

Connecting Everything: APIs and PaaS

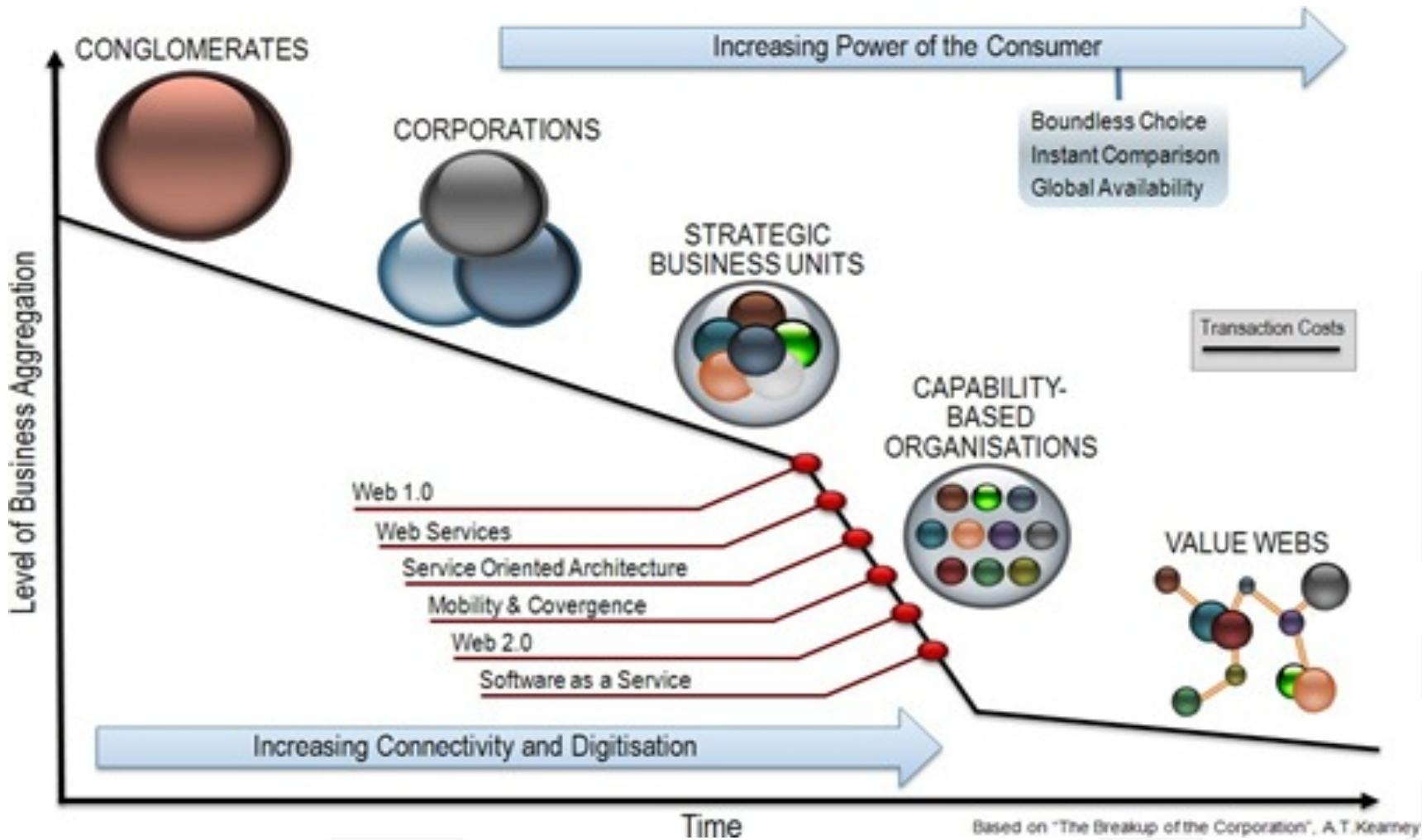
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CTO and Co-Founder, WSO2

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paul@wso2.com

Plan of action

- Why is everyone so excited about APIs?
 - And should they be?
- Why do PaaS and APIs matter together?
- Digging deeper into APIs and API management
- PaaS approaches
- Next generation PaaS
- APIs + PaaS = ecosystems
- Examples
- Summary and questions

The drive towards Connected Business



PaaS

- What does Cloud mean?
- My definition is:
 - Self-service
 - Multi-tenant
 - Pay-as-you-go
 - Managed, remote service
- Of whatever you care about:
 - Music, Email, Machines, Networks, Disk
- And now:
 - **Applications, Databases, APIs, ESB, Processes, etc**

APIs and PaaS

- APIs are the virtualization of function
- PaaS is the virtualization of application capabilities and deployment

A Company Without APIs Is Like A Computer Without Internet

You wouldn't want a computer without Internet access, so why is your company still eschewing APIs?



