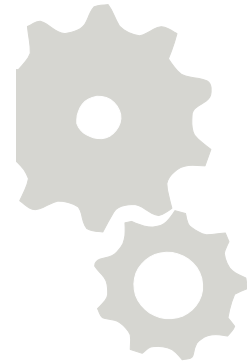




IBM Domino App.Next - New Possibilities



- Pete Janzen – IBM
- Martin Donnelly - IBM

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- Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon many factors, including considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve results similar to those stated here.

Agenda

- Bluemix
- Domino Next
- Wrap-up

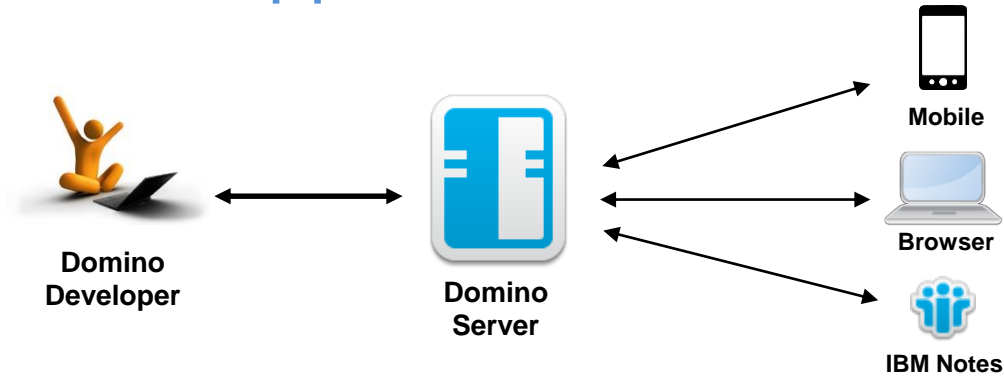


IBM XPages for Bluemix



#engageug

Today - Domino Applications



- Developer types
 - Corporate Developers or BPs building custom LOB apps
 - ISVs building LOB applications
- Development models
 - Notes – Applications which require Notes client or IBM Client Application Access
 - XPages – Web applications which can be accessed from desktop or mobile browsers
- Deployment
 - Vast majority of Domino applications run on-premises
 - Small percentage of Domino applications run on cloud based Domino servers

What is IBM Bluemix?

Bluemix is an **open-standards**, cloud-based **platform** for **building, running, and managing applications**.

Build your apps, your way

Use the most prominent compute technologies to power your app: Cloud Foundry, Docker, OpenStack.

Extend apps with services

A catalog of IBM, third party, and open source services allow the developer to stitch an application together quickly.

Scale more than just instances

Development, monitoring, deployment, and logging tools allow the developer to run and manage the entire application.

Deploy and manage hybrid apps seamlessly

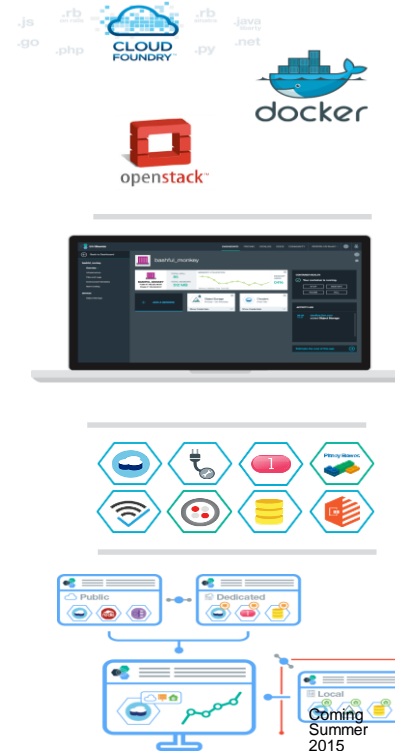
Get a seamless dev and management experience across a number of hybrid implementations options.

Layered Security

IBM secures the platform and infrastructure and provides you with the tools to secure your apps.

Flexible Pricing

Try compute options and services for free and, when you're ready, pay only for what you use. Pay as you go and subscription models offer choice and flexibility.



Bringing The Power of Domino To The Cloud



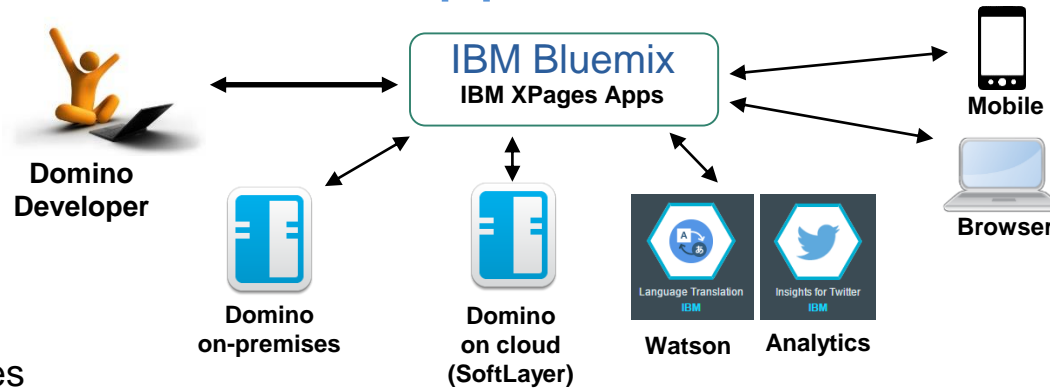
Bluemix is an **open-standards**, cloud-based **platform** for **building, running, and managing applications.**



