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Instamapp

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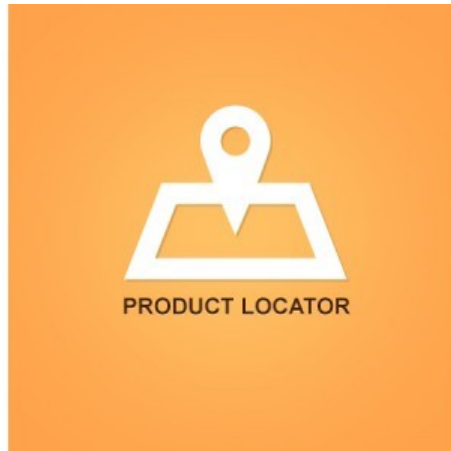
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By Andrew DiCosmo, Preethi Reddy, Venkat Nischey

What is Instamapp?

▶ Product Locator



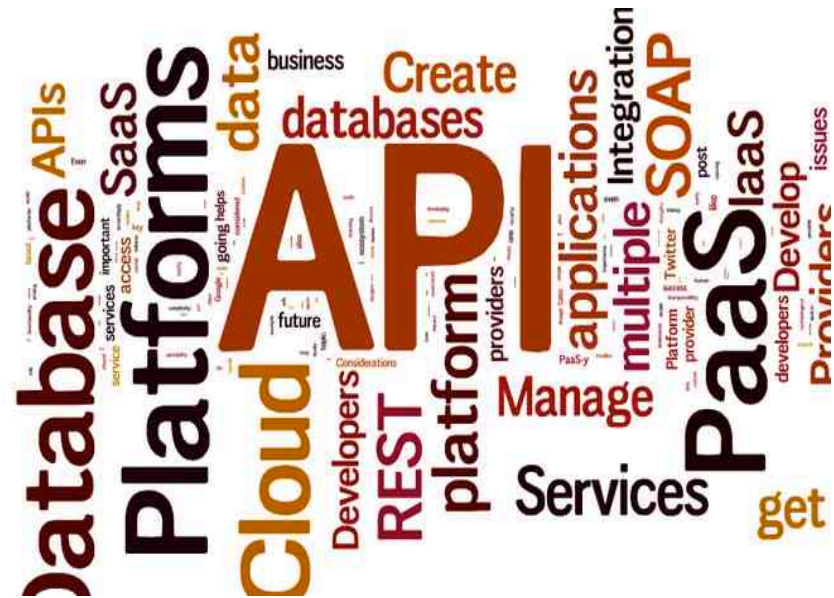
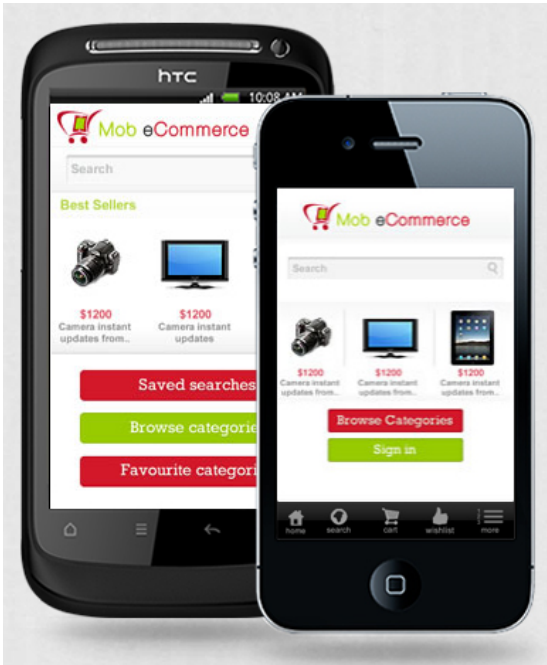
▶ Smart Shopping List



What is Instamapp? *(continued)*

▶ E-commerce App

▶ Open API



What is Instamapp? *(continued)*

- ▶ Hub to connect IoT devices



- ▶ Data Lake



Who does it help?

- ✓ End Users
- ✓ Businesses
- ✓ Data Scientist

How will it help End Users?

