



# Aras Innovator 9 Release Notes



Aras Innovator 9.1

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## Release History

Version	Date	Comments
9.0	02-22-2008	Initial Release
9.0.1	05-27-2008	Planned Maintenance Release
9.0.2	09-06-2008	Planned Maintenance Release
9.1.0	02-28-2009	Planned Maintenance Release



# 1 Overview

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The following sections provide a high level overview of the Enterprise Solutions included in the initial installation.

## 1.1 Aras Program Management

Aras Program Management is for performance driven companies of all sizes that require a practical solution for managing phase-based projects in a milestone & deliverable structure across the company and around the world with suppliers and customers.

Aras Program Management delivers strategic value by providing visibility across the entire portfolio of project programs. The solution combines executive dashboards based on real-time roll-ups of actual project management activities and deliverables with enhanced project status reporting. Team members collaborate effectively by simultaneously accessing the project plan online from anywhere in the world to get the latest status, receive updates, upload information, and complete activities. Traffic light indicators provide managers up to the minute status at a glance focusing attention on activities or projects that require action. Aras Program Management incorporates the PMI principles for managing projects.

Project templates define company standards and incorporate best practices as a starting point for future projects. The shared project knowledge repository enables projects to get started quickly. The Web-based solution improves program operations by standardizing similar project types and improving communication across the enterprise and with suppliers and customers.

Unmatched flexibility enables application modification to address specific competitive practices and provides the foundation for continuous improvement leading to greater effectiveness and shorter cycle times. Aras Program Management interoperates seamlessly with the other Aras solutions for Product Engineering and Quality Planning as well as new solutions created. When combined Aras solutions deliver comprehensive business functionality or use each independently to compliment existing systems and leverage previous technology investments.

## 1.2 Aras Product Engineering

Aras Product Engineering is for performance driven companies of all sizes that require a practical solution for product definition and change management across the company and around the world with suppliers and customers.

Aras Product Engineering delivers strategic value by providing actionable dashboards for visibility into key development indicators increasing productivity and streamlining development operations to improve profitability. Manage the product definition processes securely online to develop high quality products on time and on budget. Web-based change management workflow processes reduce cycle times and control product information release between departments, divisions, suppliers, and customers for effective coordination. Product and process information reuse increases productivity. Aras Product Engineering incorporates the CMII principles for Configuration Management and includes alternate workflows for simple change processes (ECO/MCO).



Unmatched flexibility enables application modification to address specific competitive practices and provides the foundation for continuous improvement leading to greater engineering effectiveness. Aras Product Engineering interoperates seamlessly with the other Aras solutions for Program Management and Quality Planning as well as new solutions created. When combined Aras solutions deliver comprehensive business functionality or use each independently to compliment existing systems and leverage previous technology investments.

### **1.3 Aras Quality Planning**

Aras Quality Planning is for performance driven companies of all sizes that require a practical solution for managing quality planning and risk management processes across the company and around the world with suppliers and customers.

Aras Quality Planning delivers strategic value by providing a process-based approach to managing risks and preparing quality compliance documents for preproduction planning and product launch. Customer specifications, compliance requirements, and lessons learned from previous projects are captured in "templates" and become standard for all new product projects ensuring that the latest knowledge is incorporated. The Web-based quality planning solution improves product development operations by re-using information across parts, plants, and documents. Aras Quality Planning incorporates principles for Quality Planning found in the Advanced Product Quality Planning and Control Plan reference manual (APQP) and Potential Failure Mode and Effects Analysis reference manual (FMEA).

Unmatched flexibility enables application modification to address specific competitive practices and provides the foundation for continuous improvement. Aras Quality Planning interoperates seamlessly with the other Aras solutions for Program Management and Product Engineering as well as new solutions created. When combined Aras solutions deliver comprehensive business functionality or use each independently to compliment existing systems and leverage previous technology investments.



## 2 Product Features

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The following section provides a brief overview of the features included in Aras Innovator 9. The sections describe the features for each Solution as well as an overview of some of the most significant enhancements to the Aras Innovator Enterprise Application Framework.

### 2.1 Aras Innovator Enterprise Application Framework

Aras Innovator includes numerous features within the Enterprise Application Framework, most of which are specifically designed to support the Solutions.

#### 2.1.1 Single Sign-On

The Aras Innovator Single Sign-On feature provides a mechanism for companies to take advantage of an existing user authentication scheme so that an Aras Innovator login can be processed without the user entering an Aras Innovator specific password.

This feature has been architected so that it can be easily configured to adapt to an Active Directory / LDAP environment or, if the company has another user authentication scheme, hooks have been included to integrate a non-standard method.

#### 2.1.2 Relationships to Multiple Item Types

An Aras Innovator administrator is now able to create a relationship definition that has multiple Item Types as the target of the relationship. This new feature, known as a PolyItem, greatly simplifies the task of creating Aras Innovator data models in which one item type must reference various other item types. Use a single relationship rather than creating a relationship for each and every Item Type referenced.

Another benefit for the end user is that now a single tab consolidates a large set of related Items in a single, tabbed view.

#### 2.1.3 Aras Innovator Service

The Aras Innovator Service is a Windows executable program that runs as a Windows Service. It is used to automatically run Aras Innovator Methods on a periodic schedule, as specified in the InnovatorServiceConfig.xml file.

A single running instance of the Aras Innovator Service can be configured to periodically connect to any number of Aras Innovator Servers and for each Aras Innovator Server run any number of Methods. The standard Windows Event Viewer is used for logging program status and error messages.

