



# IBM Lotus Domino Designer 8.5.3 and XPages Update

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# Agenda

- **Intro**
- Domino Designer
- XPages
- Programmability
- Wrap-up



## App Dev Themes for Domino 8.5.3

- Improve Designer and runtime quality
- Improved application life cycle and team development through source control management
- Tailor Domino Designer developer experience to task at hand
- Improve Designer usability and productivity
- Improve performance and scalability for XPages
- Update underlying technologies for XPages (Dojo, CKEditor...)
- Lay the ground work for enhancements coming on 8.5.3



# Towards a New Development Model

- The world is evolving fast and we need to adapt to the changes quickly
  - The product release cycles do not match the community expectations
  - We need to deliver on shorter cycles!
- The XPages Extension Library proved that open sourcing the code has several benefits:
  - We can release as fast as we want, and customers can adopt it at their convenience
  - The availability of the source code makes it easier to consume, understand, and extend
- But....
  - The open source projects are not officially supported by IBM, which can be a blocker in some organizations
  - The code is not certified with IBM quality standards (localization, accessibility...)

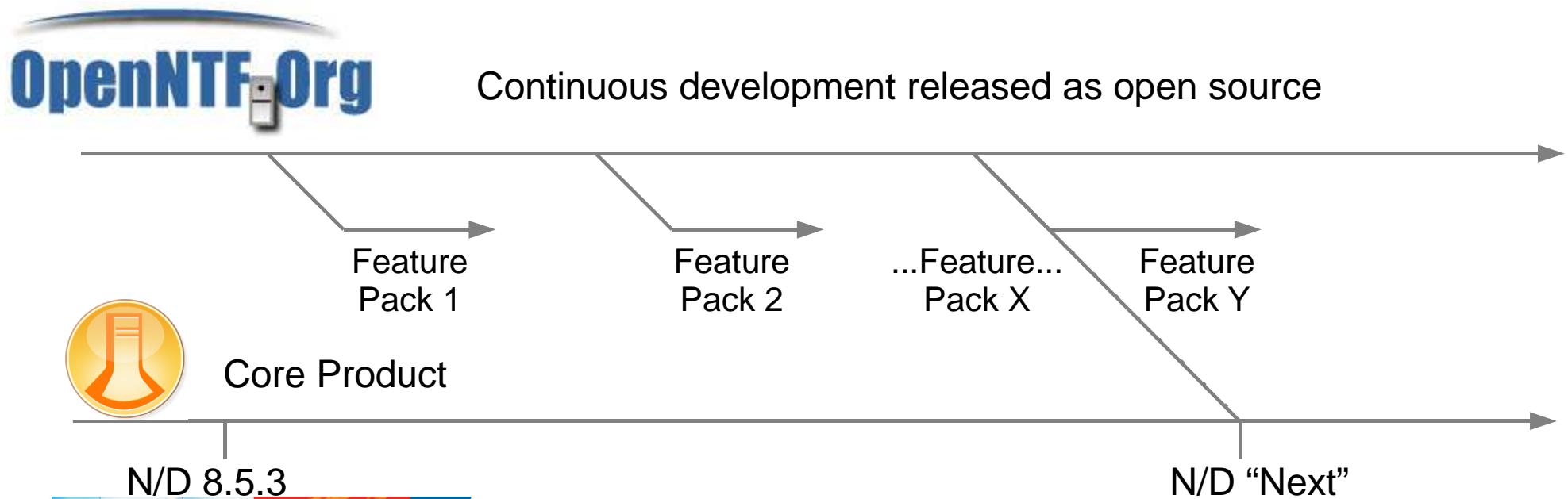
How can we reconcile the two models?



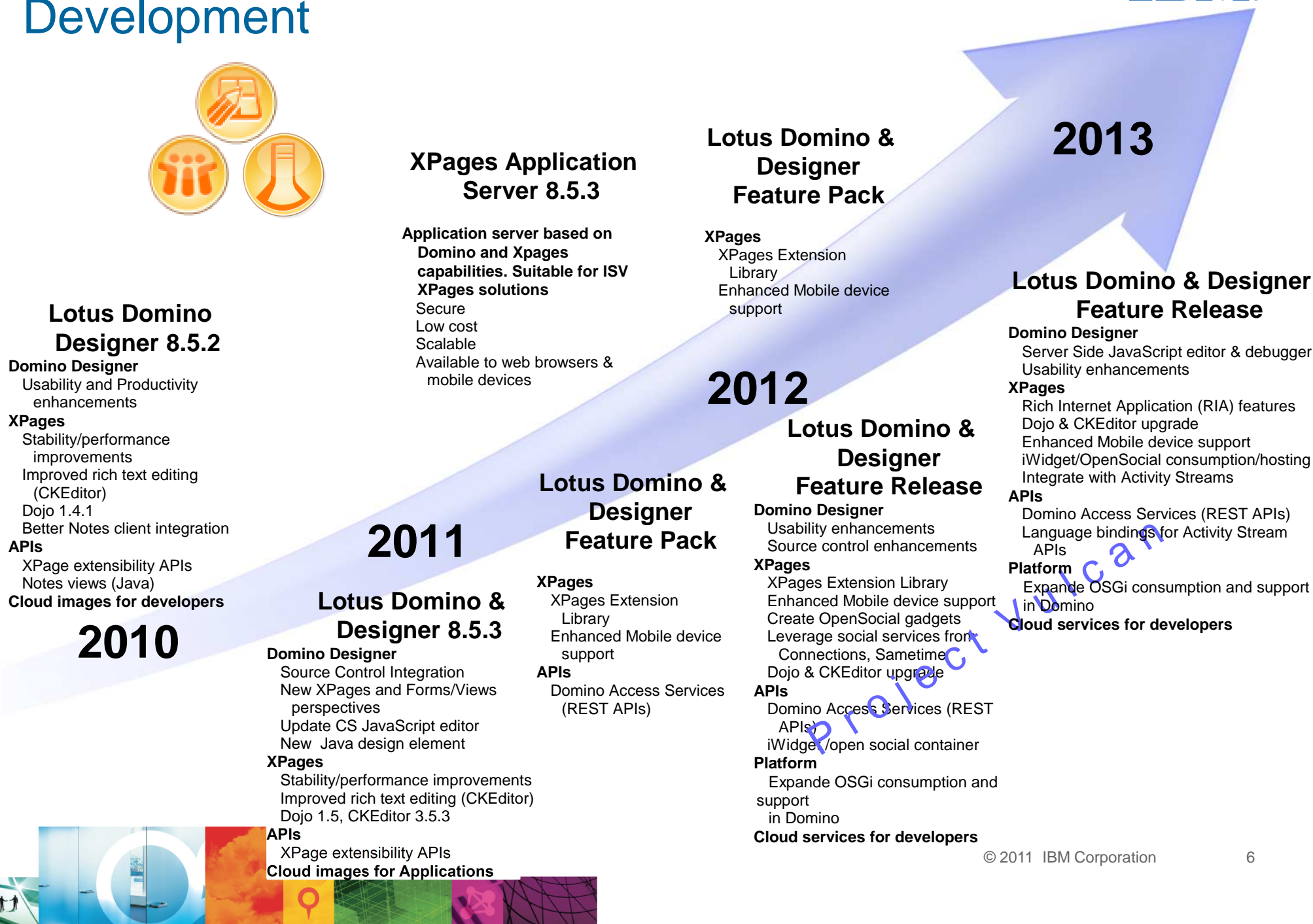
# Product, Feature Packs and Open Source



