



Epicor

# Business Architecture



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**EPICOR**

Business Inspired®



Raise technology to a business level with productive tools for your enterprise.

# Epicor

## Business Architecture

Epicor designs and builds its enterprise applications from the ground up using state of the art connected systems architecture. A connecting systems focus was chosen because ERP thrives best as a high-performing approachable service, connecting people, systems and processes. Business strategy today is so very tightly coupled with technology strategy. And technology is partly responsible for shaping the culture within a company that ultimately drives competitiveness.

The pace of technical change worldwide is also unlike anything seen in history. Successful companies recognize and manage how to benefit from technology without becoming trapped by their old practices and systems when new technologies come online. This is what business architecture is all about. Good architecture separates concerns, allowing areas of the business to evolve independently while also relying on each other to contribute to the success of the organization.

Epicor follows this same principle—separating the design and development of our technology platform from the applications themselves. The tools and frameworks ensure users have a consistent user experience across the system, lets people collaborate with ERP constantly in context and provides tools for users to create an ERP experience for themselves that's optimized for their work. This unique blend of tools and technology is called Epicor ICE.



- SaaS, Hosted, and On-Premise Delivery
- Services Architecture
- Microsoft® .NET and SQL Server® Optimized
- Web Access, Mobile Access, Web Services
- Business Activity Queries
- Enterprise Search
- Business Process Management
- Information Worker
- Service Connect
- Microsoft SharePoint® Publisher
- Social Enterprise

## Epicor ICE

Epicor ICE is the business architecture that underpins the Epicor enterprise business software and offers a true service oriented architecture. This agile business process enabling technology builds on an already complete and robust framework. The toolset is helping our customers to both use and enhance Epicor applications at a business as opposed to a technology level—with minimum overhead. Epicor ICE addresses the following key needs of modern enterprises:

### Reliable

Downtime is very expensive and many companies now run 24x7x365. Although a company's employees may not be on the premises 24x7, many systems are up and running 24x7 to service the needs of global operations and their customers who can access the system via the Web or increasingly the Cloud. Epicor ICE allows online backup and complete fail-safe options. Ensuring availability meets the most rigorous service-level agreements. It also supports corporate social responsibility initiatives in areas such as hardware and software virtualization, for more efficient environmental and energy management.

Epicor strongly believes that investments we make in our products to run well in the Cloud benefit every customer, even those who run ERP on premises. Our improvements in deployment, management, and operations are a have been extremely useful to all customers.

### Scalable

Whether your business is at a single location or spans multiple sites around the world, Epicor offers scalable and easy to deploy solutions for simple to complex operations. In particular, for deployments requiring high end scalability, all business logic within Epicor applications is encapsulated within objects that are executed via application servers. These in turn communicate with the database via data servers. An enterprise can utilize multiple application and data servers in order to deliver the required level of performance to the enterprise. Epicor ICE also allows an enterprise to split itself up on multiple servers that can be deployed around the globe—delivering maximum performance to the local company. However, a powerful messaging infrastructure ensures real-time collaboration of information for delivering the same control and data access as if the enterprise existed on one centralized server. This combination of technology delivers unrivaled scalability.

### Agile

A service-oriented approach to enterprise software development ensures an abstraction of complexities in terms of how business systems are built and operated. In an SOA, business logic, that represents software processes is broken down into a series of loosely coupled granular “business services” which are then made available and discoverable on a network via web services. Each service provides functionality that can be adapted to the needs of the enterprise while hiding the underlying implementation details. By exposing business processes, SOA provides the ability to streamline those business processes, which in turn promotes agile change management. Because business processes are broken down into smaller functions that can be accessed and manipulated, it becomes much easier to match your business rules to the processes in your business system.

Epicor goes a step further by considering both server business logic and client business logic as “business services.” This delivers a technology resource that's not just built for change, but is designed for people. Epicor ICE reduces the cost and complexity of technology adoption by being completely ready for business.

### Accessible

Epicor ICE includes the Epicor Everywhere™ Framework for complete user interface and device control, including utilizing Microsoft .NET Windows desktop application technology to provide users the most effective platform in order to maximize their environment. Historically a Windows client meant that applications could only be effectively operated over a local area network (LAN). Desktop application technology allows users to connect to the application not only over a LAN, but over wide area networks (WAN). The Epicor Everywhere Framework uses metadata so that user experiences can be rendered for a number of devices and platforms. For instance, your Epicor applications can be deployed as Web forms in almost any Internet browser or deployed to almost any mobile device. Epicor ICE also ensures that all application logic is exposed securely as web services to allow users to connect with business logic via their chosen mechanism and to enable greater access from other applications and businesses.

### Flexible

Epicor ICE also provides flexibility for the client deployment with support for Windows forms, Web forms, and Mobile device forms. Additionally, Epicor ICE offers flexibility in deployment model with support for on-premise installation, external and co-location hosting and multi-tenancy software as a service (SaaS).

### Customizable

Epicor ICE has a built-in customization engine based on Microsoft Visual Studio® .NET that allows companies and individual users to customize and personalize their environments without the need to alter existing source code, thus avoiding costly upgrade costs.

Epicor ICE uses a layered approach to customization. Customizations are held within the database, but in a separate layer, ensuring portability from release to release with minimal effort. At the base layer there are no customizations. Epicor Partners and end users can create industry specific customizations within the verticalization layer for streamlined deployment and utilization by those industries. Then, site specific customizations can be made in the customization layer and finally on top of site customizations, individual users personalize the system for optimum usability. As a software vendor, Epicor can continue to add functionality to the base without interfering with customizations executed on successive layers. This is called the Epicor Layered Client Stack. Customizations created in the Epicor Layered Client Stack can be written in C#, VB.NET or a combination of both.

Also embedded into Epicor ICE business architecture is a comprehensive BPM platform. Epicor BPM allows users to build their own business rules into the application without the need to touch the base source code, avoiding costly upgrade issues.

### Productive

Epicor enterprise business applications are delivered with a dedicated user experience—application forms that can be rendered in a Windows desktop application or Web application. However, Epicor understands that to maximize user productivity, application capabilities need to be extended out to a broader community of users than those who typically spend their time within that dedicated experience. To that end, Epicor ICE also supports composite applications, typically delivered via Web Portals and immersive applications, where application logic is surfaced up within common office productivity tools, like Microsoft Office. This ensures that all users, no matter what their chosen tool may be, can be as productive as possible.

Also embedded into Epicor ICE business architecture are a series of Web application concepts that raise user productivity to the next level again, such as Enterprise Search for rapid access to relevant information and support for subscription technologies, like really simple syndication (RSS) that proactively push information to users.