Domino is a **Rapid Application Development & Deployment** platform for custom Line-of-Business applications

- Allows developers to realize the next generation of Domino applications
- Leverages investment in Notes & Domino apps and skills
- Aligns Domino with IBM's strategic cloud app dev platform
 - Provides incentive to retain Domino as an application development platform
 - Provides path to cloud for Domino developers (BPs & corporate developers)
- Moves Domino's XPages runtime to a Cloud First continuous delivery model

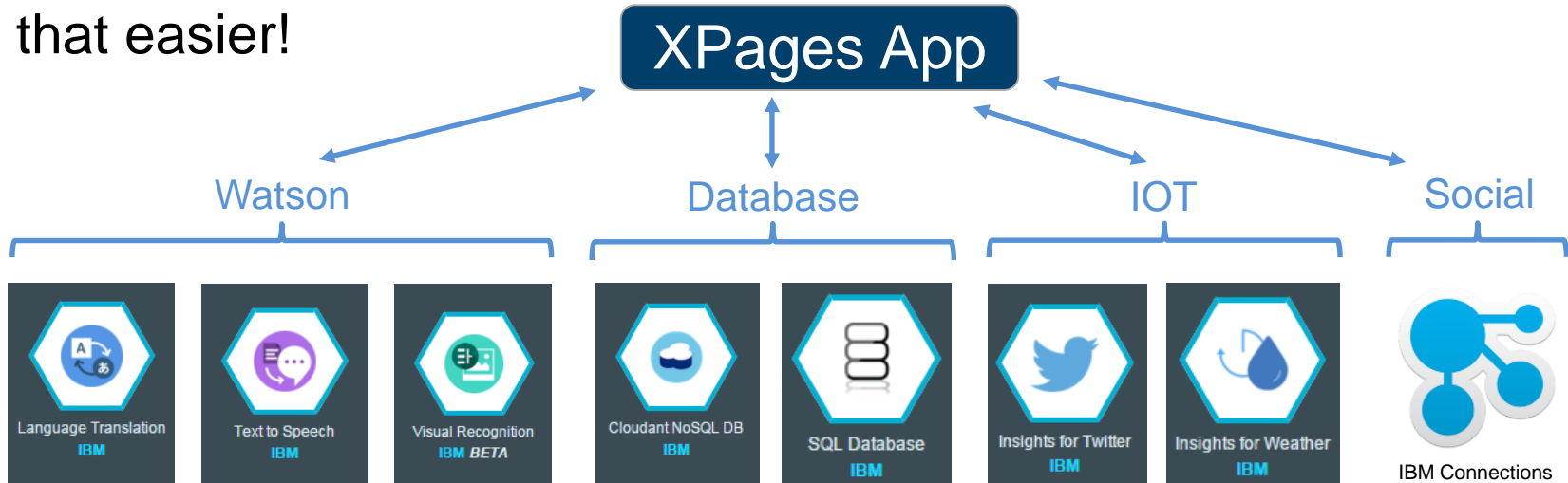
Tomorrow - Domino Applications for Bluemix



- Developer types
 - Corporate Developers or BPs building custom LOB apps
 - ISVs building LOB applications
- Development models
 - XPages – Web applications which can be accessed from desktop or mobile
- Deployment
 - XPages applications run on Bluemix
 - XPages applications bound to services
 - Applications use a “bring your own service” Domino server (on-premises or on cloud)
 - Applications use other Bluemix services (Watson, Analytics)

App.Next - New Possibilities for Domino Apps

- Domino is an elegant self contained app dev platform
- Integration with disparate applications is certainly doable but often required heavy lifting
- Bluemix makes that easier!



What does Bluemix mean for Domino Developers ?

To **modernize** your existing applications



Create responsive versions of your Notes client apps for the cloud and integrate with a wealth of great cloud services

To always have the **latest runtimes and services** at your fingertips



The Bluemix runtime will have the latest XPages extended libraries in service for your apps

To **scale** your apps and obtain **true resiliency**



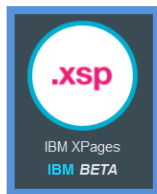
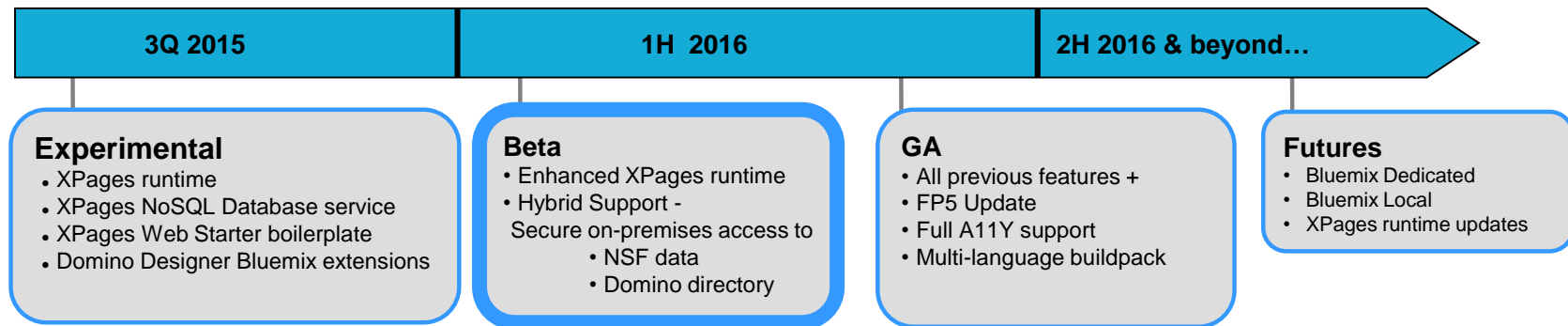
Take advantage of Bluemix PaaS features to horizontally scale applications and recover without data loss

To provide **new opportunities** to our **business partners**



Take advantage of more IBM services, provide new routes to market via Cloud Marketplace and focus on selling the value of your solution and not infrastructure

IBM XPages: The Road to Bluemix



Available Now!