- The code is first released on openNTF
  - Available early and gives full transparency on what is being done
- Pieces from openNTF are extracted and delivered as Feature Packs, supported by IBM
  - Feature packs are delivered on a shorter release cycle than products
- Feature Packs are integrated into the next revision of the product



# Lotus Notes & Domino Application Development



## 2010 Lotus Domino Designer 8.5.2

- Domino Designer**  
Usability and Productivity enhancements
- XPages**  
Stability/performance improvements  
Improved rich text editing (CKEditor)  
Dojo 1.4.1  
Better Notes client integration
- APIs**  
XPage extensibility APIs  
Notes views (Java)
- Cloud images for developers**

2010

## 2011 Lotus Domino & Designer Server 8.5.3

- Application server based on Domino and Xpages capabilities. Suitable for ISV XPages solutions**  
Secure  
Low cost  
Scalable  
Available to web browsers & mobile devices

2011

## 2011 Lotus Domino & Designer 8.5.3

- Domino Designer**  
Source Control Integration  
New XPages and Forms/Views perspectives  
Update CS JavaScript editor  
New Java design element
- XPages**  
Stability/performance improvements  
Improved rich text editing (CKEditor)  
Dojo 1.5, CKEditor 3.5.3
- APIs**  
XPage extensibility APIs
- Cloud images for Applications**

## 2012 Lotus Domino & Designer Feature Pack

- XPages**  
XPages Extension Library  
Enhanced Mobile device support

2012

## 2012 Lotus Domino & Designer Feature Release

- Domino Designer**  
Usability enhancements  
Source control enhancements
- XPages**  
XPages Extension Library  
Enhanced Mobile device support  
Create OpenSocial gadgets  
Leverage social services from Connections, Sametime  
Dojo & CKEditor upgrade
- APIs**  
Domino Access Services (REST APIs)
- Platform**  
Expand OSGi consumption and support in Domino
- Cloud services for developers**

2013

## 2013 Lotus Domino & Designer Feature Release

- Domino Designer**  
Server Side JavaScript editor & debugger  
Usability enhancements
- XPages**  
Rich Internet Application (RIA) features  
Dojo & CKEditor upgrade  
Enhanced Mobile device support  
iWidget/OpenSocial consumption/hosting  
Integrate with Activity Streams
- APIs**  
Domino Access Services (REST APIs)  
Language bindings for Activity Stream APIs
- Platform**  
Expand OSGi consumption and support in Domino
- Cloud services for developers**

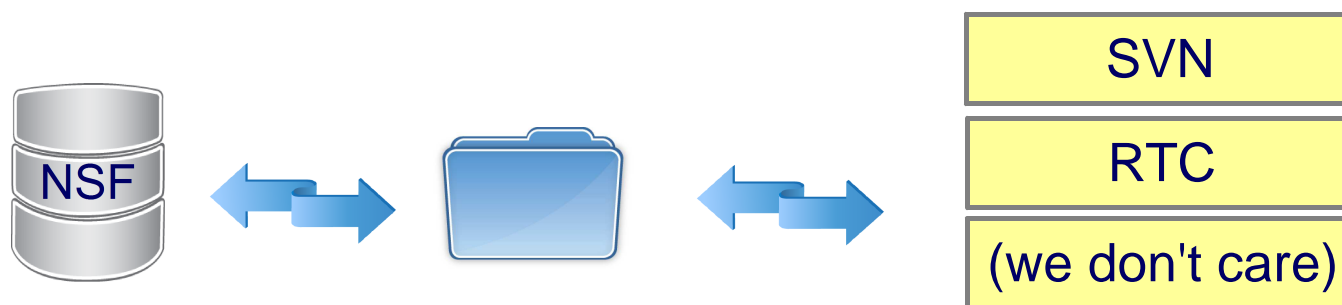
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# Source Control Enablement

- Domino Designer's virtual file system, though indispensable, proved a barrier to working with Eclipse-enabled source control products
- Designer bridges the gap and provides synchronization with an on-disk project with which the source control product interacts



- Source control system neutral - so far we've tested with SVN (RTC next)
  - We're agnostic, the only requirement is that they have an Eclipse plugin for their product
- Facilitates team development (of course), but also provides version control and backup for solitary developers



