



**e.Reporting: The Engine that Drives e.Business
A Technology Guide**

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E.Reporting: The Engine that Drives e.Business

Introduction

Companies are racing to adopt e.Business for its ability to deliver a competitive advantage, improve customer, partner, and employee satisfaction, reduce operational costs, and speed time to market. Unfortunately, the features that set any e.Business site apart from the competition, such as dynamic, personalized content and flexible data choices, can be time consuming to build, difficult to deploy, and costly to maintain. e.Reporting addresses these challenges. Breakthrough e.Reporting technology allows your company to add laser-sharp, personalized content to your e.Business site—quickly and easily. And it eliminates bandwidth, security, and maintenance issues.

This white paper describes the challenges companies currently face in deploying personalized content over the Web, and how Actuate's e.Reporting™ Suite 4 provides the fastest, easiest, and best way to add content from any set of data sources and packaged applications to your Web site.

The Need for an e.Business Presence

"Today we are preoccupied with Internet companies. In five years, that label will be meaningless because all companies will be Internet companies."

Andy Grove
Chairman, Intel Corporation

Today, businesses are stampeding to establish an e.Business presence--a Web-based connection between their business operations and their employees, customers, and partners. A recent study conducted jointly by InformationWeek and Business Week found that 81% of respondents say their companies have Web sites, 76% have Intranets, and 35% are engaged in electronic commerce over the Web. The reasons are simple and compelling. E.Business helps companies to:

- Create a competitive advantage by allowing them to offer personalized value-added services and information
- Improve customer, partner, and employee satisfaction by allowing them to deliver personalized information instantly
- Keep pace with the competition

- Reduce operational costs by streamlining business processes
- Speed time to market for the provision of business critical reports and information to their customers, partners, and employees.

The Challenges of Delivering on the e.Business Promise

What is not simple are the logistics of using the Web to deliver the personalized business information necessary to produce these results. The features that can set your e.Business site apart from the competition—customized business information, formatted in a way that matches your existing Web content—are currently time consuming to build, costly to maintain, and lack scalability.

In particular, while Web development teams have used tools such as programming languages, Web Development tools, or Analysis Tools to develop e.Business solutions, these tools have had difficulty delivering on the following requirements:

- The Right, Value-added Content
- Fast time to market
- Instant content delivery
- The ability to work with existing systems
- The scalability to support any number of users
- Security

The Right, Value-added Content

Offering personalized, value-added business information in real time to your customers can be a powerful differentiator for your company. For example, if you're an online broker, you can gain a competitive advantage by providing customers with detailed information about all of the transactions that they have completed with your firm.

This ability to deliver customized information instantly can also help improve customer, partner, and employee satisfaction—and boost the loyalty of these constituents. By streamlining the business processes involved in distributing value-added information to users, e.Business eliminates the need for users to wait hours or even days while intermediaries locate the right information and get back to them. Instead, users can access the data they need themselves instantly at any time of the day or night.

But in order to provide this information to users in a way that is meaningful, you must be able to take any data, from any data source, and perform any calculation. You also need

to make this information easy to access and use. This means it must match the look and feel of the rest of your site.

Creating such content using a programming language such as C or C++ has always required costly time and labor consuming custom programming. Programming languages also offer no specific capabilities for developing Web content. Web Development tools simplify the process of building Web pages, but they provide access only to a single data source with minimal formatting. Analysis tools do not offer a programming language, so it is impossible to perform calculations on business data, access multiple data sources, or produce reports with complex formatting.

Fast time to market

In a fast-paced competitive environment, you need to execute your plan for providing access to business information quickly in order to gain the competitive advantage of your efforts—and you need to be able to match the innovations of the competition quickly enough that your competitors don't steal your customers. You need to quickly and easily build reports that incorporate data from all the necessary data sources.

Existing methods for producing dynamic business information have rendered report development a very time consuming process. Custom coding solutions such as C and CGI scripts have a steep learning curve and are costly to maintain. Analysis tools lack the infrastructure for managing content and scheduling delivery.

