Mobile-Enabling Enterprise APIs

A Case Study with MasterCard Developer Zone

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Topics We Will Cover Today

- Why developer ecosystems are important to MasterCard
- Challenges around ecosystem adoption in the mobile-first world
- MasterCard App LaunchPad goals and experience
- App LaunchPad and AnyPresence brief demonstration
- Underlying technology components

MasterCard OpenAPI

In the business of innovation

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Can be quite a task to work with large companies

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OpenAPIs - gateways that simplify access

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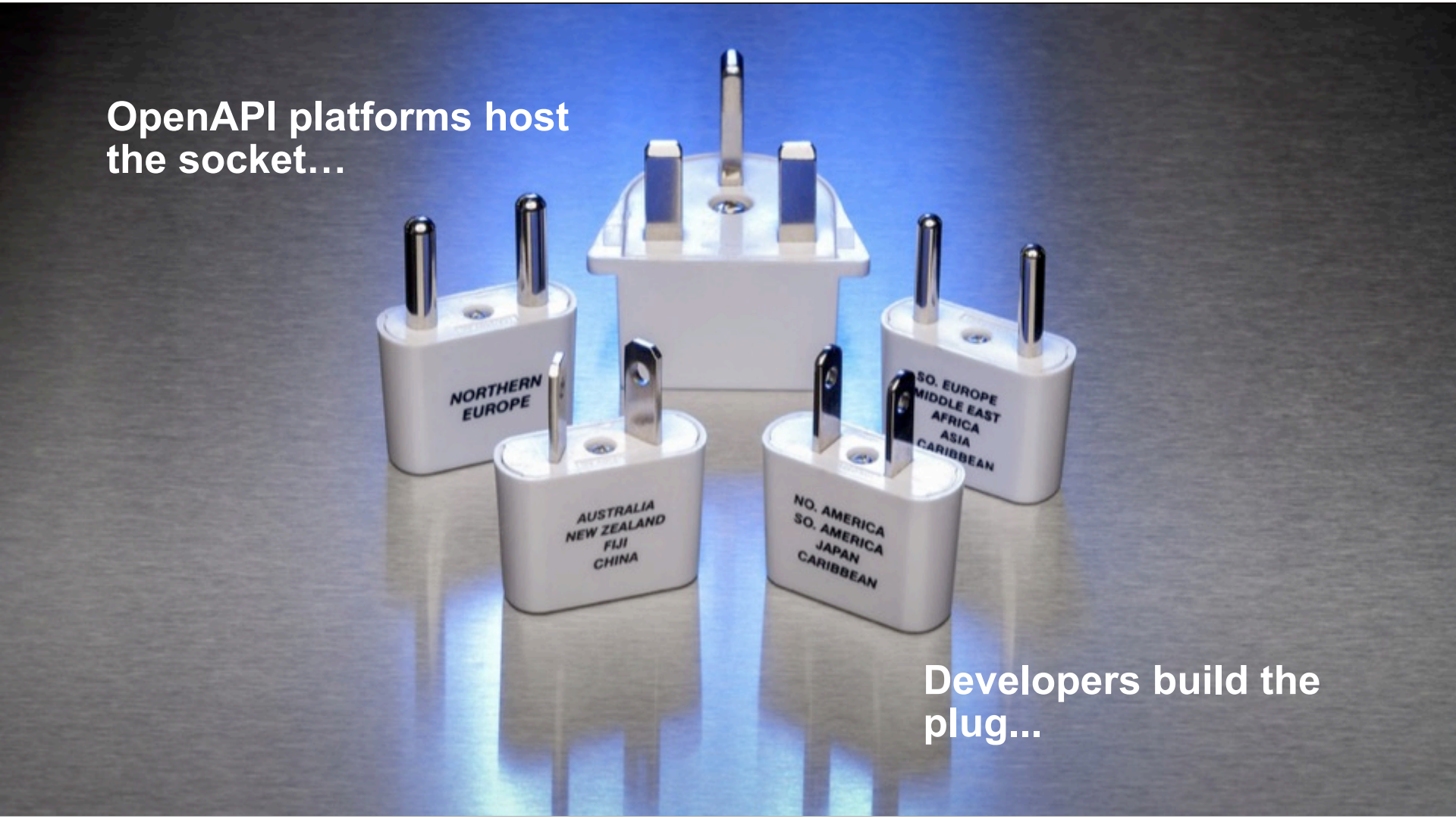
Simplicity is the goal