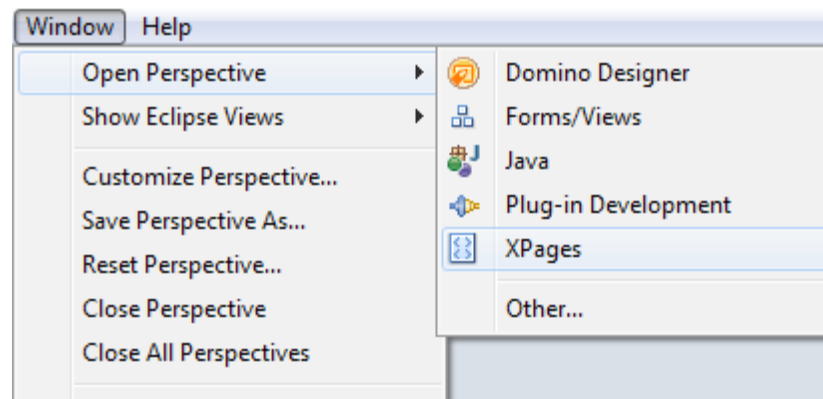
## How Does It Work?

- It is the on-disk project that interacts with the source control product
- Every design element in the NSF is synchronized with a physical file in the on-disk project
- File based design elements store actual file content in the repository, with a second file managing metadata
- Choice of binary or text based DXL for “non-file” design elements (forms, views)
- Can start with a project in a repository and bring it in to Designer or can start with an NSF and move it up to repository
- Automatic or on-demand synchronization between the NSF and the on-disk project (your preference)
- Synchronize your on disk project with the source control provider as needed, using the provider's menu options and commands



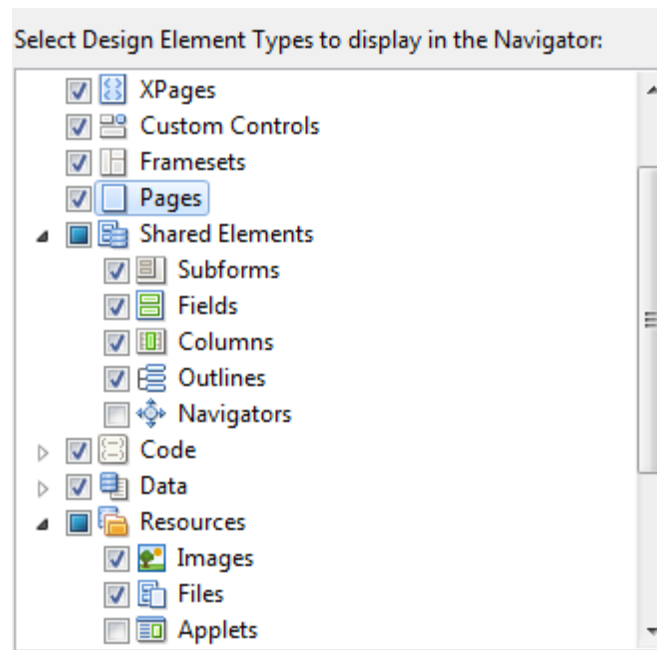
# Get Some Perspective....

- Focus your environment to the task at hand
  - Domino Designer perspective
    - everything
  - XPages perspective
    - Shows only design elements necessary for XPages applications
    - Eclipse views as needed (outline, navigator, control palette, etc)
  - Forms/Views perspective
    - Shows only design elements necessary for Forms/Views development
    - Eclipse views as needed (remove control palette, etc.)

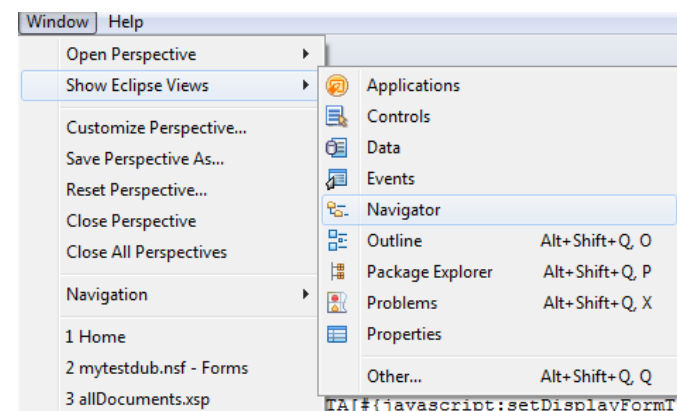


# Or Fine-Tune the One You're In...

- Filter individual design element types



- And add some common views more easily!



# Continued Usability Tune-Ups

- Need web preview to use a different port from 80?

Web preview port:

- InfoBox on Open? Or Not?

- Now you can decide

Classic Notes design elements

When opening a classic Notes design element, such as a form or a view:

Open the InfoBox (properties box)

Minimize the Eclipse views selected below

- Renaming design elements

- Dialog (accessed by F2 in the design list, or from navigator) allows you to supply both the name and the alias

Rename

Choose a new name for the selected design element.

Name:

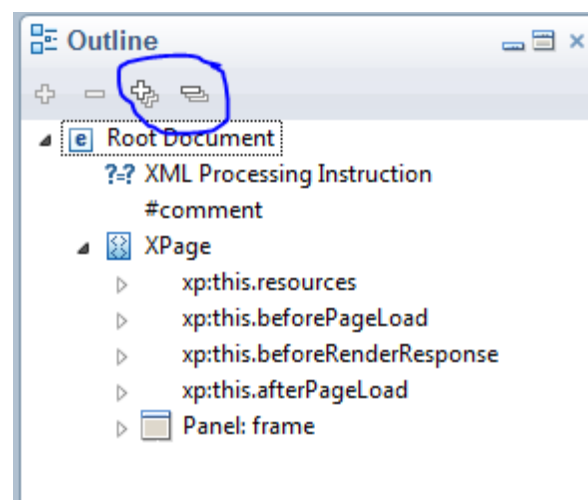
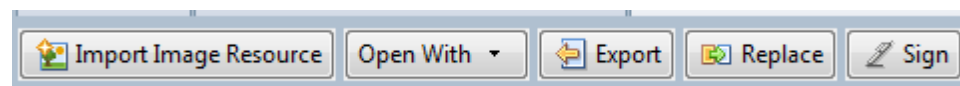
Alias:

