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Constructw@re.Com

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Constructw@re.Com

The Need

Unlike document management, bid solicitation, or messaging systems alone, Constructw@re reduces the inherent risks associated with complex projects by merging the most project- essential elements into a single solution that helps organizations manage the entire life cycle of construction projects, from pre-bid to completion.

The centralized database in constructw@re serves as a single source for project and business information, which improves communication and collaboration among all project participants. Because the project database is continuously updated, owners, architects, engineers, and subcontractors alike can gain immediate access to the most current information to track project progress and support real-time decision making and analysis. With improved communication and accountability among project teams, jobs are completed on time and on budget, driving profitability.

The Technology

Constructw@re is a web-based application created using Microsoft's Active Server Pages (ASP) technology. It runs on a Windows NT 4.0 Server under Internet Information Server (IIS) 4.0 or above. Constructw@re actually executes on the web server. The main logic of the application is written in VBScript. The VBScript contains embedded SQL statements that query the database and generate web pages "on the fly" based on user requests, database contents, and user permission level. The pages that are generated and returned to client browsers contain only HTML and JavaScript,. No client-side Java applets (Brava viewer is a Java Applet that is stamped on our server and downloaded once by clients). Active X or Netscape Navigator plug-ins are used. Several server-side ActiveX (COM) components run on the Web server and are required by Constructw@re. These include an Email component, a file upload component, a custom component written in Visual Basic to interface to MS Word documents, and a custom component written in C++ that is part of the Constructw@re user accounts system. Constructw@re communicates with the database using ODBC. The ODBC connection can be to a database that resides on the web server or on a different server on the same LAN. The site has been written to support Microsoft SQL Server version 7.0. The SQL Server

Internet Based - Web-based Project Management

database engine is a true Client/Server database that is robust and scaleable, capable of handling thousands of simultaneous users.

Constructw@re can host client's site, probably the best solution for smaller companies that do not have the IT (Information Technology) infrastructure in place to maintain an Internet-based client/server database application like Constructw@re. And Constructw@re will arrange for dedicated hardware for client's servers, where the servers can be configured as client wish, it keeps client's data completely separate, server loading is determined only by client's use. Built using industry standard hardware and software, Constructw@re can be installed at the customer's site, on their equipment, because many larger companies prefer the security, control, dedicated hardware, and customizability of Constructw@re installed in their computer room at their office.
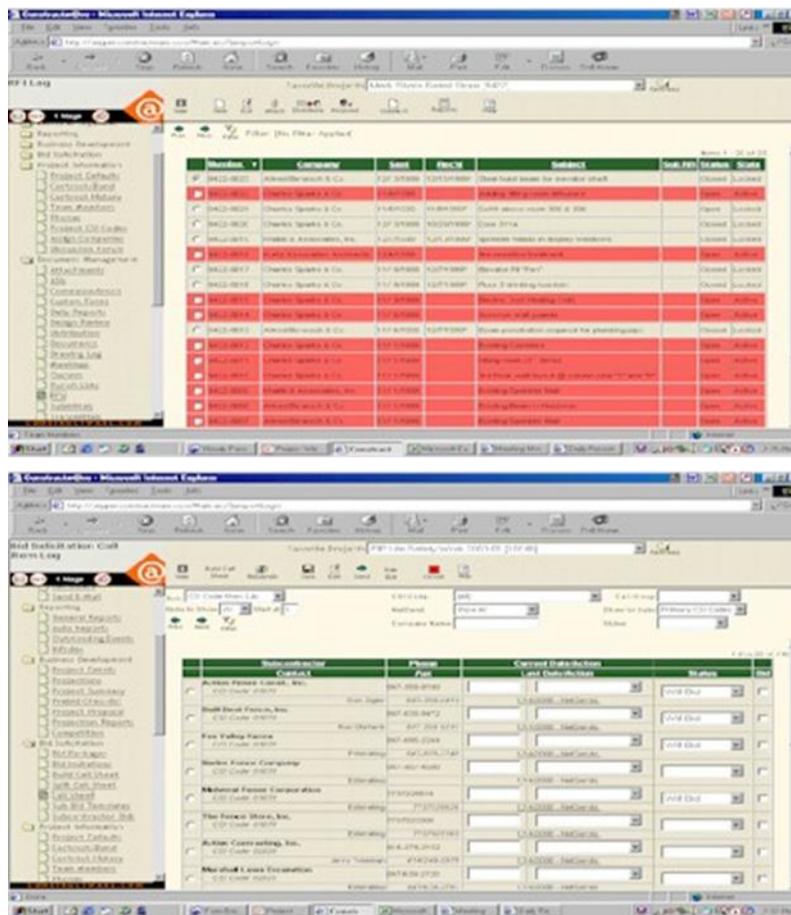