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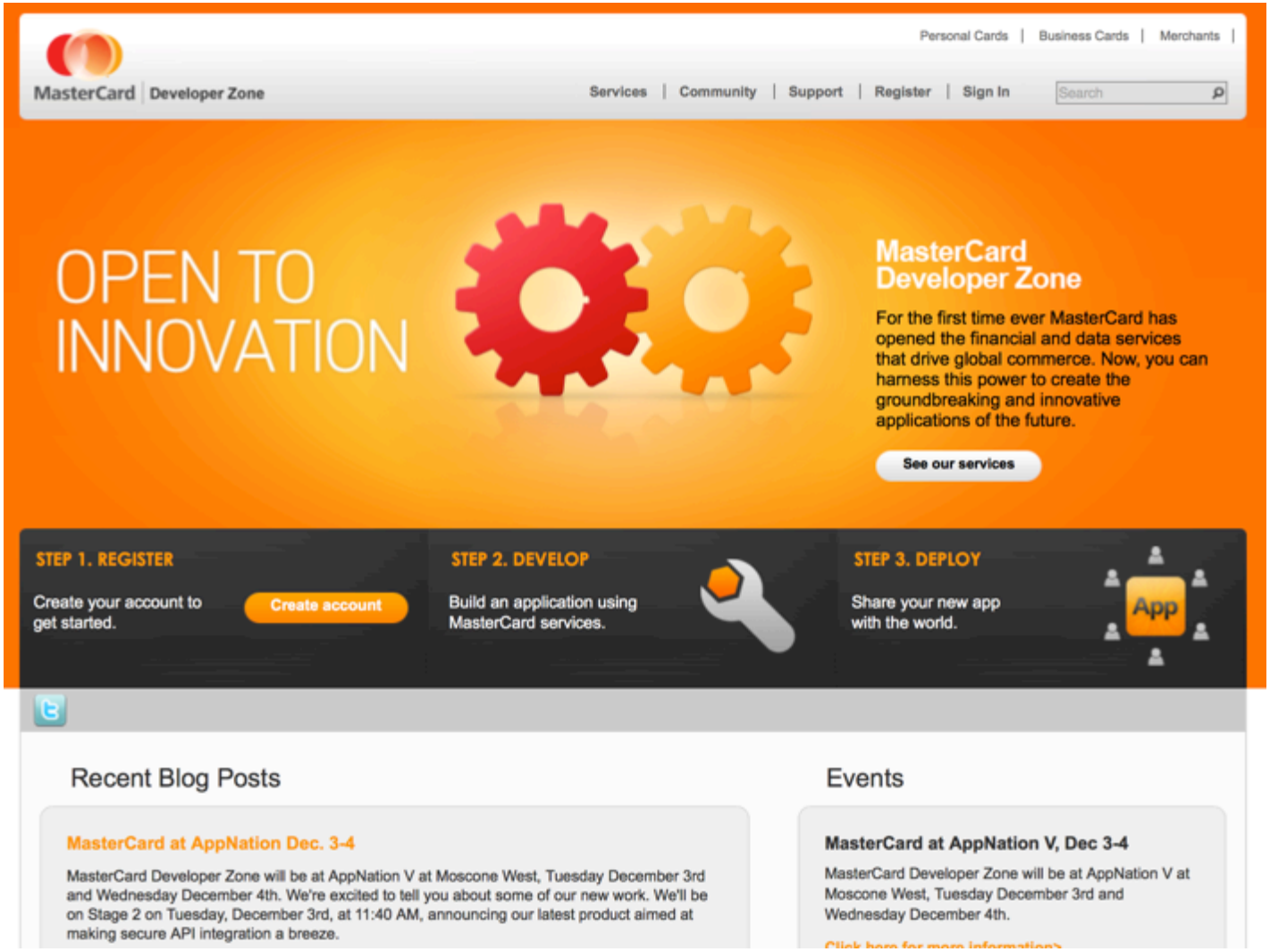