### Connected

Connecting people, systems and processes is the primary goal for modern ERP applications. Systems work together through integration, which are tightly-coupled using application programming interfaces (APIs) and standard protocols like SOAP or loosely-coupled using simple message exchanges or REST. Epicor ICE ensures that every application has a robust API which is available using multiple methods and protocols.

## User Experience

Epicor ICE delivers user interface (UX) 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 have multiple user interfaces interact with the business logic using a Windows desktop application, a browser-based web client, or Microsoft Office applications.



*All UI options are intuitive, flexible, aesthetic, and promote user productivity.*

## Flexible Deployment Options

As your business grows and changes, you need a solution that can grow and change with you. Epicor ERP can be deployed on premise, hosted, or in the cloud, providing unprecedented 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 premise. If your company has multiple sites or establishments, Epicor is one of the few vendors to have architected a full multitenant software as a service (SaaS) and on-premise version out of a single product and is the only vendor who has deployed it to customers.<sup>1</sup>

## Epicor Everywhere Framework

Today many enterprise applications are being rewritten to support mobile devices and browser-based clients, which provide easier more convenient access to business information and easier deployment. These clients are generally considered “zero-footprint” or “thin” clients. Rather than rewriting our application forms to support mobile devices and the Web, we developed the Epicor Everywhere Framework, a unique technology that stores all client business logic as tagged XML metadata. This permits Epicor applications to run as desktop applications or Web clients or on mobile devices, all from the same source code. This framework also ensures that user customizations and personalization remain intact, no matter what UX platform is being used.

<sup>1</sup> Magic Quadrant for Single-Instance ERP for Product-Centric Companies, Gartner Inc., September 11, 2013



*Epicor Everywhere provides a rich user experience over the Web.*

For example, you can customize your Windows desktop forms to meet your specific business needs and then simply re-generate the form's metadata and output it as a Web form with all customizations included. ICE delivers a new usability feature whereby a Web user has the option of switching to the Windows desktop application for certain forms, thereby running a hybrid application designed to improve performance and user flexibility. In addition to this key feature, Epicor ICE introduces "Group By" and Personalization" functionality for Epicor Web Access forms similar to that found in the Windows client version.

The web technology in Epicor ICE generates "pure" HTML – no plug-ins required. Epicor Web forms combine HTML, JavaScript and XML or JSON message formats produced from the desktop application form metadata. For added flexibility Web forms can be accessed from many different browsers, including Microsoft Internet Explorer®, Mozilla® Firefox® or Apple Safari® and can run on most common operating systems, including Windows, UNIX, Linux, or Mac®.

### Epicor Mobile Access

In Epicor ICE we have extended the Epicor Everywhere Framework to support mobile dashboards which are rendered as Web applications that may run on a number of mobile devices including BlackBerry® and iPhone. Since the mobile dashboards that support Epicor Mobile Access are built using the dashboard technology and Updatable BAQ technology, it is simple 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.

### Epicor Desktop Client App

Epicor takes full advantage of Microsoft's .NET forms technology to deliver an easy to use, rich user experience in a traditional client environment. Windows desktop apps are easily deployed and managed client applications that offer users a powerful interactive experience—an experience that takes advantage of local resources to connect intelligently to distributed data sources. Business workers can take advantage of increased opportunities to extract, consume, analyze, and distribute information to help create new products, expand into new markets, streamline business procedures, and provide better operational control. The Epicor desktop app delivers the rich functionality that users expect, including: tear off sheets; user sizeable screens; navigation trees; non-modal forms; publish and subscribe; advanced searches; drag and drop attachments; drill down navigation and exploration; and online help and tutorials.

### Unlimited Comments

Enter unlimited comments throughout the system.

### Keyboard Shortcuts

Personalize keyboard shortcuts for all functions.

### Tool Tips

Provides for user controlled (on or off) fly-over text-based tool tips.

### Indication of Attachments, Memos, Audits, Etc.

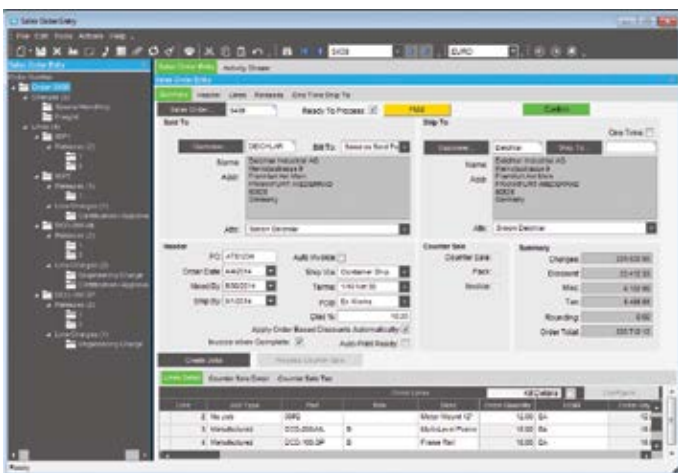
This feature makes it visible to users when memos or attachments are present.

### Open With

Simplify navigation throughout the system with "open with." Right-click on any field to highlight all related areas of the system that can be accessed. The client desktop app automatically associates all open forms together. Changes in one form affect the information the subscribing forms show.

### User-Defined Searches

Define your own searches in all parts of the system. Search criteria can be saved and reused in the future. Auto-load searches can be applied to forms so the search is automatically applied when the form is opened. Auto-search can be applied so that when a form is opened, the search screen is automatically opened.



*Epicor Windows desktop application offers many rich usability features.*

## Cut-and-Paste

Cut-and-paste information to and from all areas of the system and other applications (e.g., rows can be cut and pasted to and from Microsoft Excel).

## Transaction Visualization

View all transactions within a user-defined tree structure, allowing users to pinpoint information even in the largest of transactions.

## Form Worksets and Navigation

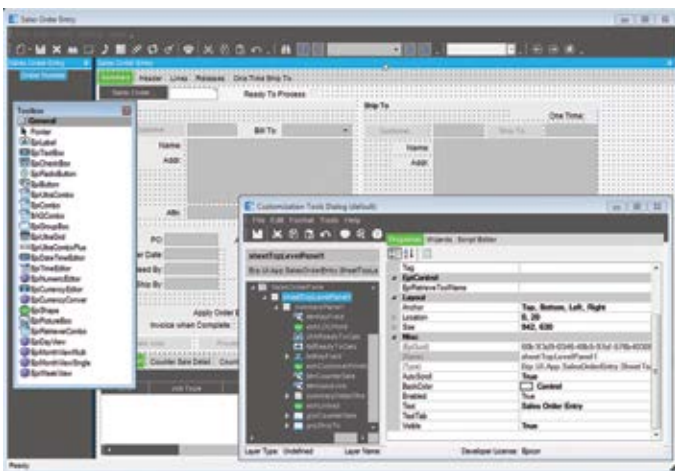
Select multiple records to work with during a session. Move forward and backward within the set. Go straight to a particular record. Save to work with it later or e-mail to a colleague to process.

