

The Why: Success stories

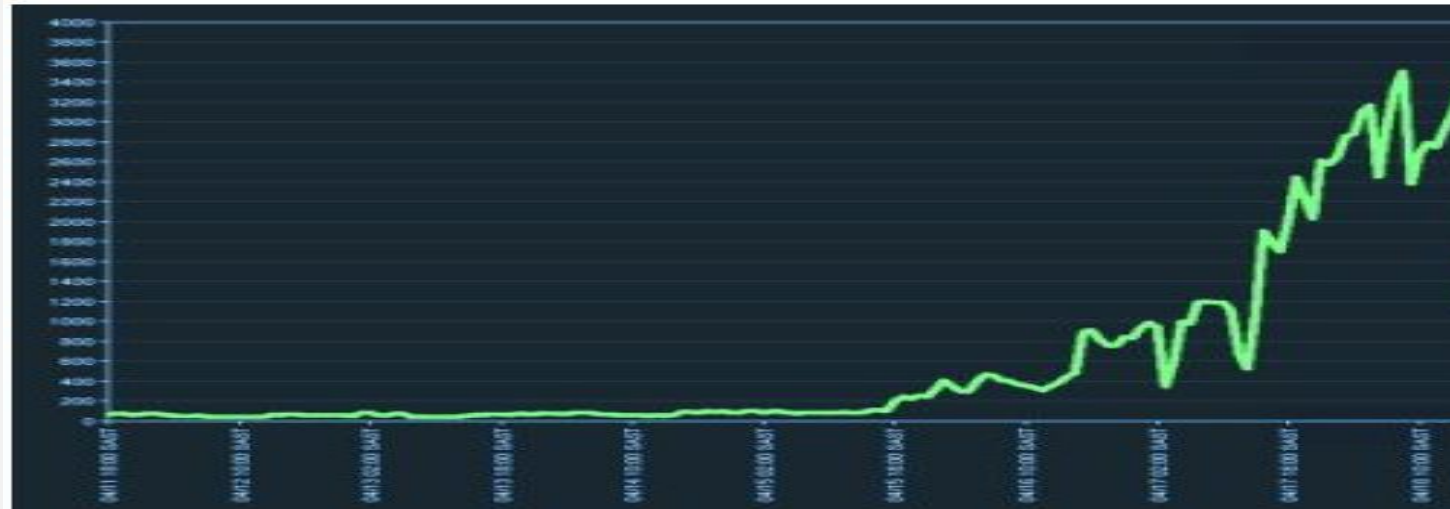
Time2System in der Cloud-Ära: In Echtzeit.

