Architecture, Customization, and Integration

ACT! by Sage Product Family

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ACT! Architecture Overview

ACT! is the #1 selling contact and customer manager that helps you make contact, build relationships, and get results. This award-winning solution's architecture is founded on a feature-rich and customizable contact management platform, with a focus on scalability, reliability, and extensibility. ACT! empowers you to tailor the product to your business via custom fields, layouts, reports, and a host of other in-product customizations.

This whitepaper discusses the ACT! product family architecture, deployment methods, customization, and integration capabilities with other products and is intended for IT managers or system administrators who want to better understand the underlying platform and capabilities. The information in this white paper is applicable to ACT!, ACT! Premium, and ACT! Corporate Edition (which includes ACT! Premium and ACT! Premium for Web).

Some of the features discussed are only applicable to a specific product or tier, and these have been highlighted as appropriate. Further, some of the user features are only available to certain user roles such as Administrators or Managers. Sage Software recommends that you consult your product documentation for a complete list of features, applicability, and integrations.
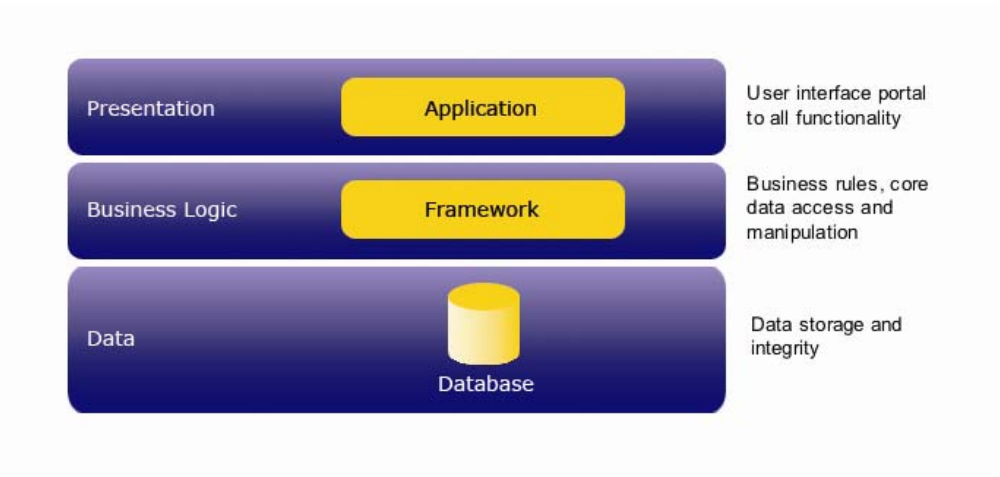
Figure 1: ACT! Architecture Layered Tiers

The following illustration shows the ACT! Premium architecture in more detail.
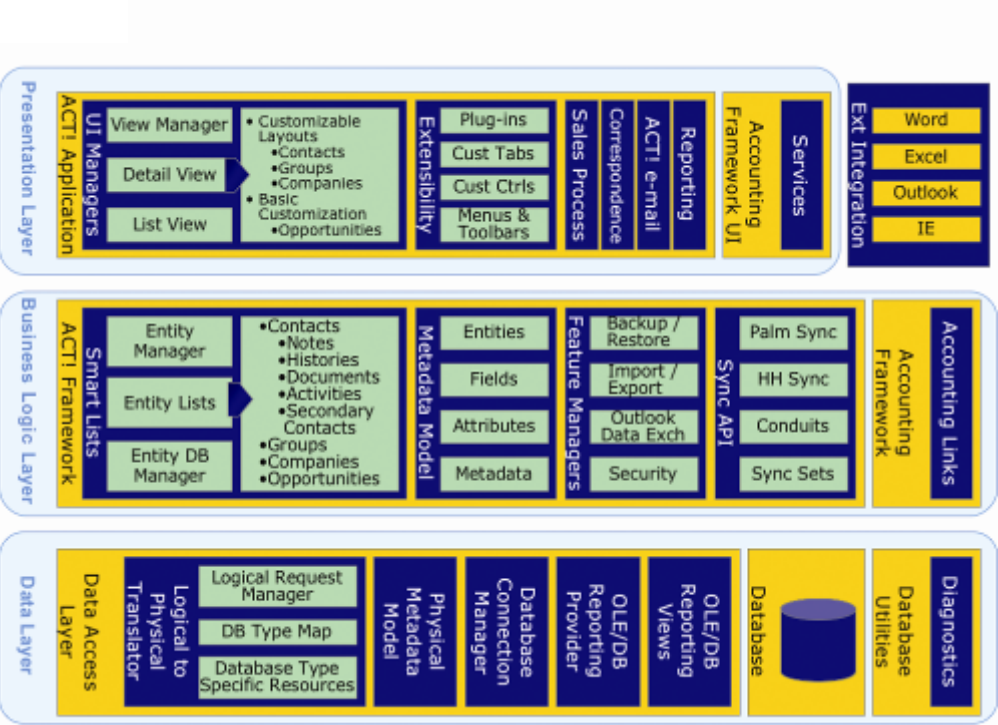
Figure 2: ACT! Premium Architecture Overview

Database Layer

ACT! leverages a full Relational Database Management System (RDBMS) at the back end to support scalability and stability. As a result, the ACT! database does not suffer from multiple user limitations or related database corruption issues traditionally associated with a flat-file database system. ACT! uses Microsoft® SQL Server® as a database platform: specifically, Microsoft SQL Server Express Edition for the ACT! product, and the option of Microsoft SQL Server 2005 Express or Microsoft SQL Server Standard Edition for the ACT! Premium and ACT! Premium for Web products.

The ACT! Business Logic layer is insulated from database-specific access via the Data Access layer, which can be viewed as an object persistence layer, servicing any requesting object that requires database operations.

```
<ActCommand
  Name="SelectContactsWhichAreUsers"
  Type="Text">
  <Description Secured="true">
    Gets contact IDs for current
    user which are users
  </Description>
  <Text><![CDATA[
    SELECT C.CONTACTID FROM
    dbo.TBL_CONTACT C WHERE EXISTS
    (SELECT UAE.CONTACTID FROM
    dbo.VWX_CONTACT_USER_ENUM UAE
    WHERE UAE.USERID=@USERID AND
    C.CONTACTID=UAE.CONTACTID)
    AND TYPENUM=1]]></Text>
  <ActParameters>
    <ActParameter
      Name="USERID" Type="String"
      Size="" IsNullable="False" />
  </ActParameters>
</ActCommand>
```

1. A business object requests a dataset to be loaded by specifying an ACT! Command name (example: SelectContactsWhichAreUsers).

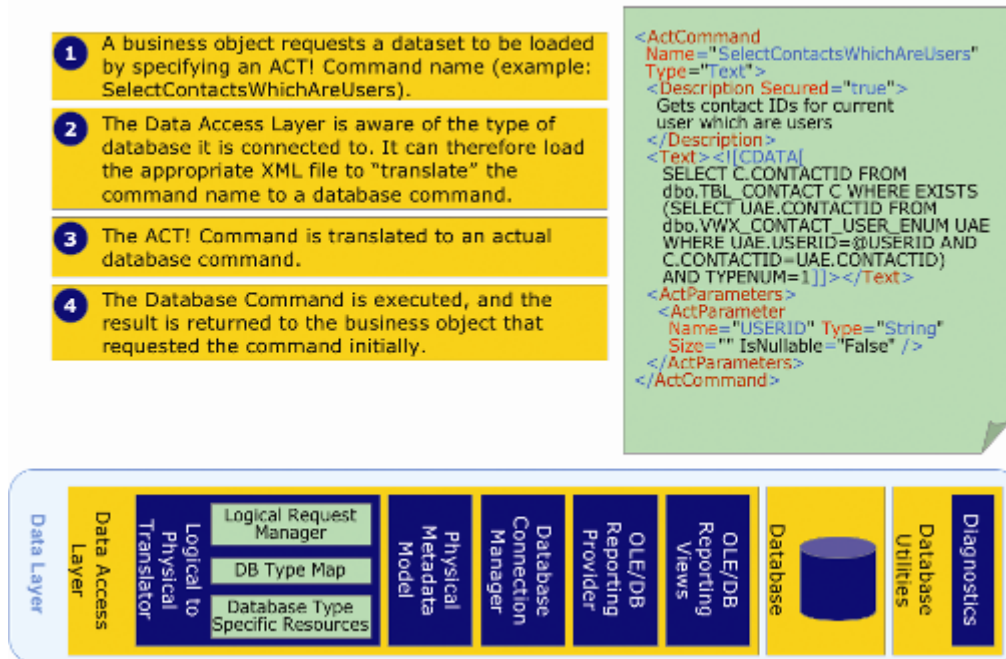2. The Data Access Layer is aware of the type of database it is connected to. It can therefore load the appropriate XML file to "translate" the command name to a database command.

3. The ACT! Command is translated to an actual database command.

4. The Database Command is executed, and the result is returned to the business object that requested the command initially.

Figure 3: Example Showing the Use of the Data Access Layer

ACT! was designed with specific database goals and objectives in mind:

- Industry-leading RDBMS (relational and integrity)
- Client-server architecture
- Scalability[1]
- Transactional durability
- Recovery model / backup
- Auto tuning
- Low maintenance
- Database portability across database editions
- .NET complementary

The Business Logic Layer

Core ACT! functionality, logic, rules, and access to business entities are encapsulated in the ACT! Framework. This Framework supports scalability in its design by keeping a disconnected model between the Business Logic and Data tier and through its advanced fetching and caching architecture. The ACT! Framework is the Business Logic layer for the ACT! platform and a crucial component of the ACT! SDK, which is leveraged across ACT! product lines. ACT!, ACT! Premium, and ACT! Premium for Web product lines were built on the ACT! Framework; all the handheld and accounting links leverage the Framework.

The ACT! Framework was designed using the principles of object-oriented design. This allows for complex base infrastructural components to be created, which benefit several features of the product. One such area is the Smart Lists base component.