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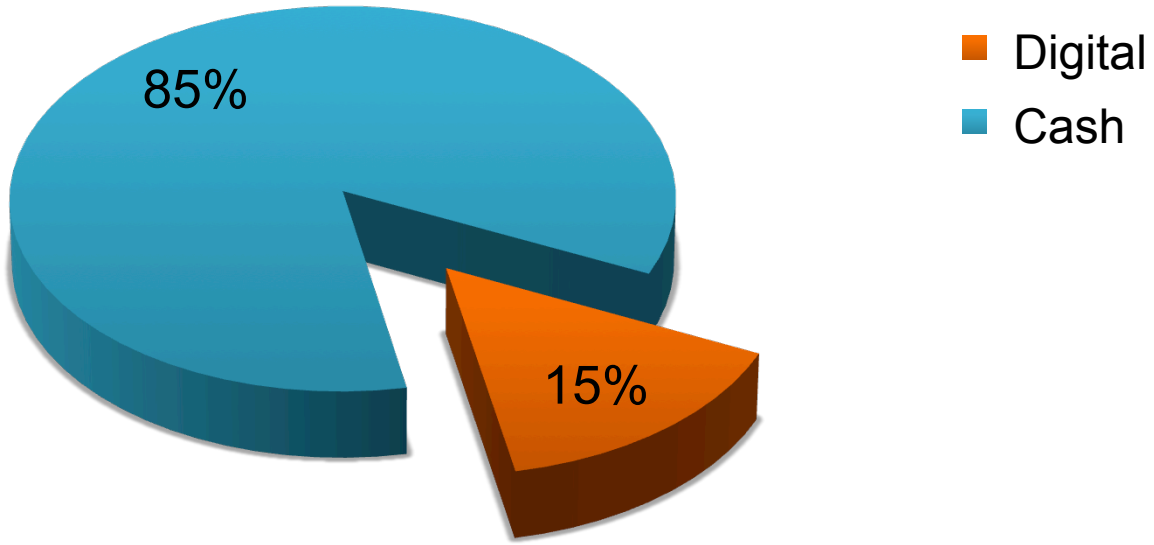
Leading the charge to a cashless society

Global Retail Payment Transactions
~ $21 Trillion



Today, around **85% of all retail payment transactions are done with cash**

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App LaunchPad addresses one of our tenets

Provide valuable services	→	APIs support business models
Provide great developer support	→	Simple, flexible & easily adopted
High performance & high availability	→	Managed & measured

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MasterCard API to Mobile Challenge

Challenge: Need to enable partners to build mobile apps using MasterCard products

MasterCard Worldwide

iOS SDK

iOS Sample app

iOS Apps

JavaScript SDK

HTML5 Sample app

Mobile Web Apps

Partner Community: Banks and ISVs

Android SDK

Android Sample app

Android Apps

Server for secure authentication

NxN Problem:
This would require MasterCard developers to build and maintain individual iOS, Android, and HTML5 SDKs and sample apps, and a server. Custom apps would be impossible.

