

Everything a CIO Needs to Know about Oracle Application Express

20. Jubilarna HROUG Konferencija
October 14, 2015

Joel R. Kallman
Director, Software Development
Oracle Application Express, Server Technologies Division

ORACLE®

Copyright © 2015, Oracle and/or its affiliates. All rights reserved. Public

Brief Introduction - @joelkallman

Joel R. Kallman

- Director of Software Development, Database Server Technologies Division
- Responsible for all product management and software development of Oracle Application Express
- 19 year Oracle employee
- Co-creator of Oracle Application Express
- Actively developing Oracle Application Express since its creation in 1999



Joel R. Kallman

@joelkallman

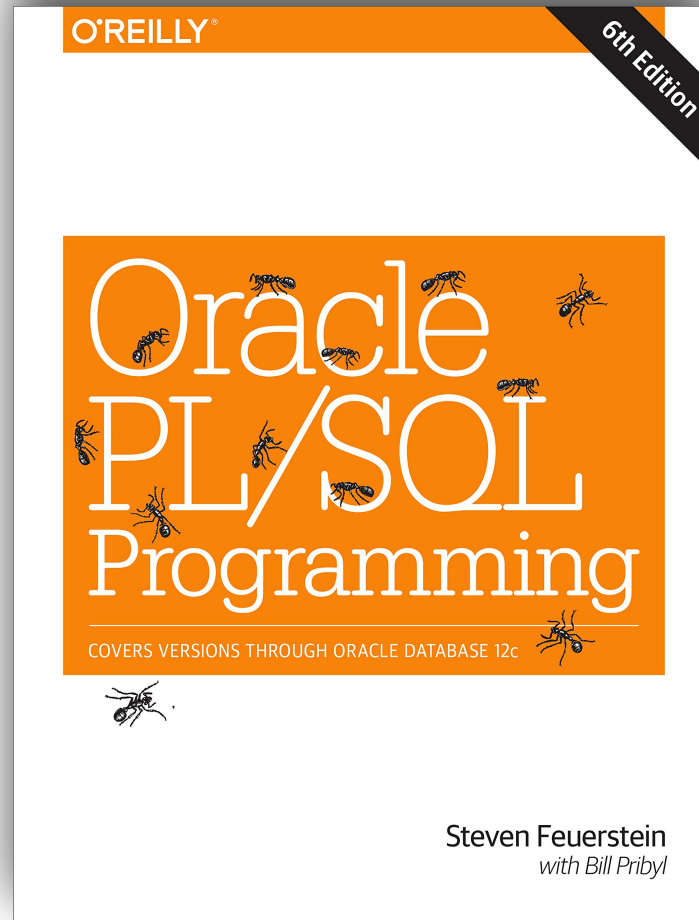
Director of Software Development for Oracle Application Express (#orclapex). Customer success with APEX, PL/SQL and the Oracle Database is my passion.

