SceriS®

ETCETERA® ENTERPRISE PROCESS MANAGEMENT (EPM)

About ScerIS

Founded in 1993, ScerIS is a software developer and professional services company. Clients in healthcare, business and government use the company's software products and services to achieve significant operational improvements and efficiencies.

ScerIS is a Microsoft Gold Application Development Partner. ScerIS has demonstrated a "best-in-class" ability and commitment to meet Microsoft Corporation requirements distinguishing itself within the top 1 percent of Microsoft's partner ecosystem.

Helping organizations meet their needs for business process optimizations, ScerIS software is a transformational technology. It provides the platform on which organizations quickly develop, deploy, modify and manage the uniqueness of business process requirements, enterprise-wide. It helps organizations deliver operational efficiencies with velocity and agility.

Additionally, ScerIS consulting, implementation and training services are a virtual extension of client environments. They help clients manage the design and deployment of individualized applications that reflect best practices and achieve projected goals. ScerIS Service Center operations are a resource to clients for Business Process Outsourcing.

Software – Solutions – Outsourcing

Microsoft Partner
Gold Application Development

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The ETCETERA® Platform

ETCETERA® (ETC) is the platform for transformational growth and profitability achieved by accelerating enterprise performance. As the platform for change, ETC provides organizations with the foundation for rapidly developing applications to meet ever changing requirements. It's the platform to simplify, consolidate, modernize and integrate business applications and management information. Built on a foundation of extraordinary performance, ease of use, security and scalability, ETC helps organizations meet today's needs and reach tomorrow's vision.

THE ETCETERA® PLATFORM

Accelerating Enterprise Performance

Enterprise Content Management

Enabling the Digital Office

- High Speed Browser Based Scanning
- ETL (Extract, Translate, Load)
- Database Management
- SVG Viewer (>100 File Types)
- Tabbed Presentation Viewing
- Extend Access to Vendors, Customers or Constituency

Enterprise Process Management

Building Applications for the Enterprise

- Application Development
- One Place for Dozens of Applications
- Manage Work in Activity Queues
- Dynamic Application User Interfaces (AUI)
- Workflow - Ad Hoc and Rules Based
- Robotic Process Automation (RPA)

Enterprise Data Warehouse

Normalized, Standardized, Accessible

This Document Focuses on Enterprise Process Management - Building Applications for the Enterprise.

EPM – A CORNERSTONE TECHNOLOGY FOR ALL ORGANIZATIONS

ETCETERA® Enterprise Process Management (EPM) is a software platform for highly customizable business applications. It's the next generation of software products providing the tools and environment for developing and deploying enterprise-wide applications.

Software Development

EPM software development is an ongoing effort at ScerIS, with EPM continuously enhanced via version releases approximately every three months. The product is HTML5 compliant and browser-based. Development benefits from AngularJS, the open-source JavaScript framework from Google. AngularJS is renowned for its architectural soundness and adherence to HTML5, JavaScript and CSS standards.

AngularJS helps ScerIS put the user interface code where it's used (in the browser – similar in ways to windows-based software products), and by using Ajax calls rather than full post-backs, load on the server and communication networks is minimized. The result is better responsiveness and scalability.

On the server side, development efforts are based on the Microsoft stack: Windows Server, SQL Server, various flavors of Windows services, and IIS. Newer services that communicate with browser clients use Microsoft's .Net WEB API technology. By encouraging strict adherence to HTTP standards, Web API provides excellent response time while extending the HTTP protocol to the broadest range of devices.

Services that serve other services (for example, our user authorization service) are based on Microsoft Windows Communication Foundation (WCF). For same-box communications, WCF offers the Net Named Pipe protocol, which, when you can use it, is faster than either HTTP or TCP.

Applications for the Enterprise

EPM is used to create and configure hundreds of applications designed to help organizations achieve greater productivity. With EPM organizations can better spend their time innovating and delivering value.

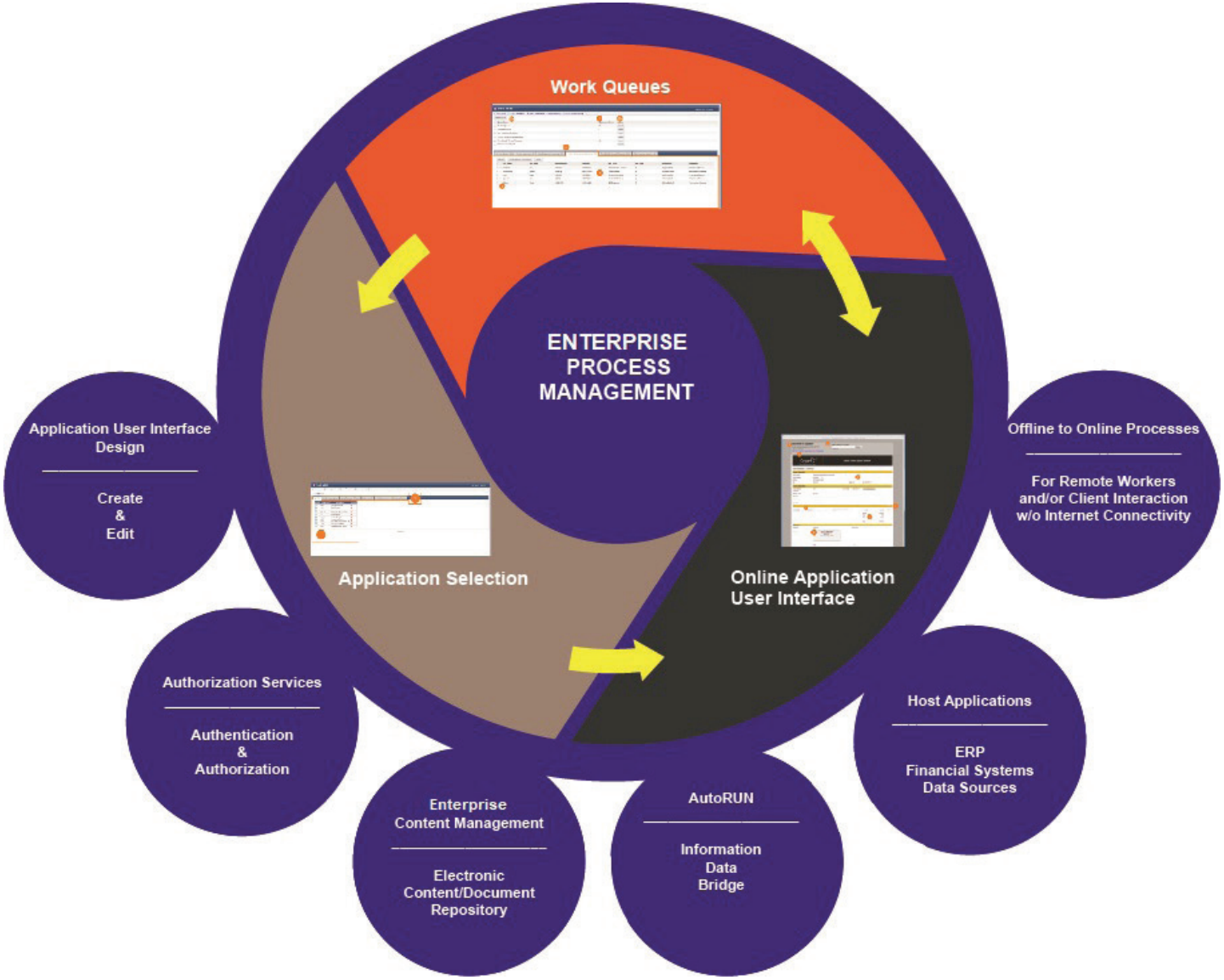
One investment in EPM can replace the inherent costs of maintaining and supporting multiple software products, and help avoid the inevitable delays of getting applications in place when budget cycles and capital approval processes impact achieving operational and financial excellence. With EPM, build it when you need it or want it.

Using EPM organizations design, develop and implement online work processes that include automated processes, online user interfaces, data capture and validation, content capture, work routing and validation, rules-based workflows and offline to online work process synchronizations. EPM brings the quantity, quality and velocity of applications deployed back to information technology and the user community while minimizing the need for other software products.

EPM also helps organizations better manage risk and comply with regulatory requirements while preventing unauthorized access to business and protected information. Providing a single reference point for process management throughout the enterprise, EPM enables usage monitoring, auditing and reporting to help achieve compliance requirements.

In as little as minutes some applications are designed and deployed, and business processes are optimized using the EPM software. As business or compliance requirements change, applications are just as easily modified and redeployed. For the self-reliant organization that seeks to be responsive and timely while helping differentiate the level of service offered to employees, vendors and customers, EPM is HTML5 compliant and takes advantage of the latest hardware innovations and computing technologies.

Built on a foundation of extraordinary performance, ease of use, security and scalability, EPM is an environment that provides for many applications, helping organizations meet today's needs and tomorrow's visions.



