

Strategy Profile

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Making Windows NT Enterprise-Ready: IBM's NT Strategy Revisited

Preface

In the spirit of helping Information Systems (IS) executives plan their enterprise computing strategies, three months ago Aberdeen published an *Executive Viewpoint — Microsoft: The Joker of Enterprise Computing*. In this Viewpoint, we expressed our concern that Microsoft's marketing engine has been outpacing its development organization — creating an image that Windows NT is "enterprise-ready". But, from our perspective, NT still leaves a lot to be desired in terms of systems availability, reliability, security, scalability, manageability, upgradability, flexibility, recoverability, interoperability, and affordability.

And it is in this same spirit that Aberdeen now publishes this *IBM Strategy Profile* — seeking to advise IS managers about certain extensions that IBM now offers that will help IS managers address NT shortcomings and better enable NT servers to be deployed in mission-critical production environments.

Executive Summary

Last year, Aberdeen closely examined IBM's bifold Windows NT strategy (see Figure 1) — a strategy that enables IBM customers to purchase and deploy:

1. "Pure" Microsoft NT environments (Windows NT, BackOffice, etc.); and/or
2. Microsoft NT environments with certain IBM product extensions that help to make NT platforms more viable as departmental/enterprise servers.

And we concluded that many of the products IBM sells — Lotus Domino, ADSM, DB2 Universal Database, Tivoli, MQSeries, Transaction Server, et al — serve to address significant Microsoft NT, Office, and BackOffice shortcomings — and thereby make NT more viable in an enterprise context. As a result of these findings, Aberdeen advised IS managers who were serious about deploying NT midrange/high-end servers to carefully weigh the differences between Microsoft and IBM NT offerings before moving into full-scale NT systems deployment.

Figure 1 — IBM's Bifold NT Strategy

<i>Applications</i>	Microsoft NT — Complete Suite of NT-based Personal Productivity & Client/Server Applications	IBM Enterprise Appls. — Lotus (Notes/Domino) — DB2 Universal Database — Tivoli (Sys Mgt) — ADSM Storage Mgt. — Communications Server — Transaction Server	↑ NT Professional Services and Support ↓
<i>Application Program Development Tools</i>	Microsoft Tools — Active X — Visual Basic, C++	IBM's VisualAge — Java — SmallTalk — C++, Basic, Cobol	
<i>Middleware</i>	Microsoft Middle-ware Components	IBM's MessageQ	
<i>Operating Environments</i>	Microsoft's NT Workstation and NT Server		
<i>Hardware</i>	Intel-based Desktops and Servers		

Source: AberdeenGroup — April 1997

This year, as Aberdeen revisits IBM's NT-in-the-enterprise efforts, we have found that since our last research note, IBM has greatly enriched its NT software, systems, and services portfolio — expanding its offerings to now include:

- More than 100 IBM software products (such as Lotus Domino, Tivoli, ADSM, etc.)— adding even more “extensions” that augment NT environments;
- A new, availability-oriented midrange NT server platform — the IBM Netfinity 7000; and,
- NT Service/Support/Financing options through its SystemXtra program — an expansive set of NT integration and deployment services coupled with financial options designed to make an IBM NT desktop/server purchase easier and systems deployment more straightforward.

But perhaps the most significant finding this year is that IBM is aggressively recruiting Independent Software Vendors (ISVs) to build and qualify applications that make use of IBM's NT enterprise extensions. ISVs like Sapiens, Seer Technologies, Cognos, and dozens of others are integrating their products with IBM technologies such as Lotus, Tivoli, and MQSeries — serving to broaden IBM's NT-in-the-enterprise solutions offerings. And if IBM is successful in its recruitment/-qualification efforts, Aberdeen perceives that the computing industry will greatly benefit because IS managers will have access to numerous, enterprise-proven software solutions that can run on an enhanced, enterprise-grade NT platform.

