



# WINDOWS AZURE

**Brian H. Prince**

Principal Cloud Evangelist  
Microsoft

Brian H. Prince

Principal Cloud Evangelist

Microsoft

blog.

[www.brianHprince.com](http://www.brianHprince.com)

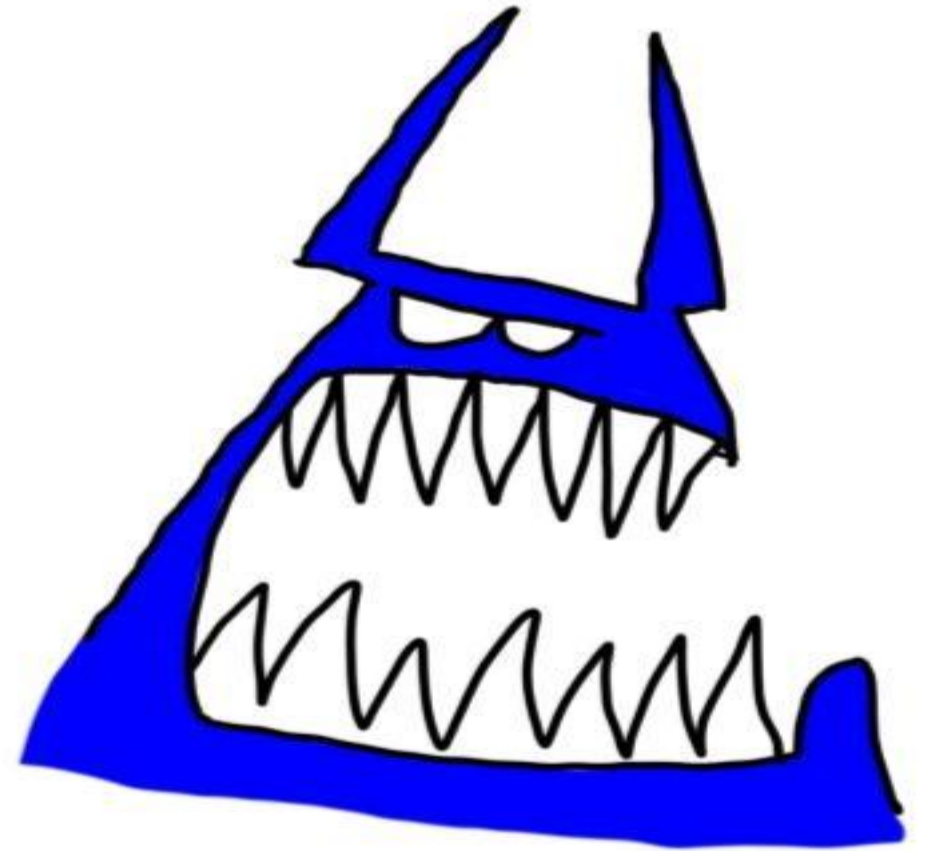
twitter.

@brianHprince

email.

[Brian.Prince@microsoft.com](mailto:Brian.Prince@microsoft.com)

Microsoft  
change the world  
OR go home



# Why Cloud?

- Save time and money
- Enable new scenarios



# windows azure



usage based



automated



managed  
resources



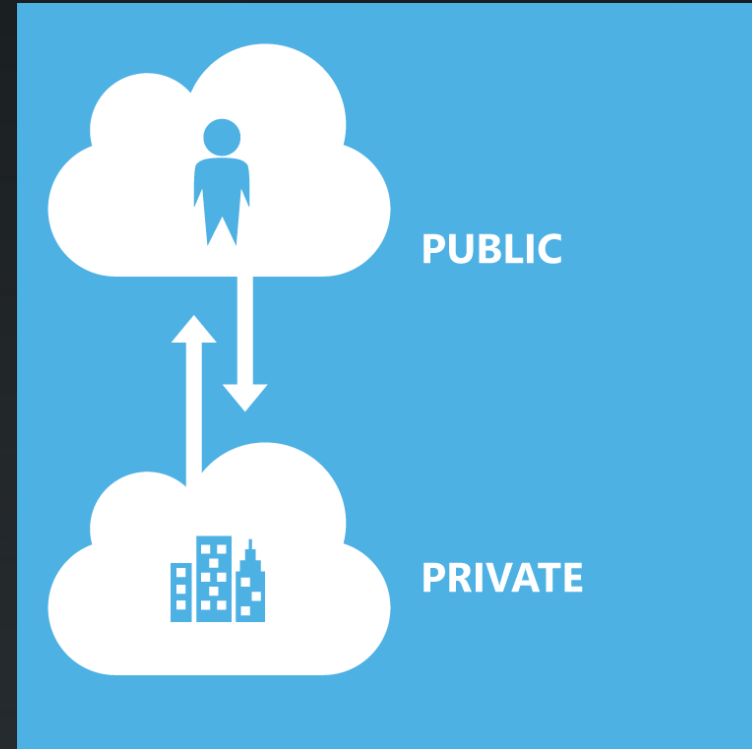
always up.  
always on.



elastic



economics



# global datacenter footprint



## Green Energy

### **San Antonio, TX**

Approx 477K sq ft, 27MW, uses recycled water for cooling

### **Chicago, IL**

707,000 square feet with critical power of 60 MW, uses water side economization, containers

### **Dublin, Ireland**

Approx 570K sq ft, up to 27MW, uses outside air for cooling.





AVISO  
No se debe tocar  
ninguna parte de este  
equipo sin la debida  
autorización.

NOTICE  
No se debe tocar  
ninguna parte de este  
equipo sin la debida  
autorización.

DANGER  
480 VOLTS

demo

# Getting Started with Windows Azure







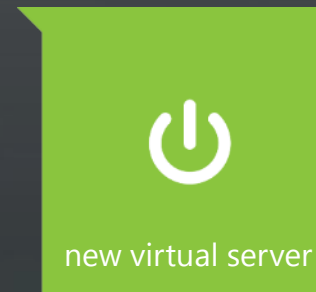
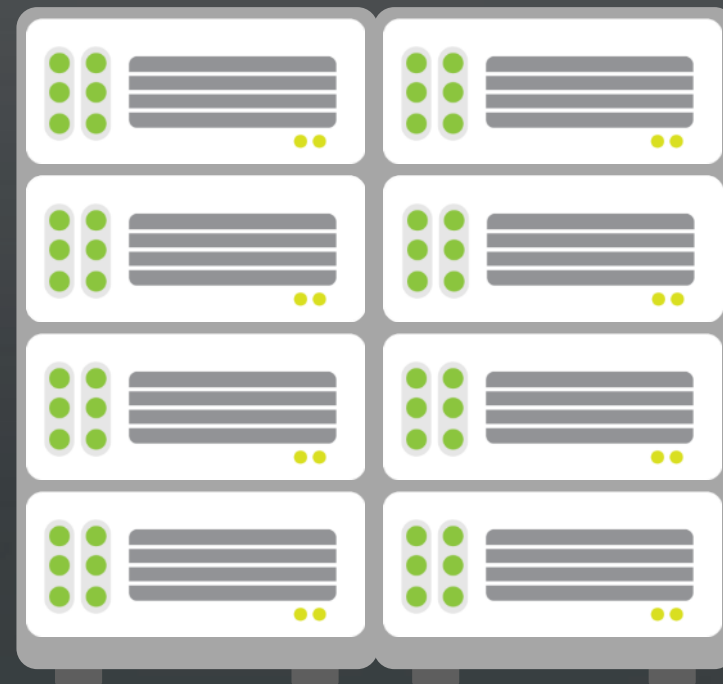
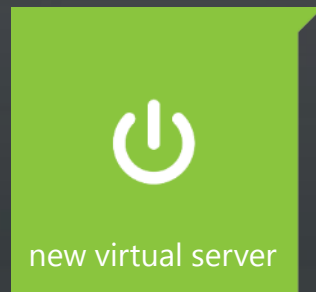
Windows Azure



→ Provision Virtual Servers

→ Deploy App Code

→ Configure Network



Server Rack 1

Server Rack 2

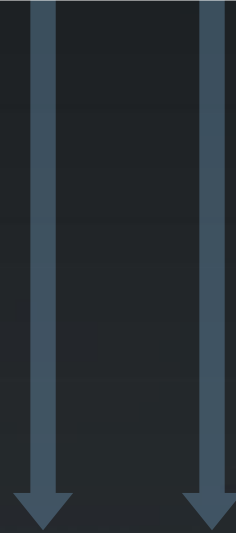
- Provision Virtual Servers
- Deploy App Code
- Configure Network