High-level entities in ACT! are managed, retrieved, edited, and created using entity managers, such as Contacts Manager, Opportunities Manager, etc. These managers are all built on a base component

called Smart Lists. The Smart Lists component is an intelligent agent mediating access of the database by the application. It includes several advanced features that enhance ACT! scalability[2] and performance, such as:

- Collection Management: Smart Lists mediate the data access, handling all data source interactions and returning a collection of high-level objects that the application can manage and manipulate.
- Predictive Data Fetching: The Smart Lists pre-fetch data in the region of the window that is currently being viewed, based on scrolling and user interaction.
- Cache Management: Smart Lists manage the "staleness" of information in the list using advanced heuristical and deterministic algorithms.
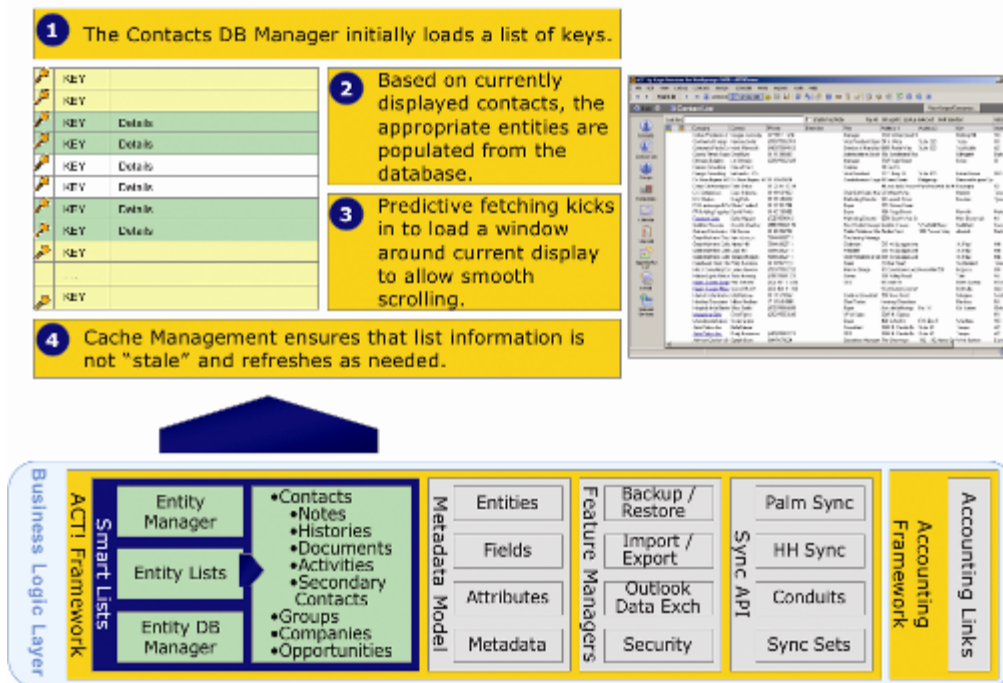

Figure 4: Example Showing the Use of the Business Logic Layer – Smart Lists

Presentation Layer

The ACT! platform contains a familiar presentation layer across ACT!, ACT! Premium, and ACT! Premium for Web. ACT! and ACT! Premium continue to provide rich client capabilities for the end user. ACT! Premium for Web presents the ACT! Framework's capabilities via a Web browser such as Internet Explorer® and Safari®.

ACT! lets you fully customize the database fields according to your needs. It offers enhanced viewing of data by customizing layouts and customizations via the Report Designer, as well as many other customizations, data manipulation, and filtering – all built into the product.[3]

Furthermore, the ACT! product line supports extending the Presentation layer via custom functionality by third-party add-ons, custom controls, and custom tabs. ACT! and ACT! Premium for Web also provide composite application support, allowing elements of the Presentation layer, such as the scheduling dialog, to be used from external, third-party applications for tight integration with ACT!.
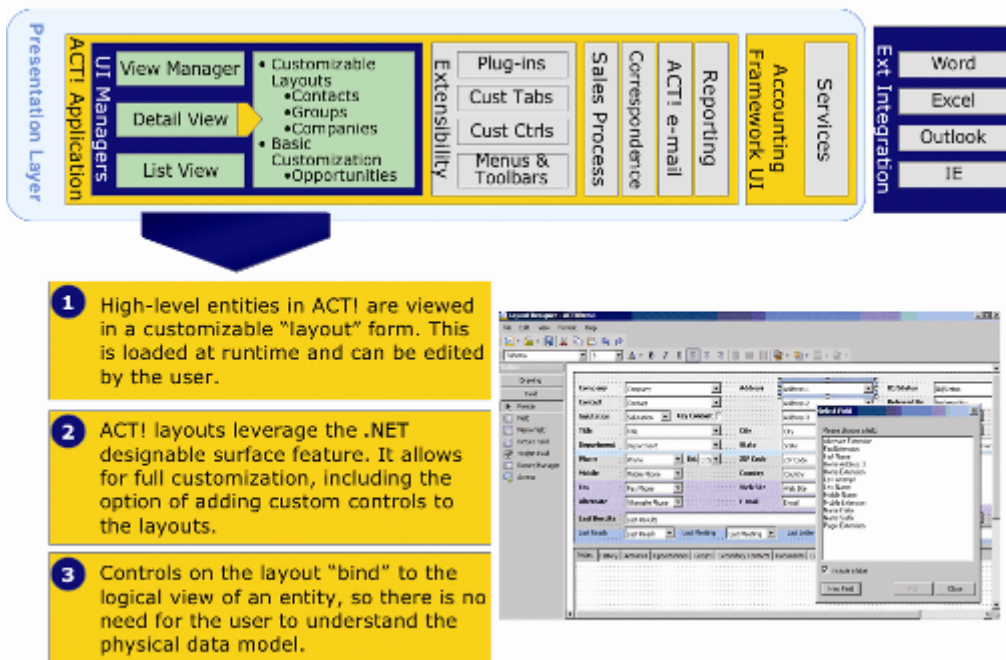
Figure 5: Example Showing the Use of the Presentation Layer – Layouts

ACT! Premium for Web and AJAX

What is AJAX?

If you have used Flickr® (photo sharing), Google Maps™, or Zimbra™ (enterprise messaging), then you have already experienced AJAX-based Web clients. AJAX (Asynchronous JavaScript™ and XML) is a useful way to create dynamic user interfaces leveraging proven technology. With AJAX clients, most of the user interface data stays on the screen and gives the sense of continuity (no more tumbling hourglasses or filling page load bars).

AJAX Provides Fast Navigation in ACT! Premium for Web

ACT! Premium for Web makes extensive use of AJAX to provide data navigation that is both highly interactive and fast. In ACT! Premium for Web, you navigate through a number of entity details that are presented in a consistent layout. ACT! Premium for Web follows a design pattern of creating the presentation layer with non-data-bound controls, so the browser asynchronously fetches the entity fields from the server and populates the presentation layer on the client side. Using this pattern, as you navigate through the entity details, only the entity data is updated on the browser side. The layout controls are simply re-populated with the new data, not re-drawn or re-created. The same pattern is used in sorting and resizing of columns of entity tabs. The result is a highly interactive user experience and a reduced server load.
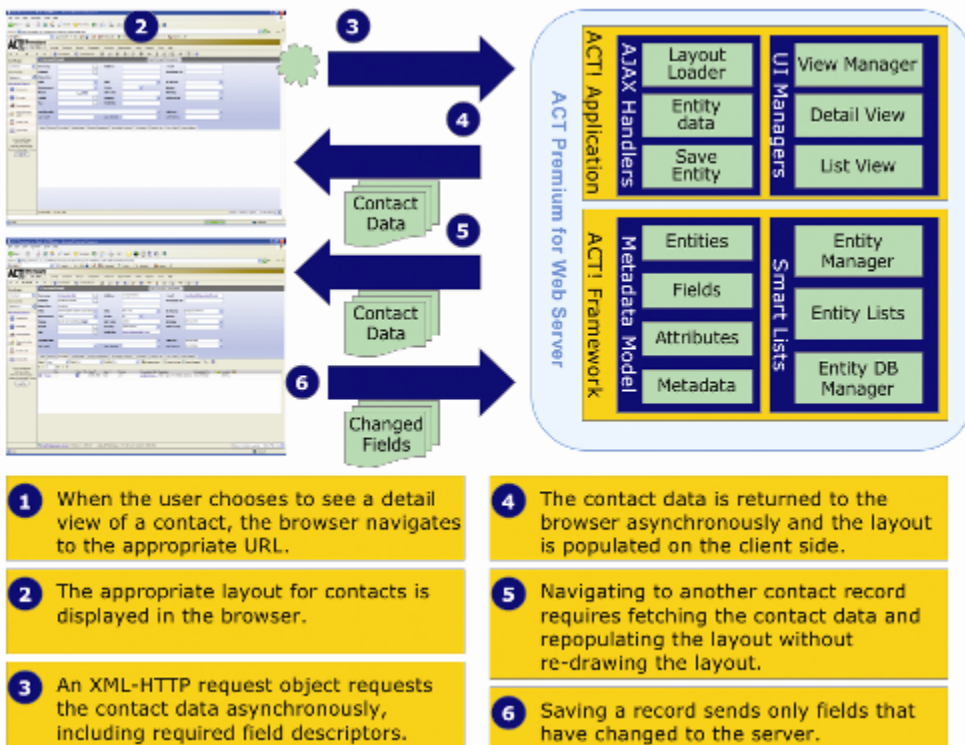
Figure 6: Using AJAX to Provide Fast Navigation of Contact Details

Customization

Customizing[4] Fields

One of the powerful features of ACT! is its ability to allow full customization of fields. In ACT!, the field sets of primary entities (Contact, Group, Company, Opportunity, and Opportunity Product) are fully customizable, since these types are metadata-driven, and much of their landscape and data is discovered dynamically.

These entities have fully customizable fields that are stored by ACT! as Field Descriptors.

Figure 7: Entities, Fields, and Attributes

In ACT!, Field Descriptors define a property or field in numerous ways, such as the type (string character, numerical, etc.), whether it is read-only, specific types such as uppercase or phone numbers, and the field name displayed in the application.

New fields can easily be created using the Interactive User Interface (IUI) task screens.

Figure 8: Define Fields

The three types of fields in ACT! are:

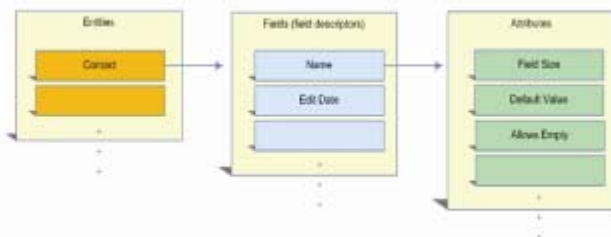- System not editable fields – these fields are installed and maintained by the database. Examples are Last Meeting or Edit Date fields. You cannot use Define Fields to modify System not editable fields, but you can modify their position in a layout.
- System editable fields – you cannot delete System editable fields, such as Contact, Phone, and Address fields 1-3, and you are somewhat limited in how you can modify them. For example, you cannot delete the Contact field, but you can prevent it from accepting a blank value. Although you cannot delete a System editable field, you can remove it from a layout.
- User defined fields – these are fields you create and define. There are ten default user defined fields on the User Fields tab in the Contact record that can be customized. You can create other user-defined fields as well.

Some unique ways you can customize[5] ACT! fields include:

- Adding special data types. Data types define the value a field can accept, such as text or numbers, pictures, or check boxes. Special data types called annual events are used for birth dates, anniversaries, or policy renewals. Users can perform a lookup on upcoming annual events.
- Generating a history each time the field changes value. The history shows the user who changed the field and what the data was before the change was made.
- Defining drop-down lists for easy data entry and improved data consistency. These lists can be customized by end users or controlled only by the ACT! Administrator.
- Setting fields as primary fields. Primary fields are used to copy data from one record to another, such as when you duplicate a record.
- Setting a trigger to launch an activity series, application, or URL when a user enters, exits, or changes a field. The activity series template, application, and URL must exist for it to be

assigned to a trigger. An easy way to create a URL file is to drag a bookmark from the Internet Explorer® Favorites list to the desktop.
- Linking a field between a company and contact record.[6] Each time a linked field is changed on the company record, the change will occur in all linked contact members belonging to the company. For example, changing the address for the company record will "push" those changes down to all linked contacts.
- Custom fields can be consumed by ACT!-compatible products, such as ACT! Link for Palm OS®, where you can map up to 15 custom fields for synchronization with your Palm® device.[7]

Customizing[8] Layouts

You can customize ACT! layouts for contacts, companies, opportunities, and groups using an easy-to-use WYSIWYG (What You See is What You Get) interface. Each entity can have multiple layouts that display different sets of fields depending on user requirements.

With the layout designer, you can achieve the following:
- Create new layouts
- Modify layouts
- Add or remove fields
- Add or remove objects and graphics
- Add or hide tabs
- Modify field entry order (Tab and Enter stops)

Figure 9: Layout Design

ACT!, ACT! Premium, and ACT! Premium for Web can use the same layouts. This enables significant time savings since the products can share one set of customized layouts.

