Xamarin
DEV DAYS

Connected & Disconnected Apps with Azure Mobile Apps

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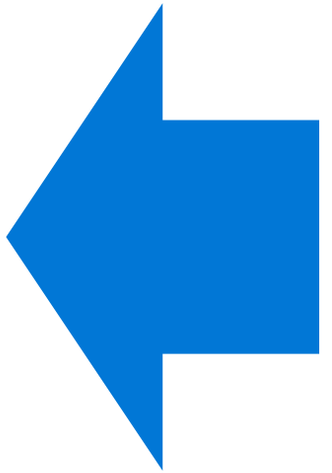
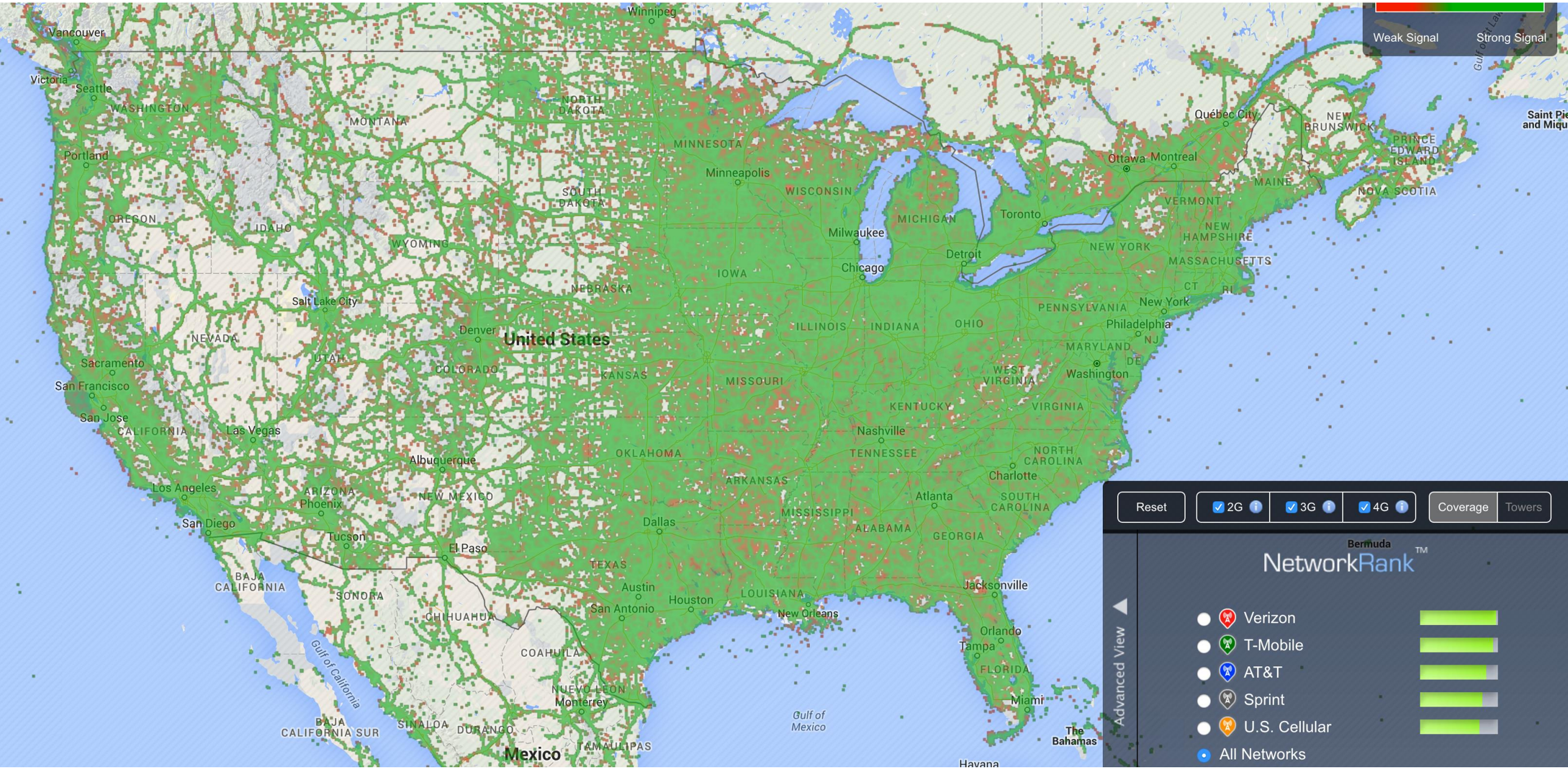
The best apps stand out

