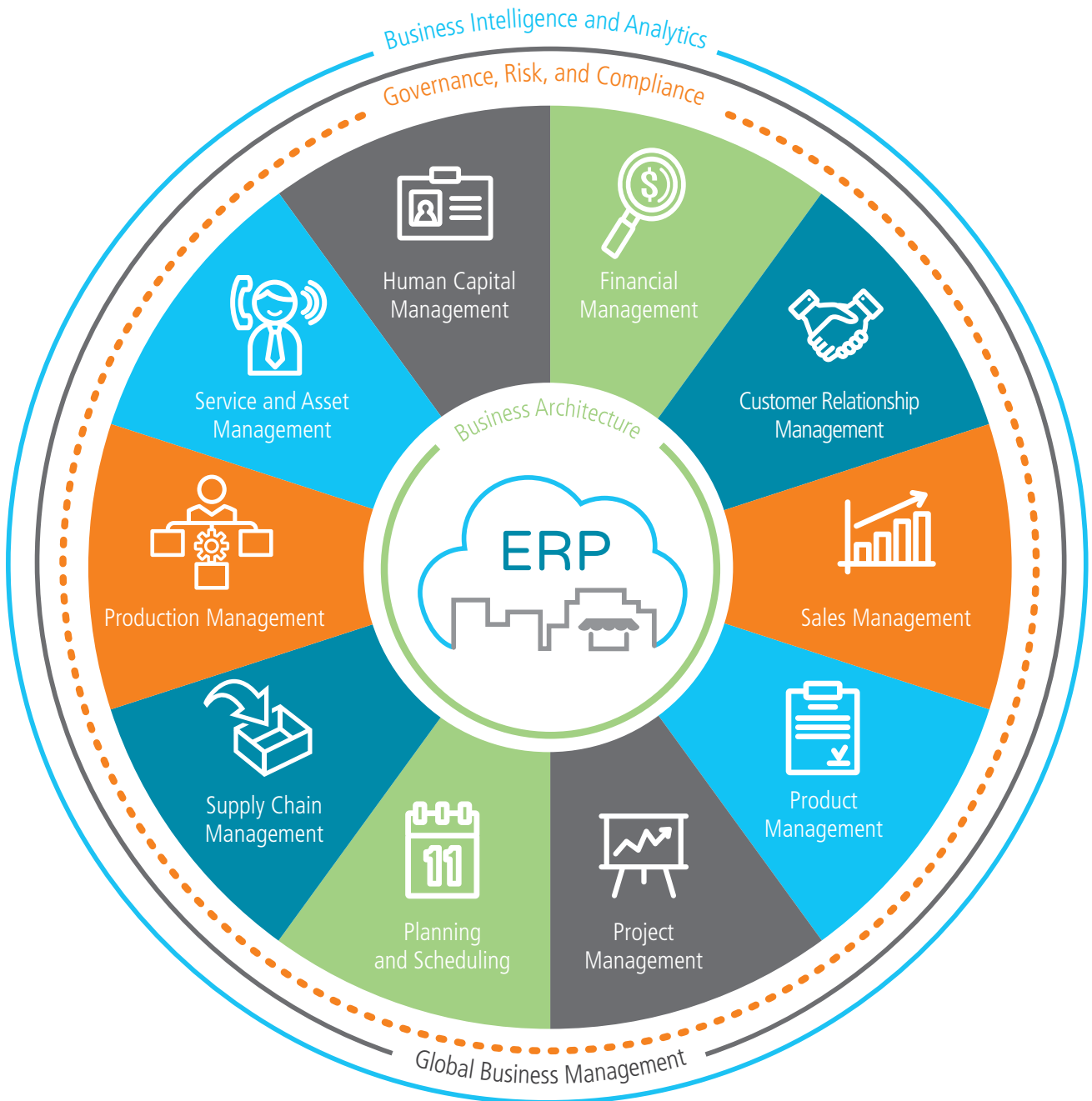


Epicor® Enterprise
Resource Planning

Business Architecture



Epicor ERP Diagram





Business Architecture



- ▶ Cloud or On-Premises Deployment
- ▶ Microsoft® .Net and SQL Server® Optimization
- ▶ Enterprise Experience
- ▶ Web Access, Mobile Framework
- ▶ Enterprise Query and Application Search
- ▶ Business Process Management
- ▶ Social Collaboration Platform
- ▶ Enterprise Content Management
- ▶ Compliance and Structured Reporting Framework
- ▶ Security Management
- ▶ Service Architecture, RESTful Services
- ▶ Business Integration and Orchestration Platform

Epicor designs and builds its enterprise applications from the ground up using state of the art connected systems architecture. A connected systems focus was chosen because enterprise resource planning (ERP) systems thrive as high-performing, approachable services that connect people, systems, and processes. Business strategy today is tightly coupled with technology strategy, and technology is partly responsible for shaping the culture within a company that ultimately drives competitiveness.