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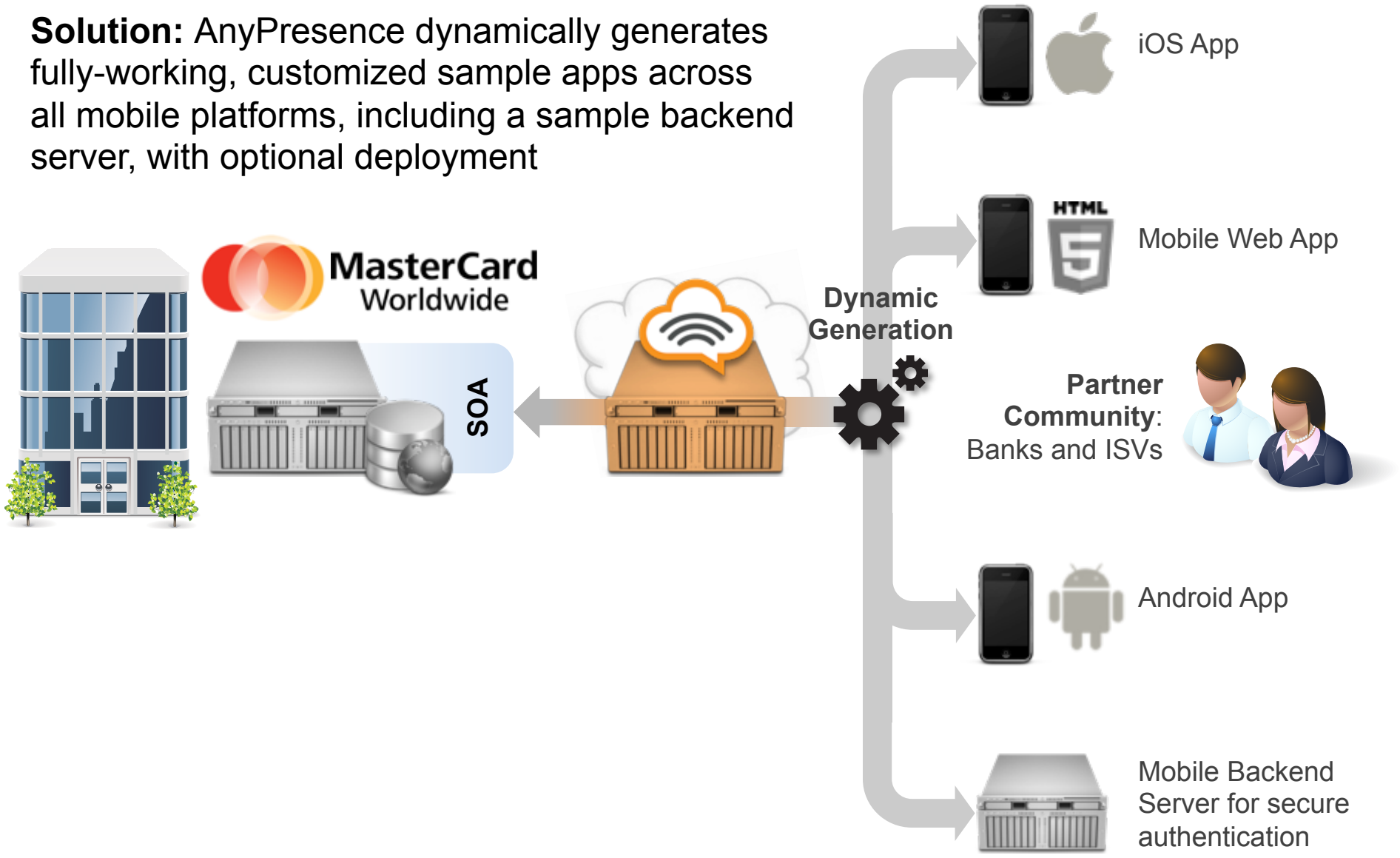
MasterCard with AnyPresence App Launchpad

Solution: AnyPresence dynamically generates fully-working, customized sample apps across all mobile platforms, including a sample backend server, with optional deployment



Summary of How It Works

1 Define App Templates

2 Build Developer Portal

3 Enable Developer Ecosystem

- Define templates with pre-built integration to your product, service, or content
- Determine which features can be customized by partner or customer developers

- Custom-branded developer portal or new functionality within existing solution
- Enables users to select a template, specify options, and generate an cross-platform apps

- Download source code for backend server, SDKs, and UI starter kits (option to compile apps and host server)
- Functional app with customizable code and deployment options

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MasterCard App LaunchPad Demonstration