Given IBM's current position (with proven NT enterprise solutions that are available today) versus waiting for Microsoft's NT revision 5.0 — Aberdeen again this year recommends that IS managers closely consider IBM's value-added NT extensions before fully committing to a pure Microsoft approach to run their enterprise.

IBM's NT Marketing Strategy

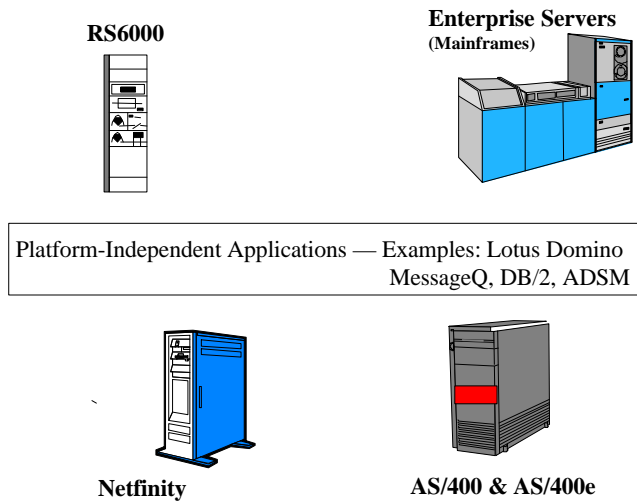
Start with the premise that, believe it or not, IBM wants to sell NT — whether its is in the form of a pure, Microsoft-only platform, or a platform environment that incorporates IBM value-added software on-top-of a standard NT operating environment. But temper this premise with the realization that the NT operating environment has certain “limitations” (high availability, reliability, security, and processing scalability to name a few) that IBM (and many IS managers) believe may constrain the usefulness of NT servers in large departments or at the enterprise level.

The key to IBM’s NT strategy is to sell the customer what the customer wants — but to ensure that the customer is aware of NT’s strengths and weaknesses. And should the customer determine that an NT server is not robust enough to meet his or her needs, IBM will suggest that the customer evaluate other IBM alternative platforms such as the AS/400, RS6000, or even — in some cases — mainframes.

Figure 2 — IBM’s NT Focal Point: Applications

Source: AberdeenGroup — 1998

Extremely relevant to this strategy are IBM’s efforts to focus its customers on *application solutions*, rather



than on operating environments and systems platforms. If the customer focuses on a solution requirement — mail-and-messaging for instance — then IBM can offer that customer a Lotus Domino solution that can run on an NT server, an RS6000, or soon an AS/400, or even a mainframe. This same strategy applies to numerous IBM products such as ADSM storage management, DB2 databases, and MQSeries middleware. At IBM, many applications can scale from the desktop through the Unix/NT/AS/400 mid-range to the mainframe — so the choice of platform can actually become a secondary consideration.

Strategically, therefore, applications are the real focal point for IBM sales reps —NT represents one-of-many options available to IS buyers looking to deploy servers within their enterprise information infrastructure.

Market Positioning

From a big picture perspective, IBM is a systems supplier; an Independent Software Vendor; and a systems integrator. As a server supplier, IBM builds and markets its own Intel-based PC servers as well as its up-scale Intel-based Netfinity servers (robust, 4-way, Intel-based servers with enterprise extensions for high-availability and improved systems management). As a software supplier, IBM builds dozens of applications and database solutions such as Lotus' Domino, or DB2, that run across many of its product platforms (OS/2, AIX, OS/400, OS/390, VM and VSE operating systems; Intellistation, RS/6000 and RS/6000 SP, AS/400, Netfinity 7000, System/390 and the System/390 Parallel Sysplex hardware platforms) — but have also been architected to run on Microsoft's Windows NT-based platforms. As a services supplier with global reach, IBM has designed numerous services packages for NT applications and infrastructure deployment. And, IBM offers custom consulting services through its Global Services organization for extremely complex NT engagements.

Further, IBM also provides financing related to systems, software, and services purchases; and IBM has strong channel partner relationships that augment its own software offerings.

