



## Application Lifecycle Management for IBM i

**Assured end-to-end management of enterprise software applications**

Problem and Incident Management | Project Management  
Development | QA and Testing | Deployment



## Take control of the software development lifecycle

**Enterprise software applications and the source code that underpins them must change as the requirements of the business change.**

Application Lifecycle Management (ALM) is designed to support and control the critical task of managing this change process throughout the lifetime of an application. It touches all parts of the IT organization, including development, operations, and governance, providing strong collaboration between all stakeholders.

**SoftLanding's TURNOVER® Lifecycle Manager is a powerful Application Lifecycle Management solution for the IBM i platform.**

Designed to manage even the most complex of development environments, it provides granular control over the software change process, using automation to cut errors, and enforceable workflows that allow changes to flow swiftly from request through to production.

### ► **Problem and Incident Management**

An effective problem management system needs to work in tandem with your change management processes. TURNOVER ensures effective end-to-end incident tracking and reporting, and provides a comprehensive knowledge base for end user self-service to optimize technical support efficiency.

### ► **Project Management**

TURNOVER provides a high-level reference point and repository that captures all information and activity relevant to your software development projects. The system allows project managers to outline the scope of a project, break it up into manageable tasks, define enforceable workflows, and track activity, time, and costs to ensure deadlines and budgets are met.

### ► **Development**

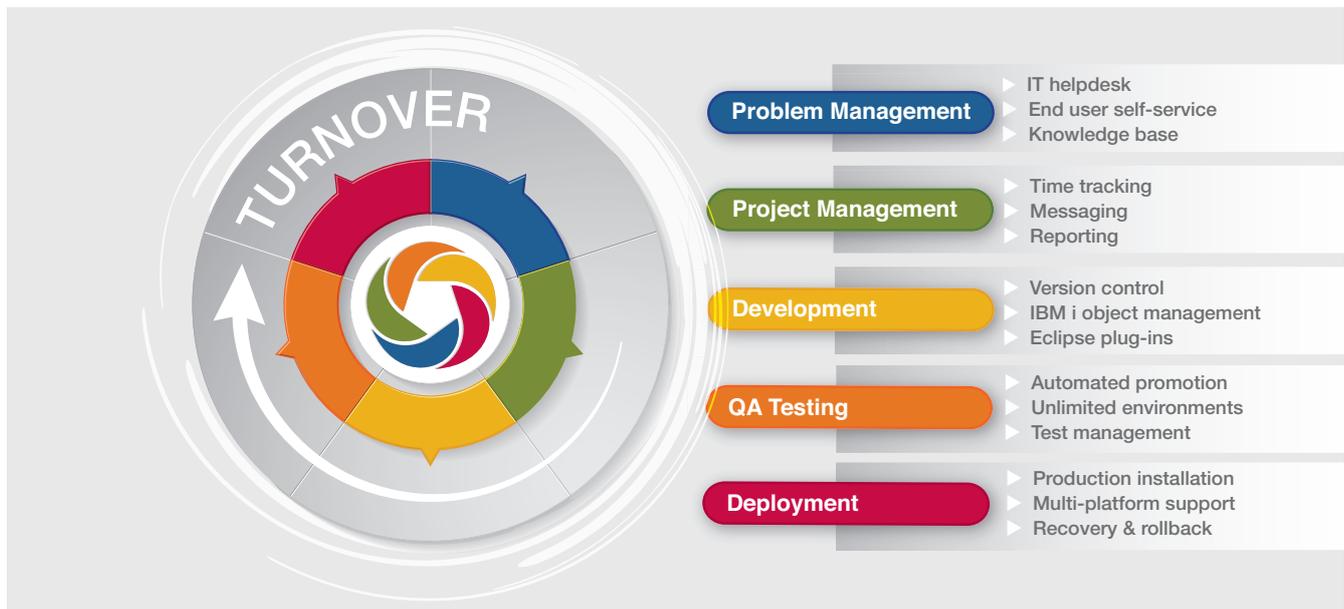
Whether using a native 5250 interface or IBM Rational Developer for i, your application development needs will be satisfied through an extensive array of features that support and enforce the development processes that you use. TURNOVER provides a granular security matrix that restricts access and functional authorities in the way that you want, and also ensures that developers use the correct version of source code when making application changes.

### ► **QA and Testing**

TURNOVER provides an effortless handover between development and testing, documenting test results and approvals for audit purposes.

### ► **Deployment**

If you are deploying routine program fixes, new features and functions to an existing application, or a completely new software solution, TURNOVER provides a structured and automated method of distributing and tracking software changes correctly into production every time. Full rollback capabilities exist so that in the unexpected event of a deployment not completing successfully, your production environment returns to its previous operational state, avoiding unwanted application downtime and interruption to end user productivity.