Develop, deploy and scale IBM XPages applications with ease. The IBM XPages runtime provides you with a cloud-ready XPages web container designed for running XPages applications in Bluemix.



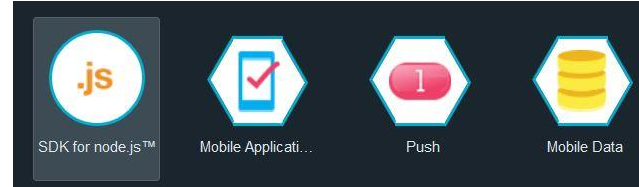
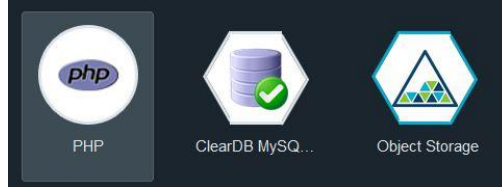
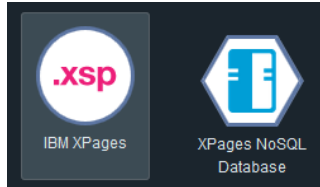
XPages for Bluemix



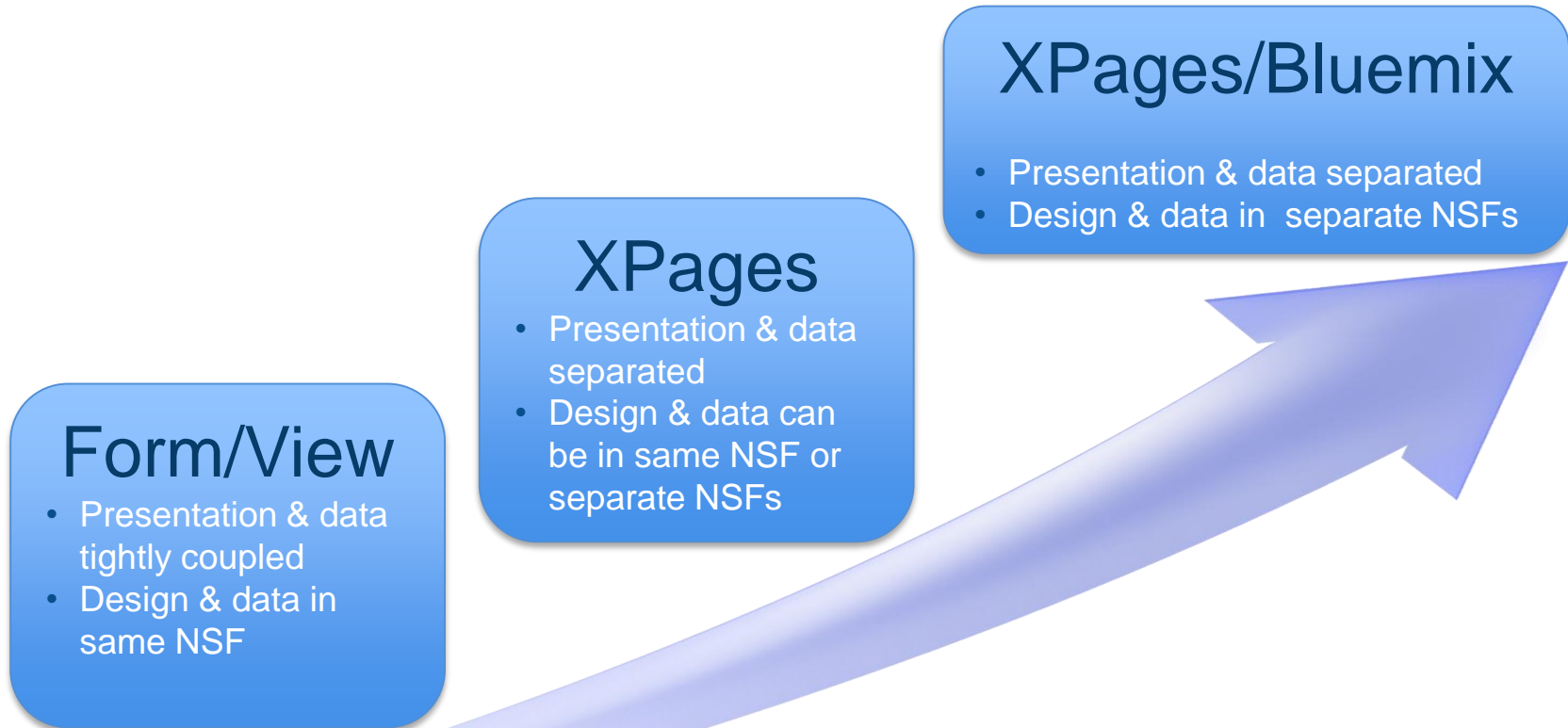
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Bluemix - A Quick Summary