Bad app experiences

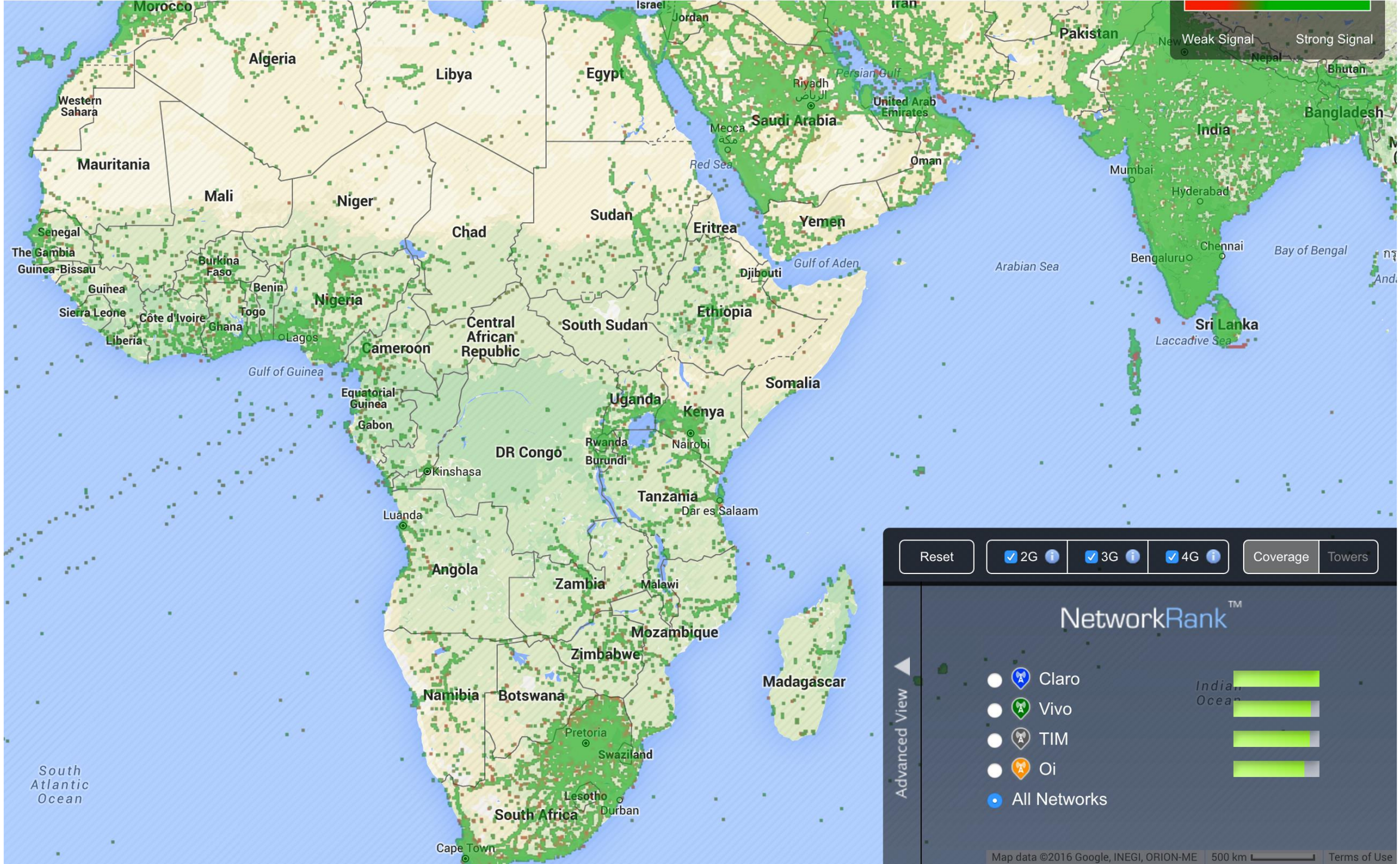
- Crashes
- Hard to navigate, poor UI, bad user experience
- Features not as advertised
- Slow or laggy experience
- Data not available when you need it



