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# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Introduction</td>
</tr>
<tr>
<td>0.1</td>
<td>What’s New In 4.6.2 (31.03.2017)</td>
</tr>
<tr>
<td>1</td>
<td>INSTALL/UPGRADE Procedures</td>
</tr>
<tr>
<td>1.1</td>
<td>Minimum Requirements</td>
</tr>
<tr>
<td>1.1.1</td>
<td>System Memory</td>
</tr>
<tr>
<td>1.1.2</td>
<td>Hard disk space</td>
</tr>
<tr>
<td>1.1.3</td>
<td>Brainwaregroup ESI 4.6.0 infrastructure components</td>
</tr>
<tr>
<td>1.2</td>
<td>Supported Web Browsers</td>
</tr>
<tr>
<td>1.3</td>
<td>New installation of OperationsManager 4.6.2</td>
</tr>
<tr>
<td>1.4</td>
<td>Upgrading OperationsManager 4.6.1 to 4.6.2</td>
</tr>
<tr>
<td>1.5</td>
<td>Upgrade Notes</td>
</tr>
<tr>
<td>2</td>
<td>KNOWN RESTRICTIONS</td>
</tr>
<tr>
<td>2.1</td>
<td>CSS style sheet sometimes not refreshed</td>
</tr>
<tr>
<td>3</td>
<td>Appendix</td>
</tr>
<tr>
<td>3.1</td>
<td>Enabling Kerberos Windows Desktop Authentication for Single Sign-On</td>
</tr>
<tr>
<td>3.2</td>
<td>RELEASE HISTORY</td>
</tr>
</tbody>
</table>
## Introduction

**Warning** Please make a backup of your databases BEFORE you continue with this upgrade! The migration procedure will modify your existing data which CANNOT be undone in case of a failure.

Supported OM versions:
- Upgrade: from 4.6.1 only, using OperationsManager-4.6.2 patch file.

Older versions **must** first being upgraded/patched to version 4.6.1 following the appropriate installation instructions below.

For basic upgrade instructions, see “UPGRADE Procedure” section below. For detailed instructions please consult the OperationsManager manual.

For instructions regarding workflow package installation & deployment, please consult the appropriate workflow package manual.

This patch includes the server core modules and the following workflow packages:

- Spide Incident 4.0.541
- Spider Knowledge Base 4.5.11
- Spide Change for Columbus 4.5.31
- Common Workflow Package 1.0.521
- Software Order 1.2.510

### 0.1 What’s New In 4.6.2 (31.03.2017)

- “Spider Incident 4.0.541” maintenance & bug fix release.
  For a full list of items changed, please also read “Spider Incident - What’s New” documentation.
- OM platform maintenance & bug fix release
  - Improved LDAP(5) sync
  - simplified SSL cert trust
  - improved performance
  - Improved indexing performance
  - Bug fix: Updating the configuration via web breaks the http settings
### INSTALL/UPGRADE Procedures

OM 4.6.2 must be patched on top of an existing OM 4.6.1 installation.

It runs on any Windows server or workstation platform (32 or 64 bit).

#### 1.1 Minimum Requirements

**1.1.1 System Memory**

OperationsManager by default is configured to use a maximum of 1280 MB.

Please make sure there is enough (~1.5 GB) free Windows memory to run OperationsManager 4.6.2.

**1.1.2 Hard disk space**

Recommended disk space: 20 GB or larger.

Required hard disk space is mainly used for installation files, database and configuration data.

**1.1.3 Brainwaregroup ESI 4.6.0 infrastructure components**

OperationsManager 4.6.x relies on the ESI 4.6.0 infrastructure components, which have to be up and running before patching to OM-4.6.2.

Please read separately available “Brainwaregroup ESI 4.6.0 Release Notes” on how to install ESI components.
1.2 **Supported Web Browsers**

As of OperationsManager 4.6.2, the following web browsers are supported:

**Fully supported browsers**
These browsers are fully supported and recommended by us.

- Chrome 47 or newer
- Firefox ESR 38 or newer
- Internet Explorer 10 or newer

**Partially supported**
These browsers can be used, but they may have some issues.

- Chrome (older versions)
- Firefox 3.5 or newer
- Opera 15 or newer versions with new Blink render engine.
- Safari

**Not supported**
These browsers are not supported and cannot be used.

- Internet Explorer 9 or older
- Opera 14 or older (versions without Blink render engine)

Note: Users with these browsers will not be able to login. Please use any other (partially) supported browser instead.
1.3 New installation of OperationsManager 4.6.2

There is no “Full Setup” version of OperationsManager 4.6.2 for a clean new installation. You have to install OperationsManager 4.6.0 Setup first, then patch it to version 4.6.1 and 4.6.2 instead (see next chapter).