OK Cancel



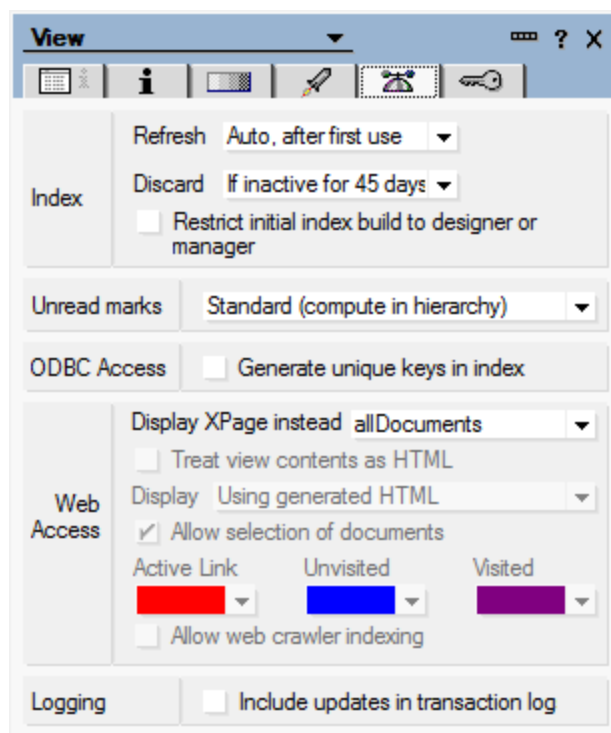
## And even a few more...