FIGURE 1 SYSTEM REQUIREMENTS

THE BENEFITS

- Business development : Tracks contracts, contract history, project progress, pre-bid status on jobs and uses current data for job projection reports.
- Bid solicitation : Automates and simplifies bid solicitation. Constructw@re leverages client's existing database to streamline the bid submission request process via fax or e-mail.
- Executive Dashboard : Facilitates a drill-down view of time sensitive data through various levels of detail on all of the enterprise's projects, and allows reporting on multiple project databases, documents and financials.
- Internal messaging : Automates and facilitates messaging among all project participants. With Constructw@re, messaging is centralized, dated and time stamped for improved accountability.
- Online change orders : Simplifies submission of change orders by accepting detailed change order requests online, saving valuable time and resources.
- Built-in owner's modules : Provides a customized recap of the entire project, including progress photos, to support analysis and decision making.
- Centralized database : Allows access to enterprise data anywhere, anytime through a single database, accessible over the Internet.
- Advanced technology : Automates and enhances data exchange and facilitates integration of multiple projects between multiple entities. Constructw@re uses XML (eXtensible Markup Language) to provide better control and more flexible document management.
- Document management : Simplifies the complex processes involved in managing multiple construction projects by automating routine functions, including RFIs, transmittals, submittals, meeting minutes, change orders and reporting.
- Automated punch lists : Allows owners, architects, engineers, and contractors to enter punch list items online, from home, the office or the field, while subcontractors can view and print punch list items and respond as items are completed.
- Reduced legal expenses : Because Constructw@re keeps all parties accountable, you are much less likely to incur legal expenses from project disputes. If a dispute occurs, discovery costs are greatly reduced because Constructw@re documents reside in a single location and are easily accessible through our advanced search capabilities.

Status

Constructw@re, a unit of Emerging Solutions, Inc., is the first Application Service Provider to offer a scalable, enterprisewide project management solution for the construction industry. With this single, easy-to-use Internet solution, construction companies can minimize the substantial risks and costs associated with managing one-to-many projects across an enterprise.

Formed in 1999 as the Atlanta-based Internet unit of Emerging Solutions, Inc., Constructware reinforced its commitment to an Internet-based platform that would facilitate anywhere, anytime access to project and business information. Constructware has in-depth knowledge of the construction industry and leading, high tech developers to tap the power of the Internet, helping customers increase profits and reduce risk. Constructware has more than 200 customers and 6,000 users nationwide, currently managing projects totaling 6 billion dollars.

BARRIERS

Though most recent browsers work with Constructw@re, client browsers must support HTML 3.2, Tables, Cookies, JavaScript 1.1, and Frames. It has been tested with I.E. 4.0 and above, and also Netscape Navigator V4.0 and above.

Webserver requirements:

Software	▪ Microsoft Windows NT 4.0 ▪ IIS 4.0 ▪ Active Server Pages ▪ Several COM objects (Email, etc, mentioned above) ▪ A separate SMTP based Email system is needed to support site-generated Email
Hardware	▪ Depends on number of users. A fast, single processor Pentium based computer with 128 MB of RAM will handle several hundred users. ▪ A dedicated, high-speed connection to the Internet. A T1 or faster connection is required for more than just a dozen or so simultaneous users.

Database Server Requirements:

Software	▪ Microsoft Windows NT 4.0 ▪ ODBC 3.0 desktop driver running on web server ▪ SQL Server 7.0
Hardware	▪ Also depends on number of users. A fast, single processor Pentium based computer with 128 MB of RAM will handle several hundred users. A quad-Pentium computer will easily handle several thousand users

Client Requirements:

Software	▪ A 32-bit operating system such as Windows 95 or Windows NT ▪ An Internet Browser that supports HTML 3.2, Tables, Cookies, JavaScript 1.1, and Frames. I.E. V4.0 or Netscape V4.0 or later is recommended.
Hardware	▪ Pentium based (or equivalent) workstation or laptop ▪ 16 megs of RAM minimum (32 recommended) ▪ A connection to the Internet (28.8 kbps or faster, 56 kbps recommended.)

POINTS OF CONTACT

Polycom Inc.

Tel: (408) 526-9000 or 1.800.POLYCOM (in North America), Fax: (408) 526-9100

REFERENCES

1. Polycom http://www.polycom.com/products/viavideo.html

REVIEWERS

Peer reviewed as an emerging construction technology

DISCLAIMER

Purdue University does not endorse this technology or represents that the information presented can be relied upon without further investigation.

PUBLISHER

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