

# COMMONWEALTH OF VIRGINIA



## Information Technology Resource Management Policy

# NETWORKING AND TELECOMMUNICATIONS POLICY

Department of Technology Planning

## Preface

### Publication Designation

COV ITRM Policy NET2001-01.1

### Subject

Networking and Telecommunications

### Effective Date

December 7, 2001

### Supersedes

No prior networking and telecommunications policy

### Scheduled DTP Review

One (1) year from the effective date

### Authority

Code of Virginia, § 2.2-226  
(Powers and Duties of the Secretary of Technology)

Code of Virginia, § 2.2-2651  
(Powers and Duties of the Council on Technology Services)

Code of Virginia, § 2.2-1701  
(Powers and Duties of the Department of Technology Planning)

Code of Virginia, § 2.2-1303  
(Powers and Duties of the Department of Information Technology)

### Scope

This policy is applicable to all state agencies and institutions of higher education (hereinafter collectively referred to as "agencies") that are responsible for local and wide-area networking or telecommunications. Local government entities are encouraged to consider the implications of this policy for their work.

### Purpose

To provide cost-effective networking and telecommunications service to connect those who need to transmit data, voice and video to conduct the business of state government.

### Objectives

To ensure clear statement of high-level, government-wide directives concerning networking and telecommunications.

To ensure coordination of networking and telecommunications related policies across branches of government.

To assist agencies in the development, maintenance and administration of networking and telecommunications services.

### General Responsibilities

In accordance with the *Code of Virginia*, the following provisions apply:

#### Secretary of Technology

Responsible for:

- Directing the formulation and promulgation of policies, standards, specifications, and guidelines for information technology in the Commonwealth, including, but not limited to, those (i) required to support state and local government exchange, acquisition, storage, use, sharing, and distribution of geographic or base map data and related technologies and (ii) concerning the development of electronic transactions including the use of electronic signatures as provided in § [59.1-496](#).
- Directing the establishment of statewide standards for the efficient exchange of electronic information and technology, including infrastructure, between the public and private sectors in the Commonwealth.

#### Council on Technology Services (COTS)

Responsible for :

- Advising and assisting the Secretary of Technology in exercising the powers and performing the duties conferred.

#### Department of Technology Planning (DTP)

Responsible for:

- Assisting the Secretary of Technology in the development of statewide policies affecting

technology at all levels of government, in the business sector, and among the general citizenry.

- Developing and promulgating policies, standards, and guidelines for managing information technology in the Commonwealth.
- Developing statewide standards for the efficient exchange of electronic information and technology, including infrastructure, between the public and private sectors in the Commonwealth.

**Department of Information Technology (DIT)**

The Department shall have the following powers and duties concerning the planning, budgeting, acquiring, using and disposing of communications equipment and services:

- To formulate specifications for telecommunications, automated data and word processing, and management information systems.
- To analyze and approve all procurements of interconnective telecommunications facilities, telephones, automated data and word processing, and other communications equipment and goods.
- To review and approve all agreements and contracts for communications services prior to execution between a state agency and another public or private agency.
- To develop and administer a system to monitor and evaluate executed contracts and billing and collection systems.
- To exempt from review requirements, but not from the state's competitive procurement process, any state agency which establishes, to the satisfaction of the Department, (i) its ability and willingness to administer efficiently and effectively the procurement of communications services or (ii) that it has

been subjected to another review process coordinated through or approved by the Department.

**All State Agencies**

Responsible for:

- Cooperating with the Secretary of Technology, the Department of Information Technology, and the Department of Technology Planning in the performance of their powers and duties; and
- Complying with the Department of Technology Planning's policies, standards, and guidelines for information technology resources in the Commonwealth.

**Definitions**

*Networking* means any local, wide-area, metropolitan-area or campus network established for use by agencies of the Commonwealth.

*Telecommunications* means any transmission, emission, or reception of signs, signals, writings, images, and sounds, or information of any nature by wire, radio, visual, optical, or other electromagnetic systems.

**Related COV ITRM Policies, Standards, and Guidelines**

COV ITRM Standard NET2001-01.1, Networking, Telecommunications, and Cabling Standard

COV ITRM Guideline NET2001-01.1, Networking and Telecommunications Guideline

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## Background

The COV ITRM Policy NET2001-1.1 brings together relevant policies established by the General Assembly, the Governor, and the Secretary of Technology that affect networking and telecommunications service provision by Commonwealth agencies. The policies provided in this document have been approved by the Secretary of Technology upon recommendation of the Council on Technology Services (COTS). The Enterprise Architecture Network Domain team, a COTS workgroup, recommended the policies to be included in this compilation. This team included state agency, local government, and higher education members.

## Approach

This document will provide a listing of policies presently in effect that are related to networking and telecommunications services provided by state agencies. Every effort will be made to ensure that the policies herein are reviewed annually for continued applicability.

## Reviews

Annual reviews of this policy are anticipated.

## Statement of ITRM Policies for Networking and Telecommunications

ITRM policies are high-level requirements for agencies. All such requirements related to networking and telecommunications are provided below.

***Policy Requirement 1. Telecommunications Contracts.*** Current law states all voice and data telecommunication services (e.g., wide area network or WAN services) for state agencies and institutions of higher education must be provided by the Department of Information Technology (DIT) or exceptions approved by DIT (see *Code of Virginia, § 2.2-1303*). This policy requirement enables the Commonwealth to leverage its buying power to obtain good prices for the Commonwealth. Local agencies and other public bodies are encouraged to take advantage of these contracts.