Epicor separates the design and development of our technology platform from the production of the applications themselves. The tools and frameworks that comprise the Epicor platform ensure users have a consistent experience across the system, allow for collaboration with ERP constantly in context, and provide the ability to create an optimized ERP experience. This unique blend of tools and technology is called Epicor ICE.

Epicor ICE

Epicor ICE is the business architecture that underpins the Epicor enterprise business software and offers a true service-based Microsoft .Net architecture with SQL Server Optimization. This agile technology enables business process and builds on an already complete and robust framework. The toolset is helping our customers to both use and enhance Epicor applications at a business level—rather than a technology level—with minimum overhead. Epicor ICE addresses a number of key needs required by modern enterprises, including:

- ▶ Flexible deployment options—in the cloud or on premises
- ▶ Service-based architecture
- ▶ High-end scalability
- ▶ Web Access Framework
- ▶ Windows forms, web forms, and mobile device forms
- ▶ Built-in customization engine
- ▶ Comprehensive BPM Platform
- ▶ Embedded dashboards
- ▶ Connected people, systems, and processes

Flexible Deployment Options

As your business grows and changes, you need a solution that can grow and change with you. Epicor can be deployed on premises or in the cloud, providing great flexibility. For example, if your business has limited IT resources, you may opt to initially deploy the solution in the cloud.

As your business changes, you may subsequently opt to redeploy Epicor ERP on premises. If your company has multiple sites or establishments, Epicor is one of the few leading vendors to have architected a cloud ERP software as a service (SaaS) offering—Epicor Cloud ERP—and an on-premises offering—Epicor ERP—out of a single product and is the only vendor who has deployed it to customers.

Enterprise Experience

Epicor ICE delivers user interface (UI) options that are at once easy to use, rich and intuitive, and give users choice in deployment and experience. Unique technology within Epicor ICE offers the ability to support simultaneous access to the system by users who run many client applications concurrently—whether Windows® desktop, mobile, or browser based. All UI options are intuitive, flexible, aesthetic, and promote user productivity. Comprehensive features include:

- ▶ Mobile workers
- ▶ Personalized keyboard shortcuts
- ▶ Tool tips
- ▶ Simplified navigation
- ▶ User-defined searches
- ▶ Comprehensive cut-and-paste
- ▶ Transaction visualization
- ▶ Advanced grid management
- ▶ User based translation
- ▶ Styling and themes

Active Home Page

The Active Home Page offers an intuitive experience for users with favorites, social streams, and custom links to other applications, and it delivers key indicators needed to help prioritize the day for optimum efficiency and satisfaction.

(See fig. 14.1)

Personalization

Personalize the way in which all forms look for users—including how many forms are viewable, tab order, fonts, colors, menu shortcuts, tree view, hide panels, change grid orders, and whether specific interaction dialogs should be suppressed.

Customization

For businesses looking to tailor ERP to match unique business practices, Epicor ERP offers an embedded customization layer that saves modifications to forms based on Visual Studio .NET. Business tailoring includes multiple editions of any form, add user fields, add dynamic user defined field, add user logic, add sheets, add Microsoft Visual Basic® .NET or C# code, hide fields, and make fields mandatory. Modifications are upgradable as they are held in the data layer, reducing the impact on upgrades and potential version lock. Managing modifications is greatly simplified with the use of a Solution Manager where modifications can be bundled together and managed.

Web Access Framework

Rather than rewriting application forms to support mobile devices and the web, we've developed the Web Access Framework—a unique technology that stores all client business logic as tagged XML metadata.



Figure 14.1 Active Home Page— Built on the Epicor Kinetic Design System, the Active Home Page offers a user experience that is both intuitive and visual for optimum productivity.