Customizing[9] Reports

ACT! includes a Report Designer that can be used to create new reports or to customize more than 50 standard reports that ship with ACT!. The users can export most reports to HTML, PDF, or e-mail. The user can add custom fields, which are fully integrated into the Report Designer.

6 Not all fields can be linked and linked fields must be compatible.

7 This feature is not available in ACT! Premium for Web.

8 In ACT! Premium for Web, administrative functions must be performed on the Web server.

9 In ACT! Premium for Web, administrative functions must be performed on the Web server.
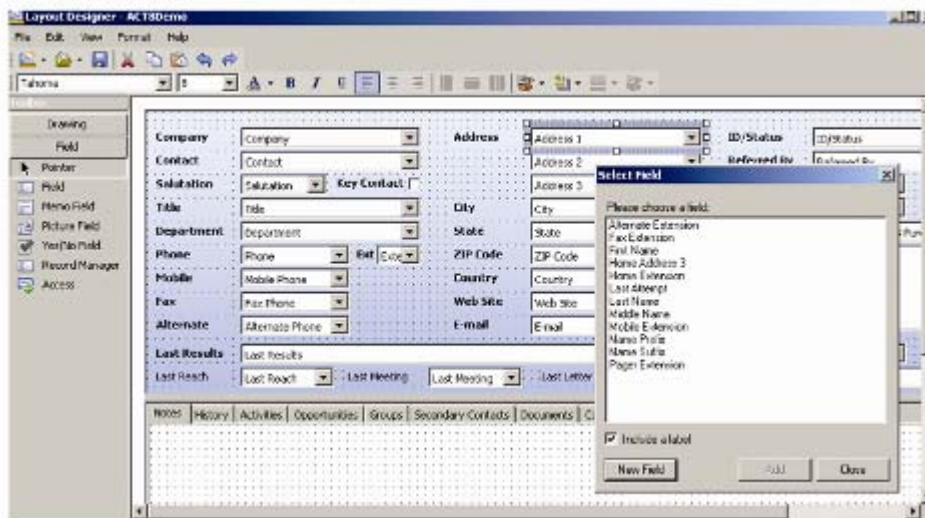
Both ACT! Premium and ACT! Premium for Web can use the same reports. This enables significant time savings since the products can share one set of customized reports.
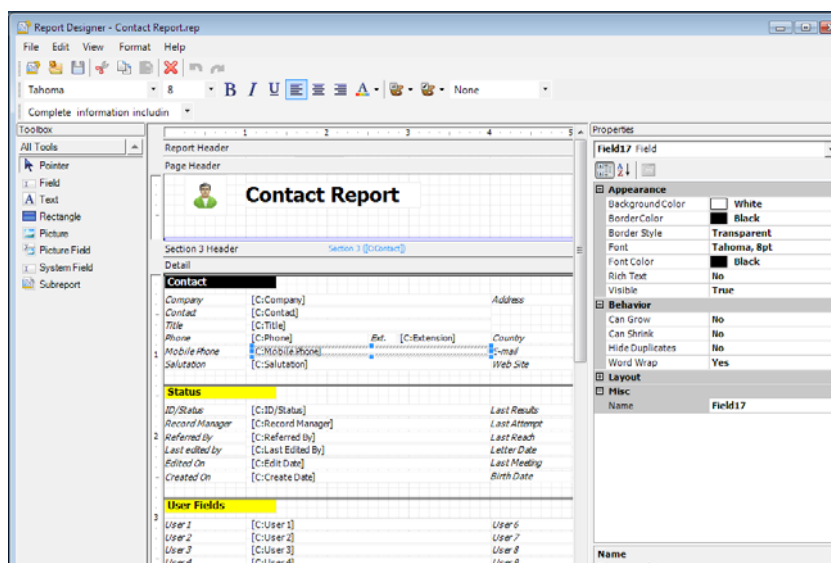
Figure 10: Report Design

Customizing[10] Word-Processing Templates

With ACT!, users can create documents, such as letters, memos, and fax cover sheets. ACT! includes a word-processing tool, or users can use Microsoft Word (if it is installed). Users can also create and personalize documents to send to a contact, or use mail merge to create documents for multiple contacts, or create documents that are not associated with contacts.

Document templates help users create documents, labels, envelopes, and other templates, check spelling after document creation, attach it to a contact record, print it, or attach it to an e-mail message. If users have ACT! version 3.x, 4.x, 5.x (2000), or 6.x (2004) document templates, they can convert[11] those documents to the current version.

Figure 11: Editing a Template Using the ACT! Word Processor

10 In ACT! Premium for Web, administrative functions must be performed on the Web server

11 Conversion can be done on the ACT! Premium for Web server only.

Customizing[12] Dashboard Components

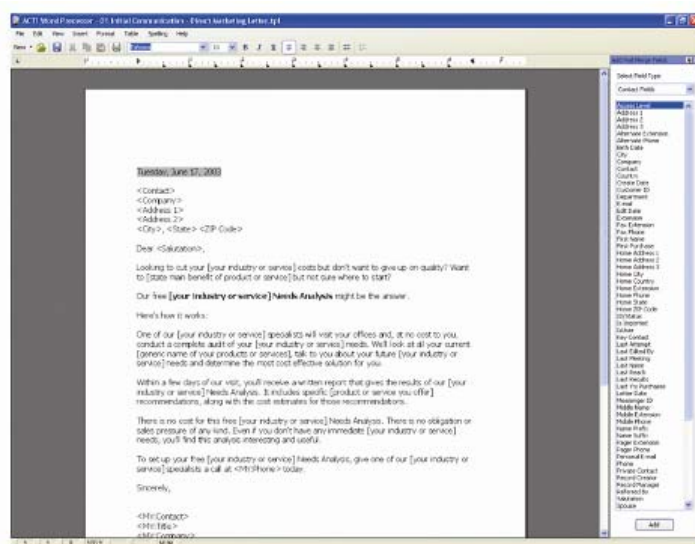ACT!,ACT! Premium, and ACT! Premium for Web include a Dashboard which provides a comprehensive, graphical representation of key activity and opportunity information in a highly interactive format, so users and managers have the information they need to best tackle their day and be more productive. In addition, the ACT! Premium Dashboard provides a roll-up of team activities so managers get the information they need to quickly gauge performance status of all team members to more effectively set individual user and team targets. An administrative dashboard is also available to view user status, synchronization status and remote database information, all by user. A contact dashboard is available to view recently created and edited contacts.

The ACT! Dashboard is flexible and customizable, allowing users and managers to customize individual components or create new ones[13] to best suit how they work. With the ability to apply filters to Dashboard components, users and managers have the flexibility to view activity and opportunity information based on what's most relevant to the team's operation. Managers can set default filters to view all users' data or pieces of it for further analysis. In addition to customizing existing components, Managers or Administrators have the ability to add or remove components, change titles or legends, use drag and drop functionality with the Dashboard Designer for easy customization of any default Dashboard, or create new Dashboard components based on the needs of the team.
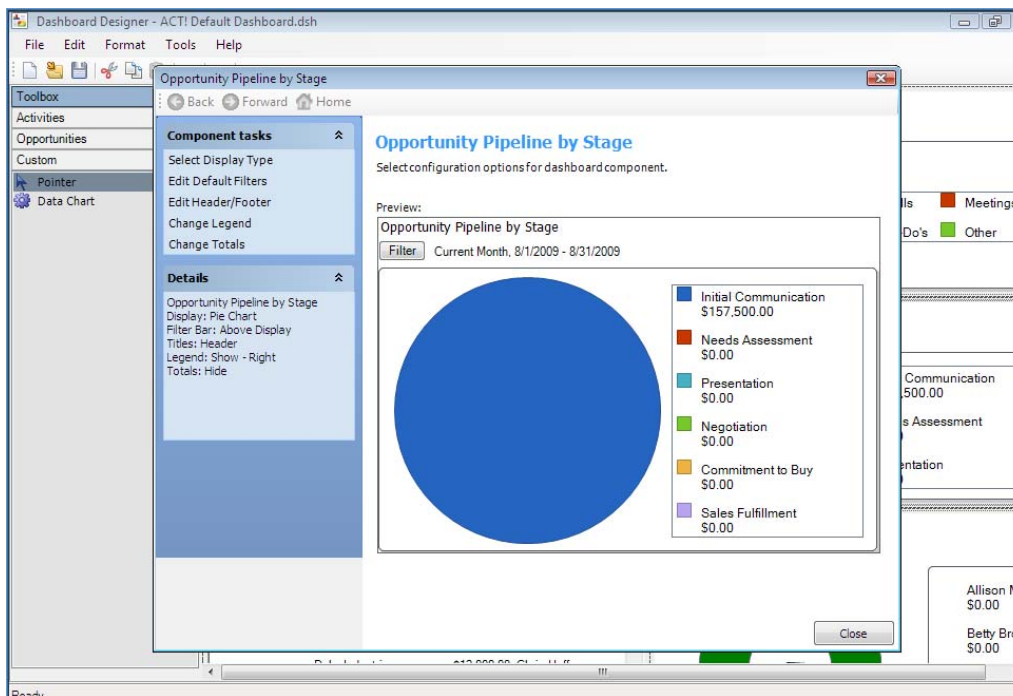

Figure 12: Dashboard Designer

Database Access

ACT! provides a number of ways to access the ACT! database for integration or reporting, depending on needs and access method.

Database Access via OLEDB Provider

ACT! includes an OLEDB Provider, which enables read-only access to a set of database views representing all of the ACT! data in a logical schema representation. You can use the ACT! OLE DB Provider for Reporting 2.0 to integrate other applications with ACT!, for example, to use Crystal Reports® to generate custom reports.

Naturally, security is maintained using the ACT! OLE DB Provider for Reporting 2.0, which means that users can only see the data that they have the rights to see.
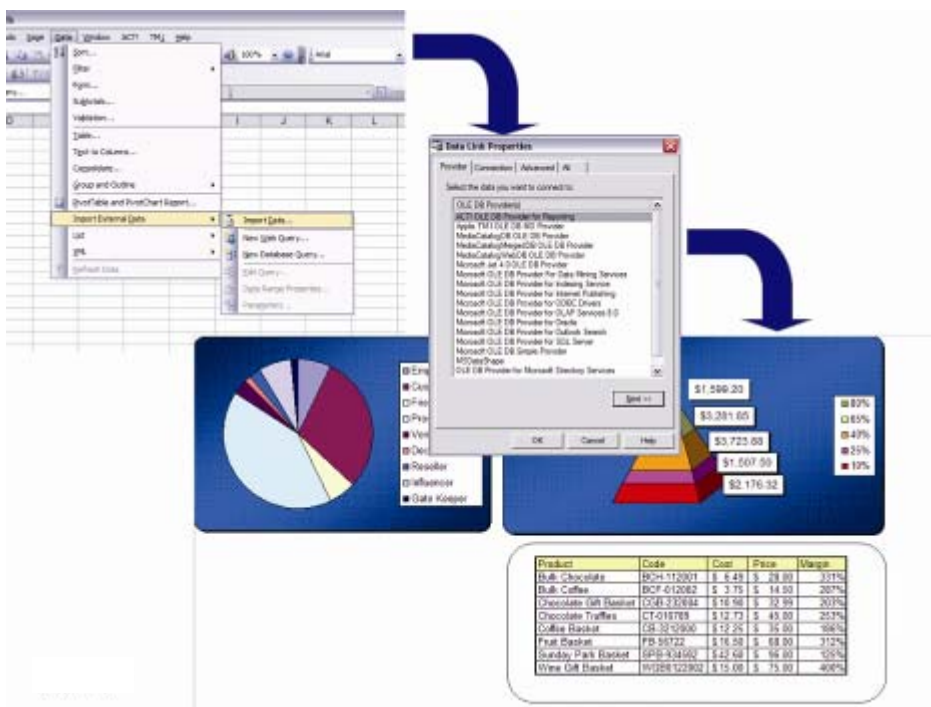
Figure 13: Example of Accessing ACT! Data from Excel using the ACT! OLE DB Provider for Reporting 2.0

Reader Account

ACT! provides a read-only SQL Server login to its database instance. The Reader Account allows direct, read-only access to information in the database, bypassing the security checks on access rights. This access method is supported in ACT! Premium databases only and enables access to all ACT! Premium databases on the machine.

