Home > Data Center Management > Under Pressure in the Pursuit of Zero Downtime

DATA CENTER MANAGEMENT ◇ IT

UNDER PRESSURE IN THE PURSUIT OF ZERO DOWNTIME

written by Dirk Oppenkowski | October 6, 2016

The business of data center infrastructure can often feel like carpentry or home repair, as pieces need to be monitored, replaced and modernized. So if maintaining a data center is like fixing a house, you need to choose a reliable foundation, especially for your mission-critical workloads.

Here's where the analogy breaks down: unlike home repair, the business of data center infrastructure becomes more important each year. Forrester Research suggests that nearly 75 percent of all applications are deemed mission or business critical. The increasing number of critical systems expands potential points of failure that can seriously affect customers and employees, leading to lost revenue and higher costs. Data center managers are constantly burdened with headaches as they are under pressure to ensure continuous uptime. They must meet customer demands as well as keep costs competitive.

For perspective on just how big unplanned IT outages can be when they occur, according to Dun & Bradstreet, 59 percent of Fortune 500 companies experience a minimum of 1.6 hours of downtime per week. Relate this situation to a Fortune 500 company that has 10,000 employees receiving an average of $56 per hour, including benefits; the labor component of downtime costs for such a company would be $896,000 weekly, which translates into more than $46 million per year.

Downtime can result from both internal and external forces. Take the New York Times website malfunction in 2013, when the site went dark owing to a "server issue" caused by an "outage occurring within seconds of a scheduled maintenance update," or Google's brief (five minutes) downtime, which reportedly cost the company $500,000 and reduced global Internet traffic by a whopping 40 percent during that short time frame. More recently, this past year, Hess cut its production forecast after unplanned downtime occurred in the Gulf of Mexico. The company revealed it is now expecting net production of between 315,000 and 325,000 barrels of oil equivalent per day, down from its previous forecast of between 330,000 and 350,000.

Although these examples of downtime seem distant from many IT departments, outages can have a catastrophic impact on

organizations of all sizes. IT organizations are doing more than calculating the impact of downtime on their business, as they put new strategies into play to identify the causes and the steps they can take to defend against those threats. For example, a recent study from SUSE found that the most important workloads to safeguard against downtime are email, virtualization host and web servers, and, following closely, industry-specific workloads unique to the respondents' industry or market.

Everyone agrees that downtime is important, but few believe that eliminating it is possible. In fact, nearly three-quarters of respondents in the study said it was either "important" or "very important" to achieve zero downtime, yet they don't yet feel it's realistic to expect zero downtime for their organizations.

So how do we keep searching for the Holy Grail of actually achieving it? It might seem impossible, but it is closer and more critical than you might think. Organizations have begun putting in place programs and specific changes to their computing infrastructure to get downtime under tighter control.

Here are four initial steps to start on the road to zero downtime.

1. **Focus on hardware failure:** 31 percent of downtime is caused by IT hardware failure, and 55 percent of customers plan to upgrade hardware in the future. Choosing the right operating systems ensures control and prevents hardware downtime. By supporting software infrastructures with stability, availability and flexibility, IT teams can better manage their IT systems.

2. **Take advantage of clustering:** To maximize flexibility of your IT database, find an alternate way to service failover. For instance, use workloads on web pages to ensure organizations are still able to keep up during any given workday, should unplanned downtime occur.

3. **Minimize human errors:** 13 percent of downtime is caused by human error. And as we know, everyone makes mistakes. By creating tools to take control and manage your assets, the probability of human error falls, leaving more flexibility for IT managers to control other variables.

4. **Evaluate your partnerships and services:** Your workload and service availability truly matters, especially when your business is incurring losses unexpectedly. Take advantage of the partnerships and services around you to employ additional knowledge and to benefit your pursuit of zero downtime.

Will zero downtime become an enterprise standard for mission-critical workloads? The broader question instead becomes, "Do your employees and customers trust your technology to protect their most important workloads?" To that point, we are certainly evolving as an industry to establish unwavering trust. Understanding what is mission critical—and taking extra, practical steps to protect these mission-critical workloads—is vital to managing both IT and business success. By understanding the root causes of downtime and related technical solutions, IT can instill a sense of trust that's as reliable as the uptime of their infrastructure.

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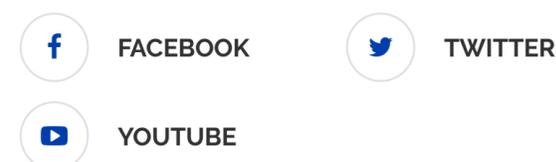**RACK DENSITY REMAINS LOW DESPITE GROWING SALES OF HIGHER-POWER RACK PDUS**

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