📍 Dublin, Ohio USA

🔗 joelkallman.blogspot.com

 @joelkallman

1996

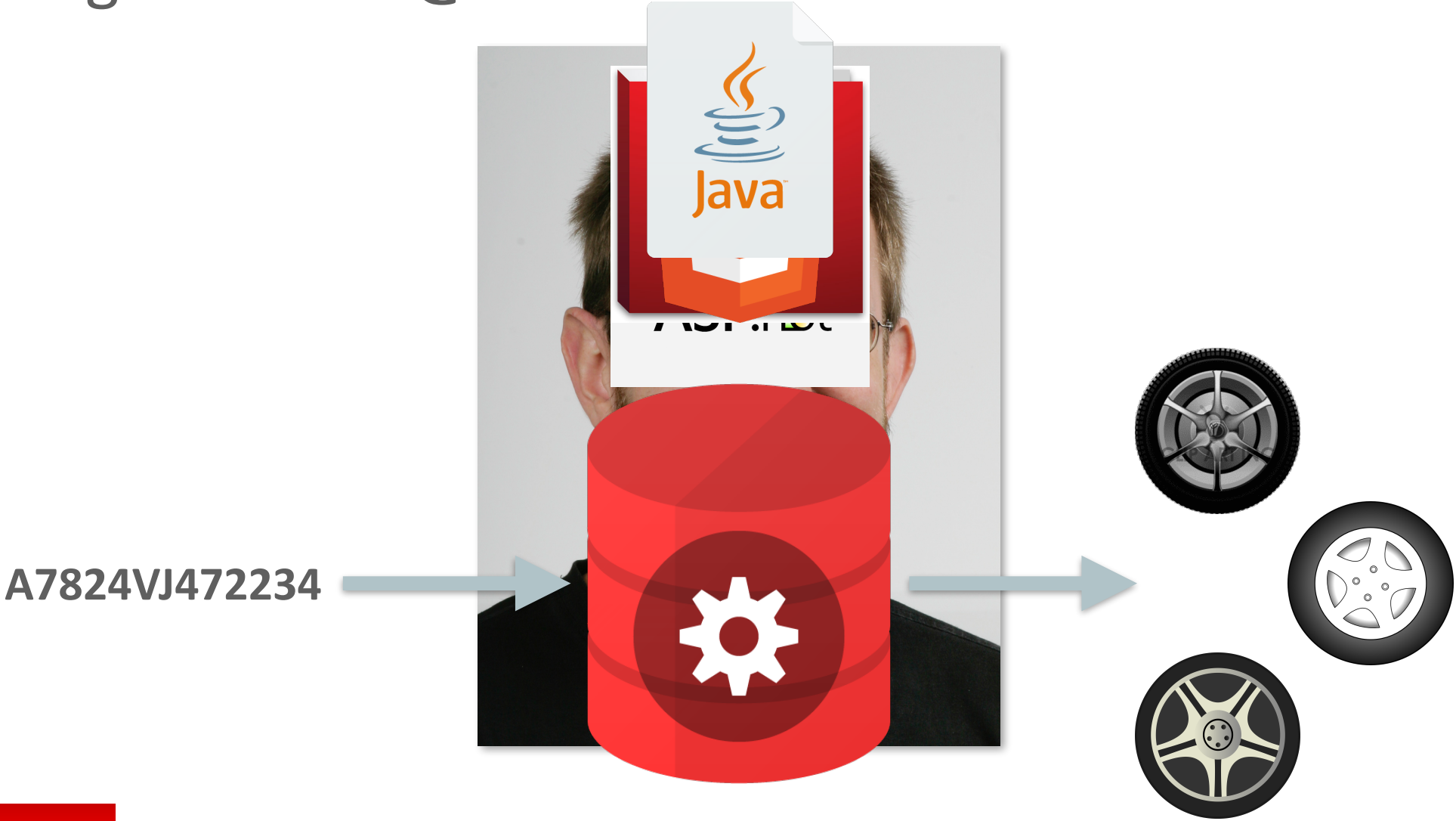


Billy Verreyne - Oracle ACE

*“What does any business application deal with?
DATA! That is the core. That is what drives the
business. Applications come and go. Data is
forever. Where does the data live? In the database.
The database is the core. The database has been
that since the 80's. Is still that. Focus on the core.
Design for the core. Leverage the core.”*



Kim Berg Hansen - @kibeha



Kim Berg Hansen - @kibeha

- Fastest solution possible, in any technology
- SQL and PL/SQL API never changed over 10 years
- Secondary benefit - platform independence (Windows to HP-UX Itanium to 64-bit Intel Linux)



Questions for a CIO

- Where are your information assets?
- Are the “corporate standard” tools and solutions approachable by the business?
- Are you spending more time and money sustaining? Or advancing?
- How many small to medium-sized problems are not being solved?

Oracle Application Express (APEX)

Rapid web application development framework



Develop web-based apps,
deliver via desktop or mobile



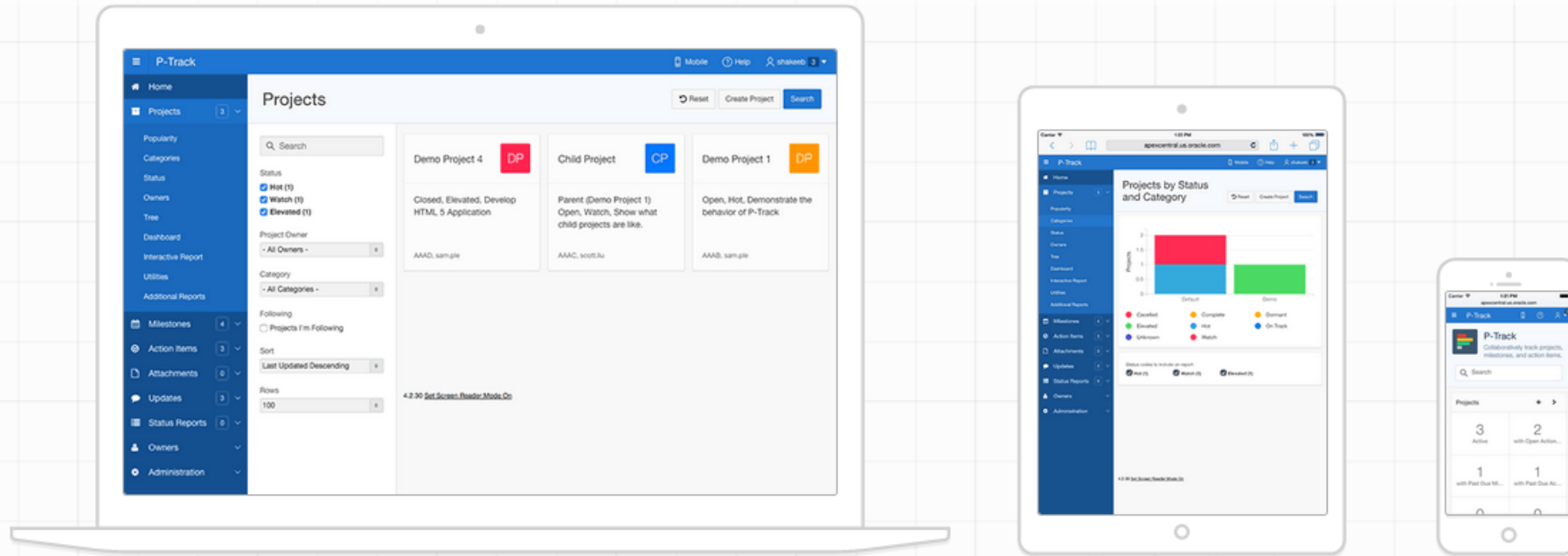
Visualize and maintain
database data



Leverage common SQL skills,
industry-leading database
capabilities

Design and Customization

Rich User Interface, Any Device



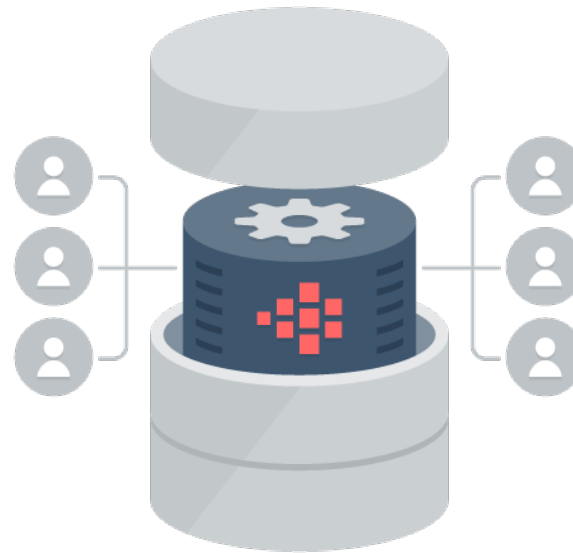
Fully customizable and responsive Web applications,
against the Oracle Database, out of the box!