## Advanced Grid Management

Freeze multiple areas of a grid vertically or horizontally so multiple areas of a grid can be seen simultaneously. Multi-tiered “group-by” functionality quickly makes sense of large amounts of data. Sort multiple grid columns.

## Personalization

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



Embedded tools allow you to personalize and customize forms to meet your processing preferences.

## Customization

Do everything available in personalization. The customization engine is based on Visual Studio .NET. Build multiple versions of forms; add user fields; add user logic; add sheets; add Microsoft Visual Basic® .NET or C# code; hide fields; make fields mandatory. Layered customizations ensure no impact on upgrades.

## Customization Wizard

Customization wizards are available to streamline the use of the customization and personalization engine. This ability allows “visual behavior” for a field or set of fields and can be extended to include the setting of behaviors for fields in any defined view based on complex comparisons.

## Dynamic User Defined Fields

Supports a range of user-defined fields in all primary tables in the database. You can extend the Epicor schema via customization to include any number of additional user-defined fields against such tables thus allowing unlimited growth in usage of these fields which may be used for both customer installations and for Epicor localizations.

## Localization

Localization refers to the fact that Epicor is designed for global-ready applications. Epicor utilizes Microsoft’s standard development practices to ensure that resources that require localization and translation have been separated from the rest of the application’s code so that source code need not be modified during localization. To enable this, the Epicor ICE customization engine has been extended to include a separate localization layer. Creating a separate framework localization layer makes version migration easier for customers and localization partners and provides an area within the framework and application for the development of local add-ons which go beyond the needs of the base application. In addition all non-numeric data is processed, transmitted and stored as Unicode characters.

## External Update Method Available On All Business Objects

An external update method (UpdateExt) is available on all transactional business objects to support bulk updates via integration engines such as Epicor Service Connect. This method implements the functionality to accept a complete dataset containing hierarchical data and multiple records and to call the base Update method of each business object repeatedly for each row in the dataset and for all records in the dataset. Since all processing is conducted on the server within one service call, the use of this method eliminates much of the latency within the Web services and improves performance for bulk updates.

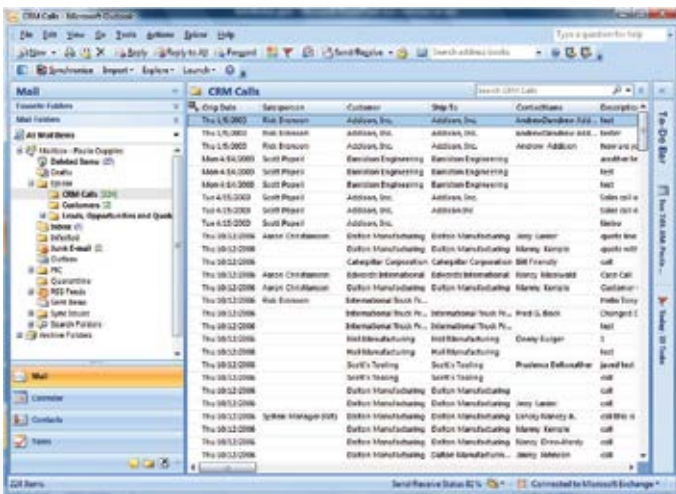
## Styling and Themes

Styling offers complete control over the look and feel of the entire user interface. It works by letting you define the look of each item within the interface—buttons, check boxes, fields, etc. Because themes can be deployed for a company or plant, multi-plant and multi-company deployments can set their unique theme for easy recognition and brand loyalty.

## Information Worker

According to current industry surveys, desktop productivity tools are used by 95% 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, Microsoft Excel, or Microsoft Word, blurring the lines between enterprise software and desktop productivity software to create a single immersive solution. Imagine the productivity and business visibility you will gain by using Epicor Information Worker as an interface for both traditional and non-traditional Epicor users.

The underlying architecture behind Information Worker provides direct access to updatable BAQs. Information Worker also is able to call Epicor Web Access forms as well as desktop application forms from the Information Worker menus.



Epicor Information Worker lets you view, modify, and update business data from within familiar Microsoft Office applications.

## Extend the Reach of Epicor Applications

Many business workers simply don't need to utilize all the powerful features of your Epicor applications, but they do need access to the data. Epicor Information Worker allows authorized users to retrieve, view, and modify Epicor data. Epicor application licenses are utilized efficiently—minimizing the licensing impact on your organization and easily allowing more users access to your Epicor solution.

## Work in Context, Online, and Offline

With Epicor Information Worker, you no longer have to leave what you are currently doing to get the data you need. Simply download the data directly into your Microsoft Office application. With a few clicks of the mouse, add Epicor contacts, tasks, calendar items, and other data into your Microsoft Outlook lists. Outgoing and incoming customer emails can be automatically logged as calls. Customer, supply chain, manufacturing, and customer relationship management (CRM) data are all available online or offline.

## Support Your Customer Relationship Initiatives

Epicor Information Worker can help you exceed your customers' expectations. Your customers will be impressed with how well everyone in your organization knows the details of their account anywhere, anytime. Your sales organization, customer service workers and business executives—everyone in the company—can easily retrieve and update information within Microsoft Office while at work or on the road. The powerful combination of Microsoft Outlook, Word, Excel, and your Epicor data empowers all business workers to offer informed and responsive customer service, which translates to higher customer satisfaction.