Fast Content Delivery

Another key aspect of ensuring customer satisfaction with your e.Business site, and of remaining competitive, is being able to provide content in the time frame that users expect. If content takes more than a second or two to download, users will head to another site. Most tools available for producing sophisticated looking content have required users to download client software or plug-ins. These tools pose performance, deployment, and maintenance challenges, especially for the large numbers of end users involved in many e.Business applications.

The Ability to Work with Existing Systems

Most organizations already have an information technology and Web infrastructure, which includes a hardware platform, applications, databases, Web servers, and e-mail systems. To leverage these existing investments and speed time to market, you need a solution for delivering dynamic structured content that snaps easily into your existing hardware and software environment. Yet many tools are difficult to integrate with

existing Web sites, making them harder for end users to access, and reducing their effectiveness as an e.Business solution.

The Scalability to Support any Number of Users

A successful Web site that provides the right content to the right users at the right time can see its traffic explode suddenly. e.Business applications require the scalability to produce any number of reports for any number of users as demand for customized views of information proliferates. Most existing solutions do not offer the scalability necessary to address growing demand for customized views of information. These solutions lack the features and performance necessary to support large volumes of content and large user populations.

Security

All organizations have a responsibility to ensure that users can access only information that they are authorized to see. This security must integrate seamlessly with the rest of your Web environment through a single sign on capability. Most tools try to meet security requirements by creating distinct content for each user. This approach rapidly becomes unmanageable as the number of documents and the number of users grow.

e.Reporting

In trying to meet e.Business requirements, IT professionals have reached the limits of their current solution's reporting capabilities--but organizations' keep demanding more.

Actuate meets all of your e.Reporting requirements

The Actuate e.Reporting Suite 4 is the only tool available that satisfactorily addresses all of these issues—making it the fastest, easiest, and best way to add content from any set of data sources and packaged applications to a Web site.

With Actuate e.Reporting Suite 4, you'll find it easy to:

Build dynamic, personalized reports quickly and easily. Actuate provides object-oriented development tools that allow you to quickly build any report, in any format, that includes any calculation, without the need for custom coding, workarounds, or browser plug-ins.

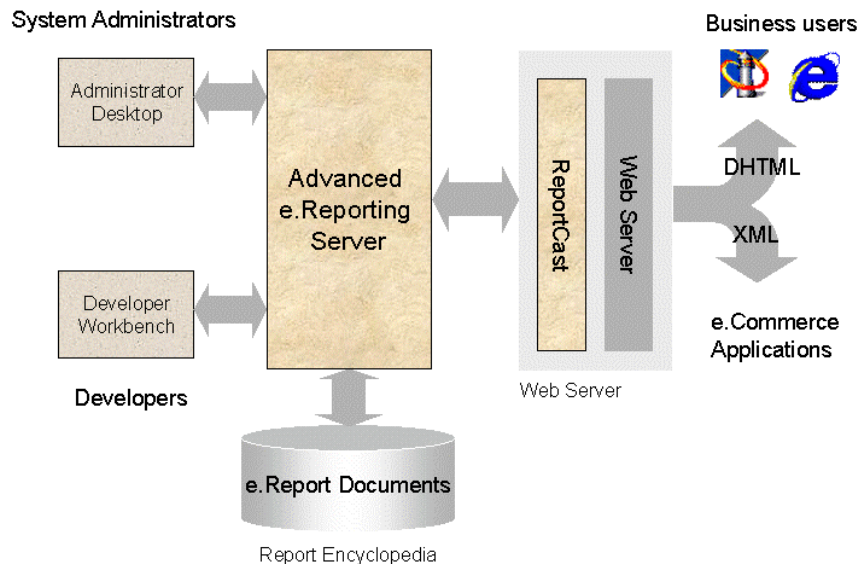
Integrate business information with the rest of your site. Actuate's open environment and open APIs enable snap-in integration to both your IT infrastructure and your existing

user environment. You can now seamlessly integrate the delivery of structured information within your corporate Web site or extranet, and preserve a consistent, easy to use look and feel throughout. You can also leverage your existing reports and transparently integrate them with powerful content management and deployment tools.

Scale to support growing site traffic. Actuate's infrastructure can support millions of hits each day so you can deliver large volumes of data to thousands of users without undue strain on your server and other computing resources.