SA Password

For those that need Administrator access to the ACT! database for reporting and server-side backups, an SA Password utility can be used to reveal the SA password, reset it, and gain Administrator access to the database. Like the Reader Account, this method of access is supported in ACT! Premium databases only and must be obtained through your regional ACT! sales team.

Integration

Integration with Microsoft Office

ACT! provides many integration points with the Microsoft Office suite of products in order to leverage their capabilities. Integration with Microsoft Office is achieved in some cases by embedding the Object Models, such as exporting to Excel®, or by targeted application add-ons, such as the ACT! add-on for Microsoft Outlook® that installs with ACT! and ACT! Premium.
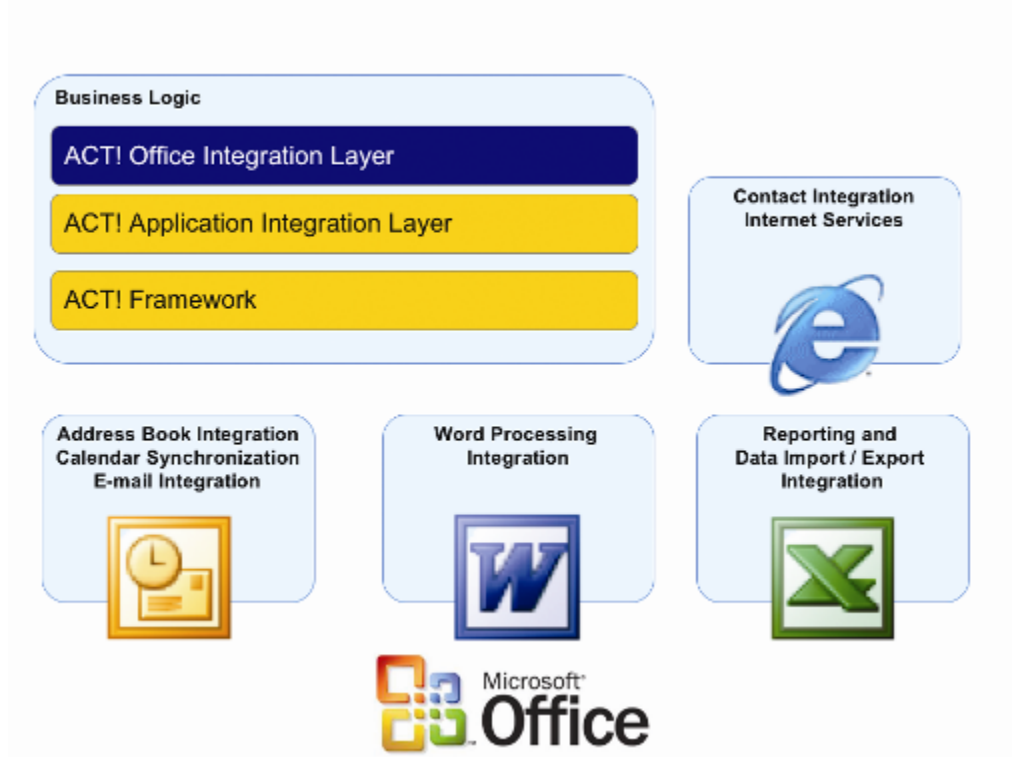
Figure 14: Microsoft Office Integration

Integration with Microsoft Outlook

Integration with Microsoft Outlook includes calendar, contact, and e-mail integration.

Calendar Integration

With ACT! and ACT! Premium, if users schedule some appointments and tasks in ACT! and some in Outlook, they may find it helpful to view all calls, meetings, and to-dos on a single calendar in either application. Calendar updating lets users copy their ACT! and Outlook calendars. Users can view Outlook activities on ACT! calendars, in the Task List, and in the Activities tab. Copying the calendar

can be done in one click. Once activities appear in ACT!, users can associate contacts to the activity records, modify them, and even clear them for complete history tracking. ACT! activity scheduling can be done right from Outlook e-mails.

In ACT! Premium, calendar copy can run as a scheduled task for each user. ACT! and ACT! Premium support sending calendar invitations in the iCalendar format, directly supported by Microsoft Outlook and Apple® iCal®, online calendaring applications such as Google Calendar™, Yahoo!® Calendar, and Windows Live™ Calendar, Lotus Notes®, and some social applications. Users can customize alarm settings and automatically creating ACT! activities when accepting Outlook invitations for an enhanced Outlook and ACT! integrated experience.

E-mail Integration

With integration with Outlook e-mail, users can benefit from Outlook e-mail capabilities while integrating with core components of ACT!. There are four integration points:

1. Sending and receiving e-mails using the ACT! e-mail client – The ACT! e-mail client is an interface that sits in front of Outlook. Users send and view e-mail in this interface, which provides additional functionality over Outlook and other forms of e-mail integration. For example, users can create ACT! activities from e-mails, quickly look up contacts from e-mails received, and attach e-mails to group or company records. The ACT! e-mail client is only available in ACT! and ACT! Premium.

2. Using Outlook e-mail while in ACT! – Users may want to send e-mail from within ACT! using Outlook rather than the ACT! e-mail client. If this option is selected, everything from mail merge to clicking on hyperlinks will use Outlook e-mail client.

3. Integrating address books – If users utilize Microsoft Outlook to send and receive e-mail messages, they can add one or more ACT! address books to the Outlook application. When a user writes a message, they can select ACT! contacts to send it to, and record it to the contacts' history. Users can also attach received Outlook e-mail messages to a contact's record.

4. Attaching e-mail to ACT! contacts – If users don't want to select a name from the address book, they can automatically attach e-mails to ACT! contacts when sending a message. Attaching e-mails can be done en masse or on a case-by-case basis. The Outlook rule engine can also be used to set up a rule based on custom criteria to automatically attach e-mails to ACT! contacts. The integration silently processes the matching of e-mail addresses and recording of history to ACT! contacts, outside of Outlook, so performance and workflow are not affected. Further, the integration between ACT! and Outlook is designed to support ACT!, ACT! Premium, and ACT! Premium for Web products when any or all of the products are installed.
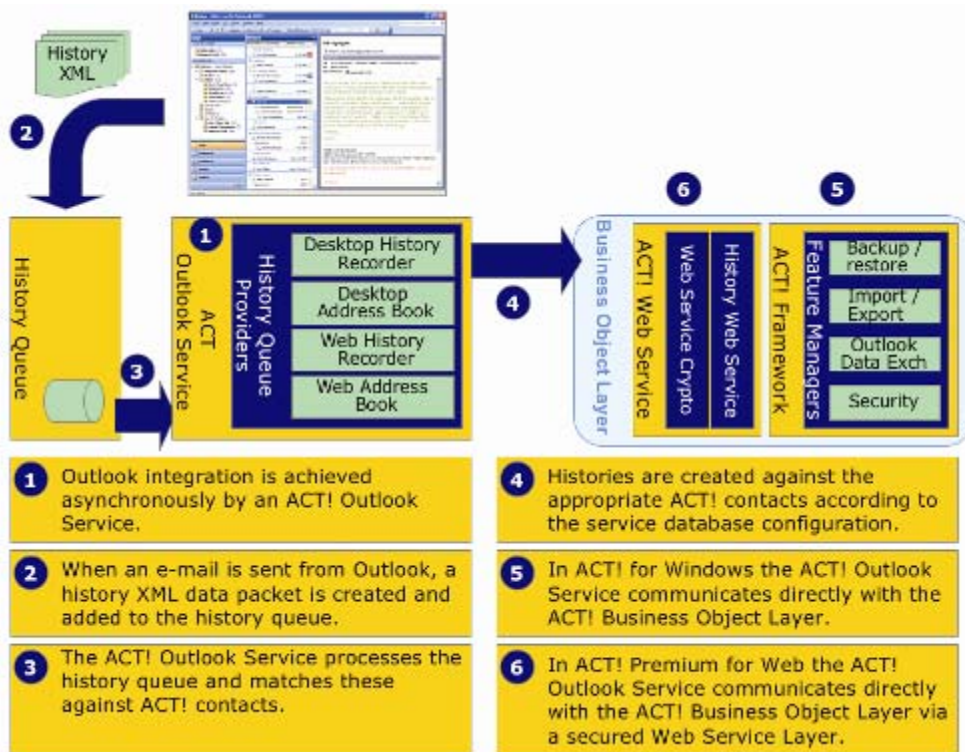
Figure 15: Outlook E-mail Integration

Integration with Outlook Contacts

With ACT! and ACT! Premium, users can import data from Outlook using the Import Wizard. Import is only available to Administrators and Managers. Outlook contacts import from a user's Contacts folder and any subfolders of that folder located on the user's computer. When importing information, like appointments, notes, or journal entries, users can map it to contacts imported from Outlook or to contacts in their ACT! database.

Microsoft Exchange contacts will import from a Contacts folder, subfolders of a Contacts folder, and the Exchange Server's Public folders, including the Contacts folder stored on the network; however, users cannot import records from the Global Address List.

Further, when using Outlook as the e-mail client, a user can create a contact in ACT! by the simple click of a button.[14] ACT! provides an Outlook add-in, which is installed with ACT!. This add-in enables easy contact creation from the Outlook e-mail client. Users can select the target ACT! database "on-the-fly" and ACT! will use duplicate checking settings for the selected database. Contacts that are created will adhere to the database preference for access of new contacts (private or public).

Lastly, ACT! contacts can be exported to vCard format, which is supported directly by Outlook, Apple Address Book, many mobile device platforms including BlackBerry®, iPhone™, and Windows Mobile®, as well as Lotus Notes, and some social applications..Export functionality is restricted to certain user roles.

14 This feature is not available in
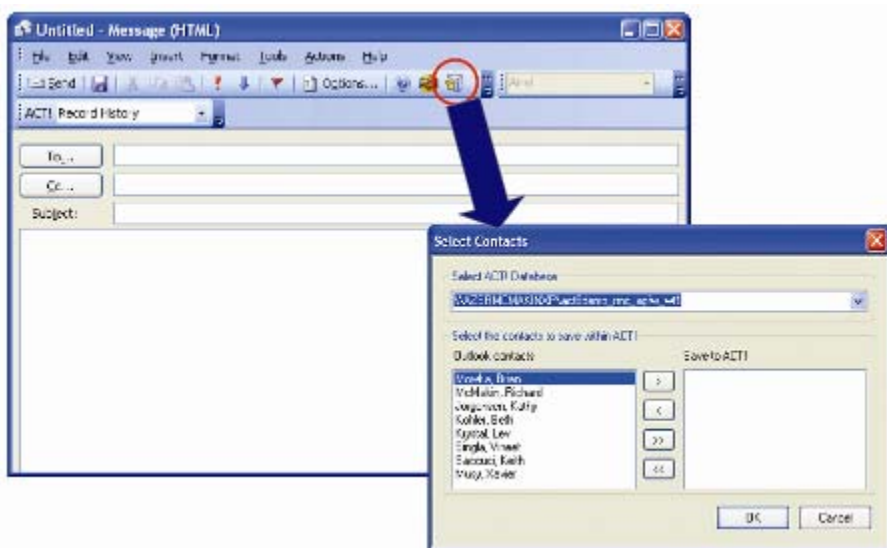
ACT! Premium for Web.

Figure 16: Creating a Contact from the Outlook E-mail Client

Integration with Microsoft Word

With ACT! and ACT! Premium, users can specify Microsoft Word as the word processing tool for creating or modifying documents and templates. ACT! Premium for Web users must install a component to use Word with the Web client. ACT! adds a menu to Word; from that menu a user can attach a document to a contact record, send a document in an e-mail message or fax, and display the mail merge fields.