Windows Azure Datacenter



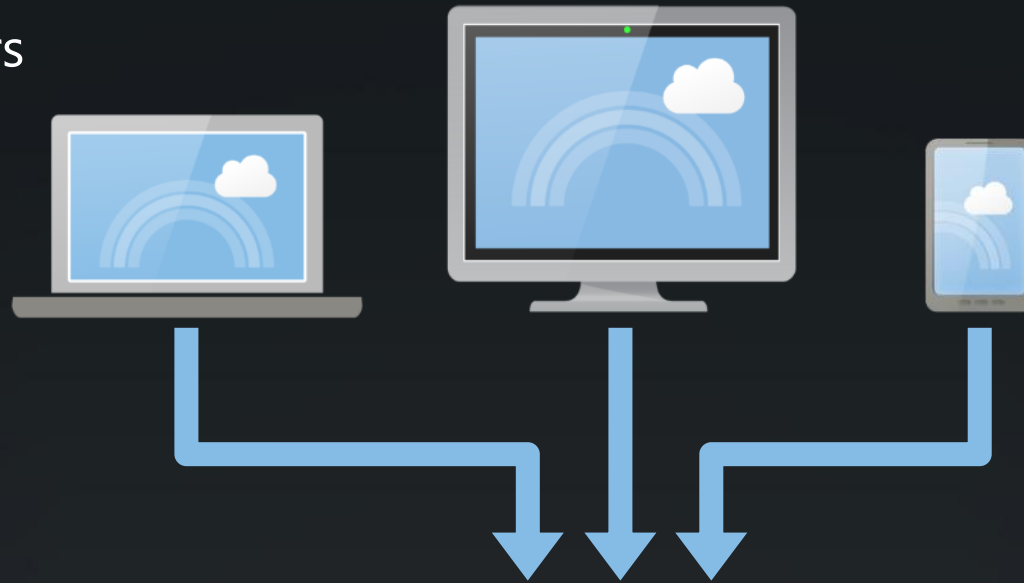
- Provision Virtual Servers
- Deploy App Code
- Configure Network



Windows Azure Datacenter



- Provision Virtual Servers
- Deploy App Code
- Configure Network



Network Load Balancer

← Network load-balancer configured for traffic

Windows Azure Datacenter



Windows Azure

HOME PRICING DEVELOP COMMUNITY SUPPORT ACCOUNT

overview .net node.js java php downloads

free trial

# Downloads

Get the tools you need. Fast.

## full installs

.net	node.js	java	php	other
<ul style="list-style-type: none"><li>Visual Studio Tools</li><li>Client Libraries for .NET</li></ul>	<ul style="list-style-type: none"><li>PowerShell Tools</li><li>Node.js for Windows</li></ul>	<ul style="list-style-type: none"><li>Eclipse Tools</li><li>Client Libraries for Java</li></ul>	<ul style="list-style-type: none"><li>Command Line Tools</li><li>Client Libraries for PHP</li></ul>	<ul style="list-style-type: none"><li>Command Line Tools</li><li>Emulators</li></ul>
install	install	install	install	install
Last updated November 2011	Last updated November 2011	Last updated November 2011	Last updated November 2011	Last updated November 2011

multiple  
languages

demo

“Hello World”

Using Java





Infinite Scale



2

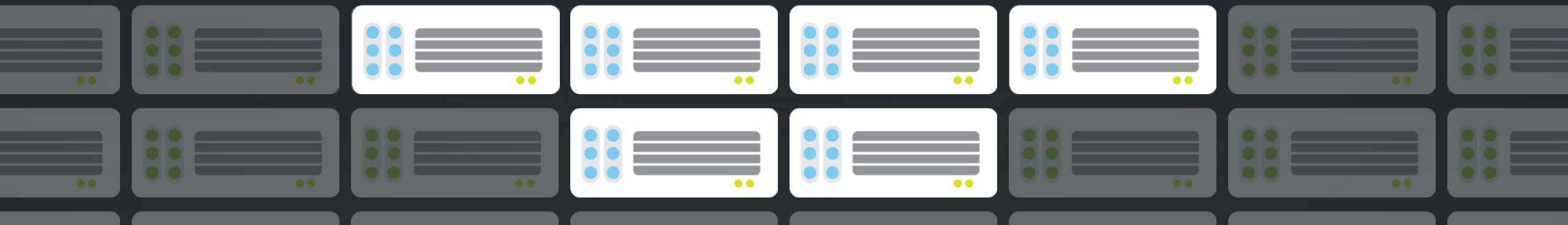
6

92



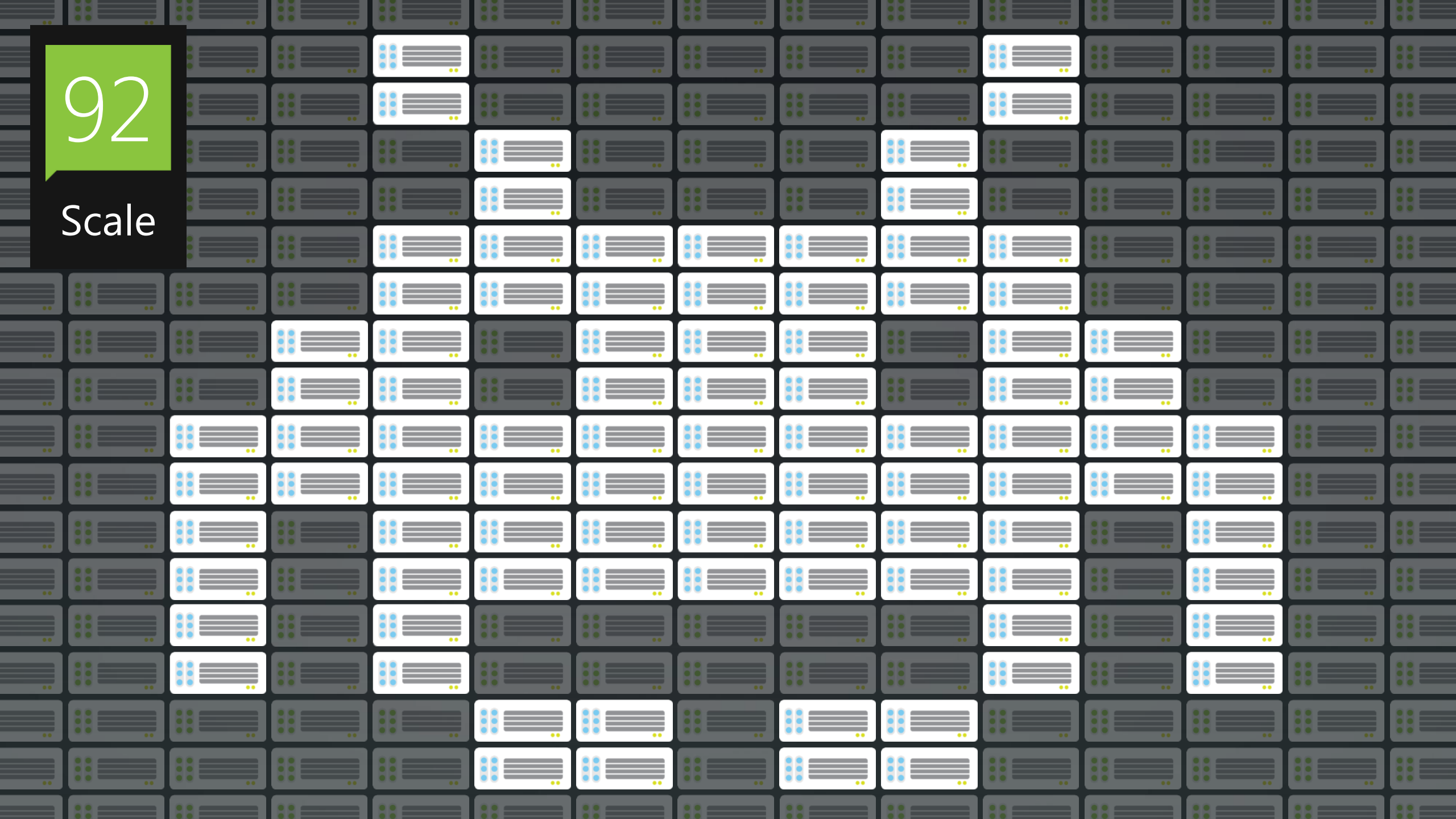
∞

# Scale



92

Scale



10

Scale

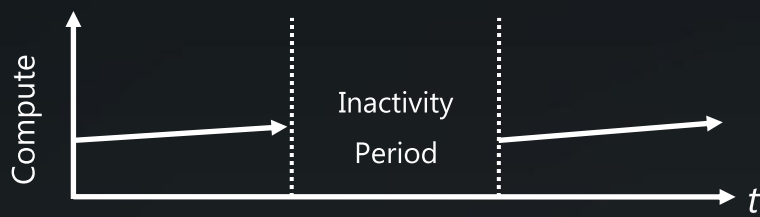




Pay Only For What  
You Use.

