Modernizing Digital Infrastructure with MBaaS:
2015 and Beyond

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Speakers

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Evolving Connected Technology Landscape

# of Devices

Internet of Things
(All Smart Devices, Cars, Appliances, Wearables, etc.)

Post-PC
(Smartphones, Tablets, TVs, etc.)

PCs

Time

The most successful organizations will be those who enable strong developer ecosystems

Images: Brad Frost

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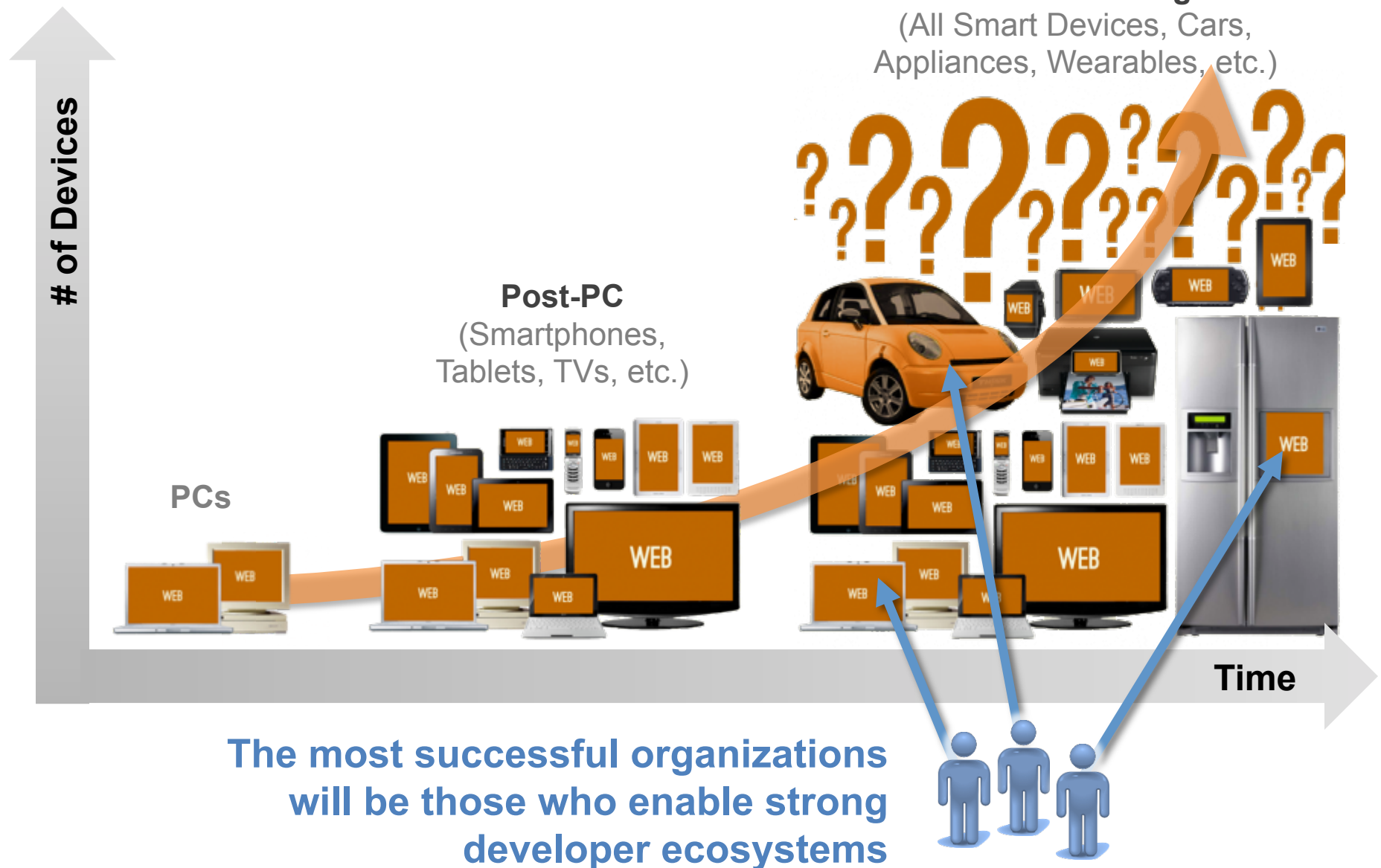
Forecast: More Fragmentation, HTML5 Not a Fit