Examples of Aras Innovator Service uses are:

- Running a Method that creates and sends Workflow reminder emails
- Running a Method nightly that creates a report and mails it to a set of users
- Running a Method nightly that updates time sensitive information for various item types





#### **2.1.4 Combined In Basket**

Aras Innovator has three types of user assignments – Workflow Activities, Project Activities, and FMEA Action Items. The Aras Innovator InBasket consolidates these assignments so that a user can view all their assignments on a single screen.

Each user can control their In Basket display to include assignments by type and/or status in any combination of the following;

- Type – Workflow Activity, Project Activity or FMEA Action Item
- Status – Active or Pending

#### **2.1.5 Globalization and Localization Support**

Aras Innovator has introduced the support of several features to support a user interface that can be adapted to the language and locale of the user.

##### Localization

- Multi-Lingual properties that display property based on locale defined language
- Toolbars and menus can be customized to local specific languages
- Display Date, Float, and Decimal properties based on region and language settings on client

##### Corporate Time Zone

- Ability to define a specific time zone as the Corporate Time Zone for the Innovator Server. This time zone will be used as a universal reference for Aras Innovator instances used across multiple time zones.



## 2.2 Aras Program Management

The following provides an overall summary of features in the Aras Program Management solution. This list is a high level summary and is intended to provide a general overview of the Solution functionality.

### 2.2.1 Dashboard Consoles

Dashboards are used to quickly display the status of the entire project portfolio or a specific set of program projects. Dashboards display traffic light indicators so executives and project managers focus on the projects or activities that require their attention. Users can quickly filter dashboards by a variety of fields to view only relevant projects.

### 2.2.2 Phases, Milestones, and Work Breakdown Structures (WBS)

Aras Program Management provides project managers with the ability to organize projects in the context of a WBS with related milestones as defined by the PMI Project Management principles.

WBS elements are used to organize a project in a work context that is important and relevant to product development operations. In many cases, companies use WBS elements to model program phases to support a phase-based project management model where phases can be defined to run sequentially or concurrently. In other situations, a project manager may want to break down projects by department or by functional areas of a product.

Milestones can be defined within the context of the WBS to identify and establish critical dates to which the project must be managed. Special scheduling options are available to allow the project manager to specify if the project plan is completely driven by milestone dates or by the scheduled start or finish dates.

### 2.2.3 Deliverables

Deliverables are the essential outputs of a product development project. They can consist of basic documents such as specifications, design documents or financial plans. Alternately, they can include Engineering Change documents, Bills of Material, Quality Planning documents (such as FMEAs, Control Plans and Process Flow Diagrams), and other items from custom solutions.

Aras Program Management is seamlessly integrated with standard Aras Innovator document management functionality as well as the Product Engineering and Quality Planning solutions to provide direct linkage to all of the deliverables identified above. The ability to manage the in-process status of the deliverables in real time, in the context of the project plan, is essential to providing the appropriate depth of information to executives and project team members.

### 2.2.4 Project Templates

Project templates standardize the phases, milestones, activities, and deliverables by project type and provide the consistent starting point for new projects. Project templates enable the designation of different project structures for different project types, product families or product lines, manufacturing sites, or customers.



Deliverables, activities, or compliance requirements can be embedded in a template to ensure inclusion.

Lessons learned from previous projects can be included in templates moving forward institutionalizing continuous improvement. Project templates provide a single project knowledge repository. In addition, standardized templates provide a consistent framework for KPI metrics.

### **2.2.5 Scheduling**

Aras Program Management supports multiple scheduling algorithms; forward, backward and milestone scheduling.

Forward scheduling allows project managers to create dependencies between any activities and milestones to define precedence for all planned activities. This method uses the target start dates and durations as the basis for driving target completion dates for activities, milestones and the project as a whole.

Backward scheduling applies the principles in setting precedence, but uses target completion dates as the basis to set and plan activity start dates.

Milestone scheduling provides a more basic phase-based scheduling model without the associated complexity of activity and milestone precedence.

### **2.2.6 Resources**

Resource assignments are modeled easily by creating project team definitions in each project template. When a new project is created from a template, individual assignments are automatically created throughout the project by simply identifying the users that will be fulfilling each role on the project team.

Individuals are able to track and respond to their assignments by reviewing their personal InBasket view in Aras Innovator. The InBasket provides each user with a list of their activity assignments that can be filtered and sorted by project, status, date or other criteria. This capability fosters a highly collaborative and accountable environment in which each user is responsible for the progress and status reporting of activities.

### **2.2.7 Activity Management**

Activities and actions can be managed based on schedule and cost. Each user has an in-basket with assigned activities. The system automatically flags an activity that could have a negative impact on the project schedule based on definable business rules. All members of the team have instant visibility into all of the project activities and the current status of each. Activities can reference predecessor activities that must complete prior to the start of the successor activity.

Each activity can have associated timesheets where users record time spent on a given activity. The information can be used to calculate the amount of time and resource dollars spent on a given project.



### 2.2.8 Reports

Providing a set of popular reports allows companies to focus time on their business needs, not on creating reports. Aras solutions provide robust and easy to use reports and utilize the Reporting Services capabilities of Microsoft SQL Server for custom report writing.

Standard reports can be further customized to create company, site, or industry specific versions.

Prepackaged reports include:

- ◆ Gantt Chart
- ◆ Resource Time Report



## 2.3 Aras Product Engineering

The following provides an overall summary of features in the Aras Product Engineering application. This list is a high level summary and is intended to provide a general overview of the Solution functionality.

