

Xamarin
X ON THE ISLAND

Xamarin
X DEV DAYS

Connected & Disconnected Apps with Azure Mobile Apps

Gamal Magdy

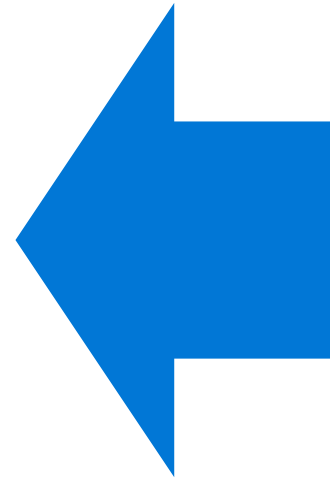
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Evangelism Manager at Microsoft Bahrain & Oman

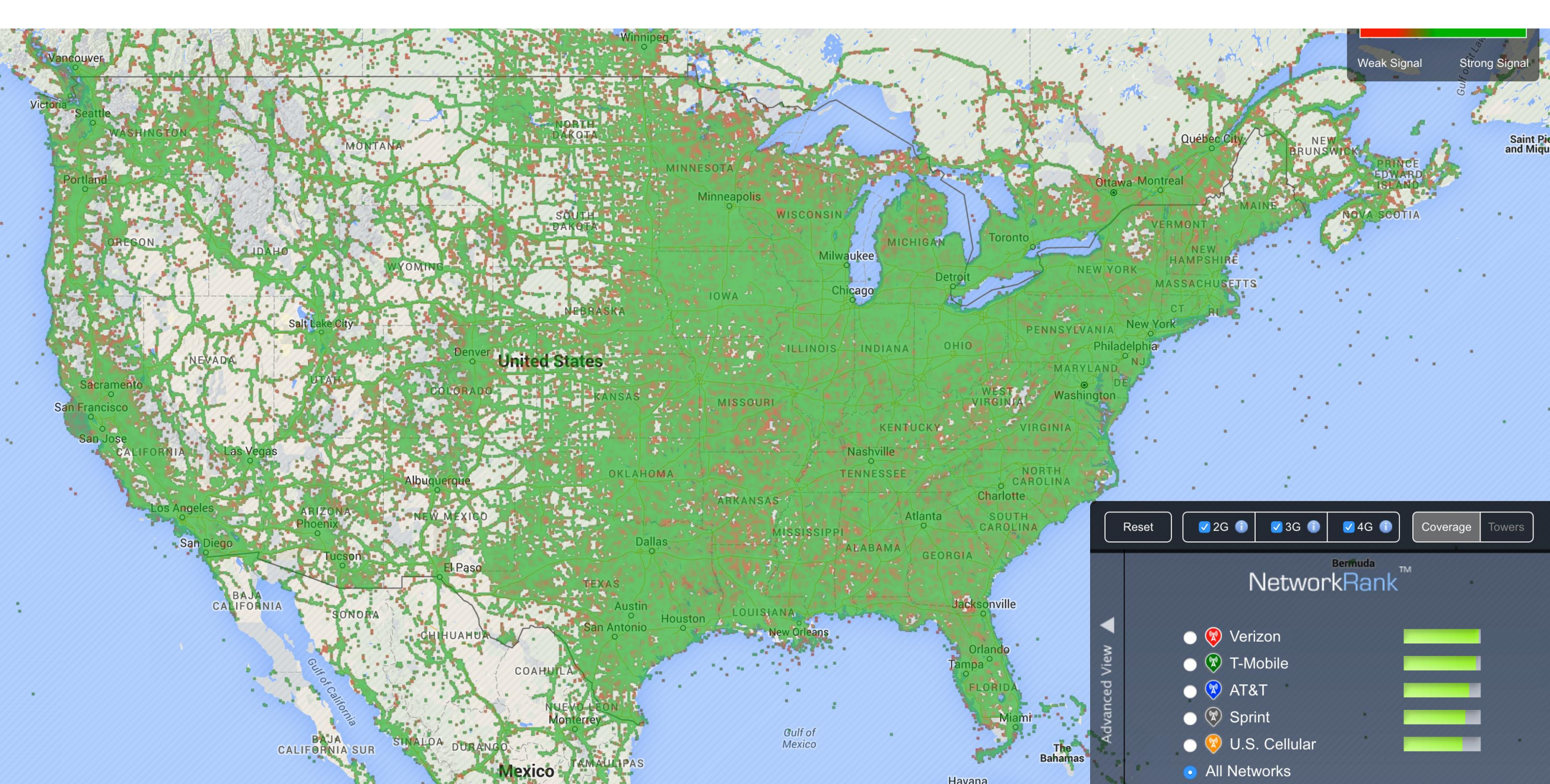