Brian Koles on November 29, 2013

<http://readwrite.com/2013/11/29/company-without-api-computer-without-interne>

APIs

- **An API** is a business capability delivered over the Internet to internal or external consumers
 - Network accessible function
 - Available using standard web protocols
 - With well-defined interfaces
 - Designed for access by third-parties
- **A Managed API** is:
 - Actively advertised and subscribe-able
 - Available with SLAs
 - Secured, authenticated, authorized and protected
 - Monitored and monetized with analytics

Web API History

- The earliest APIs were various XML and SOAP services
 - Also people manipulating web applications and parsing HTML

Secure Customer Login

User Name:

Password:

Go!**Get Started Now!**Your first 5 users are **FREE!** [Sign-up Online »](#)

- or -

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• Easy to Use

- As easy to use as your favorite website

• Collaborate with Teammates

- Share opportunity and pipeline information real-time

• Synchronize Offline

- Sync with Outlook™ and Palm OS™

• Integrated Content

- Account/competitor news, financials, and services

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In The News...

- [\\$50 a month will put your customer relationship management onto the Web](#)



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What Customers are Saying...

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Apply for the Developers Program
Application Certification
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News

See what's developing at eBay



Welcome to the home page for the eBay Developers Program, where you'll find what you need to become a third-party eBay application developer.

The eBay Developers Program promotes application development to facilitate and enrich trading on the eBay platform. Through the use of eBay's development products and services, we are providing access to the eBay platform to third-party developers worldwide. Through your efforts, there will be many more innovative new third-party applications made available to the eBay community. We invite you to become a part of our development community and gain access to the largest on-line trading community in the world.

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Start developing your [certified](#) third-party eBay application using eBay's Development Products.

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Join the eBay Developers Program and receive many [benefits](#) to help you become successful in creating and distributing your own certified third-party eBay application.

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Obtain information about contract compliance certification.

► Developer Support
As a member of the eBay Developers Program, [access eBay's Developer Support](#), [Technical FAQs](#), and [bulletin boards](#) to find answers to your eBay development questions or chat with other third-party developers.

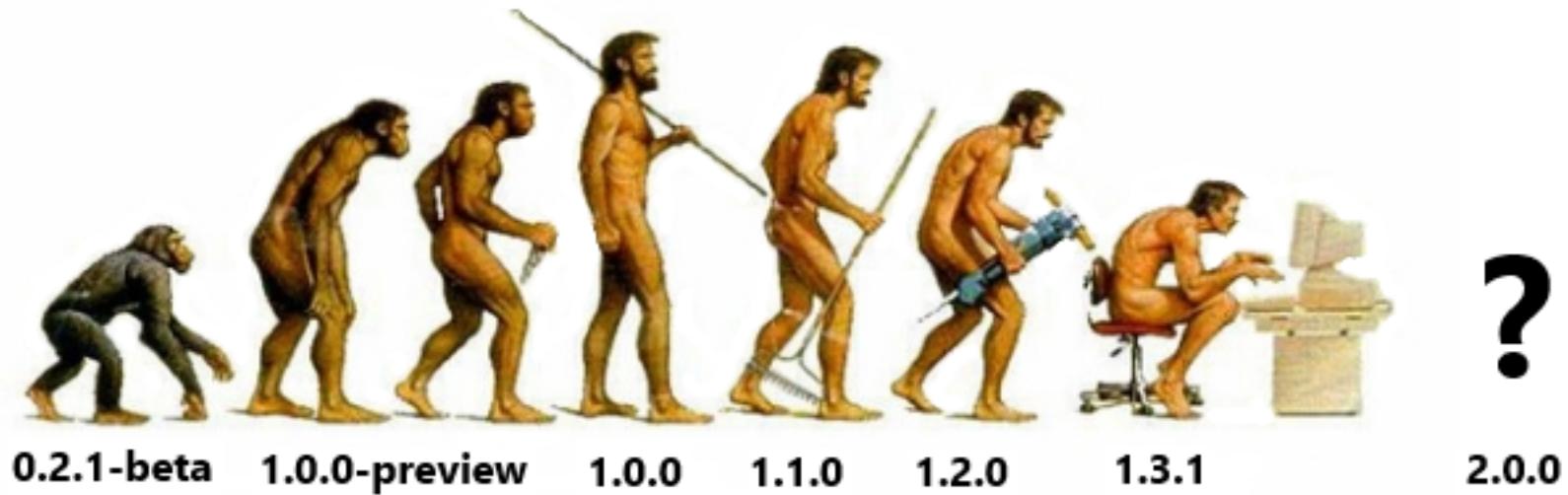
► News
Find out the [latest news](#) about the eBay Developers Program.