Oracle Application Express (APEX 5)

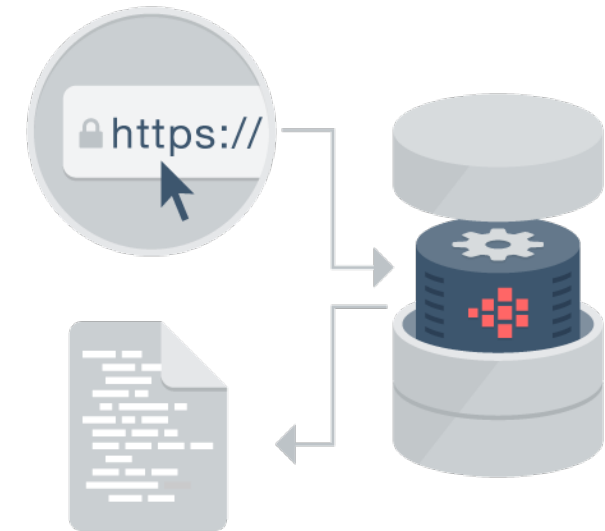
Distinguishing Characteristics



App Dev IDE is a web browser
No client software



App definitions are stored in the database as meta data
Declarative – No Generation



Database centric architecture
Easy to Manage

Oracle Application Express

No cost feature of the Oracle Database

- No-cost fully supported feature
 - Any number of developers, apps, & end-users
 - Specialized Oracle Support Team
 - 11gR1, 11gR2, 12c
 - All DB editions: EE, SE, SE1, XE
- Easy to install
 - Included by default with all editions of Oracle database
 - Download latest release from <http://otn.oracle.com/apex>
- Included with Oracle Cloud Services
 - Schema and PDB services 5, 20, 50 GB
 - Dedicated DBaaS services
 - No cost evaluation <http://apex.oracle.com>





Oracle Application Express (APEX 5)

Database Cloud Services, multitenant and single tenant

Schema / PDB

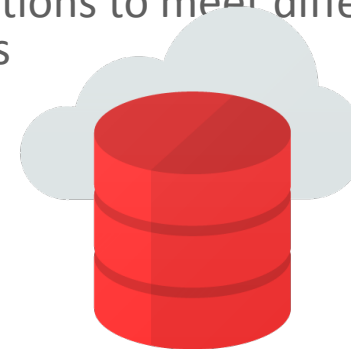
- Customers who want a “slice” of the database for development and deployment of departmental apps. Don't want to manage any aspects of the database.
- Database Schema or PDB available as a monthly Subscription by Size (5, 20, 50, 250*, 500GB*, 1TB*)
- Oracle Managed Database
- Highly available and scalable infrastructure
- Also underpins the BI, Document, Mobile, Java and other Cloud offerings



* Planned for a future release.

Full Instance

- Customers who want a dedicated database for dev/test or production applications. Want control of database while automating many routine tasks.
- Full database available as a metered service (Hourly or Monthly)
- Choice of customer or Oracle Managed Database
- Choice of general purpose or mission-critical infrastructure
- Choice of editions to meet different customer requirements



Development / Deployment Options



Local

- Install on stand-alone laptops using Oracle Express Edition (XE) or full database version
- Simply upgrade APEX to the required version
- Can work completely disconnected

On-Premise

- Typically run by the IT Department
- IT generally both production operations service, and a service provider
- Departments responsible for application development

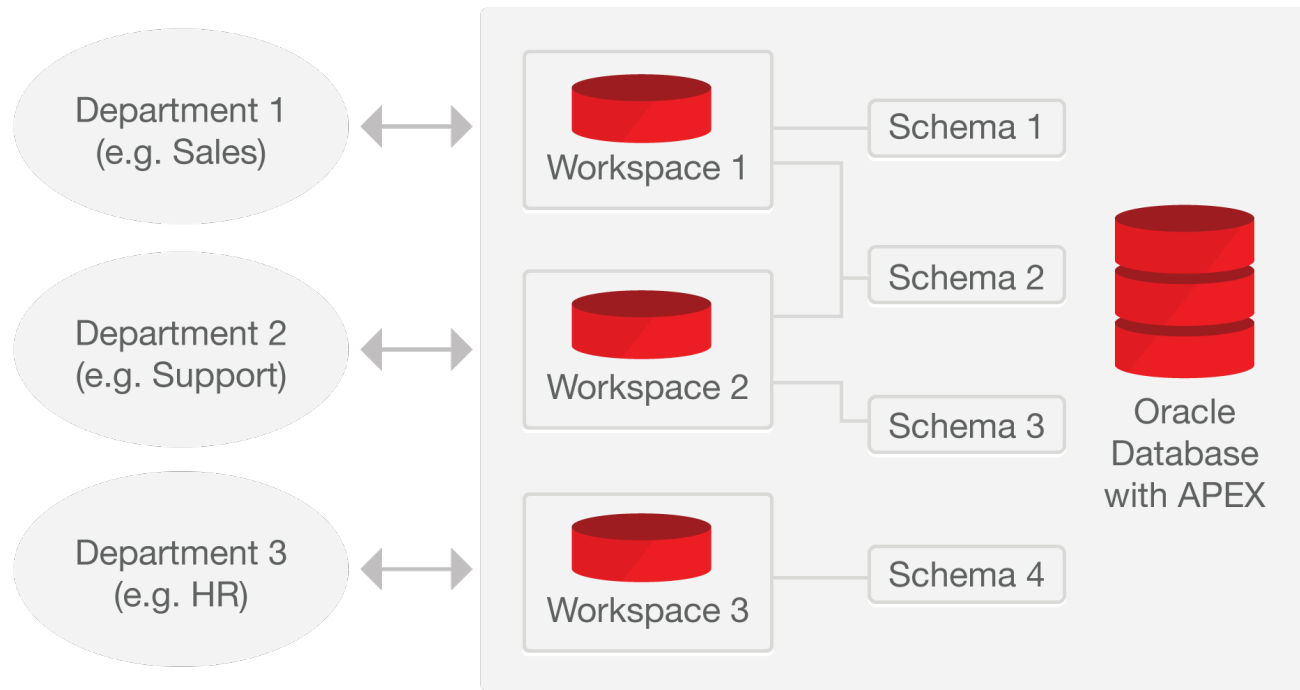
Cloud

- Deploy Internet applications
- Leveraged for fast application development, user acceptance and training.
- Prototyping & Proof-of-Concept
- Consulting companies develop for deployment on customer premise

Browser based application development framework enables efficient development & deployment