- Sign button consistently available
- XPage outline view expand/collapse



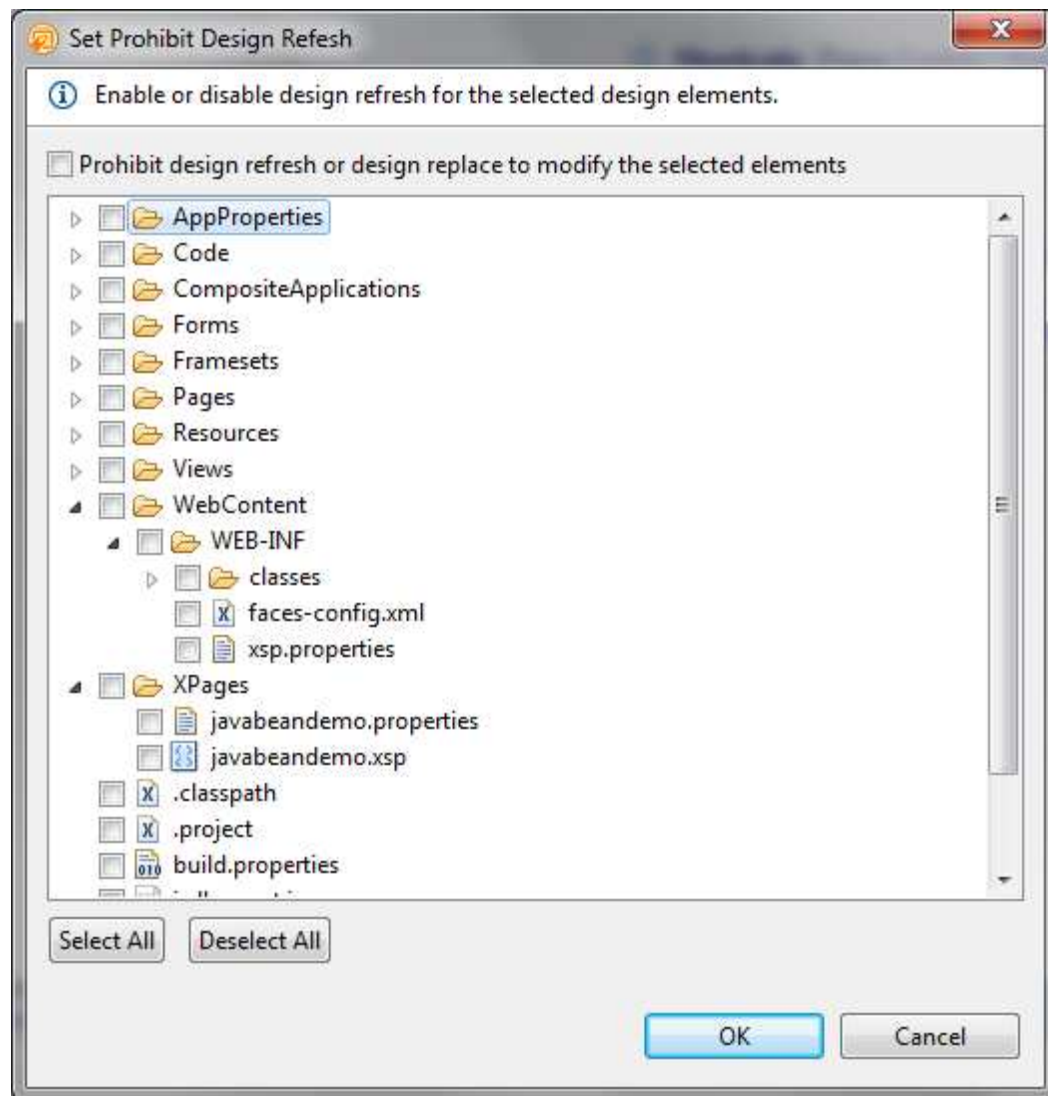
# Retargetting Views to XPages

- New “Use XPage instead” property for views
  - Web only in 8.5.3



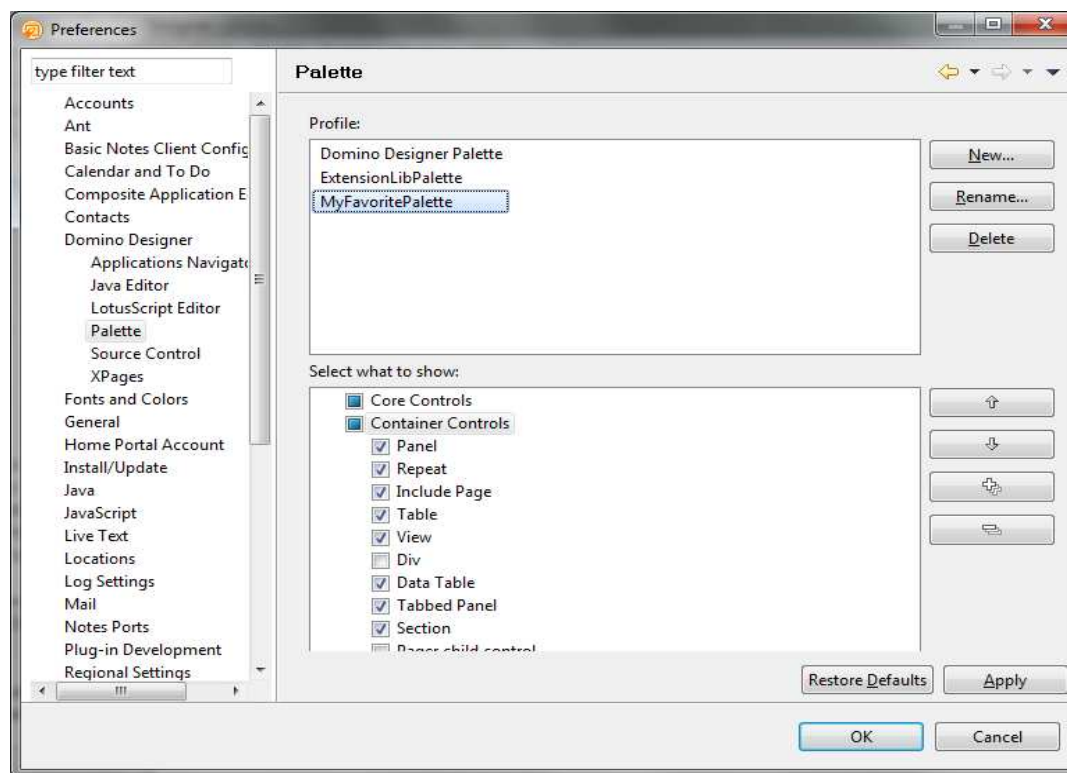
# Take Control of the Prohibit Design Refresh Flag

- New menu item on the Applications menu
- Control the setting of the “Prohibit Design Refresh” flag on all design elements
  - Including those not visible in the Applications navigator
- Set on all, many, some, or one design element



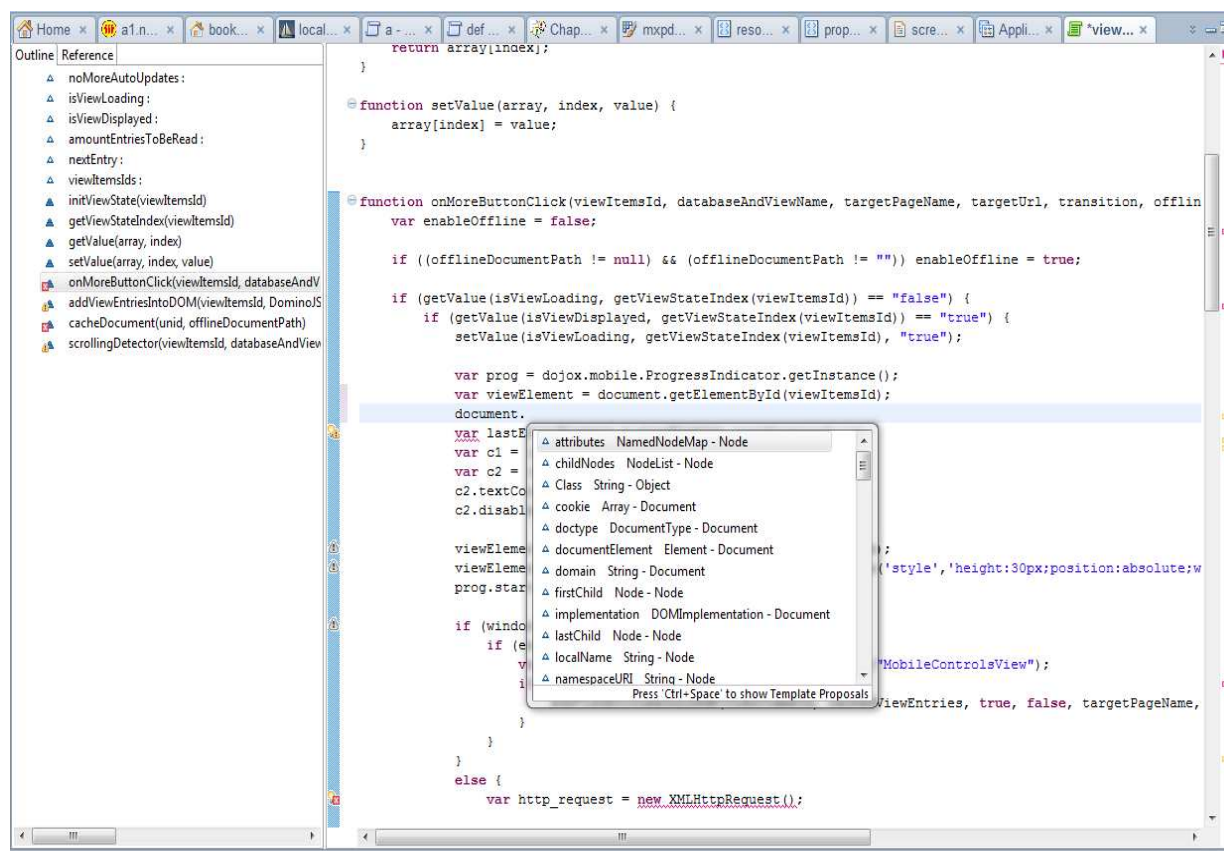
# Improving The Extended Designer Experience