Figure 14.2 Web Access Framework—Web Access provides a rich user experience over the Web.

This permits Epicor applications to run as smart clients or web clients or on mobile devices—all from the same source code. This framework also ensures that user customizations and personalization remain intact—whatever the UI. Web forms can be accessed from many different browsers, and for added flexibility, web forms can be accessed using most popular browsers—including Microsoft Internet Explorer®, Microsoft Edge®, Mozilla® Firefox®, or Apple Safari.

(See fig. 14.2)

Information Worker

According to current industry surveys, desktop productivity tools are used by 95 percent of business workers, with Microsoft Office as the standard for desktop applications. Epicor Information Worker provides a secure, seamless interface to your Epicor application from within Microsoft Outlook®, Excel®, or Word—blurring the lines between enterprise software and desktop productivity software to create a single, immersive solution. The underlying architecture behind Information Worker provides direct access to updatable BAQs. Information Worker is also able to call Epicor Web Access forms—as well as desktop

application forms—from the Information Worker menus. Complete functionality includes the ability for authorized users to retrieve, view, and modify Epicor data; download the data you need directly into

your Microsoft Office application without leaving your current task; and provide support for customer relationship initiatives.

Epicor Mobile Framework

The Epicor Mobile Framework (EMF) was developed at Epicor as a new user experience to meet the needs of a wide range of applications across the Epicor portfolio. It offers a flexible and responsive platform that supports modern HTML5-compliant browsers. EMF is responsive, as forms can be displayed in full size on a browser, but they can also be resized for mobile use. Some examples of mobile applications built using the EMF include:

Mobile CRM

Epicor Mobile CRM empowers your salesforce by providing mobile access to the entire CRM suite of capabilities on any iOS™ or Android™ device. You can manage the sales cycle from lead to order shipment—anytime, anywhere.



Figure 14.3 Epicor Mobile Access—Epicor Mobile Access offers anywhere access to any Epicor ERP dashboard, including updatable capabilities to promote greater productivity.

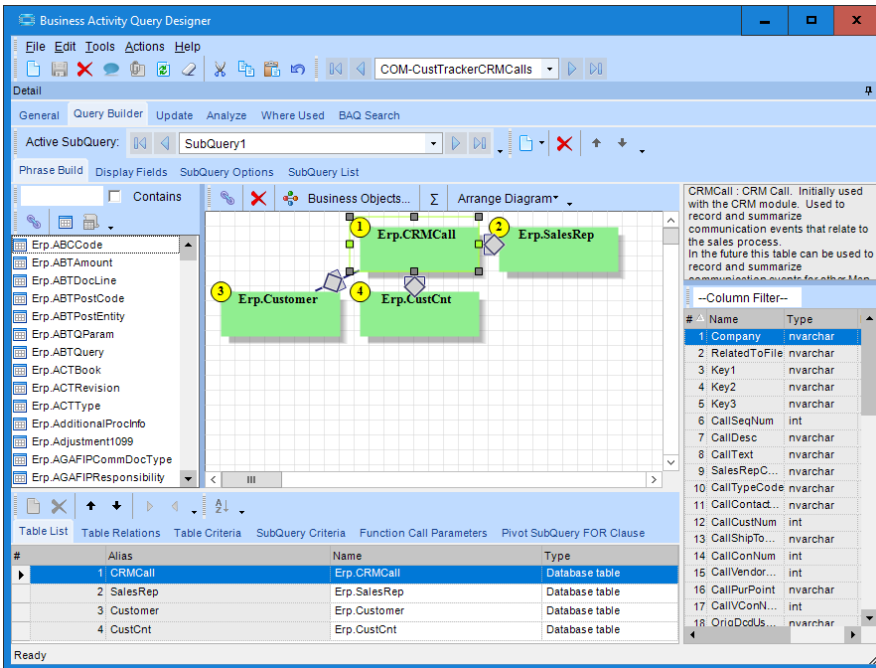


Figure 14.4 Business Activity Query—The BAQ Designer provides many easy to use features for creating business queries.

Epicor Mobile Access

Epicor Mobile Access supports mobile dashboards that are rendered as web applications that may run on a number of mobile devices—including iOS or Android. Since the mobile dashboards that support Epicor Mobile Access are built using the dashboard technology and updatable BAQ technology, it is possible to create web applications that implement business functionality on mobile devices. Epicor ships with sample mobile forms that can be copied, modified, and customized to meet specific business requirements.