Single Database Instance / Multiple Workspaces

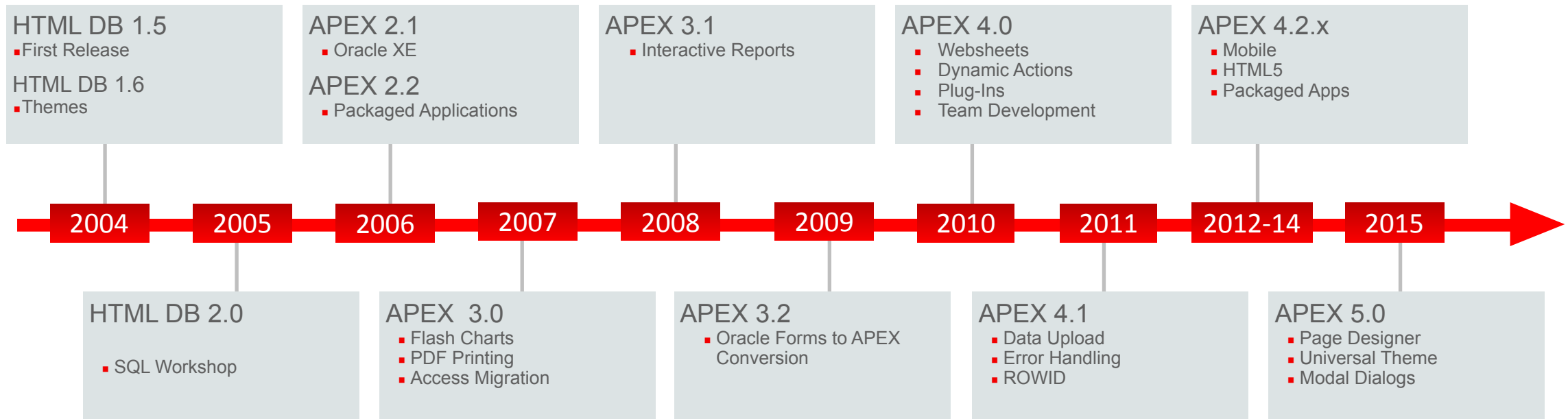
Easily managed with optional self-service provisioning



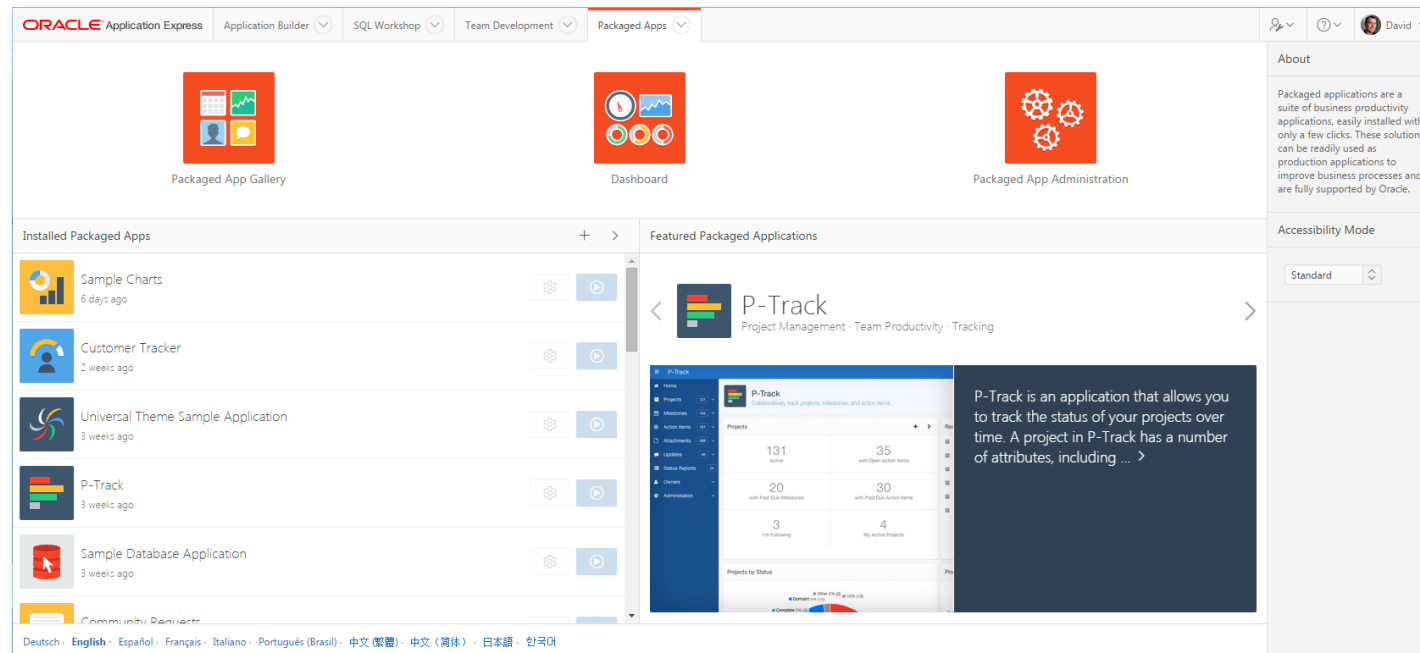
- Users request a workspace, in a self-service fashion
- Begin building and deploying applications immediately
- Used by Oracle as a corporate service [<http://apex.oraclecorp.com> has 3,651 Workspaces, used by virtually every line of business in Oracle]

History

Also known as Oracle APEX (ā'pěks)



Packaged Apps



- Robust suite of productivity and sample applications
- Supported by Oracle, upgraded with every release
- Examples: Survey Builder, Group Calendar, Project Tracking

Oracle Application Express (APEX)