Relative Computing Power

Amount of Devices

Browser-supported apps possible

Primarily native app driven

Mainstream personal and business computing devices

"Long-tail" IoT devices with embedded computing capabilities

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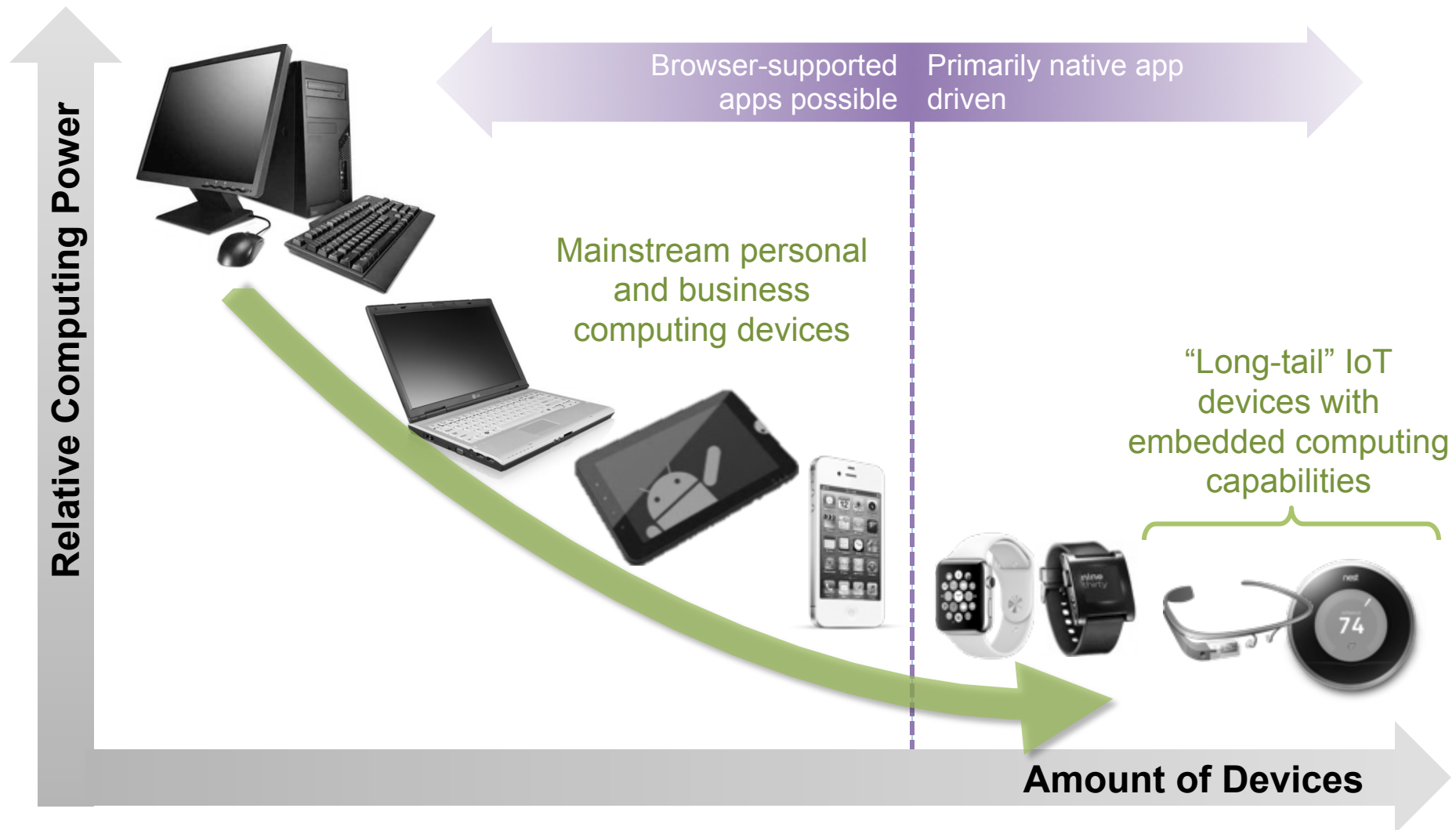
Development Expectation Challenges

