IBM TRANSACTION SERVER

"Power for Enterprise Client/Server Applications"

Dr Geoff Sharman, IBM Transaction Systems
Hursley Park, Winchester, UK

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An IBM Software Server White Paper

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Abstract

IBM Transaction Server, Version 4 is a member of IBM's new family of modular Software Servers, which are available on multiple platforms. Together, these servers provide unrivaled function, openness and scalability, laying the basis for IBM's vision of networked computing.

Transaction Server is an advanced transaction processing solution for AIX*, OS/2* Warp Server, and in the future Windows NT**. It acts as a robust, enterprise-wide co-ordinator and integrator of servers, managing high performance applications and data sources across the network. It enables companies to gain and maintain competitive advantage by building systems that:

* support large numbers of users with good performance in an update intensive environment
* enable applications to operate on multiple sources of data with good security and transactional integrity
* support distributed applications via transactional server-to-server communication and host connectivity
* remain scaleable, manageable and extensible over the long term

Transaction Server provides an essential foundation for networked computing by enabling customers and business partners to build applications which are independent of hardware, software, networks and programming tools, yet optimise price/performance and the re-use of existing hardware and software assets.

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IBM Software Servers

The IBM Software Servers are a family of modular application servers, which enable businesses to rapidly implement client/server applications, and to extend application capabilities to meet future business needs.

Seven IBM Software Servers are available initially:

* *IBM Communications Server*
* *IBM Database Server*
* *IBM Directory and Security Server*
* *IBM Internet Connection Server*
* *IBM Systems Management Server*
* *IBM Transaction Server*
* *Lotus Notes* Release 4*

These IBM Software Servers are designed to provide:

* the greatest depth and breadth of application services
  - unequaled depth of function in each application server
  - the widest breadth of application servers in the industry

* open solutions
  - on multiple operating systems, including OS/2 Warp, AIX and Windows NT
  - using industry-standard interfaces

* support for existing Investments
  - working with customers' existing IBM and non-IBM systems
  - tested together to ensure compatibility

* growth paths for future needs
  - easy to add new servers when needed
  - extending each server with new technologies such as networked and collaborative computing

* simplicity
  - easy to buy
  - easy to install
  - easy to operate

For more information on the IBM Software Servers, please refer to the *"IBM Software Servers - Overview White Paper"*, or visit our web site at **http://www.software.ibm.com/is/sw-servers**.

Transaction Server: Power for Enterprise Client/Server

What is Transaction Server ?

IBM Transaction Server Version 4 is a member of IBM's modular family of Software Servers which runs on AIX, OS/2, and in the future Windows NT. It incorporates the latest versions of CICS* and Encina*, IBM's flagship transaction processing products for these platforms, plus important related products, including CICS Systems Manager for AIX, Encina PPC Gateway, CICS Performance Analyzer for OS/2, CICS Clients, CICS Link for Lotus Notes, and CICS Internet Gateway. It is designed to work with other IBM Software Servers, and with leading alternatives from other vendors such as Oracle**, Novell**, and Microsoft**, laying the foundations for IBM's vision of networked computing.

Transaction Server integrates these software elements to provide an extremely effective and easily managed infrastructure for enterprise-wide business-critical client/server applications. It enables transparent exploitation of Lotus Notes, Internet Server, Communications Server, Database Server, Directory and Security Server, Systems Management Server, and other software including MQSeries*, to create a unified environment which ensures the integrity of business processes and enables customers to meet their demanding operational objectives. As a manager of managers, it provides a basis for successful deployment of networked applications.

Transaction Server is based on products which are already used by thousands of enterprises including universities, government departments, banks, insurance companies, stockbrokers, retailers, distribution companies, utilities, railways, and high technology manufacturers. For IBM customers, it brings the power to create enterprise client/server applications which generate real competitive advantage. For independent software vendors and value added resellers, it brings new opportunities to create applications and services which address the needs of the corporate marketplace.

How Can I Serve My Customer Better?

Managers in all industries today are faced with a key challenge: how can I respond to my customers faster and more effectively? Or, to use other words: how can I re-engineer my business to add more value and win new customers? This means making the business more "customer friendly", which in turn means building information systems which are focused on empowering sales staff, customer facing service staff, and perhaps even the customer himself or herself. It's no longer sufficient simply to automate internal business systems; Information Technology must be exploited to achieve a massive improvement in the customer interface.

