



Office of the Chief  
Information Officer

# PHYSICAL SECURITY TECHNICAL STANDARDS FOR: BUILDING UTILITIES SERVICE (BUS) ETHERNET SWITCHES

**Architecture, Standards and Planning Branch**

Office of the CIO ● Province of BC

*People ● Collaboration ● Innovation*

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## Introduction

This is a new standard to address the requirements for a secure enclosure of Building Utilities Service (BUS) Ethernet switches.

Building utilities are becoming more modernized with the rapid growth of technology. Building management services now invite the capability to remotely manage some or its entire core building utilities through automated computer systems. For these reasons, computer Ethernet switches are being installed and need to be physically secured.

This standard was developed to provide physical security around BUS Ethernet switches that reside within typical mechanical or electrical (or service) rooms within a building.

The new standard has been in pilot since January 2011 and has been through a successful peer-review.

## Purpose

The purpose of the standard is to ensure BUS Ethernet switches are protected and secured from any unauthorized persons or other environmental factors found within a typical service room. Trades people will require access to the service rooms, exposing BUS Ethernet switches to potential harm and unauthorized access, hence a need to secure the Ethernet switches.

## Definition of Building Utilities Services

Building Utilities Services are defined as automated systems that manage and monitor building core utilities over the SPAN-BC network. Some automated building core utilities services are: HVAC, intrusion alarm, DDC, access control and low voltage lighting control to name a few.

BUS Ethernet switches is managed remotely by SSBC Network Services and must not be tampered with.

## Scope

The document applies to Shared Services BC and its service partners whom act as implementers and installers of the Ethernet Switches. It specifies the physical security requirements for Building Utilities Service (BUS) Ethernet Switches.

The document does not apply to:

- The implementation and installation Client Ethernet Switches. Please refer to the 'Physical Security Technical Standards for: Special Purpose Buildings Ethernet Switches' November 25, 2011'.

## Standard

1. Building Utilities Service Ethernet Switches, along with other IT Infrastructure, must be installed in a secure enclosure such as a cabinet.
2. Secure cabinets shall be installed in secure service rooms with a lockable door, within the building core with a limit of one secure cabinet per building.
3. The enclosure must meet Telcordia GR-487-CORE tamper resistance.
4. The enclosure (or cabinet) must be attached to the wall.
5. The secure enclosure shall have a door mounted tamper switch tied into the building security system as an intrusion alarm zone. For sites that do not have a building security system, the tamper switch must be wired to a local audible alarm.
6. The secure cabinet enclosure must be kept locked, and the key shall be held by the Building Maintenance manager.
7. BUS Ethernet switches must have its own secure cabinet and not housed jointly with Client Ethernet switches.
8. Two CAT5e cabling runs installed from the SSBC Network Services router to the secure cabinet.
9. Install dedicated NEMA 5-20RA receptacle in the secure cabinet.

## Normative References

### International Standards

- Generic Requirements for Electronic Equipment Cabinets - [Telcordia GR-487-CORE](#)

### Government Standards

- [SSBC-IWS Technical Standards for Offices Building Construction \(2010\)](#). These standards provide the technical requirements for construction of new buildings that IWS leases or builds for its clients.

## Terms and Definitions

For the purposes of this document, the following terms, definitions and acronyms apply:

ACRONYM	TERM	DEFINITION
HVAC	Heating, Ventilating and Air-Conditioning	A technology of indoor environmental comfort. It is important in the design of medium to large industrial and office buildings.
	Ethernet Switches	A network switch is a computer networking device that connects network segments.



DDC	Direct Digital Control	An automated control of a condition or process by a digital device (computer). A very early example of a DDC system meeting the above requirements is a serial communications network, connecting campus buildings back to a control room "front end" system in the basement of a building.
	Telcordia	A telecommunications company that provide the view of proposed generic criteria for telecommunications equipment, systems, or services considering a wide variety of factors, including interoperability, network integrity, participating-client expressed needs, and other inputs.

### Metrics and Enforcement

The intention of the OCIO is to advertise and promote this standard as being mandatory throughout government. However, in order to effectively manage the physical security around the Ethernet switches, the Shared Services BC implementer is accountable for compliance to this standard. The OCIO Information Security Branch will also monitor for compliance.