LESS TIME

Development cycles down to 6-8 months or less, from 12-18

LESS BUDGET

Development budgets <u>not</u> increasing to match mobile needs

MORE COMPLEX

Complexity across **Front-end, back-end** and **secure, scalable integration**

MORE DYNAMIC

Development, Design, Develop, Test all work on the same cadence: **Rapid Prototyping and Ongoing Updates**

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Enterprise Architecture in the Digital World
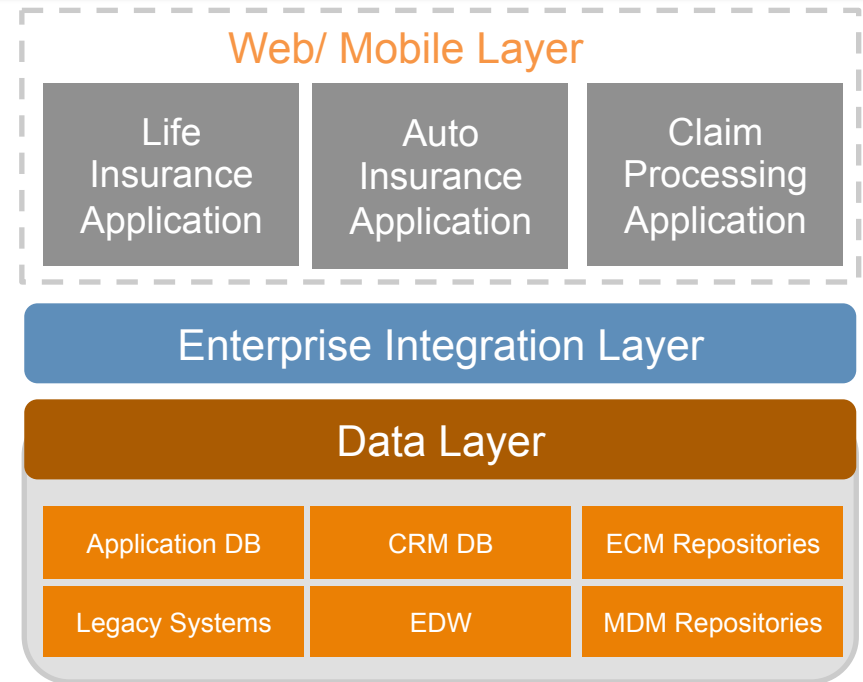## Harsha

Agenda

- Challenges with traditional web architecture

- Solution – Digital Enterprise Architecture

- Key Capabilities Required

- Solution Options

- Watch Out For

# Challenges with Traditional Web Architecture

Typical Characteristics:

- **Application specific engagement** – User engagement is designed based on application needs & business processes.

- **Stateful Session** – Heavily depends on application specific session to remember who the user is.

- **Channel specific interactions** – Systems are designed to address one specific channel at a time

- **Data Driven Integration** - Facilitates the communication between applications in order to perform a task.

Web/ Mobile Layer

Life Insurance Application	Auto Insurance Application	Claim Processing Application

Enterprise Integration Layer

Data Layer

Application DB	CRM DB	ECM Repositories
Legacy Systems	EDW	MDM Repositories

Typical Challenges:

- **Silo view of customer** – Enterprise view of the customer is specific to LoB or application.

- **Limited actionable insights** – Customer insights are driven by the enterprise data structures and difficulty in predicting the customer needs.

