



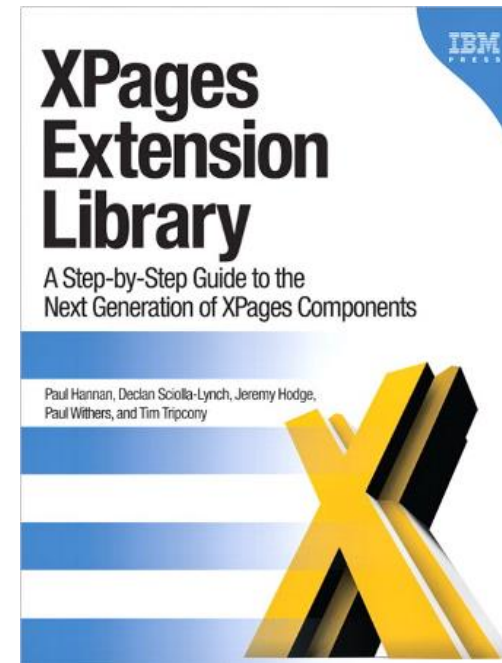
Dev09. Jedi and Sith: OpenNTF Domino API and CrossWorlds

Paul Withers – Intec Systems (@paulswithers)

Daniele Vistalli – Factor-y (@DanieleVistalli)

Paul Withers

- IBM Champion since 2011
- OpenNTF Board Member
- Author of XPages Extension Library
- Project Team Member of OpenNTF Domino API





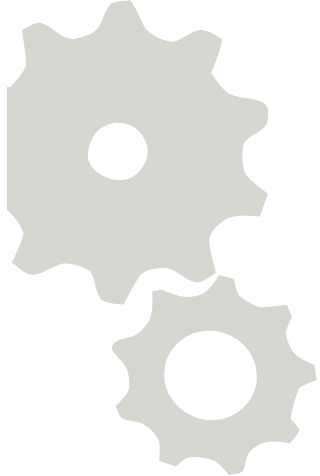
Daniele Vistalli

- Founder & CTO at Factor-y S.r.l.
 - Java developer & architect (Java 1.0.2+ on OS/2)
 - Domino Developer & architect (Notes 4.5+)
 - WebSphere Developer & architect (WAS 3.5+)
 - R&D guy / geek / lazy developer (lazyness favours invention)
- 

OpenNTF Domino API

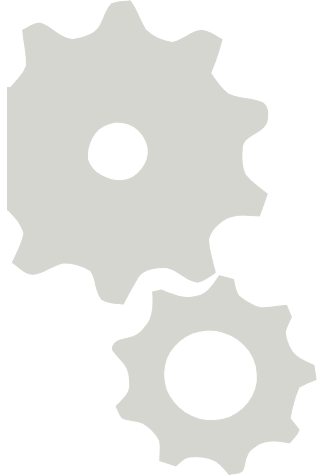


M5 Release Candidates

- Some performance issues
 - Ironed out
 - Javadoc support requires separate Designer update site
 - Maven-enabled
 - Radical reorganisation
 - Regression bug fixes
- 

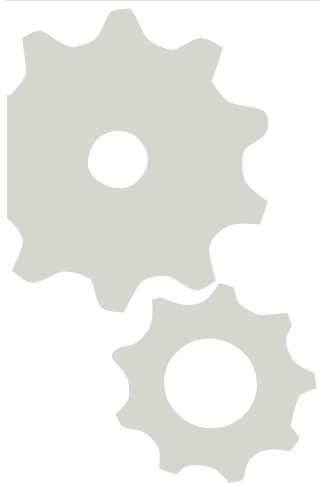


Recycling

- Completed overhauled by Roland Praml
 - Quicker recycling
 - Outstanding issue with removing temporary files when dealing with embedded objects
- 