- IBM Bluemix – Platform as a Service (PaaS)
 - Bluemix applications are loosely-coupled
 - App instances load in a runtime container and bind to services.
 - The need for design and data separation is fundamental to the platform
 - Some sample runtime and services combinations:



Application Architecture Evolution



IBM XPages For Bluemix – Familiar

- Build XPages apps using the skills and tools you know today
 - Domino/XPages 9.0.1
 - Domino Designer 9.0.1
- Consistent programming model for cloud and on-premises
- Same tried and trusted Domino application security model
 - ACLs, Readers/Authors Name Fields, etc.
- Same easy deployment model

IBM XPages For Bluemix – Yet Improved

- Runtime

Lightweight Domino Web Container (901FP5)

XPages core 901FP5 runtime + Bluemix extensions

Latest XPages Extension Library for 901

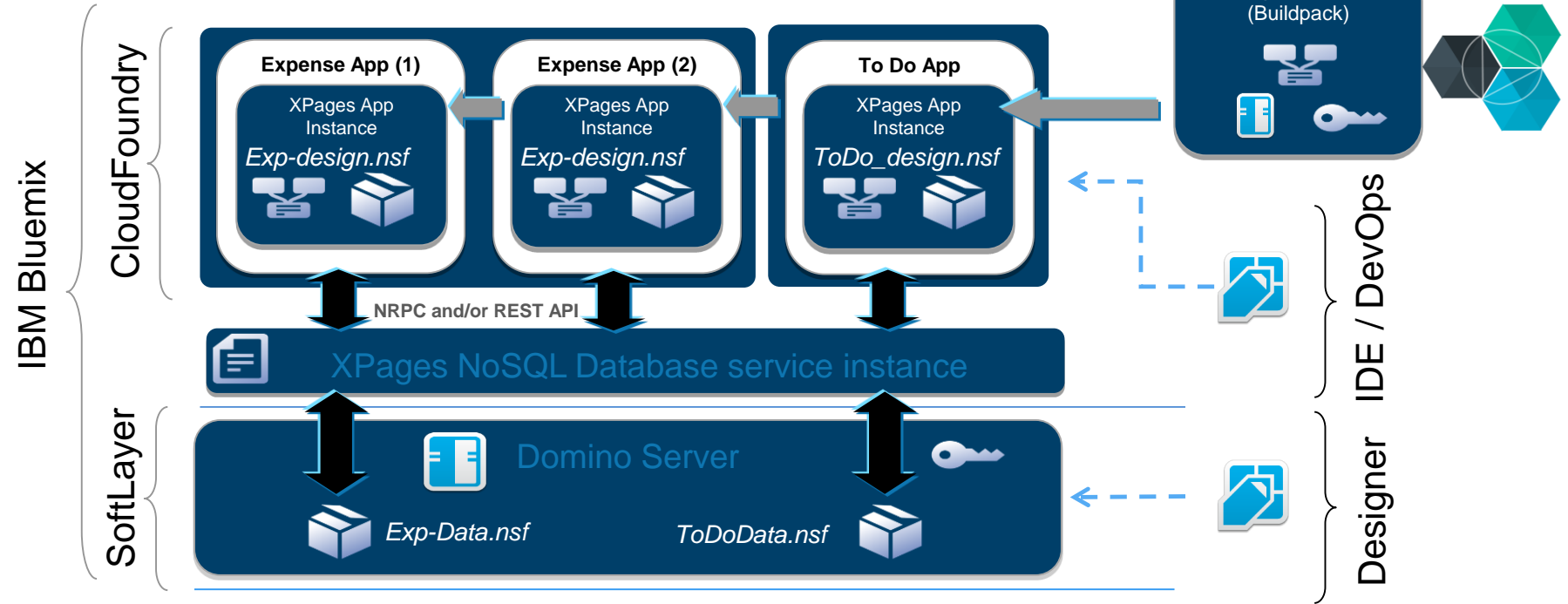
- Responsive design (Bootstrap)
- Relational Database Controls

Extensible runtime stack - YOU can add your own plug-ins, leverage open-source libraries etc

- Developer Tools

- Domino Designer with Bluemix extension
- IBM DevOps Services & Git

Domino Apps for Bluemix Architecture - Playground

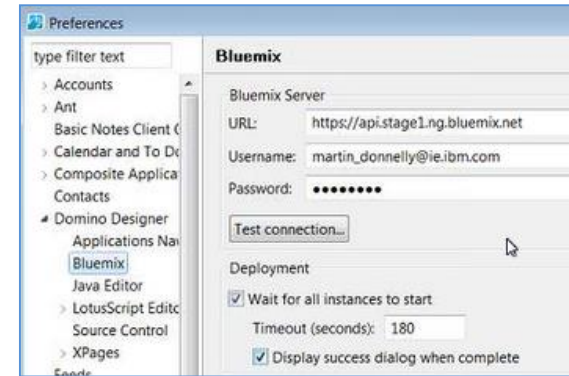
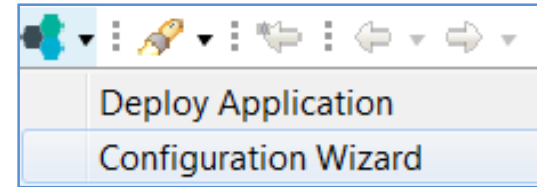


Domino Designer Tooling



Domino Designer

- New Bluemix Tooling Plug-in featuring
 - Bluemix Preferences Manager
 - YML Editor
 - Boilerplate Import Wizard
 - Application Export Wizard
- Simplifies Bluemix Integration
 - Single Click Deployment Model
 - No need to use the Cloud Foundry CLI tool
 - Fully documented Bluemix design processes
- Available as part of IBM XPages Extension Library on