### 2.3.1 Engineering Change Management

Aras embeds Problem Report (PR), Engineering Change Request (ECR), and Engineering Change Notice (ECN) documents and workflows that conform to the CMII principles along with alternate options for simplified workflows for Engineering Change Order (ECO) and Manufacturing Change Order (MCO). The CMII engineering change workflow includes a Fast Track option for quick processing and standard reports based on the CMII reference model. The Aras change management functionality helps companies:

- Control product information changes between departments, sites, divisions, suppliers and customers worldwide
- Increase visibility into pending and released changes and the items affected by the changes
- Automate and streamline change control processes with online, graphical workflow

Both the ECR and ECN allow referencing of items that are affected in the change process. Actions can be associated with each affected item such as add, change, and delete.

### 2.3.2 Document Management

Centralized vaulting of documents and files with association directly to a product or part, combined with a change management environment helps companies control intellectual property and collaborate effectively over the Internet. Document management is used to store, search and control a product's requirements, specifications, and related documentation as it evolves and changes over the lifecycle of the product. The document definition allows multiple files to be attached to a single document item with classification-based metadata descriptors.

### 2.3.3 BOM Management

Aras Product Engineering provides the ability to define a multi-level product Bill-Of-Material structure (BOM). A BOM is a hierarchical list of sub-assemblies, components, and/or materials that make up the higher level component, assembly, product or system. Nested BOM structures are supported.

### 2.3.4 Alternate and Substitute Parts

Parts can be defined with a list of Alternate parts. Alternate parts represent globally interchangeable replacements that meet the required form, fit, and function requirements. Alternate parts can be used in place of the original part during manufacturing, field service, or maintenance repair and overhaul without compromising quality or reliability.

Substitute parts are BOM-specific Alternates. Substitute parts can only be used in place of the original part for the designated Bill-Of-Materials.



### 2.3.5 AVL/AML

Approved vendor lists (AVL) and approved manufacturers lists (AML) can be defined and linked to specific parts. Manufacturer/Vendor-specific information such as data sheets, catalog numbers, certification status, and other important information for the externally acquired or manufactured parts or material can be maintained. Support for AVL/AML definitions enables a company to create, share, manage, and track supplier performance status on a part-by-part basis.

### 2.3.6 Classification Driven Parts & Documents

Classification provides a robust way to manage complex types of part and document definitions bound by a predefined structure. Class properties are hierarchically inherited so relevant data is captured for each item within the context of its parent structure. Starter classification structures are provided and attached to the part and document definitions. These structures can be extended to best represent unique classification requirements.

### 2.3.7 State-Driven Business Processes

Business objects governed by state-based intelligence enable software to directly reflect a company's process. A lifecycle definition can be assigned to items within Innovator which then governs the allowed set of states (e.g., New, Prototype, Production, etc.) that an item can exist. Each entry or exit into a different state can change access permissions, send notification, and trigger custom business logic. The application provides predefined lifecycle maps on the following Items:

- ◆ Parts & Documents
- ◆ ECRs, ECNs, PRs
- ◆ AMLs, AVLs

Additionally, ECN workflow logic automatically controls promotion to different states as workflow is completed.

### 2.3.8 Design-to-Goal

Parts can have defined goals such as cost and weight. Every part can be defined with a target, estimated and actual values. Overall rollups are dynamically calculated by evaluating a Part's entire BOM structure. Rollup of cost and weight of complex product structures enables one to evaluate goals against estimated and target values to determine engineering effectiveness and predictability in goal achievement.

### 2.3.9 Scorecards

Tracking key performance indicators (KPIs) is important to business success. Aras provides the ability to define metrics and display the results graphically using scorecard charts. Each metric series can include a hyperlink to open a specific item, to generate a report, or to invoke other custom business logic. Aras provides several standard KPI metrics for product development. These KPI metrics enable companies to focus better on strategic activities & innovation to increase overall product development effectiveness. Standard scorecard charts include:

- ◆ Product Innovation
  - # of changes per quarter: Product Improvement vs. Corrective Action



- Changes by origin
- ◆ Engineering Efficiency
  - Change cycle time: Fast Track vs. Standard Process
  - Time spent in each department
- ◆ Design to Goal
  - Cost vs. Goal
  - Weight vs. Goal
- ◆ Engineering Optimization
  - Parts used in multiple products
  - # of new parts by quarter
- ◆ Time to Manufacturing
  - Average time to release to manufacturing

### 2.3.10 Reports

Providing a set of popular reports allows companies to focus time on their business needs, not on creating reports. Aras solutions provide robust and easy ways to use reports and utilize the Reporting Services capabilities of Microsoft SQL Server for custom report writing.

Standard reports can be further customized to create company, site, or industry specific versions.

Prepackaged reports include:

- ◆ Multi-level BOM
- ◆ Quantity Rollup Report
- ◆ BOM Costing Report
- ◆ Problem Report (PR Report)
- ◆ PR Log Report
- ◆ ECR Report
- ◆ ECR Log Report
- ◆ ECN Report



## 2.4 Aras Quality Planning

The following provides an overall summary of features in the Aras Quality Planning solution. This list is a high level summary and is intended to provide a general overview of the Solution functionality.

### 2.4.1 Failure Mode & Effects Analysis (FMEA)

FMEA functionality helps companies identify and mitigate reliability risks during design, development and engineering. Aras supports two types of FMEAs: Product Design FMEAs (DFMEAs) and Manufacturing Process FMEAs (PFMEAs).