Slashdot-Effekt

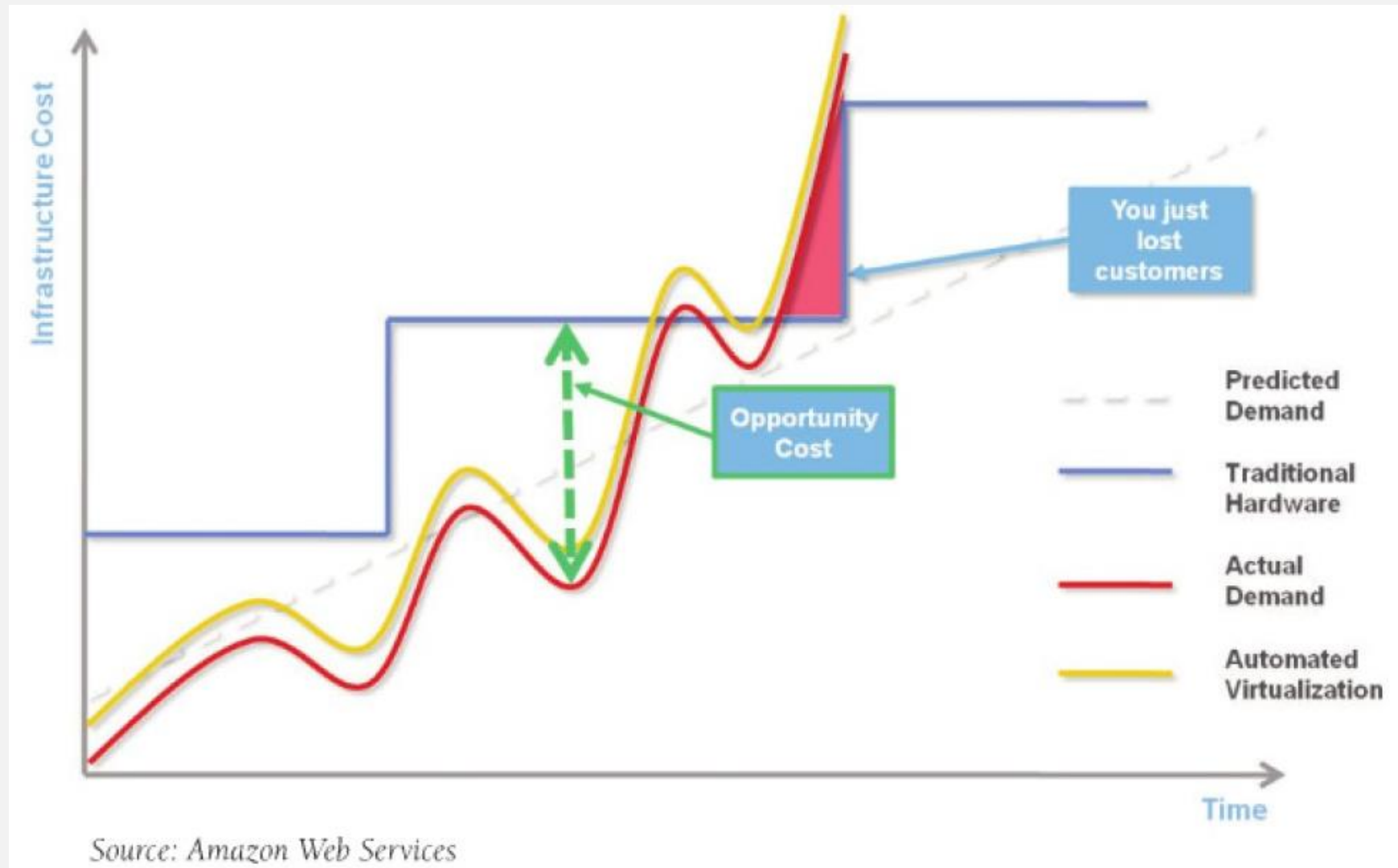
Der sogenannte **Slashdot-Effekt** oder das **Slashdotting** tritt auf, wenn eine bisher wenig populäre Website von einem IT-Online-Magazin wie [Slashdot](#) oder [heise](#) aufgegriffen wird und so binnen Minuten ein erheblicher Benutzeransturm auf die Website beginnt. Dieser führt oft dazu, dass erheblicher **Traffic** verursacht wird und der **Server** vorübergehend einzelne Anfragen nicht mehr oder nur noch sehr langsam beantworten kann. Die Seite ist dann „geslashdottet“ (engl. *slashdotted*).

Große Websites, die von einer Server-Farm bedient werden, haben meistens keine Probleme mit dem erhöhten Traffic. Es sind vor allem kleinere Einzel-Server, die einem Slashdot-Effekt zum Opfer fallen. Manchmal wird der Slashdot-Effekt scherzhaft mit einem [Distributed-Denial-of-Service](#)-Angriff verglichen.

Um den Ansturm auf die betroffenen Seiten zu reduzieren, werden von unabhängigen Seiten immer wieder [Mirrors](#) angeboten in der Hoffnung, dass die Leser auf die Mirrors anstelle der Originalseite zugreifen. Koordiniert werden solche Projekte von [Coral](#) und [MirrorDot](#).



Klassische Betriebsszenarien werden bei dynamischer Nachfrage teuer. Hohe Opportunitätskosten.