Hybrid Architecture



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Domino Apps for Bluemix – Hybrid Architecture



Internet



IBM Bluemix
CloudFoundry

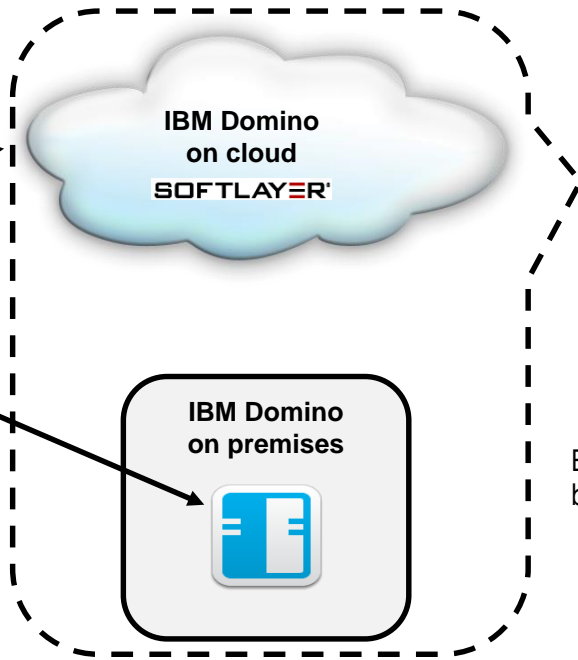


XPages Runtime in Bluemix



Domino Designer
Used to build & deploy apps to Bluemix

Secure encrypted NRPC connection



Production Environment uses hybrid architecture

Bluemix Hybrid
Bluemix runtime securely bound to external Domino server

Domino Server
Provides database, directory and messaging services

Bluemix - New Possibilities

- Bluemix + XPages gives developers a powerful combination
- Complement XPages applications with Bluemix services
 - SQL Service
 - Watson
- Bluemix provides runtimes other than XPages which can access Domino through Domino Access Services (REST)
 - Node.js
 - Liberty for Java
 - Community buildpacks



Domino AppDev Next



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Domino Next Application Development

- Responsive web design for XPages
- Relational data source for XPages
- Encryption/Signature support in XPages
- Domino Designer productivity enhancements
- XPages open source
- Improved application build management
- NSF enhancements
- Java **8**

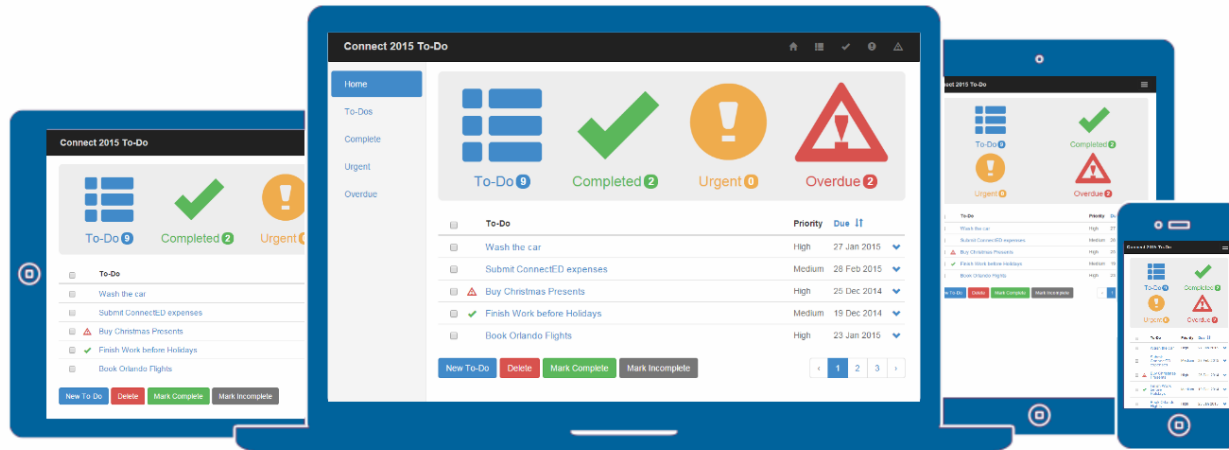
Responsive XPages With Bootstrap



engage
by bug

Available now
in Bluemix

- Dynamically optimise UX across all devices
- Write once, run anywhere
- Bootstrap + jQuery + XPages

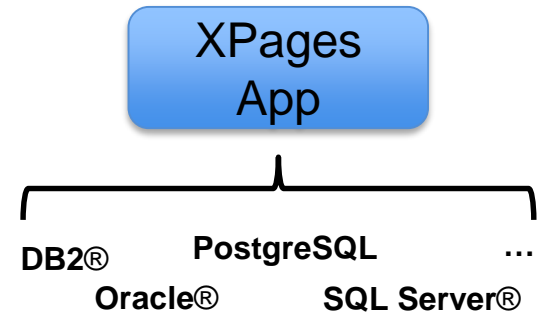
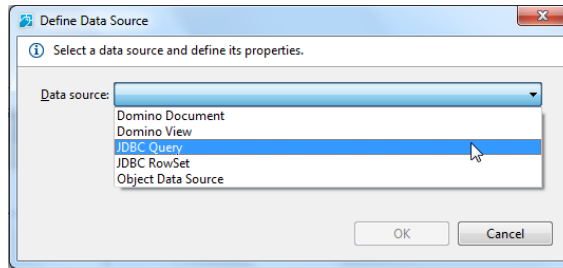