As opposed to using spreadsheets, Aras FMEA functionality is supported by a centralized database creating a true set of living documents. FMEA information is accessible online over the Internet simultaneously by multiple users enhancing collaboration.

A process-based approach drives FMEA characteristics through related quality planning and product development documents for consistency, coordination, and control.

### 2.4.2 FMEA Actions

FMEA Actions are activities within Aras. Actions are initiated and assigned to a specific person and then appear in the person's in-basket. As Actions are completed they are removed from a person's in-basket and the entire product development project team is immediately aware of the status for enhanced collaboration. Reports provide a quick snapshot as to the overall product FMEA status.

### 2.4.3 Process Flow Diagrams

Process flow diagrams (PFDs) graphically define the production process providing a definition of the steps and stages during manufacturing and focusing the product development team on the overall process as opposed to individual parts or operations. Process flow diagrams are integrated with FMEAs and Control Plans for data reuse, consistency, and coordination.

### 2.4.4 Control Plans

Control Plans define the characteristics, inspection & test parameters, and specification measurements and tolerances for a new product to meet quality, reliability, and customer requirements. A Control Plan describes the mechanisms and actions required at each step of the manufacturing process to assure consistency and minimize variability.

### 2.4.5 Application Sensitive Data Entry

Intelligent grids enable complex data relationships to be easily displayed and edited in a spreadsheet-like format. The intelligent grids automatically merge cells or create nested branches to simplify document creation and improve usability. Grids can easily be extended and configured to include additional information while retaining formatting and data integrity.





#### **2.4.6 Libraries**

Specific libraries can be established to standardize fields such as Failure Modes, Effects, and Control Mechanisms. Fields can be grouped by product family or product line, customer-specific requirements, supplier capabilities, or other categorization methodologies. Standard fields make creating quality documents fast and easy and simplify data analysis.

#### **2.4.7 Quality Plan Linkages**

Aras maintains relationship links between quality planning items throughout the product's lifecycle so that when information is updated in one place it is automatically added to other related items. FMEAs, Control Plans, and PFD's are integrated so that the required information, such as the characteristics and operations, is shared between all documents automatically.

Quality plans can be accessed directly or from the Part Item so product development teams have the necessary information at their fingertips. Team members can add additional information to quality plans easily facilitating collaboration. Information linkage reduces the time and resources needed to gather the relevant information for reporting or submitting to a customer, or for auditing.

#### **2.4.8 Part Family Support**

Part families allow for a creation of a single FMEA to be shared by multiple parts. This reduces the amount of data that needs to be entered and maintained and provides consistent documentation across an entire line of products. Changes and updates made in one place propagate automatically to all the connected documents.

#### **2.4.9 Product Templates**

Product Templates provide a standard basis for new products with a consistent set of embedded requirements for product development. Templates enable the designation of different quality requirement structures for different project types, product families or product lines, manufacturing sites, or customers. Compliance requirements can be embedded in a template to ensure inclusion.

Field failure and reliability testing results from existing products can be included in templates moving forward institutionalizing continuous improvement. Product templates provide a knowledge repository of product development quality practices. In addition, standardized templates provide a consistent framework for future data analysis.

#### **2.4.10 Document Management**

Documents are created and stored in a secure, centralized database providing online access, intellectual property control, data & document reuse, and document linkage relationships. The Web browser-based system includes comprehensive revision change control based on the CMII principles for configuration and change management and maintains a complete revision history (see Aras Product Engineering section).

#### **2.4.11 Reports**

Providing a set of popular reports allows companies to focus time on their business needs, not on creating reports. Aras solutions provide robust and easy to use reports



and utilize the Reporting Services capabilities of Microsoft SQL Server for custom report writing.

Standard reports can be further customized to create company, site, or industry specific versions.

Prepackaged reports include:

- ◆ Design FMEA
- ◆ Process FMEA
- ◆ FMEA Actions
- ◆ Process Flow Diagram
- ◆ Control Plan



## 3 Upgrading from Previous Releases

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There are four potential states from which a customer may wish to upgrade to Aras Innovator 9.1.

1. Aras Innovator 9.0 is running in production and you wish to upgrade to the Aras Innovator 9.1 release (no Solutions).
2. Aras Innovator 9.0 is running in production and you wish to upgrade to the Aras Innovator 9.1 release with the Solutions.
3. You are running a version of Aras Innovator that is previous to release 9.0.

The Aras Innovator upgrade utilities are designed to upgrade customer databases from Aras Innovator 9.0(any patch release) to Aras Innovator 9.1. The following sections will provide you guidance as to how to upgrade from any of the three described states.

### 3.1 Upgrading to Aras Innovator 9.1 from Aras Innovator 9.0

For customers with an active subscription the upgrade package and installer for Aras Innovator 9.1 provides you with all the tools required to migrate your production Aras Innovator 9.0(any patch release level) version directly to Aras Innovator 9.1.

Please follow the instructions in the *Aras Innovator– Upgrade Package* when upgrading to ensure you follow the proper procedures.

### 3.2 Upgrading to Aras Innovator 9.1 from Early Releases

Customers with an active subscription that plan to upgrade to Aras Innovator 9.1 from releases previous to Aras Innovator 9.0 have two options.

The first option is to request all the major release installation kits between your current release and Aras Innovator 9.1. For instance, if you are running release 8.2, you would need release kits for Aras Innovator 9.0(subscription only release) and Aras Innovator 9.1. Your upgrade process would be to install each version in ascending order, updating your database at each step. Please contact Aras customer support to ensure you are following the correct procedure.