➤ Saves Time

- Allows them to easily find products



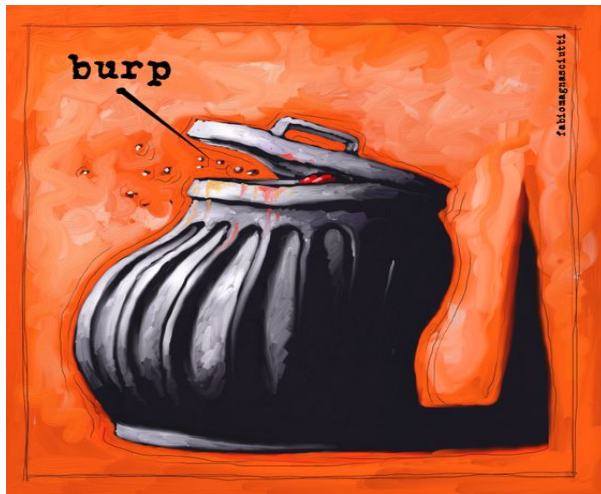
➤ Saves Money

- Allows business to target market based on habits and IoT Devices
- No more waste! Advance noticed before consumables go bad.
- Learn to reduce electricity consumption



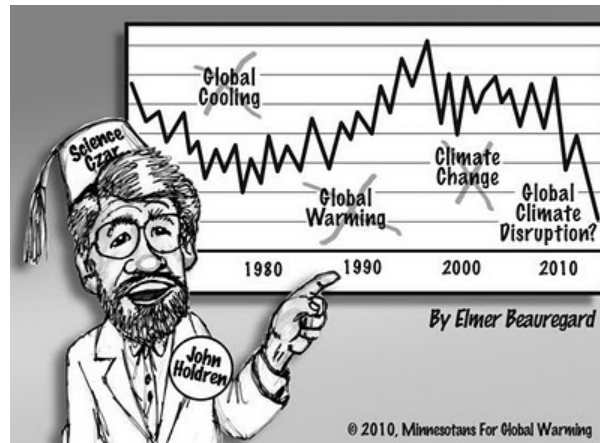
How will it help Businesses?

- Reduces waste
 - Order inventory based on user demand
- Saves Money
 - Target marketing reduces advertisement costs.



How will it help Data Scientist?

- ▶ Data Lake (large amounts of data)
 - More data will lead to better predictions
 - Allow data scientist to find and interpret trends.
 - You don't know what you don't know.



Design Overview

Why Cross-
platform?

Why Xamarin?

Why C#?

Why Azure Mobile?

Xamarin

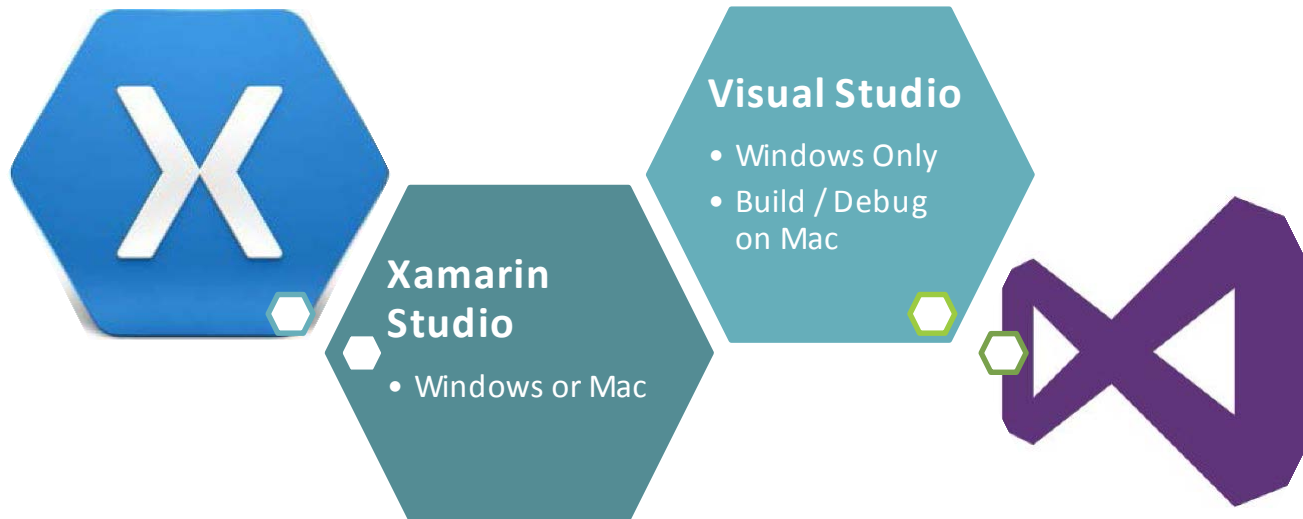
- Maximum code reuse—you don't have to switch programming context for every platform
- Xamarin claims to be the only IDE that allows for native iOS, Android and Windows app development
- Test Cloud makes it possible to test mobile apps written in any language on real
- Test your app on over 1,000 devices
- C# is the best language for mobile app development.
- Native UI, native API access & native performance.