More info: AD1548 – Building Responsive Applications Using XPages
Wednesday, February 3, 2016 09:15 AM - 10:15 AM, Orange F

Relational Database Data Sources



- Easily integrate relational data into XPages applications with Domino Designer
 - Bind XPages controls to JDBC Query or Row
 - JDBC Driver Plugin Wizard simplifies driver installation via an OSGi plugin
 - Improve application responsiveness with connection pooling



Automatic Encryption / Decryption Support

- Documents can automatically decrypted by the XPages runtime
 - Little or no custom API code required on the XPage
- Encryption behavior can be managed via key pickers and automatically encrypted on save
- Design experience is simplified using wizards and @Functions
 - New Domino Document Data Source property

data	
dominoDocument [0]	
action	
allowDeletedDocs	
computeDocument	
computeWithForm	both
concurrencyMode	
databaseName	
documentId	
encryptionKeysProvider	# viewScope.secretKeysForDocument1
formName	todo
ignoreRequestParams	
loaded	

Status **New**

Author Martin Donnelly

*Task
Name

Description

*Due Date

Priority Low

Encrypt frankskey,BloggsKey

Select One Or More Keys

MartinsKey

SamsKey

DWANonceKey

frankskey

BloggsKey

OK

Cancel

- Infrastructure for working with keys from the web
 - New classes, methods & properties in C, Java, SSJS & LotusScript
 - New IDVault class
 - Methods for working with IDs (Get or put ID, Get username...)
 - New UserID class
 - Method for getting encryption keys
 - Other Methods
 - Session class: `IDVault Session.getIDVault()`
 - Database class: `Database.setUserIDForDecrypt(UserID uid)`
 - Document class: `Document.encrypt(Optional UserID uid)`

New Features For XPages Encryption & Signature Support

- New Secret Key Picker Control
 - Populates a picker with secret encryption keys from user id
- New @Functions
 - @UserSecretKeys()
 - @UserID()
- New Managed Bean
 - dominoIDVaultBean
 - Connects end-users to the ID Vault as and when needed when encrypting and decrypting documents

Domino Designer

Ask and you shall receive - New XPages Preferences !

- By popular demand:
 - XPages Editor Pane Selection
 - Design Visualization Behavior
 - Palette Organization

- Save palette state while navigating between XPages
- Sort palette drawer content alphabetically

XPages

XPages Editor

When the editor opens:

- Always open Source tab
- Always open Design tab
- Open last used tab

Show script snippet for labels instead of {controlID} in labels

Number of characters of script to show (10-100):

- Show line breaks in editor
- Show bubble help on Data panels
- Enable content assist on tag names in source editor
- Show hover help in Properties view

Time delay (milliseconds):

- Show hover help on tag names in source editor

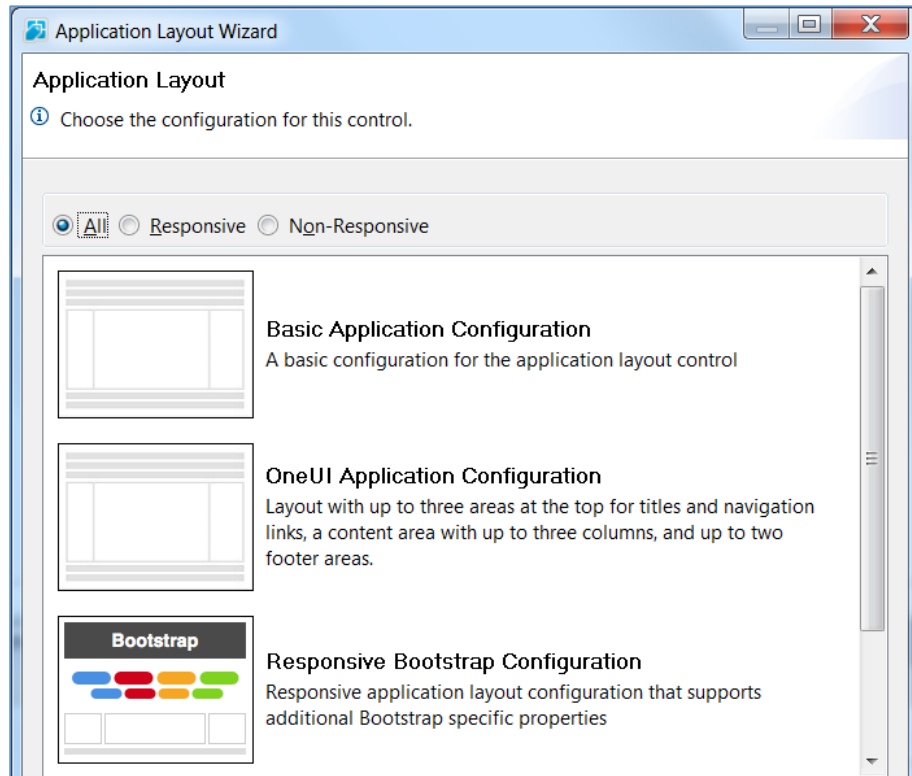
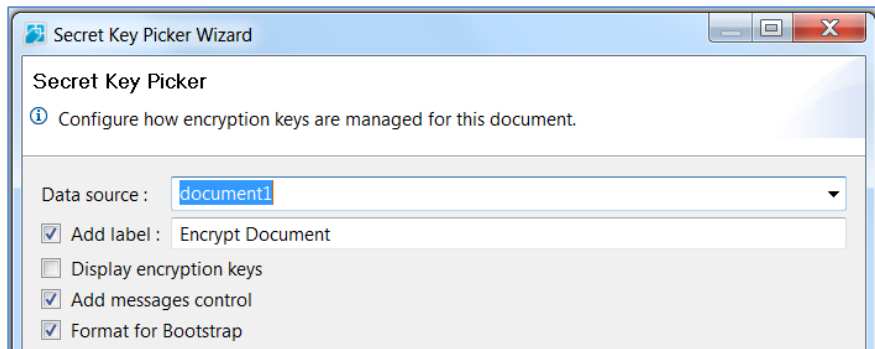
Time delay (milliseconds):