Pokémon Go users

Year	Users
2016	232 million
2017	65 million
2018	147 million
2019	153 million
2020	166 million

Note: 2019 and 2020 values are estimates

Sources: Niantic, Superdata

Niantic valuation

Year	Valuation
2015	\$150 million
2016	\$3.65 billion
2019	\$4 billion

Source: [Crunchbase](https://www.crunchbase.com/organization/niantic-lab)

Cloud Datastore Transactions Per Second

1X

Target Traffic

5X

Worst Case
Estimate

50X

Actual Traffic





„We are all Pokemon SRE“



Walmart

Supercentre



Enter

Exit

Low Prices
\$2



2002

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Search Entire Site

Roses on Rollback! One Dozen Fresh-Cut, Long-Stem Roses Only \$24.88

Home Page

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 - Internet Service
 - TV, DVD & Video
 - More...
- Photo**
 - Digital Cameras
 - Camcorders
 - Photo Center
 - More...
- Movies** 12,000 Movies!
- Music** 80,000 CDs!
- Books** 500,000 Titles!
- Video Games**
 - PS2
 - Xbox
 - More...
- Toys**
 - Outdoor Play
 - Bikes & Scooters
 - More...
- Baby & Baby Registry**
 - Shop by Age or Stage
- Home**
 - Furniture
 - Appliances
 - Bed & Bath
 - More...
- Garden & Hardware**
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New customer? [Click here](#) to get started.

Warenkorb


Registrierung

Kategorien

Artikel

Dienste

2008

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Electronics ▸
For the Home ▸
Gifts & Registries ▸
Grocery ^{ERTM} ▸
Health & Beauty ^{ERTM} ▸
Outdoor Living ▸
Pharmacy ▸
Photo ▸
Sports & Fitness ▸
Toys & Video Games ▸
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WayBack Machine


http://ad.yieldmanager.com/st?ad_type

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Zusätzliche
Dienste

2011

Walmart 
Save money. Live better.

Shop for College 2011









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[Value of the Day](#) | [Local Ad](#) | [Store Finder](#) | [Registry](#) | [Gift Cards](#) | [Track My Orders](#) | [My Account](#) | [My Lists](#)

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Must-Have College Essentials at Can't-Miss Prices

COLLEGE 2011

Bedding from \$35 	Futons & Sofas from \$99 	Storage from \$19 	Desks from \$39 
 Laptops & Netbooks from \$278	 Appliances from \$57	 TVs from \$149	 iPods from \$49

[Shop for College 2011](#)

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- Apparel, Shoes & Jewelry >
- Baby & Kids >
- Toys & Video Games >
- Sports & Fitness >
- Auto & Home Improvement >
- Photo >
- Crafts & Party Supplies >
- Pharmacy, Health & Beauty >
- Grocery & Pets >

College 2011

Save Big Now

- Amazing Xbox 360 Savings
- Best-Selling Bikes from \$79
- Fragrances from \$5
- Furniture Rollbacks
- Save 10¢ per Gallon on Gas

What's New

- Captain America Is Here
- HP Dandelion Breeze Laptop
- Summer Fun

In the Spotlight

Back to School Essentials

From uniforms to supplies, find everything for school at Every Day Low Prices.

[School Supplies](#)
[Uniforms](#)


Have Your Fun in the Sun

Enjoy hot summer savings on everything you'll need for some outdoor family fun.

[Pools & Waterslides](#)
[Swing Sets](#)
[Trampolines](#)

NEW

Wdu Digital Movies
Watch New Releases Instantly



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Zusätzliche
Dienste (z.T.
personalisiert)

Bad News.

CHALLENGE

Four years ago, the Walmart Global eCommerce system was a monolithic application, deployed once every 2 months. This represented an unsustainable rate of innovation given the competitive climate. Walmart recognized the need to fundamentally transform technology delivery to compete in the Digital Economy.

Walmart auf <http://www.oneops.com>

- "[...] it was unable to scale for 6 million pageviews per minute and was down for most of the day during peak events."
- "This is the multi-million dollar question which the IT Department of Walmart Canada had to address after they were failing to provide to their users on Black Fridays for two years in a row."

<https://blog.risingstack.com/how-enterprises-benefit-from-microservices-architectures>

Lange Zyklen von Dev-to-Prod.