Integration with Microsoft Excel

A user can export the Contact List, Group List, and Company List data to Microsoft Excel, if the appropriate version (Excel 2002, 2003, or 2007) of Excel is installed on the user's machine. It's also possible to export the Opportunity List data to Excel and display pivot table information and analysis automatically. And, before export to Excel, users can customize[15] the columns on the list views. Export to Excel is limited to certain user roles. In ACT! Premium, a permission to export to Excel can be granted or removed. However, in ACT!, this permission is granted by default and cannot be removed.

The columns and data shown on the ACT! list view are retained in Excel. Further, ACT! and ACT! Premium adds a menu to Excel, and from that menu a user can attach a spreadsheet to a contact record and even map contact, group, or company fields to Excel spreadsheets.

Internet Services Integration

The Welcome Page provides direct links to ACT! products, services, and support and other Web pages. To use the Welcome Page, users need Internet access (for version compatibility, see ACT! system requirements at www.act.com/2010systreq).

The Web Info tab offers links to several reference and research sites, such as LinkedIn®, Facebook, and Google Maps™ (the reference and research sites will vary according to your country).

Users can also attach a Web page to a contact by opening the Web page and clicking the Attach Web page to ACT! contact icon in the toolbar.[16] The details of the attached Web page appear on the History tab for the selected contacts.

15 In ACT! Premium for Web, administrative functions must be performed on the Web server.

16 This feature is not available in ACT! Premium for Web.

Other E-mail Applications

ACT! and ACT! Premium integrate with Lotus Notes®, Eudora®, and POP3 accounts, delivering all the benefits of ACT! e-mail, such as attaching inbound e-mails to contacts, creating new contacts and activities from the e-mail sender, and creating contact history on the contact record when sending e-mails, while still using Lotus Notes.

Accounting Integration

The ACT! Accounting Framework provides the ability to integrate ACT! and ACT! Premium with accounting applications. This integration provides a complete view of all customer interactions for inquiry handling and performing follow-up tasks, and it eliminates duplicate data entry.
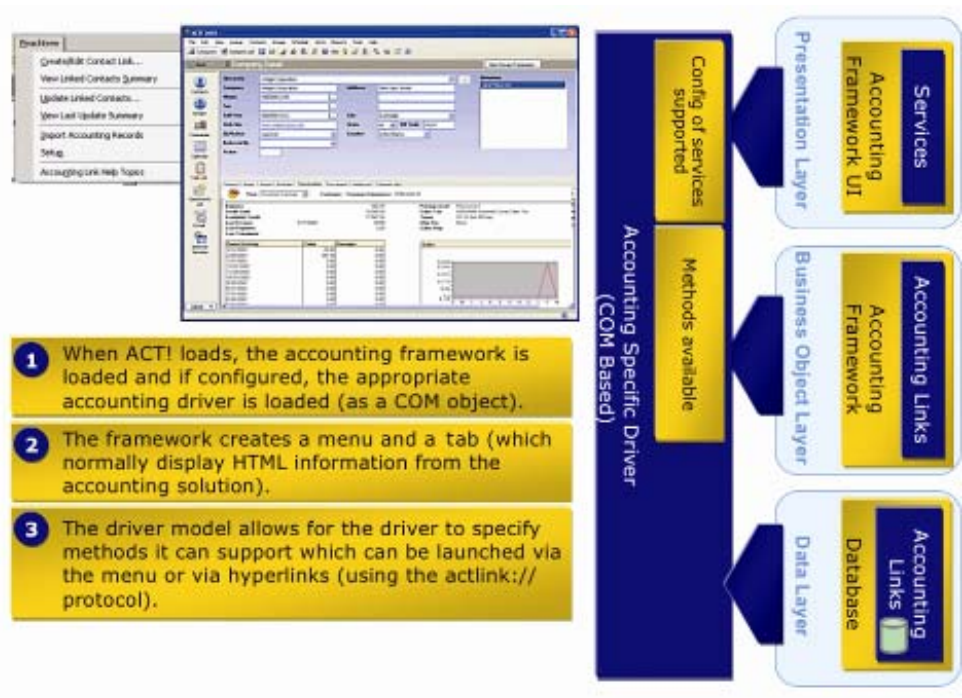

Figure 17: Accounting Framework Integration

Using accounting links, access to accounting information is provided from a tab in ACT!. ACT! users are able to see Estimates, Invoices, Sales, and Payments for any linked contact, giving them a more detailed view of their relationship history.

ACT! provides integration with a variety of Sage accounting products including:

Product Language	Locale
Ciel	French/France
Classic Line	German (Germany, Austria, Switzerland)
HWP 2008	German (Germany, Austria, Switzerland)
Office Line	German (Germany, Austria, Switzerland)
PC Kaufman	German (Germany, Austria, Switzerland)
GS Auftrag	German (Germany)
Winware	German (Germany)
Sage 30 (Winway Z)	Swiss (Switzerland)
Sage 200	English/U.S., UK
Peachtree by Sage 2007, 2008, 2009, and 2010	English/U.S.,UK
Sage BusinessVision	English/Canada
Sage BusinessWorks v6 or higher	English/U.S.,UK
Sage Instant Accounts	English/U.S.,UK
Sage Line 50	English/U.S.,UK
Sage Line 100	English/U.S.,UK
Sage Pastel, Sage MMS, Sage MAS 90/MAS 200 v4.1, v4.2, and v4.3	English/U.S., South Africa
Simply Accounting by Sage Pro, Sage Pastel, Sage MMS	English/CanadaEnglish/U.S.,UKEnglish/U.S.,UK
Simply Accounting by Sage PremiumSimply Accounting by Sage ProSage Pastel	English/CanadaEnglish//U.S.,UK
Simply Accounting by Sage Accountants' EditionSimply Accounting by Sage PremiumSimply Accounting by Sage Pro	English/CanadaEnglish//Canada
Simply Accounting by Sage Accountants' Edition, Simply Accounting by Sage Premium	English/CanadaEnglish/Canada
Simply Accounting by Sage Accountants' Edition	English/Canada
TAS	English/UK
MYOB	English/Australia
Sage Symfonia	Polish/Poland

In addition, ACT! provides integration with QuickBooks® Professional and QuickBooks Premier editions 2007 and 2008.

Deployment

ACT! allows you to configure the solution based on your organization's needs, whether they include online access, offline access, Web access, handheld mobile access, or a combination of access methods. Since the ACT! architecture allows maximum flexibility, with compatible databases between ACT! Premium and ACT! Premium for Web, the key to a successful ACT! deployment is to provide the optimum access method(s) corresponding to the user needs in the organization.

Deploying ACT! with a Local Database

ACT! can be deployed as a desktop application with a local database (Figure 18). Businesses often use this deployment approach when they want to provide ACT! as a sales productivity tool with maximum user flexibility, data ownership, and access to contact information. In this deployment scenario, each user maintains a local database on his or her desktop PC or laptop and does not share or otherwise co-mingle data with any other user's data. In this scenario, the user has complete control over the ACT! application settings and his or her own database.

A variation on this approach is to install ACT! on end-user machines, but apply a corporate-defined database schema (fields, layouts, etc.). In this approach, the ACT! end-user does not receive administrative rights to the database, which prevents the end-user from customizing the solution, compelling him or her to use corporate-defined databases, fields, and layouts. If changes defined by the corporation need to be made, an individual with administrative rights can make those changes and create a copy for users to deploy on their desktops or laptop PCs.

In both cases, the instance of ACT! is installed on a local machine that connects to a local instance of Microsoft SQL Server Express (which is bundled with ACT!) to maintain local databases (whether corporate-controlled or not).
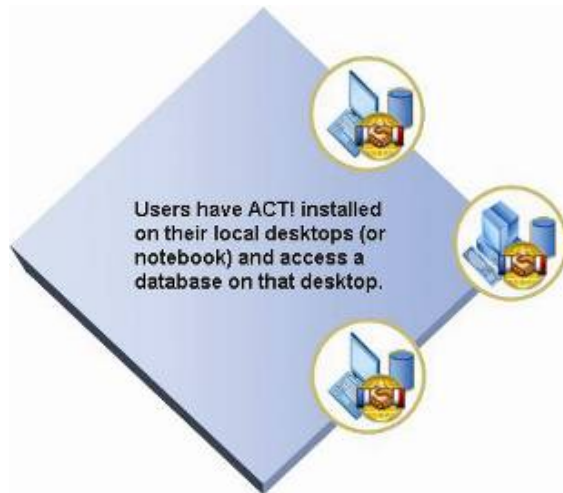

Users have ACT! installed on their local desktops (or notebook) and access a database on that desktop.

Figure 18: ACT! Deployment on Individual Users' Desktops When Each Utilizes a Local Database

Deploying ACT! Premium with a Shared Database

For organizations that want to support a team of users and maintain data and database control, ACT! Premium can be deployed to each user's PC and provide network access to a centrally shared

database (Figure 19). This approach provides complete sharing with greater administrator control, since users are not managing local databases, and allows the database to be centrally deployed and managed while providing all users with real-time data access. This deployment scenario is useful for companies who wish to share data among users, require a high-level management view of the information, and retain control of the ACT! database.

For users that need offline access, that is, when they are not connected to the network, local databases can be installed on each user machine to allow synchronization with a centralized database. ACT! Premium allows full synchronization to a centralized database, using the ACT! Network Sync Server (provided with ACT! Premium). The ACT! HTTP Sync Server (provided with ACT! Premium) can be deployed if users need to sync data across the Internet without a Virtual Private Network (VPN)--for example, when working from home.

ACT! Premium allows deployment of multiple Network Sync Servers and HTTP Sync Servers, so traffic can be load-balanced in accordance with organization and user needs. These Sync Servers can be deployed on any machine on the network to optimize deployment flexibility and reduce costs.
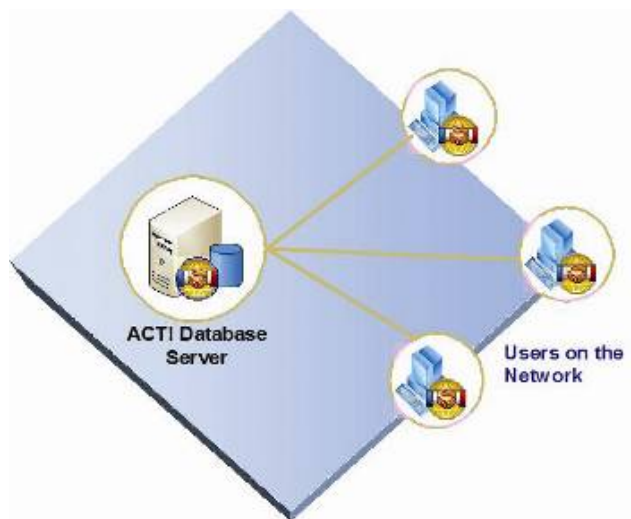

Figure 19: ACT! Premium Deployment with a Shared Database

Deploying ACT! Premium for Web in a Corporate LAN

Often, in a larger workgroup or a corporate environment, management or IT may choose the flexibility, security, and fast roll-out of a Web-based solution. In this deployment scenario, ACT! Premium for Web and the database are installed on centrally managed servers. Users connect to the ACT! Premium database via Internet Explorer to provide immediate access to ACT! data across a network. This method makes end-user setup straightforward, since there is no installation and configuration of software needed on the end-user's desktop. Users that need Microsoft Outlook e-mail integration with ACT! Premium for Web simply install a plug-in from the Preference dialog box.