(See fig. 14.3)

Epicor Data Discovery

Built to extend the existing Epicor dashboard capabilities, Epicor Data Discovery (EDD) is part of the Epicor data platform that enables Epicor ERP users to access greater visualization and self-discovery tools for their existing and growing library of dashboards and BAQs. EDD is an analytics solution intended to provide an easy-to-use data exploration and data visualization experience, and it is a major component of the overall Epicor data platform—which encompasses a broad set of capabilities for managing, accessing, sharing, cleansing,

visualizing, and extracting insights from data created by or related to Epicor-created data.

Business Activity Query

Every business needs an intuitive and easy-to-use query engine, and for this, Epicor created business activity query (BAQ)—allowing you to create personalized queries or copy standard queries. Once created, queries can be used throughout the application to generate SSRS reports

or quickly search or view results in a Dashboard. Complete functionality includes:

- ▶ BAQ design wizards
- ▶ Graphical table links
- ▶ Embedded calculations
- ▶ Multiple data views
- ▶ Analyze/test query tabs
- ▶ Updatable BAQs
- ▶ External BAQs
- ▶ Configurable dashboard applications

(See fig. 14.4)

Enterprise Search

Epicor Enterprise Search brings the Internet search experience to ERP. Enterprise Search provides embedded search capabilities through tag clouds of Epicor structured data that span all Epicor applications built upon it, and it can also extend beyond enterprise data to unstructured data like Word documents—all in a secure manner. Complete functionality includes:

- ▶ Secure search results
- ▶ User-definable searching
- ▶ Easily find relevant business data
- ▶ Data drill-down capability
- ▶ Complete search results in browser
- ▶ Epicor Administration Console-Based System Configuration

(See fig. 14.5)

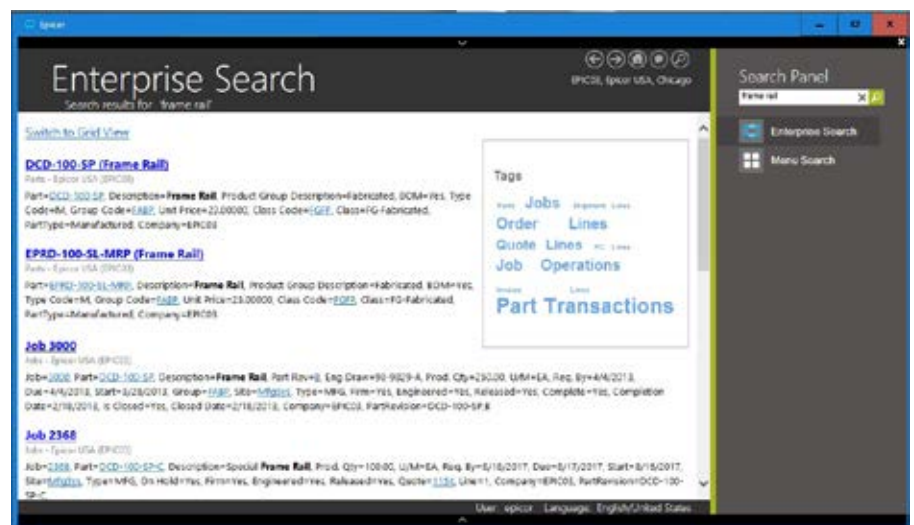


Figure 14.5 Enterprise Search—Epicor Enterprise Search delivers search options for relevant business information in a format similar to Google.