The best apps stand out

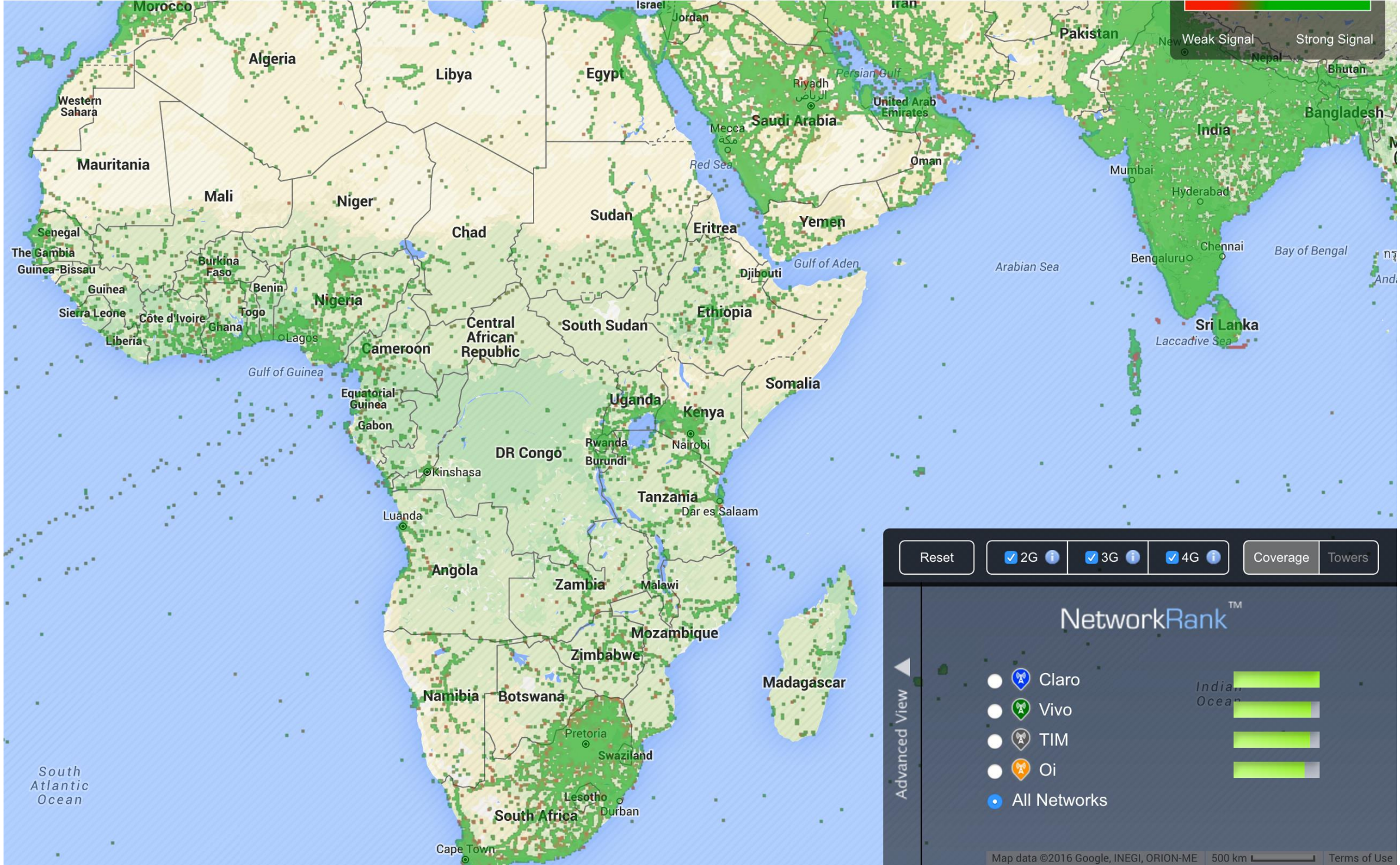
Bad app experiences

- Crashes
- Hard to navigate, poor UI, bad user experience
- Features not as advertised
- Slow or laggy experience
- Data not available when you need it



Always connected?





