

FLEXIBLE, SECURE ACCESS TO ESSENTIAL APPS AND DATA: THE ENDURING VALUE OF TERMINAL EMULATION

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Derek E. Brink, CISSP
Vice President and Research Fellow
Information Security and IT GRC

For thousands of enterprises, solutions that provide terminal emulation and host access to essential applications and data hosted by mainframes, mid-range servers, and virtual desktop infrastructure continue to provide enduring business value.

Business Context: The Large and Active Market for Terminal Emulation and Host Access Solutions

For thousands of enterprises, providing flexible, secure access to the applications and data hosted by *mainframes*, *mid-range servers*, and *virtual desktop infrastructure* continues to be an essential business requirement. What this means: Solutions that provide **terminal emulation** and **host access** to these well-established, business-critical resources are as essential as ever to the modern enterprise — and perhaps more so, given the powerful trends for ever-greater mobility, access, and virtualization.

To provide some empirical insights into the current market for terminal emulation and host access — just how large and how active is it? — Aberdeen combined an analysis of selected *technology installations* that are visible in its technology dataset with an analysis of selected topics that are being *actively researched*. Key insights from the result include the following:

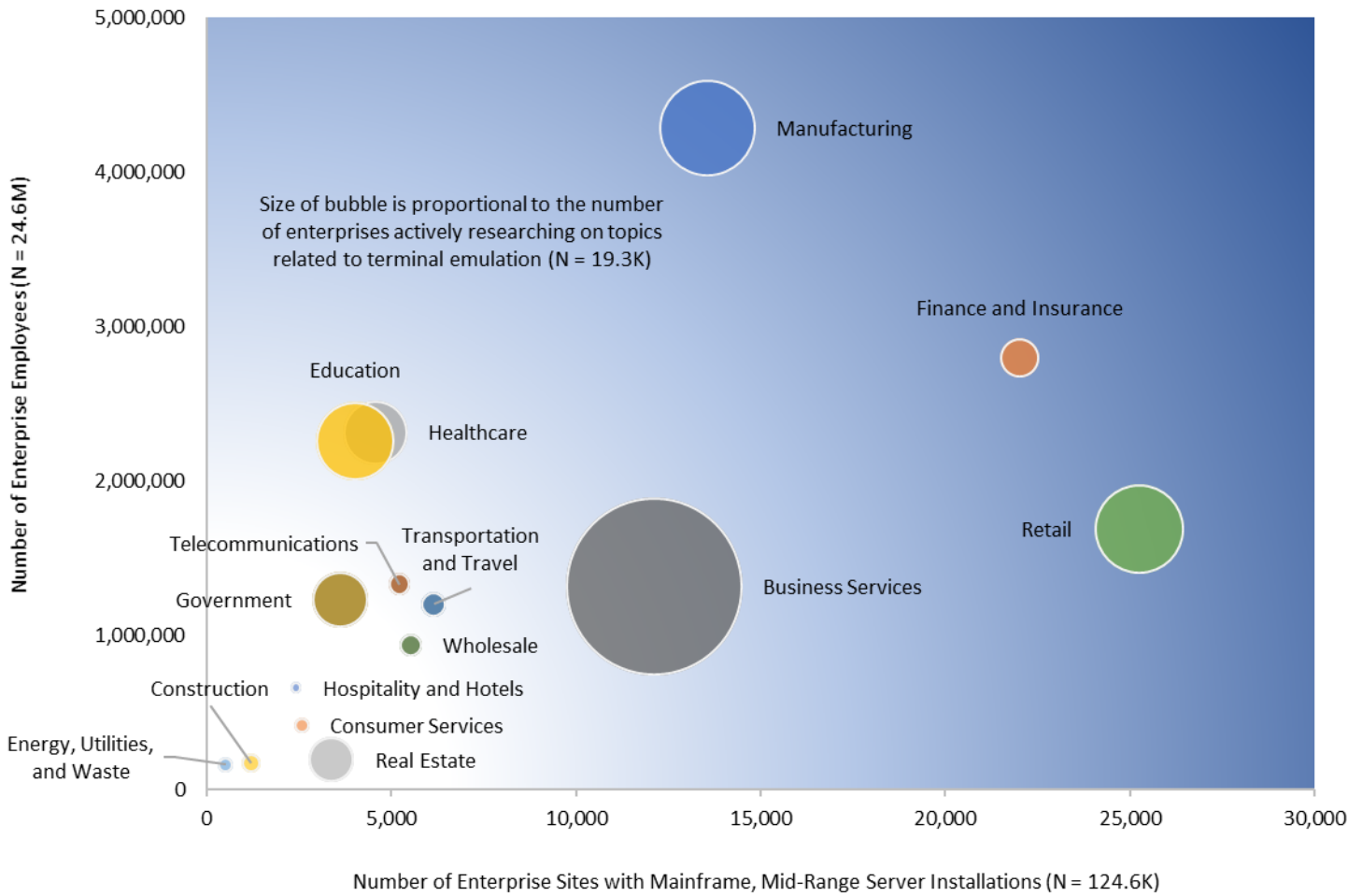
- **A significant enterprise footprint for mainframes and mid-range servers:** nearly 125K sites, in nearly 40K enterprises
- **A substantial population of knowledge workers with a need for access to business-critical applications and data on legacy platforms:** nearly 25M enterprise employees
- **A large number of enterprises actively researching topics related to terminal emulation:** nearly 20K enterprises, across 20 industries