Always connected?



opensignal.com/coverage-maps


Weak Signal
Strong Signal
Reset
2G
3G
4G
Coverage
Towers
NetworkRank™
Advanced View
Claro
Vivo
TIM
Oi
All Networks
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Niger
Chad
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Eritrea
Yemen
Saudi Arabia
Riyadh
Mecca
Red Sea
Persian Gulf
United Arab Emirates
Oman
Gulf of Aden
Djibouti
Ethiopia
Somalia
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Guinea
Sierra Leone
Liberia
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Côte d'Ivoire
Nigeria
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Cameroon
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Gulf of Guinea
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Gabon
Uganda
Kenya
Nairobi
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Burundi
DR Congo
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Tanzania
Dar es Salaam
Luanda
Angola
Zambia
Malawi
Mozambique
Zimbabwe
Namibia
Botswana
Madagascar
Pretoria
Swaziland
Lesotho
Durban
South Africa
Cape Town
South Atlantic Ocean
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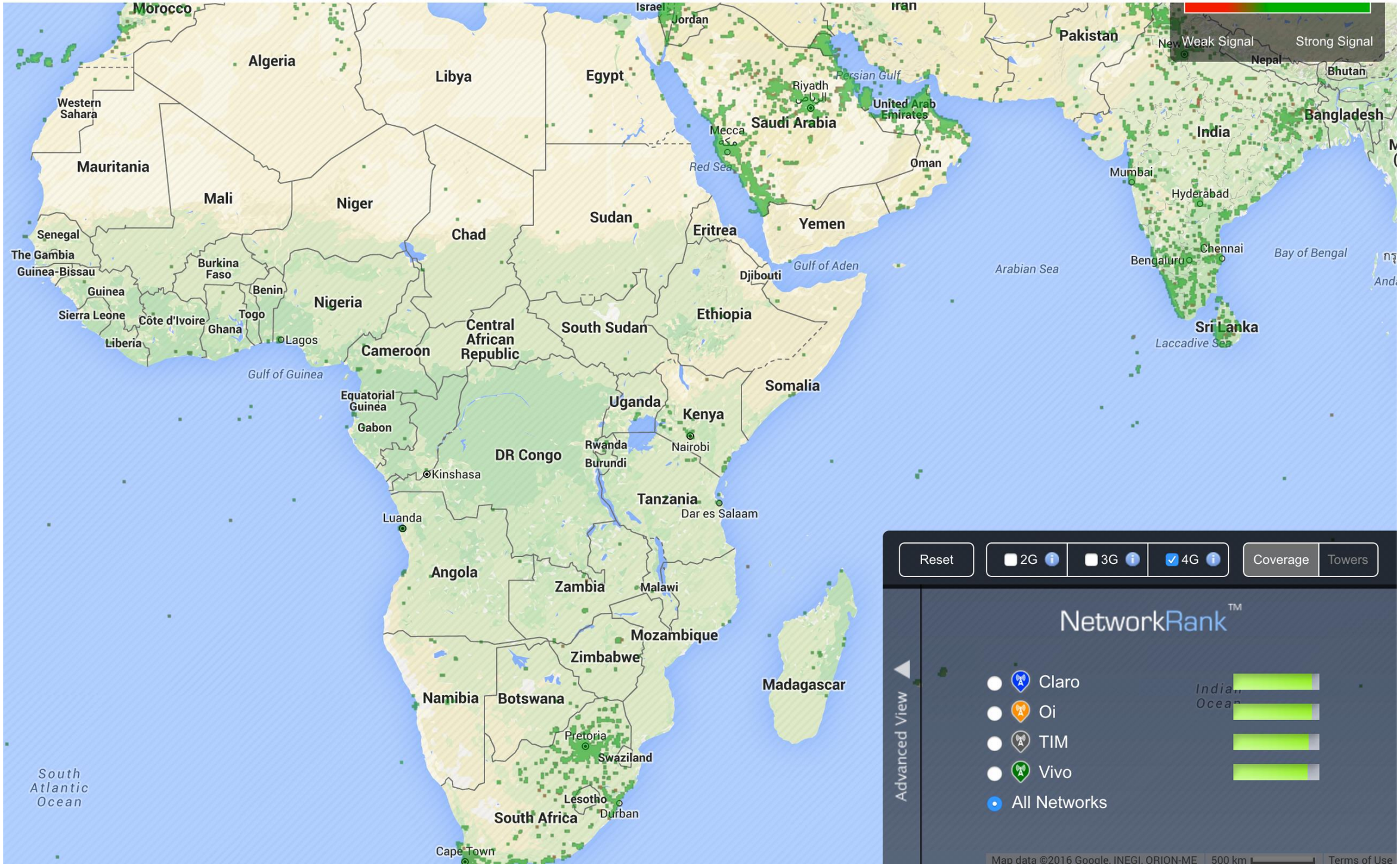
Bay of Bengal
Indian Ocean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Botswana
Madagascar
Pretoria
Swaziland
Lesotho
Durban
South Africa
Cape Town
South Atlantic Ocean
Indian Ocean