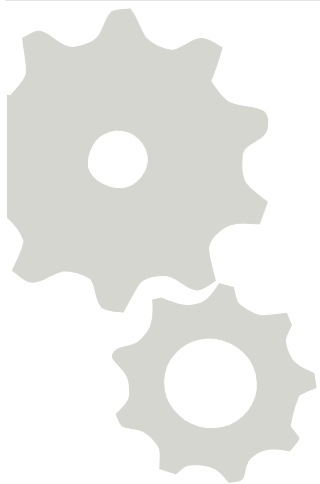


Formula Parsing

- Previously in `org.openntf.domino.formula`
 - Overhauled and extended by Roland Praml
 - New plugin – `org.openntf.formula`
 - Better performance than `session.evaluate`
- 



Pickers

- Subsequently contributed to Extension Library
 - Thank you, IBM!
 - NamePicker contributions not taken (yet)
 - `returnNameFormat` (e.g. Canonical)
- 



Sessions

- Previously
 - `Factory.getSession()`, `Factory.getSessionAsSigner()` etc
- Now
 - `Factory.get(SessionType.CURRENT)`
 - `Factory.get(SessionType.FULL_ACCESS)`
 - `Factory.get(SessionType.SIGNER)`
 - `Factory.get(SessionType.NATIVE)`
 - etc.

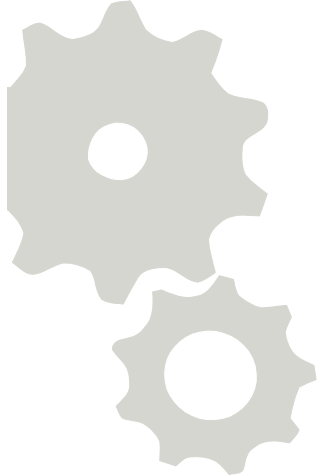


Graph Databases

- Graph2 extends what was initially available
- FramedGraphs mean less code
- Java Annotations manage functionality

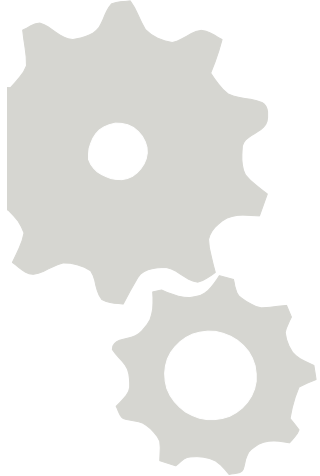


Metaversal IDs

- Key component for Graph2 implementation
 - Replica ID + UNID
 - Can also be prefixed by ServerName + “!!”
 - Then points to specific document on specific server
 - `Session.getDocumentByMetaversalID()`
 - Does `Session.getDatabaseByReplicaID()`
 - Then `Database.getDocumentByUNID()`
- 



XOTS

- XPages + DOTS = XOTS
 - Threaded tasks in their own session
 - Trigger and run
 - Trigger from custom events
 - Scheduled (WIP)
 - Java code for task is in NSF
 - Can re-use any of your XPages classes in situ
- 



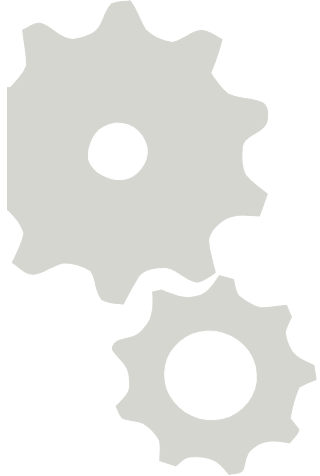
Design API

- More work on Design API
- Schemas started
- Experimentation with JNA
 - Access C API calls natively
 - Greater access to the platform beyond lotus.domino classes

CrossWorlds

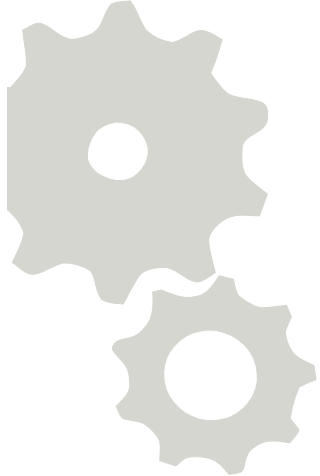


Mission

- Bring to Domino developers an easy way into J2EE
 - Bring to J2EE the full power of Domino (NSF storage and security)
 - Bring to customers the best of both worlds
- 



What is CROSSWORLDS?

