

Market Overview 2003: Server-Based Computing

David Friedlander

Giga Position

Giga expects the overall server-based computing (SBC) market to grow an average of 10 percent to 15 percent in 2003 and 2004 to approximately \$1.4 billion in 2003. However, revenue growth in 2002 declined slightly even as license sales increased due to growing volume license purchases. **Citrix** continues to dominate the SBC market with 70 percent to 75 percent share in 2003. Stand-alone deployments of **Microsoft** Windows Terminal Services (TS) are likely to represent about 20 percent of the market this year, with other smaller vendors making up less than 10 percent of the market combined.

Technical improvements in SBC products have continued to mitigate issues around bandwidth, printing and security. Although Giga initially expected the SBC and enterprise portal markets to start converging in 2002, this trend is not likely to occur in the next two to three years. Instead, SBC use continues to focus on remote access and application deployment in highly distributed enterprises. Although pressure to reduce spending has led companies to carefully evaluate all IT investment decisions, SBC can drive significant cost savings for application deployment and management, especially in distributed environments. Remote workers, telecommuters and mobile workers can benefit significantly by gaining access to desktop applications from a wide range of devices and connectivity options.

Recommendations

SBC can drive savings and benefits with a return on investment (ROI) of 25 percent to 45 percent compared to traditional thick-client desktop environments in the following areas:

- Remote access to rich desktop applications, particularly from non-company-owned equipment
- Deployment and management of desktop applications in a distributed environment, particularly where IT resources at remote sites are scarce
- Mobile application access from wireless local area networks (WLANs), other wireless connections using laptops or other full-form factor devices that can accommodate desktop applications

Companies evaluating enterprisewide use should view SBC as an architectural and organizational design decision. Central management and delivery of applications can fundamentally change the role of IT and alter the balance of power by shifting IT investment decisions away from business units. If deployed across the enterprise, SBC is fundamentally an alternative to a thick-client distributed computing strategy or a Web-centric architecture focused on delivering applications via a Web browser.

Citrix MetaFrame will remain viable and have significant advantages over Microsoft TS for at least the next two to three years.

TS stand-alone is the most likely alternative that users will be considering, but is not appropriate for deployments of more than 500 seats, or any heterogeneous, highly distributed organization.

Smaller vendors fill niches in functionality such as native access to legacy applications, but continue to experience viability challenges that pose risks for end users.

Proof/Notes

Growth in the SBC market has continued to slow during the past 12 months. While companies continue to invest in SBC, most firms are evaluating all IT investments carefully. Some firms are deferring purchase decisions, starting with smaller deployments, or are attempting to use existing desktop management tools such as Microsoft Systems Management Server (SMS). Nonetheless, SBC continues to deliver significant value around remote access to mobile workers, application management and deployment and business continuity planning. Giga expects the overall SBC market to grow 10 percent to 15 percent in 2003 and 2004. However, per-license revenue declined 5 percent to 10 percent in 2002 and is likely to fall somewhat in 2003. Software revenue growth was flat or slightly down in 2002, even though the total number of licenses sold grew 5 percent to 10 percent. Lower per-license revenues will continue to offset market revenue growth in 2003.

Market Drivers

SBC market drivers include the following:

- **Increasing interest in extending existing applications to remote or external users:** Despite the growth of Web-enabled applications, virtually every enterprise has dozens if not hundreds of traditional applications. Growing concerns about security, business continuity and support for remote users or day extenders are also driving interest in SBC. In many instances, SBC provides the quickest means for accomplishing this without redeveloping applications.
- **Limited resources and budget for redeveloping internal client applications:** In light of the current economic climate, many companies lack the budget to develop a Web client for existing traditional applications. In some instances, Web clients are now available from the ISVs, but many more applications are customized or have been developed in-house.
- **Continued pressure to cut costs and reduce IT management overhead:** Enterprises are scrutinizing investments closely, and delaying or deferring some IT purchasing decisions.
- **Continued push to centralize user access to diverse applications, content and data:** Although this driver has become somewhat secondary as enterprises put IT projects on hold, it is likely to become more significant if IT spending picks up.