Add another dimension to this problem: customers are increasingly diverse and the channels to reach them are even more diverse. Retail centers, branch offices, independent resellers, and a mobile salesforce provide established ways of reaching the customer. But successful businesses are increasingly turning to mail order, telephone call centers, automated sales kiosks and on-line vending machines, interactive TV, and electronic commerce over the Internet: new channels which offer a huge potential audience and a direct relationship with the customer. It's estimated that, by AD 2000, business worth 600 billion dollars will be transacted over the Internet alone. In the consumer marketplace this direct approach offers new possibilities for servicing the customer faster at lower cost, for introducing new products more quickly, and for understanding the customer better, allowing micro-marketing to niche segments which would previously have gone unnoticed.

Add a further dimension: business is becoming global, yet the cost of establishing a world-wide salesforce is prohibitive. Does electronic commerce offer a way to reach customers in other countries and other continents without this expense? And how can the barriers of language and culture be surmounted to create a global market for a product which some customers may never have seen before?

Dealing with change on this scale creates enormous opportunities and challenges. Much has been written about the ways in which organizations and individuals must adapt, yet none of this change would be possible without Information Technology. It's not surprising that personal computing, client/server computing, and collaborative workgroup computing have become the hottest trends in IT, which is now *the* technology powering our changing economy. Mastery of IT is essential for the success or survival of a business. Although the motivation for change may come from business leaders, Information Technology professionals must inevitably be the pioneers in making change happen. To quote James Martin:

> *"The most important aspect of the job of an IT organization today is to play a leadership role in Enterprise Engineering."*

Although client/server computing is the technology most often associated with business process re-engineering, independent surveys have shown that the move to client/server is still in its early stages. Many corporate IT functions are still evaluating a confusing set of alternatives, in their attempt to define the way forward. In one survey, approximately 40% of respondents indicated that pilot client/server projects were underway, but only 5% had a client/server system in production.

One possible reason for this situation is the increasing evidence that the first-generation client/server techniques, so successfully used to implement decision support systems at the departmental level, are simply inadequate for the demands of enterprise-wide business-critical applications. In their place, a new generation of client/server technology is providing solutions which enable corporations to embrace the networked computing style of the future. We call this technology Enterprise Client/Server. In this white paper, we'll show why Transaction Server is the leader in this technology and how it can underpin successful business change.

But, in life, success is not assured and the same is true in business process re-engineering. Hammer and Champy, authors of *Re-engineering the Corporation*, estimate that between 50 and 70% of all re-engineering projects do not achieve their goals. Research by Standish Group indicates that 31% of all application development projects are canceled before completion, and a further 53% are completed with reduced specifications, over time and over budget. Only 16% are completed on-time and on-budget. Of all the factors required for project success, user involvement and senior management commitment are the most critical. After these, selecting the right technology and the right supplier make the greatest contribution.

IT professionals are being asked to deliver revolutionary change. To be effective, they must identify the tools which have the power to underpin successful business change and know how to apply them. They must identify and evaluate the risks that may derail the change process. And they must learn to minimize these risks by adopting evolutionary strategies which build on past successes. In the following section, we examine six cases studies where organizations have done just that.

Enterprise Client/Server in Action

Managing the Olympic Games

The Olympic Games is a sporting competition without parallel. In 1996, 3.5 billion viewers - two-thirds of the world's population - will watch an event staged by 160,000 athletes, commentators, journalists, officials, and volunteers: the largest peacetime event ever held in the USA. Activities will take place in 40 sporting venues across the eastern US, 41 non-sporting locations, and countless other centers around the world. Results will be delivered to judges and the media in less than a second. And it's a huge business, with estimated revenues of 1.6 billion dollars. Managing this business requires an IT infrastructure of extraordinary power and reliability.

ACOG, the Atlanta Committee for the Olympic Games, selected IBM as the supplier for the Games Management System (GMS) which will run the 1996 Games, as have previous organizing committees before them. GMS is one of the most ambitious client/server systems ever implemented. Its hardware configuration comprises 7,000 PS/2* computers, 1,000 printers, 250 Token Ring LANs, 80 AS/400s*, and 4 ES/9000* mainframes, while the software, based on CICS for OS/2, CICS for AS/400, CICS for MVS/ESA*, MQSeries, and DB2*, provides a sophisticated range of services including accreditation, accommodation, results, athlete biographies, and news feeds to the world's media. And the 160,000 users have the highest expectations: to use the system without training, to experience no delays, and never to stage a re-run! It's an amazing achievement.