



# The *Bedework Enterprise Calendar Project*

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April 28, 2008

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## Who We Are

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Communications & Middleware Technologies  
 Division of the Chief Information Officer  
 Rensselaer Polytechnic Institute




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## What Is Bedework?

- **Bedework is**
  - a comprehensive calendaring and events system
  - open source
  - platform independent (Java)
  - modular & extensible
  - intended for higher education
  - and...

**STANDARDS COMPLIANT**





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## Calendaring Standards

- iCal : RFC 2445 (2446, 2447)  
<http://www.ietf.org/rfc/rfc2445.txt>
- CalDAV : RFC 4791  
<http://www.ietf.org/rfc/rfc4791.txt>
- CalDAV Scheduling (in draft)
- Vavailability (in draft)

**Why? ...interoperability!**






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## A Calendar System for Higher Ed

- **Low "buy-in" cost**
  - Integrates with extant campus directories
  - Integrates with extant campus authentication
  - No license or usage fees
  - Works with a number of database systems
  - Distributed administration
  - Easily skinned
- JSR-168 (portal) "friendly"
- Used and developed by multiple universities
- Not idiosyncratic of a particular institution
  - What's good for higher ed as a whole is good for Bedework
- Assume not the only calendaring system on campus
  - Access server with "non-native" client
  - R25, Exchange, Oracle calendar, etc.
  - Design point is to promote interoperability between systems






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## Total Calendaring System?

- A "Total Calendaring System" must meet all the following needs and more:
  - personal / group / public events calendaring
  - interoperable calendaring
  - shared calendars
  - scheduling
  - events publication / event submission
  - subscriptions / event pool
  - multi-language support / internationalization
  - structured venues / contacts, sponsors / etc.
  - much, much, more ...
- Priorities driven by standards requirements & user feedback

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calendar **bedework** *Who's Using Bedework?*

- In production**
  - Bennington College (US)
  - Bishop's University (Canada)
  - Cornerstone University (US)
  - Dalhousie University (Canada)
  - Montana State University (US)
  - Public University of Navarra (Spain)
  - Queens University (Canada)
  - Rensselaer Polytechnic Institute (US)
  - University of British Columbia (Canada)
  - University of Maine, Fort Kent (US)
  - University of Maryland (US)
  - University of Washington (US)
- In development**
  - Cornell (US)
  - Duke (US)
  - Stockholm University (Sweden)
  - University of Chicago (US)
  - Others...
- Deployment**
  - stand-alone system
  - portlet or proxied portlet
    - uPortal
    - LifeRay
    - PlumTree (BEA)

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calendar **bedework** *Rensselaer*

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calendar **bedework** *Bennington*

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calendar **bedework** *Dalhousie*

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calendar **bedework** *Queens*

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calendar **bedework** *Cornell*

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calendar bedework Nagoya University, Japan

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calendar bedework Mellon Grant

- Bedework was among the 10 initial recipients of The Andrew W. Mellon Foundation's Technology Collaboration (MATC) award for leadership in the collaborative development of open source software.

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calendar bedework

## The State of Calendaring

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calendar bedework Current Calendaring Model

January 2007 - Example from <http://knuttilla.net/JornSync.pdf>

- You'll see that red arrows are a two-way sync.
- The little clouds are conduits that I wish I didn't have to use.
- I have a personal calendar and a work calendar. Both slide along through this plumbing as requested. Wow. The personal calendar stays off the "work" things on the right.
- Groupcal by Snerdware has recently seen some major improvements. I actually created an event in iCal today and invited a colleague via our Exchange server. It's true! Missing Sync has always been awesome.
- Did I mention that this actually works?

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calendar bedework Future Calendaring Model

- As the calendaring world becomes more CalDAV aware, two-way sync will be the norm in user clients without the need for third-party conduits.
- Desktop and mobile clients appear to be heading this way.

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calendar bedework Future Calendaring Model (!)