Reset

☒ 2G

☒ 3G

☒ 4G

Coverage

Towers

Advanced View

NetworkRank™

☐ Claro

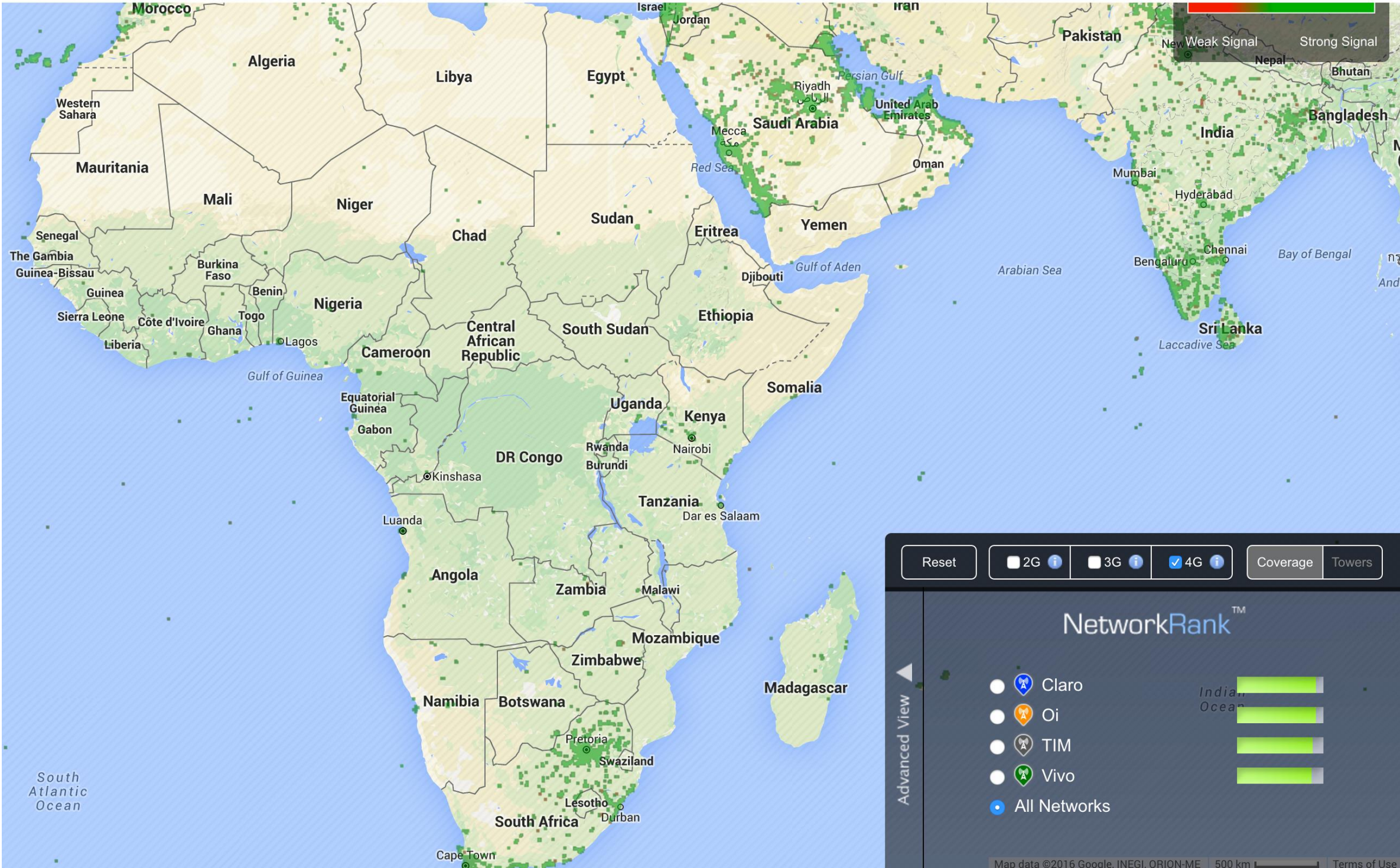
☐ Vivo

☐ TIM

☐ Oi

☒ All Networks

Indian Ocean



Reset

☐ 2G

☐ 3G

☒ 4G

Coverage

Towers

Advanced View

NetworkRankTM

☐ Claro

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☒ All Networks

Indian Ocean

What about a backend?

Infrastructure designed for Scale

100+ datacenters

Top 3 networks in the world

2x AWS, 6x Google DC Regions

G Series – Largest VM in World
32 cores, 448GB Ram, SSD...

 Operational

 Announced

* Operated by 21Vianet



38

Azure compute
regions open today

More than AWS and
Google Cloud combined

Datacenters recently
added in Canada, China,
and India

Why Azure Mobile Apps?

- *Extremely* powerful
- Flexible
 - Easy Tables (Node.js Backend)
 - App Service (ASP.NET Backend)
- Cross-platform client SDK
 - iOS, Android, and Windows
- Open source C#
 - Backend and Client SDKS on GitHub

Azure Mobile Apps




Xamarin, iOS,
Android &
Windows SDKs

Offline
sync








REST API

Offline Sync








Data connections








SQL Tables Mongo O365 API Apps

User Authentication




Facebook Twitter Microsoft Google Azure Active Directory


Push Notifications



iOS OSX Android Chrome Windows Kindle In-App

Backend code





Let's build a backend

Create a Mobile Service

```
MobileService = new MobileServiceClient(  
    "https://myapp.azurewebsites.net");
```


Create tables

```
IMobileServiceSyncTable<TodoItem> syncTable;
```

```
public async Task Init()  
{  
    const string path = "syncstore.db";  
    var db = new MobileServiceSQLiteStore(path);  
    db.DefineTable<TodoItem>();  
  
    await MobileService.SyncContext.InitializeAsync(db);  
    syncTable = MobileService.GetSyncTable<TodoItem>();  
}
```

Push and pull with sync table

```
private async Task SyncAsync()  
{  
    await MobileService.SyncContext.PushAsync();  
    var query = syncTable.CreateQuery();  
  
    await syncTable.PullAsync("todoItems", query);  
}  
  
private async Task InsertTodoItem(TodoItem todoItem)  
{  
    await syncTable.InsertAsync(todoItem);  
    await MobileService.SyncContext.PushAsync();  
}
```

