NTCIP Testing

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**NTCIP Testing:** Done by Interoperability Test Lab (ITL) at TransLink by Curtis Herrick and Bob Deroche

- ITL does NTCIP testing for all kind of devices
- Limited testing done for actuated traffic signals controllers – NTCIP 1201, 1202, and 2001
- 15 month project sponsored by FHWA and AASHTO to develop test procedures by ITL

**Objectives**

- Use the Interoperability Test Lab (ITL) at the TransLink® Research Center to test traffic signal controller interoperability and interchangeability using NTCIP communications.
- Provide a demonstration traffic signal control system consisting of components that support NTCIP.
- Develop test procedures for NTCIP testing of actuated signal controllers

**Scope**

- Testing of the basic functions and mandatory features of Traffic Signal Controllers and their Management Applications as they related to the NTCIP 1201, NTCIP 1202, and NTCIP 2001 Standards

**Overall goal**

- To assess and evaluate the suitability, effectiveness and (contribution to) interoperability of the NTCIP Actuated Signal Control Standards.
- Tested four controllers that have a bulk of the market share in the US as part of this project.

A variety of **tools were used** to develop these test procedures and test the controllers. These include:

- NTCIP Exerciser
- SimpleSoft's SimpleTester
- Intelligent Devices' Device Tester for NTCIP
Features tested – tested mandatory features for communications and not necessary all optional features

- Object instantiation of the mandatory and optional object groups
- Support values of the mandatory and optional objects instantiated.
- The SNMP and Null Protocol
- The PMPP Protocol using an RS-232 Physical Interface and an FSK Modem Interface
- Several system operational scenarios
- Controller response times

Deliverables

- Test Procedure Specification
- Test Item Transmittal Report
- Test Log
- Test Design Specification
- Test Case Specification
- Testing tool – test scripts

Currently testing involves NTCIP protocol between center and field. In the future, more work is expected in

- Testing NTCIP protocol between center to center.
- Automating testing – development of scripts which will be placed on the website if permissible
- Checking functionality behind parameter, control or status.

Website: (under development)

http://www.itstestlab.org

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