## Business Activity Query

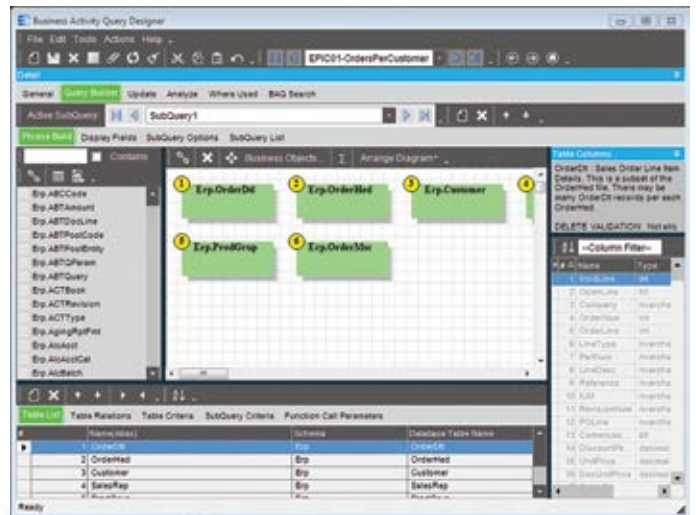
Every business needs an intuitive and easy to use query engine, and for this Epicor created business activity query (BAQ), which allows you to create personalized queries or to copy standard queries. Once the query is created, it can be used throughout the application—to generate SSRS reports, for quick searches, or to view results in a Dashboard. Epicor BAQ lets you create queries that display the data you need, when you need it.

## Easy to Use Wizards

The BAQ Designer includes easy to use wizards to help you define your query—or you can create the query free-form. The BAQ can be accessed from various parts of the application.

## Graphical Links

A graphical display for table links.



The BAQ Designer provides many easy to use features for creating business queries.

## Calculations

Embed calculations within query data for rapid reporting and use throughout.



## Views of Data

Create multiple views of standard system information for rapid reporting and dashboard generation. Also, allow multiple instances of a single table.

## Easily Analyze and Test Your Query

In addition to providing a visual presentation of the query being created, the BAQ designer also provides tabs where you can analyze, test the syntax, and run the query to confirm the query is correct before it goes into production. There is also a tab to display where an existing query is being used—dashboard, quick search, or dynamic report. The BAQ designer provides all the tools you need to quickly and easily create queries that return the relevant data you need.

## Updatable BAQ's

Our ICE platform and the BAQ designer has been extended to support updatable Business Activity Queries (UBAQs). The query designer supports both the ability to update the database via the new External Update method or, to update via a BPM directive which in turn may call a Service Connect workflow for complex updates. In either case the update is performed through the framework business objects thus protecting the integrity of the data. The UBAQ is supported in both dashboards and in the Mobile framework. UBAQs are enabled for a user via User Maintenance as "Advanced BAQ Designer."

## External BAQs

ICE allows your business activity queries to connect to external data sources. This means your BAQs can drive dashboards and other views using data from other systems. Dashboard views can be combined and linked on a single page, which lets you be on a single page, you can create an integrated customer application that provides a broad view of information across systems.

## Dashboard Applications

The Dashboard designer provides a standardized user experience and supports UBAQs. While the dashboard designer can run dashboards in interpreted mode, UBAQs are only available when the dashboard is deployed as an application or as a mobile dashboard. When configured with UBAQs, the dashboard behaves in much the same way as a regular Epicor form thus allowing the user to construct dashboard applications that streamline the business process.

## Business Process Management and Workflow Management

Epicor takes into account the real-life circumstances that define your complex and dynamic business environment, both during planning and the actual process. Embedded within Epicor applications is a comprehensive and flexible workflow solution that gives you the tools you need to respond quickly to critical business requirements. 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 five major components: Task Management; Workbench Views; Business Activity Management (BAM); and Business Process Management (BPM).

## Task Management

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 more dynamic, it's important for any enterprise application to recognize situations and then help drive people toward the right efforts and the right decisions.

### Multi- and Single-Tiered Task Management

Define workflow processes which key transactions must follow for completion. Tasks may be a single step process, or they may be a series of interlinked processes involving many different parties. Create custom workflows specific to your business using task sets. Task sets may define a single step process or a series of interlinked processes involving many different resources. Task sets can contain multi-level tasks, milestones, mandatory tasks, and alternative routes.

### Task Definition

Define tasks to accurately represent the work to be done within your enterprise. Tasks can be created on-the-fly, or users can select from predefined tasks (e.g., pricing approval, revision update, generate quote) to identify different types of work to be completed. After creating a task, you can assign it to the appropriate employee.

### Electronic Sign-Offs

Optionally require password clearance for sign-off on key tasks, providing traceability and adherence to procedures. Task sets ensure that transactions can only be updated if the task set is at the right status.

### Streamline

Categorize tasks by type, streamlining assignment and task set generation. Task types are user-defined (e.g., to-do, urgent item, follow-up) and simplify categorization of work.

### Task Lists

Specify task lists to each employee, and automatically deliver them to the area where the work needs to be done.

## Message Log

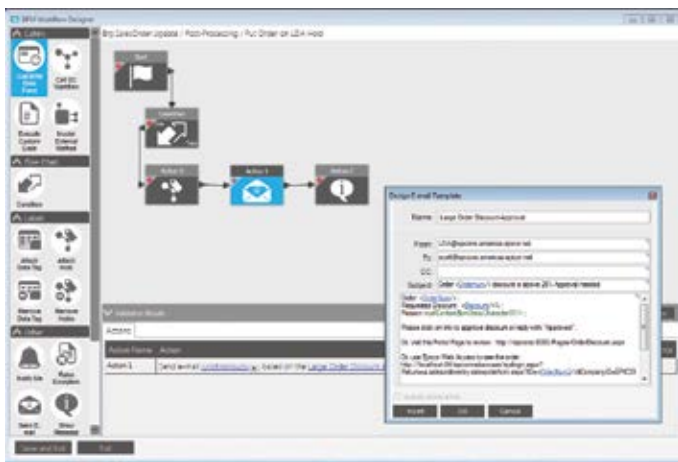
Document e-mails and calls regarding the task with a message log.

## Automatic Assignment and Routing of Work

Automatically assign tasks using required resources and the context of the transaction. Dynamically assign task sets based on circumstances. The task management system will automatically assign and route the work needed to process the change.

## Staying Up-to-Date

Choose to have Epicor automatically send an e-mail notifying key personnel when a task has been created or completed.



*BPM tools allow you to fit the Epicor business software to fit your business requirements.*

## Send Alert

Automatically and immediately send an e-mail alerting internal or external resources when key areas of the system are changed. E-mails can be automatically constructed by Epicor, or you can construct sophisticated HTML-based e-mail messages.

## Carry Out Processes

When critical information has changed, automatically carry out processes to update other parts of the system.

## Workbench Views

Epicor provides a series of role based workbenches to streamline and expedite workflows throughout your company. Workbenches provide a focused, paperless, single entry point from which internal and external users can automate and execute routine processes. Epicor comes with many predefined workbenches including buyers, planning, engineering, inspection, service, sales, credit manager, and plant workbenches.