The three dimensions of *technology footprint*, *number of knowledge workers*, and *active research activity* from Aberdeen's analysis of large-scale empirical data are combined and displayed visually in Figure 1, revealing that the industries with the strongest need for terminal emulation and host access are **Business Services** (which includes *accounting*, *human resources / recruiting*, and *consulting*), **Manufacturing**, **Retail**, **Education**, **Healthcare**, and **Finance and Insurance**.

Current technology installations in Aberdeen's analysis include *IBM* and *plug-compatible mainframes*, *IBM System/3x0*, *30x0*, *AS/400*, *IBM Power Systems*, *IBM I*, *IBM Z*.

Active intent topics in Aberdeen's analysis include *mainframes*, *terminal emulators*, *remote access*, *enterprise mobility*.

Figure 1: Aberdeen’s Analysis Shows a Significant Technology Footprint, a Substantial Population of Knowledge Workers — and a Large Number of Enterprises Actively In-Market for Terminal Emulation



Source: Data adapted from Aberdeen Technology Dataset and Bombora Company Surge; Aberdeen, September 2018

In a new twist on an old pop culture expression, twenty thousand enterprises actively researching terminal emulation solutions can't be wrong — but what's driving them to do so?

In Table 1, Aberdeen lists some of the leading *technology triggers* to re-evaluate existing solutions, along with some of the leading opportunities for *operational upside* from the perspective of the IT staff. Both of these drivers for upgrading current terminal emulation and host access capabilities must be balanced, of course, with the *integration and compatibility requirements* that are essential to the primary purpose: **providing enterprise business users with flexible, secure access to the applications and data they need to do their jobs.**

Aberdeen’s analysis of the three dimensions of *technology footprint*, *number of knowledge workers*, and *active research activity* reveals the industries with the strongest need for terminal emulation and host access.