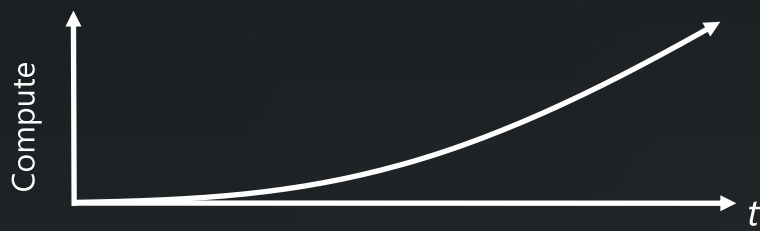


# Cloud Computing Patterns



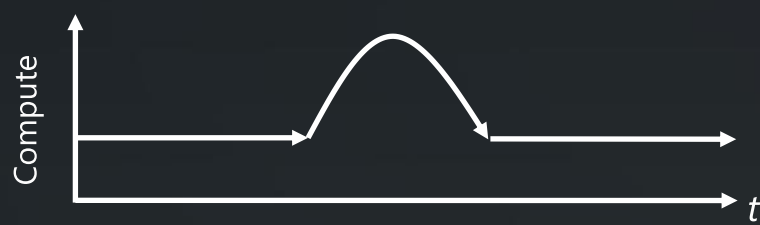
## On and Off

On & off workloads (e.g. batch job)  
Over provisioned capacity is wasted  
Time to market can be cumbersome



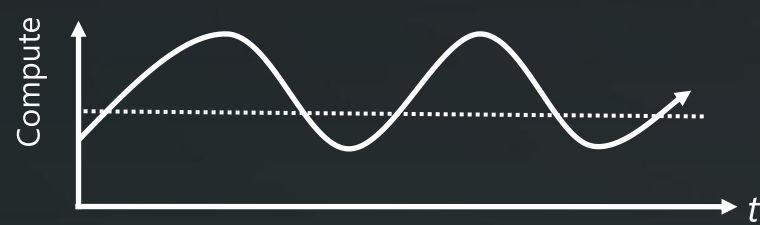
## Growing Fast

Successful services needs to grow/scale  
Keeping up w/ growth is big IT challenge  
Cannot provision hardware fast enough



## Unpredictable Bursting

Unexpected/unplanned peak in demand  
Sudden spike impacts performance  
Can't over provision for extreme cases

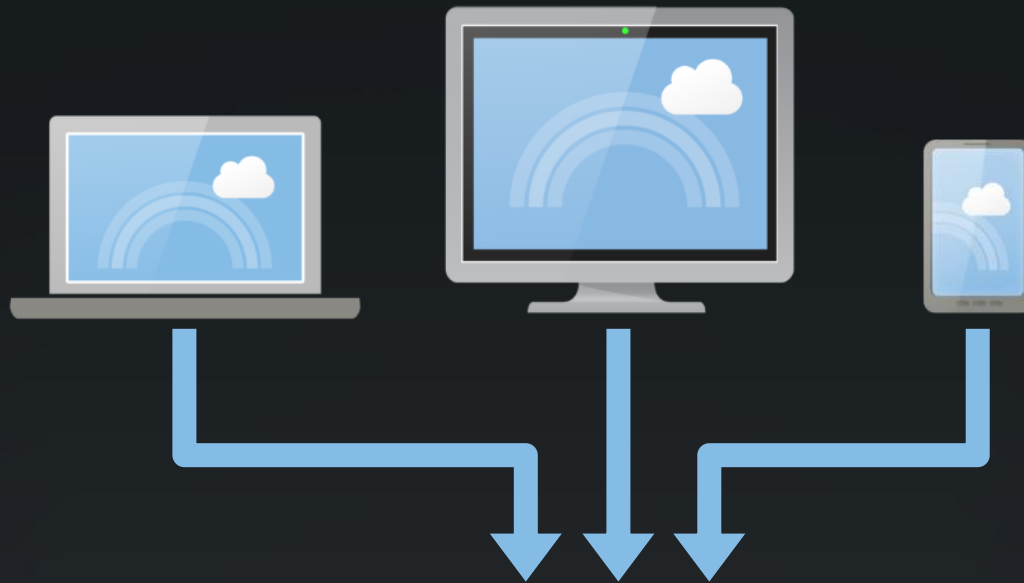


## Predictable Bursting

Services with micro seasonality trends  
Peaks due to periodic increased demand  
IT complexity and wasted capacity