Key differentiators in API evolution

- Self-signup / Portal / API Store
- A clear monetization model
 - And a clear value model
- Ecosystem thinking
 - Hackathons
 - Forums*
 - Social Media integration
- RESTful approaches
- Monitoring

* yes, I know the proper Latin is *fora*. I'm not an ancient Roman though

Versioning





<http://www.pdt.com/news/688>

Minimum Viable API

- **Minimum Viable Product** has just enough features that the product can be deployed and used by *some customers*, and no more.
 - Typically this is a small subset of the future customer base
- **Minimum Viable API** is just enough API that it can be used by some partners
- Highly recommended especially in evolving an API strategy



API First

- Start with the API
 - Before the website / mobile app / internal app / ...
- Why?
 - Ensures a good API
 - External Developers are not second class citizens
 - Inherently “mobile-first-friendly”
 - Decoupled development
 - Evolve-ability
 - APIs everywhere



API
Inside

OAuth2 and OpenId Connect



If you want to understand OAuth2 and OpenId Connect

<http://freo.me/1eZYDKt>



White Paper

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WSO2 API Manager

WSO2 API STORE

APIs My Applications My Subscriptions Tools

Sign-up Login

Search API

Recently Added

-  ContactsAPI-1.0 admin ★★★★★
-  PhoneVerification-1.0.0 admin ★★★★★
-  PlaceFinder-v1.0.0 admin ★★★★★
-  UserAPI-1.0.0 admin ★★★★★
-  YoutubeFeed-v1.0.0 admin ★★★★★

APIs

-  ContactsAPI (1.0) admin
-  FindTweets (v1.0.0) admin
-  CDYNE Success as a Service PhoneVerif.. (1.0.0) admin
-  YAHOO! MAIL PlaceFinder (v1.0.0) admin
-  UserAPI (1.0.0) admin
-  YouTubeFeed (v1.... admin

Tags

Youtube api cdyne contacts feeds places social twitter user

Getting Started
Getting Started Guide (PDF)
Installation Guide
Quick Start Guide
Samples

