



The opportunity for reducing costs for IBM application access in today's world

The Terminal Emulation Replacement Market

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Turning the Latest Trend into a Solid Future

The move by software vendors away from the traditional, permanent license to a low yearly subscription fee that includes all licensing, upgrades, maintenance and technical support has the potential to reduce large corporations' software costs greatly. The terminal emulator market has not yet adopted this model, though communications protocols and security requirements have become standardized.

The largest vendors, including Attachmate, IBM, and Micro Focus, are still charging big prices for initial licenses, and demand large fees for ongoing maintenance, which corporations dare not terminate for fear of losing their initial investment or becoming unable to meet ongoing requirements.

Century Software has provided the highest quality terminal emulations for over 25 years, and is now providing an opportunity for corporations to save 30%-80% of their ongoing costs yearly, while retaining all their required functionality and support. This is made possible by replacing and consolidating corporate terminal emulators, and using the latest trend in software pricing: yearly subscription licensing that includes everything.

The Early Days of High Cost Terminal Emulation

Terminal emulation has been around for over 25 years, being one of the first communications applications to come to personal computers, back in 1983. In the very early days there was no Internet, only direct communications via three-wire serial cable. Expensive physical terminals were replaced by personal computers running terminal emulation on MS-DOS.

In the mid-1990s TCP/IP was new, and vendors had to provide connectivity with many differing implementations on the PC and hosts, requiring continual R&D activity. In addition, there were at least 10 popular terminal types, each requiring emulation. The result was that vendors incurred high costs and passed them on to users.

IBM SNA Networks

The early days of IBM networks were with the IBM-created Systems Network Architecture, which required not only proprietary protocol implementations for connectivity, but specialized cards for access to IBM networks. For a while, the demand for IBM connectivity allowed new companies supplying SNA hardware and software stacks to grow rapidly, before the rise of the Internet. This specialized hardware and software also contributed to high costs for IBM access.

The Internet and Telnet

With the rise and rapid expansion of the Internet—based on open protocols—came the need for open access to character-oriented applications. This was solved initially with the telnet protocol, which allowed connectivity to UNIX hosts. Low-cost telnet implementations became plentiful, and terminal emulators used telnet instead of proprietary methods to access these hosts.

TN3270 Access

Initially, IBM tried to control access to their large mainframes by not providing open protocol implementations, instead forcing users to remain with SNA, where they and their communications partners could charge early high prices for connectivity. Slowly IBM was forced into providing an open standard for telnet access via 3270: TN3270. The terminal emulator vendors now had a standard, documented protocol for mainframe access. This, along with the enhanced TN3270E access, was added to emulation solutions.

The Need for Security and SSL/TLS

Of course, during the time that Internet connectivity opened up access for UNIX and IBM hosts worldwide, hackers and other users attempted non-authorized access, and sometimes succeeded. There have been and always will be new versions of security protocols required for vendors to keep ahead of the hacker communities. In addition, not only connection information and passwords, but entire session communications data needs to be fully encrypted in order for corporate data to remain protected, while allowing access outside of the immediate environment. Secure Sockets Layer (SSL) and Secure Shell (SSH) protocols are now mandated by governments for certain access, as well as by most large corporations.

Standards for IBM Access Today

The telnet protocol, SSL, TN3270, and other standards are now required for secure access over the Internet and Virtual Private Networks (VPNs). All large terminal emulation vendors implement these standards as a means of providing modern connectivity for PC-to-host access. The days of multiple differing protocols, SNA, specialized network connectivity cards, and non-open standards are no longer here.

Citrix and Microsoft Terminal Server Environments

The rapid evolution of network connectivity, following the personal computer and its decentralized storage of user data and applications, returned the original need for centralized administration and control of applications and sensitive or shared data. Citrix Corporation and Microsoft both developed multi-user Windows server environments, such as MetaFrame, XenApp and Microsoft Terminal Server, where Windows applications and virtual desktops could be served from a back-office server rack, rather than on each desktop individually.

In addition, terminal emulator access to host data also was starting to run on these terminal server environments. This had the advantage of centralized administration, as well as firewalling access to hosts from behind these servers rather than directly from each PC, thus improving security also.