Comparative Positioning

Comparatively, companies like Compaq and Dell offer NT-based desktops and servers — but do not build business applications solutions and do not have extensive direct-from-the-company services and support. And systems suppliers like Hewlett-Packard and Digital Equipment are focussed on reselling Microsoft Office and Back Office solutions on their NT-based platforms, as contrasted with IBM's position of offering Microsoft-only solutions and/or a broad set of IBM-built *alternative-to-Microsoft* solutions. For instance, Hewlett-Packard and Digital Equipment, both strategically committed to the sale and support of NT-based platforms, offer design, installation, and management support for the deployment of Microsoft's Exchange (e-mail and messaging) environment. On the other hand, IBM offers its users the same type of Exchange deployment services as its competitors — as well as alternative solutions using its Lotus Domino mail/messaging services.

IBM's Core NT Value-Added Software Products

The largest differentiator between IBM and the rest-of-the-pack in the NT marketplace can be found in the enterprise-class applications, database products, and middleware solutions that IBM has ported or rebuilt to work on NT platforms. These solutions (in most cases) work across IBM's many systems platforms and serve to protect IBM customer's large investments in corporate applications, enterprise servers and databases — and to lay the foundation for future network-based computing.

Last year, Aberdeen discussed in-depth IBM's value-added NT extensions in the following areas:

- *Groupware/Internet* — with IBM's Lotus Notes and Domino;
- *Data Management* — with IBM's Universal Database;
- *Systems Management* — with IBM's Tivoli TME environment;
- *Storage Management* — with Adstar Distributed Storage Manager (ADSM);
- *Enterprise Communications/Networking* — with IBM's Communication Server;
- *Transaction Processing* — with IBM's Transaction Server (includes CICS for NT and the Transarc Encina transaction monitor);

- *Application Development Tools* — with IBM's VisualAge/Java initiatives; and
- *Middleware* — with IBM's MQSeries.

Last year's review of these products can be found on IBM's Web-site at <http://www.software.ibm.com/nt>.

This year, IBM has greatly expanded this list, adding several new products that are relevant to NT integration into the enterprise — the key highlights feature new products for database integration, data warehousing, Inter/Intranetworking, and electronic commerce. Some of the offerings we did not cover last year include:

DataPropagator — an IBM product that allows data to be replicated throughout databases in the DB2 family (enabling an NT-based DB2 Universal Database to replicate and share data with other servers, including mainframes, AS/400s, and RS6000s). Further, bi-directional data refresh and change is possible with this product. And, this enhancement is now built-into IBM's DB2 Universal Database;

DB2 DataJoiner — an IBM middleware product that allows NT users to access multi-vendor relational and non-relational data via an industry standard SQL interface — as if the data were local. It has strong cross-platform optimization capabilities, providing a high-performance multi-database server solution;

Net.Data — a strategic IBM software product that links Web applications to data sources (both relational and non-relational) on a variety of platforms. Net.Data integrates with the Web server (either IBM's, Netscape's, or Microsoft's) to provide high-performance data access for Internet/Intranet applications.

Net.Data is included with DB2 Universal Database;

Net.Commerce — an IBM software product that uses both DB2 and Net.Data as part of its secure e-commerce solution, allowing enterprises to deploy secure transaction servers for Internet-based commerce;

QMF for Windows — Also available on IBM's NT platform is Query Management Facility (QMF), as software product that allows Windows users to query, chart, and create reports by directly accessing DB2 located on various platforms (for instance: mainframes, Unix servers, or other platforms) throughout the enterprise;

Visual Warehouse — provides IBM's NT customers with a solution for building and managing data warehouses. Its management software runs on Windows NT, can source data from variety of databases, and can also be operate on other systems platforms (Windows NT is a supported data source platform and a data warehouse platform); and finally,

DB2 Extenders — ever since 1995, IBM has offered extensions to DB2 that allow for high-performance, reliable management of complex data types such as text, images, audio and video clips — complete with content-specific searching and indexing functions.