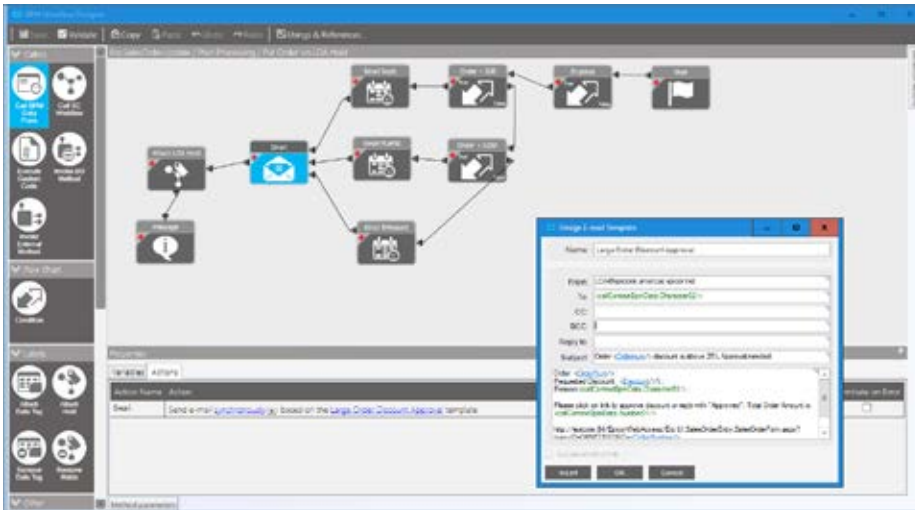


Figure 14.6 Business Process Management—Build new controls and validate easier with BPM.

ask Management

The workflow facilities available within Epicor enable you to quickly begin managing and automating even the most complex business processes—including working toward ISO certification. Epicor Workflow Management is comprised of four major components—Task Management, Workbench and Tracker Views, and Business Process Management (BPM).

The Epicor Task Management system allows you to connect your people with processes and the ERP system itself. As business processes become more complex and dynamic, it's important for any enterprise application to recognize situations and help drive people toward the right efforts and the right decisions. Complete functionality includes:

- ▶ Multi- and single-tiered task management
- ▶ Easily definable tasks
- ▶ Electronic sign-offs
- ▶ Type-based task categorization
- ▶ Definable task lists
- ▶ Detailed message log
- ▶ Automatic work assignment and routing
- ▶ Automatic WIP notification
- ▶ Automatic alert notification
- ▶ Automatic carry-out processes

Workbench and Tracker Views

Workbenches and Trackers provide a focused, paperless, and single point for entry and review. Workbenches can automate and execute routine processes, while Trackers provide contextual information throughout the system to users with “view only” access. Designed with robust search, Trackers allow users to move easily between views—quickly getting to a 360 degree view of the customer, supplier, or part. Nearly every function is available for view. Epicor comes with many predefined workbenches—including purchasing, planning, engineering, inspection, service, sales, credit manager, and plant workbenches.

Business Process Management

Building on and extending beyond the simple rules enforced by Business Activity Management (BAM), Epicor Business Process Management (BPM) is all about identifying and improving processes to make your business more efficient, disciplined, and better able to adapt to change. Epicor incorporates BPM technology to enable organizations to automate and streamline business processes for continuous improvement. Epicor BPM augments your current efforts of continuous improvement by allowing you to more closely tailor your Epicor solution to reflect the best practices you have developed. Complete functionality includes:

- ▶ Seamless integration and workflow capabilities
- ▶ Easy-to-use designer with wizard interface
- ▶ Pre-process condition builder
- ▶ Post-process routine automation
- ▶ Customizable base process

(See fig. 14.6)

Social Enterprise

Epicor Social Enterprise (ESE) is a collaboration solution that provides a fundamental shift in the way organizations collaborate around a project, customer incident, quality issue, procurement

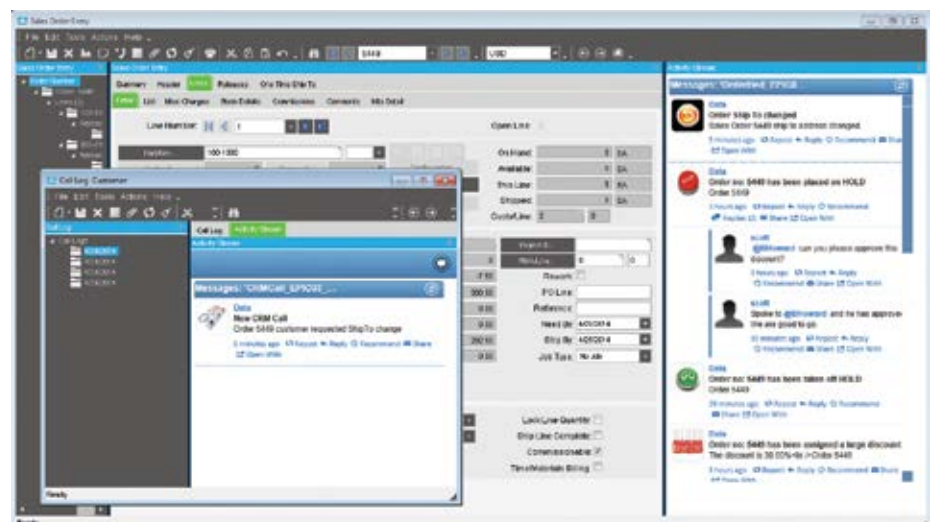


Figure 14.7 Social Enterprise—Monitor changes using activity streams within an Epicor application.