Thin Client Terminals

With the growth of terminal server environments, new diskless workstations (“thin clients”) joined personal computers (“fat clients”). Thin client technology allowed the cost of individual workstations to plummet while still providing Windows, IBM and UNIX access. The lack of any CD, hard drive or local storage on the thin client terminal enhanced security greatly, and allowed cheaper deployments in kiosks and other vertical uses.

The Per-seat Perpetual License

The terminal emulator vendors have been pricing their products using a higher-priced, per-seat, permanent license, then charging for upgrades, technical support, and version maintenance separately. Most large corporations require continual updates for security and operating system revisions, and pay an additional maintenance fee. Some

vendors (notably Attachmate, Micro Focus, and IBM) charge very high initial prices for license fees and considerable fees for ongoing maintenance, even though the real costs for these solutions have fallen as the Internet has standardized on open protocols.

Multiple Vendors through Company Acquisitions

In addition, through acquisitions of competitors and other companies over time, large corporations have accumulated multiple terminal emulator solutions, all running in-house. Each of these solutions has capitalized costs for initial software acquisition as well as ongoing maintenance costs, and requires administration of version releases and upgrades, together with differing configuration files for each product.

Ongoing Maintenance Needs

Regardless of which vendor a company uses, the need for ongoing maintenance is usually present, just to keep up with government and corporate security requirements and operating system vendor upgrades.

Existing Costs for TN3270 Access

If a company has been using terminal emulation for some time, or has acquired traditional permanent licenses over the years and pays for maintenance, it is probably paying too much for IBM TN3270 access. These high fees have never been reduced over the years, despite a reduced cost for providing these products. Essentially, the terminal emulator vendors continue to think they are living in the golden age of demanding high prices for a commodity item.

The Consolidation of the Terminal Emulation Market

In addition, as character-oriented applications are gradually rewritten for the

Web or graphical operating environments, many terminal emulator vendors have either left the business or are building other solutions, and not keeping up with things like operating system upgrades. This leaves end users without a supported solution, and opens up the opportunity for vendor consolidation.

Subscription Licensing - Reducing Cost for IBM Access

A low yearly fee – which includes licenses for replacement and consolidation of all a company's terminal emulators, regardless of origin and capital spent, along with upgrades, maintenance, technical support, and feature enhancements – is now available from Century Software. Century has been in business for over 25 years, and can provide quality connectivity and support for less cost than is currently being paid, and do it profitably. In addition, Century has software solutions for low-cost thin client access.

The Opportunity

For companies running Attachmate Extra!, WRQ Reflection, Micro Focus Rumba or IBM Personal Communications, a Century Software terminal emulator can be supplied, replacing all current emulators and including all support, at an expected **savings of at least 30%-80% each year** on recurring expense from what is currently being paid. Prices for complete terminal emulation product, maintenance and support are a maximum of \$30/year per user, with lower prices on larger volumes. Our partners can share in the margin by showing this cost savings to their customers, winning business otherwise not possible. Attachmate sells mostly direct, and doesn't use partners in many countries.

Save 30%-80% each year on recurring expense

Companies can save 30%-80% each year on their ongoing maintenance expense, with the flexibility to increase or decrease their user counts at any time. Replacement of the existing terminal emulator is completely covered, as is all support and ongoing version upgrades. Capital expenditures are eliminated and replaced with deductible low-cost subscription expense. Subscription licensing is ideal for companies currently paying ongoing maintenance or those requiring fully-supported IBM terminal emulation solution, future-proofed against Windows and security upgrades.

Save 50% the first year, 100% the second year

By paying for more than one year's subscription up front, a company can experience cash-flow benefits of no costs at all for some following years.

Century's Solutions

Century Software has been in business for over 25 years, and technology greatness runs in the family. Century supplies the branded terminal emulators TinyTERM, TinyTERM Plus, TinyTERM Subscription Host Access, and PIXIL Thin Client software.

Looking for Partners in Large Accounts

Century Software is looking for partners to understand our vision of turning the trend of software subscription licensing to work for us, in providing a quality solution to their customers at a much reduced cost, through the value propositions described in this white paper.