Use Cases



Developing web applications
for any business requirement

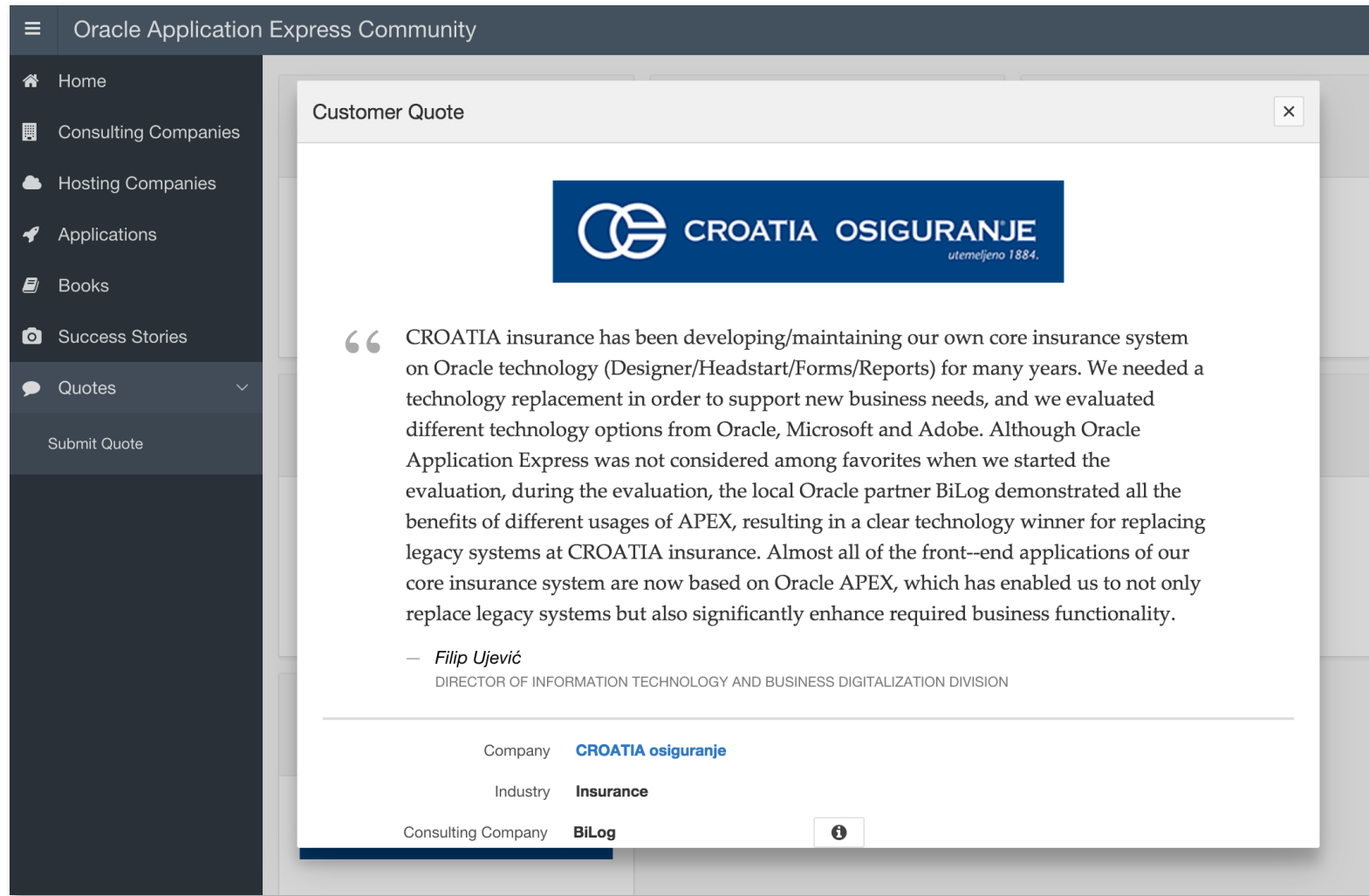


Extending enterprise
application solutions



Modernizing legacy
applications

Application Modernization - CROATIA osiguranje



The screenshot displays the Oracle Application Express Community interface. On the left is a dark navigation sidebar with the following items: Home, Consulting Companies, Hosting Companies, Applications, Books, Success Stories, Quotes (with a dropdown arrow), and Submit Quote. The main content area features a 'Customer Quote' window with a close button (X) in the top right corner. The quote includes the CROATIA OSIGURANJE logo, which consists of two interlocking circles and the text 'CROATIA OSIGURANJE' with 'utemeljeno 1884.' below it. The quote text reads: "CROATIA insurance has been developing/maintaining our own core insurance system on Oracle technology (Designer/Headstart/Forms/Reports) for many years. We needed a technology replacement in order to support new business needs, and we evaluated different technology options from Oracle, Microsoft and Adobe. Although Oracle Application Express was not considered among favorites when we started the evaluation, during the evaluation, the local Oracle partner BiLog demonstrated all the benefits of different usages of APEX, resulting in a clear technology winner for replacing legacy systems at CROATIA insurance. Almost all of the front-end applications of our core insurance system are now based on Oracle APEX, which has enabled us to not only replace legacy systems but also significantly enhance required business functionality." The quote is attributed to Filip Ujević, Director of Information Technology and Business Digitalization Division. Below the quote, the following information is listed: Company: CROATIA osiguranje, Industry: Insurance, and Consulting Company: BiLog. An information icon (i) is located at the bottom right of the quote content area.

Extending Enterprise Applications

An Oracle White Paper

ORACLE[®]
E-BUSINESS SUITE **12**

ORACLE[®]
APPLICATION EXPRESS

An Oracle White Paper
March 2015

Extending Oracle E-Business Suite
Release 12.1 and above using
Oracle Application Express

