The Why:
Success stories

Time2System in der Cloud-Ära: In Echtzeit.

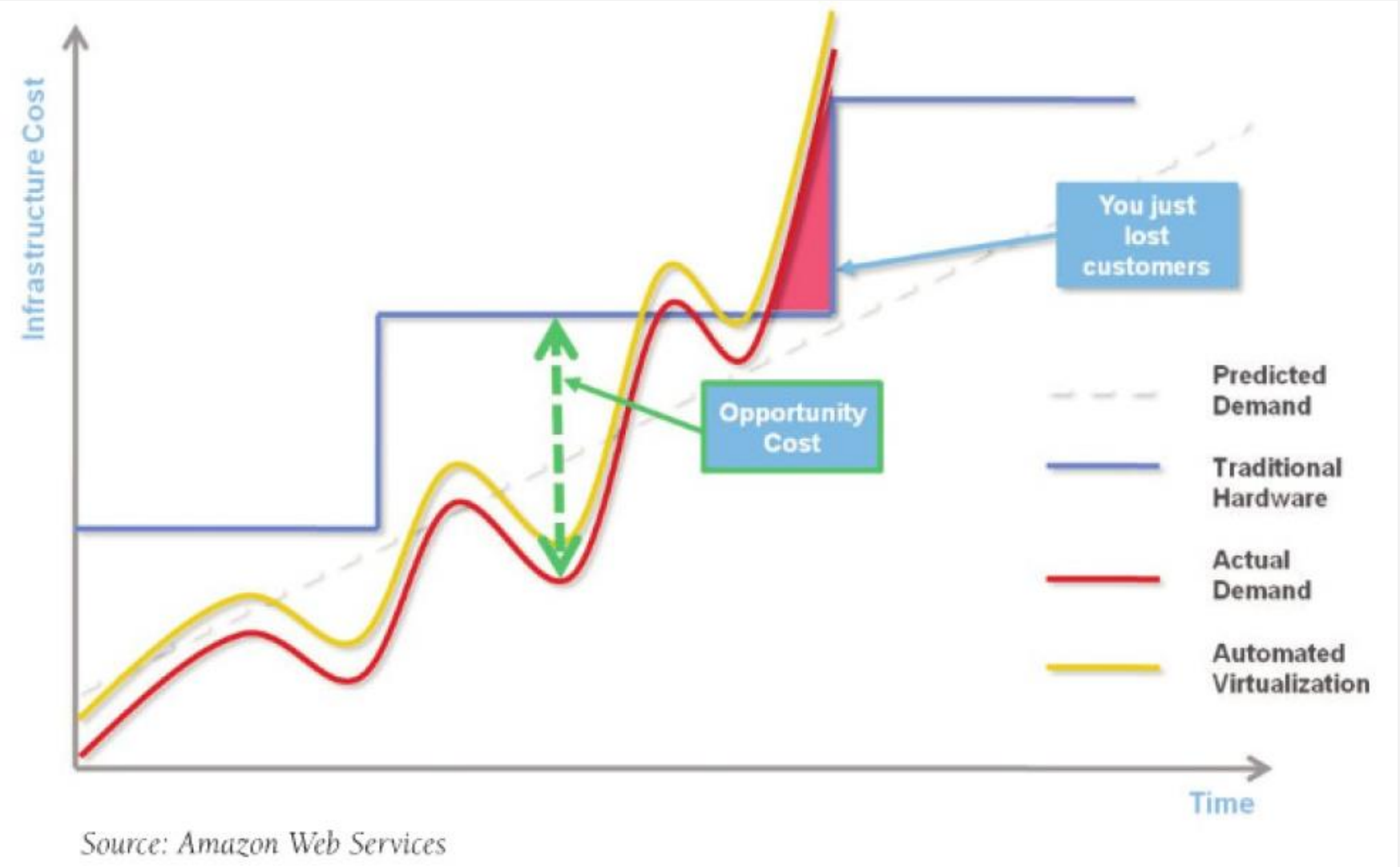
Slashdot-Effekt

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.businessofapps.com/data/pokemon-go-statistics/