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

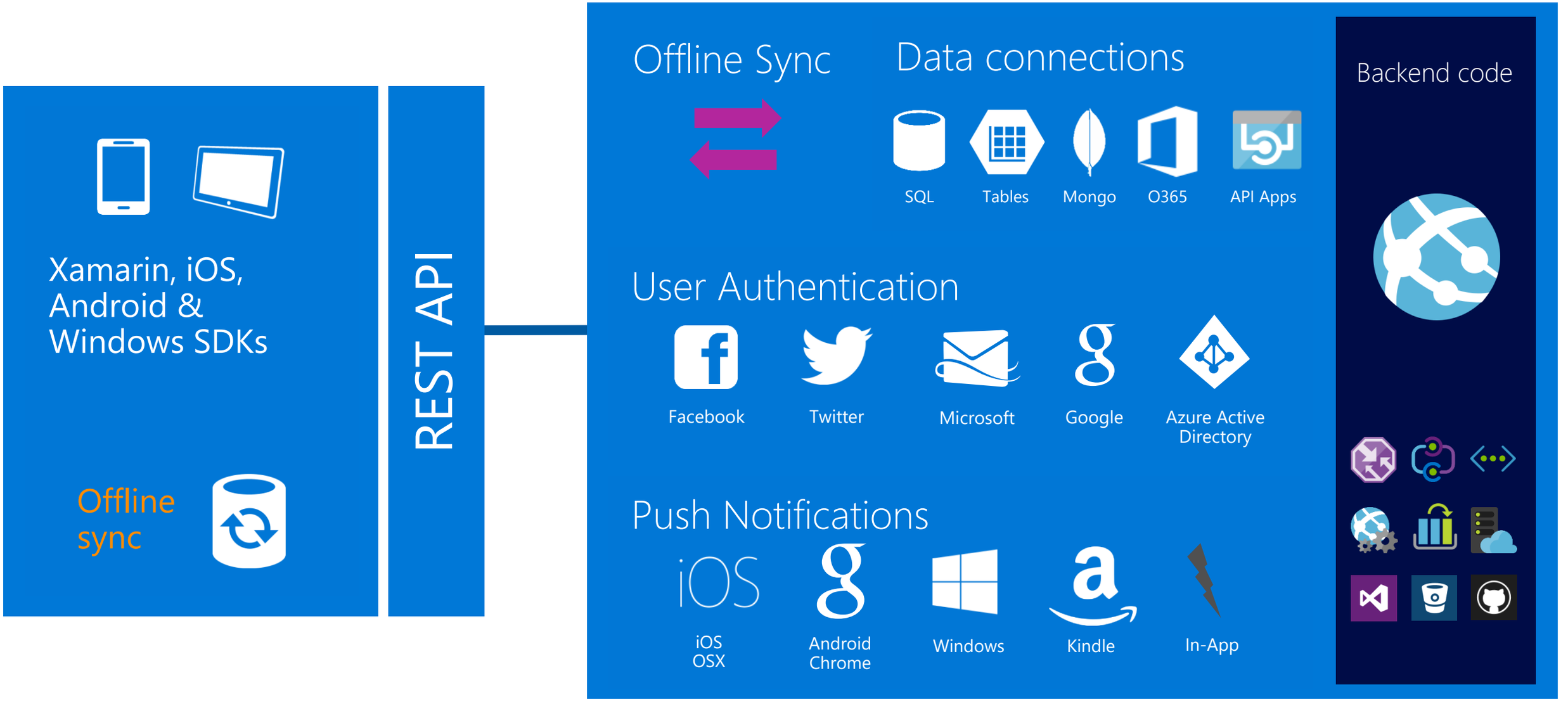
More than AWS and Google Cloud combined

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



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