challenge, or planning event. It enables people to fully engage within their businesses and leverage their ERP data in the process to make more informed decisions. Online social engagement reduces the frequency of company meetings, improves the speed of decision making, and ultimately drives a new level of business efficiency. Fully embedded within Epicor ERP to deliver easier access to business information, ESE fosters cross-company collaboration by bringing social media concepts and contextual ERP information together in a single tool. This allows people to share information with each other—working together to solve problems while building up a knowledge base repository in which good ideas are never lost. Because it is an embedded component of Epicor ERP, users already have the ability to subscribe and unsubscribe to the information relevant to their role in the business. Complete functionality includes:

- ▶ Embedded capabilities
- ▶ Business notification
- ▶ In-context and on-demand
- ▶ Activity streams
- ▶ Collaboration
- ▶ Knowledge base

(See fig. 14.7)

Enterprise Content Management

Enterprise Content Management (ECM) helps your business achieve growth by enabling you to streamline and automate reporting processes, reduce the risk of error, and improve business efficiency. ECM is the technology used to capture, manage, store, preserve, and deliver content and documents related to organizational processes. ECM tools and strategies allow the management of organizations' unstructured information—wherever that electronic information exists. Complete functionality includes:

- ▶ Drag-and-drop attachments
- ▶ Secure document repository
- ▶ Contextual retrieval

- ▶ Multiformat document viewing
- ▶ Automated product documentation workflow
- ▶ Advanced Print Routing
- ▶ Epicor DocStar ECM

Advanced Print Routing

Epicor ERP Advanced Print Routing lets you email multiple recipients in multiple formats, send output to one or more designated printers, or save reports to a network folder in a desired format. With an easy-to-use graphical workflow builder, you can quickly and easily manage reports by filtering and assigning alternative reports styles. Advanced Print Routing allows you to send order confirmations or invoices to customers, generate and submit required financial reports, deliver parts reports or pick-lists to others, or save critical information to a business archive.

Epicor DocStar ECM

Epicor DocStar ECM is an industry-leading solution that's built for the web and delivers deployment choice. Users can install DocStar ECM on their hardware or use DocStar in the cloud. The same software offers the same user experience and the same great results. DocStar ECM supports all popular browsers and mobile devices to deliver access anytime, anywhere. Epicor DocStar ECM manages electronic assets with:

- ▶ Security
- ▶ Audit Trail
- ▶ Data Center
- ▶ Workflow
- ▶ Intelligent Capture
- ▶ Custom Forms
- ▶ Search and Retrieve
- ▶ Document Retention

Electronic Commerce Platform

Businesses looking to improve customer service, reduce lead times through new business efficiency, and deliver new opportunities to sales will often invest in eCommerce solutions. Epicor Commerce

Connect (ECC) was designed to solve the challenges of manufacturers and their unique needs as they integrate an eCommerce solution. ECC is built on the Magento platform—a leader in eCommerce—with a comprehensive ecosystem and tooling in constant development to enable businesses to stay current with latest commerce trends. Epicor Commerce Connect is also fully integrated with Epicor ERP and offers the synchronization required by most commerce sites while boasting additional capabilities needed by manufacturers—including full integration with Epicor ERP product configuration capabilities. Finally, ECC easily extends to new data elements and provides a platform for eCommerce business growth.

While many companies can provide eCommerce services, very few leading providers are able to deliver the value and rapid results that Epicor Commerce Connect affords. It can extend business boundaries with a proven commerce architecture that connects businesses to consumers, customers, and suppliers—and enables Epicor ERP customers to utilize their websites to help drive revenue, increase customer satisfaction, and grow their businesses.