Prevent loading of Style Sheet (CSS) resources for the Design tab

Domino Designer

New Wizards and Extensions

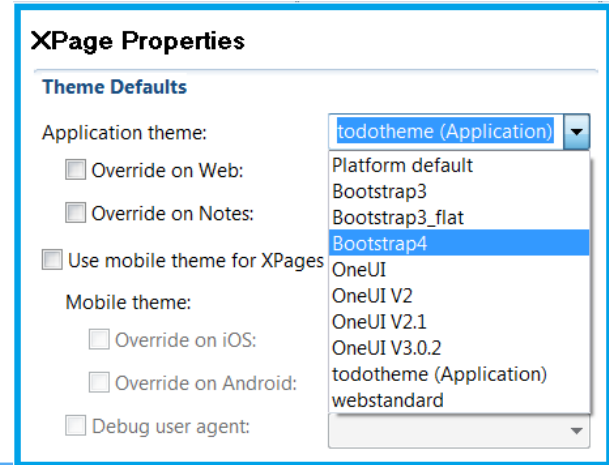
- Document Encryption Helper
- Bootstrap Application Layouts



XPages Theme Extension Point

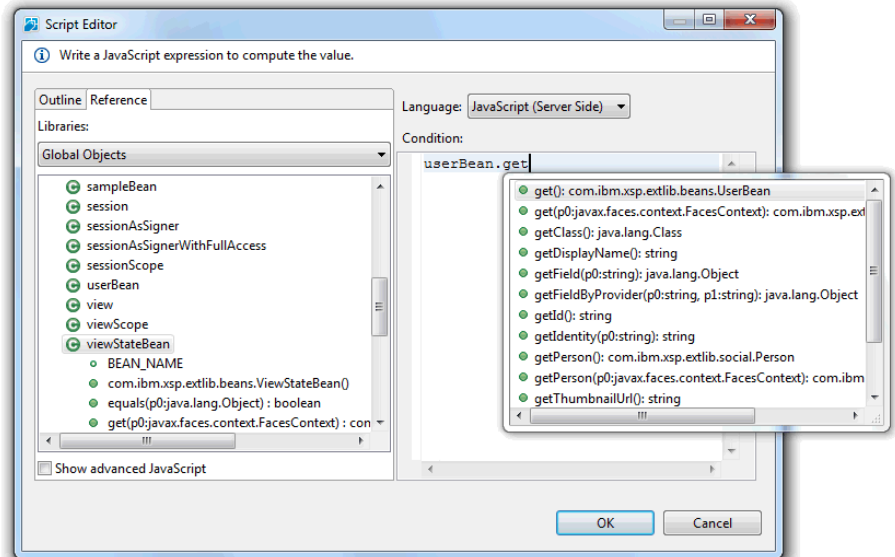
- See YOUR themes in Domino Designer !
- New Community Driven Feature ...
 - In the class that implements StyleKitFactory also implement StyleKitListFactory
 - Return a list of themes using getThemelds()

```
/**  
 * @author Gary Marjoram  
 *  
 */  
public class MyStyleKitFactory implements StyleKitFactory, StyleKitListFactory {  
  
    @Override  
    public String[] getThemeIds() {  
        return new String[] {"myThemeId"};  
    }  
}
```



Improved Developer Productivity

- Better Team Development Tools
 - Filter irrelevant meta-data noise from your source control activities
- SSJS Editor Support for new Global Objects
- Managed Beans SSJS Object List with TypeAhead Support
 - userBean
 - viewStateBean
 - deviceBean
 - dominoIDVaultBean
 - YOUR Managed Beans



Domino Database (NSF) Enhancements

- View concurrency enhancements
 - Dedicated View Refresh: Dedicated background thread alleviates issue of view indexes being update at same time when reading/writing to a view
 - Inline view updates: views are updated as part of the note updates
- Store database view indexes (NIF) on disk
 - Store views indexes outside of NSF
 - View indexes on disk can grow to 1 Terabyte
 - View indexes encrypted at same level as NSF

Domino Database (NSF) Enhancements (Cont'd)

- Expand 64K Summary data limit
 - In current releases Text (Summary) limit is:
 - 64KB per document
 - 32KB per field
 - 32KB per view entry
- In Notes/Domino 9.0.x we have raised the Summary data
 - **16MB** per document
 - Individual Field/View limits remain unchanged

