A good introduction to virtualization principles can be found in a recent text of Saltzer and Kaashoek

[312] and in [141]. Virtual machines are dissected in a paper by Smith and Nair [325]. An insightful discussion

of virtual machine monitors is provided by the paper of Rosenblum and Garfinkel [308]. Several

papers [41,84,241,242] discuss in depth the XenVMM and analyze its performance. The Denali system

is presented in [372]. Modern systems such as Linux Vserver [214], OpenVZ (Open VirtualiZation)

[274], FreeBSD Jails [124], and Solaris Zones [296] implement operating system-level virtualization

technologies.

A paper [281] compares the performance of two virtualization techniques with a standard operating

system. The vBlades project at HP-Laboratories is presented in [228].

A 2001 paper [79] argues that virtualization allows new services to be added without modifying the

operating system. Such services are added below the operating system level, but this process creates a

semantic gap between the virtual machine and these services. A survey of security issues in virtual systems

is provided by [389]. Object-oriented VMM design is discussed [80]. Several references including

[165,199,271,301,342,371] discuss virtualization and system architecture.