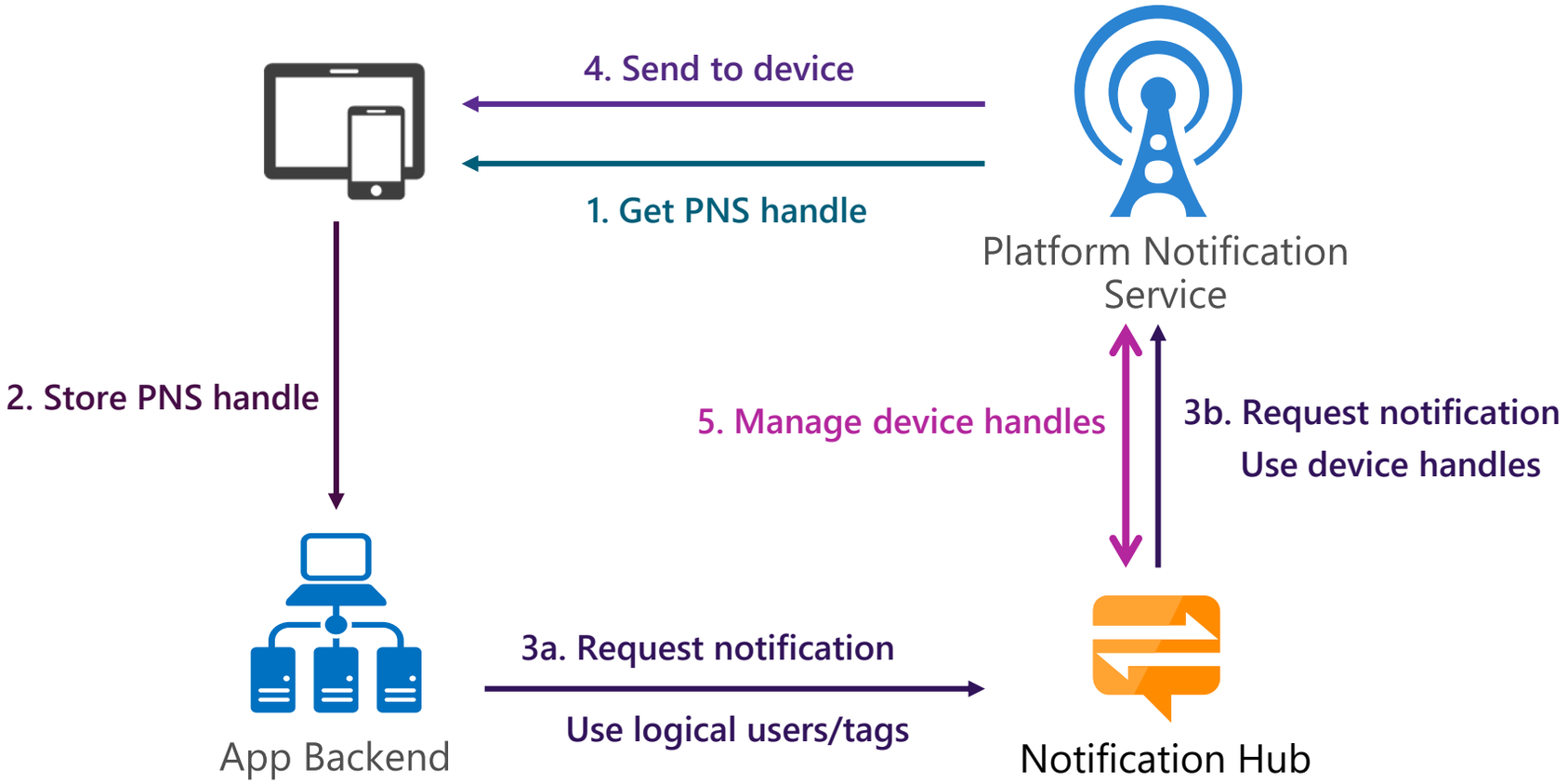
```
public async Task<IEnumerable<TodoItem>> GetOpenItemsAsync()
{
    return await todoTable
                    .Where(item => item.Complete == false)
                    .ToEnumerableAsync();
}
```