EPM is tightly unified with ETCETERA® Enterprise Content Management (ECM) software, AutoRUN (AutoRUN) and Authorization Services (AUTH). ECM stores all subordinate documents along with the graphical representation of the EPM eTransaction in its final state. AutoRUN is an information broker and handles data and document management between ScerIS applications, ERPs and other host applications. AUTH provides for user privileges and security and is integrated with Active Directory to provide for single sign-on. AUTH also provides for named users, groups and guest users.

EPM is also tightly integrated through data views to ERP and other application data sources. Using an AutoRUN plug in, clients configure output files for uploading to host systems.

EXPERIENCING EPM

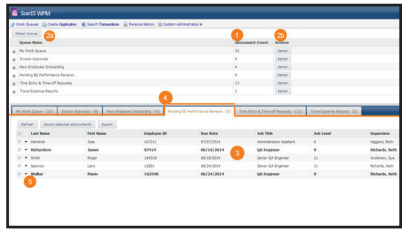
ScerIS has taken some very complex and complicated technology and delivered it in an outstanding user experience. EPM is about a work experience, not shopping on the internet. EPM presents a task focused environment since the “feel good” feelings of the user generally depend upon having a successful experience in accomplishing the tasks at hand.

The User Experience - As Simple As 1 - 2 - 3

EPM User Experience design follows the tenant of “The Rule of Least Surprise” whose purpose is to reduce the amount of complexity a user must absorb to use an interface and complete their tasks. EPM is designed to help users, easily and efficiently, attend to and complete all of their work tasks from within just three presentations:

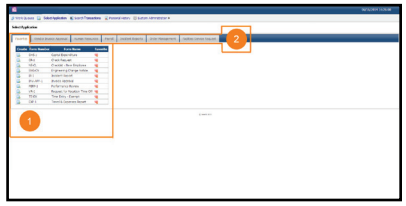
1. My Work Queue
2. Selecting An Application
3. Online Application Interface

1



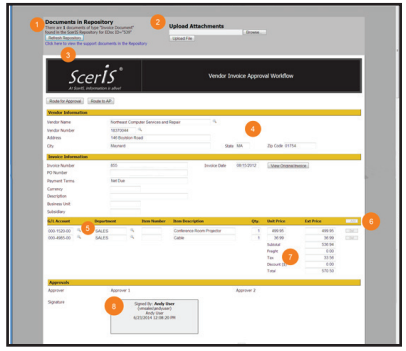
My Work Queue provides for a summary of all work activities in which the user may be involved. In the summary of work queues it shows the name of the work queue, the number of pending transactions and actions available to the user in each work queue. The user determines if they want to see the detail of transactions in a work queue, and if so that information is presented in a tabbed presentation in the bottom of their user interface in the same order as work queues are presented in summary above. In each detailed work queue, searchable data elements specific to that type of work are used to present information about the pending or suspended transactions. Simply – My Work Queue is the one place to go for all “my work” information.

2



From My Work Queue users select and open an in-process Application User Interface (AUI) or create a new transaction. Simply click on the Select Application button, and he user is presented within an organized, tabbed presentation of all AUIs available to the user. A single mouse click or touch (mobile devices) opens the user interface in the browser. Users simply click on the  to select frequently used AUIs and place them into their Favorites tab for rapid access. Some AUIs are created and automatically placed into user work queues using the Workflow Rules Engine which uses data in external data sources to automatically start new transactions.

3



The Online Application Interface replaces traditional application dialog boxes with dynamic intelligent user interfaces. The goal of this type of user interface is to improve the efficiency, effectiveness and naturalness of human to screen interactions. The AUI can include instructions, and an ability to view supporting documents and add new supporting documents to the transaction (of any file format) either at the transaction level or within specific sections in the AUI. Users can enter data and enrich data from multiple data sources (ODBC views into data sources and API calls). Conditional controls expose other required data without the need to place the user into another dialog box. Error messages are presented to the user within the AUI, eliminating the need for modal or system dialog boxes that restrict user access to the active application interfaces. The user’s entire application experience is in a single, dynamic, morphing AUI in which they can complete all related work without leaving the environment.

But ScerIS EPM doesn't stop there, it takes the user's experience to another level – to that of an Information Worker. EPM facilitates work processes involving many tasks and many users and provides the platform for business process collaboration. Yes, task focused, but with tangible user interfaces having an emphasis on touch and the physical environment. EPM was designed with the user's perception of system usability including utility, ease of use and efficiency.

The Administrator's Experience

The EPM Administrator's experience spans AUI design, enterprise-wide data dictionary management, deploying AUIs, establishing work queues and rules for the transactions presented, user security and permissions, integration to the ETCETERA® Enterprise Content Repository, and integration to host applications and data sources.

AUI design is often performed by the user, but Advanced Controls and Custom Controls require more technical expertise (provided internally or by your virtual resource at ScerIS). Using a "drag and drop" development environment, users familiar with creating tables in WORD can develop AUIs in ScerIS Designer.

Maintaining an Enterprise-wide Data Dictionary is critical to long term success and the integration of AUIs and data that, at the time of development, no one would have imagined require seamless access across business processes. Managing this environment is simply about being organized and prepared.

Establishing work queues couldn't be easier. They are created using a definitions screen that provides for the identification of AUIs across all active transactions using "searchable" fields defined in the selected AUIs. The system manages the rest.

User security and permissions are managed in Authorization Services (AUTH). The AUTH architecture provides a very granular authorization security schema where security definitions are comprised of Objects, Access Conditions, Resources, Actions, Permissions, Groups, and Users. AUTH is integrated to Active Directory for Single Sign-On and also provides for Named Users. ETCETERA® modules sense Windows authentication in permitting access to applications and in determining other user specific privileges.

The Enterprise Content Repository is an indexed file storage environment with production level scanning, importing, automation and indexing functions. Many transactions that are completed in EPM that involve the need for a static snapshot of a completed task or transaction are automatically saved as a graphical image in the repository, in addition to saving searchable fields or indexed fields and saving all the data as XML.

EPM AUIs can, within each AUI, interface with an unlimited number of data sources. Additionally, data captured in the AUI can be structured into files that can be uploaded to hosts or presented in reports.

EPM AUI DESIGNER

In EPM, the Application User Interfaces (AUI) are designed using the EPM AUI Designer Module (Designer). Designer provides predefined Standard Controls, Advanced Controls, Electronic and Digital Signature Controls, and an extensive array of Control Properties to facilitate rapid and easy prototyping, testing and deployment of solution dialog boxes and online applications.

An AUI is a Graphical User Interface (GUI) within which information is presented, collected and shared with extraordinary accuracy and security through an online process. Data is enhanced and validated through the use of database lookups, dynamic selection lists, time and date controls, spell check, conditional rules and dynamic form elements. The use of electronic and digital signatures allows for secure and verifiable processes. AUIs aren't just some electronic forms – they are dynamic online interfaces that help you accomplish more with less.

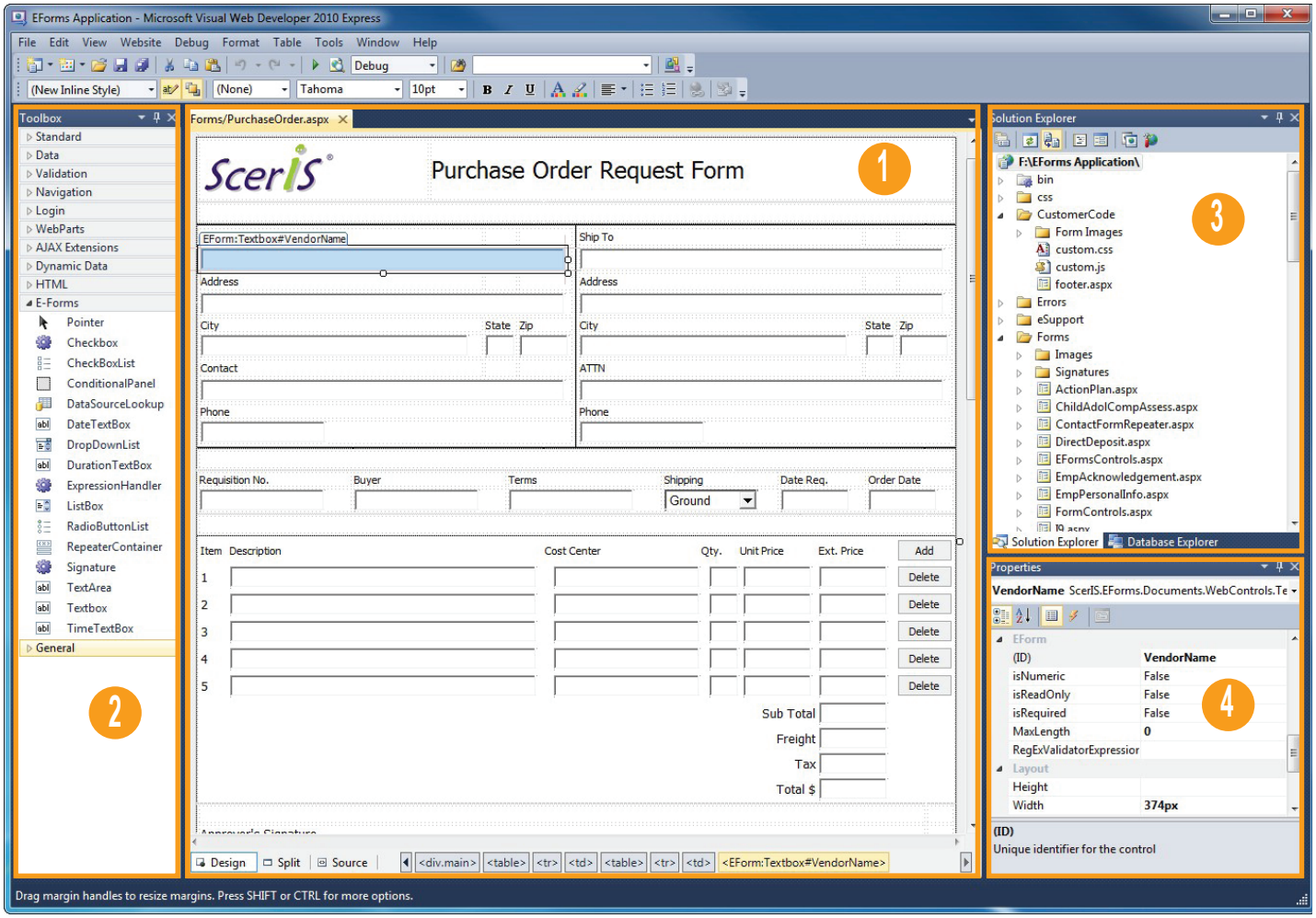
The ScerIS AUI is the underlying foundation of a comprehensive application when used in conjunction with a data dictionary (for managing all data elements for the application and across applications) combined with a clear understanding of data definitions and requirements. Blank ScerIS AUIs are selected for completion within the EPM module. Here the ScerIS AUI becomes a work in process transaction and dynamic GUI. Data is entered into the online AUI and it moves through routing, approval and check-in processes that result in data available for EPM Applications, host applications, reporting and executive dashboards.