The Actuate e.Reporting Suite 4 Architecture

Actuate e.Reporting Suite 4 is comprised of three tightly integrated software products: Advanced e.Reporting Server, Developer Workbench, and Administrator Desktop. The Advanced e.Reporting Server generates high-value, interactive content; manages e.Reports in a digital encyclopedia; and distributes personalized e.Reports to tens of thousands of users through their favorite browser. The Developer Workbench is a visual, object-oriented development tool that provides a complete environment for creating and maintaining e.Reports. Customizable templates and support for your favorite Web authoring tools mean you have full control over the look and feel of e.Reporting in your e.Business Web site. The Administrator Desktop offers tools for managing the server infrastructure environment.



e.Reporting Infrastructure

Build

Build Dynamic, Personalized Reports—Quickly and Easily:

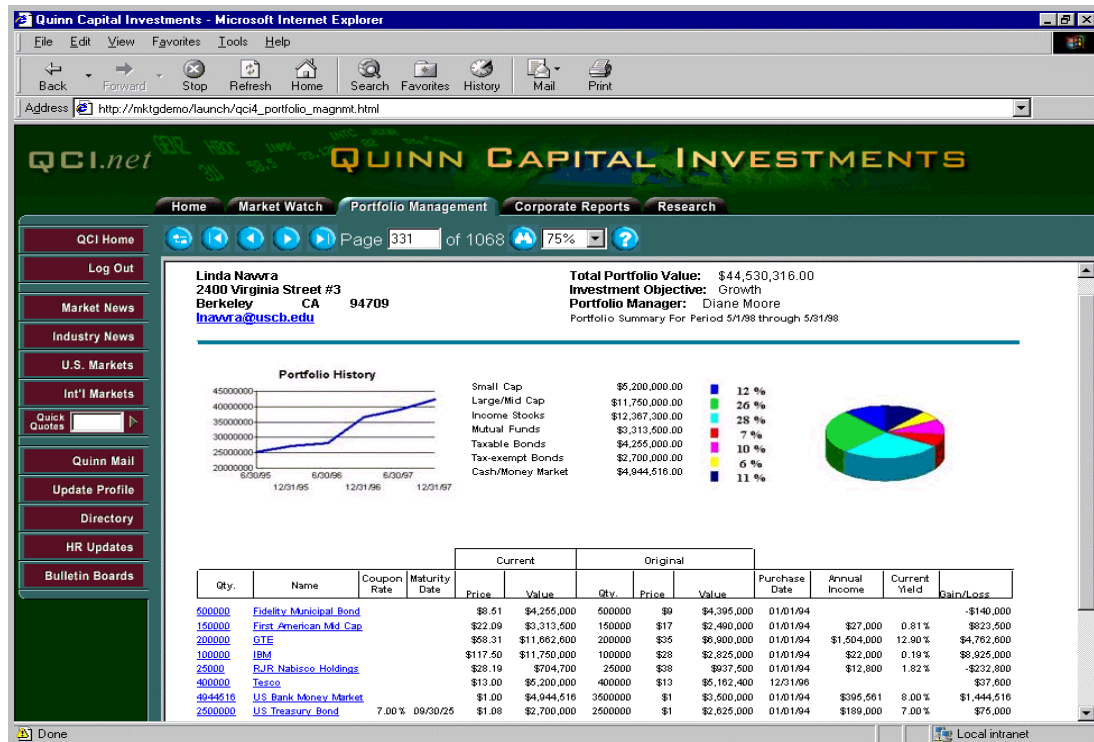
Actuate e.Reporting Suite 4 makes it fast and easy to build dynamic, personalized reports that can be unique to each one of thousands of users, and are also simple to access and simple to navigate

Personalized e.Reports through your favorite browser

Actuate delivers reports as DHTML pages that users can browse like any other Web page via Netscape Navigator or Microsoft Internet Explorer. No plug-ins, special client-side software, Java applets—or training programs—are necessary.

Easy, intelligent navigation

Each Actuate e.Report offers powerful and intelligent navigation tools, beginning with freeform page navigation, a dynamically generated nav bar, and hyperlinks that free users from time-consuming information searches. Unlike standard Web-based searches that treat documents as a stream of unstructured text, Actuate's SmartSearch™ understands document structure so users can search on fields to quickly locate meaningful information.