Recovering  
from Hardware  
Failures



Network Load Balancer

Windows Azure Datacenter





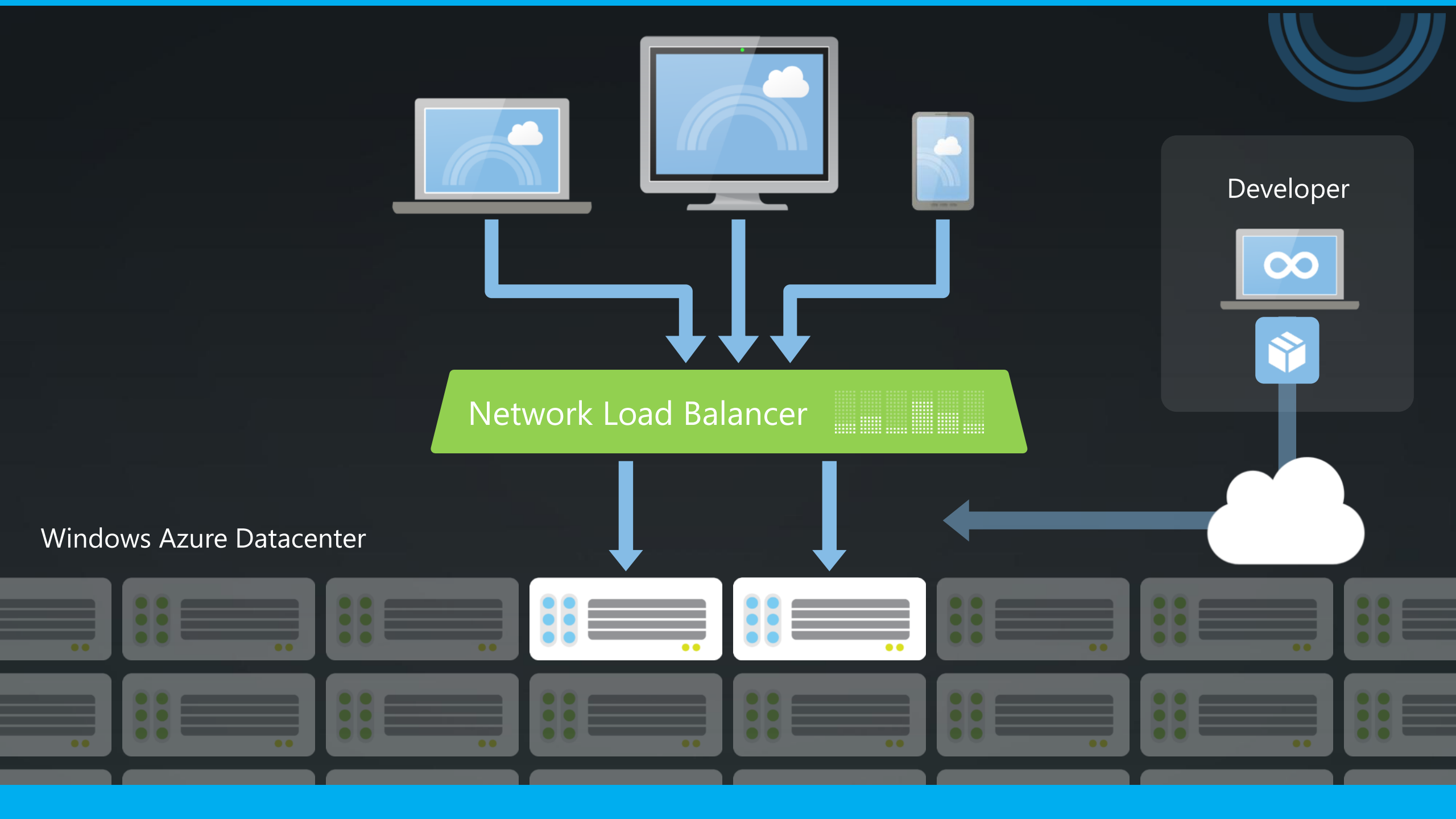
99.95% Monthly SLA





# Smooth Updates





Network Load Balancer

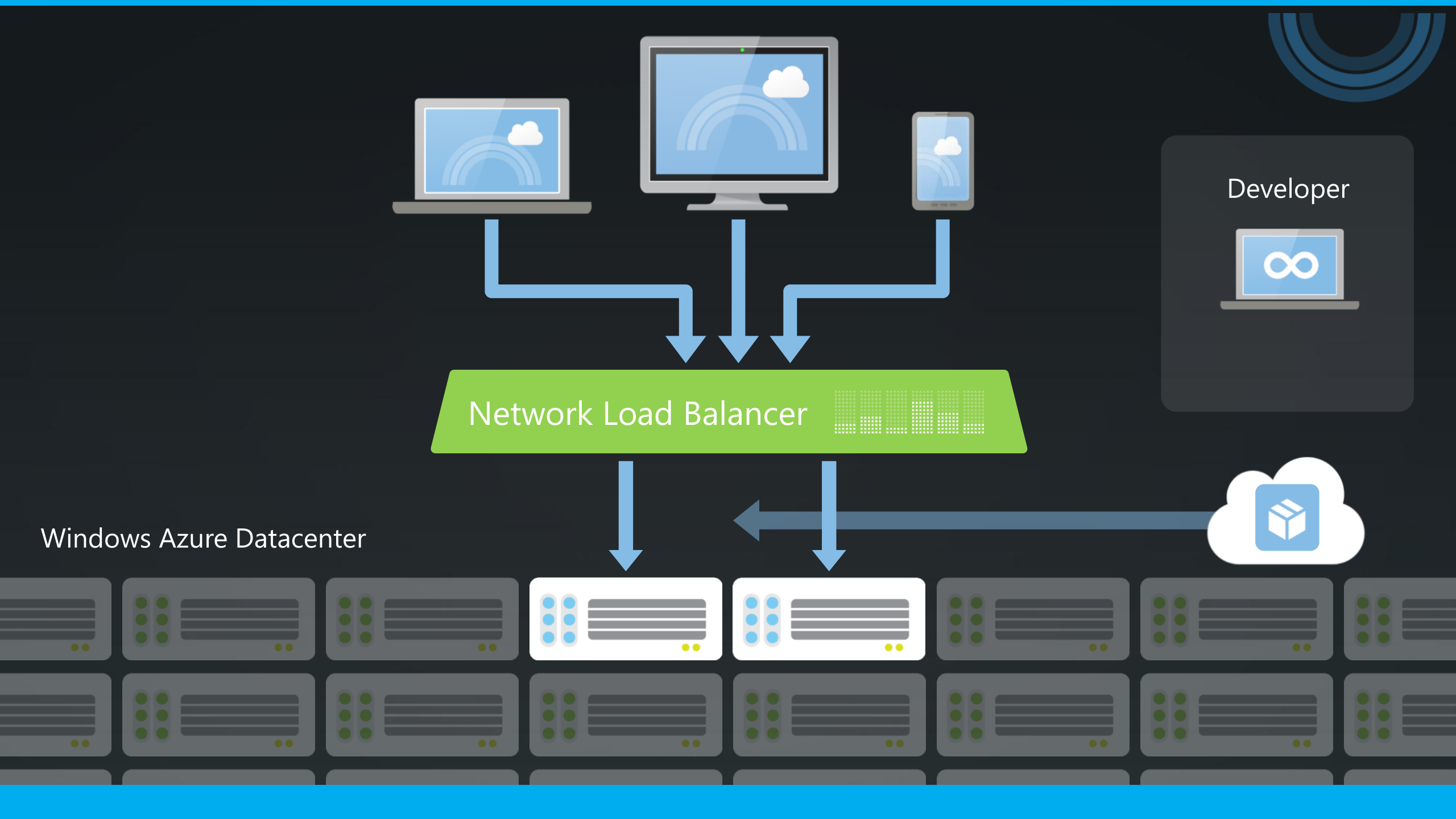


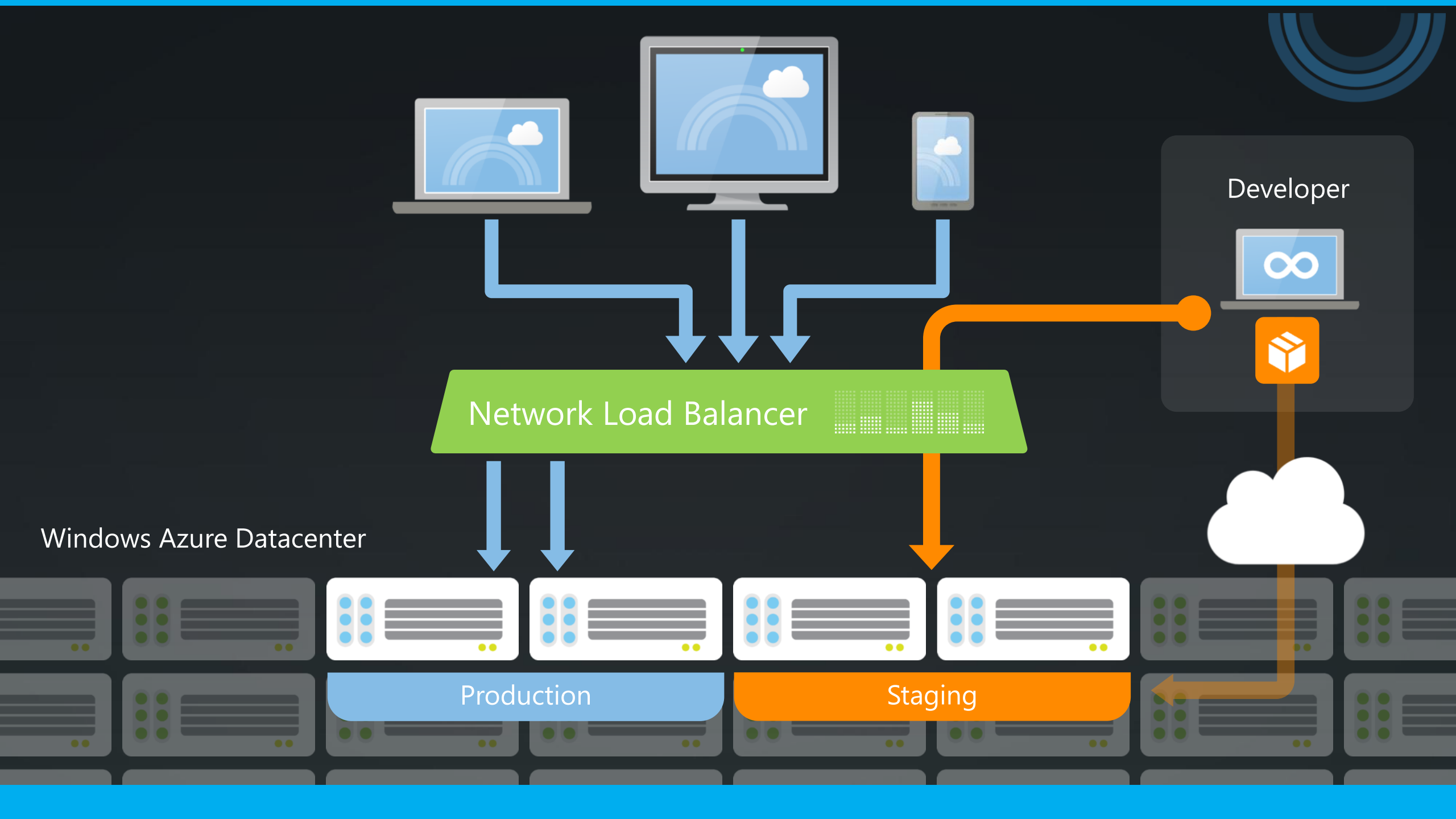
Developer



Windows Azure Datacenter







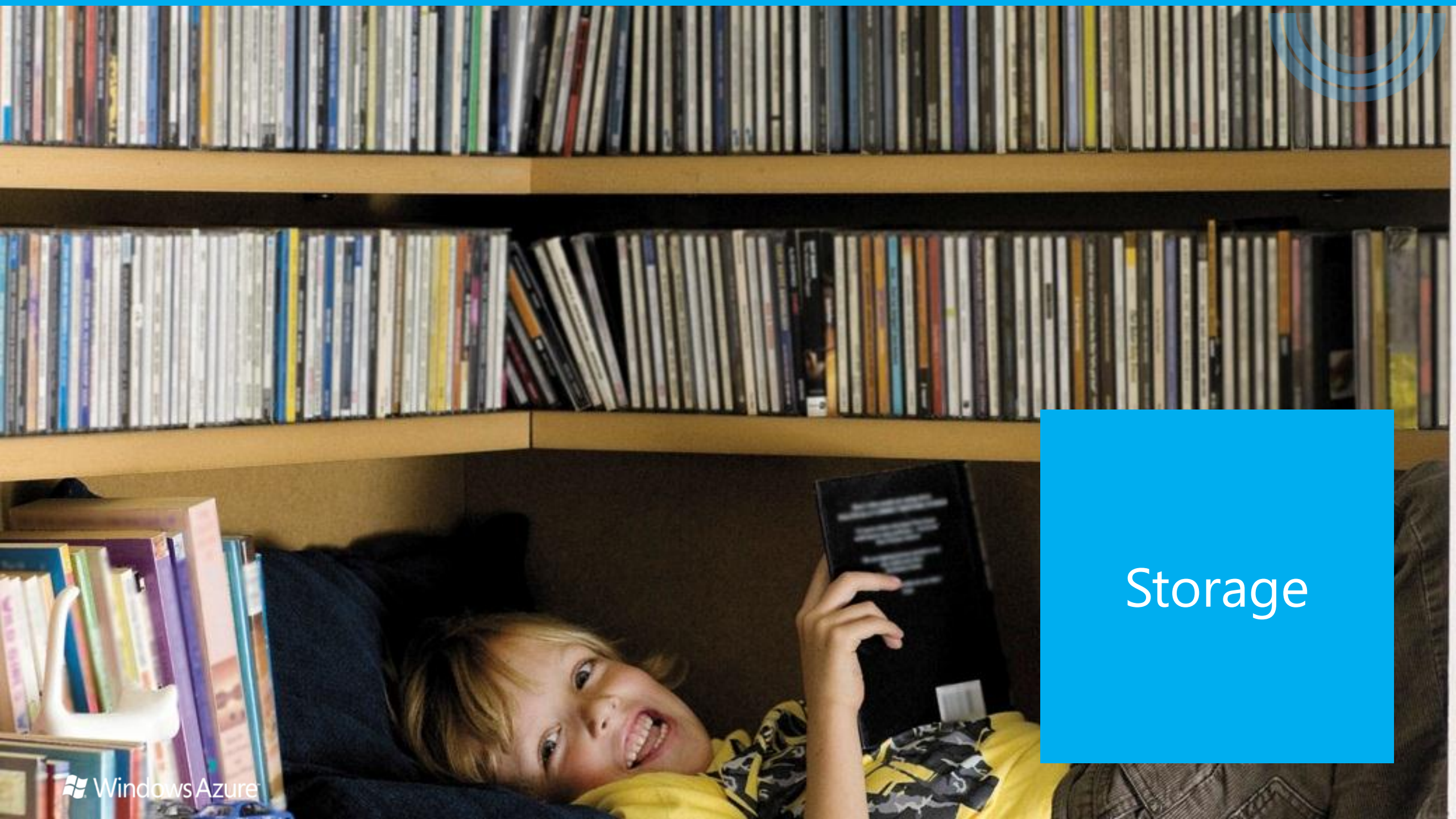
demo

# Staging & Production





Focus on Apps,  