When deploying ACT! Premium for Web for 30 users or less, with constraints on hardware and server availability, ACT! Premium for Web and Microsoft SQL Server can be deployed on the same server (Figure 20). If access is provided to the Web server through the firewall, access to ACT! Premium for Web will be available from any PC that has Internet access and Internet Explorer installed.
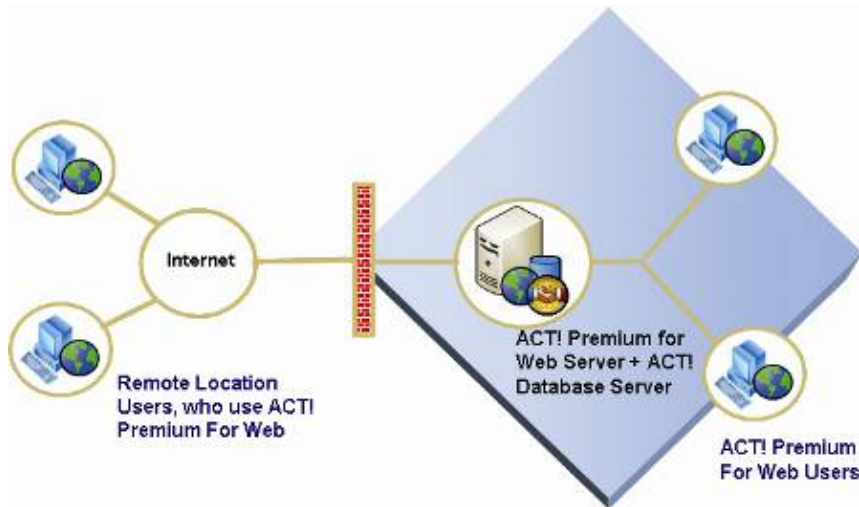
Figure 20: ACT! Premium for Web Using a Single Server

A second option is to deploy the ACT! Premium database and ACT! Premium for Web on separate servers (Figure 21). This provides increased performance and security. Multiple application servers running ACT! Premium for Web can be used to extend scalability[17] with all of the servers connecting to a common database server. With this deployment:

- Microsoft SQL Server (bundled with ACT! Premium for Web) is installed and configured on a dedicated server.
- ACT! Premium for Web is installed on one or more application servers to accommodate the needed number of users.

The benefit of the ACT! Premium for Web solution is that IT has full control of the solution deployment, setup, and database. This greatly speeds and simplifies roll-outs, improves reliability, and enables users to be quickly added or deleted, while providing complete data security. With ACT! Premium for Web, database administration and control is completely in the hands of experienced and authorized personnel. Users simply connect to the database using their browser.
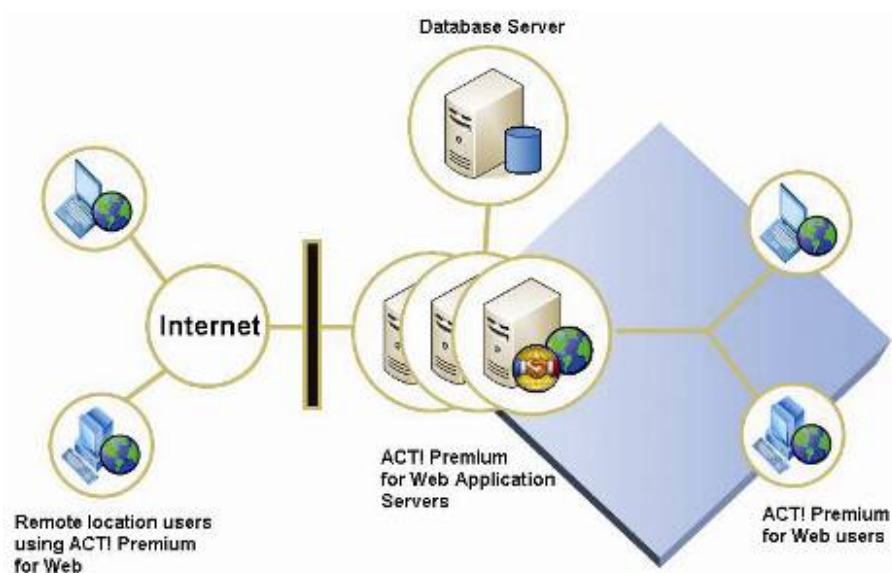

Figure 21: ACT! Premium for Web Multi-Server Deployment

17 In ACT! Premium for Web, administrative functions must be performed on the Web server.

ACT! Premium and ACT! Premium for Web Mixed Deployments

To support a varying set of user needs (including connected, disconnected, and offline access) and maintain maximum flexibility, organizations can deploy ACT! Corporate Edition (which includes ACT! Premium and ACT! Premium for Web) in a mixed desktop and Web environment (Figure 22). Mixed scenarios provide instant anywhere, anytime access through ACT! Premium for Web, while allowing disconnected/offline access using ACT! Premium for users who need this functionality. Furthermore, in this deployment, both ACT! Premium and ACT! Premium for Web users share a common database and customizations[18] to layouts, reports, and fields, enabling IT to administer and customize one environment and allowing users to choose their access method.

ACT! Corporate Edition delivers this flexibility through a single license per user that enables ACT! Premium and ACT! Premium for Web access. ACT! Premium Solutions allow an organization the flexibility to support access methods based on varying business and user needs. A mixed environment allows ACT! Premium and ACT! Premium for Web users to share a database, while maintaining compatibility with Sync Servers to support the disconnected deployment model where remote databases are synchronized with the master database.
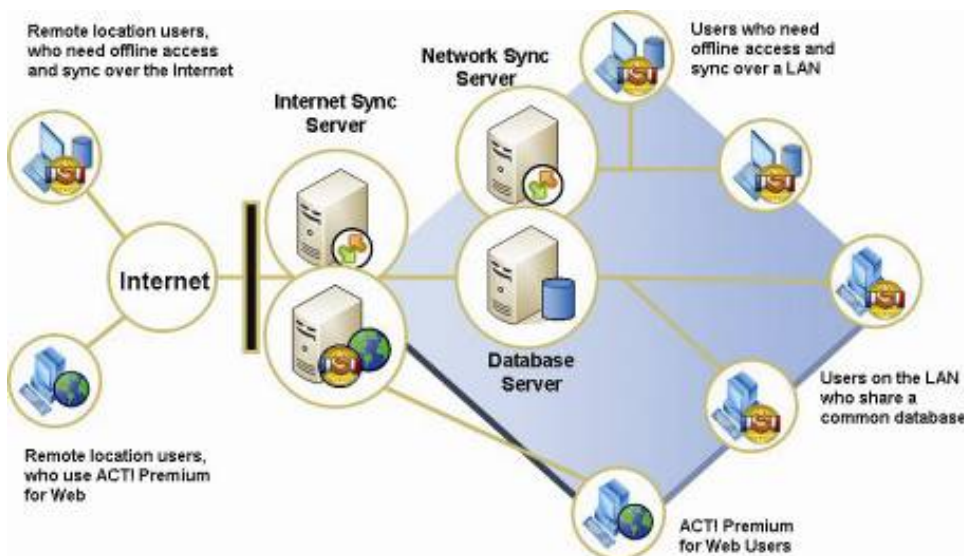

Figure 22: ACT! Premium / ACT! Premium for Web Mixed Deployment

Silent Install[19]

Administrators can set up the ACT! Premium application to install on client machines without intervention. When the Administrator installs the ACT! application, he or she uses a command line that records the installation information as pre-recorded answer files so that it can be used for subsequent installations on client machines. This includes setting key preferences and serial number activation. The Administrator also can modify the error message that users will see if a problem occurs with the install.
The silent install process works with both the ACT! Premium and ACT! Corporate Edition products. Silent Install on Windows Vista® requires additional configuration.

18 In ACT! Premium for Web, administrative functions must be performed on the Web server.

19 Delivered as an MSI package. Software to distribute an MSI package is not included. Silent Activation on machines requires Internet access. Users must be machine administrators in order to activate. See ACT! Help for more detail.
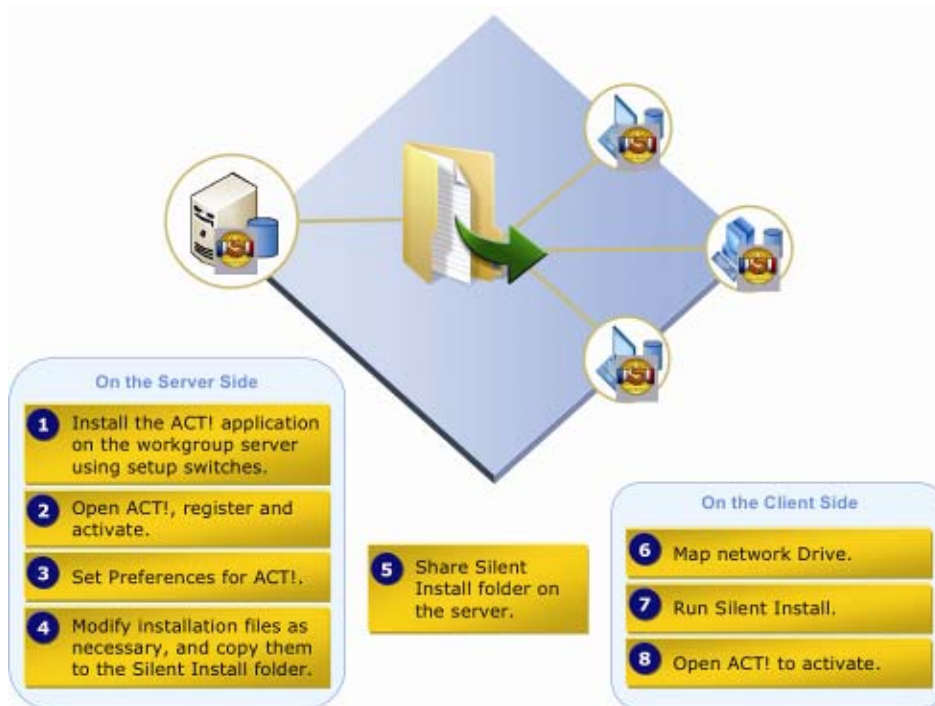
Figure 23: ACT! Silent Install

Auto Update

The ACT! product line supports an auto-update feature known as ACT! Update. This enables automatic notification and optional downloading of the latest product updates. Customers are notified of a product update and can choose to download and install the update. This update technology uses Web Services via the HTTP protocol, and as such, is safe through normal firewall settings.

Some IT administrators prefer to control the update process in their environment. For these administrators, ACT! offers the option to disable the ACT! Update feature in the user preferences.