## Business Activity Management

Epicor extends Workflow Management with integral business activity management (BAM). BAM enables you to build simple proactive business rules into any of your system transactions and has four major components:

### Change Log

Identify key data areas to track including who, what and when data has been changed.

### Alerts

Immediately send an e-mail alerting internal or external personnel when key transactions have been changed. E-mails can be automatically created or you can design rich HTML e-mail messages using related information from your database. You can specify e-mail addresses manually, use scripts to identify e-mails based on rules, or automatically derive e-mail addresses based on transaction-specific information.

### Execute Processes

Automatically execute a process to update other parts of the system when a key transaction has changed.

### Manage Exceptions

Easily activate alerts, enabling you to immediately begin gaining control of potentially expensive exceptions. Epicor includes a library of predefined alerts ranging from "customer credit hold flag changed" to "employee clocked out early."

## Business Process Management (BPM)

Building on and extending beyond the simple rules enforced by BAM, Epicor Business Process Management is all about identifying and improving processes to make your business more efficient, more 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.

### Seamless Integration and Workflow Capabilities

When coupled with Epicor Service Connect, Epicor BPM gives Epicor customers seamless integration capabilities with any application service. Epicor BPM automates delivery of information to customers and suppliers directly from within the Epicor application. As an integral part of the Epicor business architecture, Epicor BPM provides a layer to each Epicor service for applying rules and conditions whether the service is called from a client, another service, or another program. Epicor BPM includes the ability to track data changes within the database and automatically send alerts or print reports when change events occur.

## Easy-to-Use Designer with Wizard Interface

Epicor BPM directives are built using a workflow designer tool coupled with an Microsoft Outlook style rules wizard. BPM intercepts service operations and then invokes your custom Method Directives to perform actions before, after, or in place of service operation.

Every Method Directive is executed as though it were part of the standard code itself. Epicor BPM will allow the simultaneous update of changed rows to support new BPM method directives and to improve processing performance.

## Pre-Process

Epicor BPM allows you to build pre-process conditions that require approvals or other conditions to be met before processing continues. For example: require approval for customer credit limit change.

## Post Process

With Epicor BPM you can automate post process routines such as an Epicor Service Connect workflow that provides integration to an outside system, send an e-mail, invoke a .NET method, execute code, or create a record such as a workflow task.

## Base Process

Epicor BPM also lets you replace an existing service operation with your own

## Collaboration

Epicor understands the value that mass participation and collaboration, with the Web as an enabler, can bring to business. Substantial advances and the ongoing maturity of the Internet have brought new levels of productivity and self-evident usability to today's technology consumers. Even the rise in social computing and related technologies has an outlet in enterprise business software, and are manifested in capabilities such as enterprise search and presence. Epicor ICE merges these emerging technologies, often referred to as Enterprise 2.0 with Epicor's services architecture to deliver unprecedented support for harnessing knowledge, rapidly finding information, and taking collaborative actions upon it.

## Social Enterprise

Epicor Social Enterprise (ESE) is a collaboration solution that provides a fundamental shift in the way organizations collaborate around a project, a customer incident, a quality issue, a procurement challenge, or a 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, Social Enterprise 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 (crowd sourcing), whilst building up a knowledge base repository in which good ideas are never lost. Because it is an embedded component of Epicor ERP, ERP users already have the know how to subscribe and unsubscribe to the information relevant to their role in the business.

## Embedded Capabilities

Whether collaborating on an order, creating a knowledge base for a specific service activity/job or documenting changes to a Project, the streams of information in ESE are stored for the life of the ERP. Employee knowledge can be stored in secure repositories available with your ERP system and leveraged in the future. Information will not be lost when moving from one release of Epicor ERP to another. Unlike external collaboration tools, integration with ERP is inherent and there are no complex integration projects requiring maintenance and no links that need updating that result in additional costs and complexity. The information in Epicor Social Enterprise is always available, always up-to-date and like the rest of the data in your ERP, protected by regular backups and disaster recovery plans.

## Business Notification

Epicor Social Enterprise offers an extension in business notification to the robust capabilities of Epicor Business Process Management (BPM). BPM allows organizations to manage their business processes, ensuring compliance as well as reducing risk by controlling processes or managing by exception. With ESE, a notification framework exists to deliver secure messages through activity streams of Epicor ERP data or employee responses. These streams can then be acted upon and responded to in a secure way. Social Enterprise does not require the same level of administration as BPMs reducing overhead and system maintenance costs. The intuitive nature of social networking tools is one of the primary strengths of these types of tools. They are easy to use and do not require significant investment in training. Epicor Social Enterprise builds on these concepts to allow users to start using the tools with little or no knowledge.

## In-Context and On-Demand

Users can easily subscribe to get in-context information by choosing to follow an entity or object within Epicor ERP or by subscribing to an existing notification stream. The user can choose to subscribe to the object/entity or stream as and when they want for the life-cycle of the entity or until they no longer wish to receive updates about this. While the process of subscribing and unsubscribing is simple, the information in the stream is always presented in a controlled manner taking into account user rights and roles, meaning that the information is always displayed in the context that is most relevant to the recipient.

## Activity Streams

Activity streams can be used to monitor changes, conversations or even groups or discussion topics. Activity streams can be displayed in a web-browser or within the ERP with the click of a button. Streams can be adjusted to present information relating to a specific entity, process or event based on how the notifications are configured.



Monitor changes using activity streams within an Epicor application.

## Collaboration

Collaboration enables new types of business processes offering new levels of engagement across the sales, purchase, project management and delivery, manufacturing, service execution, and finance management processes. Social selling, collaborative project management, service activity coordination make your organization stronger improving response times, close rates and Net Promoter Scores (NPS).

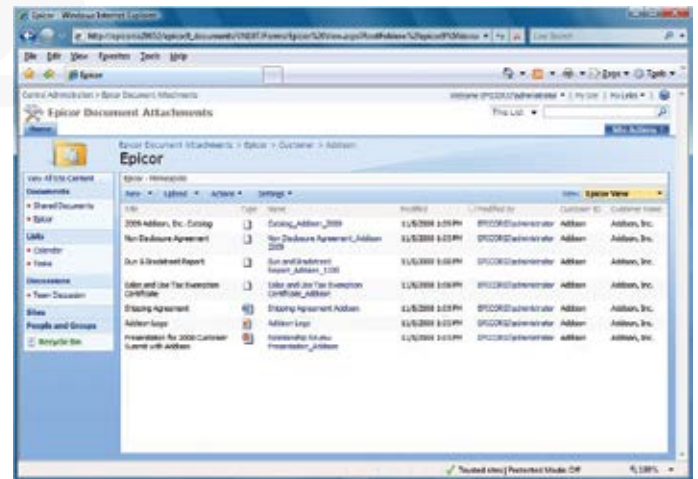
Collaboration can be managed and focused on a specific business object such as a customer, a purchase requisition or even a complex multi-phase project. Users can easily interact with each other around Epicor ERP to deliver additional value to customers, to other internal stakeholders as well as to each other. Users can easily create a group and actively ask colleagues or even customers, partners and suppliers or teams of people can come together in virtual groups to manage communication, find solutions to problems or simply share information about a common area or interest.