- WebSphere Liberty (8.5.5.4) +
 - IBM Domino (9.0.1) +
 - OpenNTF Domino API +
 - CrossWorlds feature for Liberty
- 



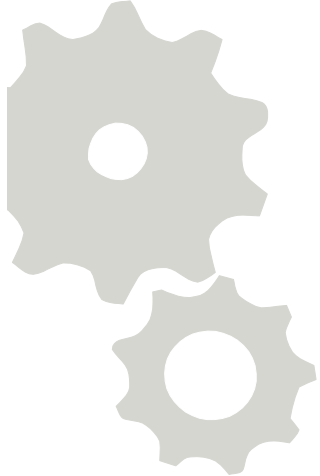
Websphere Liberty

A fast J2EE Application Server built by IBM for modern needs.

- Light (< 40 Mb ram, < 5sec startup)
- Open (OSGI based + J2EE 6 / 7)
- Constantly evolving
- Extensible (customizable to the limit)
- Easy to manage (unzip & run, no install needed)



What can I do with it

- Exploit any J2EE / Java library
 - Exploit Java 1.7/1.8 (Domino still on 1.6)
 - Manage security your way
 - JAX-RS for Rest (the J2EE way)
 - JAX-WS for WebServices (the J2EE way)
 - Spring, Struts, other framework ? **YES**
 - Choose your own
 - Async servlets / higher scalability
 - Anything you want to do .. You get it
- 



Java 1.7/1.8 at hand

- Domino JVM is 1.6
- WAS Liberty can run on 1.6/1.7/1.8
- You can build your reusable frameworks or exploit existing frameworks for your apps.
- Not tied anymore to IBM's choices for Domino

We are building it

- CrossWorlds went from idea to reality in the days between December 20 2014 and December 31 2014
- Most of the discussion is happening at OpenNTF Domino API chat group on Skype
- We're doing tests, building stuff, testing things out

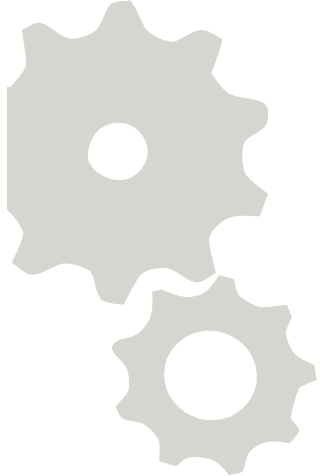
OpenNTF Domino API + CrossWorlds

Use Case 1: Standard REST Services

- DAS does not validate content, pushes more than necessary
- REST Service Extension Library control
- XAgents / Agents mean manual coding
 - Generating JSON, handling response codes etc
- Servlets in the NSF require hacks
 - Thanks Eric McCormick for blog posts
- Servlets in OSGi on Domino HTTP mean code outside your NSF
 - Not significantly different from what we'll be showing you



Why Not Domino?