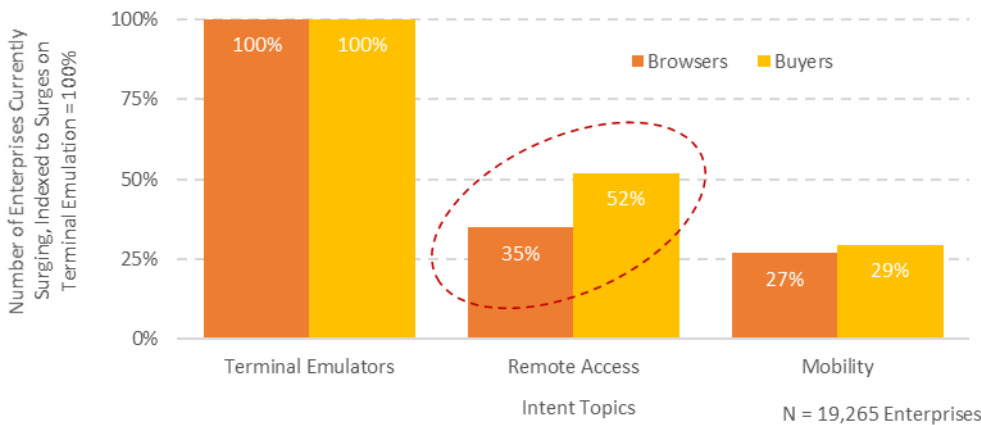
Table 1: Terminal Emulation Solutions Must Balance Considerations of Technology, Operations, and User Experience

Technology Triggers to Re-evaluate Existing Solutions	Operational Upside Opportunities: IT Staff Perspective	Integration and Compatibility Must-Haves
<p>Changing endpoint strategies — e.g., platform migration, enterprise mobility and BYOD initiatives, application and desktop virtualization initiatives</p> <p>Evolving regulatory compliance requirements — e.g., encrypted communications, certifications</p>	<p>Unify terminal emulation — e.g., by reducing the number of supported terminal emulation solutions that may have accumulated as a result of mergers, acquisitions, and independent technology purchases over time</p> <p>Reduce the time and expense of ongoing IT support — e.g., software upgrades</p> <p>Simplify administration of software licenses</p>	<p>Support for existing back-end hosts, communication modes, and terminal types</p> <p>Support for current and future range of endpoint devices</p> <p>Backward compatibility with incumbent terminal emulation solutions — e.g., existing session files, macros, keyboard maps, image viewers, and other customizations</p>

Source: Aberdeen, September 2018

This fundamental point is reinforced by a further correlation of what topics these twenty thousand enterprises are actively researching, as shown in Figure 2. As organizations get closer to a buying decision, researchers on **terminal emulation** (an enabling *technology*) are **1.5 times more likely** to also be researching **remote access** (the primary *business objective*).

Figure 2: Terminal Emulation Solutions are the Means to an End



As organizations get closer to a buying decision, researchers on **terminal emulation** (an *enabling technology*) are **1.5 times more likely** to also be researching **remote access** (the primary *business objective*).

Source: Adapted from Bombora Company Surge; Aberdeen, Sept. 2018

Customer Case-in-Point: BerkOne

From its origins in Pennsylvania's Lehigh Valley, BerkOne today helps clients "go paperless" with business automation software and scanning services for more than 300 clients from three locations in the Keystone state, an operations center in Syracuse, and sales offices across the country. With roots going back to 1936, as an internal department of Berkheimer Tax Administrator, Inc. — where it later led the way for the digital transformation of Berkheimer's tax collection and administration services — BerkOne has been an independent company since 2003.

Terminal emulation has been an integral part of BerkOne's computing infrastructure for many years. From software installed on their local machines, a widely distributed footprint of end-users connect to a Citrix server to access the company's portfolio of mission-critical databases and applications in a centralized HP-UX environment.

Users were generally satisfied with the incumbent terminal emulation solution, explained Rich Smith, BerkOne's Manager of Technical Services — but at the beginning of 2017, when it became clear that the incumbent solution would not work with a planned upgrade of SSH security, the company had to look at alternatives. Upgrading the incumbent solution required a member of the IT staff to touch every end-user endpoint; a costly and time-consuming effort. And testing showed that a freeware solution didn't work properly with their existing customizations (e.g., macros, image viewers), which needed to be maintained.

BerkOne then discovered the Rocket BlueZone Terminal Emulation solution from Rocket Software. Internal testing proved that their existing customizations could be successfully supported, and a script could be created to push out the necessary software to end-user endpoints from the centralized Citrix server, saving considerable time and expense for the IT staff. In addition, license administration for the Rocket Software solution was much easier than the previous solution.