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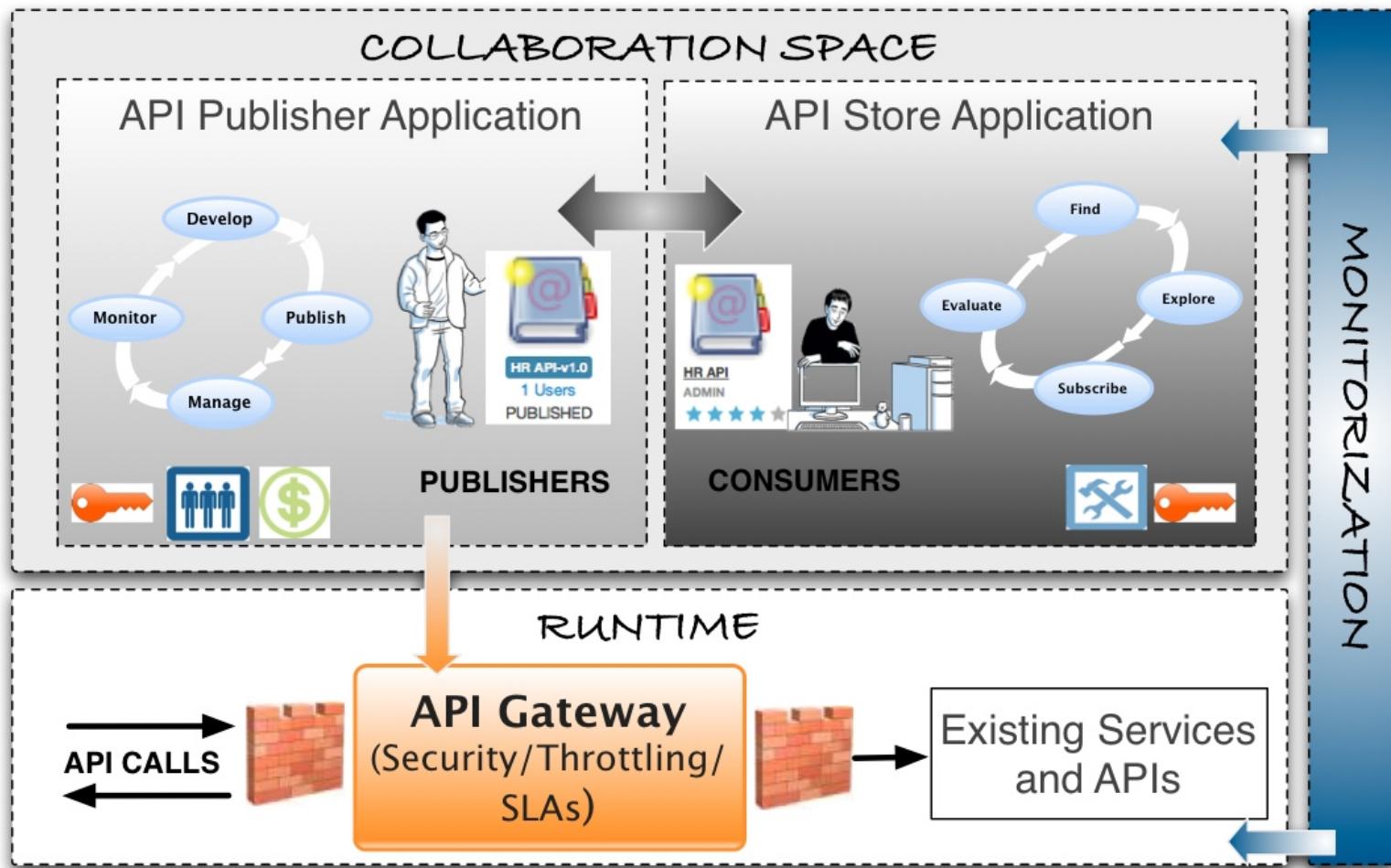
Documentation/Support
Product Documentation
Get Support
Product Home

Resources
WSO2 Practical Guide to API Management
WSO2 Use Case: API Facade Pattern
More >>

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<http://wso2.com/products/api-manager/>