Why Cross-platform?



- At minimum two dominant platforms
Programming models differ widely
- Code reuse between iOS and Java is
ZERO

Development Choices



Why C#?

- Popular language style
- Cross platform capable
- Powerful language constructs for async

What Is Azure Mobile Services?



What Are We Going to Build

Azure Mobile Backend
in C#

Android, iOS & Windows
Phone clients

Data, Login, and
Notifications

Graduate Project Overview

New Design benefits

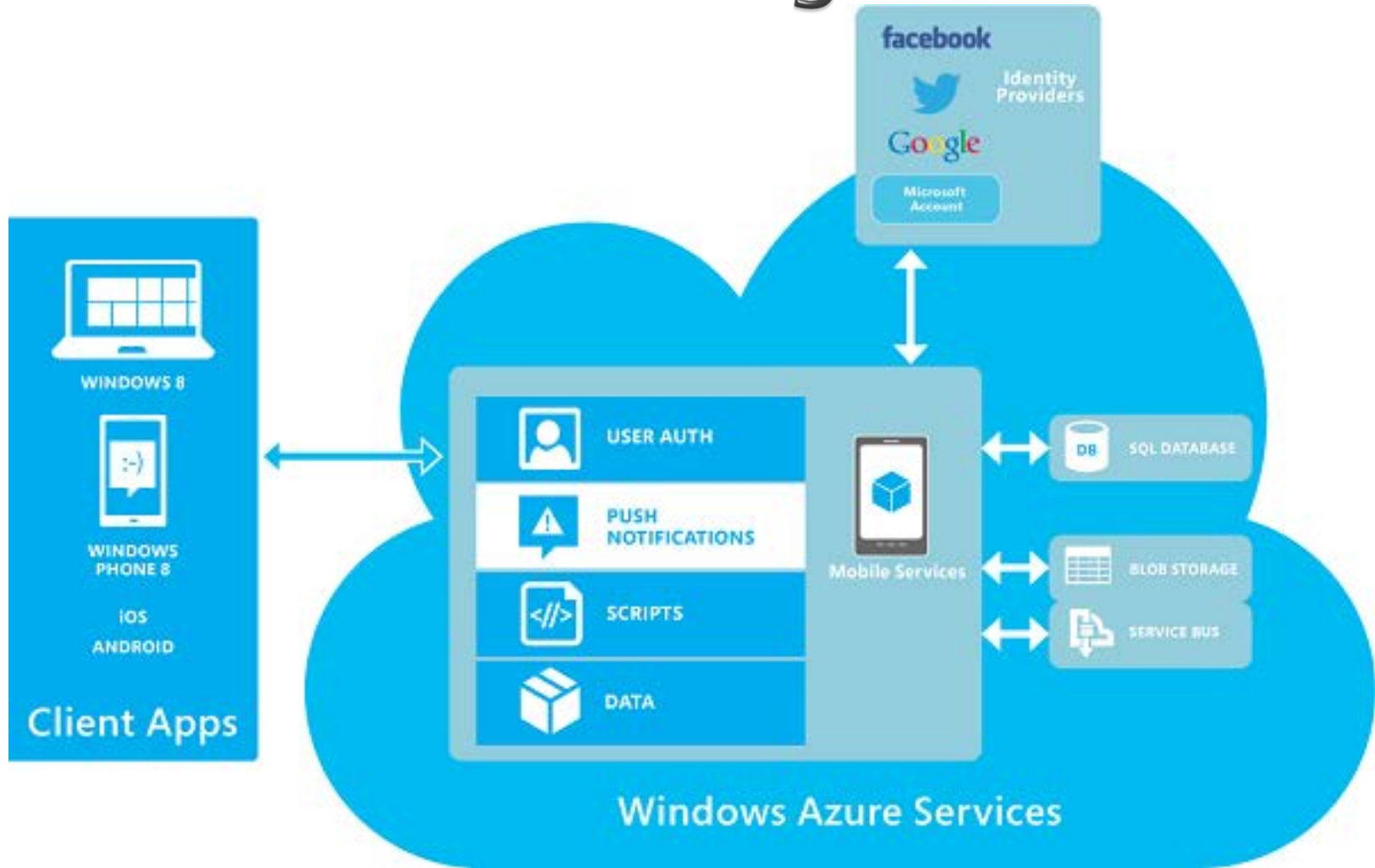
- ▶ Improve the login / registration process
- ▶ Allow dynamic scalability based on app usage
- ▶ Communicate with mobile devices easier
- ▶ Enhance security
- ▶ Build a custom API
- ▶ Database management
- ▶ Implement Push Notifications
- ▶ Allow other app developers to integrate with our app