Market Trends

SBC market trends include the following:

- **SBC will continue to grow at 10 percent to 15 percent through 2003:** Growth of SBC has leveled off from its heady rate of 35 percent to 50 percent in 1999 and 2000. However, because it can help enterprises extend existing investments in traditional applications and reduce IT management overhead, the market for SBC is likely to continue growing through at least 2005.
- **Enterprises are consolidating SBC deployments:** Many firms have a scattering of SBC deployments that were deployed within a department or region. A number of Giga clients have indicated they are seeking to consolidate these deployments into a centrally managed server farm. As companies begin to do this, Giga expects deployments will also grow moderately as SBC is leveraged to deliver more applications.
- **Web-enabled applications will not overcome thin-client SBC:** Although Web-based computing has captured the mindshare of developers and the market, the tremendous installed base of 32-bit client applications cannot be converted all that quickly. SBC will continue to have broad appeal as organizations attempt to simplify their IT environments.

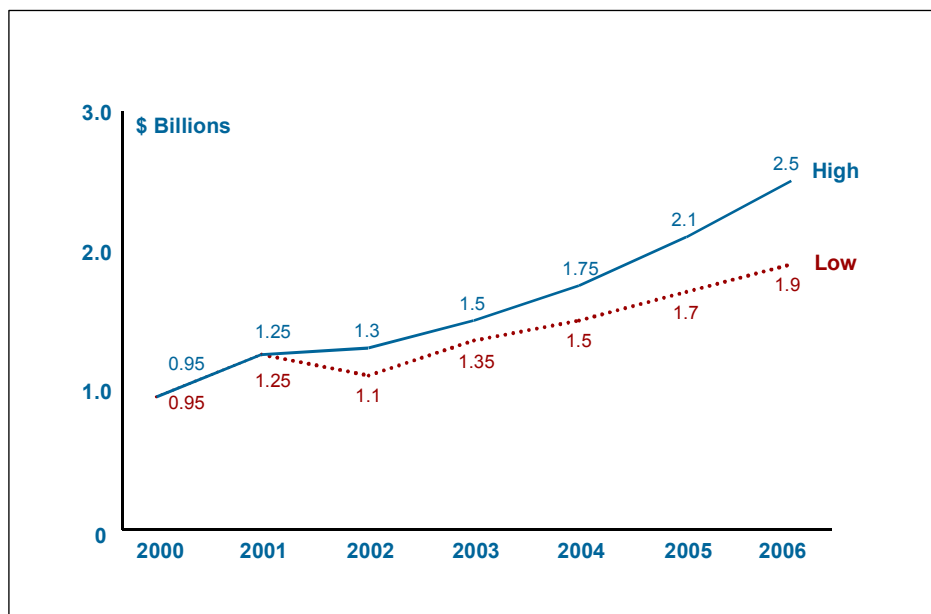
- **SBC is starting to be deployed over wireless WANs:** Citrix has promoted its technology for use on wireless WANs such as GPRS and 1xRTT in the past year. A number of early adopters, including some law enforcement agencies in the United Kingdom and several health-care providers in both the United States and Europe, have successfully deployed applications over wireless WANs.
- **Companies are deferring SBC purchases in some cases:** Smaller firms in particular are increasingly sensitive to the upfront capital costs of deploying SBC. Some companies are either deferring purchases outright or looking to use other management tools (e.g., SMS, **Tivoli**) that they have already invested in.
- **SBC did not converge with portal market as expected:** Giga had previously predicted that enterprise portals would begin to serve as a central point for access to hosted applications. However, the economy has slowed portal deployments and the focus has shifted from application and content aggregation to integration with existing Web, enterprise resource planning (ERP) or client/server applications as the primary integration candidates in new portal deployments (see IdeaByte, [IT Trends 2003: Enterprise Portals](#), Laura Ramos).