not Infrastructure



# Storage



# Storage Options



Blob Storage



SQL Azure Database

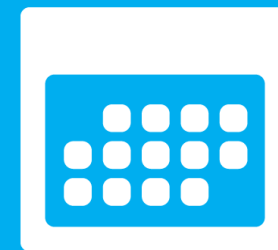


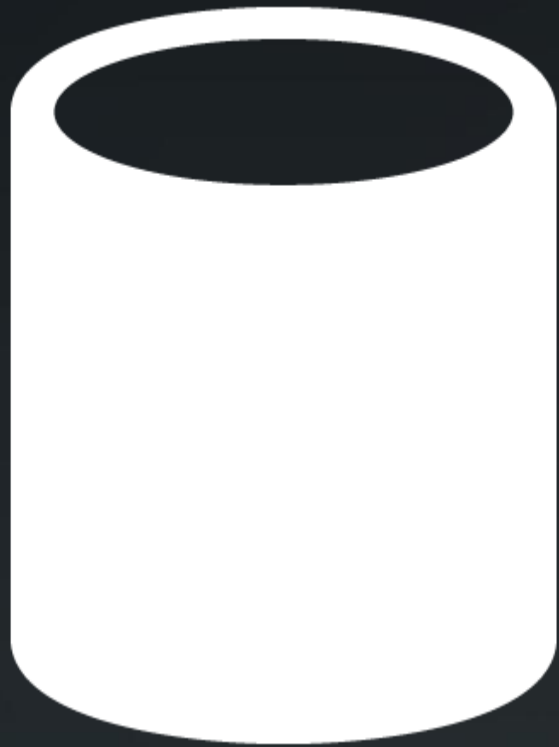
Table Storage





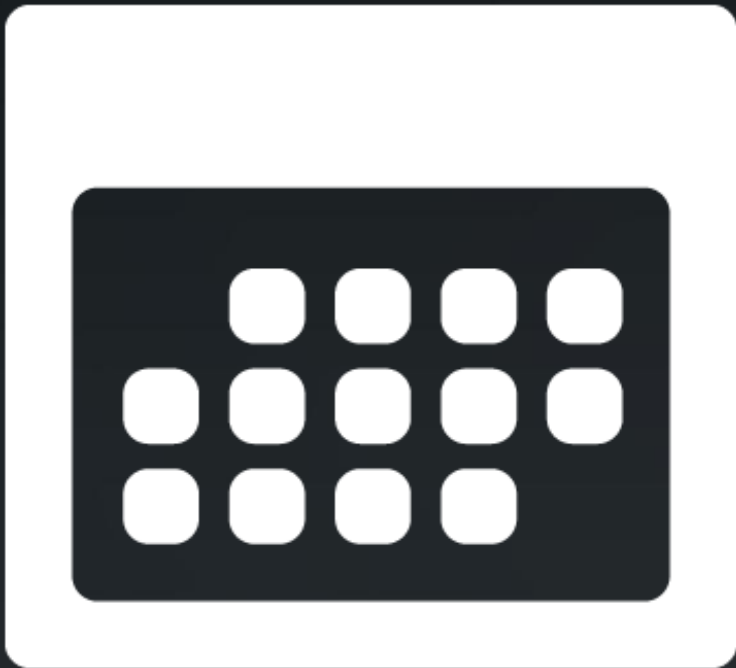
# blob storage

- ← Highly scalable, durable, available file system
- ← Blobs can be exposed publically over http
- ← Can securely lock down permissions to blobs