1.4 Upgrading OperationsManager 4.6.1 to 4.6.2

What you need

- Windows server administrator account information.
- OperationsManager system administration account information.
- Firebird database SYSDBA password for backup operation (default: brainwaregroup)
- “Spider OperationsManager-4.6.2 rxyz.patch” file.

Patching an existing system

- Patch OM infrastructure with new core libraries and application modules.
- Restart OM

Step by Step

1. As an administrator, log-on to your Windows server.
2. Make sure “Brainwaregroup ESI 4.6.0” infrastructure components are still up and running.
   Check if ESI is already available on your network by pointing a web browser to the ESI portal: [http://<host>:7080/portal](http://<host>:7080/portal) where <host> must be replaced by e.g. localhost or the name of your ESI server.
   If the ESI version information is shown correctly, the services are up & running and you may continue installing OperationsManager.
3. Make sure the other minimum requirements specified in chapter 1.1 are met.
4. Shutdown/stop OperationsManager-4.6.1
5. Backup OperationsManager databases, using appropriate backup script from OperationsManager tools menu (Start > All Programs > OperationsManager > Tools > Backup OperationsManager Database), to e.g. c:\backup.
7. Run OperationsManager 4.6.x “Administration Client” from the Start menu: Start > All Programs > OperationsManager > “Administration Client”.
8. Log-in using your OperationsManager system administration account (default: wadmin) and select the “OperationsManager” node on top of the navigation tree and choose “Patch” function from the context menu.
9. Browse for the patch file (Spider OperationsManager-4.6.2 rxyz.patch) and press OK.
10. Once the patch file is uploaded, confirm restart of OperationsManager in order to apply the changes.
11. Please note: Starting OM the first time after patching may take a while for the server to rebuild the indices and therefore CPU utilization will be very high until complete. This is normal.

Start > Programs > OperationsManager > OperationsManager Home

As an upgrading result, you should now be able to read new OM 4.6.2 database version information from the info page e.g. http://localhost:8080/operationsmanager/app?page=Info&service=page

13. If desired, continue installing the “Knowledge Base” workflow package and reading the workflow package(s) New & Noteworthy release documentation for any further post installation instructions if any.

NOTE: Since OM 4.5.4, you will need an upgraded “Spider Incident” license file in order to use the new Knowledge Base features.

Please contact admin.ch@brainwaregroup.com if you not already upgraded your license file.

New customers will automatically get the new license file version.

14. If you installed the new “Knowledge Base” workflow package (step 13), another OperationsManager restart will be required before you can continue customizing the system for your needs.

15. Congratulations, you’re done!

1.5 Upgrade Notes

Rепatching

If you should experience any difficulties while or immediately after patching, please try patching the system again with the same patch file before uninstalling/reinstalling the whole OperationsManager installation.
**KNOWN RESTRICTIONS**

2.1 CSS style sheet sometimes not refreshed

If updated web UI fails to display correctly, try to use ctrl-r inside browser window to reload all CSS classes!
Appendix

3.1 Enabling Kerberos Windows Desktop Authentication for Single Sign-On

Requirements

- Domain Controller, Active Directory server up and running
- OperationsManager Windows server must be joined to domain
- User Windows clients must be joined to domain
- User must use Windows client domain login not local login
- All machines must use same DNS suffix e.g. .omtest.local
- OM user login names must match value of sAMAccountName AD attribute
- Properly configured web browser

Since enabling SSO is heavily dependent on your infrastructure, please ask one of our consultants for further information and activation within your system environment.

3.2 RELEASE HISTORY


- Major “Spider Incident 4.0.540” update release.
  For a full list of features, please also read “Spider Incident - What’s New” documentation.
- OM platform maintenance & bug fix release
  - Improved indexing performance
  - Improved Spider LCM integration
  - AD-import & proxy optimizations
  - Resource & performance optimizations
  - Improved Kerberos support
  - Updated WYSIWG editor
  - And many more...

4.6.0 r15591 (29.04.2016)

- Brand new UI design.
- Improved Spider Incident module & Dashboard.
  Enhanced Index engine integration based on powerful Elasticsearch & Lucene
  - The integration requires the new Brainwaregroup ESI 4.6.0 components to be installed!
Improved integration with Spider LCM.
- Extended OneSearch capabilities.
- Seamless navigation between modules.
- Shared “Recent Items” list for quick object access.
- Major maintenance & bug fix release.