These extenders — combined with other database, development tools, and management tools — are further examples of IBM extensions that help make IBM NT offerings more appropriate in complex, enterprise-class NT environments.

Core Hardware Products

In Q4, 1997, IBM introduced its Netfinity 7000 line — an upscale tower or rack-mounted platform that serves to extend IBM's reach into the departmental and enterprise server midrange marketplace. And in Q1

of 1998, IBM announced its Netfinity model 3500 — a server designed to address market requirements in small-to-medium enterprise environments. Previous to these Netfinity introductions, the IBM NT server product line had been based on less-powerful, but competitive IBM PC Server platforms (models 310, 315, 330, and 704). In 1998, Aberdeen expects IBM to unify its NT server product offerings — all IBM's NT servers would then be part of the Netfinity family.

To make the 7000 reliable, available, and manageable, IBM also introduced its Advanced Systems Management Adapter (ASMA) — a hardware adapter that allows IS administrators to control a Netfinity server from a remote location in order to perform systems management activities. This adapter also allows systems management frameworks — such as IBM's Tivoli Management Environment or Hewlett-Packard's OpenView — to better integrate the Netfinity line into their systems management purview. Additionally, IBM has also made available a series of tools that allow for real-time error detection, remote console management and diagnostics, unattended diagnostics, and predictive failure analysis.

The 7000 series features increased processor scalability — with up-to four Pentium Pro 200MHz processors — as well as the ability to configure up-to 4 gigabytes of main memory with up-to one megabyte of integrated level-2 systems cache. The Netfinity 3500 features a single or dual Pentium II processor(s) with processing power in the 233MHz or 333MHz range. Further, the Netfinity 3500 also offers 32 megabytes of Random Access Memory (RAM), and up to 22.7 gigabytes of storage.

From Aberdeen's perspective, IBM offers a competitive line of Intel-based servers capable of scaling performance to compete favorably with the other comparable platforms from Hewlett-Packard (HP) and Compaq. And, at this point, IBM is carefully evaluating greater-than-4-way server designs. This position is less aggressive than some other NT server suppliers — some of which are implementing Axil's 8-way, or NCR's 8-way, or other 8-way-and-beyond architectures today in order to increase NT system scalability. But this position is mitigated by IBM's observation that NT-based software solutions will need to be tuned, as well as the hardware platform will need to become more robust, in order to truly take advantage of NT 8-way architectures. On the NT clustering front, IBM offers third-party products — or will install Microsoft's Cluster Server (a.k.a. — WolfPack) should its customers desire to use NT-based clusters in high-availability failover scenarios. IBM clearly states its position on both 8-way NT architecture and on NT clustering architectures at <http://www.pc.ibm.com/us/netfinity>.

Service and Support

Another key differentiator in the NT space is IBM's services organization — IBM Global Services. Global Services is immense, IBM has stationed more than 100,000 trained professionals in 159 countries worldwide — and these professionals are capable of delivering a wide variety of professional consulting, training, integration, and deployment services. No other systems supplier in the NT market space can offer this kind of global coverage.

In mid-1997, shortly after our last report, IBM announced a slew of NT service, support, and financing options under the program heading "SystemXtra". This program has been primarily designed to provide IBM customers via resellers access to technology and pre-packaged services that make the acquisition, deployment, maintenance, upgrade and exchanges of NT-based servers more straightforward, including:

1. Integration services for Windows NT and non-Windows-based platforms;

2. Remote design and planning assistance that allow for more straightforward deployment of Windows NT and Microsoft Back Office solutions;
3. LAN Client Control manager (LCCM) — a graphical server-based application that makes it easy to perform a wide range of system administration tasks remotely (available to IBM's customers at no charge via the customers Web site);
4. IBM Education Pack and Education Card — training available to customers for technical skill development — designed to provide a broad range of training activities aimed at end-user through technical system/network administrators;
5. Leasing and Financing — IBM financing is available to allow customers to finance their total NT solutions on a single monthly invoice. Further, IBM allows its customers — via its Technical Exchange Option — to exchange the desktop and server products purchased for the latest/greatest platforms at any time during the first 24 months of their contract (there is a fee for this option); and
6. Installation services — through IBM's "SmoothStart" program — a program that features installation and deployment services for several of IBM's NT value-added packages including: MQSeries; Lotus Domino; CICS Transaction Server; Net.Commerce; and Operations Services for ADSM (storage management).

