disks. We have also begun copying recovered VPS images to new hosts and we expect some VPS to be back up and running throughout the night and in to tomorrow.

Our teams have worked for more than 24 hours and will continue to do so. No stone is being left unturned.

As the technical teams come back with updates for individual VPS we will communicate updates to customers.

For those customers with their own backup of their settings and data, if you wish to restore services yourself you can do this by issuing a reimage command through your 123 Reg control panel, this will give you a freshly installed VPS on a new cluster, where you can restore your service.

I understand that some customers may have lost some confidence in the service that we offer. So, I want to explain what we have done to prevent this happening again. We have started an audit on all cron-jobs and scripts controlling the platform, and associated architecture, so that no script will have ability to delete images, only suspend. For image deletion for those suspended over 28 days we will have a human eye to double check. A new platform will be available by the end of the year for customers which we will provide self-managed and automated snapshot backups, in addition to architecture technology to backup the whole platform, something that is not available on the current platform. I hope this goes some way to win back your confidence.

Richard Winslow,
123 Reg Brand Director

Of key importance in this message is that 123-Reg will never again delete a VPS without human approval. Furthermore, the company will be implementing a backup platform so that recovery from a disaster can be provided.

Déjà Vu

Later that same week, web hosting service Squarespace, serving 190 countries and millions of websites, lost its entire global network. Over a million websites went down. The Squarespace network was down for several hours before it was able to be recovered.

Lessons Learned

The primary lesson to be learned from this outage is more general than just websites. It applies to any data that is stored on another system not under your control, for instance in the cloud. The lesson is to always maintain a local copy of the data so that you can restore it if the remote facility should lose your data.

At the *Availability Digest*, we maintain our website locally and simply download changes to our hosting provider. Thus, we always have two copies of the website. If our hosting provider should lose our website, all we have to do is to reload it. Also, if we should lose our local copy of the website, all we have to do is to upload a copy from our hosting provider.

Acknowledgements

Information for this article was taken from the following sources:

123-Reg VPS customers hit by major outage, *Bit-Tech*; April 18, 2016.

"Sorry, we deleted part of the internet": Error at domain hosting service 123-Reg sees hundreds of websites going offline, *Daily Mail*; April 18, 2016.

Furious customers tear into 123-reg after firm's mass deletion woes, *The Register*; April 18, 2016.

UK Hosting Giant 123 Reg 'Deletes' Customer Sites, *Tech Week Europe*; April 18, 2016.

123-reg still hasn't restored customers' websites after mass deletion VPS snafu, *The Register*; April 20, 2016.

123-reg restores just 26 servers after catastrophic wipe, *Cloud Pro*; April 22, 2016.

Another web hosting disaster as Squarespace suffers major outage, *Channel Biz*; April 20, 2016.