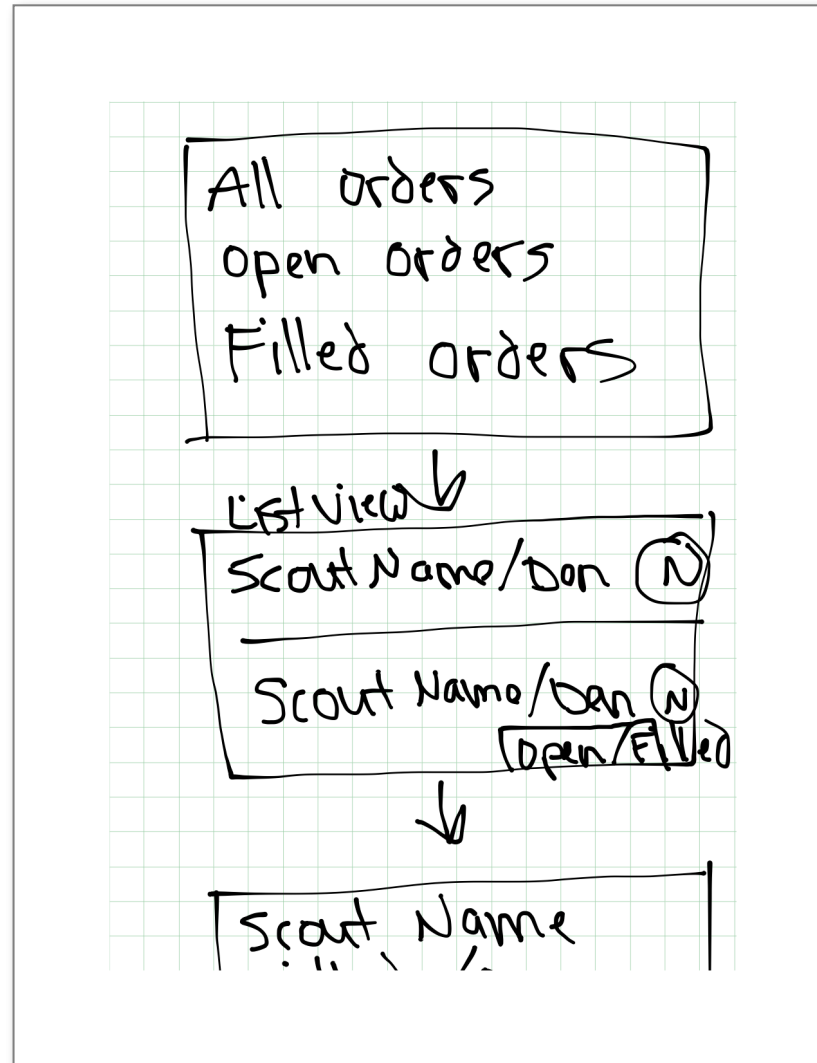
An Opportunistic Application



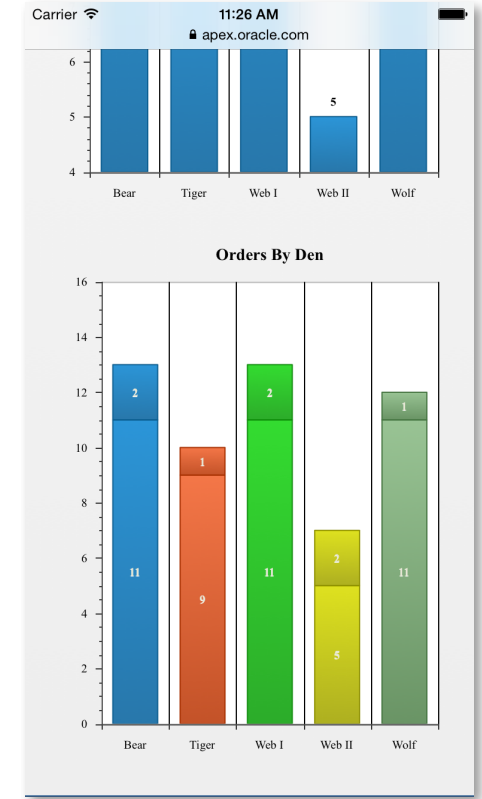
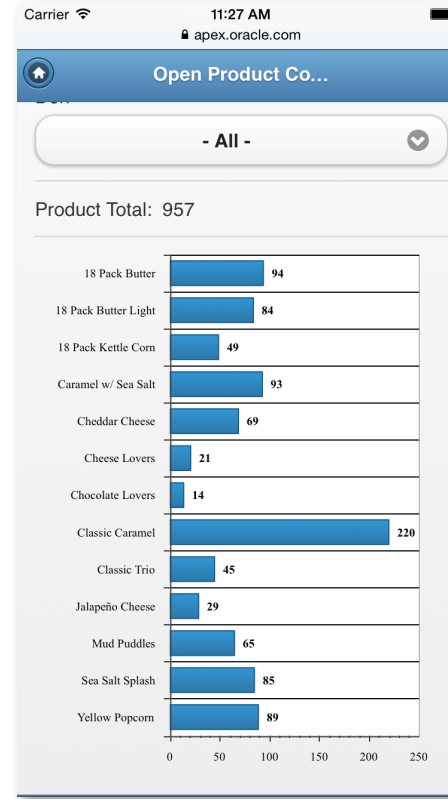
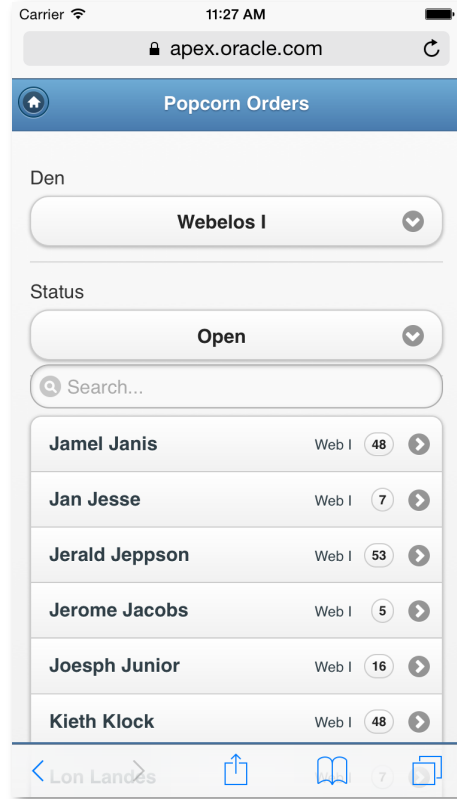
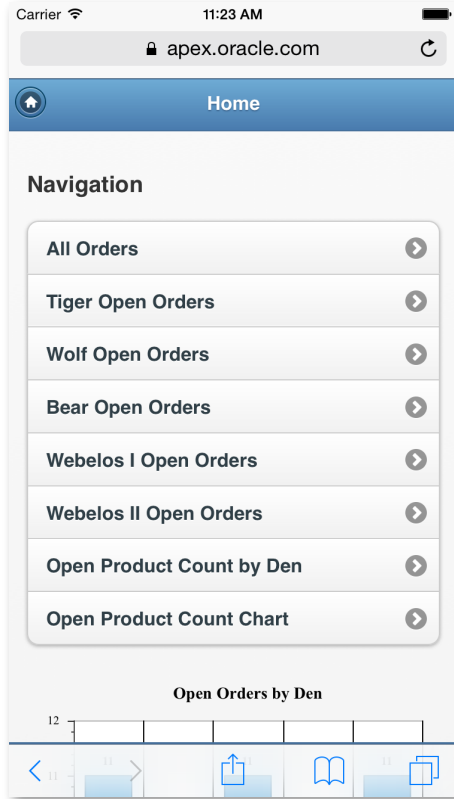
An Opportunistic Application