## Knowledge Base

Epicor Social Enterprise leverages social media concepts like #hashtags and mentions (@username) to allow easy categorisation and grouping of messages. Bringing together contributions from across the organization and the value chain means that information can be collected in a single location with or without the user needing to interact with the ERP. Recommendation or endorsement of content supports the creation of knowledge bases and reusable content that can be referenced easily using powerful search and filtering capabilities that can be accessed from within the ERP or from a separate application.

## Enterprise Content Management

Enterprise content management (ECM) supports paperless operations and reduces document control costs by enabling users to easily add documents and retrieve information from nearly everywhere within the system. Epicor ECM delivers essential attachment/document management capabilities by extending them to include use of Microsoft SharePoint document repositories. This means that document versioning is also supported along with the option to integrate to other best-of-breed document management systems.



Streamline document control with an integrated Microsoft SharePoint repository.

## Drag and Drop Attachments

Epicor supports drag and drop document attachments, document versioning, and advanced document meta-data tracking and searches through attachment vaulting in Microsoft SharePoint. The electronic document is not stored anywhere in the system; just the file location is stored and linked to the business object used in the form. Multiple content management storage options are supported including; SharePoint Document (documents stored in a SharePoint document list), File System Document (documents stored in a defined file system location), Attachment Link (specific document link to a file location), and Collaboration Link (specific link to a SharePoint Document List).

## Simple and Secure

Simply drag and drop a document from your secure document repository and the system generates a secure link that can be accessed based on user network security.

## Retrieval

Retrieve documents for viewing, editing, or printing by contextually searching within your Epicor application and accessing related attachments.

## Document Viewing

Epicor ECM offers support for industry leading AutoVue™ 2D Professional Desktop Edition and AutoVue 3D Professional

Desktop Edition for viewing of hundreds of file formats. These include technical document types such as 2D/3D CAD and Electronic Design Automation (EDA), as well as business documents such as Office and Graphics. These solutions also include redlining capabilities.

### Product Documentation Workflow

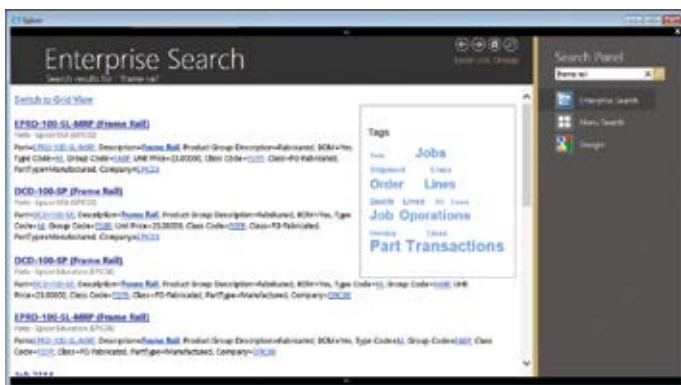
Automated product documentation workflow ensures the flow of accurate product documents to the production floor for viewing, redlining, and updating of drawings and other documentation related to the product, process, or material used.

## Enterprise Search

Today's business workers are typically savvy internet users in their personal lives and have come to expect the same sort of access and community in their business lives. Epicor delivers Enterprise Search, which 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 extends beyond enterprise data, to un-structured data (Word documents, etc.) if desired, and in a secure manner. Epicor Enterprise Search also supports extensible actions from search results including task specific actions, internal and external service calls and direct links to applications or application forms in context.

### Secure Search Results

Business workers will be able to search data that resides within the Epicor application as well as data stored locally, on the network, or on the internet. Application data search results are returned to workers based on access rights—if a user is not permitted to view certain data, it will not be listed in the results. Search results are bound to the BAQ security rules—if a user does not have access to columns, they are not displayed for that user.



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

### Easily Find Relevant Business Data

With Enterprise Search, business workers are no longer tied to traditional ways of accessing information—now they can specify

exactly what they are looking for and pick and choose from the result set to see the data. Enterprise Search will also include the ability to “drill down” into related data. For example, if you search for a customer, you will be able to see results that drill down into sales orders, invoices, payments, or CRM calls, to name a few.

### Get the Information You Need Right from Your Browser

With Enterprise Search, users get the information they need with less input and without having to move from form to form within the application. Enterprise Search allows you to set the sensitivity level so you don't get irrelevant data.

### Search Administration and Management

Configuration of Enterprise search and of the BAQs that populate the search is available in the Epicor Administration Console allowing much easier system configuration.

## Subscription Services

Epicor ICE extends RSS subscription capabilities to Epicor application data. This means that business users may subscribe to specific information that they wish to be kept apprised of. By subscribing to a particular query using RSS, users will see information proactively pushed to them when the data behind that query changes. For example, a user may wish to attach an RSS feed to a particular contact at a customer site. Any time something happens to that contact they can receive a note about it. RSS information can be pushed to your container of choice including the RSS Feeds Outlook Syndicated Content (RSS) Directory within Microsoft Office or via Windows Gadgets.

## Composite Applications

Enabled by the Epicor Everywhere Framework, Epicor application Web forms generated from metadata, and their related linked business logic, can be used in composite application development. Each Web form supports publication and subscription, allowing specific business functionality to be “mashed-up” with other line of business developments.

### Mashups

Within Microsoft Office SharePoint Server it is possible to build composite applications that combine various connected Web Parts, such as Epicor Web forms, Epicor Web queries, Epicor EPM analytical Web parts, and more.

## Mobile

Enabled by the Epicor Everywhere Framework, Epicor application Web forms generated from XML metadata, and their related linked business logic, can be accessed via mobile device. Additionally, Epicor EPM KPIs can also be deployed direct to mobile devices and include full search capabilities to rapidly find and drill-down to applicable data.