- **Difficulty in Change Management** – Effort & timelines required for requirement realization is high
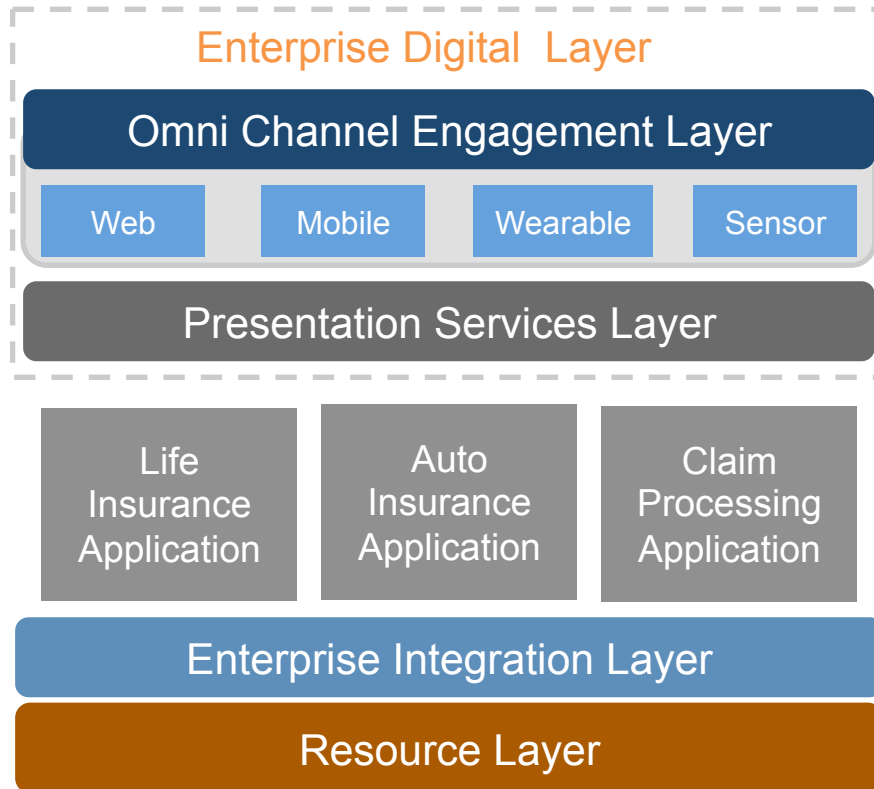
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It's not the Systems, It's the Devices
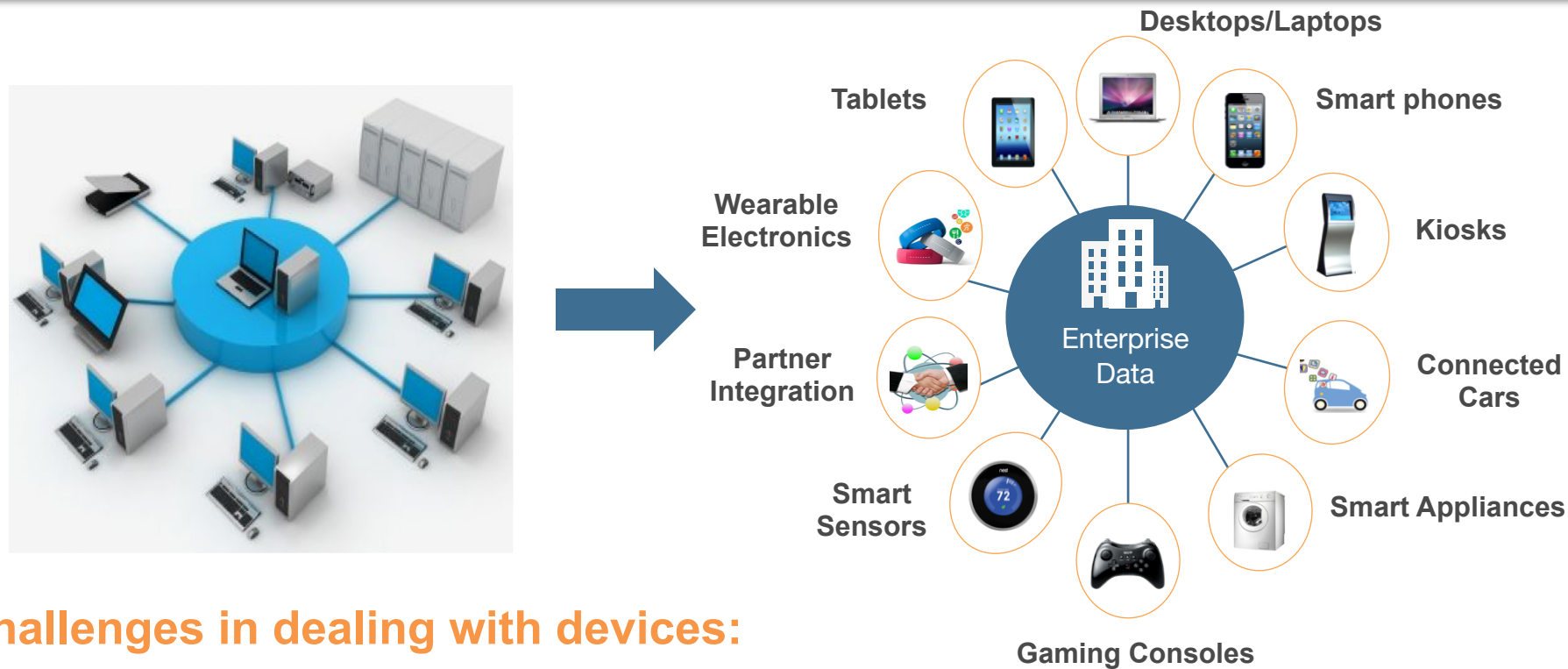
Challenges in dealing with devices:

- Limited information processing power
- Unreliable Connectivity
- Users to decide the behavior – engagement is the key challenge
- Need for contextual delivery – location, notifications, etc.
- Exponential increase in the no. of security threats
- Cloud based systems in the enterprise landscape

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Solution - Enterprise Digital Architecture

Enterprise Digital Layer

Omni Channel Engagement Layer

Web	Mobile	Wearable	Sensor

Presentation Services Layer

Life Insurance Application	Auto Insurance Application	Claim Processing Application

Enterprise Integration Layer

Resource Layer

Typical Characteristics :

- User context based engagement

- Channel optimized UI & leverage device capabilities

- Composable services

- Digital footprint at every step of engagement

- Predictive capabilities

Exposing corporate data in a consumer friendly way to various devices is one of the foundation stones for enterprise digital journey. In the enterprise world, 70% of the mobility budget is spent on Integration and not the UI

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What Are The Key Capabilities Required?

Identity Services

- LDAP Services
- SSO/Federated Authentication
- Oauth support
- 3rd Party Authentication Services
- Active Directory

App Services

- Enterprise Application Connectors
- Backend Cloud Integration
- Social Integration – FB/Linked In etc.
- User Management Services
- Email Integration Services
- Expose/Create Services

Engagement Services

- Notification services
- Location services
- Usage Analytics
- Collaboration services – Video etc.
- Beacons

Development Services

- Deployment Environment
- Application Programming Interfaces (API's)
- Client SDK
- Hosting Environment
- Public/Private Cloud Support
- On Premise Support

Data Services

- Data Optimization
- Data/Service Orchestration
- Data Mashups
- Content Management Services
- Data Caching
- Synchronization Services
- Database Connectors

Security Services

- Authentication Services
- Encryption/ Decryption – Data
- Encryption/ Decryption – OTA

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Solution Options

Options	Description	When it is suitable
mBaaS	An approach for providing web and mobile app developers with a way to connect their applications to backend cloud storage and processing while also providing common features such as user management, push notifications, etc.	• Heterogeneous technology landscape • Lack of common services infrastructure
MADP provided Integration Capabilities	Some Mobile Application Development Platform provides Integration Capabilities such as basic Enterprise Connectors and API management which can be useful whenever Enterprise do not need a full fledge mBaaS Player.	• Basic Enterprise Connectors • Integrated Development environment • No additional cost for many solutions
Custom API Layer	Enterprises based on their app portfolio and requirements can develop an in house Infrastructure to provide integration capabilities.	• Full Control, In-House Infrastructure, high bandwidth
Platform as a Service	PaaS offerings facilitate the deployment of applications or services without the cost and complexity of buying and managing the underlying hardware and software and provisioning hosting capabilities	• Remotely managed Dev and Deployment environments • Cost effective and Faster Time to Market • Need hosted approach to mBaaS
Extend ESB players	ESB Players provides a mechanism that manages access to applications and services (especially legacy versions) to present a single, simple, and consistent interface to end-users via Web- or forms-based client-side front ends.	• Provide incremental solution implementations so all enterprise services and applications need not change immediately or all at once • Low cost and highly scalable
API Management Players	Allows Enterprises to publish, promote and oversee application programming interfaces in a secure, scalable environment. It also provides the creation of end user support resources that define and document the API.	• Easier integration • Faster Time to market