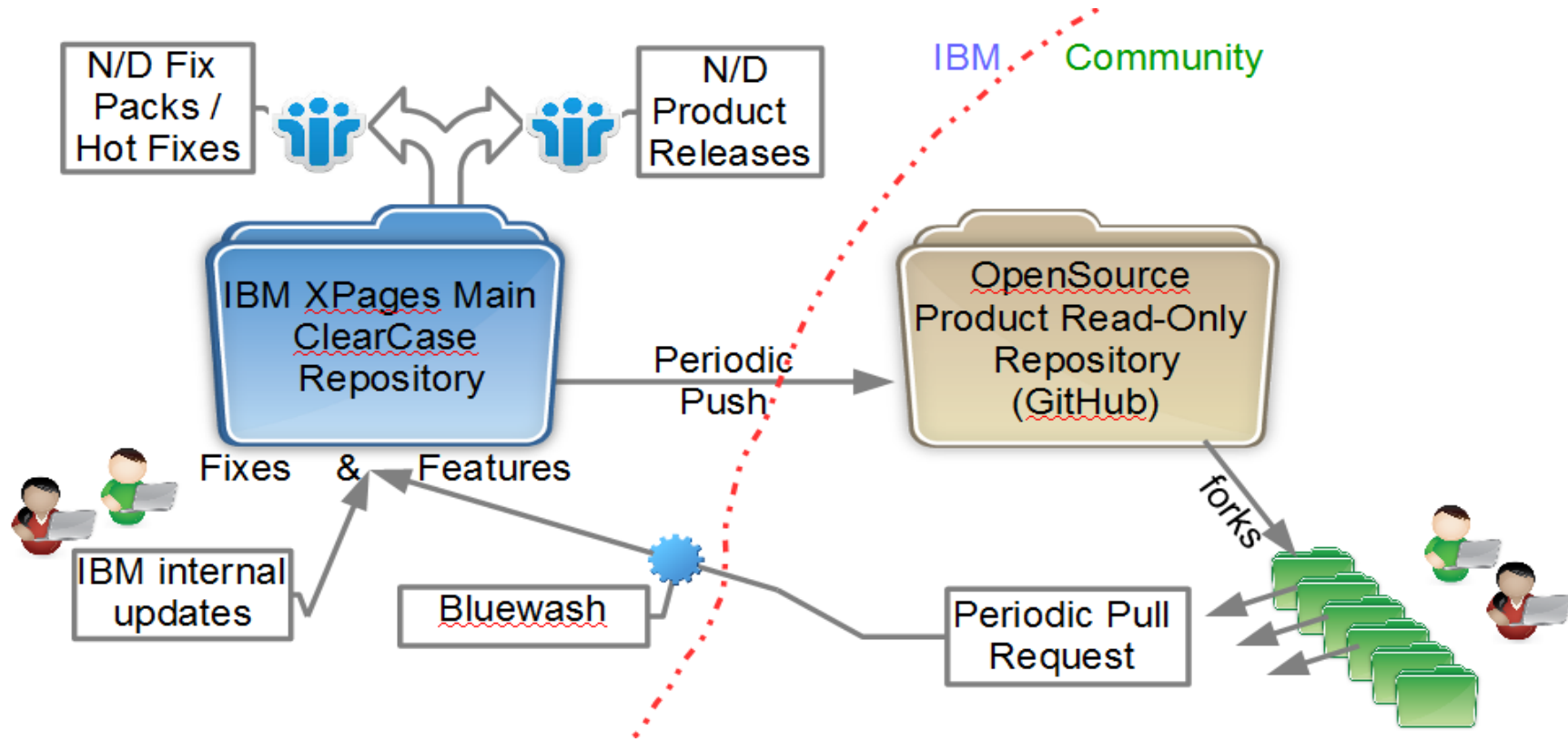


Wrap-up



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Overview of Github ExtLib Integration



More XPages Open Source Coming Soon...

- For 9.0.x the XPages open source layer expands to include:
 - `com.ibm.xsp.domino.data`
 - `com.ibm.xsp.extsn`
- All IBM design tags on your XPage will be open source, i.e.
 - controls, data sources, simple actions, validators, converters etc.
- These can be updated via the Open Source integration model
 - Enables a continuous delivery model on OpenNTF.org
 - Dependency on Domino product release cycle is greatly reduced
 - Runtime serviceability is significantly enhanced

Bringing It All together

- Cloud First
- Continuous delivery
- Open Source
 - XPages for Bluemix
 - XPages Extension Library
 - Most of XPages core
- Update XPages for Bluemix with 9.0.x features

Get Started with XPages for Bluemix!

- Get a Bluemix account

- If you do not already have one, then you can start a free 30 trial today

TRY Bluemix FREE!

- <https://apps.admin.ibmcloud.com/manage/trial/bluemix.html>

- Get IBM Domino Designer 9.0.1

- https://www.ibm.com/developerworks/downloads/ls/dominodesigner/?S_CMP=LSDL

- Install the latest XPages Extension Library into Domino Designer

- <http://extlib.openntf.org>

- 901v00_15.20151016-0827

Date	Name	Downloads
Oct 27, 2015	901v00_15.20151016-0827	787

Log in to Bluemix and start coding !

Where To Ask Questions and Give Feedback?



- Free forum support for XPages runtime, XPages NoSQL Database service and XPages Web Starter

- <https://developer.ibm.com/answers/smart-spaces/12/bluemix.html>
- Tag questions with XPages-runtime and/or XPages-service

BLUEMIX XPAGES XPAGES-RUNTIME XPAGES-SERVICE

- Additional XPages forums

-  stackoverflow

<http://stackoverflow.com/search?tab=newest&q=xpages>

- XPages forum: <http://www-10.lotus.com/ldd/xpagesforum.nsf>

- OpenNTF.org: <http://extlib.openntf.org> – see Discussion and Defects Tab





Thank you



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