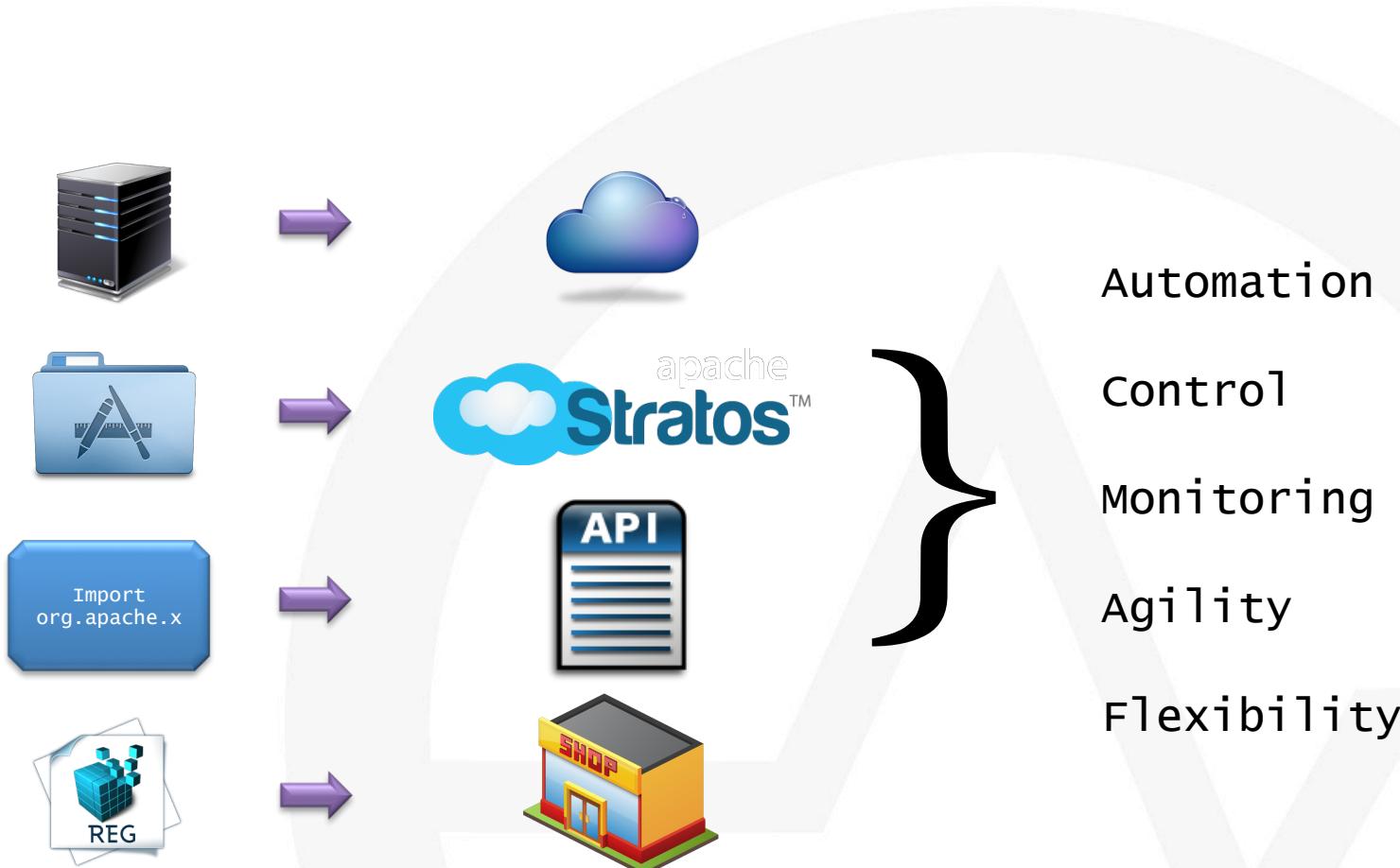




Ecosystems

- Allow smaller organizations to compete more broadly
 - Utilize partners, expand reach
- Allow larger organizations to compete more nimbly
 - By working with smaller, more agile partners!
- Enable “best-of-breed” capabilities to conjoin to create better solutions
- Take advantage of APIs and promote APIs
 - A virtuous circle

The wider sense of virtualization



Virtualize everything

- **APIs** are the virtualization of function
- **PaaS** is the virtualization of application deployment
- **Forge/Cloud Toolchain** is the virtualization of development
- **DevOps** is the virtualization of deployment
 - Together these are the basis for the virtualization of an ecosystem
- **Enterprise Store** is the virtualization of application delivery

WSO2 App Factory

The screenshot shows the WSO2 App Factory web interface. The left sidebar has a dark grey background with white icons and text. The main content area has a light grey background.

Header: WSO2 App Factory (title bar), paul..wso2.com@wso2.org (user info), WSO2 App Factory (branding).

Breadcrumbs: https://appfactory.cloudpreview.wso2.com/appmgt/site/pages/reposBuilds.jag?applicationName=Ki... (URL).

Left Sidebar (Dark Grey):

- Overview
- Team
- Repos & Builds** (selected)
- Resources
- Issues
- Lifecycle Management

Main Content Area (Light Grey):

Kitten Insurance App

Repositories & Builds

Filter Repos or Stages Build Server

| Version | Last Build | Last Deployment |
|---------------------|---------------------------------|-----------------|
| trunk < Development | Build 1 SUCCESSFUL | Build 1 |
| 0.0.1 < Development | | |