Query local table

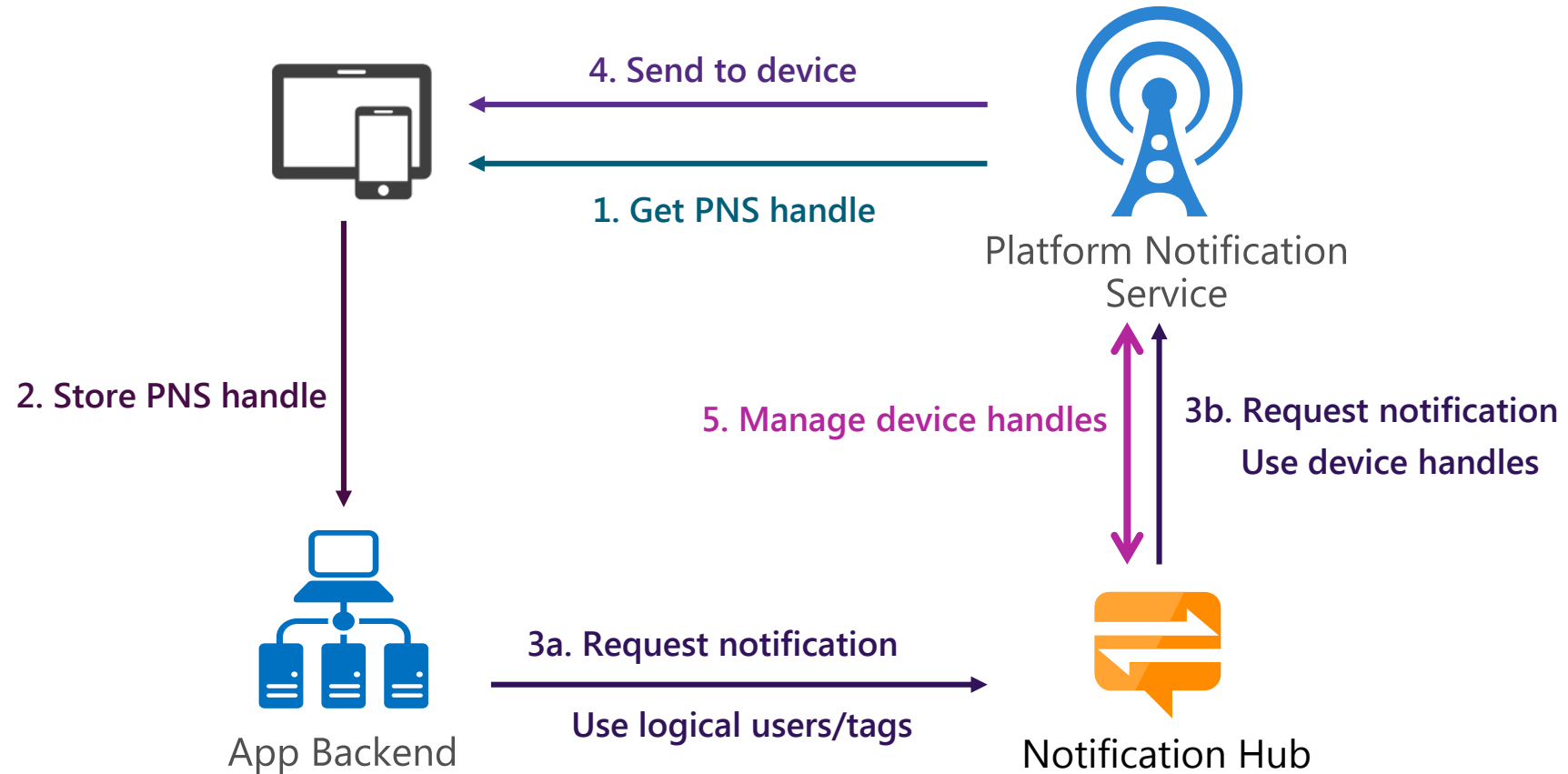
```
public async Task<IEnumerable<TodoItem>> GetOpenItemsAsync()  
{  
    return await todoTable  
        .Where(item => item.Complete == false)  
        .ToEnumerableAsync();  
}
```


User authentication

- Secure your app with prebuilt authentication providers
 - Facebook
 - Twitter
 - Google
 - Microsoft
 - Azure AD
 - Anything OAuth 2