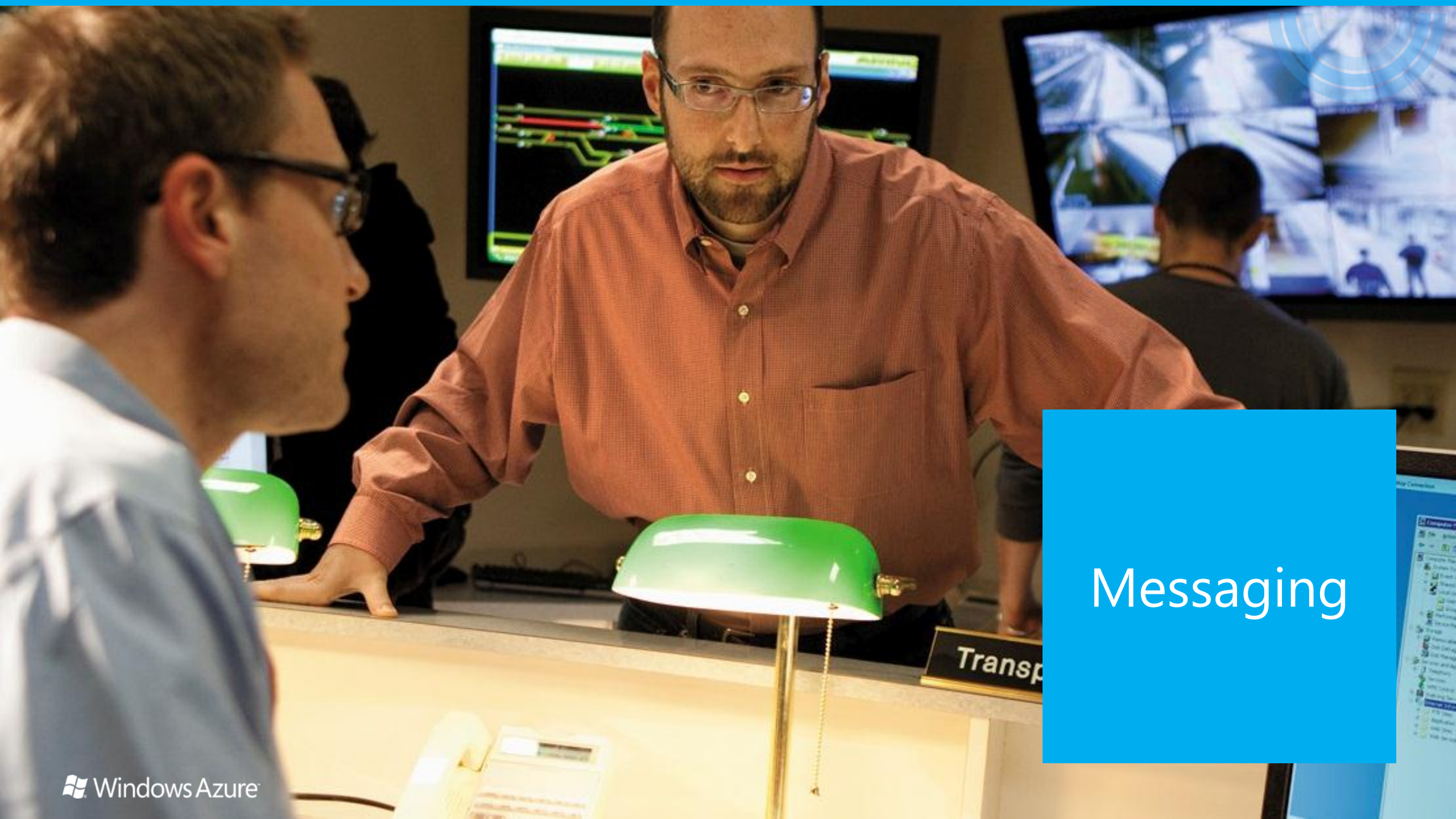
# SQL Azure

- ← Relational SQL Server Engine in the Cloud
- ← Same Programming Model as SQL Server
- ← Fully Managed Service