Laser-sharp, high-resolution

Through its high-performance rendering engine and the use of browser technologies such as absolute positioning, cascading style sheets, and JavaScript, Actuate e.Reporting Suite 4 delivers reports with precision formatting, and outstanding clarity. These reports greatly exceed the image quality found in HTML-only documents.

Ultra-fast access

Actuate e.Reporting Suite 4 gives users instant access to the e.Reports they need. Actuate's Demand Paging capability delivers relevant pages one at a time so users don't have to wait for an entire report, which may run thousands of pages, to download.

Easy visual assembly

Actuate e.Report designs begin with the Actuate Foundation Classes (AFC), standard components that are assembled using simple drag and drop techniques. You can create many designs very easily just by assembling and then setting the properties of AFC components.

Powerful programmable features

For complex reports such as financial statements, invoices, and others that require procedural logic, developers may use Actuate Basic to override methods that control report structure, data retrieval, and formatting. Actuate Basic places every aspect of e.Report generation and viewing under program control.

Storable and Reusable

To facilitate reuse, you can publish customized components in shared libraries and include them in other e.Report designs. Developers improve their productivity by using these libraries to create new reports more rapidly and maintain them more easily using fewer resources.

Any data source, any calculation

Advanced DataStreams allow developers to include data from multiple sources in each e.Report design, including native SQL, ODBC, CORBA, DCOM, OLE servers, flat files, and any other data source with a 32-bit API. Actuate Developer Workbench provides high-performance native interfaces for Oracle, Sybase, Informix, IBM DB2, Progress, and Microsoft SQL Server that support stored procedures, vendor-specific SQL, and other advanced features. If necessary, developers can use Actuate Basic to combine data from multiple sources or access complex data structures from transaction databases. This way, e.Reports can be self contained rather than dependent on auxiliary reporting tables and batch programs. Not only does this reduce development and maintenance effort, it also speeds report generation.

e.Reports in any format

With Actuate's Universal Page Layout, developers can create virtually any kind of report, in any format—including financial comparisons across multiple time periods, bills of materials, and form-based invoices with data-dependent formatting and sophisticated parameters.

Concert Communications Inc.

" With no formal training required, Actuate's e.Reporting Suite 4 delivers Web access to vital business information to thousands of employees, distributors and customers around the world, keeping our customers happy and our business processes running smoothly. We looked at a number of products, and the Actuate e.Reporting Suite 4 provides the adaptability and scalability to meet our extremely demanding report creation and worldwide information distribution requirements."

Ian Coleman,

Senior Product Manager, Concert Communications Services

Integrate

Work with Existing Systems

Actuate makes it easy to use its e.Reporting tools with your existing systems, and to match the look and feel of your e.Reports to that of the rest of your site.

Snap in Integration

Actuate e.Reporting Suite 4 snaps neatly into your existing Web infrastructure. Its supports the most common infrastructure components, including:

- Netscape Navigator and Microsoft Internet Explorer browsers;
- Web servers from Microsoft and Netscape, and the Apache Web server;
- Microsoft Windows NT, Sun Solaris, HP-UX, and IBM AIX operating systems;
- Data sources including Oracle, IBM DB2, Microsoft SQL Server, Sybase, Informix, Progress, and ODBC. Other data sources may be accessed using APIs.
- All major e-mail distribution facilities
- Security integration with LDAP, single sign on authorization environments, or any other security mechanism
- A wide range of output formats including XML, PDL and any other third party environment for which you have a viewer

You can even use Actuate to add value to your current reporting investment; its Open Server brings sophisticated distribution and management capabilities to existing third-party reports.

Banc of America Securities

"We are at the forefront of the e.Business revolution and seek to enlist the support of Internet companies that share our vision for a comprehensive, Web-enabled business operation. As the definitive leader of the e.Reporting market space, Actuate has been selected and deployed by Banc of America Securities to deliver, at Internet speed, individualized accounting content to our clients. Thanks to Actuate, these e.Reports can today be delivered in a secure, timely and accurate fashion within an environment that is familiar and accessible."