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What to Watch Out For

- **Security restrictions on data movement** – geographical borders

- **Multi media content**

- **Converting data into API layer** – poses significant challenges to integrity

- **Current systems' readiness for integration**

- **Trade offs between Security and Performance**

- **Vendor Lock in**

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MBaaS Approach Benefits and Example
Richard

Agenda

- Mobile Development Challenges

- MBaaS Benefit

- Where MBaaS fits in Modern Digital Infrastructure

- AnyPresence Solution

- Brief Demo

- Analyst Perspectives

- Summary

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Key Challenge: Modern Device App Complexity

81%

of CIOs believe app development costs are too high due to complexity

Source: Vanson Bourne

Expectation of enterprise mobile app development

- Mobilized business processes
- Consumer-like experience
- Cross-platform

Reality of enterprise app development requirements

- Data Transformation
- Data Integration
- Data Security
- Bandwidth Optimization
- Roles, Access Control
- Offline Caching
- User Authentication
- Server Business Logic
- Data Sharing
- Secure VPN Access
- API Versioning
- Maintenance
- Scalability
- Deployment
- Upgrades

Typical Custom Enterprise App Development

Setup	Backend Integration, Business Logic, Services	App SDK	App UI Layer	Test	Deploy
1 week	8-10 weeks	4 wk+	4 wk+	2 wk+	1 wk

20+ weeks

With AnyPresence

5x faster time to market

4-6 weeks

AnyPresence + Xamarin

Best-of-breed, **full stack acceleration**

Source: Gartner

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Modern Digital Infrastructure: Where MBaaS Fits

Your App

- Support Multiple Devices/Endpoints
- Enable Custom User Experiences

Backend Services (BaaS or MBaaS)

