

New and Transformational Technologies with Security Ramifications

This paper explores the effects, ramifications, and implementation of the new hardware Desktop Computing environment. The steady evolution of desktop computing has begun to take two distinctive paths which are dramatically changing both the perception and implementation of desktop computing. The first of these paths is the formal centralization of the computing assets to a single site. The second is the virtualization of the computing functionality at that central site to perform the tasks the user requires in the course of his work.

Centralization of computing assets to one or more “computational centers” relocates all computing hardware from the desktop to a controlled and secured environment placing computing and data assets under ”lock and key”. Typically, these assets are centralized in the same location as existing server, storage and networking toolsets. This new model of computing mixes the advantages of mainframe computer management and security with the distributed “PC” experience desktop users have come to expect from their located PC. From the user’s perspective the only changes are the absence of a “beige box” in their desk environment. This represents a removal of the traditional PCs result in the resolution of longstanding issues, namely those of heat, noise, limited space availability and management. Additionally, the movement of all network connections and activity to the centralized Data Center further increases physical security unavailable in the traditional PC environment. In this new paradigm, issues of service, maintenance, and reliability dramatically reduced, thus, resulting in a far more efficient utilization of highly trained IT staff.

However, the most dramatic changes that result from centralization come from the virtualization of computing functionality. By virtualizing the computing resources a company possesses, they are able to provide just the right amount of system resources to the appropriate personnel, at the appropriate time. This ”computing on demand” will vary with the nature of the tasks to be performed. Now, computing resources are dynamically allocated to individual users based on historical requirements, job tasks, and/or new needs. This new model represents a far more efficient deployment of computing resources within a increasingly task oriented view of work is to be done.

These two paths have converged into a single hardware environment resulting in reduced costs and increased availability. All while creating a uniquely secure physical domain with intrinsically superior management characteristics. Given this new hardware environment, it becomes possible to approach the non-hardware aspects of computing with a fresh and more efficient method of deploying and utilizing the software resources of the enterprise.