From initial testing in March 2017 and a limited rollout to "power users," followed by a full rollout starting in September 2017, the Rocket BlueZone solution has currently been in production for about a year. Most importantly, the expected results have been met — a cost savings of about 50%, an estimated time savings of about 80%, and ongoing simplicity of managing licenses. As a bonus, there were some unanticipated results: positive feedback from the users.

"Whenever users are unhappy, we naturally jump on those issues," said Kristen Dougherty, BerkOne's Director of IT. "In this case, it was the opposite, in that the drivers for change came primarily from the IT perspective, and we had to make sure that the users were as happy as they were before."

For more than 20 years, the **Secure Shell (SSH)** protocol has been used to remotely log in to systems, execute commands, transfer files, and establish a protected communications tunnel for other services. Today SSH is widely used in almost every organization to provide privileged access to high-value enterprise resources, in the datacenter and in the Cloud.

The BerkOne team, reflecting on lessons learned from this experience, underscored their focus on making a positive transition for their users, e.g., with technical support from Rocket Software for transitioning the existing macros and the creation of a “tips and tricks” document for helping users personalize their local software. From a higher-level perspective, they also emphasized the importance of being clear about your objectives.

“We were very clear; we needed to enhance our technical infrastructure, and as a bonus we found a terminal emulation solution that was more flexible and less expensive,” said Tom Kolepp, BerkOne’s VP of Marketing and Compliance. “We wish we had done it sooner.”

Summary and Key Takeaways

- ▶ For thousands of enterprises, solutions that provide **terminal emulation** and **host access** to essential applications and data hosted by *mainframes*, *mid-range servers*, and *virtual desktop infrastructure* continue to provide enduring business value.
- ▶ Aberdeen’s analysis of selected *technology installations* that are visible in its technology dataset, combined with an analysis of selected topics that are being *actively researched*, provides empirical insights into a large and active market for terminal emulation:
 - **A significant enterprise footprint for mainframes and mid-range servers:** nearly 125K sites, in nearly 40K enterprises
 - **A substantial population of knowledge workers with a need for access to business-critical applications and data on legacy platforms:** nearly 25M enterprise employees
 - **A large number of enterprises actively researching topics related to terminal emulation:** nearly 20K enterprises, across 20 industries
- ▶ Aberdeen’s analysis of the three dimensions of *technology footprint*, *number of knowledge workers*, and *active research activity* reveals that the industries with the strongest need for terminal emulation and host access are **Business Services** (which includes *accounting*, *human resources / recruiting*, *consulting*), **Manufacturing**, **Retail**, **Education**, **Healthcare**, and **Finance and Insurance**.
- ▶ Leading drivers for the high level of current interest in terminal emulation and host access solutions include:

- **Technology triggers to re-evaluate existing solutions**, such as *changing endpoint strategies* (e.g., platform migration, enterprise mobility and BYOD initiatives, application and desktop virtualization initiatives), and *evolving regulatory compliance requirements* (e.g., encrypted communications, certifications)
 - **Opportunities for operational upside from the perspective of IT staff**, such as *unification of terminal emulation* (e.g., by reducing the number of supported terminal emulation solutions that may have accumulated as a result of mergers, acquisitions, and independent technology purchases over time), *reduction in the time and expense of ongoing IT support* (e.g., software upgrades), and *simplification of software license administration*
 - **Integration and compatibility requirements**, such as *support for existing back-end hosts, communication modes, and terminal types; support for current and future range of endpoint devices; and backward compatibility with incumbent terminal emulation solutions* (e.g., existing session files, macros, keyboard maps, image viewers, and other customizations)
- ▶ As organizations get closer to a buying decision, researchers on **terminal emulation** (an *enabling technology*) are **1.5 times more likely** to also be researching on **remote access** (the primary *business objective*) — reinforcing the fundamental point that the primary purpose is to **provide enterprise business users with flexible, secure access to the applications and data they need to do their jobs.**

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