



## RESOURCE INF-014G

### Server Virtualization Guideline

#### Purpose

The purpose of this guideline is to establish server virtualization requirements that define the acquisition, use, and management of server virtualization technologies at Coast Mountain College (CMTN).

#### Overview

This guideline provides controls that ensure that enterprise issues are considered, along with business objectives, when making server virtualization-related decisions.

Platform architecture policies, standards, and guidelines will be used to acquire, design, implement, and manage all server virtualization technologies.

#### Definitions

**Virtualization:** The creation of a virtual (rather than actual) version of something, such as an operating system, a server, a storage device, or network resources.

#### Scope

This guideline encompasses all new and existing workloads.

#### Details

CMTN's Director of Information Technology has the overall responsibility for ensuring that policies are followed in order to establish contracts and the confidentiality, integrity, and availability of CMTN data.

Other IT staff members, under the direction of the Director of Information and Technology, are responsible for following the procedures and policies within IT.

CMTN's legacy IT practice was to dedicate one physical server to a single workload. The result of this practice was excessive server underutilization, an ever-expanding data centre footprint, and excessive data center power consumption.

Server virtualization software allows the consolidation of new and existing workloads onto high capacity x86 servers. Consolidating workloads onto high capacity x86 servers allows CMTN to reduce the x86 server inventory, which in turn decreases the data centre footprint and data centre power consumption.

CMTN will migrate all new and existing workloads from physical servers to virtual machines. Hardware will be retired at such time as planned by IT management or required by incompatibility with operating systems (OS) and/or workload-specific software updates.

## Server Virtualization Requirements

CMTN's server virtualization requirements are:

- support industry-wide open-standards, including industry-standard:
  - management tools
  - backup and recovery tools
  - x86 hardware
  - storage
- support:
  - unmodified guest operating systems
  - lightweight directory access protocol (LDAP) for authentication and authorization for administrative console
- contain:
  - an embedded security technology, such as, trusted platform module (TPM) or other technology
  - a single centralized management console
  - the functionality to support virtual server management network isolation
  - the functionality to configure role-based access for the administrative console
  - an integrated graphical central processing unit (CPU), memory, disk, and network performance monitoring, alerting, and historical reporting for hosts and guests
  - other industry-standard or best-in-class features as required
- have the ability to:
  - interoperate with other platform technologies
  - migrate running guests without interruption
  - add disks to a running guest
  - automatically detect a hardware failure and restart guests on another physical server
  - encrypt all intra host and administrative console traffic.

## Related Policies, Guidelines, and Other Resources

- None