Cross-Organization Calendaring:

- real-time freebusy aggregation
- real-time scheduling

This model was demonstrated at CalConnect in February 2008. See <http://calendarswamp.blogspot.com/2008/02/calconnect-progress-report.html>

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calendar **bedework** *Why Do Standards Matter?*

- The interoperable exchange of calendar information is what the standards community is trying to solve and promote.
- What's going to happen when the iPhone becomes CalDAV aware? (Apple's iCal already is...) ...how about other mobile devices?
- Public events: The web is important, but this information goes well beyond web presentation.
- As IMAP is to email, CalDAV is to calendaring.
- Users want interoperability!!!

*Let's make Jorn's life easier.*

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calendar **bedework** *Interoperability*

- Bedework's preoccupation with standards and interoperability is in large part recognition that in many organizations, Bedework is unlikely to be the only calendaring product.
- The ability to share and exchange data with other calendaring products and environments is an important key to Bedework's future well-being as a product and a project.

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calendar **bedework**

## Bedework Features

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calendar **bedework** *Event Pool Model*

**Public Events**

- light hierarchy
- strict hierarchy
- essentially no hierarchy
- tagged with categories

**Personal & Group Events**

- subscription
- full read access
- read/write access
- freelobby only
- subscription to calendar (or filtered by category, location, ...)\*
- \*subscription filtering not yet available in personal client UI, but soon to come

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calendar **bedework** *Bedework Components*

- Five main components:
  - public suites
  - personal client
  - administrative client
  - event submission client
  - CalDAV

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calendar **bedework** *Bedework Features*

- Features:
  - Distributed, fine grained administration
    - Administrative groups
    - Location and contacts management
  - Access control & sharing
  - Scheduling
  - Stand-alone & portlet implementations
  - Highly customizable look and feel
  - Interoperable with CalDAV desktop clients – currently Mozilla Lightning and Apple's iCal

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calendar **bedework** *Agnosticisms of Bedework*

- Platform (Java)
- Database - Hibernate
- Application server
- Authentication
- Internationalization / localization
- Portal – JSR168
- Presentation
- Standards compliance
- Scalability

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calendar **bedework** *New Features*

- In 3.4.1.1
  - Event Submission web client
  - Support for RFC 2445 X-properties
  - Ability to include images, maps, etc with an event
  - Default support for category filters in the UI
  - Support for arbitrary named filters in public client
- Coming soon
  - Stronger support of multiple languages and internationalization/localization
  - Subscribe to email reminders, change notifications, "tell a friend", etc for events
  - Many UI enhancements, stronger use of AJAX
  - Refactoring of the UI to make upgrading simpler

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calendar **bedework**

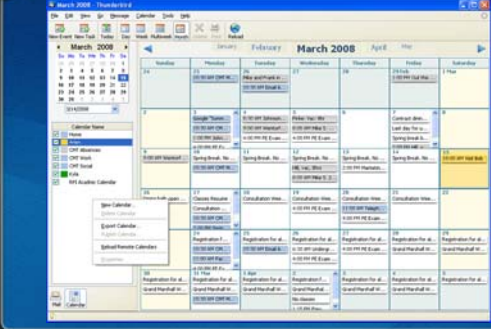
## Demonstration



- Web client overview
- CalDAV (Lightning)

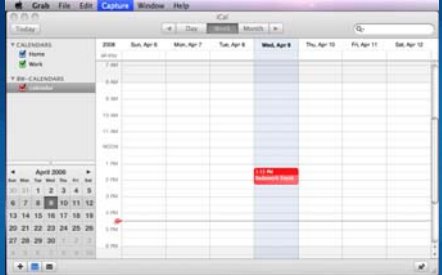
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calendar **bedework** *Mozilla Lightning*



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calendar **bedework** *Apple's iCal*



See <http://www.bedework.org/trac/bedework/wiki/BedeworkUserHelp> for instructions on using Bedework with Mozilla Lightning or Apple's iCal

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calendar **bedework** *Open Connector*

- Bedework is a sponsor of the Open Connector project, developers of open-source extensions for Microsoft Outlook.
- Bedework has been working with Open Connector to better support CalDAV in Microsoft Outlook.




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## Server to Server Realtime Scheduling

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calendar  
bedework *Today's State of the Art*

University A

attendee organizer

server  
e.g. Exchange

iCal

University B

attendee

iCal

...3 days later?