User authentication

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

Much More

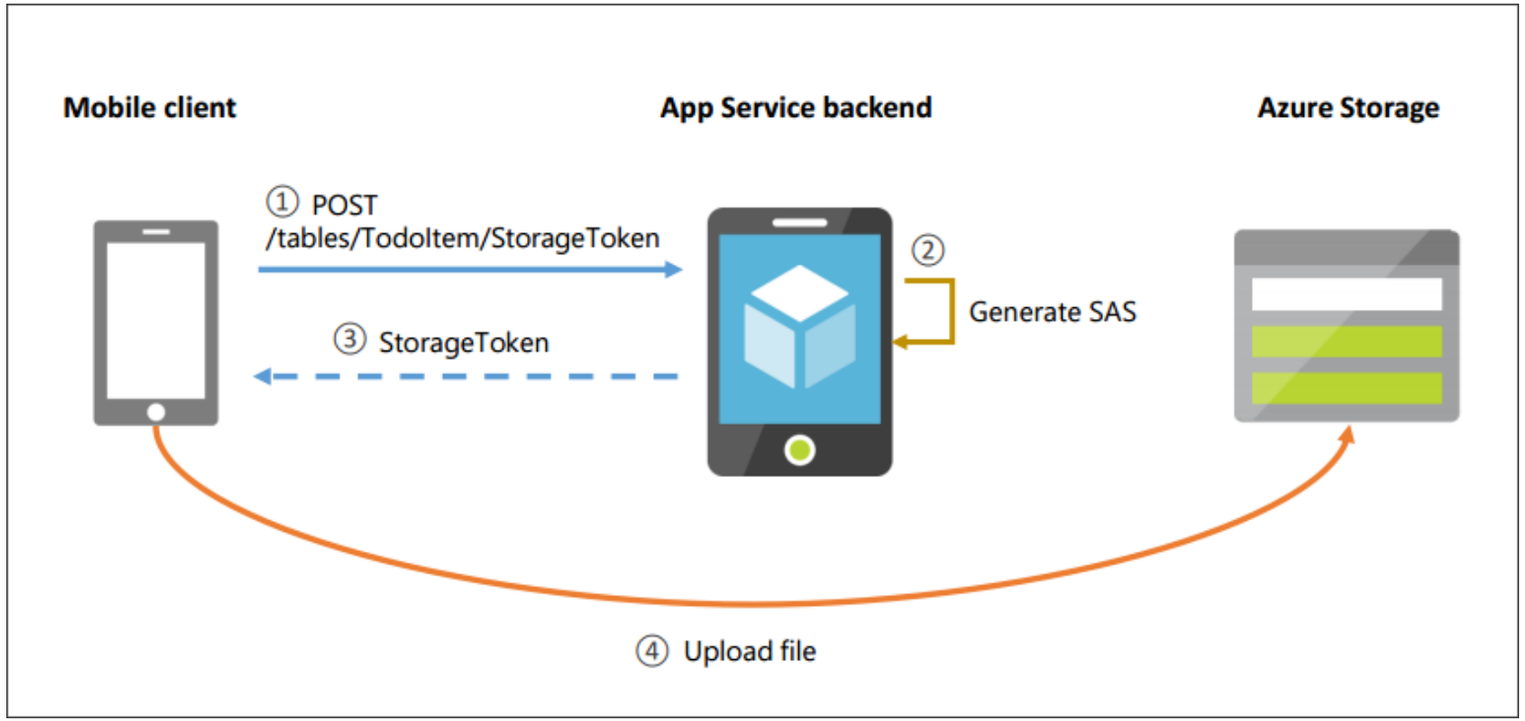
Push notifications with Notification Hub