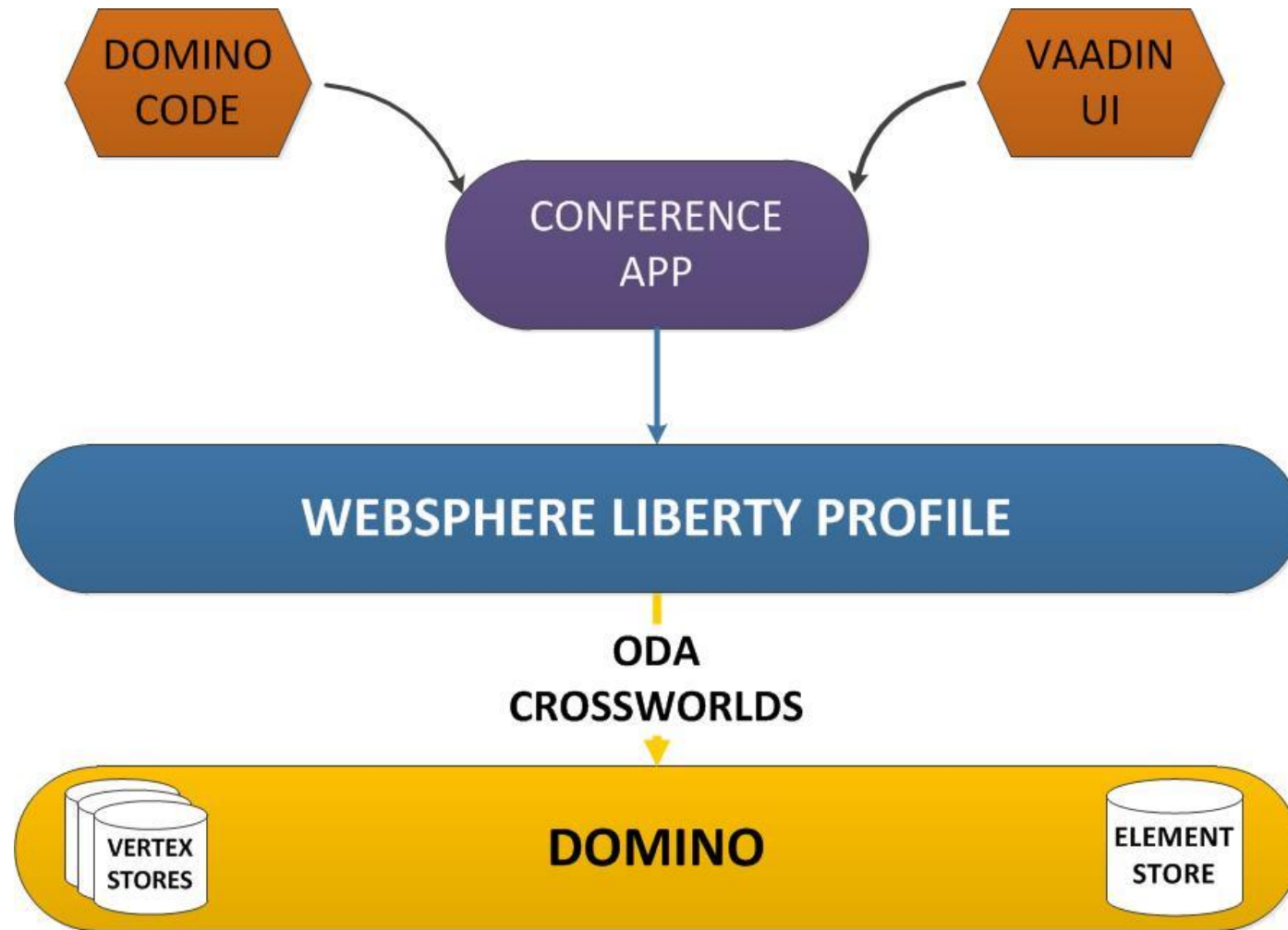
- Servlets in Domino mean old specification
 - Significant limitations
 - Servlets in Domino mean adding to HTTP task
 - Already running Domino web
 - Already running XPages
 - Potentially already running DOTS, DAS, Domino Mail Service, Domino Calendar Service as well
 - Start using Java 1.7 or 1.8 immediately
 - J2EE is “raw power”
- 