The Benefits of the EPM AUI Designer:

- Quick and easy application design. Predefined Standard Controls, Advanced Controls and Signature Contols combined with over 75 Control Properties and Custom Controls developed by customers, offer a truly robust environment that provides for an excellent user experience.
- An individual AUI can have links to multiple external data sources.
- Signature Controls and integration to signature pads are included in the controls provided.
- AUIs integrate with the Enterprise Work Process Management environment where AUIs are selected from a library of online applications, utilized, suspended, completed, signed, routed and eventually committed as a permanent record (both data and the human viewable AUI).
- AUIs are designed to render as human viewable, dynamically expanding text areas (displayed on monitors with scroll bars) and automatically adding footers as required for the application deployed.
- AUIs provide for associating supporting documents to the online AUI in production, even to selected fields in the AUI.
- AUIs can include nearly any content and presentation, including photographs, training videos, links to external presentations and more.
- All data captured in the production environment is available to use in the EPM application, or by host applications, reports and executive dashboards. Data on AUIs does not need to be rekeyed into other applications with data interfaces - the data is already there.
- AUIs eliminate the need for paper forms purchases and provide for electronically routing online AUIs for review, approval and processing.

Designer is a drag and drop AUI design toolkit. Designer requires Microsoft Visual Web Developer 2016. AUI Designer provides for a simple but highly customizable and extensible GUI design process and provides an extraordinary, easy to use set of controls for both technical and non-technical users alike.

Using Designer, users often create AUIs in less than one hour per page. AUIs are deployed in hours and entire solutions in days, saving precious time and money and providing for an outstanding user experience. When the time comes to modify or change AUIs, users are able to reuse existing interface elements, making the design and deploy cycles even shorter.



1. The **Document Frame** is the main window for creating, viewing, and editing the AUI.
2. The **Toolbox** contains a list of controls available for designing AUIs.
3. The **Solution Explorer** gives a view of all the existing application files available.
4. The **Control Properties Frame** shows the individual properties for any control, such as size, validation properties and data element names.

Predefined Standard Controls

Designer includes a selection of Predefined Standard Controls enabling users to accommodate most design challenges using a drag and drop, point and click methodology.

The controls are easy to use and intuitive. All of the programming necessary to manage each field placed on the AUI is already in the control. No programming is necessary for the standard predefined controls used by non-technical people to create AUIs.

Standard configuration attributes of these controls include field naming, data validation, and field presentation.

Predefined Advanced Controls

Designer includes a selection of Predefined Advanced Controls enabling users to implement highly customized features into the AUIs and data capture requirements.

These predefined advanced controls enable data validations (no limit on the number of data sources used per AUI), expression based field completion, dynamic presentation of additional sections or required fields based on rules or conditions applied to other fields and dynamic expansion by the user of sections on the AUI in order to accommodate the exact number of sections and sub sections required in their work (for up to four levels of repeating sections).

Predefined Electronic and Digital Signature Controls

Designer includes Predefined Signature Controls that enable a user to capture either a written signature or a signature using network authentication or ScerIS user authentication.

Signatures can lock or bind to other controls in the Application User Interface (AUI) as determined by the AUI designer. These controls are bound to the other controls in such a way that any change to any data values in the controls will negate the signature.

Written signatures are captured with their biometrics (depending on the capability of the signature pad). Biometrics typically include capturing the user's handwritten signature's strokes, speed, pressure and timing.

Control Properties

Over 75 Control Properties provide for a simple but highly customizable and extensible AUI design process. Control Properties make this a truly rich user experience because they simplify the implementation of predefined controls and AUIs.

Many Control Properties are specific to certain predefined controls, such as "Controls_to_sign" which is a property that lists the Control IDs (representing fields on the AUI) that the signature control is bound to. Many of the Control Properties apply to nearly all controls. AUI designers can specify the Control ID, name fields, select font controls, validate field properties, specify colors and borders, provide tables or views, specify values to output for some controls (like check box controls), specify fields in data sources and much more.

Custom Controls

Take advantage of the extensibility of standard .NET controls and extend the controls or Application User Interface using C#, VB.NET, JavaScript and/or CSS.

Shroud

The shroud is a frame around the Application User Interface that provides for instructions, attach files associated with the AUI, view files associated with the AUI, displaying error messages that describe the error and the field name, and for fields used as a part of a workflow that are hidden to other employees using FieldClass security. If the AUI is rendered as a viewable file into the document repository, the information in the shroud is excluded in that rendering.

If presenting instructions, use a collapsible panel so that instructions are only shown when requested by the user, and therefore don't take up valuable geography at the desktop or mobile device.

Embedded Files

The AUI can reference other files and present images. This can include videos used interactively with the AUI for training and testing.

Field Class Security

Fields in the AUI can be secured to limit actions by users. Users without FieldClass privileges don't know the field exists. Other users may be restricted to adding, editing or viewing data in a protected field.

For Mobile Devices

Responsive design encompasses the ability for an HTML page to change how it looks when rendered on a mobile device. The Twitter BootStrap Library with a CSS Grid System is used with EPM Designer to create responsive designs. Bootstrap helps organizations to scale applications for presentation on phones, tables and desktops.

AUI Rendering

AUIs are designed with consideration for a final rendering as a graphical image, stored in its final form in the ETCETERA® Enterprise Content Management system. When rendering HTML AUIs, the EPM application automatically expands text boxes based on the amount of content in the box, automatically determines where to make page breaks based on an analysis of the user interface, applies footers to pages and commits the graphical representation of the HTML to the content repository along with key index values which associate the document with other related content in the repository.