Additional information on NT-specific SystemXtra programs can be found at

<http://www.ibm.com/pc/us/systemxtra>. And further information on IBM's SmoothStart services can be found on <http://www.as.ibm.com/asus/windowsnt.html>.

ISV Software Recruitment — The Ultimate Key to IBM's NT Success

Aberdeen interviewed numerous ISVs — seeking to learn why these ISVs were committing their time and resources to integrating their products with IBM's various application, database, and middleware offerings. And the ISVs focused on two primary reasons as their driving factors:

1. Because their customers want tight applications integration with various IBM products (especially with Lotus Domino); and,
2. Because integration with IBM products will increase ISV revenue opportunities — especially at the departmental and enterprise levels within organizations.

Aberdeen has learned over time that when all is said and done, customers buy solutions. Hardware, operating environments, and databases are just a-means-to-an-end — getting useful work done using functional applications. And if these maxims hold true, then — from our perspective — it is extremely important to IBM's success in the NT marketplace that IBM capture the hearts-and-minds of the industry's leading Independent Software Vendors — ensuring that these ISVs test and qualify their applications on IBM's NT extended-value platform. Because, ultimately, it is the applications suppliers that will drive the success of IBM's NT efforts — not the fact that IBM has been able to build enterprise extensions that enhance NT from an infrastructure point-of-view.

Summary Observations

In many ways, IBM's current NT situation is reminiscent of its OS/2 situation. With OS/2, IBM has built a technologically superior operating environment — but technological superiority does not always translate into market success. With its current emphasis on ISV recruitment on its NT platforms, IBM is showing that it learned from its OS/2 experiences — and is driving to become a leader in enterprise-grade NT through applications capture. And from Aberdeen's perspective, this is the absolutely correct strategy for IBM.

Given IBM's position as a systems integrator as well as a hardware/software supplier, it is not surprising to find that IBM's strategic goals have been to become the leading supplier of NT professional services, as well as the market-leader in NT desktops and servers. Presently, Compaq Computer Corporation has approximately 26% of the NT market versus IBM's 15%. But, Aberdeen notes that the lions-share of Compaq's NT installed base can be found at the workgroup server level — primarily providing NT file-and-print services. Aberdeen suspects that as IS managers look to deploy more complex NT midrange and high-end servers, IBM will gain-ground on Compaq because IBM can provide direct, company-sponsored services and support needed to install and manage upscale NT server environments. IBM can be expected to significantly close-the-NT-gap on Compaq in 1998 — and compete for market leadership more strongly in 1999. Aberdeen also notes that IBM has established a goal to become the leading supplier of NT-based professional services — with a target of 20% marketshare. And given the rapid revenue growth in IBM Global Services Organization, IBM may well achieve this goal in the 1999 timeframe.

IBM's NT strategy is unique. IBM sells pure Microsoft NT environments that feature Microsoft products such as Office, BackOffice, Transaction Server, Cluster Server and the like — delivered on IBM-built Intel-based hardware platforms. But IBM also sells alternative-to-Microsoft application solutions — products that compete with Microsoft's integrated applications — but are often more mature, more feature rich, and are deliverable today. And, IBM provides the professional services and support necessary to deploy NT-based servers and desktops — very few NT solutions providers can offer the design, training, and deployment services as offered by IBM on a global basis. In view of IBM's mix of products and services — and its new emphasis on ISV applications capture — from Aberdeen's perspective IBM is extremely well positioned to move NT into the enterprise.

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