- Deficiencies:
  - No immediate freebusy access across organizations
  - Scheduling process averages 21 hours per meeting (researched by Boeing, Danish Government)

iCal: iCalendar Transport-Independent Interoperability Protocol  
iImp: iImp over email

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calendar  
bedework *Tomorrow's ...but works today!*

University A

attendee organizer

server  
e.g. Bedework

CalDev

University B

attendee

server

REALTIME

- Advantages:
  - immediate freebusy!
  - near 100% success rate on 1<sup>st</sup> attempt (...assuming calendars are in order...)
  - allows for cross-organizational auto-accept
- Limitations
  - security (dkim?)

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## Bedework Vision, Community, and Futures

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calendar  
bedework *Bedework Vision*

- Enlightened self interest
  - Deliver value locally – but develop for global community
  - Make Bedework attractive enough to other universities that they adopt the software and contribute to its development.
- Make Bedework the leading open source Java-based calendar in higher education
  - Continue to grow the user community
  - Continue to grow the contributor community
- **Standards compliance** is key to Bedework's success, present and future

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calendar  
bedework *Some Needs*

- Address book support (CardDAV, vCard?)
- Notifications, e.g. email, sms ... push instead of polling
- Structured locations (vVenue? vCard?)
- Mid-level administration of public events

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calendar **bedework** *Bedework Steps It Up*

- We are working hard to continue building our community and to keep up with the momentum
  - Enhance our community tools and infrastructure
  - Develop a richer documentation set
  - Continue to collaborate with an ever growing group of informed developers

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calendar **bedework** *CalConnect*

- CalConnect - The Calendaring and Scheduling Consortium: <http://www.calconnect.org>
- “The Consortium is focused on the interoperable exchange of calendaring and scheduling information between dissimilar programs, platforms, and technologies.”
- Membership consists of industry leaders and a large number of universities
  - <http://www.calconnect.org/mbriest.shtml>
- **Interoperability testing!**

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calendar **bedework** *CalConnect Members*

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calendar **bedework** *Bedework & CalConnect*

- Bedework Participates in interoperability testing and a number of technical committees:
  - **CalDAV**: notifications, scheduling (draft), ACL alternatives
  - **FreeBusy** Gary Schwartz, Chair: standardizing URL formats for freebusy lookup
  - **Realtime**: server to server scheduling/freebusy, security issues (dkim?)
  - **Timezones** Mike Douglass, Chair: DST issues, normalization, infrastructure
  - **XML**: semantically equivalent representation of iCalendar (RFC 2445), two-way conversion, standardized interpretation
  - **EventPub**: handling of public events, efforts on vVenue or vCard, structured locations, multi-language support

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calendar **bedework** *Get Involved!*

- Join CalConnect
  - <http://www.calconnect.org>
  - promotes calendar interoperability by way of standards
- Join Calsify
  - <http://tools.ietf.org/wg/calsify/>
  - Calendaring and Scheduling Standards Simplification working group
- Read the standards!
  - <http://www.calconnect.org/calendaringstandards.shtml>

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calendar **bedework** *Get Involved With Bedework*

- Want to participate in Bedework?
  - Join the Bedework Mailing lists
  - Contact us directly
  - Get informed about the standards
  - Help us spread the message
  - Give us feedback

*\*Please note that all code contributors must sign a Contributor License Agreement*

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calendar **bedework** *Considering a Deployment?*

- Bedework is open source, and capable people can modify it significantly.

Whereas Bedework is highly skinnable and configurable, *approach Bedework as you might a future life partner* – assume, modulo the potentially empty promises we have made about “future enhancements”, that what you see is what you will be getting.

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calendar **bedework** *Bedework your way?*

- You can modify Bedework any way you like, but Bedework does have a coherent design, architecture and implementation.
- Major changes are possible – but you need a high level of holistic understanding to get the kind of result you anticipate getting.
- Without this level of understanding, major changes you make are unlikely to make their way back into the official Bedework distribution.

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calendar **bedework** *Bedework Futures*

- Bedework 3.5 – Q2 2008
  - Additional features and bug fixes to 3.4.1.1
- Bedework 4.0 Q4 2008
  - Major milestone
  - Significant refactoring
  - First “functionally complete” release

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calendar **bedework** *Thank You*



**bedework.org**

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