The second option is to contact Aras Professional Services and request to have your database upgraded by Aras as a service.

### 3.3 Upgrading to Aras Innovator 9.1 with Solutions

Customers who have customized their business ready solutions in Aras Innovator 9.0 will require merging these changes into the upgrade process. Customers do not feel comfortable with the merge process outlined in the *Aras Innovator– Upgrade Package* document should contact Aras Professional Services. There is no automated utility to perform the upgrade; you will need the guidance and expertise of a qualified Aras consultant.



# 4 Bug Fixes and Known Issues

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## 4.1 Version 9.1

Aras Innovator 9.1 is a maintenance release. Its primary objective is to introduce several new core end user features to the application framework. Its secondary objective is to introduce the new Quality Planning Modular Process Planners and an alternate Engineering Change Management process.

### 4.1.1 Enhancements in 9.1

#### 4.1.1.1 Enterprise Application Framework

- Framework
  - A Web Service Builder is included for building and deploying focused web services that expose portions of Aras Innovator as part of a Service Oriented Architecture [SOA]
  - A configurable integration with Microsoft SharePoint is now included, allowing bi-directional communication and improved collaboration features.
  - Configurable History Tracking control is added over the actions logged in each Item's audit trail, including configurable field-level change tracking.
  - Life Cycle Maps may be configured based on the classification of an Item, allowing for more detailed control over status and permission.
  - Classification based Can Add control is introduced to allow administrators to restrict the users and groups that may create new Items of specific classifications.
  - Multi Value List data type introduced to allow selection of multiple list values in a single property from the existing List items.
  - Permission model updated with Discovery permissions to provide an additional level of access control. Discovery Permissions allow certain users to see only basic information about items without having full access to sensitive data, easing deployment to the extended enterprise.
  - Localization support for workflow activities, instructions and votes introduced, providing for global deployment of Aras Innovator workflows.
- Usability
  - Enhanced ability to build complex searches is provided, including conditional and range query parameters.
  - Search criteria may be saved with user-definable names and shared across users and groups, providing quick and easy access to commonly used information.
  - Updated icons, toolbars, menus and tabs provide a modern look and a tighter integration with client Windows desktop themes.



- A new "Redline" mode on relationship tabs provides an instant view of changes made to Bills of Materials, Approved Manufacturer Lists and other relationships since the previous revision.
- A new "Search Center" screen has been added to the TOC to perform searching tasks such as Aras Innovator Saved Searches, Windows Live searches, and Global Spec searches.
- Actify SpinFire Reader™ tool support introduced for 3D visualization, dimensioning and measurement.

#### 4.1.1.2 Product Engineering

- New options for simple Change Management, including standard templates for Engineering Change Orders [ECOs] and Manufacturing Change Orders [MCOs] streamlines each change process to a single workflow.

#### 4.1.1.3 Quality Planning

- Modular Process Planner introduces the ability to manage Process Planner Operations in modules that may be reused to create new Process Planners as well as allowing the sharing of operations between Process Planners.
- Process Planner Inspection Reports introduced to allow streamlined access to Process Planners.

#### 4.1.2 Issues Fixed in 9.1

##### Framework

Issue #	Description
008185	The Just Ask Innovator help has been updated to include descriptions of new features as well as new sections for features previously undocumented.
009033	Search Toolbar features added to Relationships and Search Dialog to duplicate Main Search Grid behavior.
009304	Introduced View and Edit for workflow Items in the InBasket.
009419	API Reference improved to display valid API members' signatures in all four languages supported in Aras Innovator: JavaScript, C#, J#, and VB.Net.
009438	Server improved to automatically delete Package Elements when the associated Item is deleted.
009858	Introduced new timeout handling parameters to the Vault to better accommodate upload of large files.
010054	Search conditions for properties of type Items in the relationship grid are applied to the keyed_name of the property Item.
010138	Fixed error when deleting client-side PolyItem.
010198	Form Mode search option has been removed from the client.
010341	Microsoft SQL Server 2000 is no longer a supported database engine for the Aras Innovator server.
010343	Microsoft .NET Framework version 1.1 is no longer a supported environment for the Aras Innovator server.
010421	Inconsistencies in displaying of multiple relationships to the same Item in Structure Browser fixed.
010504	Localization of Life Cycle State through label introduced. Though multi-lingual label is not yet used in all places in the UI where state name is referenced.
010530	Fixed error in order of X-axis of dashboard reports.



