

Flash Research Paper 3: Virtualization and Cloud Computing

We are at the brink of an opportunity to cut costs, make benefits, and lead in the forefront of server technology. This year we need to replace 1,000 servers, but we can get away with replacing that 1,000 with 200 more advanced servers. The answer is VMware. VMware uses virtualization technology to squeeze multiple servers into one. By investing in this opportunity we can reduce the amount of physical servers by 80% and improve our firm's competitiveness.

VMware uses virtualization to create a virtual version of a device on existing servers. This works because the framework divides the server into one or more execution environments. In server virtualization, multiple virtual environments called virtual servers are contained in one physical server. This is the main idea of server virtualization, which is the partitioning of a physical server into smaller virtual servers to maximize server resources. By running our machines under VMware, we can enable centralized management for our data center and contain our server sprawl by running more software applications on fewer physical machines.

Fewer physical machines means fewer costs. We are at the start of a hardware refresh cycle in which all 1,000 of our servers will need replacement. If upgrade to the same style of servers we had previously, we will spend \$8 million dollars initially with \$2 million per year maintenance cost. By investing in VMware virtualization technology, we would spend \$3.2 million initially with a \$3 million per year maintenance cost. Over a 3-year period, we would be saving \$1.8 million dollars. As our company continues to grow, we will buy less servers per year as we grow because we can consolidate 10 physical servers onto one single virtual machine server.

Table A (copied from Excel)

	Initial cost	Year 1	Year 2	Year 3	Total
Vmware Virtual Technology (200 servers)	\$3,200,000	\$3,000,000	\$3,000,000	\$3,000,000	\$12,200,000
Status quo (1000 servers)	\$8,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$14,000,000

References

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3. Strickland, Jonathan. "How Server Virtualization Works." *HowStuffWorks*. How Stuff Works, n.d. Web. 19 Feb. 2014. <<http://www.howstuffworks.com/server-virtualization.htm>>.