4.5.5 r14486 (02.03.2015)
- This primarily is a maintenance & bug fixing release with minor enhancements only.
- Improved WYSIWYG editor for Spider Incident & Knowledge Base
  - Improved browser compatibility
  - Image Copy & Paste and Drag & Drop support (all major browsers)
  - Enhanced editing options activated
- Improved Admin Client web start compatibility and security issues
- Enhanced Cloud provisioning features
And many more ... 

4.5.4 r14176 (28.11.2014)
- Extended Spider Incident workflow package
- New Spider Knowledge Base integrated in Spider Incident
- Improved application framework:
  - Bug fixes
  - Memory & performance optimizations
  - Assignments caching for faster login and participant searches
  - Deployment & class loader optimizations
  - Indexing & Querying enhancements
  - Support for latest browser versions
  - Admin Client web start improved for Java 7/8
  - LDAP sync improvements for large organizational models
  - RESTful web service support (workflow specific)
  - Support for Synchshield MDM 4.4.0
  - Integration of Java Server Faces 2.0.x
  - Integrated “Online Help” & “What’s new” release information
And many more ... 

4.5.0 r13250 (28.06.2013)
- Extended support for Columbus Mobile MDM solution
- Improved workflow event framework
- Web app memory optimizations
- Notification customization
- Improved ASAP 2.0 WS interface
- CKEditor update (iOS + IE10 Support)
- New MultiUpload component for uploading multiple files at once
- Support for browsers on mobile devices
- RESTful web service support (workflow specific)
- Support for Novell eDirectory as an ldap data source
- ADFS support (SSO)
- Secure smtp support
- Workflow specific smtp server configuration
- Certificate chain support: ADImport, Fetchmail, SendMail
- Improved workflow package classloaders
- New Guardian self-update patch improvement

4.1.0 r12039 (18.04.2012)
- New Feature: Indexing engine integration for full text analysis and querying capabilities.
  Provides full attachment and archive support (doc, pdf, xls, txt, zip, etc.) incl. black/white listing
- New Feature: OneSearch - global search field with support for autocomplete and term highlighting.
- New Feature: Scoring, sorting and grouping of index search results
- New Feature: Index query support for "Administration Client" incl. query builder.
- Enhancement: Improved platform patching mechanism. No includes patching of workflow packages.
- Enhancement: improved organisational assignments administration.
- Enhancement: Improved workflow modules: see separate release notes.

4.0.0 r10715 (05.05.2011)
- New Feature: Brand new brainwaregroup ribbon UI design.
- New Feature: Administration Client web start.
- New Feature: Based on new Glassfish Application Server infrastructure.
- Enhancement: Improved patching mechanism.
- Enhancement: Improved LDAP import & synchronisation.
- Enhancement: Improved search filters.
- Enhancement: Improved user work item report.
- Enhancement: Improved user object assignments report.
- Enhancement: Firebird SQL 2.3.1 support.
- Enhancement: Improved workflow modules: see separate release notes.

3.1.1 r7284 (08.08.2008)
- New Feature: Full Japanese translations done for workflow engine, administration client, webapp and workflows (Incident & Change Management)
- New Feature: Support for global configuration of MIME character set e.g. ISO-8859-1 (default), Shift-JIS, etc.
- Enhancement: Added translations for processes and activities.
- Enhancement: Added localized process and activity names in system notifications.
- Enhancement: Improved notification templates to support more than two languages.
- Enhancement: Improved Setup allows to specify the DefaultDisplayLocale at installation time.
- Enhancement: Improved LDAP import/synchronisation using OU includes/excludes, allows to build organisational models from individual directory subtrees and domains.
- Enhancement: Improved LDAP certificate handling.
- Enhancement: Improved participant search component performance.
- Enhancement: Improved display of wide string columns when using Firefox browser.
- Enhancement: Columbus ChangeManagement 1.0.x compatibility update for C 6.10.
- Bugfix: Improved migration from 3.0.1 to 3.1.0.
- Bugfix: Columbus ChangeManagement 1.1.x did not find existing devices when using ASAPBatch.
- Bugfix: Synchronisation of LDAP sub domains did not work properly.
- Bugfix: Deployment of workflow packages containing UTF-8 characters.
- Bugfix: ActiveMQ startup failed after Firebird user password change.