System Tools

Epicor ICE offers a series of system facilities and tools to enable the effective management of Epicor applications—extending to system security, document management, advanced software development, software deployment, and product documentation. System tool functionality includes:

- ▶ Centralized administration console
- ▶ Comprehensive system monitor
- ▶ Email integration
- ▶ Separation of Epicor ICE from Epicor Applications
- ▶ Multiple system agents
- ▶ Extended reporting framework
- ▶ Customizable printed forms
- ▶ Auto print control

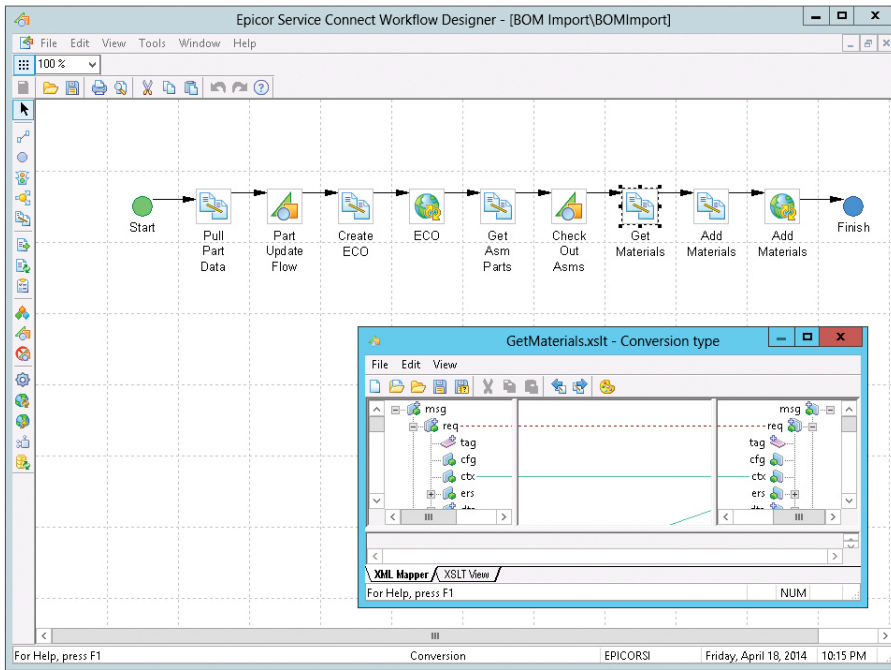


Figure 14.8 Epicor Service Connect—a rapid platform for incorporating workflow and system orchestration through visual designers with little to no programming effort.

the organization. You can also incorporate workflow and system orchestration through visual designers with little to no programming effort, easily link and transform XML documents to map to different systems, quickly review and track in-progress processes or after the process completes with Service Connect workflow logs, and perform full dataset and multiple record updates in the same way as the web service update method processes data. (See fig. 14.8)

REST Services

Representational state transfer (REST) services are a type of web service based on the architecture of the internet. Through this application program interface (API), these services link applications more easily through Internet type connections.

These services use the OData REST Protocol, which adds query capabilities and metadata descriptions to enable OData aware applications such as Microsoft Excel, Power BI®, or similar third-party applications to display real-time Epicor data. REST does this by exposing data and functions as unique Uniform Resource Locators (URLs) resources. Applications can then communicate with the REST services in the same way a web browser interacts with a website.

The REST services implement the full functionality of the Epicor ERP business objects. As with any use of the business objects, the services can be used to extract data to other systems and to provide interfaces for data Import and Update, but they should not be used in applications designed to provide transactional functionality that would otherwise require a concurrent user login.

Compliance and Structured Reporting Framework

The Compliance and Structured Reporting Framework consists of functionality designed to allow definition, generation,

Security

Epicor comprehensive security features secure access to multiple companies without having to close all forms or carry out different logins when switching companies. Plus, Epicor ICE provides the option for Microsoft Windows Authentication, Windows Single Sign-on, and Password Policy, as well as method security protocols to secure types of processing users are able to carry out—like allowing a user to update an existing part but not add a new part—by user or group. Complete Security features also include:

- ▶ Data level security
- ▶ Security reporting
- ▶ Online edits and audits
- ▶ Date and time—using server time—and user name for auditing
- ▶ Product security
- ▶ Application security
- ▶ Access security
- ▶ Business security
- ▶ Change logs
- ▶ Complete audit control
- ▶ HTTPS protocols

Automation Tool for Epicor

The Automation Tool for Epicor (ATE) can do everything your users can do in Epicor ERP and is a very efficient way to either run repetitive tasks that may differ only in the selection criteria or run tasks that need to be launched late at night when other users are off the system—like data intensive tasks such as very large print runs, MRP, etc. ATE can also be used as part of your change management process to test the latest Epicor hotfixes using automated test scripts matched to your business activities and data. Users can easily revalidate results with ATE.