Graduate Project Overview

Final Project Goals

- ▶ Ability to search for products within Walmart's API
- ▶ Ability to view / print or email Shopping list
- ▶ Allow users to register with the site using FB, twitter, MS ID or login form
- ▶ Build a API based on InstaMapp's database
- ▶ Allow REST commands to query our API we created
- ▶ Deploy a native iOS, Android or Windows Mobile application

Architectural Design



Our Development Roles

- ▶ **Solution Architect / Developer**
 - Andrew DiCosmo

- ▶ **UI Developer / QA Tester**
 - Preethi Reddy

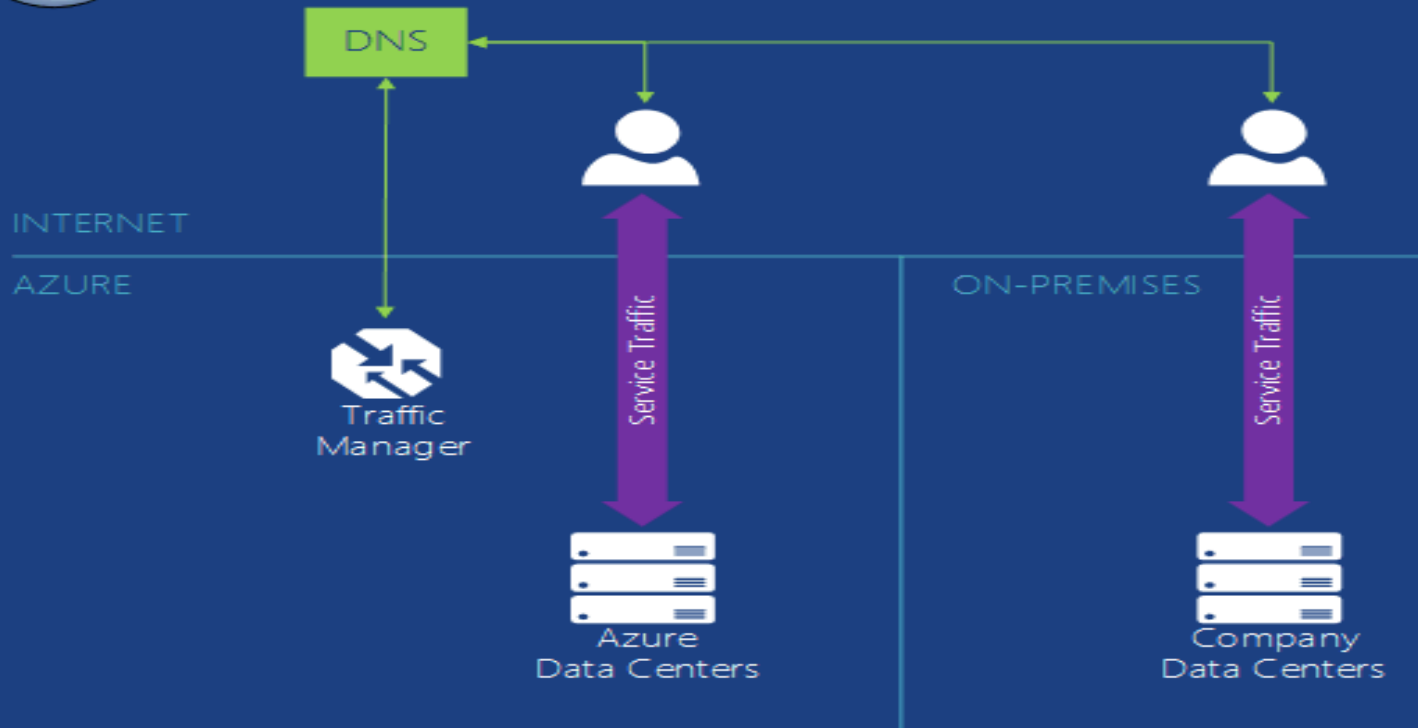
- ▶ **Database / Android Developer**
 - Venkat Nischey