EPM CONTROLS / PROPERTIES GRID

AttachFile	Checkbox	CheckBoxList	DateTextBox	Drawing	DropDownList	DurationTextBox	eDocIDBarcode	ListBox	RadioButtonList	TextArea	TextBox	TimeTextBox	ConditionalPanel	CurrencyControl	DataSourceLookup	ExpressionHandler	RepeatContainer	Signature Control	Property	Description
Standard Control													Advanced Control							
																		✓	Annotate	Specifies whether an annotation will be placed on the signature image
																		✓	AnnotationSize	Sets the size of the annotation text in pixels
		✓			✓			✓	✓										AppendDataBoundItems	Allows combining static entries and outside data in one control
	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓				BackColor	Specifies a background color in the space inside or surrounding the control
													✓						BackImageURL	Contains URL to image used as background for the control
	✓	✓							✓				✓	✓	✓			✓	BorderColor	Specifies a border color in the space surrounding the control
	✓	✓							✓				✓	✓	✓			✓	BorderStyle	Specifies the border type (i.e. Solid, Dashed, None, Etc)
	✓	✓							✓				✓	✓	✓			✓	BorderWidth	Specifies the border thickness in pixels
																		✓	ButtonStyle	Determines the style of buttons associated with the signature control
		✓							✓										CellPadding	The padding between each item
		✓							✓										CellSpacing	The spacing between each item
	✓																		CheckedValue	Specifies the value of the control if the control is checked
															✓				ConnectionString	Specifies the connection string in the web.config used for the lookup
✓																			ControlID_Index_Name	Specifies the UDI in the ScerIS repository folder containing the name of the Attachment File control ID
																		✓	ControlstoSign	Specifies the collection of control IDs that the signature will lock
	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓			✓	CssClass	Specifies a CSS class that can be applied to control the style of the control
					✓			✓											DataMember	Specifies the table or view used for binding the control against
		✓			✓			✓	✓										DataSourceID	The control ID of a datasource object that will be used as the datasource
		✓			✓			✓	✓										DataTextField	Specifies the field in the data source which provides the item text
		✓			✓			✓	✓										DataTextFormatString	Specifies a format to be applied to the data text
		✓			✓			✓	✓										DataValueField	Specifies the field in the data source which provides the item value
													✓						Direction	Alignment of border text around conditional panel in GroupingText property
													✓						DisplayMode	Determines how the panel will be displayed on the form
			✓							✓	✓	✓		✓					DynamicPrefill	Choose a predefined system variable to populate the control at runtime
✓																			EDocID_Index_Name	Specifies the name of the UDI in the ScerIS repository folder containing the eDocument ID
✓																			EDocID_Index_Values	A comma separated list of possible doc types for the attached file
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	Enabled	Specifies whether the control can be accessed or not
				✓															EnableTheming	Gets or sets a value indicating whether themes apply to this control.
				✓															EnableViewState	Gets or sets a value indicating whether the server control persists its view state.
						✓													EndControlTimeID	The Control ID of the second TimeBox control used to calculate duration
													✓			✓			Expression	Specifies the control formula (expression) that will be evaluated
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	FieldClass	Controls user permissions for a field
		✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓				Font	Contains different formatting options for text labels
		✓	✓		✓	✓		✓	✓	✓	✓		✓	✓				✓	ForeColor	Specifies the text color in the space surrounding the control
												✓							FormFormat	Specifies what time format will be displayed to user

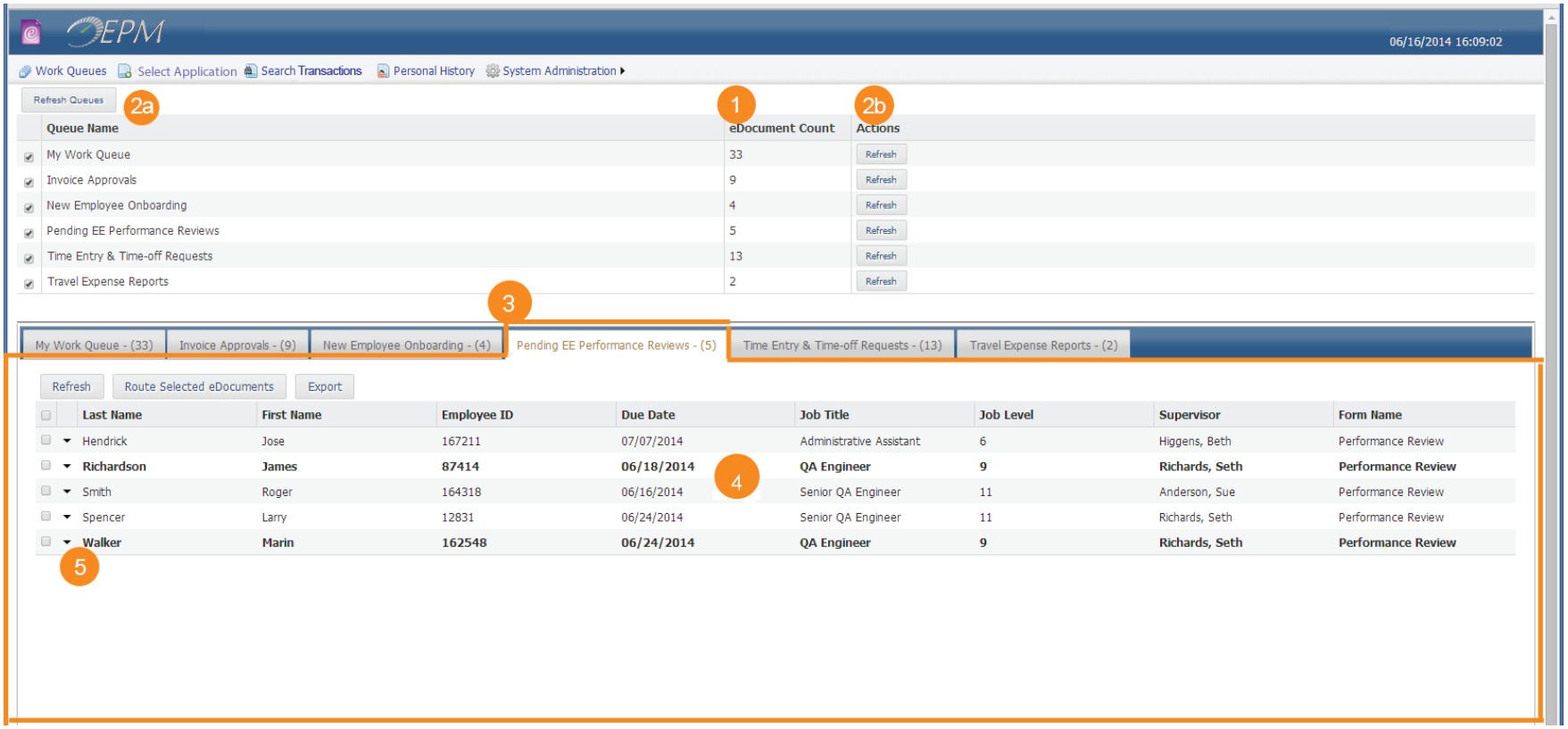
✓	GroupingText	Displays a border with text label around the conditional panel
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	Height	Specifies the height of the control
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	HorizontalAlign	Alignment of text typed within the control
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	ID	Specifies the System Control Name
✓ ✓	isNumeric	Specifies whether the control can only receive numeric values
✓ ✓ ✓	IsReadOnly	Specifies if a user can key information into the control at runtime
✓	isRequired	Specifies if a value must be entered into the control prior to a save/archive
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	isRequired for...	Specifies if and when the field must be filled out.
✓	MaximumRowNumber	Specifies the maximum number of rows accepted by the repeater
✓ ✓	MaxLength	Specifies a maximum number of characters that can be entered into the control
✓	MinimumRowNumber	Specifies the minimum number of rows accepted by the repeater
✓	OutputTarget	The control ID of the control to display the result of the expression
✓	PrimaryField	Specifies the Control ID to which the Lookup will be performed from
✓ ✓ ✓	RegExValidationExpression	Specifies a regular expression that the information entered into the control must match prior to a save/archive/sign
✓	RepeatColumns	The number of columns used to lay out the items
✓	RepeatDirection	The direction in which items are laid out
✓	RepeatLayout	Specifies the appearance format of the controls items (Table or Flow)
✓ ✓	Rounding	Specifies rounding of the result of the expression
✓	ScerisRepositoryFolderID	Specifies the number of the ScerIS repository folder number in which attachments are stored
✓	Scrollbars	Allows using scrollbars to view panel contents if height is limited
✓	SelectCommand	Specifies the SQL command to run the search
✓	SelectionMode	Specifies whether a user can select a single item or many items
✓	SignatureProvider	Specifies whether the signature field will be using a Topaz Signature pad or a Windows Based Signature
✓	SkinID	Gets or sets the skin to apply to the control.
✓	StartTimeControlID	Specifies the start-time control used to calculate duration
✓ ✓ ✓ ✓	StaticPrefill	Specifies text to populate the control at runtime
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	TabIndex	Specifies order in which the control is accessed by tab key presses
✓	Text	The text appearing on the button of the Attachment control
✓ ✓	TextAlign	Specifies the horizontal alignment of label text
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	Tooltip	Specifies text that appears when a user hovers the mouse over the control
✓	UnCheckedValue	Specifies the value of the control if the control is unChecked
✓	UserDev_Index1_Name	The name of an optional UDI in the destination Repository folder to store the value specified in the UserDef_Index1_Value property
✓	UserDev_Index1_Value	A value stored in the UserDef_Index1_Name UDI of the destination Repository folder.
✓ ✓	UseSpellCheck	Specifies if spell check should be applied to the information entered into the control prior to a save/archive/sign
✓	ValidateRequestMode	Gets or sets a value that indicates whether the control checks client input from the browser for potentially dangerous values.
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	Visible	Specifies whether the control can be seen or not
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	Width	Specifies the width of the control
✓	Wrap	Specifies if panel contents will wrap when displayed at runtime.
✓	XmlFormat	Specifies what time format will be stored in the database
✓	ZeroFill	Determines if displayed value decimal places should be zero padded

✓ Advanced Property

WORK MANAGEMENT DESKTOP

My Work Queue is a summary of all work assigned to me also, in the user's Work Queues presentation is a list of all pending and in-process work that's staged in individual and group work queues.