For more detailed information on what’s new, please unpack “new and noteworthy.zip” and browse the appropriate “new and noteworthy.html” files with your favorite web browser.

3.1.0 r6865 (06.05.2008)

- New Feature: Full Unicode support for OperationsManager engine, admin console, webapp and workflows.
- New Feature: Extensive filter API for OperationsManager simple object searching/querying. Primarily the filters are usable/accessible from the administration client search context menu, but they are also being integrated by several Web components and workflows.
- New Feature: Cost center support for organisational objects. They can be assigned to organisations, OUs, roles, humans.
- New Feature: Additional human properties: Business-/Private e-Mail/Phone numbers, separate Mobile number for SMS notifications, Job Title, Location, Force password change.
- New Feature: Password expiration can be set/defined using worknavigator.server.security.policy.maxpwdage property.
- New Feature: ContextData BLOB support for subflows (e.g. forwarding of attachments from main flow into subflow and vice versa).
- New Feature: Embedded ActiveMQ message queue for future improvements of notification and event handling.
- Enhancement: Organisational Models can now contain sub organisational models e.g. another (sub) domain of a company. This allows more flexible modelling of organisational structures along the rule “one organisational model represents one company”.
- Enhancement: Improved LDAP support:
Authentication against LDAP server now also works if the LDAP server is offline (works only for users which previously logged in at least once).

Sub domains can be imported as sub organisational models (see comments above).

Usage of includes/excludes allows to partially import LDAP trees.

Partially imported LDAP trees can be extended with another sub tree at any time.

Namespaces of imported LDAP trees are now automatically generated and reflect the original LDAP name/hierarchy.

- Enhancement: Improved OM authentication: in addition to the standard "om-namespace\login-name" format, the new login name format "login-name@om-namespace" is now supported. If an LDAP directory (sub) tree is imported, the top level namespace of the imported (sub) tree must be used as the om-namespace.
  E.g users from imported sub domain "location1.company.com" must use "login-name@location1.company.com" as their login name.
  This enhancement allows OM accounts to be treated like domain accounts and helps to reduce duplicate login name problems within the whole company.

- Enhancement: Updated database server to Firebird 2.0.3 for better performance and Unicode support.
  Please note: the new Firebird 2.0.3 default SYSDBA password is set to "brainware" and can/should be changed using the gsec tool located in "...\columbus\worknavigator\3rdparty\firebird2\bin" folder.

- Enhancement: Internationalization support for workflow object names (processes, activities, roles, etc.).

- Enhancement: Added ASAP Facade Java API for simpler ASAP integration from external applications.

- Enhancement: UUID support for organisational objects.

- Enhancement: All OperationsManager objects (workflow models, processes, activities, OUs, roles, humans, etc.) can now have assigned (file) resources.

- Enhancement: Overall performance tuning & bug fixing

3.0.1 r6007 (05.11.2007)

- Bugfix: Modified setup system file copy attributes to prevent W2K3 SP1/SP2 crash after installation.

- Replaced system files will also be backed-up now.

- Bugfix: Fixed ASAPBatch initialization and interval config change (scheduled job deletion)

- Enhancement: Added default WFP location folder in Admin Client settings

3.0.1 r5681 (23.7.2007)

- Enhancement: Improved XML schema date/time handling

- Enhancement: Improved attachment download handler (webapp) for IE6, IE7, Firefox

- Enhancement: Improved ASAP exception handling

- Updated: Includes updated "Incident Management-1.1.21" workflow package & db extensions for upcoming 1.1.30 version.
- Updated: Includes updated "Columbus Change Management-1.0.3" workflow package

3.0.0 r5589 (26.05.2007)
- Enhancement: Improved ASAP & scheduler concurrency handling
- Enhancement: Support for Windows Vista (client & server), JDK 1.5.0_11
- Enhancement: Improved ASAPBatch exception handling
- Enhancement: Simplified ASAP model/process namespace lookup
- Updated: Columbus icons

3.0.0 r5526 (01.05.2007)
among many others, this major release contains:
- New Feature: "Columbus Change Management 1.0.0" workflow package for Columbus 6.9
- New Feature: ASAP (Asynchronous Service Access Protocol) Batch processor 1.0
- New Feature: ASAP (Asynchronous Service Access Protocol) Web Service interface 1.0
- New Feature: LDAP/AD support (organisational model synchronisation and user authentication)
- New Feature: Highly customizable process scheduler
- New Feature: SMS notification support
- New Feature: User time zone support
- New Feature: SSL support for Admin Client and LDAP lookup
- Updated: Overall performance optimizations (server, webapp)
- Updated: Improved Web GUI
- Updated: "Incident Management 1.1.20" workflow package
- Updated: Workflow design simplifications: Participant iteration (e.g hierarchical approval), Activity parallel loop (e.g. votings), ContextData attachment support

2.6.0a (06.01.2006)
Setup
- Bugfix: Migration did not work if an older Java virtual machine was present in System32 directory.
- Bugfix: Some values in worknavigator.master.properties have not been updated during installation.