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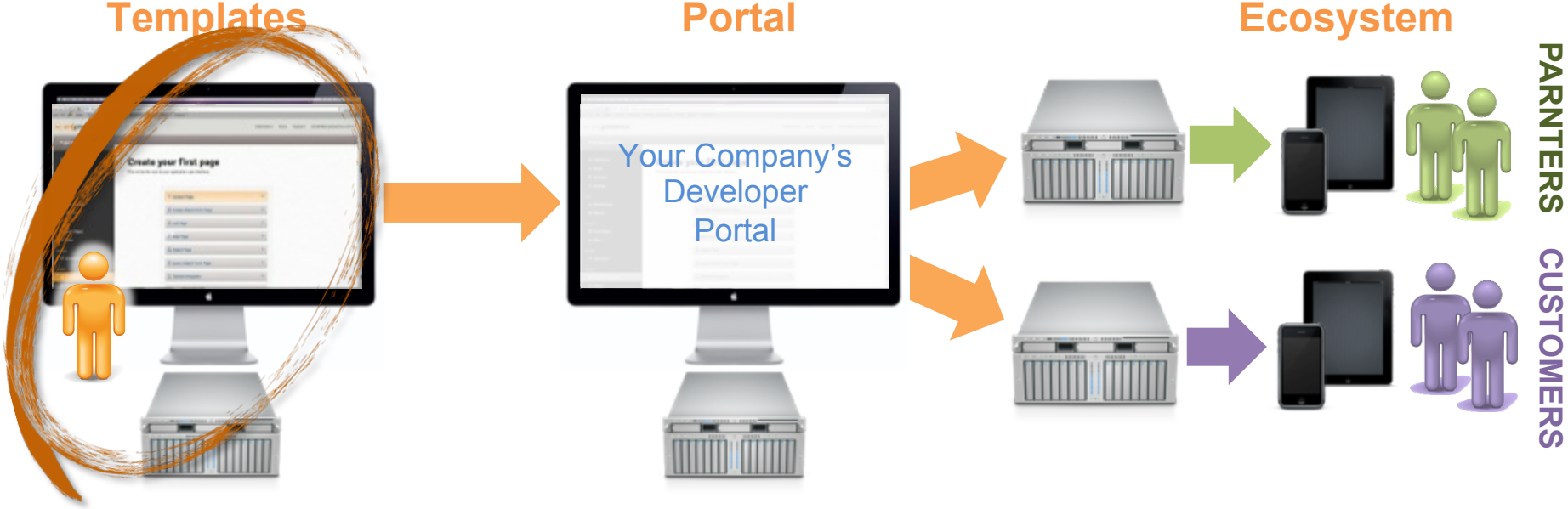