Fred Winograd,
Managing Director and Chief Technology Officer,
Banc of America Securities

Ease of integration with your existing Web site look and feel

One of the greatest strengths of Actuate e.Reporting Suite 4 is the ease with which you can integrate your reports into your e.Business Web site. For example, Actuate's standard Web interface takes advantage of ReportCast® templates and scripting capabilities to present a simple view of your e.Reporting Web site. You can easily modify these templates for a custom look. Or, using ReportCast URL directives and third-party authoring tools, Web developers can seamlessly embed e.Reports in a completely custom Web site. And you can use the Report Server API to extend e.Reporting Server features to meet the needs of any application.

Business-to-business integration

Actuate's XML Report™ feature lets you transform e.Reports into XML reports. XML is the emerging language of choice for electronic commerce. Actuate's XML data format can represent any kind of XML document, allowing you to produce machine-readable structured content for your e-commerce applications.

Scale

Unprecedented scalability

Actuate e.Reporting Suite 4 orchestrates e.Reporting deployment, even as user communities grow. With its sophisticated report distribution and management infrastructure, scalability, and security. Actuate e.Reporting Suite 4 provides the foundation you need to efficiently deploy dynamic, structured e.Reports to everyone you want to reach.

On-demand performance

Actuate's high-performance deployment environment generates e.Reports any way you want—on demand, triggered by an event, or scheduled and cached for later viewing. When a user initiates a request to view an e.Report, Actuate's demand-paging View Server dynamically generates the requested content, feeding just the page being viewed to the browser. Because all report viewing operations take place in the View Server, Actuate radically improves performance.

Centralized management

Actuate e.Reporting Suite 4 manages your e.Reporting system. Its Report Encyclopedia® provides a shared, secure repository for all reporting information, acting as a virtually unlimited cache to make e.Reports available to users. Auto-versioning simplifies access

and administration by organizing report output and design versions. And automatic archiving streamlines administration while sustaining high performance.

Scaling to thousands

Another important benefit of the Actuate e.Reporting Suite 4 is its linear scalability. Actuate lets you easily and efficiently scale from a single Windows NT computer to large symmetric processing configurations running UNIX and serving tens of thousands of users. To provide linear scalability, Actuate takes advantage of a multi-threaded, multi-processing architecture, a memory-based message bus, and parallel pipeline technology that generates multiple e.Reports simultaneously for fast response.

A security system for all your e.Reports

Actuate e.Reporting Suite 4 lets you generate one report that serves thousands of users instead of generating thousands of reports, one for each user. Actuate's page-level security capability provides access to report pages based on user security IDs—which not only protects valuable corporate information, but also reduces system load and administration. Designed to leverage your existing security mechanisms, Actuate provides a Report Server Security Extension that allows an external security service to furnish security IDs.

Hot Jobs

“HotJobs is moving toward a comprehensive e.Business site capable of instantly delivering high-value business content to employees, customers and partners in an environment that is Web-friendly, customized to the individual user and seamlessly integrated into our existing infrastructure. HotJobs selected Actuate as an Internet partner to work in conjunction with our Softshoe Human Resources Software that handles all pre-hire needs from the moment an applicant's resume enters the database, all the way through the hire. Release of Actuate 4 will further broaden our e.Reporting capabilities, as the product is designed to provide customers, sales people, managers, directors and executive officers alike with timely and useful information to streamline e.Business and take it to the next level.”

Allen Murabayashi
Director, HotJobs.com

Conclusion

e.Reporting technology is the engine you need to drive the construction of e.Business sites that deliver dynamic, personalized, structured content from any data source. Until recently, however, available tools offered limited ability to address the specialized requirements of e.Reporting applications. Now, with Actuate e.Reporting Suite 4 you benefit from the ability to:

- Streamline the process of building reports that allow you to gain a competitive advantage, improve customer satisfaction, and keep pace with the competition, by providing instant access to value-added business information
- Integrate your e.Reports into your existing IT infrastructure and user environment to leverage your existing investments and speed time-to-market for the delivery of critical business information.
- Scale to meet the exploding user demand that accompanies any successful e.Business endeavor.

With these capabilities, Actuate e.Reporting Suite 4 allows you to truly deliver on the promise of e.Business.



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