## 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.

### Centralized Administration Console

This feature delivers a single management area for your Epicor system, which removes redundancy and in so doing boosts user productivity, accuracy and efficiency.

### System Monitor

Schedule tasks to be run in the background on a one-off or regular basis (e.g., daily, weekly, monthly, etc.). Tasks can be jobs such as MRP or reports and forms. Reports and forms can be frozen at a point in time so the data can be referenced at a future time.

### Integrated E-mail

Automatically e-mail employees, suppliers, customers, and partners from the system based on key actions. Attach documents so the recipient need only click on the attachment to drill into the associated transaction.

### Separation of Epicor ICE from Epicor Applications

Epicor ICE business architecture is developed separately from Epicor enterprise business applications, allowing each to be modified and updated in separation and potentially under differing release cycles. Epicor ICE framework components have been extracted from application source control and given their own build and delivery schedules resulting in a more robust application development environment that allows staged delivery of Epicor ICE to application developers using the Epicor ICE software development kit (SDK).

### Multiple System Agents

ICE gives the ability to run Multiple System Agents. This feature allows customers to set up multiple defined areas for generation of reports and processes. Application servers can now be located on many different physical servers to distribute the processing load, or remain on just a single physical server. Multiple System Agents also allows for greater flexibility in system tuning and security configurations. Epicor also provides the ability to execute reports on alternate databases. A System Agent can be expanded to have connection information for alternate database servers. This allows a user to log in once to a company and run reports using data from an alternate reporting database, thereby offloading reporting overhead from the main transactional database.

### Extended Reporting Framework

The reporting framework within Epicor ICE allows optional Server based printing. This is done via the creation of an Enterprise (or Server based) printing option for users who wish to leverage

the associated Microsoft SQL Server Reporting Services (SSRS) or other enterprise reporting software.

Epicor's server-based reporting option includes Microsoft's SQL Server Reporting Services (SSRS). SSRS reports add the capability to e-mail and fax reports in addition to printing from the server or previewing on the client.

### Customizable Printed Forms

Access the laser-generated and preprinted customizable continuous forms that are provided with auto-fax and e-mail capability.

### Auto Print Control

This feature handles the automatic printing of forms and barcode labels upon the completion of a predetermined list of Epicor transactions. Auto print control lets you define the events that trigger the printing, rules that define the conditions, and the action to take on a form-by-form basis.

### Advanced Print Management

Automate document delivery with Advanced Print Management. Whether e-mailing, faxing, or printing and mailing.

### Support for Multi-Version Environments

The Epicor ICE framework now provides the ability to define and manage certain master data elements and processes across an environment that includes multiple versions of Epicor solutions.

## Security

### Multi-Company Menu

This feature provides secure access to multiple companies without having to close all forms or carry out different logins when switching companies.

### Operating System Security

Epicor ICE provides the option for Microsoft Windows Authentication and Windows Single Sign-on and Password Policy.

### Method Security

Secure the types of processing users are able to carry out (e.g., allow a user to update an existing part but not add a new part) by user or group.

### Data Level Security

Secure which data users are allowed to access. This can be done at a dataset (e.g., all sales order information), data table (e.g., sales order header information) or field level (e.g., sales order due date).

### Security Reporting

More closely manage user security with security reporting.

### Online Edits and Audits

Monitor all changes to records (before and after values), who made those changes, and when those changes were made. Prompt users for audit notes of why changes have been made.

### Date and Time (Using Server Time) and User Name for Auditing

Epicor ICE introduces a true date time field which involves the creation of a Microsoft SQL Server style date/time data type or data control that can then be used by application developers to easily render local time. All date fields are of this date/time data type and are only stored in universal date format.

## Automation Tool for Epicor

Every business is looking to automate the routine activities so that staff can focus on the value added tasks. Epicor ERP has many capabilities built in that can simplify and automate individual tasks however every business is different and mass automation requires a slightly different type of tool. 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 (e.g., data intensive tasks such as very large print runs, MRP, etc.). ATE can also be used to 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 re-validate results with ATE.

ATE was designed to make it simple to automate labor intensive processes. The tool has both a Recorder and a Player function. To automate a business process, users simply set the Recorder running and then perform routine data entry routine in Epicor ERP. The Recorder tracks mouse clicks and keystrokes to produce a script file. The Player can then be used to run the script file, effectively repeating the exact same data entry process. Sometimes, being able to automatically repeat a process at scheduled times is all that is needed. In other cases, the flow of the business process depends on external data, or on the results of calculations performed by Epicor ERP while the script is running. That is why the script language includes logic, such as loops and conditional statements, and data handling functions to support more complicated processes. Since ATE can read and write from external files, it can also be used for basic system integration. You also can combine ATE with Epicor Service Connect and send any XML file to an input channel to automate the integration with other systems. Together with Windows Scheduler you can run scripts and process XML messages at times when system load is low, e.g. at night or over the weekend.

### Developed Specifically for ICE

ATE was developed specifically for the Epicor ICE Client Framework and requires less effort to produce scripts than generic automation tools.

### Simple Installation

Hardware and software requirements are minimal compared to other automation tools. ATE can be installed on either an Epicor ERP server or client machine.

### Multiple Processes at Once

Multiple automated processes can be run simultaneously from separate machines.

### Epicor ERP Security Integration

Fully-integrated with Epicor ERP security; one ATE process consumes one Epicor office license.

### Comparison Utility

Data and report comparison utility to facilitate consistency testing –backup files and reports created by ATE can be compared with backups to check for differences.

### Flexible Script Language

Script language supports reading and writing data to external files (text and Excel), text and numeric variables, for...next loops, if...then...else statements, error handling, message boxes, taking screenshots, etc.

### Service Connect Integration

ATE scripts may be integrated with Epicor Service Connect and send XML files to integration input channels so both back office and connectivity processes can be covered by ATE.

### Software Validation

Used in highly regulated industries such as FDA regulated, ATE is used to simplify re-validation to enable users to more easily upgrade to latest releases.

## Software Development Kit

For those requirements that cannot be satisfied by the embedded customization layers, Epicor also offers an advanced SDK which is available at an extra cost and supplies the client source, framework UI and business logic tools necessary to write your own additions and extensions to the application. The SDK is a toolset used to produce new application services using the Epicor ERP programming model.

### Use the Tools Our Developers Use

Epicor ICE SDK is a packaging of some of the tools that are used by the Epicor development group in the creation of base code. These tools allow a developer to make modifications or extensions to the base application or create new software within the same framework used for the base product. The Epicor ICE SDK allows developers to build their own custom modules and integrate and embed them into the product as though it were part of the base system.