010605	Microsoft Windows 2000 is no longer a supported client for the Aras Innovator.
010650	Introduced OR clause in simple search criteria from UI. The " " symbol can be used to search for multiple conditions on a single property like Project Status = "Active Pending"
010759	User search preferences will be saved as Saved Search Items and not as part of the Preference Item.
010854	Inconsistencies in passing "colNumber" argument to event method fixed.
010856	Asynchronous loading of images used in .NET controls to improve performance.
010911	Microsoft .NET Framework version 1.1 is no longer a supported environment for the Aras Innovator client.
011023	Workflows emails enhanced to support localization of the To and From fields of the email.
011037, 011248	Improved support for SSL (https) compatibility. Removed references to about:blank and replaced with references to blank.html.
011050	Fixed error handling special characters during Item property validation such as "&"
011057, 011055	Support for ReportServer2005.asmx introduced, allowing Aras Innovator access to Reporting Services 2005 or Reporting Services 2008.
011068	User interface updated to support use of client Windows Themes. Existing image files adjusted for consistency with new theme support.
011102	Fixed error thrown when reloading Advanced Search criteria when switching locations in the TOC.
011142	Date dialog introduced in date filter criteria to allow interpretation of localized dates to search query.
011165	Improved support for display of Forms in Hebrew.
011168	Fixed error in API Reference for Aras.Client.Controls Namespace
011180	Improved strong database login password support in the installer.
011208	The "Service Upgrade" option has been removed from the installer. The Aras Innovator installer cannot be used to upgrade your code tree.
011252	Fixed errors vaulting files with non-alphanumeric characters.
011281	Localization of TOC folders improved.
011296	LogMessage ItemType updated to allow language pack creation.
011303	Error in DateTime when checking in a file fixed.
011411	Search criteria input for Date properties now displays in session time zone.
011412	Improved error handling when ItemType has no form defined for View/Edit of Item.
011439	Toolbar images imbedded into control to allow client caching to improve performance in network connections with high latency.
011463, 011464	Improved date/time handling in the Japanese locale.
011485	Report editor form modified to support localization. Query Results section removed from Form.
011491	<p>Established better correspondence between elements of "config_path" and "select" attributes in AML "get" requests. For example:</p> <pre>&lt;Item type="GetItem_Structure_A" action="get" config_path=". GetItem_Structure_AX GetItem_Structure_AB" select="item_number,name item_number name,related_id"&gt; ... &lt;/Item&gt;</pre> <p>Results in the following:</p> <ul style="list-style-type: none"> <li>- brings properties item_number, name for type GetItem_Structure_A</li> <li>- brings property item_number for type GetItem_Structure_AX</li> <li>- brings properties name,related_id for type GetItem_Structure_AB</li> </ul>



011565	Localization of Workflow Maps and Workflow Processes introduced.
011621	The default stylesheet has been modified to enforce colored backgrounds for required fields on forms.
011666	Life Cycle Maps are now related to ItemTypes through a relationship, and not a property. This was done to allow Classification based Life Cycle Maps.
011920	<p>Server methods that use <code>cco.email.setup_smtpmail_server_and_send(...)</code> have to be updated according to the below instruction. It is strongly recommended that Methods be changed to use the IOM, but if this is not possible the following is provided:</p> <p>Upgrade Instruction The typical custom code that uses <code>cco.email.setup_smtpmail_server_and_send(...)</code> looks like the following:</p> <pre> ... Var fromStr As String Var toStr As String Var subjectStr As String Var bodyStr As String ... Dim email As New MailMessage() email.From = fromStr email.To = toStr email.Subject = subjectStr email.Body = bodyStr cco.email.setup_smtpmail_server_and_send(email) </pre> <p>It has to be changed the following was:</p> <pre> ... Var fromStr As String Var toStr As String Var subjectStr As String Var bodyStr As String ... Dim email As New MailMessage() email.From = New MailAddress( fromStr ) email.To.Add( toStr ) email.Subject = subjectStr email.Body = bodyStr cco.email.setup_smtpmail_server_and_send(email) </pre> <p>NOTE: If toStr is a list of recipients (i.e. more than one email address; e.g. support@aras.com;info@aras.com ) separated by ";" (semi-colon) then it has to be converted to the similar list but separated by ',' (comma), otherwise email.To.Add( toStr ) call will fail.</p>

### Product Engineering

Issue #	Description
010980	Fixed problem where class specific fields would not display on default Document and Part Form.

### Program Management

Issue #	Description
009912	Synchronization between Gantt chart scrollbars fixed.



010265	Introduced parameterized SQL to server to improve performance of retrieving large amounts of data like the Project tree data.
010361	Fixed error in the sort order of relationship tabs in the Activity Completion Worksheet.
010624	Support for displaying status color of Activity2 Item in the InBasket added.
010687	Fixed error with onNew client event for Deliverables
010991, 011514	Fixed error that can leave Activities associated with a Project Template locked when the Project Template is unlocked.
011307	Inconsistency between the polysource (i.e. Document) lock/save status and the Deliverable grid fixed.
011375	Fixed error in automatic assignments in Activities based on role.

### Tools and Utilities

Issue #	Description
010220	Solutions Upgrade Tool can now export the managed_by_id, owned_by_id, and classification system properties. Support for these properties is included because the values are based on user input and not server rules.
011199	Batch Loader improved to allow the AML template to be saved to a separate file from the UI.

### 4.1.3 Known outstanding issues in 9.1

#### Framework

Issue #	Description	Workaround
006830	Cannot change a text property from "not required" to "required".	A workaround has been provided in the on-line help of Innovator.
007281	Vault server cannot resolve host name	The vault URL computed by Innovator can fail to calculate based on DNS settings. If you encounter a problem resolving the vault URL, please contact Aras support.
009389	Items left locked after manual versioning can result in inconsistent vaulted data during checkout/checkin of files from a property of type Item with source File.	If you intend to edit File properties of a manually-created version, always unlock the version first, then lock it again and proceed with editing.
011515	Project Template does not localize properly. The column labels of the project grid relationship to project template are populated by calls to the projectGridLayoutXML.xml file in //Client/Solutions/Project/XML folder. However the call to this file is not always to the default English and not to the locale specific version of the file.	If you are running in one language that is not English, you can modify the default version of the XML.  /Client/Solutions/Project/XML/ projectGridLayoutXML.xml
011961	The action="getPermissions" can fail in certain scenarios. Specifically the permissions can be swapped for the Manager and Owner Identities.	
011967	The Can Add permission can be bypassed when adding a relationship with use_src_access=1.	This cannot be exploited through the UI, however this can be fixed by disabling use_src_access.
011982	The Form editor can experience	Save a copy of the file