JAX-RS 2.0

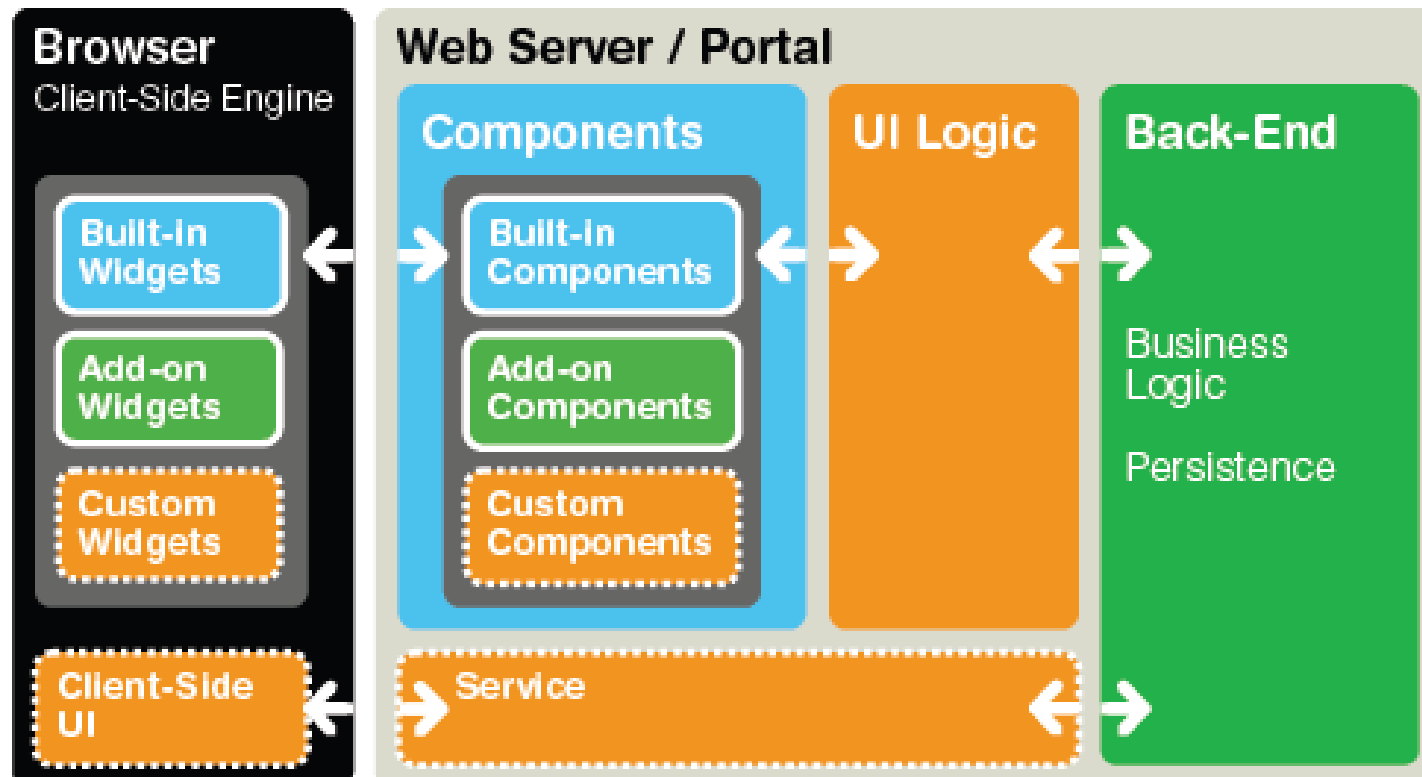
- Java API for RESTful web services since 2008
 - Uses Java annotations
 - Reduces amount of code required
 - Specify produces / consumes XML or JSON
 - Specify paths
 - Access query parameters
 - Response types managed via Java classes
throw new `WebApplicationException(e, Response.Status.BAD_REQUEST)`
 - Or other libraries like Restlet
 - Also JAX-WS for Web Services
- 

Use Case 2: Conference App



Why Vaadin?

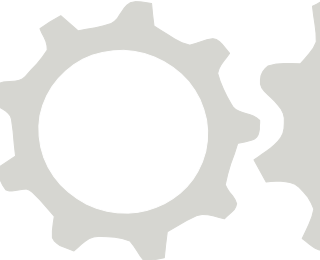
- Java framework for web / mobile applications



The Obvious Java Choice

- Code WYSIWYG, XML markup or Java
- 400+ components
- Client-side development tools based on GWT and HTML5
- Open source
- Webinars, training, certifications, support available
- Pro tools, including charts, touch kit etc
- [First third party boilerplate inside Bluemix](#) and recent Hackathon

Questions?