Work queues are easily defined. There is no limit to the number of work queues that are presented at an individual's desktop, tablet or other mobile device.



1. Work queues provide a summary of the number of open transactions in that work queue class.

2. Work queues can be refreshed, all at once (2a) or just one work queue at a time (2b) to display the number of transactions waiting in the queue and to refresh the detail work queue listing that is active. As any detail work queue is selected, it is automatically refreshed.

3. For one or as many work queues selected, a listing of all in-process transactions is provided in a tabbed presentation in the bottom of the user experience. The tabbed section lists the AUI details and the order of the tabs is the same order as the work queue summaries at the top of the user's interface.

4. Users can easily identify newly presented transactions because they are bolded for easy identification. Transactions that were previously viewed by the user and returned to their work queue are not bolded.

5. The ▼ on detailed rows provides a list of actions available to the user, based on the user's privileges. These actions include View, View Details, Route, Add a Note, Create Revision and Delete.

The values used in the listing of in-process transactions are completely configurable. Users with permission can modify their work queue detail listings. These listings can always be sorted by clicking on the column header. All of the data presented in a work queue detail list can be output to Excel.

Work queues are sometimes used to create a view to all open work in other work queues, such as the work queues of a business process or of subordinates. Work queues for views are created in the same simply way as work queues for queuing work.

Managing "My Work Queue"

My Work Queue lists transactions assigned to the user and is a recap of all transactions in all work queues that are assigned to the user. Users can select the data elements they want to show in their work queue table, order the columns, add data about creation and last actions and apply a sort to any field in the table.

In the user's dashboard is access to Search Online Transactions. Users with permission can perform searches and view a list of matching transactions. Only those transactions they are permitted to view are listed. And users can select the transaction for viewing or another action. If the transaction is in use or has been locked by another user, the user can request the transaction.

Also in the user's dashboard is a Personal History. The personal history provides a list of all online transactions that the user has created, edited or saved, the transaction ID, AUI type and Date and time of their completed action.

If the user is a System Administrator, this will also be shown in the Menu Bar and provide access to administration functions.

Creating Work Queues

Creating the rules for the transactions presented in individual or group work queues is as simple as creating a Work Queue search and publishing it as a saved Work Queue. When saved, simply apply a name to the Work Queue search and that name will be the Work Queue name displayed at the user's desktop. Apply "Present as a Queue of Class" to select the class to apply security to the work queue. Creating work queues can be that simple.

1. Creating work queues starts with the standard search dialog box. If editing a current work queue criteria, select the work queue from the "Available Work Queues" list. Modify the search criteria for AUIs, AUI Tabs, or Search Fields or reorder the Result columns.

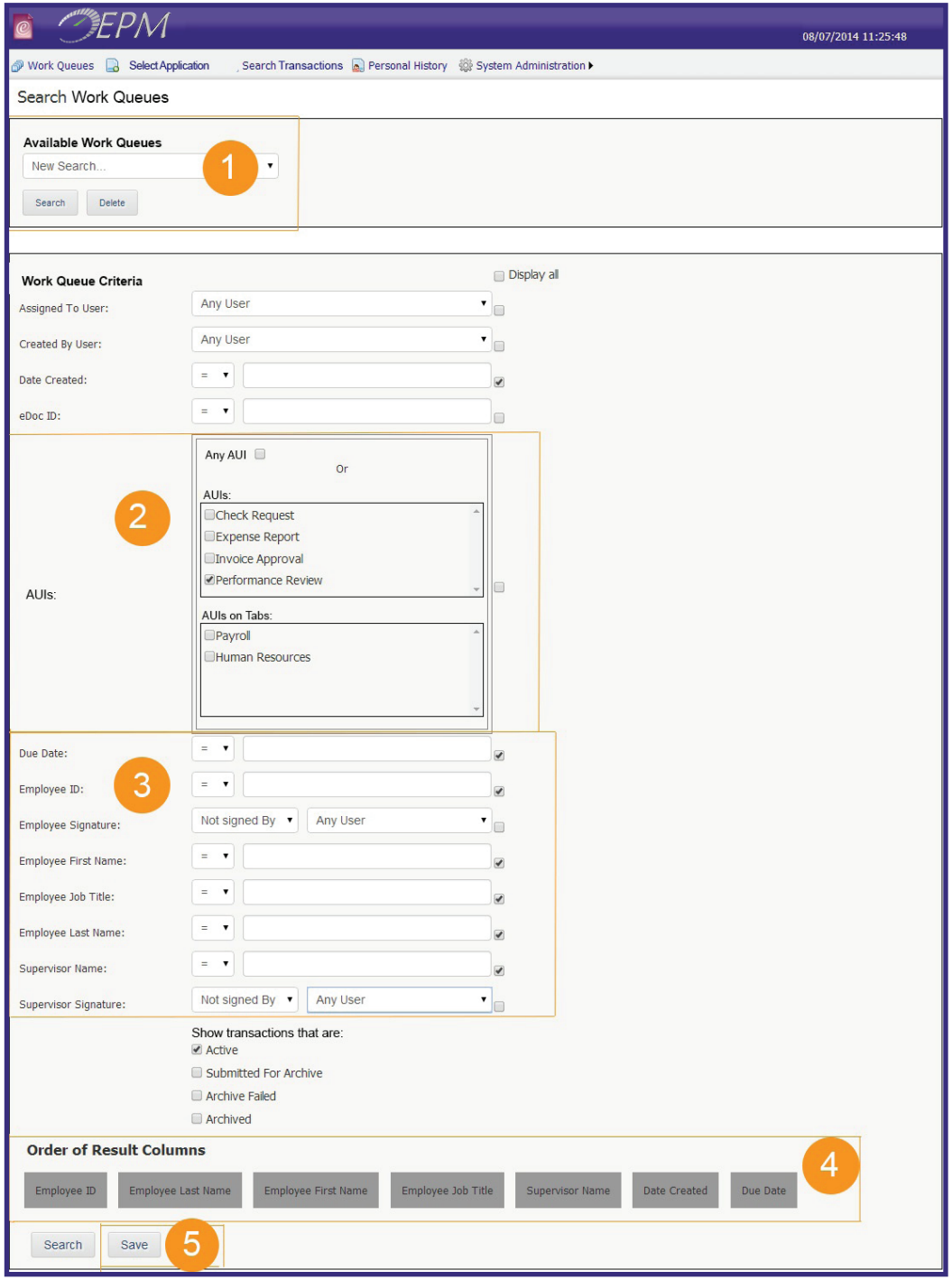
2. If creating a new work queue, select the AUIs and/or AUI tabs applicable to the work queue.

3. This will dynamically present the searchable fields for the user interfaces which can be selected for presentation in the work queue detail list in addition to the default searchable fields. These fields are used to further define the transactions presented in the work queue.

4. Reorder the Work Queue columns with a simply "drag and drop" applied to the default and unique searchable fields identified in the Work Queue criteria.

5. Save and Name the Work Queue.

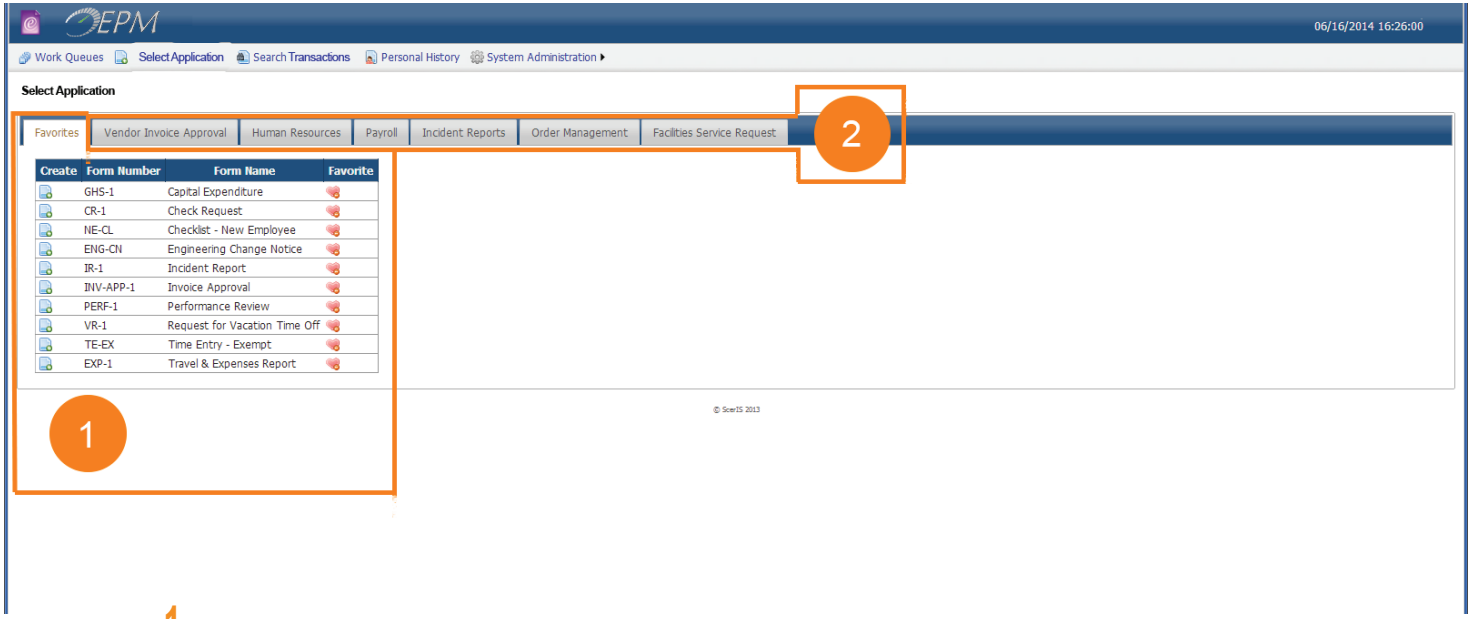
Saving the Work Queue presents a dialog box that provides for naming the work queue, assigning security to the work queue and identifying if the work the work queue has "Get Next" functionality, which automatically selects the next transaction for the user.