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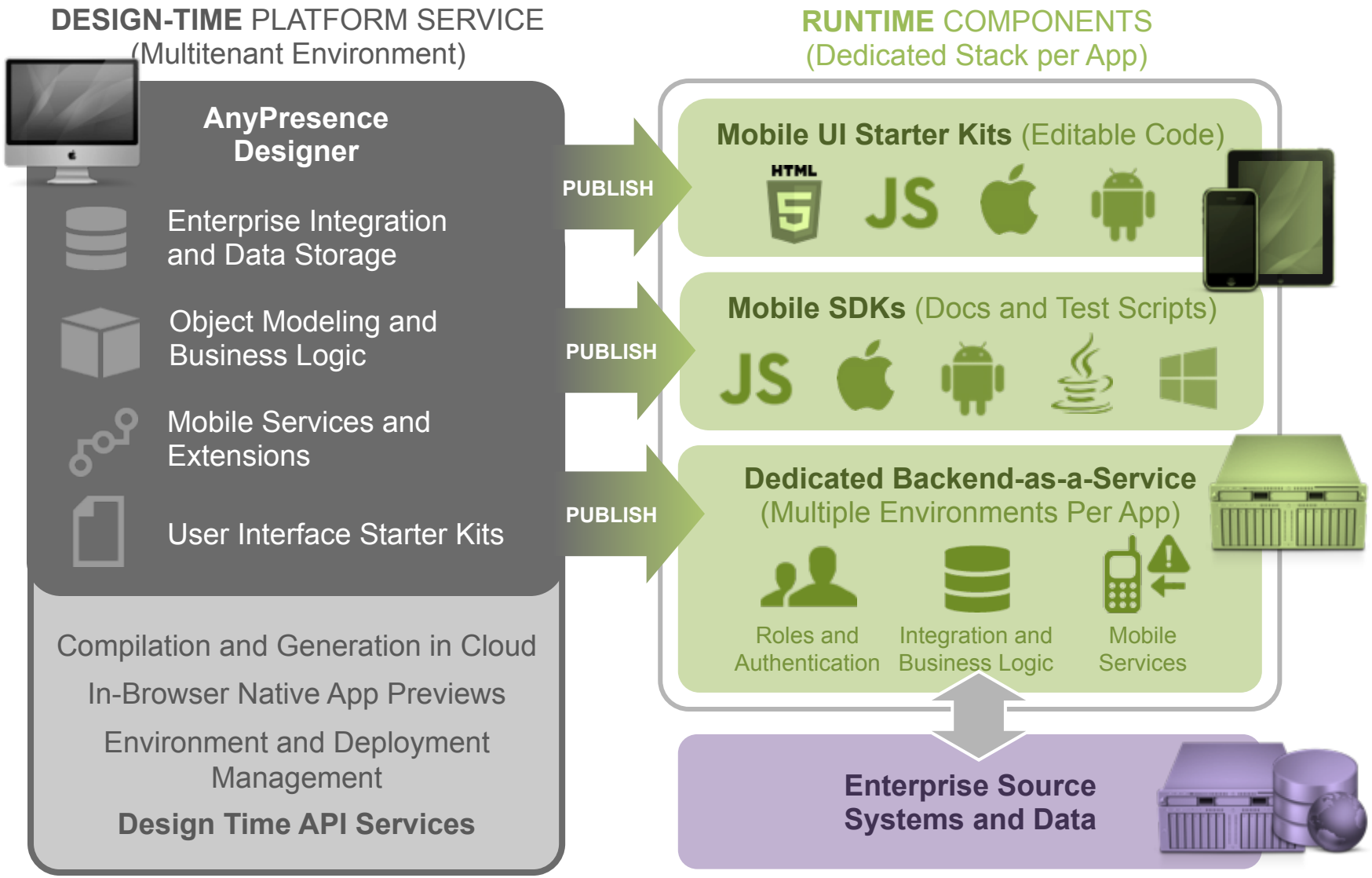
AnyPresence Designer Demonstration

Behind The Scenes



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Benefit of this Approach

App UI Starter Kits
- ✓ Fully-working app
- ✓ Editable source code

Lower development hurdles, reduce time to market, and improve adoption

Cross-platform SDKs (+docs)
- ✓ Drop into app project
- ✓ Familiar syntax

Mobile Backend Server
- ✓ Mobile optimized APIs, domain-specific abstraction layer
- ✓ App-specific services and business logic

APIs Endpoints Only
- ✘ Takes time to interpret and implement
- ✘ Lacks app-specific mobile services; typically designed for web apps