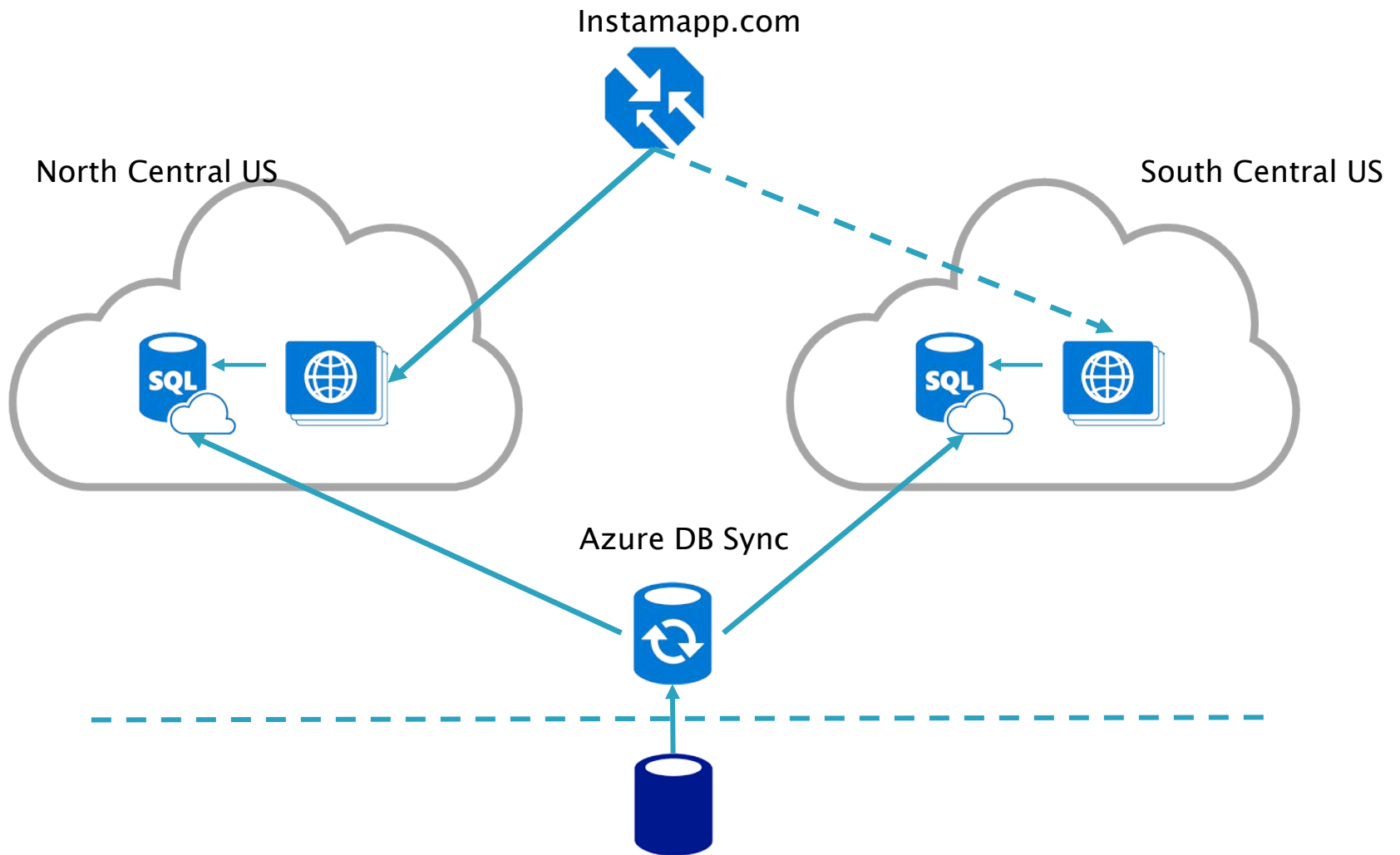
Send Notification using Notification HUB