## Addressing real world software development challenges

### Disorganized development environments

A lack of control in the development environment, in which software changes, testing, and other processes are not effectively co-ordinated and logged, will bring risk and inefficiency into the organization.

TURNOVER allows you to define enforceable policies, workflows, and escalation queues – enabling developers to participate in the workflow model from their native environments through the system's supported interfaces.

### Compliance pressures

Regulatory requirements such as the Sarbanes-Oxley Act (SOX), HIPAA (Health Insurance Portability, Accountability Act), and FDA regulations are bringing increased pressure to demonstrate that software development and change management processes are auditable and compliant.

TURNOVER has a proven record of helping companies satisfy regulatory requirements painlessly. The software enforces workflow policies and approval processes and lets you set user responsibilities/authority levels to ensure separation of duties. The system's central, auditable database provides a granular record of all the software change processes from problem and incident management, project management, development and testing, through to deployment.

### Unsuccessful software deployments

Wasted effort and increased downtime are the likely outcomes of failed software deployments, often as a result of poorly documented release processes. TURNOVER ensures that changes are promoted correctly every time using a reliable mechanism that records the entire detail of the promotion, and handles cross-referencing and error-checking against all objects so that dependencies are managed meticulously and proactively.

TURNOVER will also recover all or part of a change and allows a job to be restarted if it is interrupted or ended by mistake.

### Managing cost and risk

TURNOVER is optimized to manage your IBM i, web, and multi-platform application changes. It streamlines and unifies the development lifecycle process across all technology teams, with fully integrated problem and incident tracking, project management, version control, and application deployment.

Applications can be modified and modernized, quickly and cost effectively, while giving end users a stable computing environment that allows them to conduct their daily business.

Automation, policy enforcement, and granular reporting ensure all processes and activities are carried out efficiently, optimizing time and resources while enforcing best-practice processes that improve the success of application implementations.

## Technical Strengths

TURNOVER gives you the power to manage your entire application lifecycle through a single easy-to-use solution. Each module is designed and integrated with a common objective in mind – to manage application changes efficiently and reliably – driving improved collaboration, productivity, and success throughout your organization.

### Low impact implementation

You can implement TURNOVER over your existing library structure, greatly reducing implementation time. Its graphical application designer helps your developers understand at a glance how an application is defined and managed, which makes setup and subsequent maintenance simple and easy.