Scalability[20]

The ACT! platform was built with scalability in mind. The ACT! Framework follows a disconnected model for database access and connectivity. This means that ACT! only connects to the database as needed to retrieve or update data and doesn't retain server-side cursors. (Note: a cursor is the resulting set of records returned by an SQL Server query.) This is a best-practice approach to scalability, which aids in supporting a high number of connected users and limits resources needed on the database, the database server, and the network in general. This also facilitates ACT! Premium for Web, particularly when load balancing the back end by hosting the database on a server other than the Web server.

ACT! lists such as contacts, groups, companies, notes, history, opportunities, etc., are all built on the Smart Lists foundation. These are designed to scale in the number of records returned to the Application tier, so that, as the magnitude of records in the system increases, performance degradation is minimal. Specifically, these entity lists are based on the Smart Lists technology, which features:

20 Scalability will vary based on hardware and size and usage of your database. Published minimum system requirements found at www.act.com/2010systreq are based on single user environments. You must purchase one license of ACT! per user.

- Collection Management: Smart Lists mediate data access, handling all data source interactions and returning a collection of high-level objects that the application can manage and manipulate.
- Predictive Data Fetching: The Smart Lists pre-fetch data in the region of the window that is currently being viewed, based on scrolling and user interaction.
- Cache Management: Smart Lists will manage the "staleness" of information in the list using advanced heuristical and deterministic algorithms.

These techniques minimize:
- Time to fetch and view data
- Memory consumption
- Round-trip chatter and lag

This generally optimizes a real-time scrollable experience, with transparent faults and data fetching. As a result, the ACT! platform supports a high volume of entity records with little performance degradation.
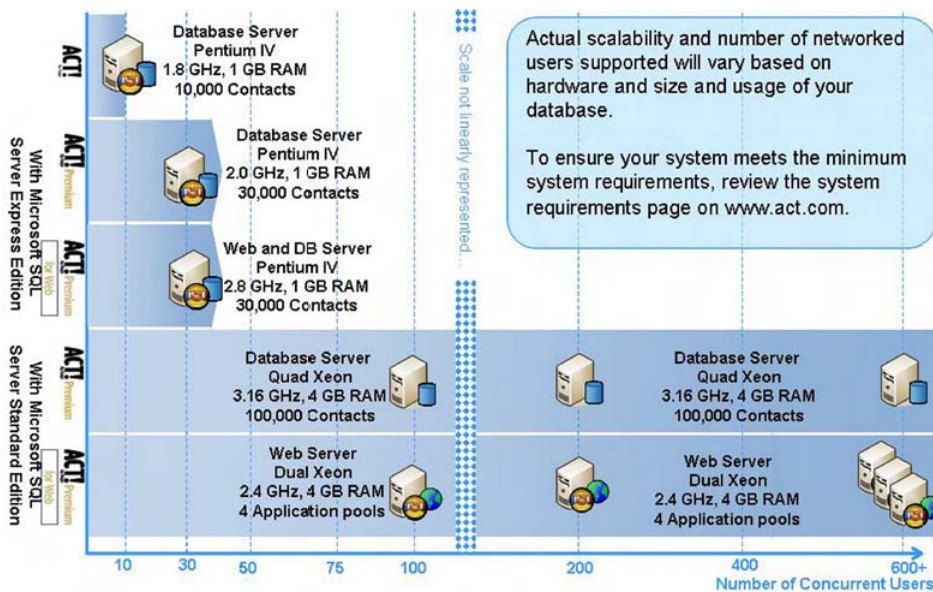

Figure 24: ACT! Scalability

Synchronization

Database Synchronization

With ACT!, users can share data by using a common, or main, database to maintain contact, group, and company information. This is especially helpful when users in different locations share data. ACT! synchronization tracks changes to data in multiple places and transports the change from one database to another.

A remote location requires a remote database of the contact, group, and company information contained in the main database. A remote database can have all of the data or just a subset of the data in the main database. You synchronize data between a main database and one or more remote databases. You can also create up to 50 remote databases at one time.

Synchronization requires a connection between the main database and remote databases. ACT! synchronization has been designed as a background process that allows normal use of the database during synchronization. Remote database users can use the ACT! Scheduler to automate database synchronization.
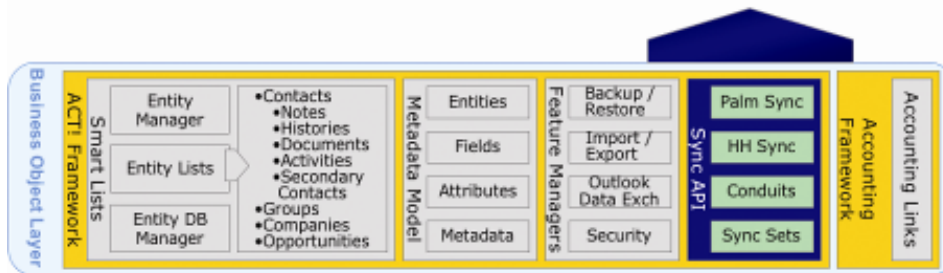

Figure 25: ACT! Synchronization

ACT! Scheduler

Available to the ACT! product family, the ACT! Scheduler feature lets users schedule up to two automated tasks:

- Database backup[21]
- Database maintenance[22]
- Database synchronization for remote databases
- Outlook Activity Synchronization

Users can create, edit, and delete tasks, view the task logs containing information about the execution of the tasks, and stop and start the service.

Most scheduled tasks are triggered and run as long as the PC is turned on. The only exception is the Outlook Activity Synchronization, which, due to a limitation in the Outlook object model, requires the user to be logged in to Windows. All scheduled tasks will be triggered and run whether or not ACT! or Outlook is currently running.

21 In ACT! Premium for Web, administrative functions must be performed on the Web server.

22 In ACT! Premium for Web, administrative functions must be performed on the Web server.
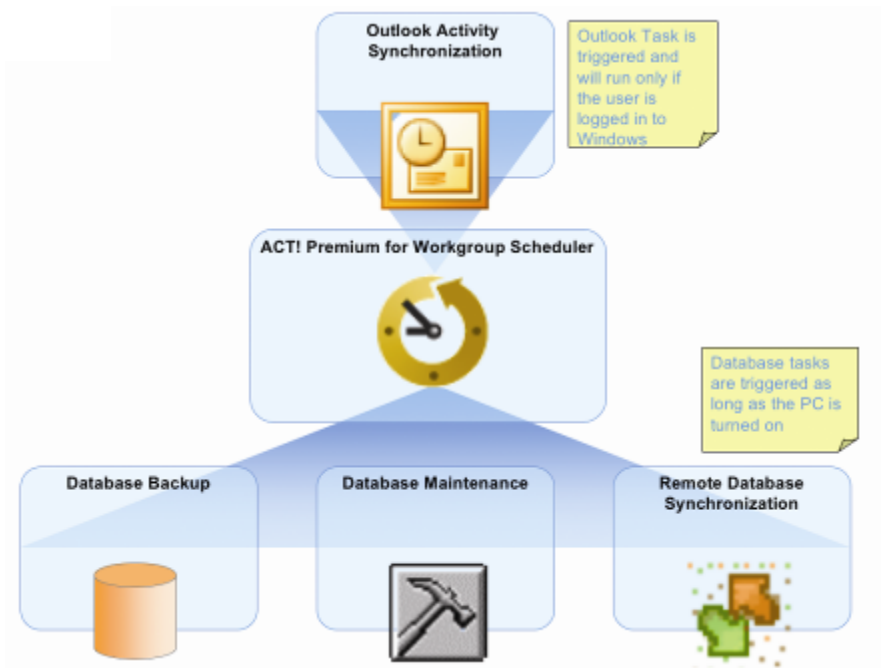
Figure 27: ACT! Premium Scheduler

Security

This section provides an overview of the ACT! security model and is based on functionality available in ACT! Premium. The ACT! security model is designed to maximize flexibility and provide a variety of options for securing data. Managers and Administrators (in larger organizations the Administrator may work in the IT organization) can leverage ACT! security features to limit access to the database, records within the database, and fields related to those records. The entire ACT! product family uses the same ACT! security model, ensuring consistent data protection.

ACT! Security Overview

The ACT! security model supports both stand-alone and workgroup implementations. Security in ACT! can be scaled to suit your environment, whether you work alone, with a small team, or with a large workgroup.[23] Security can be enforced at the database level, the feature level, the record level, and the field level.

Five User Roles

Administrator

Administrator is the highest level role in ACT!. Users with this role can access all features in ACT! and all records that have public or limited access. Only private data owned by other users is inaccessible to the Administrator. (For more information about record access, see the ACT! Security white paper.) The Administrator is the only role allowed to Manage Users, Delete a database, and set the Password Policy. Users who are responsible for maintaining the database and who need to access most features and data should be Administrators.

Manager

Managers have access to all features except Manage Users, Delete database, and Password Policy. The Manager role can be tailored for individual needs by granting or withholding four custom permissions. Managers have access to all public records. Users who need to Manage Teams, modify

database schema, manage records owned by other users, create/edit layouts, import/export data, manage custom activity types, or update product information, should be Managers.

Standard

The Standard role represents the typical user. Users with this role can access most areas of the application, create/edit any record to which they have access, and delete records that they own. Standard users can access only public records and their private records. The Standard role can be tailored for individual needs by granting or withholding six custom permissions. Users who perform a variety of tasks, including creating/modifying word processing and report templates, but who do not need to modify or maintain the database, should be Standard users.

Restricted

Restricted users can access only basic functionality. Users with this role can create/ edit contacts, activities, notes, history, and opportunities, but cannot create or edit groups or companies. Restricted users can run reports and write letters using existing templates, but they cannot modify letter or report templates. Restricted users can only access public records and their private records. In addition, users with this role cannot delete any records, even records they own. Typically, Restricted users are assistants, hourly workers, or others requiring only limited access to features in ACT!.

Browse

The browse role gives users read-only access to information in the ACT! database. Browse users can perform lookups, run reports, and print information, but cannot create or modify any data in the ACT! database. Temporary employees and users who only need to reference information should be Browse users.

Types of Security in ACT!

Database Security

Database security controls who can use a database. Individuals access an ACT! database using a unique user name. The ACT! database Administrator also can implement a password policy to further restrict database access.

Feature Security

Feature security controls who can use specific features. Each ACT! database user is assigned a role. Each role dictates which features (permissions) a user can access in the application. ACT also offers custom permissions which can be granted to or withheld from a user.

Record Security

Record security controls who can see data and what data they can see. Every record in ACT! has an owner known as a "record manager." When a record is marked private, only the record manager can view it. ACT! users can access all public data, their private data, and any limited access records to which they have specifically been granted access. Administrators can access all records except private records owned by other users. A user must have access to a parent record (contact, company, or group) in order to access any extended data (notes, history, activities, opportunities, or secondary contacts) belonging to that parent record.