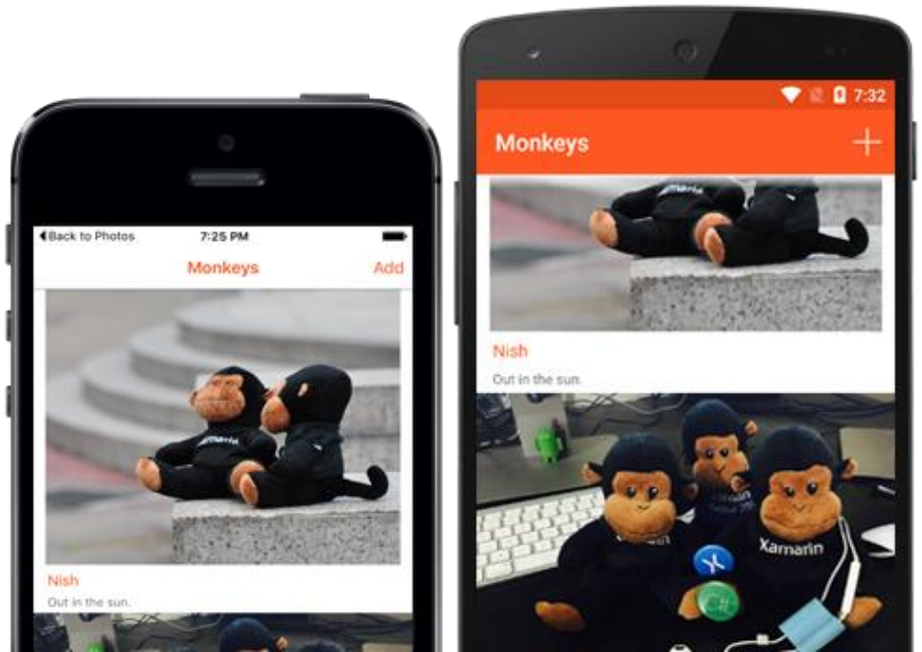


- Maps between tags and handles

File sync

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





Shopping Demo App

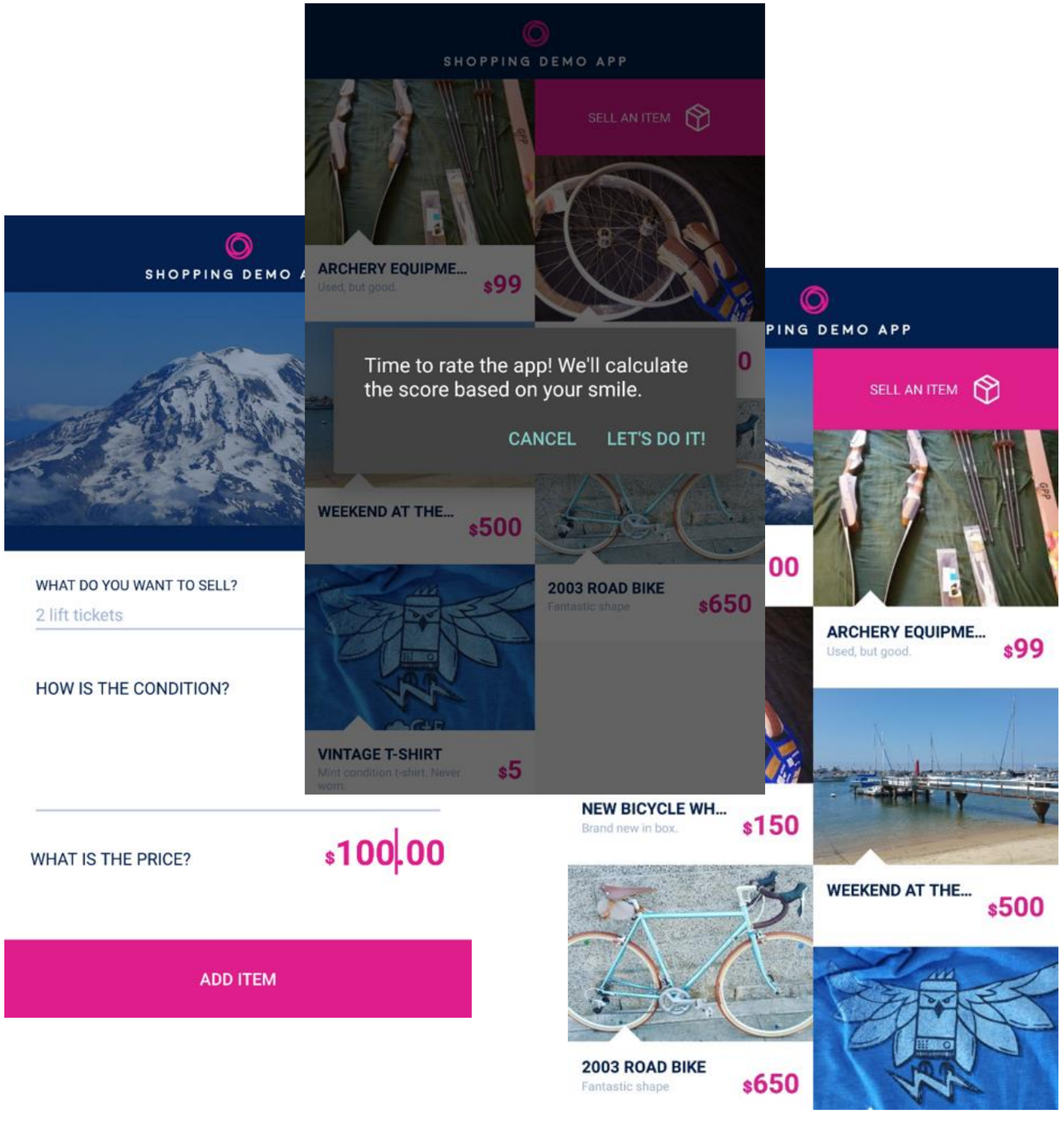
Azure Services:

