



# THE COMPUTERWORLD HONORS PROGRAM

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## CASE STUDY

**LOCATION:**

*London, United Kingdom*

**YEAR:**

*2006*

**STATUS:**

*Laureate*

**CATEGORY:**

*Business and Related Services*

**NOMINATING COMPANY:**

*Progress Software*

**ORGANIZATION:**

**Bonhams**

**PROJECT NAME:**

**Bonhams' Auction Management System**

**Summary**

An auction management system, running in three continents, has been developed in-house, using best of breed and open source tools to build a framework that allows near real-time development at an order of deployment and running cost vastly lower than anything else of such a scale. It is a system that has been instrumental in unifying different historical and geographical procedures and practices from 200 years of trading.

**Introductory Overview**

Bonhams, fine art and collectors' auctioneers, have a global reach with offices across Europe, North America and Australasia. Founded in 1793, Bonhams has grown significantly since 2000 through acquisition, merger and development. In 2000 there were 5 different business management systems in place. Developed internally and first launched on 1st of January, 2003, Bonhams' auction management system, A3, has revolutionized the way that Bonhams works and interacts with its customers and has been instrumental in turning a group of businesses with significant combined annual loss into single profitable and flourishing enterprise.

The concept behind A3 was to deliver a solution that could be run anywhere, at any time and from any desktop platform. It had to fulfill the roles of both traditional ERP and CRM applications at a fraction of the implementation and running price. It had to be fast, not just to run but also to develop and to alter.

Knowing that rapid application development techniques would not be fast enough to meet these demands, the A3 development team drew on past experiences in both the auction world ("A3" is short for "Auctioneer 3", reflecting the two previous auction management applications developed for one of the company's component businesses), ERP development and dynamic web system development in building a ballistic application development (or "BAD") framework; changes are made, tested and released in near-real-time.

Bonhams selected the Progress OpenEdge platform for the core of its development and Cedar-OpenAccounts to provide the corporate finance back-end. With two core databases (an internal and a public system behind Bonhams' website), replicated to a disaster recovery server farm,



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driven through “Webspeed” cgi and application servers, users, both employees and customers, access and process information through a web browser. The screens that they see are 99% dynamic - they are assembled directly off the database and governed by user roles and permissions. Business rules are embedded into both javascript routines (for end user data verification) and application server routines.

Bonhams has also adopted much that the open source world has to offer. It has deployed A3 on a Linux server farm spread over three locations in two continents with Apache as its core delivery service. Other open source applications built into the service include FOP, for pdf generation; Lucene, for text retrieval; and a myriad of other small development and management utilities and applications.

Auctioneering is very visual business. Bonhams' originates some 60,000 pages of catalogues every year. To fuel these, and to illustrate the Bonhams' website, A3 plays host to nearly 3TB of images stored and delivered by Yawah's eRez server. Driven through A3, eRez dynamically scales and colour manages images, providing zoomability, rotation and 3D imagery.

Now in its fourth year of running, A3 continues to grow and develop; the pace of change has not relented as the business and legal requirement grow and evolve. A3 now has some 800 users from within Bonhams and 51,000 members of the public tracking lots, placing bids and using other services from all round the world.

The total budget for A3 is of quite a different order to the budgets for Bonhams' two main competitors in the global fine art auction market. Developed and installed for less than half a million pounds, its annual running, support and further development costs are under £250,000 a year - a fraction of the combined running costs of the systems in place before. Its ease of use, flexibility and speed allow Bonhams to process lots selling for a little as \$20 and still make margin, whilst Bonhams' competitors have placed a minimum value cap at several thousand dollars. There is no upper limit to the value of items able to be offered through A3 by Bonhams.

### Benefits

A3 enables Bonhams' employees to actively manage items offered at auction as well as seller and buyer details quickly and effectively from any computer with internet access. With a single application they can deal with customer information; manage marketing campaigns; organise content for both web and printed catalogues, using WYSIWYG editors with on-screen proofing; produce invoices, payment receipts and collection notes; chase debts and manage credit account holders; and manage the finances of any auction.

Bonhams' customers are able to view details of sales and items offered on-line before printed catalogues are produced. They are able to track lots, place and amend bids, receive results of their bids or items sold and engage in other services.

A3's developers are able to develop in near-real-time, adding functionality and interfaces as quickly as they can be specified. Frequently an end user will be asked to define their requests by visiting the development team: when they leave the requested change is live.

A3 reduces reliance on third party applications and on third party service providers. It enables Bonhams to be completely in charge of its own services.

Bonhams has managed to substantially cut its operating costs, turning the business into a profit-



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able and thriving enterprise able to fuel its own growth.

The principal group outside Bonhams to benefit from A3 are Bonhams customers - both buyers and sellers: 1.2 million customers world wide. Not only is a significant amount of information available to them on-line but Bonhams ability to process data quickly and efficiently, enables them to buy and sell items at auction quicker and with lower costs. There is a significant number of trade customers included in this group: Bonhams auctions are a major source for art and antique dealers across the world and if this source were removed or made more expensive then much of this trade would suffer. In 2001 the British art and antiques market employed 37,000 people with a turn-over of £4.2 billion.