## Audit Control

Within the Epicor ICE SDK users can make changes to underlying business processes via the Object Designer. This allows users to tailor the system to meet their needs while at the same time tracking these changes as they represent a functional change to the software application that might need to be tracked for governance and compliance auditing. This is a significant addition to the customization options within the application framework.

## 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 the power of Service Connect can be used to streamline processing within the application framework.

## Promote Lean Principles

Users can automate tasks and processes within the application to promote lean principles, continuous performance initiatives and Six Sigma quality within the organization or across the supply chain. Service Connect lets employees focus on value added activities and management by exception instead of repetitive data (re)entry tasks. Built to support collaborative processes, Service Connect links different business entities, applications or users using open, industry wide standards and technology that enables businesses to deploy solutions—confident that their investment will remain intact for the future. Service Connect harnesses the openness of XML and includes service-bus functionality for Security, Messaging, Orchestration, Transformation, Scheduling, Notification, and Exception Handling to deliver rock-solid reliability combined with ease of use.

## Much More Than a Programming Interface

Typically, the effort to connect different applications requires code for mapping the integration, proper error handling, scheduling, and so on. The aim of Epicor Service Connect is to eliminate this extra coding effort required to integrate an Epicor solution. Epicor Service Connect is more than a tool for integration; it is a platform for rapidly incorporating workflow and system orchestration through visual designers with little to no programming effort. Integrations can be easily built by using the Service Connect Visual Data Mapping tool to link and transform XML documents to map to different systems along multiple communication channels and protocols to support a wide range of integration scenarios.

## Secure Audit Trail

Service Connect logs workflow processing for both transactional integrity and compliancy. Processes are available for review and tracking while in progress or after the process completes. If for any reason processes error or stop, transactions are rolled back and queued for subsequent correction and resubmit. Notification services can be incorporated into the workflow to alert either the submitting application (e.g., system integration or EDI process) or an administrator.

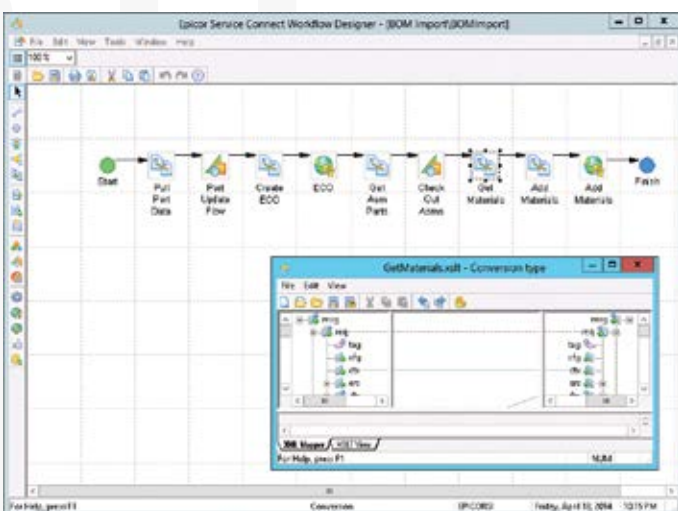
## Direct Database Updates

Epicor Service Connect includes workflow support for Epicor business objects directly in addition to the existing web service elements. This feature can be used with the UpdateExt method to update full datasets and multiple records in the same way as the web service Update method processes data. Since the business objects are called directly and within a single login session much of the latency in web services can be eliminated.

## Epicor Documentation and Content Delivery

With Epicor documentation and content delivery, content is shared with your employees in an easy manner that helps improve productivity and allows them to receive relevant information when they need it—right from within Epicor ERP.

Epicor University, the group at Epicor responsible for Epicor ERP learning, employs a worldwide team of dedicated content writers, instructors, and subject matter experts that develop a suite of content through a single-source technology and includes feature summary application help, technical reference guides, embedded courses, and user guides. Built on XML DITA technologies, the team pulls information from a unified .xml content library to create deliverables with consistent tone and structure.



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



## User Guides

Epicor User Guides provide a complete overview of the major functions within Epicor. These printable documents offer full color explanations of system functions and walk users through the system, step-by-step. In addition to an Application User Guide, the available guides include the Epicor Implementation User Guide, ICE Tools User Guide, and the Service Connect User Guide.

## Feature Summary

Understand the impact of updates to every line of the business. Feature summaries provide comprehensive role based help that explains business cases of new features alongside impact topics for rapid adoption of new releases.

## Application Help

Comprehensive application help is tied to each application function. A simple F1 hotkey offers users contextual access and speeds user adoption. In addition to functional help, each module is examined through a series of best practice workflows and “Working With” topics.

## Intuitive Field Level Help

In addition to offering use of each field, Field Help is designed to help business analysts understand field use to make it easier to build custom queries and reports. As users click through the fields in the application, documentation including table.field naming for the specific field displays in the Field Help viewer.

## Technical Reference Guides

Technical Reference Guides provide detailed, technical information about complex processes and features. Epicor offers technical reference guides on scheduling, MRP, costing, performance tuning, and financial posting engine.

## Embedded Courses

Epicor ERP has over 100 embedded courses to give users the ability to explore the modules of the application through hands-on, self-paced learning. Epicor ERP embedded courses are delivered with a sample database and contextual links that launch directly into Epicor so users can apply learning faster. Courses are accessed via a separate course window that sits on top of Epicor ERP to offer users the ability to quickly reference learning while using the application.

## Customizable Help and Courses

Sharing job knowledge helps organizations train new employees faster and maintain quality processes. Custom annotations enable employees to document processes so they can be referenced and shared. These annotations are flexible, use standard formatting rules, and can be created at either the user login or company level so they are unique to the business or unique to their role.

## Epicor University

Epicor University learning is designed to speed employee adoption of Epicor ERP technology so that return on investment is realized in less time. To accomplish this, Epicor University offers training designed for each role in the organization. Epicor ERP documentation and content delivery provides a foundation for knowledge in Epicor ERP and gives already stretched employees the freedom to learn at their own pace.



## About Epicor

Epicor Software Corporation is a global leader delivering business software solutions to the manufacturing, distribution, retail, and service industries. With more than 40 years of experience, Epicor has more than 20,000 customers in over 150 countries. Epicor solutions enable companies to drive increased efficiency and improve profitability. With a history of innovation, industry expertise and passion for excellence, Epicor inspires customers to build lasting competitive advantage. Epicor provides the single point of accountability that local, regional, and global businesses demand. For more information, visit [www.epicor.com](http://www.epicor.com).



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