	performance issues due to a wrong call in the HTML.	\\Innovator\Client\cbin\icons\16x16collection s.gif as \\Innovator\Client\cbin\icons\16x16collection.gif
011985	On-line help is incomplete	Not all new features in Aras Innovator have been documented in the on-line help section of Innovator. Please contact Aras support if you are having difficulty with a new feature.
011997	Saved Searches with show_on_toc=1 can cause the TOC to fail to load if there is no Label in the session language AND there is no language in the default(English) language.	Assign a Label to the default(English) language.
012006	The server can fail to commit a save when there are SQL triggers on database tables.	Disable SQL triggers on the database tables.

### Quality Planning

Issue #	Description	Workaround
011922	When upgrading a database from Aras Innovator 9.0, if a DFMEA or Process planner has a multiple references to the Same characteristics, then there will be multiple creations of that Characteristics as a Part Characteristic item. However by logic only one of those characteristics can be related to a single part.	This issue must be handled as part of the upgrade process of each database individually. Those who require assistance resolving this issue should contact Aras at <a href="mailto:info@aras.com">info@aras.com</a> to discuss your support options on this issue.

## 4.2 Version 9.0.2

Aras Innovator 9.0.2 is a patch release. Its primary objective is to introduce a new structure browser. Its secondary goal is to increase the API's capability to develop localized extensions of Aras Innovator.

### 4.2.1 Enhancements in 9.0.2

#### 4.2.1.1 Enterprise Application Framework

- API
  - Improved API for localization of solutions and add-ons to Aras Innovator.
- Framework
  - Ability to compare the structures of two Items of the same ItemType in the Structure browser.



- Ability to compare the structures of two generations of the same Item in the Structure browser.
- Tools
  - New AML based Batch Loader introduced
  - Microsoft SQL Server Date\Time conversion utility introduced

#### 4.2.2 Issues Fixed in 9.0.2

##### Framework

Issue #	Description
010471	Fixed issues with workflow email notification (OnEscalate email).
010626	Use singular label as a node name in the Where Used and Structure Browser view.
010653	Added Where Used and Structure Browser to the Tear-Off window menus. Added Where Used to the Revisions Dialog context menu. Revisions dialog sorted by Generation number by default.
010715	Support for an individual OnBeforeNew event for each poly-source of a poly-item.
010720	Login Screen Behavior was improved.
010796	Text Color and Text Background Color Buttons are enabled in the formatted text editor
010819	Support for PolyItems in the structure browser.
010835	Support for the Turkish locale on the client (IE client)
010896	Fixed problems with looping WF.
010914	Added Structure comparison in the Structure Browser
010938	Fixed issues with "Get Copy of "File" files" menu option
010990	Reference to obsolete tools removed from Just Ask Innovator
010926	Support for viewing PolyItems in the main search grid
010823, 010666	Made configurable grid more robust, eliminated "stack overflow" issues, cell background color issues.

##### Product Engineering

Issue #	Description
010649	Corrected state of Part in BOM on changing with ECN

##### Program Management

Issue #	Description
010840	Fixed erroneous email notifications in PM (Activity2 Email sent to all users in database)

##### Tools and Utilities

Issue #	Description
010136, 010865, 010693, 010694, 010675	Enhanced Language Pack Management Utility - Added ability to export data belonging to different packages to separate folders. Added ability to skip erroneous lines on import. Improved logging, handling of non-alpha paths. Added command line parameters.
011147	New SQL Date\Time Conversion utility
E001155	An updated batch load utility provides a vastly improved method for bulk data loads, utilizing the power of Adaptive Markup Language [AML] to define import templates. <ul style="list-style-type: none"> <li>• AML templates and tab-delimited text files are used to perform the batch load</li> </ul>



	<ul style="list-style-type: none"> <li>• The utility is run from a command line or UI and may be scripted</li> <li>• Performance is vastly improved (x10) through using multiple threads and processes.</li> </ul>
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### Quality Planning

Issue #	Description
010751	Fixed Bound Select dialogs do not return value

### 4.2.3 Known outstanding issues in 9.0.2

#### Framework

Issue #	Description	Workaround
006830	Cannot change a text property from "not required" to "required".	A workaround has been provided in the on-line help of Innovator.
007281	Vault server cannot resolve host name	The vault URL computed by Innovator can fail to calculate based on DNS settings. If you encounter a problem resolving the vault URL, please contact Aras support.
008185	On-line help is incomplete	Not all new features in Aras Innovator have been documented in the on-line help section of Innovator. Please contact Aras support if you are having difficulty with a new feature.
009389	Items left locked after manual versioning can result in inconsistent vaulted data during checkout/checkin of files from a property of type Item with source File.	If you intend to edit File properties of a manually-created version, always unlock the version first, then lock it again and proceed with editing.

#### Quality Planning

Issue #	Description	Workaround
007624	Characteristic browser out of sync with displayed value when QP document promoted from Baseline to In Work state	The workaround for the problem is to open a characteristic browser and select a latest version of a characteristic, if desired. This should be done individually for each line in each document which got out of sync due to the versioning of a characteristic(s).

## 4.3 Version 9.0.1

Aras Innovator 9.0.1 is a patch release. Its primary objective is to introduce an upgrade procedure from Aras Innovator 9.0 to Aras Innovator 9.0.