SELECTING THE AUI

Application User Interfaces (AUI) are organized in “Select Application” in functional tabs defined by the client. Any number of AUIs can be associated with a tab, and an AUI may be associated with more than one tab.

A favorites tab exists for all users. Any AUI can be designated into the user’s Favorites tab by selecting the shown next to it in the tabbed list of AUIs. Selecting a blank AUI from the Select menu presents it in the browser for completion.



1. Work List of AUIs on a Favorites Tab
2. Tabbed Presentation of AUIs Available to the User

The user only sees the tabs they have permission to view and only see the AUIs that they are permitted to access and use.

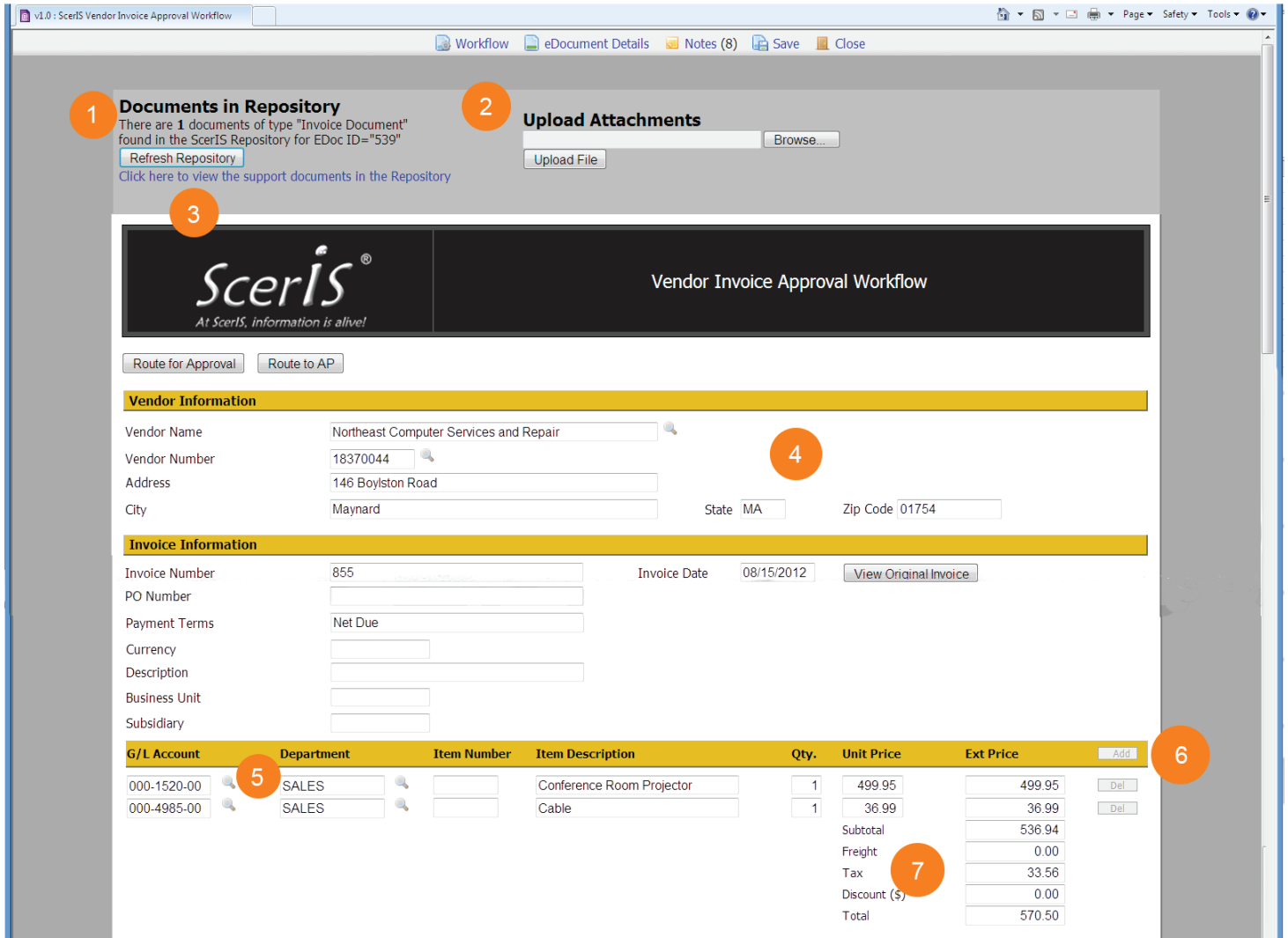
ONLINE APPLICATION USER INTERFACE

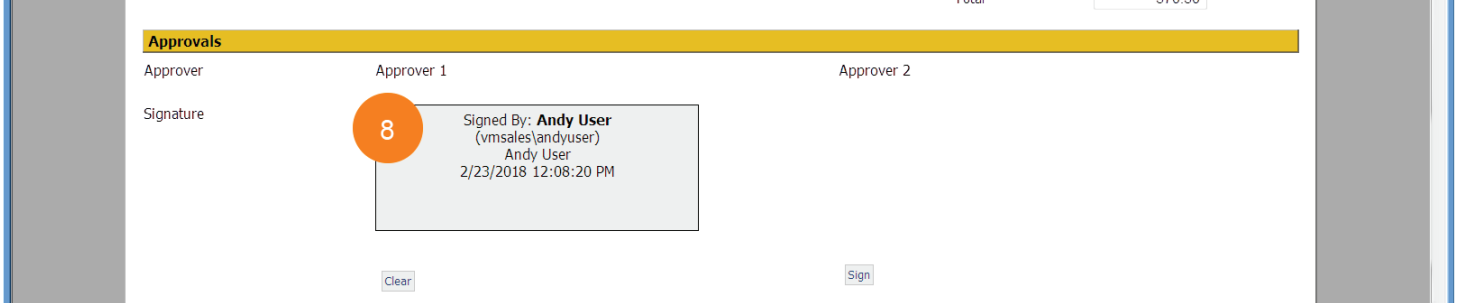
An Online AUI provides the application and invites user participation. The user may be responsible for completing all required data fields, or may simply be a part of a more comprehensive work process involving multiple parties.

The Online AUI is presented by:

- Selecting an AUI from a tab in the Select Application GUI
- Selecting an AUI from a list within the individual's work queues (both individual and group work queues)
- Clicking on a URL in an email notification (typically for new or aged transactions) that brings the user directly to the Online AUI.

The AUI opens in an editable/fillable mode in the browser for completion. The user only sees the "fields" they are permitted to view.





1. Shows how many documents support this transaction, if any.
2. Easy way to browse and upload the primary supporting document (if any) or images of other related documents or files (if any). In this example supporting documents are added to the transaction, but supporting documents can also be connected directly to a section of the AUI. Some applications don't involve supporting documents.
3. Retrieves all related documents for viewing with a single click. If more than one document is related to the application a list is presented and the user can select one or more documents to view. If documents are associated with a section or a field, the view capability is often deployed with the section or field.
4. An example of the user performing a lookup for data validations and auto-filling selected fields with data from external sources.
5. An example of the user performing lookups for data to select correct values in a "Repeater Container" that allows the user to dynamically add sections for the number of rows needed to complete their work. In this example, the user is applying account coding with links to the ERP Chart of Accounts. The ADD button adds rows as required.
6. Buttons for adding (inserting) or deleting rows. In this example, adding rows offers an easy way to split the amount of the invoice into multiple account codes.
7. This user interface includes other variables in a calculation.
8. Signature Blocks provide for signing using Windows Credentials (Active Directory), or capture signatures using a signature pad or on mobile devices.

As the user enters data, new fields may be automatically created depending on the values entered (conditional panel controls). Look-ups to data sources are completed for the presentation of information or validation of information.

Topaz signature pads are used for AUIs requiring a legally valid signature by a third party.