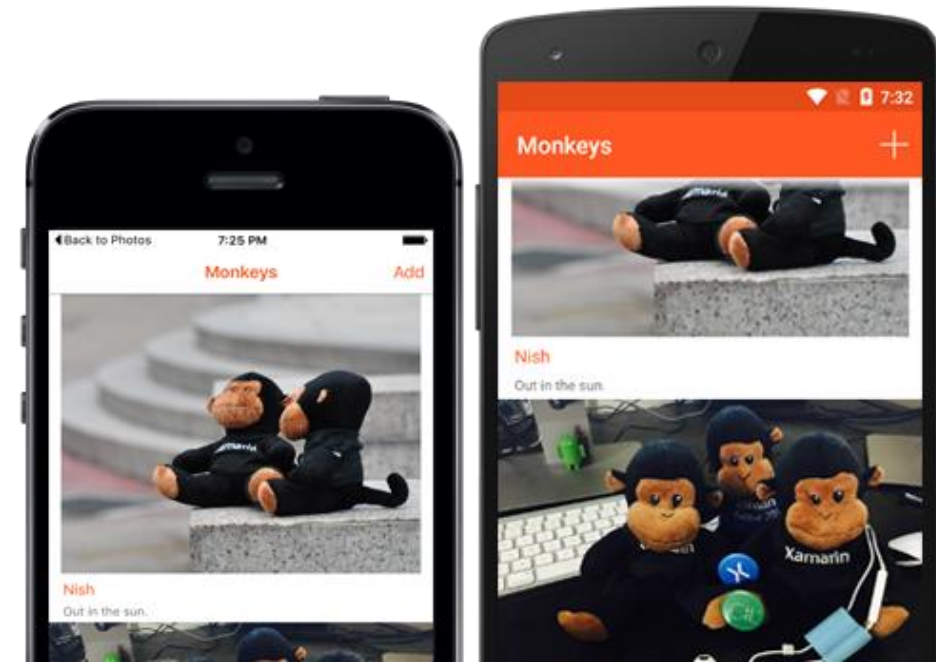
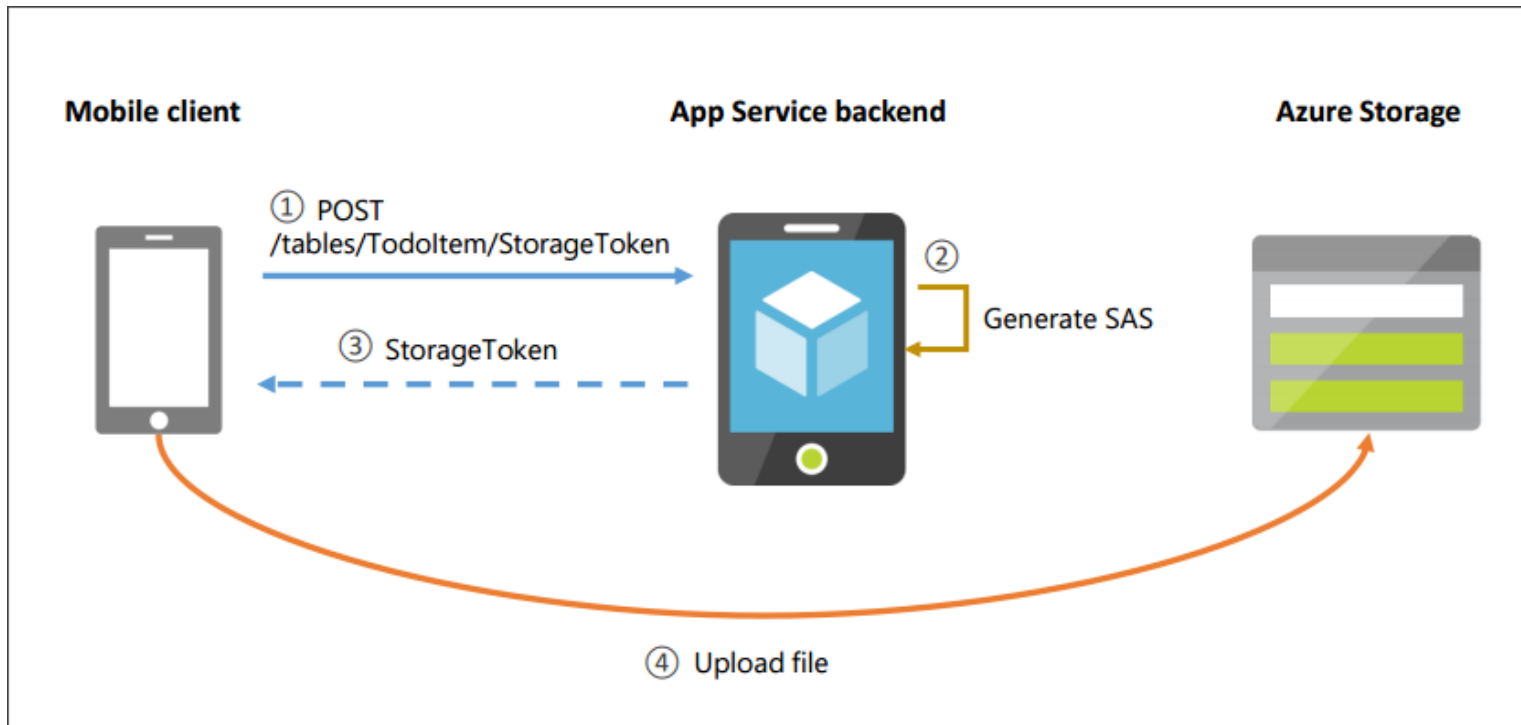
Much More