- Create your own properties panel for XPage control extensions
  - Use pretty panels and not All Properties all the time
- Personalize your palette with Palette Profiles
  - Use different profiles for different development situations



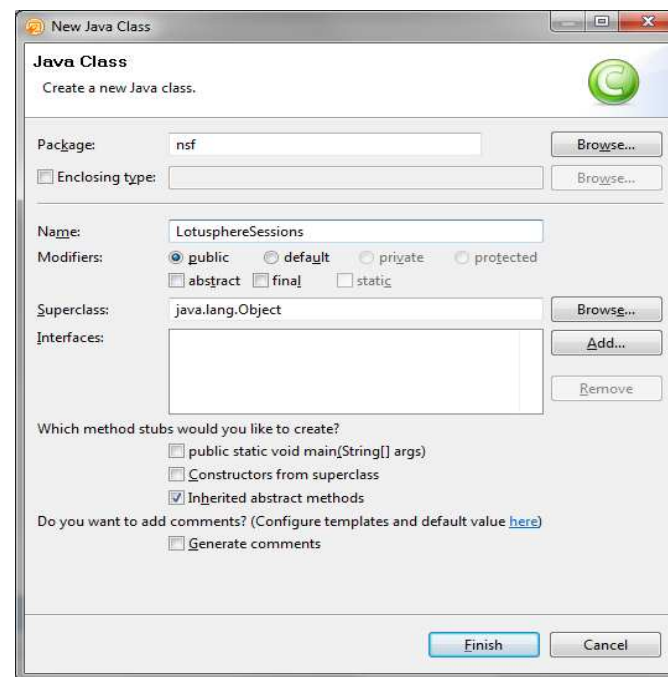
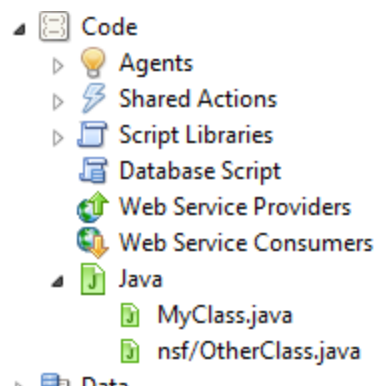
# Updated JavaScript Editor

- Client JavaScript editor replaced with the newest WTP editor compatible with Designer's version of Eclipse (3.4.2)
- Provides improved validation
- Code folding
- Formatting preferences
- Outline view support for classes, etc
- Code templates
- And much more!



# Leveraging Java in XPages Applications

- Now has a proper home: the Java design element!
- Create a new class, interface, or enum
- Class file stored within the Java element note
  - No worries about deletion stubs, etc
- Java code can be directly called from Server Side JavaScript
- Eclipse Java editor and tooling directly available from Designer perspective



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## XPages Performance and Scalability - 8.5.x

- XPages Preloading :
  - preloads XPages Java classes before the application is opened
    - i.e. compiled XPages, custom controls, runtime classes etc
  - enabled via NOTES.INI
    - provisionable across the enterprise
  - Works on Notes client and/or Domino server
    - **XPagesPreload=1**
      - ... to preload just the core runtime
    - **XPagesPreloadDB=db.nsf/myPage.xsp,other.nsf/myPage.xsp**
      - ... to preload specific apps
    - Particularly relevant to XPages in Notes Client **remote** execution



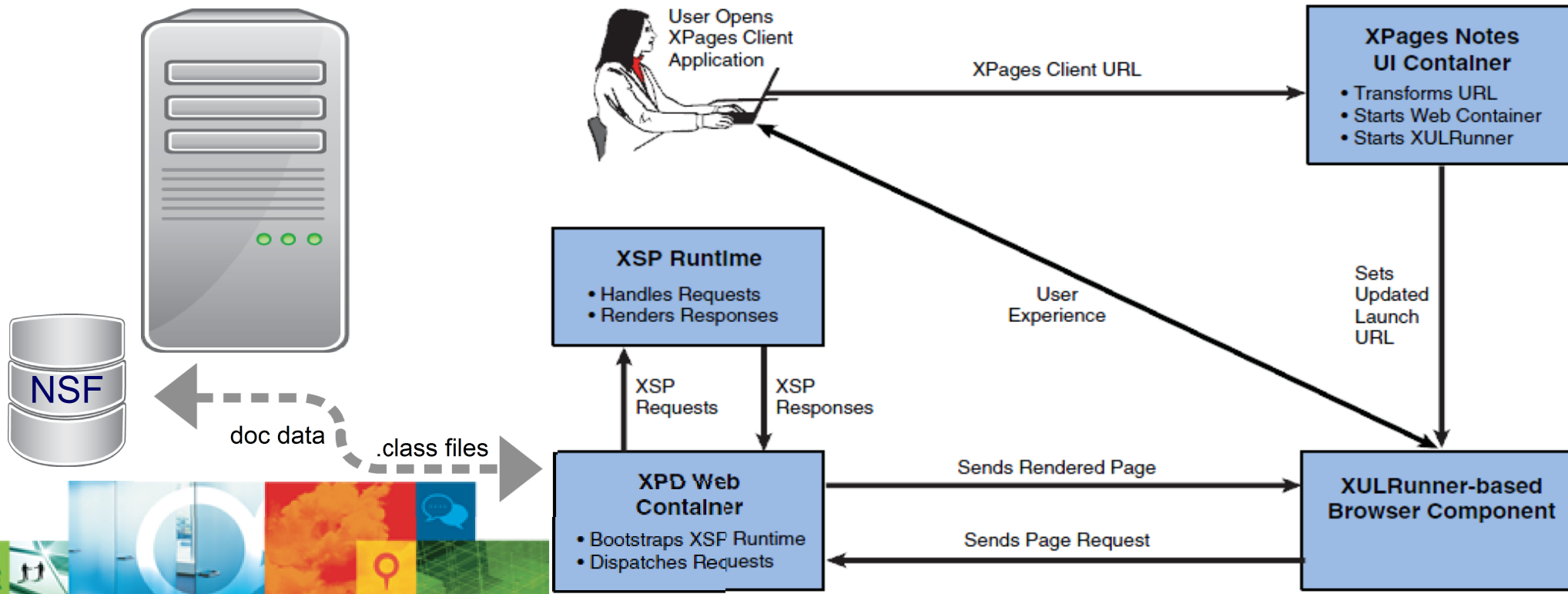
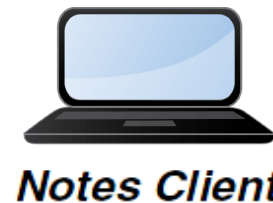
# XPages Performance and Scalability - 8.5.x