Windows Authentication (Active Directory integration) or Named User Authentication digital signatures can bind to selected data fields on the AUI for AUIs requiring one or more employee signatures.

The AUI may be joined to a Workflow which will automatically route the AUI into individual or group work queues, or alternatively the user might complete their work and route to (select an individual or group to route to) another party in the system.

The presentation of the AUI is a matter of the design considerations used by the AUI designer. Logos, colors, labeling, links to other files (such as videos for training), panels that expand based on data provided by the user and so much more is simply a matter of setting design parameters for your organization.

WORKFLOW

The method for staging work into work queues is a matter of preference. Some organizations prefer a “routing” of work that is determined by the user using a “Route To” function. Some organizations with minimal rules based requirements prefer writing SQL Server Integration Services (SSIS) Packages to invoke steps or actions. Other organizations prefer “Rules Based Workflow” described below, and of course, a hybrid approach with transaction routing, SSIS Packages and rules based workflow covers all bases.

Standard routing allows the user to route an online AUI or alternatively select one or many online transactions from a work queue for bulk routing to an individual or group.

Available with EPM is a Rules-based Workflow Engine (RWE). Rules-based Workflows are created in Microsoft Visual Studio Professional. The RWE manages all automated aspects of workflow process for each in-process transaction, including the creation of in-process transactions from ETCETERA® EPM and ECM data sources.

Workflow processes are set-up to work in the background executing processes such as create a new transaction, email notifications, evaluate content in one or more fields or in signature controls, route to an individual or group work queue, graphical rendering of HTML and transaction archiving.

Workflows are created and joined to online Application User Interfaces (AUI). One or more AUIs are associated with a designated workflow.

RWE:

- Evaluates the state of AUIs submitted to the workflow process
- Automatically executes workflow actions related to the in process transactions
- Provides email notifications to users of required actions
- Automatically executes workflow actions related to completed transactions

Other than RWE creating new in-process transactions from external data sources, clients typically design workflows that are applied to in-process transactions that evaluate the content of the transaction upon the user routing the transaction to the workflow process. The workflow process sets “bookmarks” that stage transactions and wait for the next workflow rule step to be completed. Workflow rules can follow serial or parallel paths.

To help simplify workflow development, ScerIS recommends following the DRY Principle – Don’t Repeat Yourself. Create, save and reuse variables for sections of the workflow rules that may be deployed in multiple workflows. This will also help to ensure that changes made to a rule are deployed globally – across all related work.

Workflows can be saved and modified. Workflows can be used as the baseline for other workflows to accommodate differences in similar but different workflow rules that apply to different types of user interfaces, even AUIs within the same tabbed work queue presentation.

INTEGRATION

Application User Interfaces often rely on integration with host data sources, such as ERP, financial system, human resources and other data sources (ODBC accessible databases) for data validation, data selection and decision support. EPM integrates with ODBC views using a data reference utility that's included with the product. Data sources also include indexed content in the ETCETERA® Enterprise Content Management and other AUI transaction data. Clients with SAP, Meditech or other proprietary data sources should contact ScerIS to learn of data access capabilities.

EPM transactions are automatically created from other transactional activity in ECETERA EPM or from ETCETERA® ECM. Documents captured and indexed using OCR/ICR/BCR/OMR technologies or indexed manually into ECM can automatcially trigger EPM transactions as can print files and data files imported to ECM. Data associated with EPM and ECM transactions is used to make AUI selections, populate data and perform other data source look-ups to prepopulate data fields.

EPM is tightly integrated with ECM. Documents or files supporting AUIs are connected to the AUI or sections of an AUI and are stored in ECM and available for viewing in the AUI. These documents/files may have created the AUI transaction, may have been captured as a part of completing the AUI, or may be a part of the presentation of an AUI (such as in a training video). AUIs that are EForms are committed to ECM with searchable fields defined for automatic indexing of the graphical AUI, including multi-level/multi-value indexing. Other AUIs may be used to update database records.

"Post to Host" is a data mapping tool used to configure files for existing host applications without coding. These output files may be standard .csv files, HL7, ANSI X12 data files or nearly any configuration. AutoRUN jobs run automatically, extracting and packaging data for host applications and flagging and dating/time stamping records used in exported files.

AUTHORIZATION SERVICES

Authorization Services (AUTH) is the security framework utilized in ETCETERA® software applications. It controls authentication and authorization for applications. Authentication refers to verifying that a user is who he or she claims to be; authorization is the granting of privileges to an authenticated user within an application.

AUTH includes various software components that tie directly into managed ETCETERA® software, and a centralized management utility that enables system administrators to configure permissions and security schemes for all managed products.

AUTH Architecture: In general terms, implementing security with AUTH requires understanding that:

- A **user** gains permissions to ETCETERA® applications by being a member of one or more groups.
- The **permissions** provided by a group are defined by the roles and classes included in the group.
- A **role** packages one or more permissions needed for a user to undertake a task.
- A **permission** consists of a resource associated with an action.
- A **resource** is an object associated with an access condition (if applicable).
- An **object** is an element of an ETCETERA® application.

User: A user is a Local or Domain windows account with access to an ETCETERA® application as configured by an administrator using AUTH. Add a User to AUTH first and then assign them to one or more AUTH groups to determine their permissions for different applications. AUTH supports two types of user accounts:

- Windows Authentication – This is the type of account generally used in AUTH. When you add a user of this type, you import the user's existing Microsoft Windows account information. AUTH then automatically authenticates a user using the associated Microsoft Windows account login information.

- ETCETERA® Authentication – This account is specific to ETCETERA® Authentication and not linked to a Microsoft Windows account. Use it to provide access to ETCETERA® applications for users who do not have Microsoft Windows accounts. AUTH produces a random password for the user and requires the user to change their password at the next login. Additionally, you can set password policy for ETCETERA® users, lockout users as the result of invalid logins (quantity is configurable), set a period for the password to be valid and set the days before password expiration that notification to the user is required. AUTH passwords have a default setting for password complexity; using a regular expression, the password must consist of at least six characters, include a letter of the alphabet, at least one number, and one character that is not a number or regular character. To change password requirements, simply use a different regular expression.

Groups: A group aggregates permissions (using Roles) as well as class access into one entity so that you do not need to assign rights to each individual user. A user cannot access an ETCETERA® application without being a member of a group. AUTH provides pre-defined groups based on the primary responsibilities and tasks of different sets of users. A group aggregates permissions (using Roles) as well as class access into one entity and a user must be a member of an appropriate group in order to access an ETCTERA application. Predefined groups include archivers, creators, editors, viewers, process admins, system admins, service, admins and users.

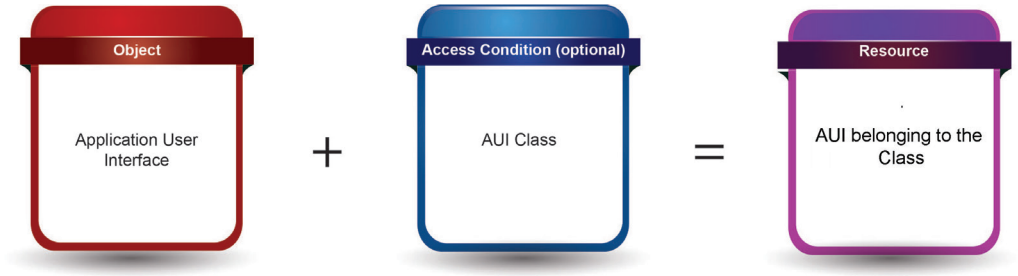
Roles: A role packages the permissions needed to undertake a task in a specific application.

Permissions: Permissions determine what actions users can perform on resources. They are the building blocks of AUTH roles, and are created from Resources. Permissions are assigned to one or multiple roles, but never directly to individual users.

Actions: Actions determine what a user can to do with the software element. Actions are pre-defined in AUTH. Among the many actions available are “Create”, “Delete”, “Route”, and “Sign”. Actions are not standalone entities; actions modify resources. The actions available are specific to the resource.

Resources: A resource is an object (element) of an application, coupled with an access condition (when available). An access condition more precisely defines access to the object. (For example, you can restrict access to the AUI object by associating it with the access condition of a specific AUI class.)

Access Conditions: When appropriate, an access condition is associated with an object to describe the state or status of the object. (Examples of these conditions include Objects being assigned to a user, having been routed, or being a member of a particular class.)



Object: An object is an individual element that can be controlled in an application, such as an “Online AUI” or a software command or feature. Objects are building blocks for Resources. AUTH includes a large set of pre-defined Objects for various ETCETERA® applications. You must create a Resource from an Object before you can use it to create a permission.