Business Logic and Data Orchestration

- Organize Information
- Define App Logic
- Manage App Security

Web Services and Data Access

- Create Access to Data and Systems
- Manage Usage

Databases   Applications   Middleware   Custom
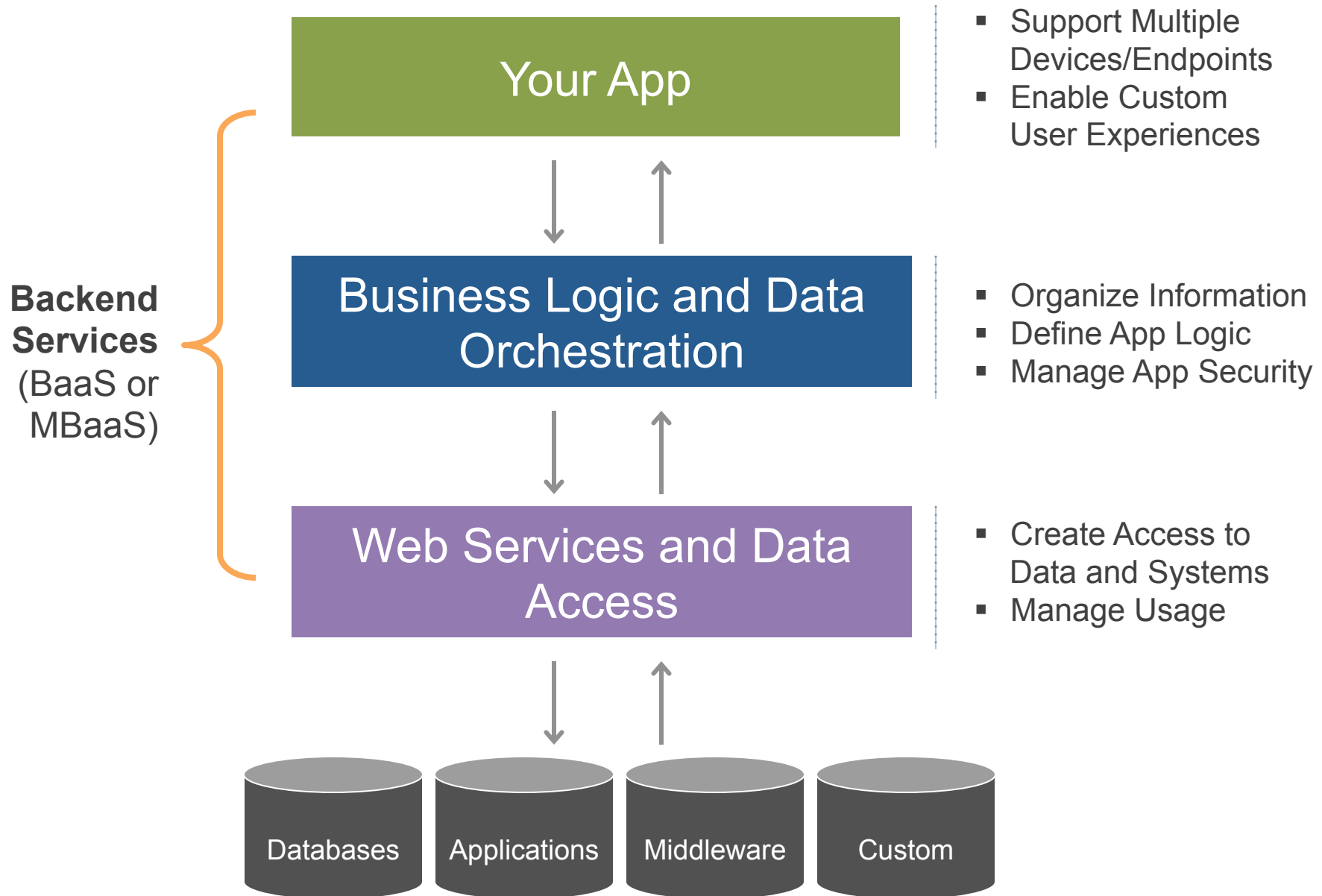
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AnyPresence Solution Overview

DESIGN-TIME PLATFORM SERVICE
(Multitenant Environment)

RUNTIME COMPONENTS
(Dedicated Stack per App)

AnyPresence Designer

Enterprise Integration and Data Storage

Object Modeling and Business Logic

Mobile Services and Extensions

User Interface Starter Kits

Compilation and Generation in Cloud

Versioning and Code Repositories

Environment and Deployment Management

App Templating

Design Time API Services

PUBLISH

PUBLISH

PUBLISH

Mobile UI Starter Kits (Editable Code)

Mobile SDKs (Docs and Test Scripts)