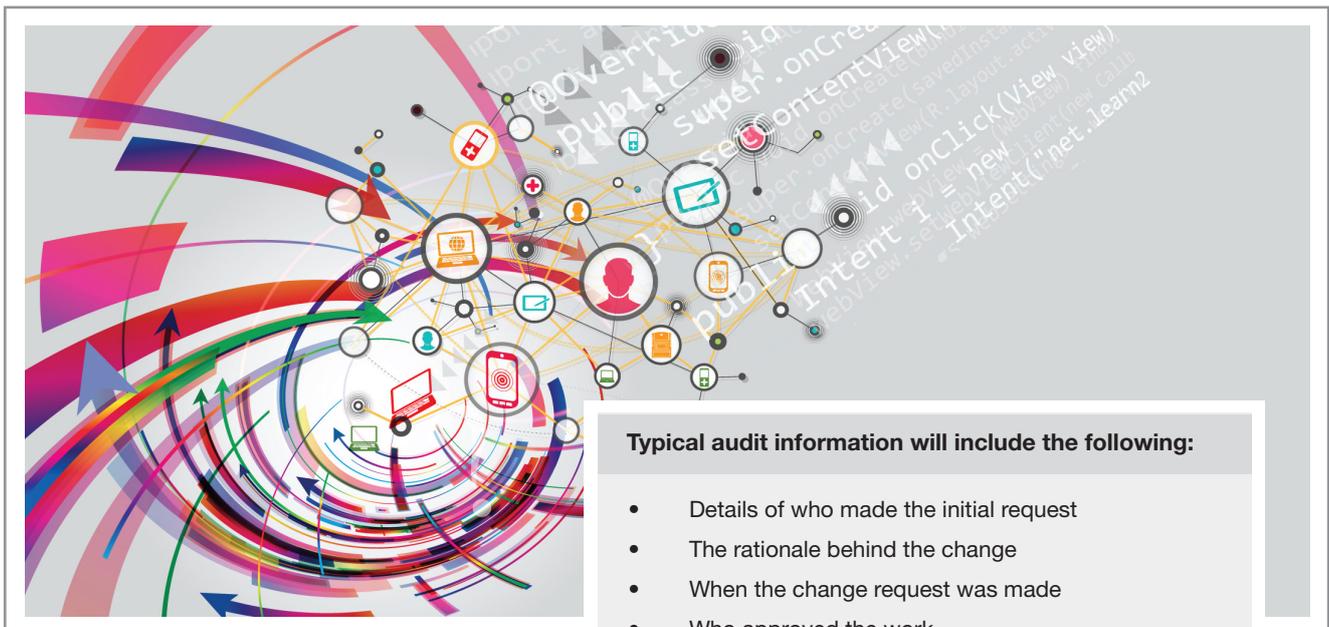
### Single audit database

At the heart of TURNOVER is a secure and reliable IBM i database that consolidates information about all of your enterprise application software changes, regardless of platform. Auditors can easily follow a sample set of changes through the entire lifecycle to make sure they are implemented according to policy.

### Robust promotion and recovery

Software promotions are carried out using TURNOVER forms – a simple concept with powerful capabilities. Using a single command, developers build a form that itemizes the software objects that need to be promoted.

Every detail of the promotion, including pre- and post-run commands and creation overrides, is recorded against the form for later use. This capability, in combination with TURNOVER's error-checking and cross-reference analysis, ensures that software changes are promoted correctly every time, regardless of promotion level. It also allows you to recover a change, in full or partially, should you ever need to roll back a software implementation.



#### Typical audit information will include the following:

- Details of who made the initial request
- The rationale behind the change
- When the change request was made
- Who approved the work
- Who made the software changes
- Who approved the software changes

## Modernization support

TURNOVER is designed to help developers modernize and future-proof their IBM i applications so they can be maintained easily by a new generation of developers:

### Support for IBM Rational Developer for i

Compatibility with IBM Rational Developer for i (RDi), IBM's Eclipse-based integrated development environment (IDE), provides your developers with a powerful programming interface, whether coding native RPG and COBOL applications or developing multi-tier Java, web, and mobile solutions.

Collaborative application development for web and mobile sit at the heart of RDi. TURNOVER's RDi plug-ins provide best-of-breed change management support for RPG, ILE, COBOL, CL, SQL, Java, JSP, PHP, HTML, and XML.

### Source code modernization

TURNOVER provides full support for source stream file formats, allowing you to benefit from improved integration and workflow capabilities that enhance the development process and speed up time-to-market.

### Database modernization

The adoption of Structured Query Language (SQL) is growing rapidly as IBM i developers look to harness its power and flexibility in new, modernized applications, as well as to improve existing business systems that require new levels of openness, connectivity, security, and performance.

### Version control for Java, PC, and web developers

TURNOVER® SVN is a business-ready edition of Subversion for organizations that need to manage Java, PC and web software changes alongside traditional IBM i developments. TURNOVER's single-database integration simplifies audits for cross-team development projects, and facilitates project planning, management, deployment, and collaboration activities across all teams.

TURNOVER allows you to synchronize the deployment of all application components across your corporate network of IBM i, Linux, UNIX, and Windows systems. Using the same repeatable promotion process, you can successfully de-risk your cross-platform software deployments with ease.

### Compatibility with the latest fourth generation computing languages (4GLs)

Integration with the LANSAs development environment means you can use TURNOVER to manage and control the software development lifecycle of LANSAs 4GL applications for the IBM i, including modernization for the web and Windows using Visual LANSAs.

TURNOVER's compatibility with the CA 2E (formerly Synon) rapid application development tool gives CA 2E developers greater control over the lifecycle management of their IBM i applications. It offers greater levels of efficiency, allowing developers to define consistent, repeatable, and auditable change management procedures, tailored to individual applications.



## Powerful Problem and Incident Management

TURNOVER's optional Helpdesk interface offers comprehensive problem and incident management capabilities that optimize technical support efficiency by combining a full-service IT helpdesk with browser-based end user self-service.

### TURNOVER® Helpdesk will assist your organization by:

- ▶ Allowing support staff to document all problems and incidents using customizable templates that include date/time stamps, requestor, resolution notes, and linked files to ensure consistently detailed reporting.
- ▶ Providing easy access to its searchable, organically-grown, central knowledge base.
- ▶ Empowering end users and less experienced support staff to find answers to technical problems, quickly and easily.
- ▶ Supporting customizable workflow and escalation routines that ensure issues are tracked according to pre-defined rules, and assist the helpdesk to meet deadlines and service level agreements.
- ▶ Capturing reported issues and enhancement requests in a central repository from where they are assigned as development tasks that flow smoothly between end users, technical support, and production teams, in line with company policy.
- ▶ Logging time spent on each support incident in order to track billable time and productivity, and identify the need for training or additional resources.
- ▶ Allowing a browser-based self-service module to be seamlessly integrated into your corporate website, intranet, or extranet.
- ▶ Reinforcing your corporate problem and incident management policies throughout the development lifecycle.