Market Growth Analysis

The SBC market consists of Citrix MetaFrame licenses, related management software, TS Client Access Licenses (CALs), Windows server licenses where TS is activated and fully utilized for deploying applications, and sales of competing products such as **Tarantella**. The forecasts provided here are based on the most current available information from vendors, channel and users. Because Microsoft does not report (and with Windows 2000 or later versions, is unable to report) revenues specific to TS server licenses, the annual market size and growth is Giga's informed estimate drawn from the sources mentioned above.

Last year, Giga had estimated 10 percent to 20 percent annual growth in the Windows application SBC software market, from approximately \$1.25 billion in 2001 revenues. While Giga believes that the volume of licenses sold in the SBC market will grow at 10 percent to 20 percent, revenue per license may decline 5 percent to 10 percent. As a result, 2002 revenues were approximately flat compared to 2001.

Figure 1 represents the range of possible market revenue through 2006. Web-based applications will gain wider acceptance in the enterprise, but are not likely to displace SBC. Although it initially appeared that companies would redevelop more of their existing applications, the significant installed base of client applications suggests that the SBC market will continue to grow over the long term. The uncertainty in market growth stems from several factors, including shifts in the economy, how quickly high-speed wireless networks are deployed and whether Microsoft's road map will continue to incorporate TS as a significant part of the platform beyond 2005 or 2006.

Figure 1: Windows Server-Based Computing Software Market Revenues

Source: Giga Information Group

SBC as a Remote Access Technology

Although virtual private network (VPN) technology and other remote access products have been on the market for many years, Giga has observed a significant increase in the number of clients that are evaluating SBC as a remote access option *alongside* VPN and other products. Three to five years ago, SBC was primarily deployed to connect remote offices. However, the enhancements to SBC products in the past 18 months — most notably Citrix Secure Gateway (CSG) — have increased SBC's visibility in this market and made it a much more viable alternative to VPNs for remote access to corporate resources via the Internet. Based on client inquiries that Giga has received since January, this trend appears to be continuing in 2003.

SBC provides greater flexibility than VPNs, with broader client platform support and minimal client install requirements. However, many customers have already invested in VPN products or view VPN hardware as providing stronger security than any software-based tools. Giga believes SBC can provide secure remote access, particularly for users who are not connecting from company-owned equipment (see [IdeaByte, Consider Limiting Internet VPN Remote Access for Day Extenders to Web-Enabled Applications Only](#), Jim Slaby).

Indirect Competition From Electronic Software Distribution

Electronic software distribution and configuration management tools provide benefits that are similar to the benefits of SBC. Many of the tools from vendors such as **Novell**, **LANdesk**, **Altiris** or **Marimba** have been improved to the point that they can deliver applications with little or no disruption to the user, can manage self-healing, allocate bandwidth and provide other centralized application management capability. The Windows operating system has also improved to the point that many application or driver conflicts have been eliminated. As a result, managing a distributed computing environment has become increasingly feasible.

The tools are not without their problems, but companies are fundamentally faced with an architecture decision: run client applications in a centralized, server-based environment, or run them on the desktop in a distributed computing environment. Most users use SBC and an electronic software distribution (ESD) tool,

but at least in part, this stems from limitations around desktop management in a distributed environment, some of which have eased. The problematic Win 9x operating system, earlier generations of the ESD tools and higher prices for network connectivity made SBC an appealing alternative for many users in the late 1990s. Now that the ESD tools have matured, bandwidth is cheaper and more readily available and the Windows OS is more manageable, ESD competes indirectly with SBC as an architecture choice (see IdeaByte, [IT Trends 2003: Desktop and Mobile Management](#), David Friedlander).

Nonetheless, desktop resources and support in a distributed environment still pose a challenge with ESD. Access to applications is also easier to provision through SBC than through ESD tools. Vendors such as Novell and Marimba have targeted MetaFrame users with solutions that can distribute software to MetaFrame servers and desktops from a common source. A single point of management for desktop applications can be valuable to users with large SBC deployments.