2.6.0 (30.11.2005)
Server
- New Feature: XPDL support for complex data types.
• New Feature: XPDL support for external package references.
• New Feature: Support for sub-processes.
• New Feature: Formal parameter support (workflow, subflow and applications).
• New Feature: Introduction of model-wide context data.
• New Feature: Introduction of model-wide resources.
• New Feature: Added server & webapp patch feature.
• Enhancement: Support for long login names.
• Enhancement: Support for duplicate login names (unique within OM).
• Enhancement: Resources moved into database. They can be optionally synched to the file system.
• Enhancement: Context data now support collections (lists, sets, vector, etc.)
• Enhancement: Improved Web Service exception handling.
• Enhancement: Added additional core test cases for automatic testing.

Admin Client
• New Feature: Added server & webapp patch feature.
• New Feature: Function to list a user’s work items.
• New Feature: Function to list a user’s assignments (workflow & organisational).
• New Feature: Function to list all running process instances per workflow model or per workflow package.
• Enhancement: Whole OM is now draggable into a workflow participant container (e.g. company-wide role assignment).
• Enhancement: Support for long login names.
• Enhancement: Support for duplicate login names (unique within OM).
• Enhancement: Added new test client framework for automatic workflow deployment and -testing.
• Enhancement: Prepared for additional language support e.g. french.

WebApp
• Enhancement: Complete GUI redesign.

2.5.0 r1695 (12.05.2005)

Server
• New Feature: Added extensive workflow package/model version deployment- & update features.
  In contrast to the already existing workflow patch feature, this allows to deploy newer/enhanced structures and data types of already existing and running workflows. It includes the ability to run multiple workflow package/model versions simultaneously for seamless migration.
  The activation of updated versions can optionally be restricted/specified by additional "valid from" and "valid to" attributes.
• New Feature: Added multi version support for workflow packages/models.
• New Feature: Added support for wfp version restrictions.
• New Feature: Added support for wfp internal subprocesses.
• New Feature: Added namespace extensions (identification) to major workflow objects (simplifies external referencing).

• New Feature: Added support for organisational roles "Manager" (OUs) and "Coordinator" (roles).

• New Feature: Added support for system roles "Administrator" and "Observer" on OU and Role objects.

• New Feature: Added time escalation notification features for process- & activity instances.

**Admin Client**

• New Feature: Added Workflow package/model version deployment- & update feature dialogs

• New Feature: Added multi version support for workflow packages/models

• New Feature: Added support for wfp version restrictions.

• New Feature: Added support for workflow object namespaces (properties dialogs).

• New Feature: Added dialogs for organisational roles "Manager" (OUs) and "Coordinator" (roles) configurations.

• New Feature: Added support for system roles "Administrator" and "Observer" on OU and Role objects.

• New Feature: Added time escalation notification feature dialogs for package, model, process- & activity object configurations.

• New Feature: Added resource editing and resource namespace support.

**WebApp**

• New Feature: Added multi version support for workflow packages/models

• Enhancement: Framework upgraded to Tapestry 3.0.3

• Enhancement: Added "Tapestry Inspector" to the systems management page.

• Enhancement: Added custom WorkItem page functionality for each individual process & version

**Others**

• Enhancement: [416] "OperationsManager WebSite" shortcut now initiates a new instance of Internet Explorer in order to provide multisession OM access.

• Bugfix: DB Backup/Restore (unavailable database, long filename support).