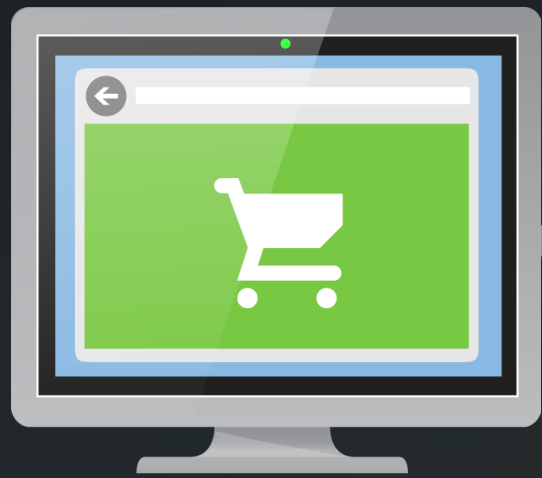
# table storage

- ← No SQL Approach
- ← Partition based
- ← 100TB per table

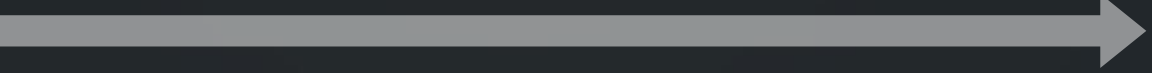


# Messaging

# Tightly Coupled



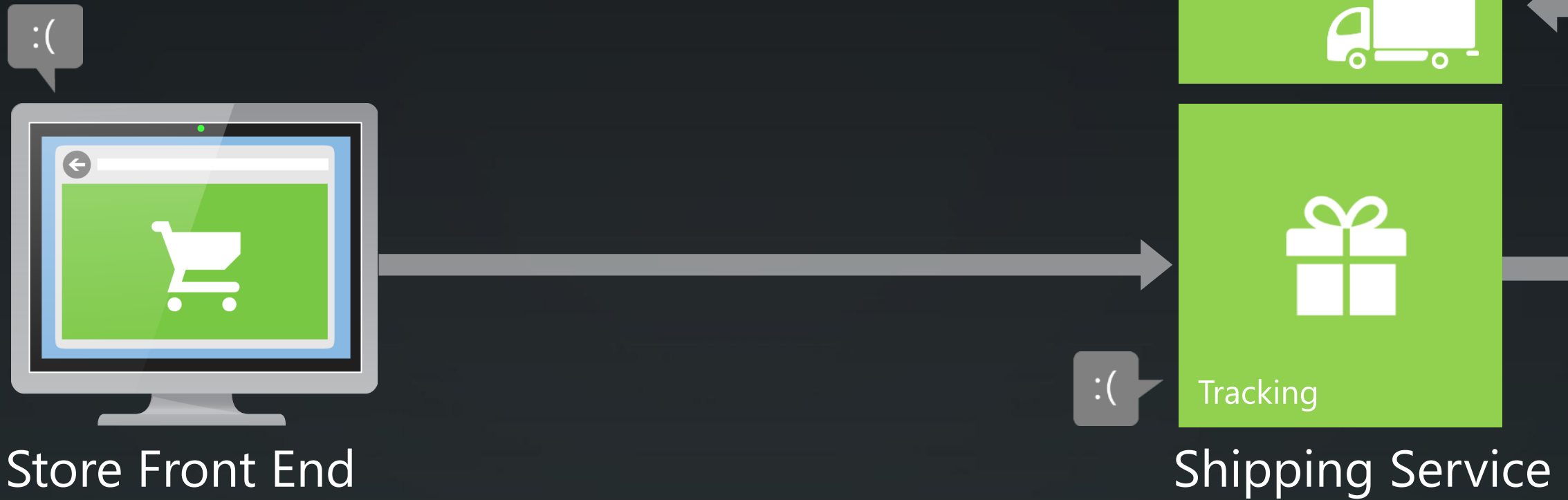
Store Front End



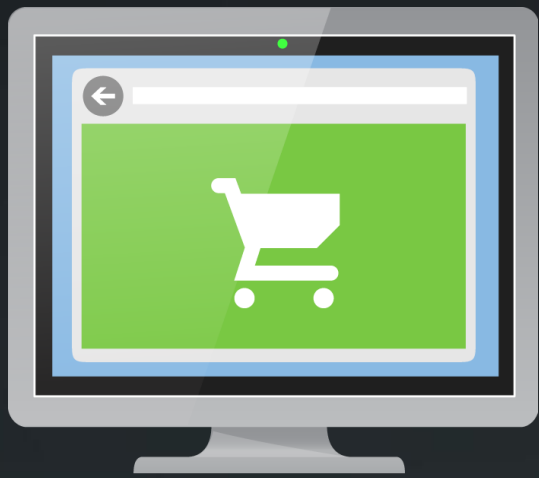
Shipping Service



# Tightly Coupled



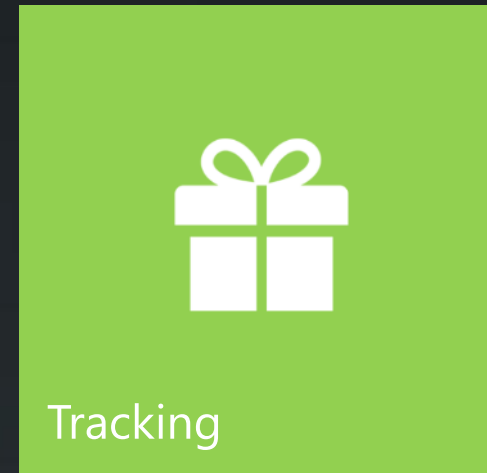
# Loosely Coupled



Store Front End



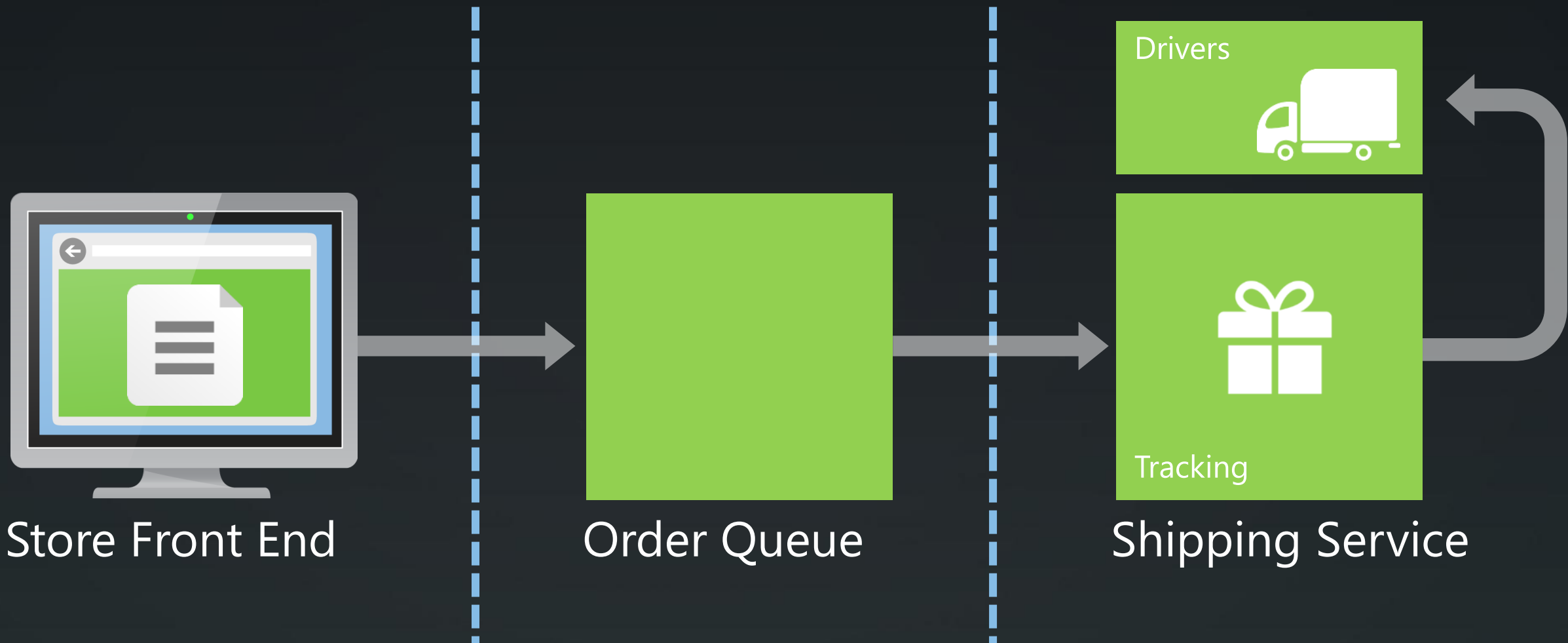
Order Queue



Shipping Service

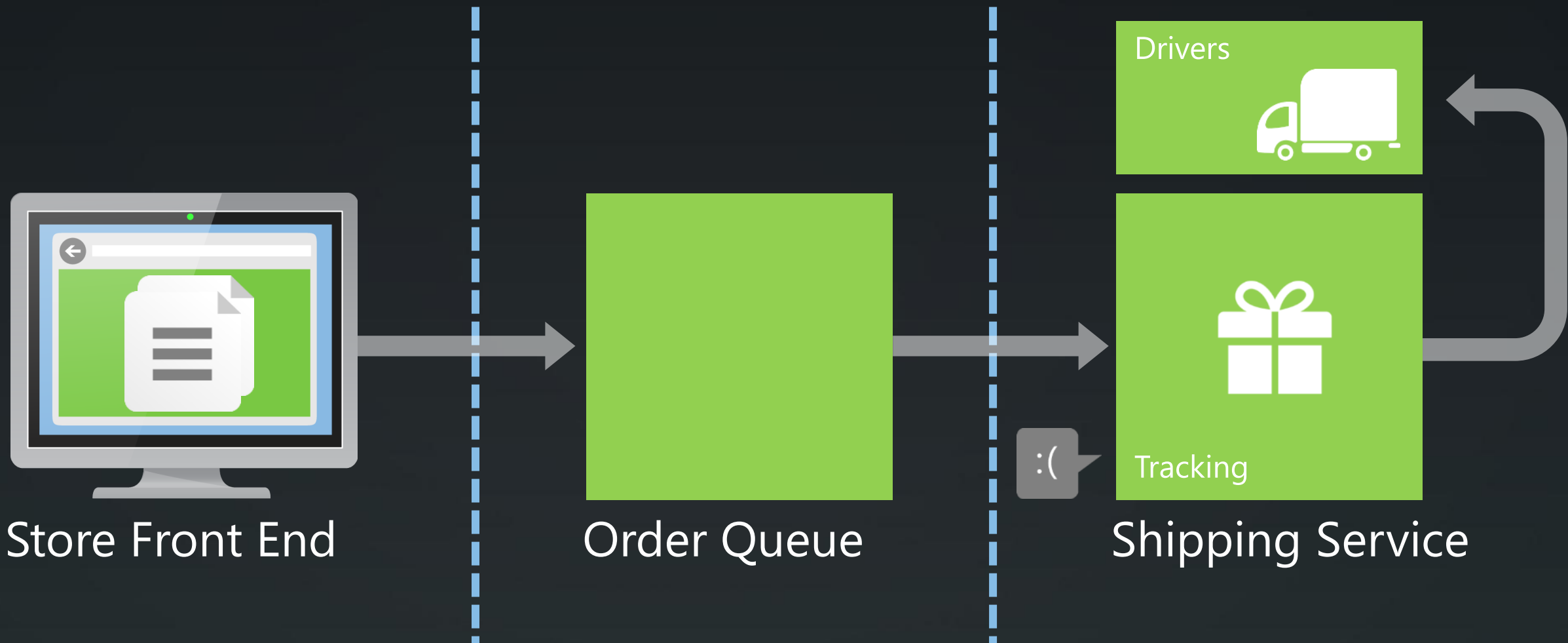


# Loosely Coupled

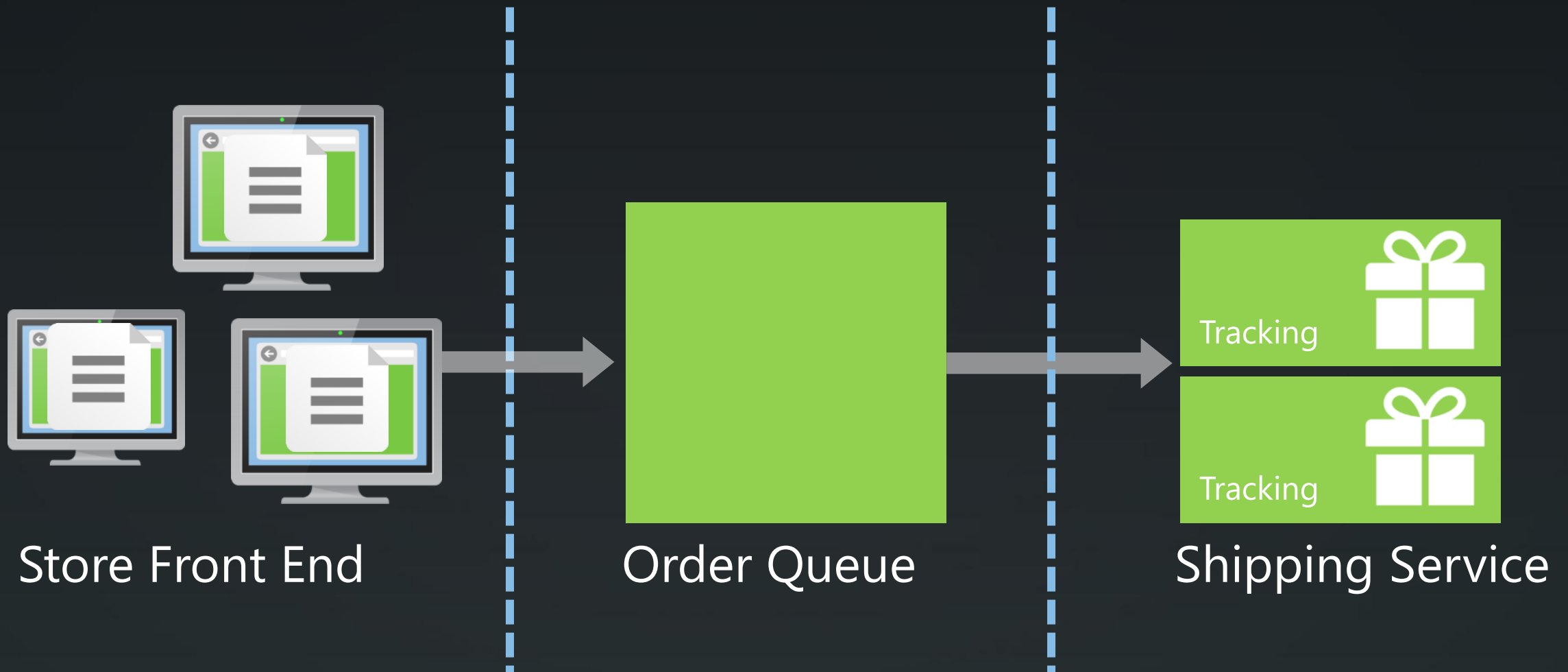




# Loosely Coupled



# Loosely Coupled





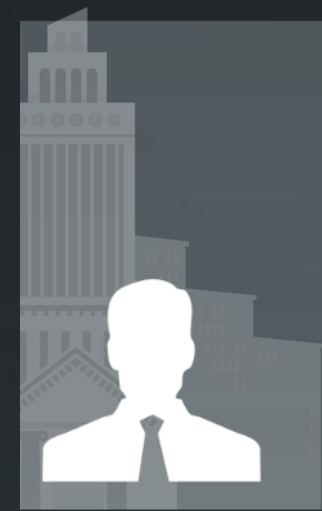
hybrid



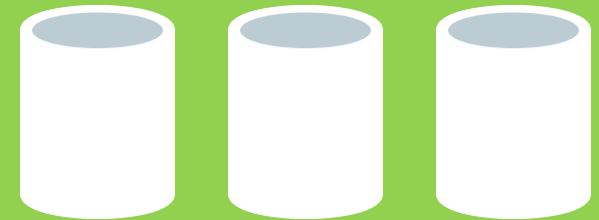
 Windows Azure

Cloud Application

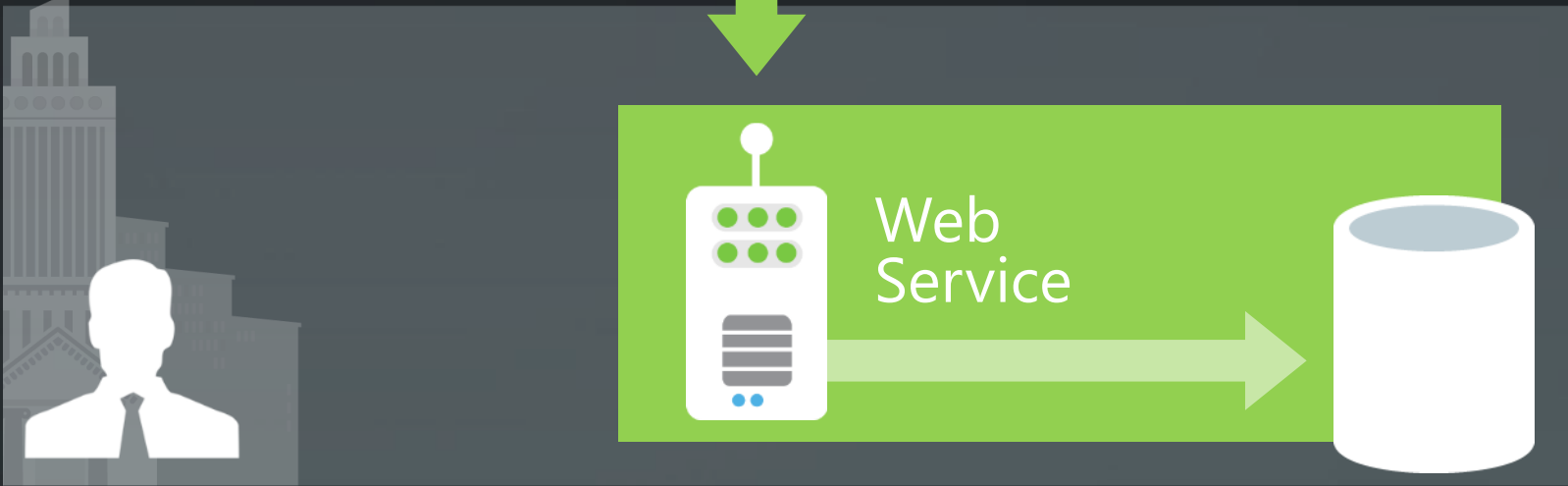
Existing Datacenter



On Premises



Windows Azure



On Premises



# building blocks



storage



messaging



security/  
identity



caching



CDN



networking

demo

# Developer Guides





Open and  
Flexible





The screenshot shows the GitHub profile for the organization WindowsAzure. At the top, the GitHub logo and navigation links are visible. The profile header includes the organization name, a member since date of Sep 20, 2011, and statistics for 4 public repositories and 18 members. Below this, there are two main sections: 'Public Repositories (4)' and 'Organization Members (18)'. The repository section features a search bar and two repository cards. The first card is for 'azure-sdk-for-java', a Java repository with 8 eyes and 2 forks, last updated 1 day ago. The second card is for 'azure-sdk-tools', a C# repository with 16 eyes and 2 forks, last updated 2 days ago. The organization members section lists 18 members with their names, GitHub handles, and statistics for public repositories and followers.