Epicor Service Connect

Epicor Service Connect is a powerful business integration platform—functioning as a central integration point for secure workflow orchestrations within Epicor applications, as well as external connectivity to Epicor and non-Epicor applications. Because Epicor Solutions are built using Epicor SOA, the power of Service Connect can be used to streamline processing within the application framework. Epicor Service Connect enables you to promote lean principles, continuous performance initiatives, and Six Sigma quality throughout

and distribution of electronic documents in formats such as XML, JSON, and CSV. In many countries, there are specific reporting requirements—including electronic accounting, invoicing, and SAF-T reporting—mandated by government agencies that must be generated from the ERP system. Such regulatory requirements can change periodically and rapidly. The functionality is designed to allow definition and distribution of document formats. The functionality also has broad use for generation of document formats used for system integrations and other data reporting applications.

Epicor Education and Content Delivery

Epicor University delivers a suite of tools, aligning to the different learning styles and needs of your employees. Resources include:

- ▶ Training on Demand videos
- ▶ Embedded Education self-paced courses
- ▶ Role-based training agendas
- ▶ Course tests
- ▶ Live training
- ▶ Online help
- ▶ System and user documentation

Embedded Education

Embedded Education is a self-paced training module accessed directly within a training installation of Epicor ERP. Users can access more than 100 courses—each with detailed explanations and hands-on exercises. Learners are able to easily navigate between courses and the related application using real-life business data through an Epicor education database. The courses provide a structured and repeatable learning experience for initial and ongoing training. As this is a licensed module, new training comes with each release of Epicor ERP, so users can more easily be trained and ready.

Epicor Learning Center

Your Epicor Learning Center (ELC) allows you to deliver, manage, and track your company's training needs from one central location. Here, you can access course materials, set and manage employee assignments, register for classes, and track training progress and test scores. The ELC contains a broad catalog of Training on Demand courses and tests. Role-based agendas help you align courses and exams to each employee's training needs, so they can learn a new topic, prepare for an upgrade, launch a new application, or dive more deeply into current applications. Administrators may view individual test results or aggregate scores across the entire organization to easily track knowledge levels. Best of all, tests are not limited to Epicor content. You can add proprietary questions and tests to the ELC, and then assign and track them as desired.

(See fig. 14.9)

Documentation

Epicor provides an extensive set of documentation to help users get the most out of their Epicor solution. Developed

for a wide audience that includes management, technical staff, and end users, the resources provide detailed information on installing, configuring, and using Epicor ERP applications.

- ▶ User guides and eBooks—illustrated, detailed instructions that walk users through major application functions are available both in printed and electronic formats
- ▶ Feature summaries—concise overview of the new functionality within each Epicor ERP version and release
- ▶ Knowledge base—an extensive collection of documents—including answers to frequently asked questions, procedural documentation, release notes, tips from Epicor staff, and more
- ▶ Online help—reference tool that documents application features and functionality—including field definitions, technical detail, calculations, tips, and examples
- ▶ Installation guides—comprehensive instructions on installing applications
- ▶ Technical reference guides—in-depth information on the most complex topics



Figure 14.9 Epicor Learning Center—Epicor Learning Center offers Training on Demand for users for optimum productivity and greater utilization of ERP.

About Encompass

Encompass Solutions is a business and software consulting firm that specializes in ERP systems, EDI, and Managed Services support for Manufacturers and Distributors. Serving small and medium-sized businesses since 2001, Encompass has helped modernize operations and automate processes for hundreds of customers across the globe. Whether undertaking full-scale implementation, integration, and renovation of existing systems, Encompass provides a specialized approach to every client's needs. By identifying customer requirements and addressing them with the right solutions, we ensure our clients are equipped to match the pace of Industry.



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