Cloud Datastore Transactions Per Second

1X
Target Traffic

5X
Worst Case Estimate

50X
Actual Traffic

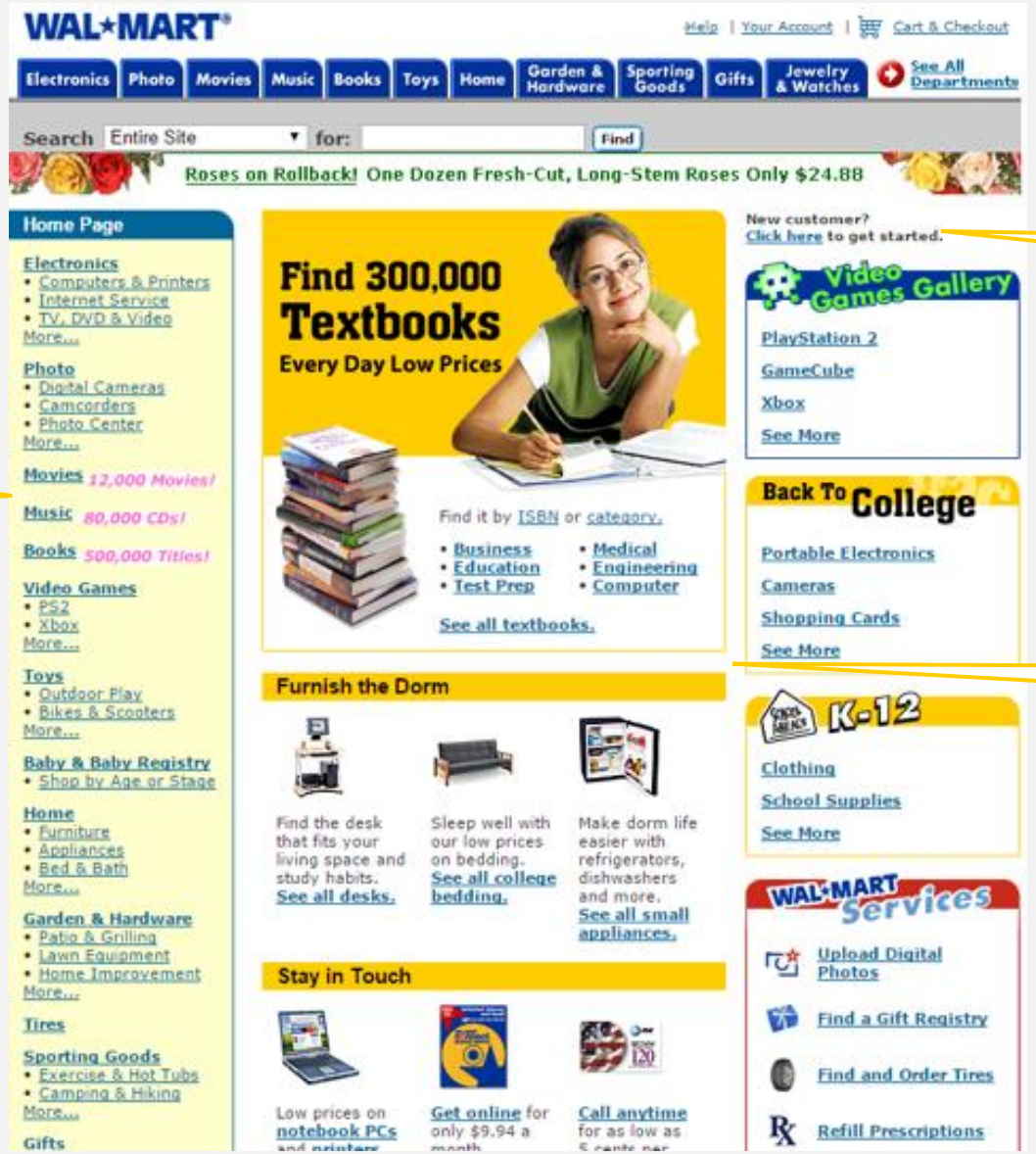
https://cloud.google.com/blog/products/containers-kubernetes/bringing-pokemon-go-to-life-on-google-cloud

„We are all Pokemon SRE“

https://cloud.google.com/blog/products/containers-kubernetes/bringing-pokemon-go-to-life-on-google-cloud


Walmart
Supercentre
Enter
Exit
Low Prices
$2
Thank You!