The *2000 Appropriation Act*, (Chapter 1073, §4-5.06 Goods and Services, b. Information Technology Facilities and Services, paragraph 1.) further clarifies that “Written approval of the Secretary of Technology shall be obtained before any state agency or institution of higher education contracts for telecommunications services from a nongovernmental source.” For agencies other than institutions of higher education, the Appropriation Act includes this additional requirement pertaining to telecommunications equipment: “Written approval of the Director, Department of Information Technology [DIT] shall be obtained before any executive branch agency, not to include institutions of higher education and the State Lottery Department: a)

contracts for the continuous use of any item of telecommunications equipment or b) contracts for the purchase of any item of telecommunications equipment.”

In paragraph 8 of the same section, the 2000 Appropriation Act continues with additional telecommunications related instructions. Specifically, the Act requires review by the Secretary of Technology of “agency procurements of all non-DIT provided data communications, telecommunications, and/or data center services” and approval of “only those procurements that benefit the purchasing agency and the Commonwealth as a whole.” Regarding existing higher education contracts, paragraph 8 continues stating that “nothing in this paragraph shall prevent any institution of higher education, or the Virginia Community College System, from implementing plans or contracts already agreed to for the provision of data communications service.”

***Policy Requirement 2.*** *Approval of Telecommunications Acquisitions.* Current law states that any information technology acquisitions over \$100,000 must be approved by the Department of Technology Planning and acquisitions over \$1,000,000 must be approved by the Secretary of Technology (see *Code of Virginia, § 2.2-226.B.6*). This policy requirement provides checks to ensure that agency acquisitions are in line with agency strategic goals and objectives and with the Commonwealth’s Enterprise Architecture.

***Policy Requirement 3.*** *State Facilities.* Public and private network infrastructure requirements must be an integral part of building design, leasing, construction and renovation and should be appropriately scheduled to ensure service availability. This practice will help agencies to avoid time delays and future inflated expenses in obtaining needed telecommunications and networking infrastructure.

***Policy Requirement 4.*** *State and Local Agency IP Addresses.* State and local agencies sometimes route unregistered IPv4 addressed packets (i.e., RFC 1918 available at: <http://www.ietf.org/rfc/rfc1918.txt?number=1918>) over COVANET. Any state or local agency intending to do so must first gain DIT approval and record the unregistered address range they are using with DIT. State and local government agencies are strongly encouraged to employ only registered IPv4 addresses when routing over COVANET and are required to use only registered IPv6 addresses when they switch to IPv6.

Note: A Freedom of Information Act (FOIA) exception to the sharing of DIT recorded IP address information will be obtained prior to enforcing this policy.

## Glossary

**COVANET** – COVANET is a comprehensive array of communications services, including voice long distance, data, and Internet services, which are available to local and county governments, state agencies, universities, and quasi-government agencies. The acronym references the Commonwealth of Virginia (COVA) Networking (NET) Contract.

**Council on Technology Services (COTS)** – COTS is an advisory group for Virginia's Secretary of Technology.

**DIT** – Department of Information Technology

**Internet Protocol (IP)** - A communications protocol which plays a significant role in the routing of packets of data from one node on the internet to another. IPv4 routes each packet based on a 32 bit destination address called an IP address (e.g., 123.122.211.111).

**IPv4** – IPv4 is a four octet, 32 bit IP address in the form 255.255.255.255.

**IPv6** - Ipv6 is a sixteen octet, 128 bit IP address that may be viewed as hexadecimal numbers separated by semicolons. For a discussion and comparison with IPv4 see the national Communications System (NCS) comparison at:  
[http://www.ncs.gov/n6/content/tibs/html/tib97\\_1/sec5\\_0.htm](http://www.ncs.gov/n6/content/tibs/html/tib97_1/sec5_0.htm).

**Network** - A configuration of devices and software connected for information, voice, or image transmission or for other purposes that may be addressed by electrical, radio, or optical signaling.

**Wide Area Network (WAN)** – 1) A network that provides communication services to a geographic area larger than that served by a local area network or a metropolitan area network, and that may use or provide public communication facilities. 2) A data communications network designed to serve an area of hundreds or thousands of miles; for example, public and private packet-switching networks, and national telephone networks. 3) A computer network that links multiple workstations and other devices across a large geographical area. A WAN typically consists of multiple LANs that are linked together.

## Appendix A: Assignment of Uniform Alphanumeric Publication Designations for all Policies, Standards, and Guidelines

The Department of Technology Planning is responsible for assigning a uniform alphanumeric Publication Designation (PD) to all Commonwealth of Virginia (COV) Information Technology Resource Management (ITRM) Policies, Standards, and Guidelines (PSG). The PD is derived, in part, from components of the Commonwealth Enterprise Architecture (EA) known as “Infrastructure Domains.” The “Infrastructure Domains” and Governance are defined in the [Commonwealth EA Glossary](#). The Governance code is used to identify those PSG that are not uniquely related to a specific infrastructure domain, e.g. “IT Project Management” or “IT Project Oversight.”

The following alpha codes will be used to identify each PSG:

### Infrastructure Domains + Governance

### Code

Governance and Transitional Processes	GOV
Platform Architecture	PLA
Database Architecture	DAT
Network Architecture	NET
Security Architecture	SEC
Systems Management Architecture	SYS
Information Architecture	INF
Application Architecture	APP
Middleware Architecture	MID

Publication Designations are constructed as follows:

COV ITRM (“Policy,” “Standard,” or “Guideline”) XXXYYYY-ZZZ

Where: XXX is the assigned Infrastructure Domain + Governance code;  
YYYY is the year of initial issue; and  
ZZZ is the sequential number assigned to link related PSG.

Example: COV ITRM Standard GOV2000-01.1 is a standard that implements  
COV ITRM Policy GOV2000-01.1.