Software Streaming as a Complementary Technology

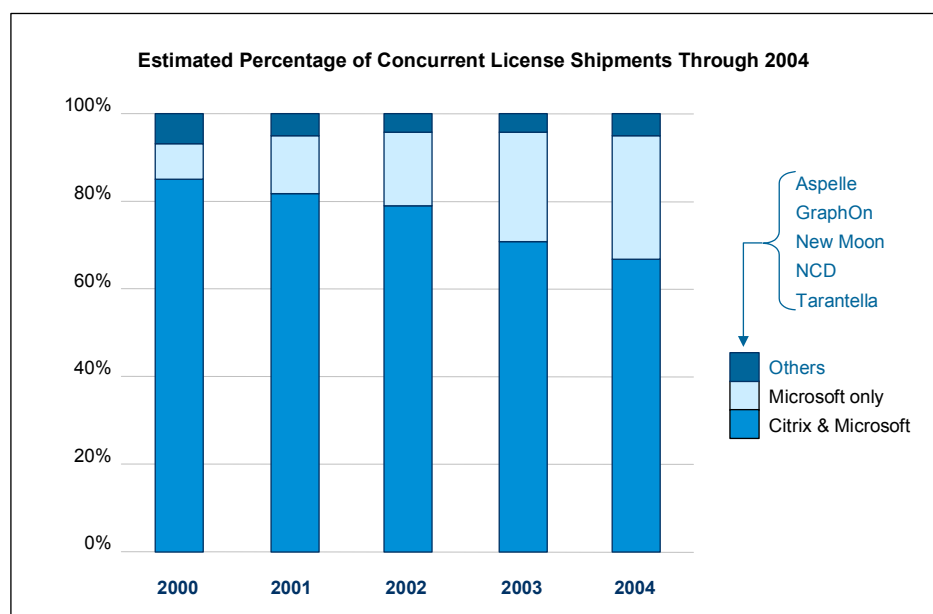
Software “streaming” has emerged as an alternative to ESD tools and as a complementary technology to SBC. The concept focuses on centralized deployment and management of applications, using caching technology to store and run applications in a protected shell environment on the desktop. No software other than an agent is installed on the desktop.

Softricity is the leading Windows vendor in this space. It has established strong partnerships with both Microsoft and Citrix (see IdeaByte, [Softricity: Value Added to Citrix Enterprise Deployments](#), David Friedlander).

Vendor Overview

The vast majority of deployments still use Citrix MetaFrame. Although Microsoft continues to add functionality to TS, enterprise customers are unlikely to move to a Microsoft-only solution or deploy a competing solution in place of MetaFrame. Citrix’s relationship with Microsoft looks stronger than ever. Citrix is squarely in the Redmond camp and has never before based as many marketing, sales and development staff in Redmond.

Figure 2 shows Giga’s market share estimates for the software vendors in this space. Citrix’s share is expected to slip to approximately 70 percent by late 2003 as customers at the low end of the market deploy .NET Server 2003. Delays in Microsoft’s product road map could push this event out to 2004. Other vendors will represent less than 10 percent of the market through 2004.

Figure 2: Software Vendor Market Share — Windows Server-Based Computing

Source: Giga Information Group

Citrix

Although Citrix is still struggling to emerge from its single-product focus, it remains the dominant vendor in SBC. Citrix's customers include 95 percent or more of the Fortune 500, but within this customer segment, it has less than a 10 percent penetration relative to the total number of seats. Going forward, enterprise customer penetration will be critical to Citrix's continued success. In the distributed enterprise, the holy grails of disconnected use and distributed computing remain barriers to growth for SBC. Citrix will need to expand beyond the SBC market to increase its revenue growth in the long term. This could include a foray into the ESD or application streaming space through partnerships or acquisitions. Citrix is also adding tactical functionality such as collaborative tools to its existing products.