2002



Kategorien

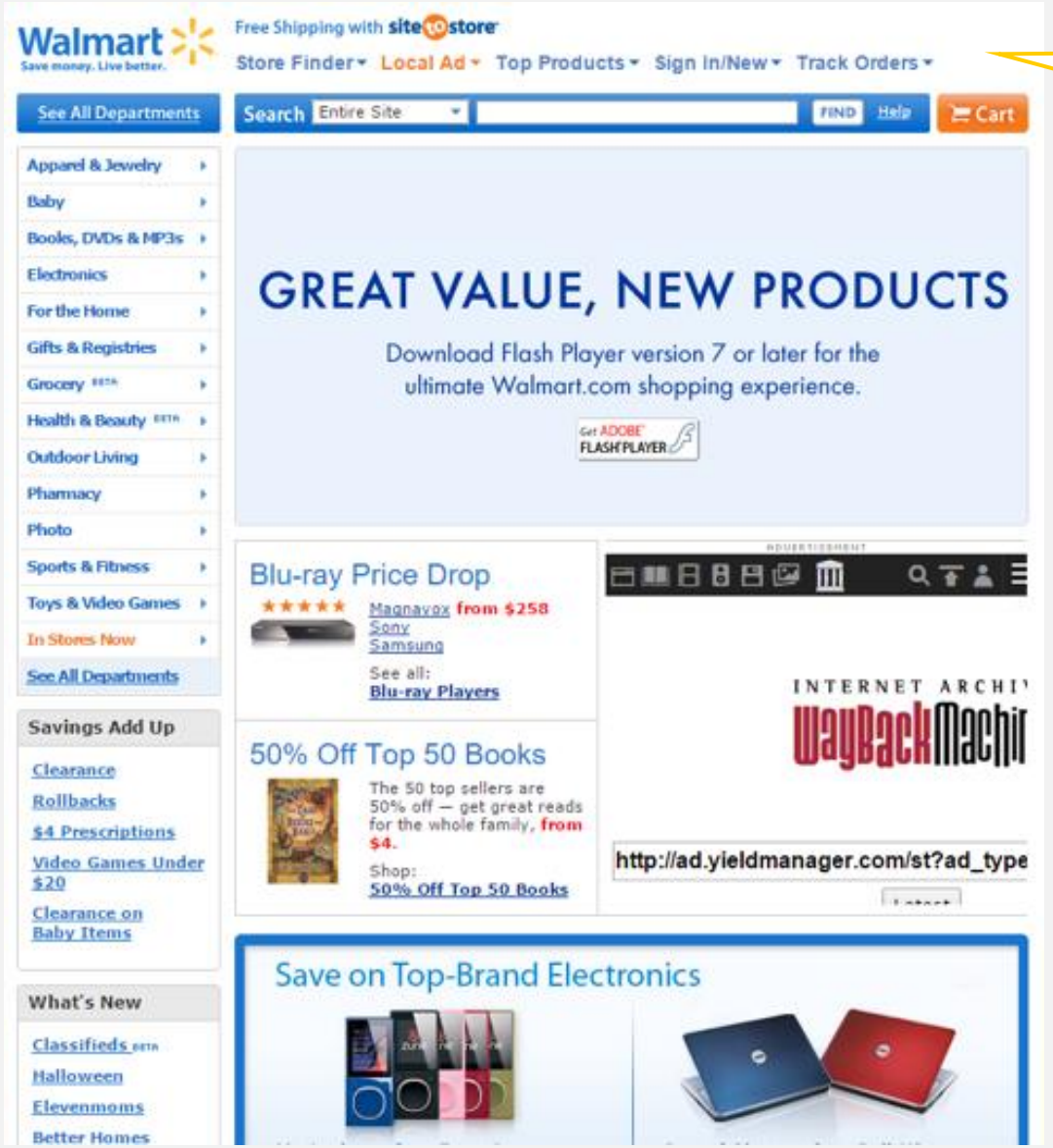
Warenkorb

Registrierung

Artikel

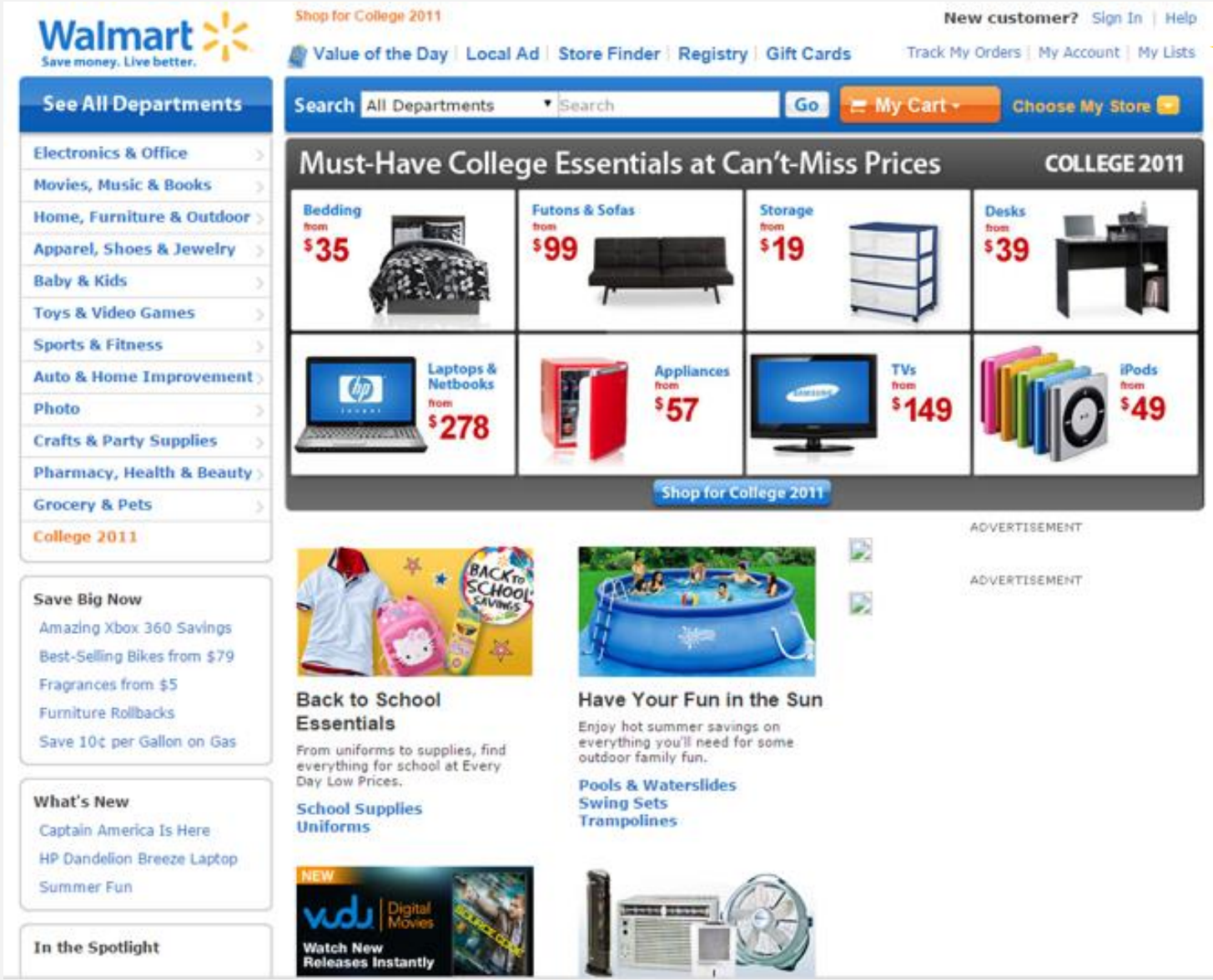
Dienste

2008



Zusätzliche Dienste

2011



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."