- XPages in Notes Client **remote** execution
  - resources must be fetched across the network from the remote NSF's
    - i.e. JavaScript, images, CSS etc (cached by browser)
    - Domino document data
- .class files must also come across to be executed locally in XPD web container !!!



*remote Domino server*



# XPages Performance and Scalability - 8.5.x



- JS and CSS Aggregation
  - Dynamically aggregates DOJO javascript modules and .css files
  - Drastically reduces number of browser requests for JS and CSS resources
    - Latency between browser requests has significant negative impact
  - Dramatic improvements evident in initial application performance
    - e.g. an extreme case in the Extension Library using DWA\_ListView.xsp

URL	Status
+ GET DWA_ListView.xsp	200 OK
+ GET dojo.js	200 OK
+ GET xspClientDojo.js	200 OK
+ GET core.css	200 OK
+ GET defaultTheme.css	200 OK
+ GET jsonReadViewEntries.js	200 OK
+ GET eventQueue.js	200 OK
+ GET sortMenuControl.js	200 OK
+ GET DWA_ListView.xsp?\$\$view	200 OK
82 requests	

URL	Status
+ GET DWA_ListView.xsp	200 OK
+ GET dojo.js	200 OK
+ GET @0a@&@0b@&@Da@&@Ib@&@T.	200 OK
+ GET @Wc@&@Ei@&@ESb.js	200 OK
+ GET XPagesLogo.png	200 OK
+ GET DWA_ListView.xsp?\$\$viewi	200 OK
6 requests	

- Settable via Application Properties (sets `xsp.resources.aggregate=true` in `xsp.properties`)

**Performance**

- Single copy XPage design  
XPage design store path:
- Server page persistence:
- Evaluate the entire page on partial refresh
- Use runtime optimized JavaScript and CSS resources

Basics Launch Design XPages Advanced



# XPages: Enhanced User Experience 8.5.x



Demo

- Results of a full text search can now be sorted
- Other advanced full text features also added to view data source
  - e.g. fuzzy matching, word variants matching, exact match only
- Based on new Java API method `View.ftSearchSorted(varargs ...)`
  - Multiple search terms can be provided via a Java Vector object

Green Forum - Mozilla Firefox

http://m2a3/greenfor.nsf/allDocuments.xsp?vm=0&searchValue=paper

Welcome Anonymous | Login

paper

Green Forum

All Documents

By Most Recent

By Author

By Tag

My Documents

Top 10 Authors

Anonymous Frank Adams

Jasmine Haj Martin

Donnelly Minh Li Pierre

Dumont Ron Espinosa

Samantha Daryn Samantha Daryn

Simone Dray

Search Results for paper

New Topic

Previous: 1 Next

Topic	Author	Date
Here's something else to think about	Frank Adams	
It's just paper	Minh Li	19 Aug 2010
if you can rip it, you can recycle it	Ron Espinosa	
Using post-consumer recycled paper	Samantha Daryn	19 Aug 2010
Don't forget about glass and plastic!	Samantha Daryn	
I found a supplier we could check out.	Simone Dray	

Show 5 | 10 | 25 | 50 | 100 entries

Previous: | Next

Search term = "paper"

Results for "paper"

Results sortable by  
**any** resortable  
column

# XPages – Component Updates

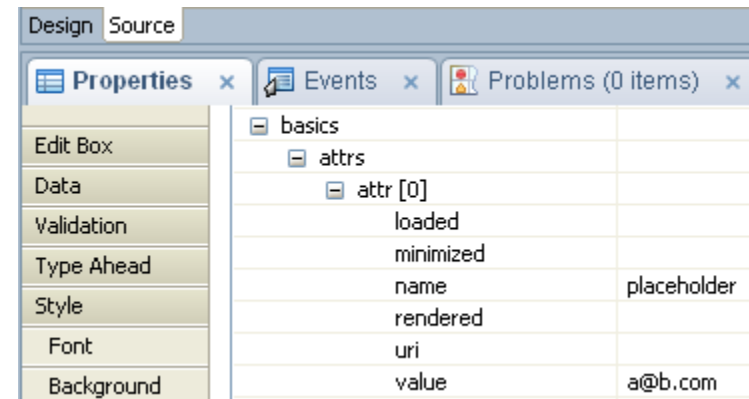
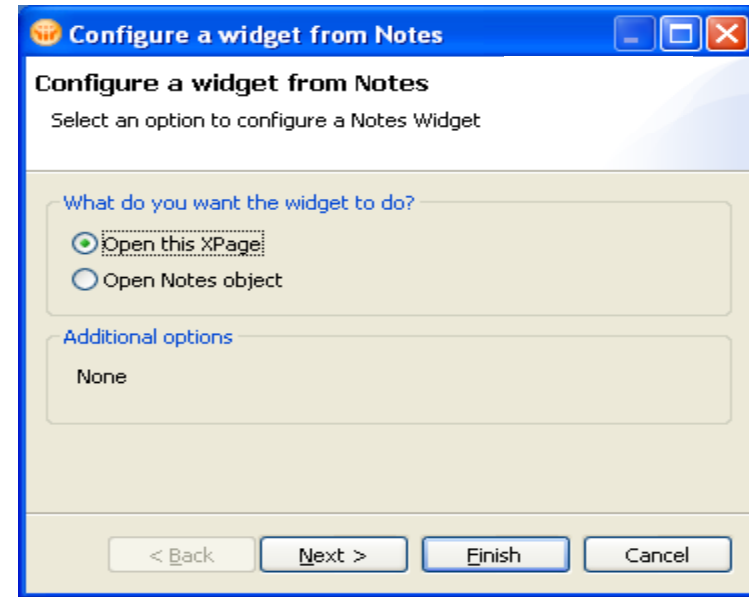