Mangelnde Skalierbarkeit.

Mangelnde Elastizität.

2016

The screenshot displays the Walmart website interface. At the top, the Walmart logo is on the left, and navigation links like 'Gift Cards', 'Registry', 'Link', 'Weekly Ads', 'Store Finder', 'Track Order', 'Credit Card', and 'Help' are on the right. A search bar is centered. Below the header, there's a 'Rollbacks on iPad Air' promotion with a 'Shop Now' button. A banner for the 'Walmart Browser App' is also visible.

The 'Featured products' section shows several items:

- HP Elite Pad 15.6" 15-q127wm Laptop... \$799.00 (was \$1,049.00) Save \$250.00
- Google Chromecast... \$35.00
- LG Black Chromebase 40-in Gm... \$331.76
- Lenovo Black 11.6" N21 Chromebase PC... \$194.24
- ASUS Black 15.6" P5110AA-4301-4301... \$276.45 (was \$336.55) Save \$60.10

A detailed view of a George Foreman Grill is shown on the right. The product is a black, rectangular grill with a silver lid. The lid is open, revealing the cooking surface with several round grill marks. The price is \$49.96, with a 'Rollback' label indicating a savings of \$10.00 from the list price of \$59.96. The product has a 4.5-star rating from 272 reviews. The description mentions it's a 'New! 2-in-1 Grill & Toaster' and includes a 'FREE pickup' option.

Below the main product view, there's a 'Customers also viewed these products' section with several other items:

- George Foreman 8-in 2-in-1 Grill... \$59.97 (was \$69.97) Save \$10.00
- George Foreman 10-in 2-in-1 Grill... \$29.92 (was \$39.92) Save \$10.00
- Hamilton Beach Indoor Grill with Removable... \$54.99
- George Foreman 3-in-1 Indoor/Outdoor Grill... from \$67.29
- George Foreman 6-in 2-in-1 Grill... \$105.44
- George Foreman 8-in 2-in-1 Grill... \$39.92 (was \$49.92) Save \$10.00
- George Foreman 10-in 2-in-1 Grill... \$17.92 (was \$27.92) Save \$10.00

At the bottom left, there's a 'Bracket-busting SAVINGS' banner with a 'Shop Now' button.

Good News.

1000 Deployments pro Tag ...
... durch die Entwickler.

~ 100% Verfügbarkeit

Neue Geschäftsmodelle, Anwendungen
und Geräte (IoT, mobile, APIs)

Ressourcen Sparsamkeit.

Elastische Skalierbarkeit.

RESULTS

Today the Walmart eCommerce platform is hosted in some of the largest OpenStack clouds and is managed exclusively via OneOps. On a typical day there are now over 1,000 deployments, executed on-demand by development teams, each taking only minutes on average to complete.

Walmart auf <http://www.oneops.com>

"They wanted to prepare for the world by 2020, with 4 billion people connected, 25+ million apps available, and 5.200 GB of data for each person on Earth. Walmart replatformed [...] with the intention of achieving close to 100% availability with reasonable costs."

<https://blog.risingstack.com/how-enterprises-benefit-from-microservices-architectures>

- "In fact, the organization reports that some 3,000 engineers [...] drive 30,000 changes per month to Walmart software."
- "Those new applications, which span everything from mobile devices to the Internet of things (IoT), are crucial weapons in a global e-commerce contest that pits Walmart against the likes of Amazon and Alibaba, as well as a host of other rivals that are emerging as the cost of entry into the online retail sector continues to decline in the age of the API economy."

<http://www.baselinemag.com/enterprise-apps/walmart-embraces-microservices-to-get-more-agile.html>

- "The Walmart [...] servers [...] were able to handle all mobile Black Friday traffic with about 10 CPU cores and 28Gb RAM."
- "On Thanksgiving weekend, Walmart servers processed 1.5 billion requests per day. 70 percent of which were delivered through mobile."

<http://techcrunch.com/2014/12/02/walmart-com-reports-biggest-cyber-monday-in-history-mobile-traffic-at-70-over-the-holidays>