Copy URL Browse URL

Buttons (Top Row): Create Branch, Edit Code, Build, Deploy, , Test

Buttons (Bottom Row): Create Branch, Edit Code, Build, Deploy, , Test

Connected Business

Connecting your internal systems, your partners and your ecosystem

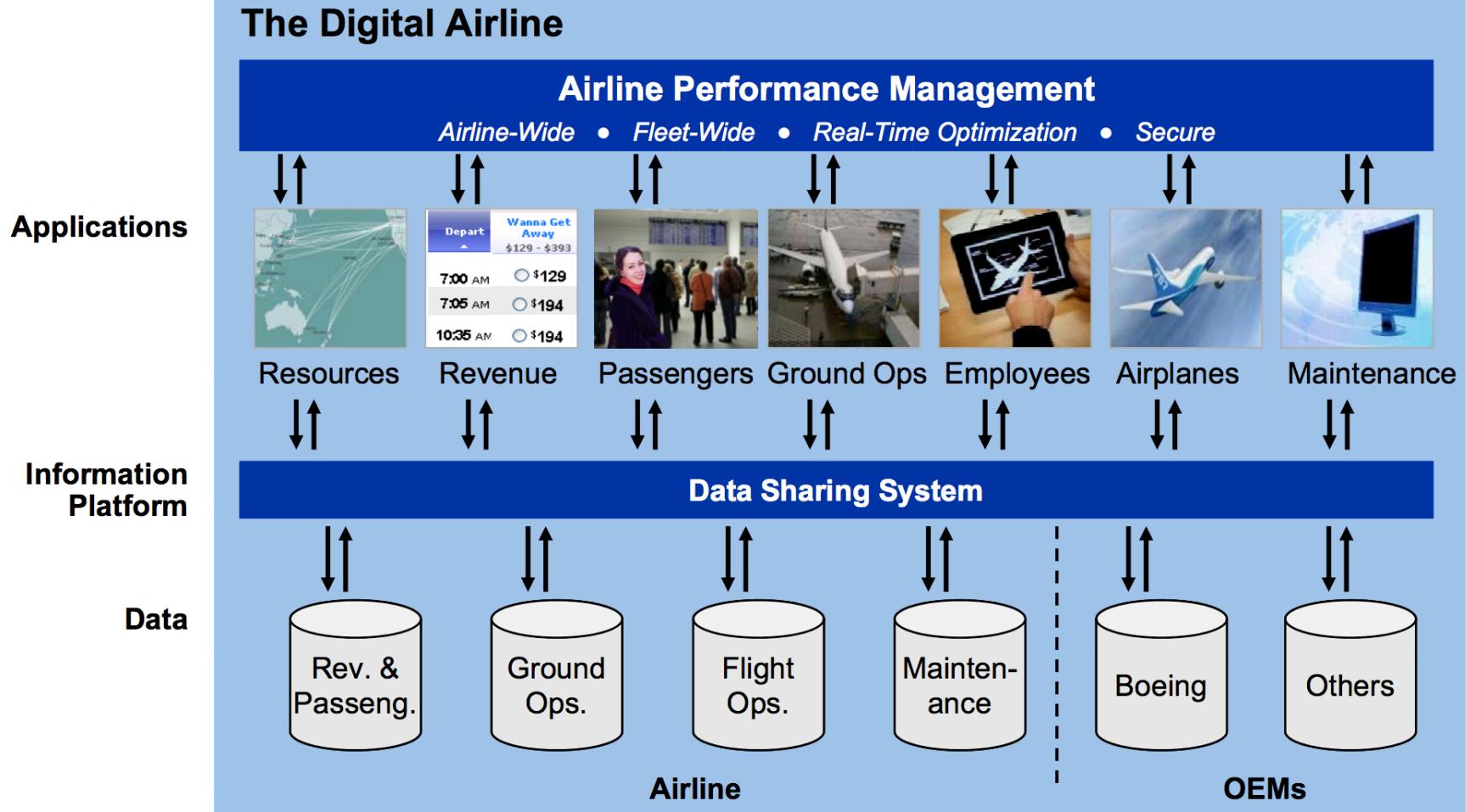
Creating a platform for internal and external innovation

Virtualization of your data, function and processes

Cloud based approaches for tenancy, billing, metering and self-service

Monitoring and governance

Boeing Digital Airline



Enterprise Store

WSO₂ Mobile Enterprise Mobile Store Sign in Register

Mobile Store Search

All Categories

Batman: ★★★★★ Apple

Contract Killer v3.0 ★★★★★ Apple

iPadSample1 ★★★★★ Apple

LINE ★★★★★ Android

Quick Office ★★★★★ Android

Sonic ★★★★★ Apple

TempleRun2 ★★★★★ Apple

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Docs WSO₂

“

Invention comes in many forms and at many scales. The most radical and transformative of inventions are often those that empower others to unleash their creativity - to pursue their dreams.

Jeff Bezos

”



About WSO2

- 100% Apache-licensed Open Source products
- Enabling a connected business:
 - Integration
 - API Management
 - PaaS
 - App Factory
 - Monitoring, real-time analytics, and big data
- <http://wso2.com/contact>

The screenshot shows the Apple Mac Pro product page. At the top, there's a navigation bar with icons for Mac mini, iMac, Mac Pro, Mac Accessories, and Compare. Below the navigation, there are social sharing buttons for Facebook and Twitter. The main content features a large image of the Mac Pro tower. To the left of the image is a detailed product description:

NEW
6-Core and Dual GPU
3.5GHz 6-Core Intel Xeon E5 processor
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Dual AMD FirePro D500 with 3GB GDDR5 VRAM each
256GB PCIe-based flash storage¹
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Includes VAT of approx. £550.00.*
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