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Demo App Screenshots

Traditional View Now and Next Sessions By... Sponsors On calendar My Profile

Traditional 'View-style' Navigation

Click on Session ID, Title, Start Time or Location columns to re-sort on those columns

Session ID ^	Title	Track	Speakers	Day	Start Time	End Time	Location
Adm01	Let the Phoenix Rise - rationalise your IBM Domino environment!	Adm	Arshad Khalid, Stephanie Heit	31 Mar	11:30	12:30	B
Adm02	Mastering Your Logs, Everything You Should Know about Logging in IBM Domino	Adm	Ben Menesi	30 Mar	11:30	12:30	B
Adm03	The BASHing Admins: The ICS Shell Scripting Class	Adm	Bill Malchisky Jr	31 Mar	02:45	03:30	B
Adm04	Cloud Considerations	Adm	Chris Miller	30 Mar	11:30	12:30	C
Adm05	Best and worst practises deploying IBM Connections	Adm	Christoph Stoettner	31 Mar	01:30	02:30	B

Demo App Screenshots

Traditional View

Now and Next

Sessions By...

Sponsors

On calendar

My Profile

Now (1 session 110 minutes remaining)



[Sp1 - Keynote](#)

Mon09:00-11:00 | Aula

Next (4 sessions 140 minutes to start)



[Str04 - The world has changed, so has IBM, with Watson, Apple and Twitter!](#)

Mon11:30-12:30 | A



[Adm02 - Mastering Your Logs, Everything You Should Know about Logging in IBM Domino](#)

Mon11:30-12:30 | B



[Adm04 - Cloud Considerations](#)