### The Importance of Technology

Rather than adopt the large scale ERP and CRM products, with endless and very expensive tailoring, that Bonhams' main competitors have chosen, Bonhams' has selected best of breed software, both propriety and open-source, to develop a solution specifically built for the fine art auction business.

The selection of Progress OpenEdge as a key building block brought a highly integrated database management and development system complete with cgi and application server tools. Selecting such a tool has enabled the development team to lay down a solid framework on which to build and to achieve more in less time with higher reliability than any other such toolset. By choosing CedarOpenAccounts, itself developed using Progress OpenEdge, communications between front line customer and auction accounting and corporate finance has been seamless and efficient with minimal development. Including Yawah's eRez into A3 has produced an image management system that enables true "shoot once - deploy many times" with the same single image being used in print, on-line and on the small screen. Finally, choosing to select the best of open source has given us highly capable software that we are fully in control of (and have modified) with a realistic cost enabling us to produce such a reliable, high performance system within the finances viable for such a business.

### Originality

A3's architecture - spread over different Linux servers in three locations and two continents. It being entirely web based both internally and externally allowing any time, any place and platform use. Its framework enabling the use of Ballistic Application Development techniques to develop in near real-time. A technological application being used to bring together 900 employees in three continents from 5 different former companies under one system with a single set of procedures: in a business that is itself far from technology biased. Developing a system better than any other in the same business sector for a fraction of the cost of our competitors' systems using an in-house development team.

Bonhams embraced the "big, hairy ambitious goal" of developing its own auction management system, from the ground up, that is available to all employees across the world at any time. Eschewing ERP or CRM applications (with high deployment and running costs), a collection of many disparate applications cobbled together by a systems integrator, and external application development companies in favor of an internal development team, Bonhams have a solution that is changeable in near run time, highly flexible, easy to learn and exceedingly cheap to run. No



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other organisation in Bonhams' market sector has chosen such a route. No other organisation has such an advantage.

### Success

"A3 is Bonhams' engine, its process control and a principal component in its return to profit. Without the development of A3 we would not have been able to get where we are today" Robert Brooks, Chairman of Bonhams

"We have had such good feedback from our customers that A3 is a great customer service tool", "A3 is so easy to learn and use that we are able to recruit staff and get them working with minimal training" - Shahin Virani, Managing Director, Bonhams New Bond Street

"All A3 reports, internal and external, look far better - cleaner and more professional to the customer than anything else that we have ever had. Having the images and text show up exactly as they will look while cataloguing is fantastic and helps in the layout process. For clients, condition reports, post sale reports, and settlements are easier to read and understand, making for a hugely improved impression and greatly reducing the amount of calls that we get." - Jennifer Kurtz, Business Manager, Los Angeles Furniture & Decorative Arts department

Bonhams went live with A3 on the 1st of January, 2003. By the end of that first month, 36 auctions had been held with 12,000 lots offered and 4,300 potential buyers registering to bid. By the end of the first quarter, 160 auctions had been held with 54,000 lots offered and 19,500 potential buyers registering to bid. The very nature of Bonhams' business meant that its audience had to adopt A3 as soon as it went live. However it wasn't embraced without difficulty: so many different components had developed different practices and procedures and the company used A3 to drive through conformance to a set standard.

### Difficulty

Once the architecture had been established, the development of A3 did not present too major an obstacle and proceeded smoothly (with only very minor delays as Bonhams grew, from 200 employees to 650, from being European to global, during the same period). The first major challenge was to import legacy data from the initial 3 very different auction applications that A3 replaced on going live. This required connections to 3 very different database technologies with very different structures to produce a single archive. In importing this data many customer details were duplicated; the same customers had dealt with the different companies now incorporated into Bonhams. This has required a continuous approach to removing duplications and to the development of duplicate identifying tools to make the exercise quick, easy and accurate. As Bonhams is made up from so many formerly independent companies with such a geographical spread, training has been a real issue. Not only was it very difficult to get the limited number of trainers (only 3 in total) to so many different places (at one point, 57 different locations) in so short a time, but the trainers also had to overcome resistance to different practices and procedures that were then in place. To facilitate this initial and on-going issue, a large amount of computer-based training, complete with animated examples and a training database to practice on, has been developed. Having developed A3 to cope with European legislation, rolling it out in the US presented a different range of issues. The systems formerly used in the US had required continuous manual correction because of poor automation of the sale tax rules. For the



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first time, Bonhams and Butterfields (Bonhams' brand in the US) has, in A3, a system that correctly implements these rules.

Funding for the development of A3 was assigned from the moment that Bonhams' growth began in 2000. Bonhams' shareholders were also 100% behind the project. However, the biggest resistance came from the geographically wide spread offices and salerooms within Bonhams, who all had their own procedures and practices. A3 meant the end of ad hoc, unregulated local databases; the introduction of a common approach to customers; and the establishment of a single set of business performance metrics. Against much resistance to such important change, particularly in the UK where change in such an old established company is frowned upon, A3 has driven perhaps 50 disparate entities into one high performing company.