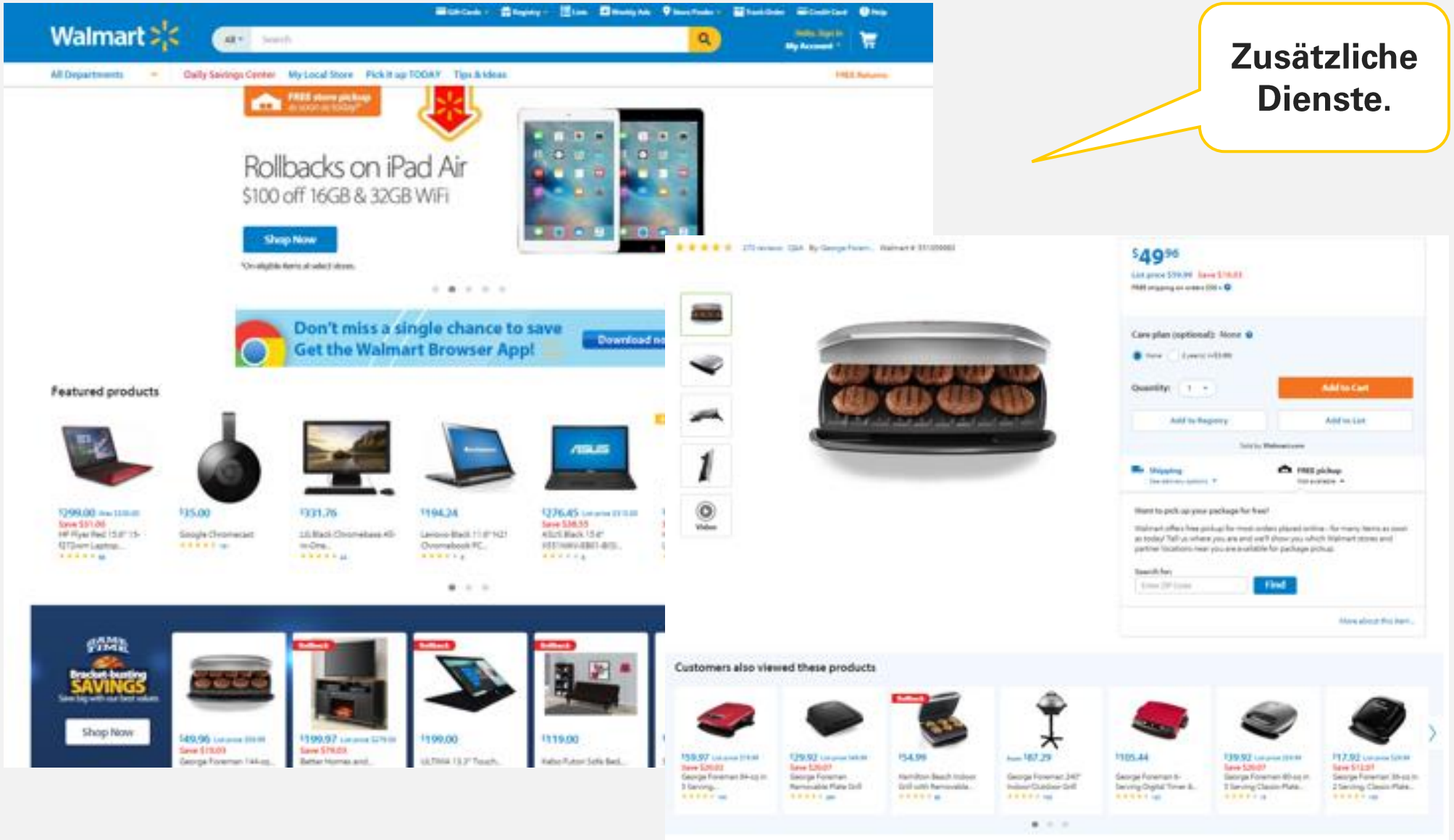
https://blog.risingstack.com/how-enterprises-benefit-from-microservices-architectures

Lange Zyklen von Dev-to-Prod.

Mangelnde Skalierbarkeit.

Mangelnde Elastizität.

2016



Zusätzliche Dienste.

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