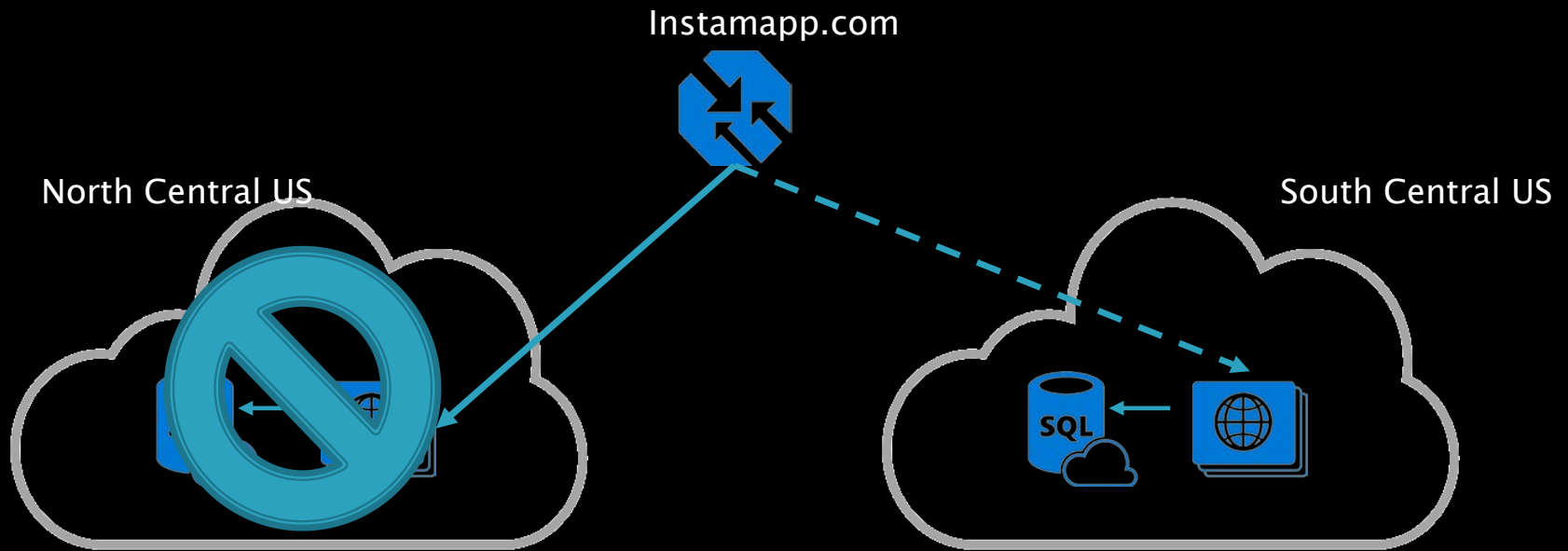


Traffic Manager

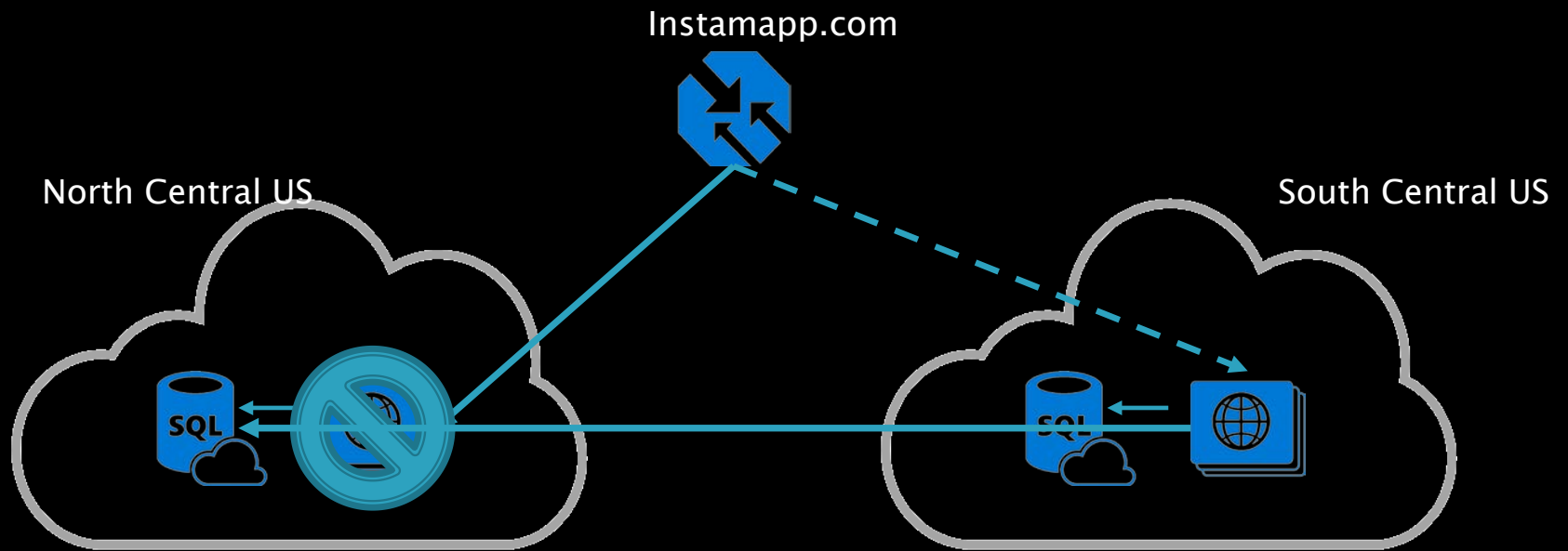




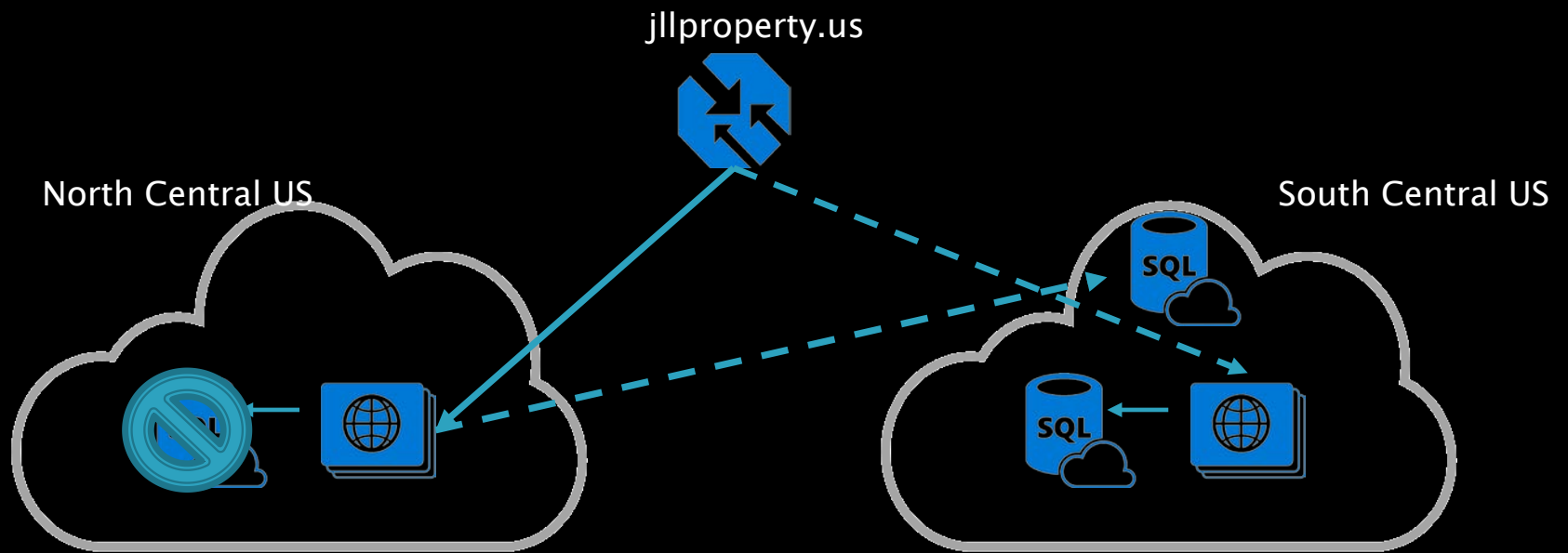
Scenario 1 – Any DC Outage



Scenario 2 – web app outage



Scenario 3 – DB outage



Technology Used

- ▶ **Database**
 - Azure SQL Database
 - HDInsight / Hadoop
- ▶ **Languages**
 - Java
 - C#
 - Object C
 - HTML5, CSS3, JavaScript, JQuery
- ▶ **Software**
 - Xamarin
- ▶ **Platform – PaaS**
 - Windows Azure Mobile
 - Windows Azure Websites
 - Windows Azure Storage