SAMPLE DEPARTMENTAL APPLICATIONS

Accounting – Accounts Payable

- Check Request
- Request for Travel Advance
- T&E Expense Report
- Customer Refund Request
- Returned Goods – Debit Memo Request
- Request Change in Invoice Account Coding
- Request for Expedited Payment
- Request to Delay a Payment
- Distributed Vendor Invoice Entry with Invoice Submission
- Request for Vendor Invoice Copy
- Request for Check Copy
- Request for T&E Expense Report for Customer Reimbursed Expenses
- Request for Vendor ID
- Request Invoices for State Use Tax Audit
- Request Invoices for External Auditors
- Lost/stolen Credit Card Notification
- Lost/stolen PCard Notification
- Electronic Funds Transfer (EFT) Authorization
- Request for a Domestic Wire Transfer
- Request for an International Wire Transfer
- W-9 Receipt Acknowledgement
- W-8BEN Receipt Acknowledgement
- Request for Lodging Exception
- Mileage Log
- Currency Conversion Calculator

Accounting – Payroll

- Time Entry – Exempt Employee
- Time Entry – Non Exempt Employee
- Request for Vacation Time-Off
- Request for Maternity/Paternity Leave
- Request for Court Leave
- Request for Leave Without Pay
- Request for Military Leave
- Request for Administrative Leave
- Request for Sick Leave Pool Hours
- Return to Work Status
- Request for Attendance Summary
- Request for Bereavement Leave
- Request Copy of W-2
- Request Copy of Pay Stub
- Request Review of Pay Calculation
- Departmental Payroll Voucher
- Authorization to Work and Pay Differential
- Shift Differential Pay Request and Authorization
- Overtime Request and Authorization
- Federal Withholding Change
- State Withholding Change
- Benefits Change
- Beneficiary Change
- Bonus Pay Authorization
- Savings Payroll Deduction
- Request for Self Pay Coverage
- 401K Enrollment
- 401K Change
- US Savings Bond Payroll Authorization
- Authorization for Direct Deposit
- Flexible Spending Account Enrollment
- Flexible Spending Account Waiver
- Flexible Spending Claim
- Authorize Release of Information
- Check Cancellation and Replacement Request
- Employee Change of Home Address
- Tuition Assistance Reimbursement

Human Resources

- I-9 Employment Eligibility Verification
- W-4
- W-2 Replacement Request
- Application
- Appreciation Recognition Authorization
- Performance Review
- Candidate Evaluation Form
- Confidentiality Agreement
- Code of Ethics
- Use of Company Assets Acknowledgement
- Counseling Record for Disciplinary Action
- Discipline Warning
- Disability Accommodation Request
- Exit Interview
- Employee Handbook Acknowledgement of Receipt
- Checklist – New Employee
- Checklist – Direct Hire Temporary Employee
- Checklist – Transferring Employee
- Family and Medical Leave Notice
- Health and Safety Review
- Hiring Process
- Telephone Interview/Phone Screen
- Interview - Required Information
- Internal Job Application
- Job Candidate Evaluation
- Job Offer
- Reference Check
- Performance Development Plan
- Personnel File Access Request
- Progressive Discipline Warning
- Request to Initiate Layoff
- Shared Leave – Request to Donate
- Shared Leave – Request to Receive
- Request to Place Help Wanted Ad
- Request to Hire Placement Agency
- Incident Report
- Termination Checklist

EXAMPLES OF APPLICATIONS SPANNING INDUSTRIES

Accounting/Finance

- Accounts Payable (See Detail Opportunities)
- Accounts Receivable
- Payroll / Time & Attendance (See Detail Opportunities)
- Treasury
- Budgeting
- Forecasting
- Reporting
- Shared Services Environments
- Distributed Service Environments

Administration

- Board of Director Minutes
- Corporate Records
- Policies & Procedures
- Legal
- Mergers & Acquisitions

Facilities Management

- Equipment Maintenance
- Request for Service
- Work Order Management
- Contractor Management
- Request for Proposals

Human Resources

- Employee Records (See Detail Opportunities)
- Insurance
- HR Surveys
- HR Vendor Management
- Incident / Accident Reporting
- Workers Compensation Management
- Awards & Recognitions
- Employee Training
- Employee Termination
- New Hire Management

Marketing

- Marketing Requests
- Travel Show Management
- Advertising
- Contractor Management
- Program Management

Purchasing

- Purchase Requisitions
- Vendor Approval Processes
- Contract Management
- Purchase Management
- RFP Management

Quality Assurance

- Quality Control
- Failure Testing
- Quality Improvement Plans
- Inspection Processes
- Test Plans

Credit and Collections
- Credit Files
- Credit Scoring & Authorization
- Billback Management
- Claims Management
- Tax Exemption Management

Information Technology
- Move/Add/Change Work Order Management
- IT Capital Requests / Management
- IT Training Programs
- Information Security
- Account and Access Management
- Desktop Management
- Project Management
- Web Master – Content Management

Sales & Sales Support
- Order Management
- Sales Management
- Proposal Reviews & Approvals

EXAMPLES OF APPLICATIONS FOR INDUSTRY SPECIFIC DEPARTMENTS OR PROCESSES

Banking
- Deposit Operations & Item Processing
- Mortgages and Loans
- Customer Records
- Safety Deposit Box Management
- Lockbox Operations
- Trust Department
- Compliance and Risk Management
- Account Management & eSignature Cards

Communications
- Order Processing
- Work Order Management
- Customer Files
- Advertising / Sales / Contract Management
- Warranty Services
- Customer Support

Distribution
- Billback Management / Debit Management
- Price Protection Requests
- Claims Management
- Returns Management
- Return Authorizations
- Fleet Maintenance Records
- Driver Records

Engineering & Construction
- Job File Management
- Materials and Purchasing
- Equipment Maintenance and Repair
- Managing ECNs
- Contract Management
- Permit Management
- Mobile Workforce Enablement
- Site Inspections
- Safety Management

Financial Services
- Customer Files
- Stock Transfer Authorizations
- Asset Management
- Portfolio Management
- Real Estate Management
- Affinity Program Dealer / Broker Management
- Credit Markets and Money Markets
- Municipal Securities Management
- Risk Management
- Investigations

Government
- Licensing, Permits and Registration
- Agency Work Processes
- Student Records Management
- Customer Support
- Work Orders
- Maintenance Services
- Vehicle/Fleet Management Records
- Federal/State/Municipality Work Processes
- Public Administration
- Pension Management

Healthcare
- Medical Records
- Laboratory and Accessioning
- Radiology Records
- Pharmacy Records
- Blood and Organ Data Management
- Patient Financial Services
- Communication (Patients, Payers, Others)
- Credentialing
- Transportation Management (In house)
- Patient Registration/Intake
- Free Care Management
- Emergency Department
- RAC Audits
- Audit Preparation
- PPD Management
- Patient Surveys
- Professional Development
- Real Estate Management
- Contributions Management

Insurance
- Underwriting
- Claims Management
- Reinsurance
- Agency/Broker Management
- Policy Services

Life Sciences
- Product Lifecycle
- Chemistry/Bio Data Management
- Clinical Investigators
- Clinical Trials / Subject Enrollment
- Patient Data

Manufacturing
- Product Development / Engineering
- Engineering Change Notice
- Materials Requirements
- Supply Chain
- Production Management
- Quality Control
- Equipment Maintenance
- Managing RFQs
- Warranty
- Safety Programs
- Equipment Maintenance
- Waste Disposal

Not-for-Profit
- Membership
- Grant Management
- Donor Management
- Client Record Management

Professional Services
- Client Services Management
- Project Management
- Contract Management
- Order Management

Retail
- Chargeback Management
- Contract Management
- Real Estate Management
- Advertising Management
- Merchandising

Tourism, Hospitality & Leisure
- Tour Management
- Sales & Marketing
- Contract Management

Transportation
- Fleet Maintenance/Management
- Driver Records Management
- Delivery Services

LICENSING

ETCETERA® Enterprise Process Management software includes Authorization Services.

Licensing is available for concurrent users or named users. For concurrent users, there is unlimited named users. For both types of licensing, there is:

- no base server license required
- no limit to the number of objects managed (unlimited)
- no limit to the number of document classes (unlimited)
- no limit to the number of application user interfaces developed (unlimited)
- no limit to the number of online user interface transactions (unlimited)
- no limit to the number of work queues defined and deployed (unlimited)
- no limit to the number of workflows created (unlimited)
- no limit to the number of tabbed presentations of AUIs (unlimited)
- no limit to the number of object types managed (unlimited)

Licensing can be for a small group in a business or accounting process to enterprise-wide. All users are required to be individually identified in Authorization Services.

Named users include internal users (intranet users), external users (extranet users) and third party-users (internet users). For presentation of content that is publicly accessible to all users (excludes employees and on-site agents and contractors) through a website there is no user licensing requirement but there is a functional license that provides unlimited access to the content repository for these users, if used.

ETCETERA® Enterprise Process Management software:

- Dynamic User Interface Designer (per instance or per server).
- Work Queues/Work Management (per concurrent user or per named user).
- Rules-based Workflow Management (per concurrent user or per named user).
- Offline to Online Work Process Management (per instance [unlimited configurations])

ETCETERA® licensing can be acquired in a traditional license or as Software as a Service (SaaS).

Ask your ScerIS representative for pricing.

NOTES

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