TURNOVER's single database integration ensures that all problem and incident management information is captured consistently, regardless of application platform, for audit compliance across the entire application lifecycle.



## Flexibility and Openness

TURNOVER offers built-in APIs and support for working with a wide range of development tools to provide a seamless user experience.

### Built-in Interfaces

#### ABSTRACT

An interface to ABSTRACT's cross-reference of system objects and procedures that track object and field usage, the relationship between objects, and other reference tasks.

#### JD Edwards World

Comprehensive management of JD Edwards World artefacts such as Software Version Repository (SVR) entries, Data Dictionaries, FAStrs, DREAMWriters, menus, processing options, user-defined codes, and vocabulary overrides.

#### Lawson

Built-in support for type code definitions belonging to Lawson special object types, 'create' commands for Lawson special object types, and application definitions for managing Lawson modules.

#### PATHFiNDER

An interface to PATHFiNDER's object and field cross-reference, providing impact analysis that aids successful program and system change implementations.

#### Synchronizer

A fully integrated TURNOVER subsystem that offers source compare and merge facilities. Specifically designed to help you evaluate the impact of new vendor-supplied software releases, and merge new releases with your localized changes and customizations.

### Optional Interfaces

#### TURNOVER® Helpdesk

Problem and incident management that operates across all levels of the application lifecycle. TURNOVER Helpdesk consists of two modules:

- Helpdesk: Full-service helpdesk for technical support professionals
- Enterprise: Browser-based self-service for end users

#### TURNOVER® Data Manager

A unique database change solution that eliminates the pain inherent in data file upgrades and reorganizations. File-based changes are staged, allowing end users to continue to use your business applications until the final moment of the process - which is completed in minutes.

#### TURNOVER® SVN

Specifically designed for IT organizations that need to manage newer types of development in addition to traditional IBM i development, TURNOVER SVN is an IBM i-based source control solution for Java, PC, web, and mobile developers working in a team environment.

#### TURNOVER® for CA 2E

Seamless integration with the CA 2E development environment, providing increased levels of efficiency and reliability across software change and deployment processes.

#### TURNOVER® for LANSAs

Comprehensive control of the software development lifecycle of LANSAs 4GL applications for the IBM i, including modernization for the web and Windows using Visual LANSAs.

#### TURNOVER® for ProGen Plus

Tight integration with ProGen Plus, allowing developers to take control of software changes whilst retaining the flexibility and speed that ProGen Plus offers them.

## Exit points

We understand that not all companies adopt the same workflow and lifecycle for managing their software applications. This has shaped the design of TURNOVER, leading to extensive configuration possibilities, and in addition, a broad range of exit points throughout its functionality. With each exit point, you can provide your own custom code to be run in addition to, or in place of, TURNOVER's processing. This approach offers you the greatest flexibility for tailoring your development environment and provides smooth integration with other processes inside or outside of your organization's chosen change lifecycle.

TURNOVER's documentation and detailed online help provide full descriptions of the functions and use of each of its exit points. Sample source code is provided to assist your developers in adopting specific exit programs to their requirements. The supplied library of sample source code has been compiled through a diverse set of experiences in installing and configuring TURNOVER, and provides direct support for a variety of additional processes that we have frequently encountered. To take advantage of any of the custom code, simply compile the required programs, and activate them in the appropriate exit point.

## Why SoftLanding?

SoftLanding is a division of UNICOM® Global, specializing in application lifecycle management, problem and incident management, enterprise content management, automated operations, performance management, and menu management solutions for the IBM i, System i, iSeries and AS/400 platform.

SoftLanding's application lifecycle management solution defines and supports repeatable procedures for developing, deploying and maintaining IBM i, web and multi-platform applications, across the entire software development lifecycle.

The company's enterprise content management solution releases the power of digital communications through web, mobile, and email channels, without changing IT systems and applications.

SoftLanding's automated operations and performance management solutions keep core business systems running at optimum levels and prevent unplanned application downtime. Menu management solutions are also available, offering efficient, secure, flexible, and standardized access to corporate business applications running on IBM i.

SoftLanding's products and solutions are commercially available through UNICOM Global's UNICOM Systems and Macro 4 divisions.

**For more information on SoftLanding products and services visit [www.softlanding.com](http://www.softlanding.com).**

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