Push notifications with Notification Hub



File sync

- Sync files to Azure Storage
- Online/Offline, just like table storage



Shopping Demo App

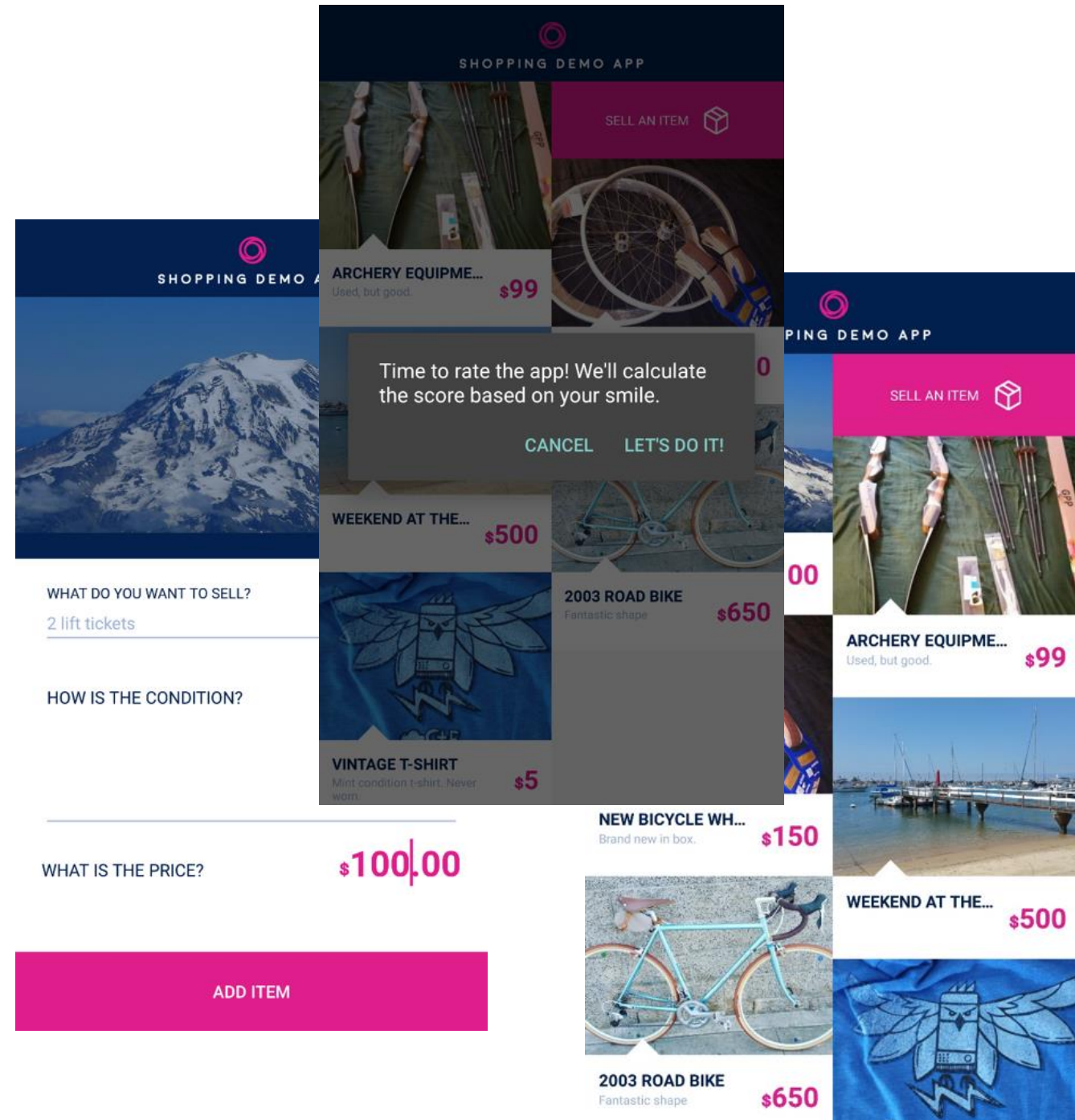
Azure Services:

- Cognitive Services (Emotion API)
- Storage
- On/offline sync
- Push notifications
- Authentication

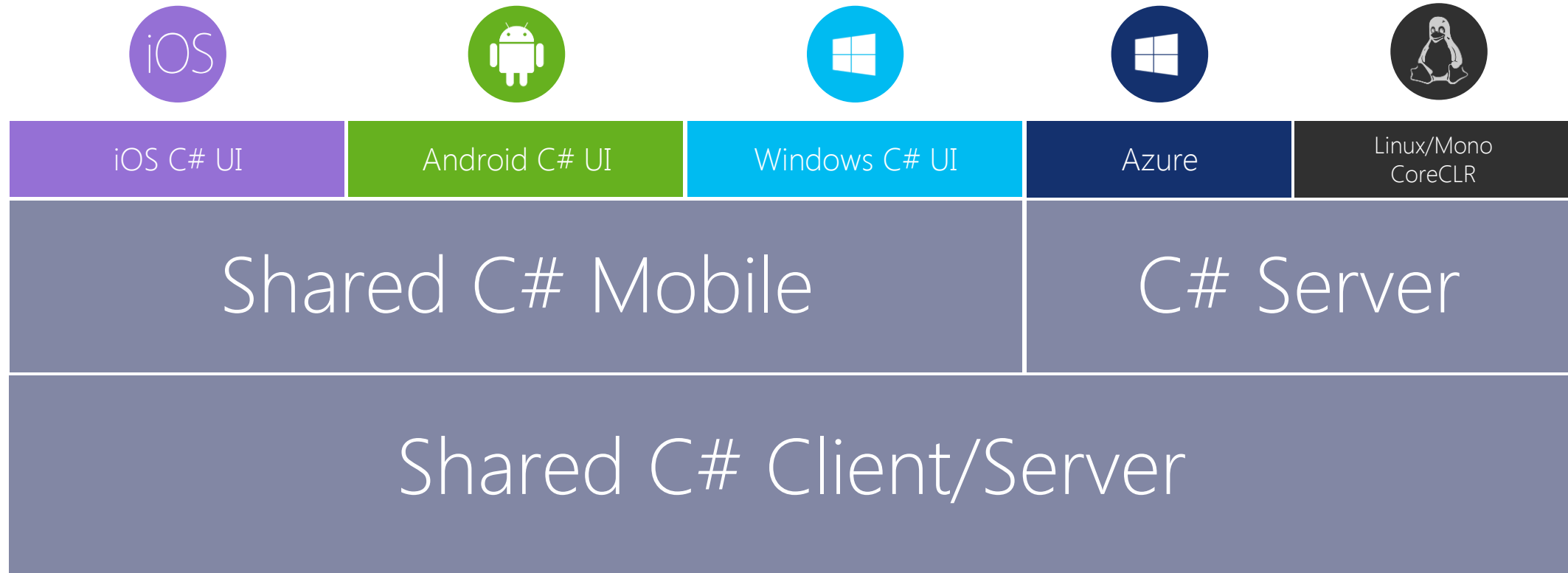
What's Available:

- Complete sample app with documentation
- Individual "quick starts"

github.com/Microsoft/XamarinAzure_ShoppingDemoApp



Mobile + Server



Shared C# codebase • 100% native API access • High performance

DEMO

Summary

- Plan for global reach
- Always cache data locally
- Assume success and push updates on re-connect
- Select a backend that grows with you



Get started today
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xamarin.com/dev-ops

Q & A