An Opportunistic Application



An Opportunistic Application



Parking Passes for IDC Campuses [Oracle Internal]

Sno	Name	Email	City	Facility	Workstation No	Extn No	Mob No	Vehicle No	Pass
48			HYD	CCP	CP1 : 2A 066	51020		AP 11F 303	
59			HYD	CCP	CP1 : 2A183	51060		AP09 AY 4648	
60			HYD	CCP	CP1 : 2A183	51060		AP09 BL 6099	
65			HYD	CCP	CP1 : 4A-096	51716		AP7Q7298	
68			HYD	CCP	CP1 : 5A106	51651		AP10AP3260	
78			HYD	CCP	CP1 : 3A167	51516		AP09 BM 4426	
90			HYD	CCP	CP1 : 4B017	6605-1263		AP28AJ 7653	
132			HYD	CCP	CP1 : 1A 009	53149		AP 15 AA 8967	
186			HYD	CCP	CP1 : 5B 010	51304		AP 10 AE 4417	
192			HYD	CCP	CP1 : 2A181	51078		AP29E1361	
203			HYD	CCP	CP1 : 4A 086	91 40 660 51613		AP 28 AR 408	
306			HYD	CCP	CP1 : 3A179	51670		AP11 S 6241	
9			HYD	CCP	CP1 : 4B001	51760		AP28AZ7409	
18			HYD	CCP	CP1 : 2A075	53030		HR 26 S 8935	
100			HYD	CP1	CP1 : 5B012	51753		AP 28 AV 3166	
153			HYD	CCP	CP1 : 2A 088	51117		TN-22-AM-3549	
259			HYD	CCP	CP1 : 1A 011a	53120		AP 29 S 2642	
307			HYD	CCP	CP2 : 2B 019	51298		AP 22F 6656	
362			HYD	CGP	CGS : 5A050	95319		AP28AZ9883	
3			HYD	CP1	CP1 : 4B001	51760		AP28AL6692	

- Issue and track parking stickers for employees to park at Oracle India facilities
- Replaced a paper system
- 35,000 users

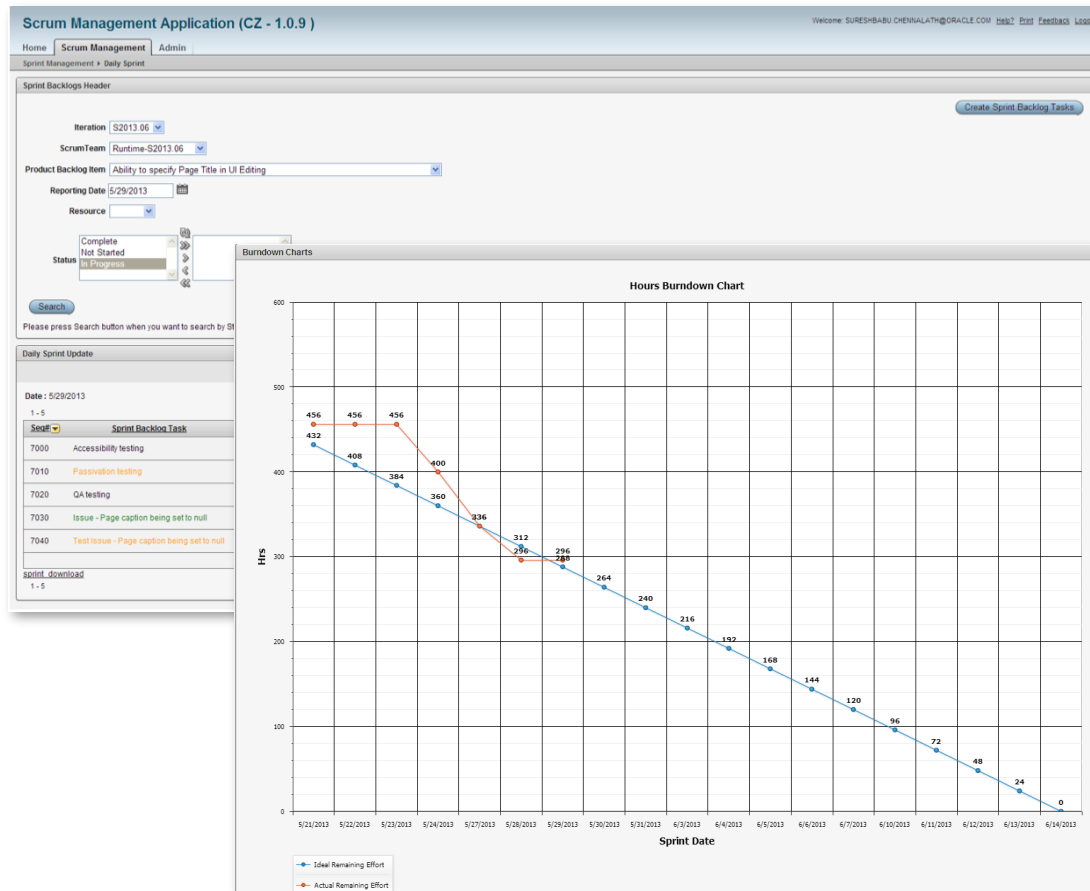
Global Holiday Calendar [Oracle Internal]

The screenshot displays the 'Global Holiday Search' interface. It features a search form with the following filters: Year (2015), Region (North America), Country (US), and Province (All). A 'Go' button is located below the filters. Below the search form, there is a link: 'Which countries share the same holiday da...'. The search results are displayed in a table with columns: DESCRIPTION, MONTH, DAY, DAY OF WEEK, YEAR, and COUNTRY. The results list holidays for 2015 in the US, including New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. A 'Search Again' button is located above the table. To the right of the table, there is a 'General Comment' section with a link to 'Download the 2015 North America Holiday spreadsheet to view all holidays within the North America region sorted by Country, Province and Holiday Date.' Below the table, there is a 'Download | Print' link and a note 'row(s) 1 - 8 of 8'.