Field-Level Security

Field-level security controls who can see and modify fields and what fields they can view and modify. Users who are assigned Administrator or Manager roles in ACT! can secure fields, so that the information is available only to specific users and/or teams of users. Administrators or Managers can

give "full access," "read only access," or "no access" to fields on a user-by-user basis. A field can be given a Default Permission that applies to all users. Some core fields and system fields cannot be secured because they are required for basic ACT! functionality. Please see the ACT! Security Whitepaper for additional information on security.
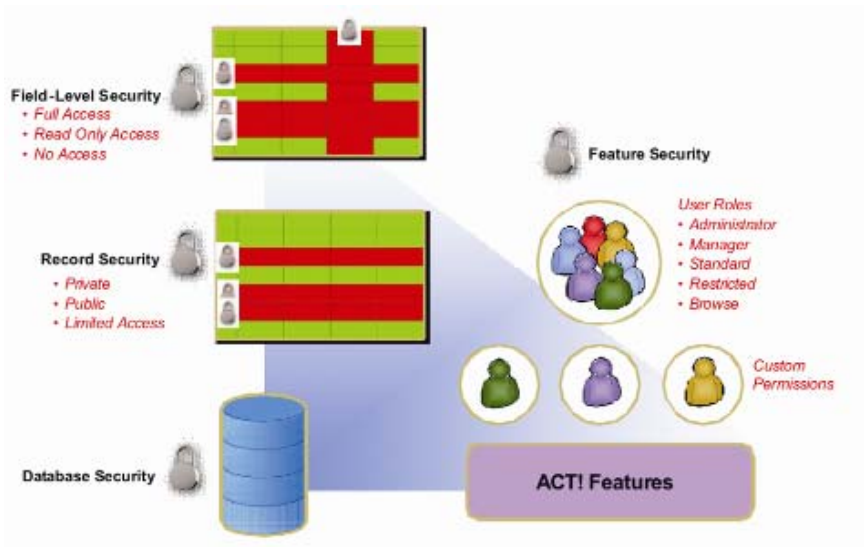

Figure 28: ACT! Security Model

Extensibility Model

The ACT! platform is not just a foundation for all ACT! product lines, but also a platform for third-party development to extend, integrate with, and connect to ACT!.

The ACT! Framework is available as part of the ACT! SDK. This gives third parties the same first-class availability of the ACT! platform.

The ACT! product line follows a multi-tier architecture and each tier in the ACT! architecture has one or more unique extensibility points with their own particular capabilities. ACT! custom solution development involves knowing and choosing the right extensibility path(s), understanding each tier, its capabilities and extensibility, and matching the problem domain with the appropriate extensibility point(s).

Accessing ACT! Business Objects from an External Application

The ACT! Framework can be consumed when integration is needed from outside the realm of ACT! and when no interaction with the application or user interface is needed. Applications and Windows services can consume the framework to access data, automate functionality, and provide back-end services. Web applications and Web services can consume the framework to provide clients or back-end solutions across network boundaries.

Accessing ACT! data from an external application is made very simple by the implementation of .NET interfaces "ITypedList" and "IBindingList" which make it simple to bind collections to UI controls. For example, retrieving a list of contacts from ACT! and populating a .NET ComboBox with the FullName of the contacts can be achieved with five lines of code.

```
ActFramework framework = new ActFramework();
framework.LogOn("ACT_user_name", "password", "server_host", "database_name");
// get all contacts in the database
ContactList contacts = framework.Contacts.GetContacts(null);

// note that since ContactList implements ITypedList and IBindingList,
// then it can be used as a datasource for any databound control in .net
this.comboBox1.DataSource = contacts;
this.comboBox1.DisplayMember = "FullName";
```

Figure 29: Accessing ACT! Data from an External Application

Extending the ACT! Application

The ACT! application has several extensibility points: plug-ins, custom controls, and custom tabs. Each can be used independently to provide new functionality or they can be used together to provide larger solutions.

Plug-ins

Plug-ins enable third parties to behaviorally and/or visually extend the application. Plug-ins can also serve as gateways to other applications or services which need live interaction with the application. Plug-ins, like in other applications, are passed a reference when the ACT! application is loaded and can access all of the application (and framework). Typically, plug-ins will subscribe and react to events in the application and framework to perform some specialized functionality. The entire ACT! product family supports plug-ins.

Custom tabs can also be added to provide new ways to view data in detail views of the application. You can use this option to organize your domain-specific fields, whether custom fields or predefined fields, in an easy-to-find location.

Over 70 third-party add-on products extend the capability of ACT!. A listing of add-on products is available on the ACT! Web site: http://www.act.com/partners/addonpartners/index.cfm.
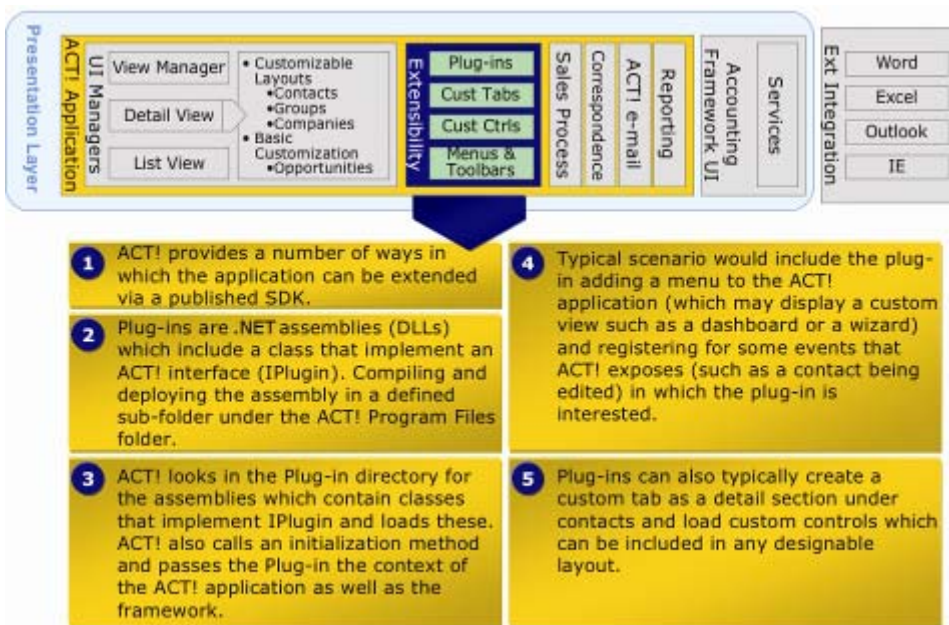

Figure 30: ACT! Plug-in Model

Custom Controls

Custom controls can provide visual extensions to the application's designable views, namely, contact, group, and company detail views, and can support rich, design-time behavior and integration with the layout designer. For example, you can create a custom control displaying contact-related database records contained in an external application within a grid in an ACT! layout. The entire ACT! product family supports custom controls. This means ACT! Premium for Web can support rendering an ACT! custom control.
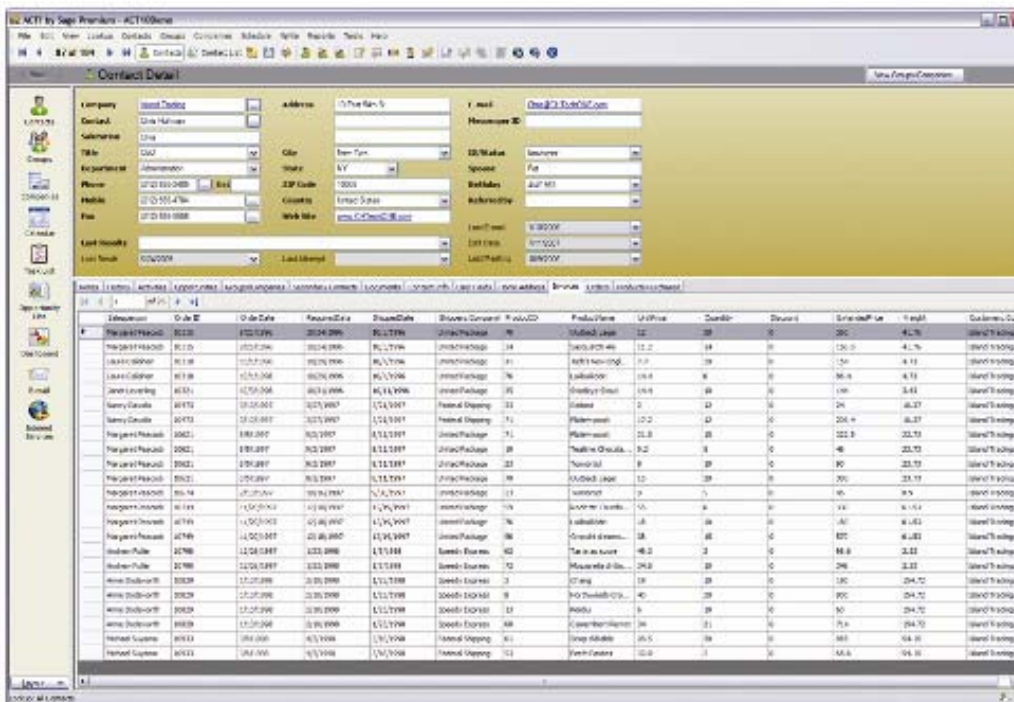

Figure 31: Example Custom Control: Display Structured Data in a Contact Layout

Custom Dashboard Components

Custom Dashboard Components[24] can provide visual extensions to the ACT! Dashboard and can support rich, design-time behavior and integration with the Dashboard Designer. Creating a Dashboard Custom Component is very similar to creating a layout custom control. The only significant difference is how the control is marked (Mark Custom Dashboard Component). ACT! provides a base custom Dashboard component, so your custom component looks and feels like a native ACT! Dashboard component. Much like other extensibility areas, the entire ACT! product family supports custom dashboard components, so ACT! Premium for Web supports rendering ACT! custom dashboard components. The base component "Act.Framework.ComponentModel.Core.Dashboard.BaseComponent" provides common look and feel for:

- Header, Footer
- Custom Filtering
- ActFramework context
- Key events
- Connected
- Display

Figure 32: Base Custom Dashboard Component

Composite Application Support

ACT! has composite application support, which enables third-party applications to leverage some ACT! User Interface elements without needing ACT! to be running, for integration purposed. For example, a system may want to launch the ACT! schedule activity dialog for a user to schedule an ACT! activity, or create an ACT! contact in an ACT! database.

Conclusion

ACT! is built on a feature-rich and customizable contact management platform, with focus on scalability, reliability, and extensibility. The ACT! architecture allows you to tailor the product to your business via custom fields, layouts, reports, and a host of other in-product customizations.

Varied product choice and deployment options enable you to securely deliver ACT! to your organization with the optimal blend of features and flexibility. Whether you choose to customize ACT! to deliver a Contact Management System optimized for your line of business, or whether you chose to integrate with products as offered "out-of-the-box" or to develop your own integration strategy, ACT! allows you full control and flexibility.

Important Note: Review ACT! system requirements at www.act.com/2010systreq. You must purchase one license of ACT! per user. Scalability varies based on hardware, size, and usage of your database. **Compatibility:** Due to new functionality available in ACT! 2010, we strongly recommend contacting your add-on product provider to confirm compatibility. Using versions of the add-on product that have not been confirmed compatible by the vendor may result in features behaving differently or not appearing within ACT! 2010. Visit www.actsolutions.com or contact your add-on product provider to help determine compatibility.

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About ACT!
ACT! by Sage is the #1 selling contact and customer manager in the world with 2.8 million users. It's designed so you can organize all the details of your customer relationships in one place for a complete view of the people you do business with. Improve your marketing effectiveness to attract new customers and get more from existing relationships. And, take action on your most qualified sales leads with total visibility and control of your pipeline. Because ACT! is easy to learn and use, you can be more productive right away. Continue working with your existing business solutions, like Microsoft Outlook, Word, Excel, and Lotus Notes, because they integrate with ACT!.

About Sage CRM Solutions
Sage CRM Solutions is a portfolio of market-leading applications consisting of ACT! by Sage, Sage CRM, and Sage SalesLogix. Over 63,500 organizations and 3.1 million users worldwide rely on Sage CRM Solutions to develop profitable, long-term business relationships.

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