- Technology Updates for 8.5.3
  - XULRunner v1.9.2.1
    - equivalent to Mozilla FireFox 3.6.1
  - Dojo v1.5.1
    - Users can provide their own versions of Dojo as a plugin
      - Extension point: `com.ibm.xsp.context.DojoLibraryFactory`
    - Dojo 1.6.1 ships as a plug-in
    - Improved theming, more support for HTML 5 features
  - CKEditor v3.4.3
    - bidi and enhanced accessibility support, plus OneUI V2.1 skin
  - OneUI v2.1.2
    - Includes IBM Project Vulcan look and feel
    - Several color variants also included
    - XPages Extension Library controls already compatible with this theme!



# XPages – Miscellaneous Updates

- XPages as a widgets
  - Any XPage can now be configured as a widget
  - Widget catalog in 8.5.3 is an XPages application
- Enhanced HTML 5 Support
  - new "attr" properties for controls
  - enables support for 'placeholder', 'autofocus' attrs, and <article> tag
- Bug Fixes / Featurelets
  - new property to set the <!DOCTYPE> tag
    - important for validation, mobile dev, etc.
  - rendering XPages as XHTML
  - show read-only controls as disabled
  - Tabbed Panel enhancements: partial refresh, improved submit behavior
  - ~200 fixes in total across runtime



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# Reading Data from a View

- A number of choices
  - View
  - ViewEntryCollection
  - ViewNavigator
- What is the fastest way?
  - ViewNavigator (The “Chosen One”)
    - Performance work
    - Cache
    - First implementation available in 8.52
      - getNext()
      - getPrev()



# ViewNavigator Cache

- Provides the following
  - Buffering of collection data
  - Great reduction in server transactions
  - Client shows greatest benefit
  - Efficiency gains on Server
- To enable
  - View.AutoUpdate = False
  - Vnav.BufferMaxEntries = (2 – 400)
  - Vnav.getNext

## More information

[http://www-](http://www-10.lotus.com/ldd/ddwiki.nsf/dx/Fast_Retrieval_of_View_Data_Using_the_ViewNavigator_Cache)

[10.lotus.com/ldd/ddwiki.nsf/dx/Fast\\_Retrieval\\_of\\_View\\_Data\\_Using\\_the\\_ViewNavigator\\_Cache](http://www-10.lotus.com/ldd/ddwiki.nsf/dx/Fast_Retrieval_of_View_Data_Using_the_ViewNavigator_Cache)



## What's New in 8.5.3

- ViewNavigator - Cache fully functional for all methods
  - GetNext
  - GetPrev
  - GetNextDocument
  - GetPrevDocument
  - GetNextSibling
  - GetPrevSibling
  - GetChild
  - GetParent
  - GetNextCategory
  - GetPrevCategorya



## What's New in 8.5.3 (cont'd)

- View
  - Int FTSearchSorted( Variant query,  
Int maxDocs,  
String columnName,  
Boolean ascending,  
Boolean exactCase,  
Boolean wordVariants,  
Boolean fuzzySearch)
  
- Agent
  - runWithDocumentContext(Document doc)
  - runWithDocumentContext(Document doc, String NoteID)
  - Now supports use case #2: Outer agent/XPage runs as Agent Signer & Inner agent runs as Agent Signer



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# Community Updates

- OpenNTF XPages Development Contest huge success

- 22 individual contributors
- 49 entries
  - 54 Custom controls
  - 10 XPages library controls
- 2<sup>nd</sup> contest announced!
  - mobile & social theme
  - <http://contest.openntf.org/>



Videos of all entries on [xpages.info](http://xpages.info)

- August 2011 had most OpenNTF downloads ever

- 18.402 downloads

- XPages mobile webcast replay on Greenhouse → [here](#)

- Lotus User Group - 8.5.3 Launch Webcast. October 6<sup>th</sup> → [here](#)

- Domino Development Best Practices Redwiki coming in Q4



# Technical Education and Certification

- IBM Education XPages Courses

Course Name
Fundamentals of IBM Lotus Domino 8.5.1 Application Development
Introduction to IBM Lotus Domino 8.5 XPages <sup>1</sup>
Developing IBM Lotus Domino 8.5.2 Applications: Intermediate XPage Design
Developing IBM® Lotus® Domino® 8.5.2 Applications: Advanced XPage Design (New 6/11)
Modernizing Domino Applications (New 8/11)

- Learning roadmaps (New developers)
  - New developers
  - Experienced developers
- IBM Resells TLCC XPages courses (and other app dev & admin courses)
- New (6/11) **XPages certification**: Developing IBM Lotus Domino 8.5.2 Applications: Advanced XPage Design



# Resources

- XPages.info – One stop shopping for XPages
  - <http://xpages.info>
- XPages forum – Got questions, need answers?
  - <http://xpages.info/forum>
- OpenNTF – Open source community
  - <http://www.openntf.org>
- Domino Application Development wiki
  - <http://www.lotus.com/ldd/ddwiki.nsf>
- XPages blog
  - <http://xpagesblog.com/>
- IBM educational offerings
  - <http://www.ibm.com/software/lotus/training/n8deducationofferings.html>



*White paper*