Although Giga was initially pessimistic about Citrix's potential revenue growth in 2002 and 2003, its recent earnings results and projections for 2003 suggest that its revenues may be slightly higher than expected (see IdeaByte, [Citrix Appears Fundamentally Sound Despite Slow Growth and Market Valuation](#), David Friedlander). Changes to its channel and licensing strategy helped alleviate a price war between channel partners and lowered the entry point for electronic licensing. The most significant competition for Citrix will remain indirect, as enterprises choose to defer purchasing decisions or use different technology such as software distribution tools or other remote access technology.

Citrix has clearly suffered along with most of the industry as enterprises cut back on IT spending or delay purchasing decisions. Discussions with Giga clients suggest that when users opt not to implement Citrix, the vast majority are deferring the decision and opting to use what they have in place. As discussed above, many companies have desktop management or software distribution tools from vendors such as Microsoft, LANDesk, Novell or **Novadigm** in place, and are looking to leverage these existing investments as much as possible. This is effectively a "do-nothing" decision, but where budgets are tight, customers are trying to get by on what they have.

Microsoft — Significant improvements in .NET server

A number of enhancements to TS in .NET Server 2003 will make the stand-alone Microsoft platform a more viable option for small to midsize firms. Companies with complex deployments will, as mentioned above, continue to see value in MetaFrame. However, significant enhancements in .NET Server will make it much easier to manage TS through existing Microsoft tools such as SMS, Microsoft Operations Manager (MOM) and Active Directory. Giga believes that these and other improvements will lead overall use of TS to grow by 15 percent to 25 percent per year through 2006. The low end of the market — primarily those with fewer than 500 concurrent users — will see less value in MetaFrame (see IdeaByte, [Microsoft Terminal Server as a Stand-Alone Product: Viable for Small Deployments](#), David Friedlander).

Microsoft will also add HTTPS support, allowing Remote Desktop Protocol (RDP) traffic to be routed through Port 443. For small deployments or where security is less of a concern, this may mitigate the need for CSG. However, without CSG, TS would need to be exposed to the Internet with published IP addresses. Microsoft also does not have a mechanism for automatically publishing SBC applications to a Web site. Citrix will continue to add significant value in this area. Other improvements focus on client system features such as color support and port remapping.

Other vendors

Competing products such as Tarantella Enterprise, **New Moon** CanaveraliQ, **GraphOn** GoGlobal and **Aspelle** have had very little impact on the market. Tarantella has won some customers in its core market (Unix and legacy applications access), but is just as likely to be deployed alongside TS and Citrix MetaFrame as it is to be deployed as an alternative to them. New Moon and Aspelle have entered the market much more recently, but have not had any significant customer wins in the enterprise. GraphOn has struggled for several years to compete in this market, and now competes most directly with Tarantella in the Unix market. Combined revenues of all four vendors total less than \$30 million, compared to about \$500 million for Citrix.

None of these vendors presents viable alternatives to MetaFrame in the Windows market. Improvements in TS in both Windows 2000 and especially in Windows Server 2003 mitigate the value of vendors such as New Moon (see IdeaByte, [New Moon: Low-Cost Alternative to Citrix MetaFrame, but Few Proof Points in the Enterprise](#), David Friedlander, and IdeaByte, [Tarantella: Vendor Risks Remain Manageable](#), David Friedlander).

Alternative View

Improvements in other technologies and the growth of Web-native applications will limit the usefulness of SBC to supporting existing applications. Enhanced client management tools and desktop platforms will mitigate the need for SBC as an application management tool. Other less expensive remote access technologies will be used more widely, such as the remote desktop capability in Windows XP. Web-native applications, particularly line-of-business applications such as order entry that may not require rich client functionality, will be increasingly delivered via the Web or wireless devices for remote and mobile workers. A shift away from client-centric applications would reduce the need for a middleware hosting platform such as MetaFrame or similar products.

References

Related Giga Research

Planning Assumptions

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[Application Scalability Criteria for Server-Based Computing](#), David Friedlander

[Common Mistakes in Server-Based Computing Deployments](#), David Friedlander

[Planning for a Global Citrix/Terminal Services Deployment](#), David Friedlander

[Application Testing for Terminal Services: Don't Deploy Without It](#), David Friedlander