**2.4.0 r917 (14.12.2004)**

**Server**

• New Feature: Introduction of Workflow Package object

• New Feature: Workflow Package -> Workflow Model configuration inheritance

• New Feature: Quartz scheduler integrated (Notification only)

• New Feature: SSL configuration utility

• New Feature: new Resource upload feature

• New Feature: patchable Workflow Packages

• New Feature: added support for workflow (trial) licensing
- New Feature: configurable mail mime.charset. Default is iso-8859-1
- New Feature: added support for SMTP authentication
- New Feature: added public page dispatcher
- New Feature: added support for descriptive mail addresses
- New Feature: added SendMail testing function (WebClient for wnadmin)
- Enhancement: Workflow Package deployment
- Enhancement: Responsible escalation & assignment
- Enhancement: Automatic DB migration for OM6.3 and OM2.3 releases
- Bugfix: [277] WebServer HTTP port configuration fixed

**Admin Client**

- New Feature: Workflow Package deployment/patching
- New Feature: Resource uploading
- New Feature: Remote OM Server restart
- New Feature: Overlay icons for Workflow Package/Model/Process status representations
- Enhancement: Workflow Model configuration
- Bugfix: [236,242] Viewing property dialogs of non-running or complete process instances

**Others**

- New Firebird version 1.5.1 integrated
- Workflow packages are named after the following pattern: 'Workflow Package Name'-'Workflow Package Version'.'Workflow Package Patch Level'.wfp e.g. 'support-1.0.4.wfp' which means the 4th patch of version 1.0 of the Support workflow package.
- Checks for the presence of wnpackage.xpdl before executing build, deploy, undeploy targets.
- New input parameter project.basedir allows the specification of a workflow package from outside the script. Used for Setup (deploy/undeploy).

**2.3.0 r71 (15.06.2004)**

- added the all new Support workflow package (Helpdesk) in version 1.0
- introduction of application data database
- introduction of application data context
- added Hibernate support for application data persistence
- added ai/pi time calculation & escalation features
- added database migration tool
- added scripts for Backup/Restore
- decouppeling engine- & workflow setup for easier licensing
- renaming setup/product name & -version to the actual project name & -version (OperationsManager 2.3)
2.2.0 (14.04.2004)
- reviewed implementation of external applications / interface
- improved security features for external applications
- improved external application exception handling
- improved external application restart/abort
- improved external application fail-safe handling (during engine restart)
- improved Route & non-NO_IMPL activity performer assignment & security
- added new participant definition functions: System-type, Expression-type, ...
- added support for process-/package- and context-responsible roles
- improved logging configuration/implementation
- improved notification
- improved implementation of participant list container
- COM Software Order process optimized (usage of new features above)
- Tomcat 4.1.30 upgrade

2.1.0 (22.01.2004)
- reviewed engine API & WebServices.
- new hibernate persistence implementation: performance optimization, full transaction support e.g. delete OM with all references, etc.
- optimized client access performance (OM/WFM functions).
- optimized security.
- revised/optimized COM SW-Order workflow package.
- added workflow package versioning support.
- removed James mail server from distribution. Any third-party server can now be used instead.

2.0.0 (14.11.2003)
- "Operations Manager" "rebranding" applied to web application.
- WebApp look adapted to Columbus 6 design.
- WebApp root context is now .../operationsmanager
- New hierarchical list participant type container: allows the definition of hierarchical and sequential order of participant responsibilities.
- Above container now available in COM SW-Order workflow for flexible approver activity loop configuration.
- COM SW-Order workflow functionality finalised.
- New workflow design feature "DeleteInstance" implemented as XPDL extended attribute.
- This option will force the deletion of process instances & data upon successful completion.
• Introduced proper DB versioning.

2.0.0 beta4 (10.11.2003)

• Introduction of "Initiator" participant type in XPDL (this is a BrainWare added feature). It allows to predefine process initiators at design time.
• Introduction of "Foreign System" participant types. There is a special version for Columbus, which will show-up with its own icon in the admin console.
• Changed WS interface for "create process instance". It is now possible to use a pre-defined Columbus foreign system account (as mentioned above) to initiate a new instance.
  ➔ sample above provides a valid SOAP request for this feature.
• Lots of bug fixes and added features: see separate Excel sheet.

2.0.0 beta3 (30.10.2003)

• First release with Hibernate persistence implementation - Wow, great!!
• Integrated firebird database access & drivers
• Improved setup, which now takes care of master.properties & database changes on uninstall/reinstall
• Easier configuration update & activation via webapp
• Lots of bug fixes in engine, webapp, client

2.0.0 beta2 (20.10.2003)

• Introduction of this file
• Introduction of install subproject (single point of installation/configuration using worknavigator.master.properties and scripts)
• James mail server distribution integration (NT Service or CMD window)
• Default mail server configuration with activated all-mail-redirection to wnadmin@localhost to avoid spaming when testing
• New server & admin client versions (updated/optimized webservice interfaces and core abstractions)
• Admin client: many enhancements & bug fixes
• WFDK: new version of JaWE 1.2 integrated