DESCRIPTION	MONTH	DAY	DAY OF WEEK	YEAR	COUNTRY
New Year's Day	Jan	1	Thursday	2015	US
Martin Luther King Jr. Day	Jan	19	Monday	2015	US
Memorial Day	May	25	Monday	2015	US
Independence Day	Jul	3	Friday	2015	US
Labor Day	Sep	7	Monday	2015	US
Thanksgiving Day	Nov	26	Thursday	2015	US
Thanksgiving Day	Nov	27	Friday	2015	US
Christmas Day	Dec	25	Friday	2015	US

- Replaced static files
- Developed by a business user in HR
- Functionality added (search, download, countries share same holidays)
- Has become de-facto repository in Oracle

Sprint Management Project Tracking (Agile – SCRUM methodology) [Oracle Internal]



- Project Tracking using SCRUM for Fusion SCM team
- Previously used spreadsheets and 3rd party application
- Used by over 1,000 Fusion developers

Oracle Store [Internet Application]

<https://shop.oracle.com>

The screenshot shows the Oracle Store website interface. At the top, the Oracle logo is on the left, and navigation links for 'Welcome, Guest', 'Sign In', 'New Customer?', 'United States', and 'English' are on the right. Below the logo is a 'STORE' banner. A search bar is located below the banner. The main content area is titled 'Oracle Database' and includes a description: 'Oracle Database, the world's #1 database, delivers superior performance, scalability, availability, security, and ease of management on a low-cost grid of industry standard storage and servers.' Below this is a 'Featured Products' section with three items: 'Oracle Database Enterprise Edition' (Starting From US\$190.00), 'Oracle Real Application Clusters One Node' (Starting From US\$40.00), and 'Oracle Berkeley DB - Concurrent Data Store' (Starting From US\$1.20). To the right of the featured products are 'Live Sales Chat' and 'We're Here to Help' buttons. Below the featured products is a 'Browse Database Offerings' section with tabs for 'All', 'Support', 'Media Packs', and 'Software License'. A search bar and 'Go' button are present. Below this is a table of offerings:

Product	Type	Price	Buy Now
Oracle TimesTen In-Memory Database A memory-optimized relational database that delivers very low response time and very high throughput for performance-critical systems.	Software License	US\$92.00 - US\$23,000.00	Buy Now
Oracle In-Memory Database Cache Improves application transaction response time by caching a performance critical a subset of	Software License	US\$92.00 - US\$23,000.00	Buy Now

On the left side of the page is a navigation menu with categories like Cloud, Database, Applications, and Servers. On the right side, there is a 'Oracle's Technology Webcast Center' with an 'Access Now' button.

Oracle APEX Community

<https://apex.oracle.com/community>

The screenshot displays the Oracle Application Express Community website. On the left is a dark navigation sidebar with the following menu items: Home, Consulting Companies, Hosting Companies, Applications, Books, Success Stories (highlighted), and Quotes. The main content area is a grid of success stories, each with a title, a logo, and a date. The stories are:

- Union Investment Improves Operational Efficiency and**
Logo: Union Investment
Category: Financial Services [September 2015]
- Stedin Monitors Utilities Network Maintenance and**
Logo: STEDIN.NET
Category: Utilities [May 2015]
- HOYER Future-Proofs System for Managing Intermodal Rail, Road,**
Logo: HOYER WHEN IT MATTERS.
Category: Travel and Transportation [November 2014]
- endlich IT & Projekt Service Improves Business Productivity**
Logo: endlich IT auf den Punkt gebracht
Category: Professional Services [October 2014]
- Chicago Park District Efficiently Manages and Executes More**
Logo: Chicago Park District
Category: Public Sector [September 2014]
- Sullivan Petroleum Uses Cloud to Automate Financial**
Logo: Sullivan Petroleum Company
Category: Oil and Gas [May 2014]
- City of Baton Rouge Boosts System Performance and Cuts**
- ORACLE TEAM USA Sails to Victory on an Ocean of Data**
- Acorn Paper Products Fills 98% of Customer Packaging Orders in**

What should a CIO be concerned with?

Application Express is....Durable

- Failover & Redundancy provided by Oracle Database
- Resource consumption governed by native Oracle Database functionality (Database Resource Manager)



Application Express is....Reliable

- Relatively simple architecture - few moving parts
- It's a framework - less code is less opportunity for error



Application Express is....Scalable

- As scalable as the Oracle Database
- Extraordinarily efficient use of the Oracle Database
- Rich SQL language for efficient data manipulation



Application Express is....Secure

- Can capitalize on any database security feature or option (Database Vault, Advanced Security Option, Redaction)
- Native “Advisor” to look for quality / security errors
- Third-party tools to assess application security



Oracle Application Express

Summary

- **Aligned with industry trends:** Strong support for HTML5 development frameworks, Modern & responsive CSS3 UI, integrated JavaScript libraries, Browser-based, self-service provisioning, flexible development and deployment including cloud services.
- **Consistent with Oracle developers skill set:** SQL, PL/SQL, Oracle Database. Proficiency in the Oracle database easily translates into an ability to develop web applications.

Oracle Application Express

Summary

- **Used by real customers for real applications:** Used for both opportunistic and mission critical apps that service tens of thousands of users.
- **Well Established Framework :** First released over 10 years ago
- **Continually growing:** Oracle install base is adopting Oracle Application Express for increasing numbers of projects, and is increasingly an approved corporate IT standard.

Next Steps

Contacts, Collateral, Resources



- Oracle Technology Network
- Oracle Learning Library
- APEX trial/evaluation site
- Oracle Cloud

<http://otn.oracle.com/apex>

<http://www.oracle.com/oll>

<http://apex.oracle.com>

<http://cloud.oracle.com>

APEX Developers in Oracle Romania



Business Users in Oracle Romania



Hardware and Software Engineered to Work Together

ORACLE®