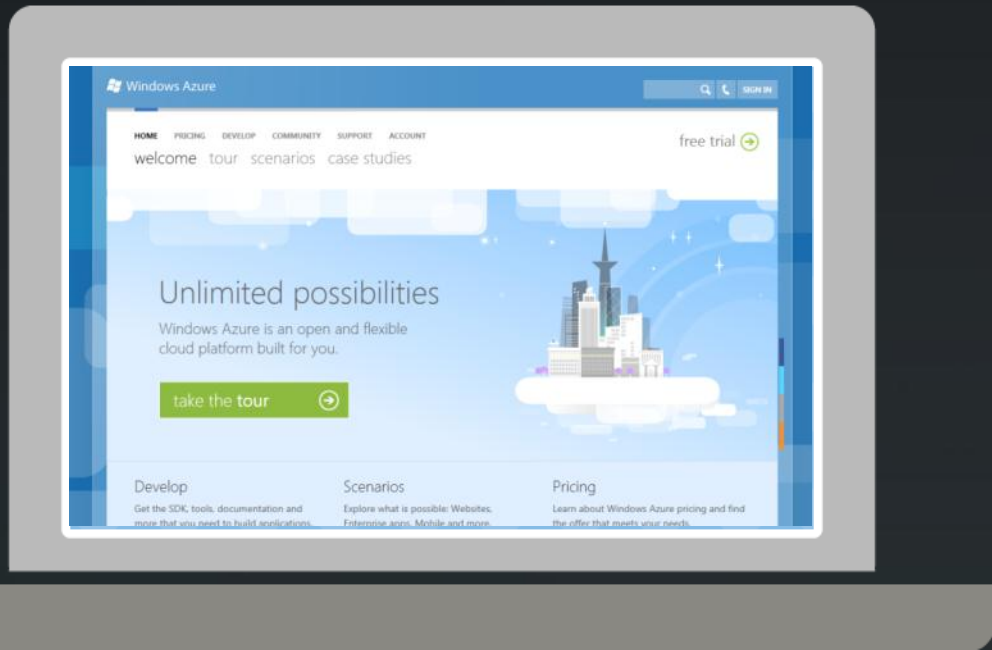
# open source libraries

- Apache 2 License
- Multiple Languages
- Hosted on GitHub
- Contributions Welcome

→ <http://github.com/windowsazure>

Get started.

<http://WindowsAzure.com>



# MSDN Benefits



Free Windows Azure for  
Professional, Premium, and  
Ultimate subscribers



## MSDN subscribers

Get free access each month, including up to \$3,700.00 in annual Windows Azure benefits

[LEARN MORE](#) →



## BizSpark members

Get free access each month, including up to \$3,700.00 in annual Windows Azure benefits

[LEARN MORE](#) →



## MPN members

Get free access each month, including up to \$1,300.00 in annual Windows Azure benefits

[LEARN MORE](#) →

***Microsoft***<sup>®</sup>

© 2011 Microsoft Corporation. All rights reserved. Microsoft, Windows, Windows Vista and other product names are or may be registered trademarks and/or trademarks in the U.S. and/or other countries. The information herein is for informational purposes only and represents the current view of Microsoft Corporation as of the date of this presentation. Because Microsoft must respond to changing market conditions, it should not be interpreted to be a commitment on the part of Microsoft, and Microsoft cannot guarantee the accuracy of any information provided after the date of this presentation. MICROSOFT MAKES NO WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AS TO THE INFORMATION IN THIS PRESENTATION.