

Subject: Interim ITS Field Network Switches Procurement (Supersedes TE-2019-01)	
Date: November 23, 2020	Authors: Grant Ng William Zhang, P.Eng.
Bulletin Number: TE-2020-01 Bulletin Type: Requirement	Effective Date: November 23, 2020
Audience	Standards Affected
Ministry Managers, Electrical Services; all holders of the Electrical and Traffic Engineering Manual; all Project Managers; all Design Consultants	Electrical & Traffic Engineering Manual

Reference:

An Independent Audit of the Regional Transportation Management Centre of British Columbia's Cybersecurity Controls (OAG, October 2017).

Background:

In 2016, the Office of the Auditor General (OAG) conducted an audit on the Transportation Management Centre of British Columbia (previously Regional Transportation Management Centre) and its Intelligent Transportation System (ITS) network. The focus of the audit is to ensure that cybersecurity best practices are adhered to. The OAG has produced a public report and a management report identifying possible cybersecurity risks and recommendations to reduce exposure to such risk.

In response to the OAG audit, and as part of the remediation strategy, fully managed network switches shall be used in all Ministry ITS applications. This includes field installations and central data processing facilities. Unmanaged or partially managed network switches shall not be used for new deployments as per Ministry's Information Management Branch (IMB) guidelines.

The process for procurement of managed network switches is in the planning phase. To prevent any deployment of unmanaged network switches while this process is being developed, an interim procurement process has been established.

Policy:

Managed switches used for ITS applications shall be selected from a preapproved list. Electrical Maintenance Contractors (EMC) may procure managed switches on behalf of the Ministry in accordance with the existing Electrical Maintenance Agreement. EMCs shall coordinate procurement to ensure that ownership of switches, associated accessories and licenses are transferrable.

Procedure:

Note: The delivery lead-time for managed switches can be up to 7 weeks. In order to eliminate potential delays, the project must initiate procurement by providing the make, model(s) and quantity of network switches to the Ministry Representative at the earliest possible stage of the project. A longer lead time will also ensure best-case project pricing.

Design Phase (Pre-procurement):

- 1) The designer shall select from the preapproved list of managed switches below. If the preapproved list does not provide a suitable switch for its application, then the designer can request for an alternative through an IMB Representative.
- 2) The designer shall submit the finalized list of managed switches to the Ministry Project Representative and IMB Representative for confirmation and approval.

Make/Model	Mfg. License	Required Cisco SFP Transceiver Modules
<p>Cisco IE 3x00 Series:</p> <p>IE-3300-8T2S-E *Ministry standardized modular base system with 8 copper + 2 fibre ports; fixed base port density that is expandable (see below)</p> <p>IEM-3300-8T *Optional 8 Port GE copper expansion module</p>	<p>DNA Essentials</p> <p>LAN Base</p> <p>*Base or DNA Essentials license is the lowest acceptable feature level</p>	<p>* Cisco Ruggedized SFP transceiver modules must be ordered for each IE 3300, not included by default</p> <p><i>*Ministry preference is to standardize with only ruggedized transceivers in outdoor field environment scenarios</i></p> <p><i>*Cisco service, support or warranty may be denied, limited or hampered if non-Cisco transceiver modules are used with Cisco switches</i></p>

Table 1. Approved Fully Managed Switches and accessories for ITS Applications

Procurement Steps:

- 1) IMB provides the Ministry Project Manager with a Cisco approved supplier contact.
- 2) The Ministry Project Manager forwards the procurement and funding details to the Ministry Manager, Electrical Services.
- 3) The Ministry Manager, Electrical Services forwards the procurement details and Project Contractor contact information to the Ministry EMC.
- 4) The EMC orders the network switches and obtains lead times from the Cisco approved supplier. Engagement steps with the supplier:
 - a) Contact the Cisco approved supplier and identify that a quote is needed for a Provincial Government Ministry project.
 - b) Allow 24 to 48 hours prior to needing finalized quote, to allow adequate time for calculating project-based pricing discounts, inventory availability, bill of materials confirmation, and technical product qualification support services.
 - c) Free technical product qualification support services are available upon request.
- 5) The EMC confirms from the supplier that all ownership and licenses are transferable to the Ministry; documentation that supports this shall be forwarded to the Project Manager.
- 6) The EMC contacts the Project Contractor to make arrangement for delivery at a mutually agreed upon date and location.
- 7) The EMC shall inform the Ministry Representative when the equipment is received and provide delivered Bill of Material copy for inventory tracking purposes.

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