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

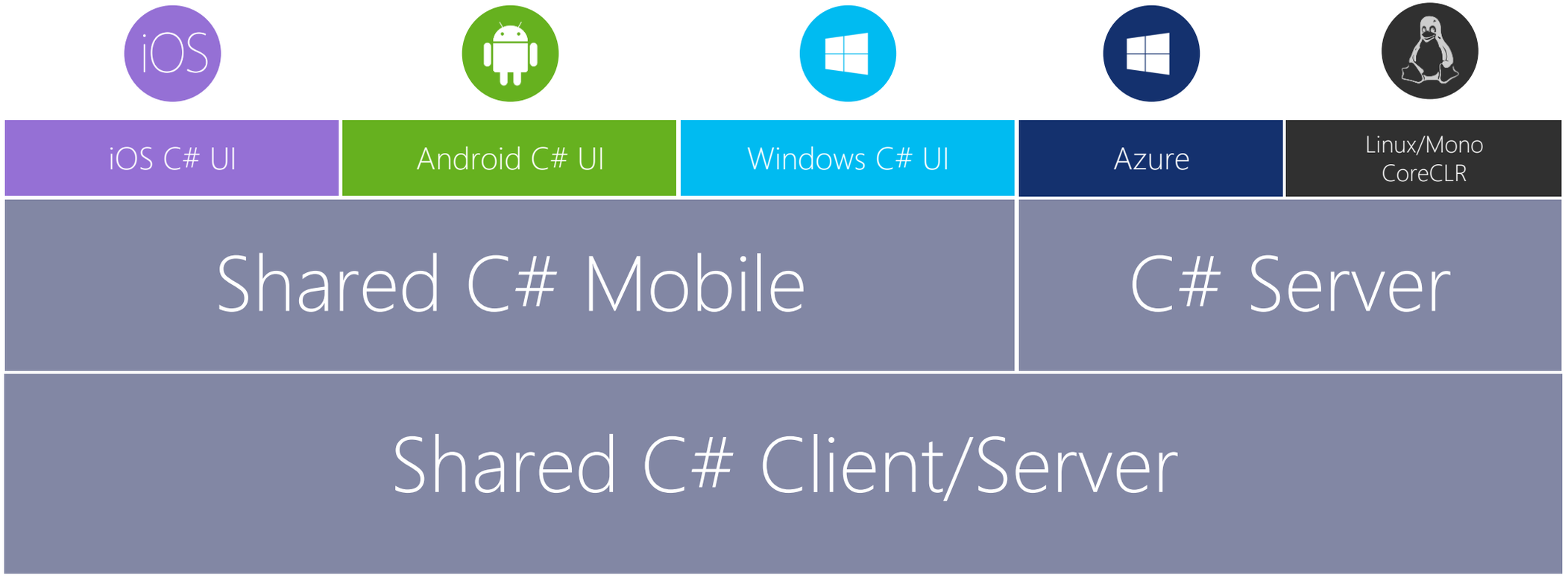
What's Available:

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

github.com/Microsoft/XamarinAzure_ShoppingDemoApp



Mobile + Server



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

Summary

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

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Lunch!

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