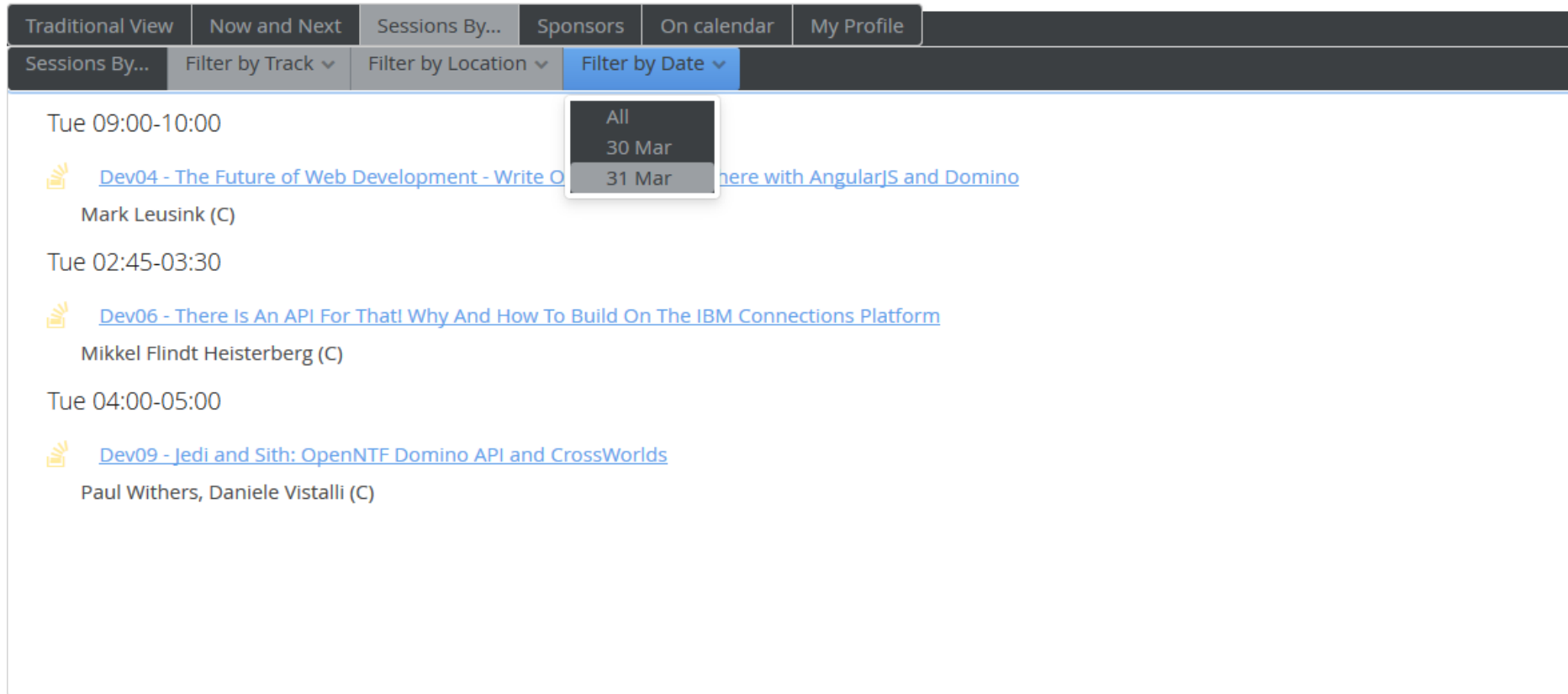
Mon11:30-12:30 | C






[Dev10 - App.Next - The Future of Domino Application Development](#)

Mon11:30-12:30 | D

Demo App Screenshots



The screenshot shows a web application interface with a navigation bar and a list of sessions. The navigation bar includes tabs for 'Traditional View', 'Now and Next', 'Sessions By...', 'Sponsors', 'On calendar', and 'My Profile'. Below the navigation bar, there are filter options: 'Sessions By...', 'Filter by Track', 'Filter by Location', and 'Filter by Date'. The 'Filter by Date' dropdown menu is open, showing options for 'All', '30 Mar', and '31 Mar'. The list of sessions includes:

- Tue 09:00-10:00
 [Dev04 - The Future of Web Development - Write O... here with AngularJS and Domino](#)
Mark Leusink (C)
- Tue 02:45-03:30
 [Dev06 - There Is An API For That! Why And How To Build On The IBM Connections Platform](#)
Mikkel Flindt Heisterberg (C)
- Tue 04:00-05:00
 [Dev09 - Jedi and Sith: OpenNTF Domino API and CrossWorlds](#)
Paul Withers, Daniele Vistalli (C)



Demo App Screenshots



Traditional View Now and Next Sessions By... Sponsors On calendar My Profile

STRATEGIC PLATINUM GOLD SILVER BRONZE

STRATEGIC ★★★★★

IBM

IBM Benelux

Businesses move from liking to leading when they look beyond social media to see how social technologies drive real business value. From marketing and sales to product and service innovation, social is changing the way people connect and the way organizations succeed. Social business technologies help people connect, communicate and share information. Becoming a leader in your marketplace means using social solutions to transform how business gets done—driving cost savings, increasing revenue and cultivating competitive advantages. IBM is at the forefront of this market shift and your best partner to get social and do business

Demo App Screenshots

Traditional View | Now and Next | Sessions By... | Sponsors | On calendar | My Profile

Monday 30/03/15 | Tuesday 31/03/15

9:00	9:00 Keynote				8:00	8:00	8:00	8:00
10:00					9:00	9:00	9:00	9:00
11:00					10:15	10:15	10:15	10:15
12:00	11:30	11:30	11:30	11:30	11:30	11:30	11:30	11:30
13:00	12:45	12:45		12:45	12:45		12:45	
14:00	13:30	13:30	13:30	13:30	13:30	13:30	13:30	
15:00	14:45	14:45	14:45	Often forgotten or trivialized, good requirements gathering can make or brake your project. This session will give you techniques and tips on how to effectively get to the core of the requirements, identify ways of prioritizing them and explains some core concepts of Functional and Technical design elements. Based on years of experience gathering requirements (and working with them!) Femke & Tim will take you through some of the real life examples that we come across and a lot of				14:45
16:00	16:00	16:00	16:00					16:00
17:00	17:15	17:15	17:15					16:00
18:00	18:15 Speedsponsoring							
19:00								
20:00								