APP DEVEOPMENT TIMEFRAME

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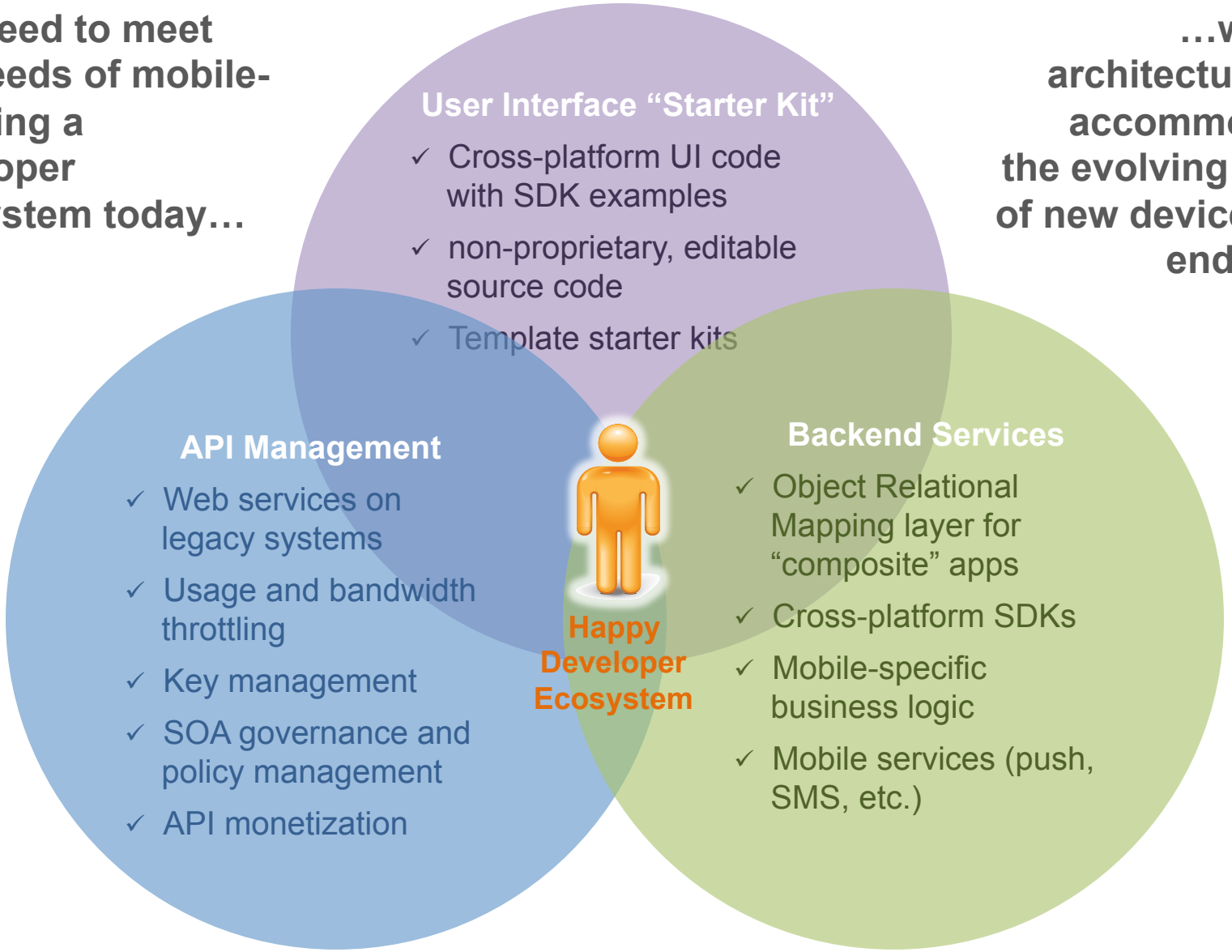
Lessons Learned: **Evolving Developer Ecosystem Needs**

You need to meet the needs of mobile-enabling a developer ecosystem today…

…with an architecture that accommodates the evolving needs of new devices and endpoints



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Lessons Learned: **Architecture Best Practices**

Endpoint Presentation Layer

- Separate Data Management Layer
- Use MVC Libraries For HTML5 Apps
- Leverage Native Platform Tools
- Minimize Client-Side Business Logic

SEPARATE UI FROM DATA MGMT, AVOID PROPRIETARY UI

Application Services Layer

- Push Notifications, SMS Messaging
- App User Roles and Access Control
- App Specific Business Logic
- Data Source Abstraction Layer

LEVERAGE MOBILE SERVICES, ENABLE "COMPOSITE" APPS

Data Sources and Systems

- Enterprise Systems
- Databases BI/DW Systems
- Web Services API, ESB Layers
- File Servers & CMS

LEVERAGE EXISTING SYSTEMS VIA WEB SERVICES

Thank You!

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