### 4.3.1 Enhancements in 9.0.1

#### 4.3.1.1 Enterprise Application Framework

- API



- Ability to programmatically connect to the Innovator Server using IOM methods with Window's Authentication mode enabled
- Tools
  - Batchloader file encoding support

#### 4.3.1.2 Program Management

- Ability to reorder Project Activities in the Project Tree

#### 4.3.2 Issues Fixed in 9.0.1

##### Framework

Issue #	Description
010396	Added ability to programmatically connect to the Innovator Server using IOM methods with Window's Authentication mode enabled.
010612	Where Used dialog fixed to show all generations.

##### Product Engineering

Issue #	Description
010282	Eliminated deadlock errors under highly concurrent load.

##### Tools and Utilities

Issue #	Description
009951	Batch Loader support for non-English characters.

#### 4.3.3 Known outstanding issues in 9.0.1

##### Framework

Issue #	Description	Workaround
006830	Cannot change a text property from "not required" to "required".	A workaround has been provided in the on-line help of Innovator.
007281	Vault server cannot resolve host name	The vault URL computed by Innovator can fail to calculate based on DNS settings. If you encounter a problem resolving the vault URL, please contact Aras support.
008185	On-line help is incomplete	Not all new features in Aras Innovator have been documented in the on-line help section of Innovator. Please contact Aras support if you are having difficulty with a new feature.
009389	Items left locked after manual versioning can result in inconsistent vaulted data during checkout/checkin of files from a property of type Item with source File.	If you intend to edit File properties of a manually-created version, always unlock the version first, then lock it again and proceed with editing.

##### Quality Planning

Issue #	Description	Workaround
007624	Characteristic browser out of sync with displayed value when QP document promoted from Baseline to In Work state	The workaround for the problem is to open a characteristic browser and select a latest version of a characteristic, if desired. This should be done individually for each line in each document which got out of sync due to



		the versioning of a characteristic(s).
010751	Bound Select dialogs do not return value	Use pick lists for Bound Select values

## 4.4 Version 9.0

Aras Innovator 9.0 is a major release. Its primary objective is to introduce localization features like multi-lingual properties, UI localization, and time zone management.

### 4.4.1 Enhancements in 9.0

#### 4.4.1.1 Enterprise Application Framework

- API
  - IOM extended for multilingual properties and locale support
- Usability
  - Locale support for menus and toolbars
  - Locale ItemType
  - Language ItemType
  - Multi-lingual properties
  - Corporate time zone
  - Unicode support for string and text properties
  - Locale-neutral data formats for Date, Float, and Decimal Properties
- Tools
  - New Export/Import utility for database language packs

### 4.4.2 Issues Fixed in 9.0

#### Framework

Issue #	Description
009182	Selecting the F5 key no longer refreshes the Main window and/or Tear-off windows of Innovator in Internet Explorer. This prevents the loss of session due to refresh. New public method (name=HideKeyboardInput) is added to the .Net UI controls API to support this functionality.
009521	Added Label property to the Action ItemType as a multi-lingual string to support UI localization.
009813	File ItemType updated to require filename property.
010161	Workflow Activity Assignment Escalate To value modified to default to the first available from Assignment Escalate To, Activity Manager, Workflow Owner, and Workflow Creator.
010195	Changing Activity Assignments in Workflow process fixed.
010216	New property added to Workflow Process ItemType that corresponds to the id of the Workflow Map used to generate the Workflow Process. (name=copied_from_string)
010327	Added support for indexing by system properties.
010342	Microsoft Windows Server 2000 is no longer a supported operating system platform for the Aras Innovator server.
010360	Aras Innovator will display an Item corresponding to source_id of a relationship in



	WhereUsed dialog when a Relationship Item is selected or expanded in the dialog. The displayed Item will be marked by a * in the dialog.
010372	Public method GetText is added to ICellComIncoming.(class Cell, .Net UI controls)
010387	Relationship Grid display is returned to "view" mode from "edit" mode when an Item is unlocked programmatically from the event code.
010465	Workflow Process History report fixed.

### Program Management

Issue #	Description
010373	Default notifications, which are sent on the Project Activity activation, are updated to support Chinese locale.
009453	Added ExpandAll and CollapseAll to the TreeGrid .Net control API to enhance behavior in Gantt Chart.

### Tools and Utilities

Issue #	Description
009603	New utility for importing and exporting language packs from the Aras Innovator Database

## 4.4.3 Known outstanding issues in 9.0

### Framework

Issue #	Description	Workaround
006830	Cannot change a text property from "not required" to "required".	A workaround has been provided in the on-line help of Innovator.
007281	Vault server cannot resolve host name	The vault URL computed by Innovator can fail to calculate based on DNS settings. If you encounter a problem resolving the vault URL, please contact Aras support.
008185	On-line help is incomplete	Not all new features in Aras Innovator have been documented in the on-line help section of Innovator. Please contact Aras support if you are having difficulty with a new feature.
009389	Items left locked after manual versioning can result in inconsistent vaulted data during checkout/checkin of files from a property of type Item with source File.	If you intend to edit File properties of a manually-created version, always unlock the version first, then lock it again and proceed with editing.

### Quality Planning

Issue #	Description	Workaround
007624	Characteristic browser out of sync with displayed value when QP document promoted from Baseline to In Work state	The workaround for the problem is to open a characteristic browser and select a latest version of a characteristic, if desired. This should be done individually for each line in each document which got out of sync due to the versioning of a characteristic(s).