Dedicated Backend Server

Roles and Authentication

Integration and Business Logic

Mobile Services

App Gateway
Optional On-Premise RESTification Layer

Enterprise Systems and Data

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Brief Demonstration

Analyst Perspective

Gartner 2014 CoolVendor

"[AnyPresence] is at the forefront of a transition within mobile application development… AnyPresence expands beyond the basic capabilities of mBaaS to include features required for enterprise use."
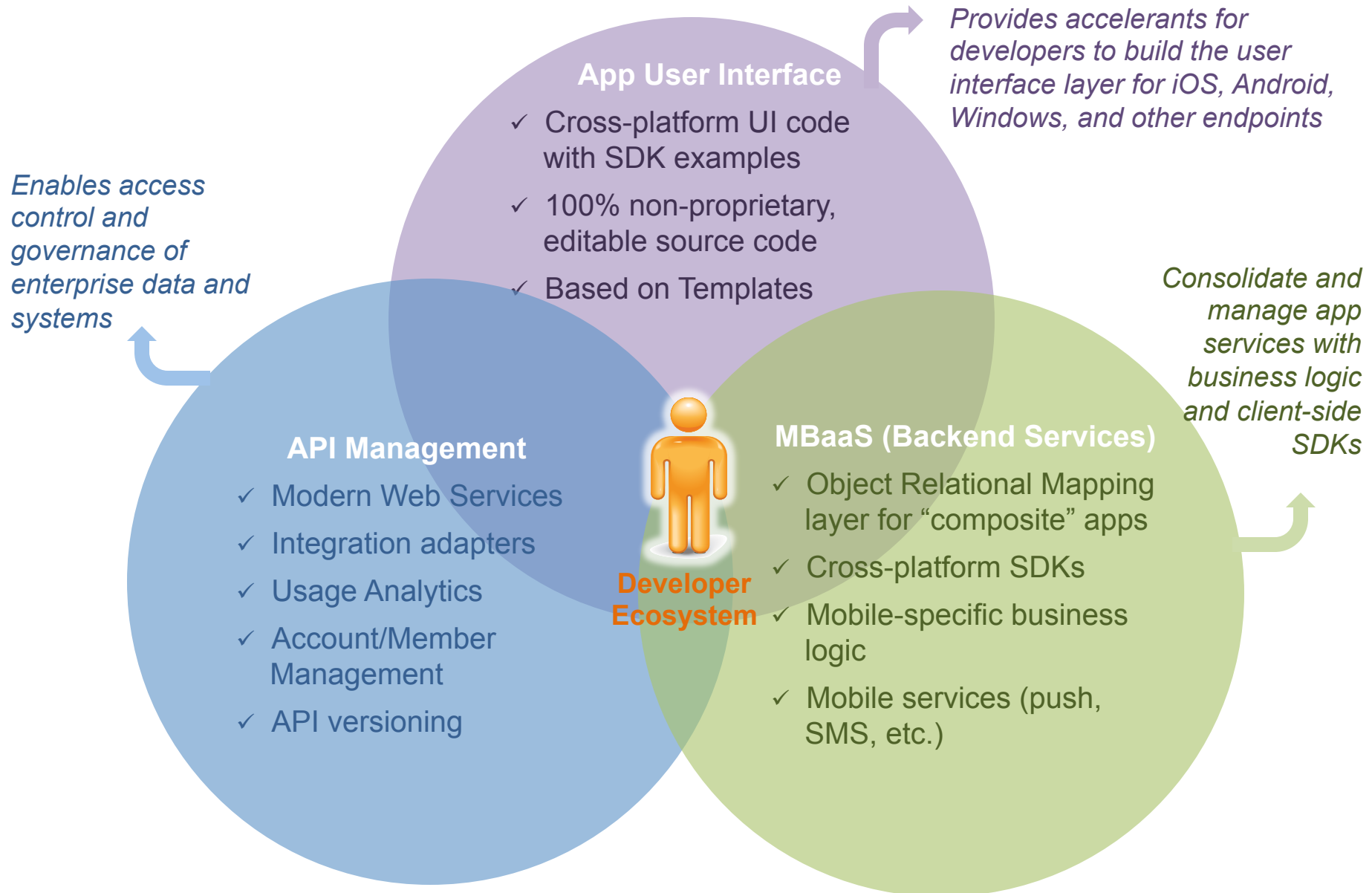
InfoWorld ★★ EDITOR'S CHOICE

"AnyPresence… offers more value than these [MBaaS] competitors for enterprises that need to integrate their existing systems with mobile applications."

yankee group

"AnyPresence has attained a technological advantage thanks to its system architecture and expertise in deploying mobility projects…"

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Summary: Modern Digital Infrastructure for Agile IT

Provides accelerants for developers to build the user interface layer for iOS, Android, Windows, and other endpoints

App User Interface

✓ Cross-platform UI code with SDK examples

✓ 100% non-proprietary, editable source code

✓ Based on Templates

Enables access control and governance of enterprise data and systems

Consolidate and manage app services with business logic and client-side SDKs

API Management

✓ Modern Web Services

✓ Integration adapters

✓ Usage Analytics

✓ Account/Member Management

✓ API versioning

Developer Ecosystem

MBaaS (Backend Services)

✓ Object Relational Mapping layer for "composite" apps

✓ Cross-platform SDKs

✓ Mobile-specific business logic

✓ Mobile services (push, SMS, etc.)

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Thank You! Questions?

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