Practical Widespread Deployment of NTCIP Standards

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Practical Widespread Deployment of NTCIP Standards

- Types of Products
- Countries Around The World
- Challenges and Lessons Learned
- Practical Approach to NTCIP Testing

Benefits of ITS Standards

- Competitive NTCIP marketplace with multiple vendors has been created
- Choice of vendors has been achieved
- Faster deployments has been demonstrated
- Phased deployments is a proven benefit
- Reduced cost of devices and central software

Signs

- NTCIP 1203 (Dynamic Message Signs)
- NTCIP 1201 (Global Objects)
- Multiple Suppliers
- Overhead, Arterial, Portable, Speed Limit

Traffic Controllers

- NTCIP 1202 (Actuated Signal Controllers)
- NTCIP 1201 (Global Objects)
- Multiple Suppliers

Ramp Meters

- NTCIP 1207 (Ramp Meter Controllers)
- NTCIP 1201 (Global Objects)
  - A number of US States
  - Johannesburg

Camera Control

- NTCIP 1205 (Camera Control)
- NTCIP 1201 (Global Objects)
- Multiple Suppliers

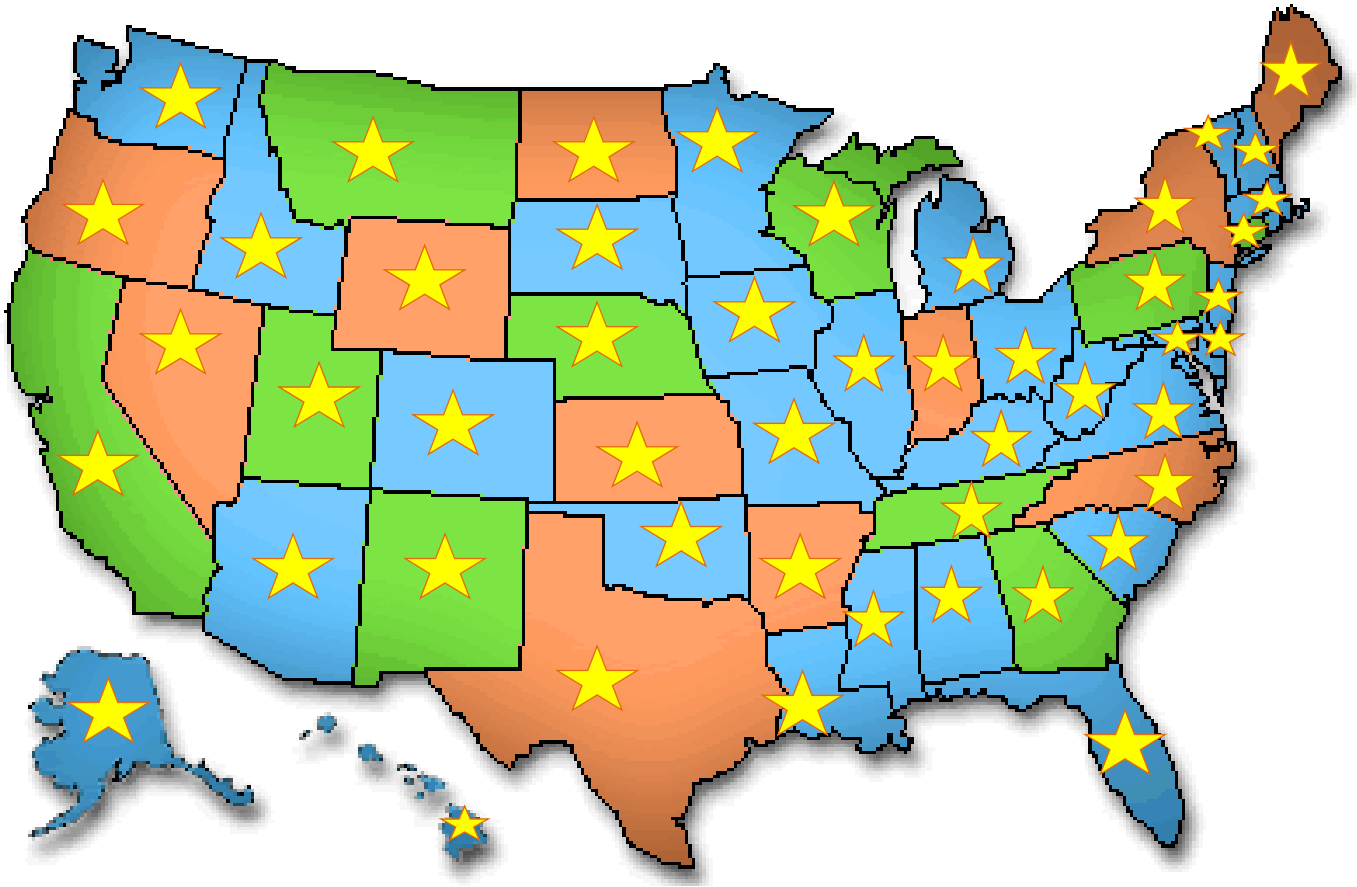
Competitive, Interoperable Camera Suppliers

Countries

United States

- NTCIP is an established nationwide success
- Many hundreds of NTCIP deployments and in excess of 60,000 NTCIP devices
- Initial teething problems behind us…

United States NTCIP Field Activities



New Innovative Applications of the NTCIP Standards

Minneapolis Transit Commuter Information System

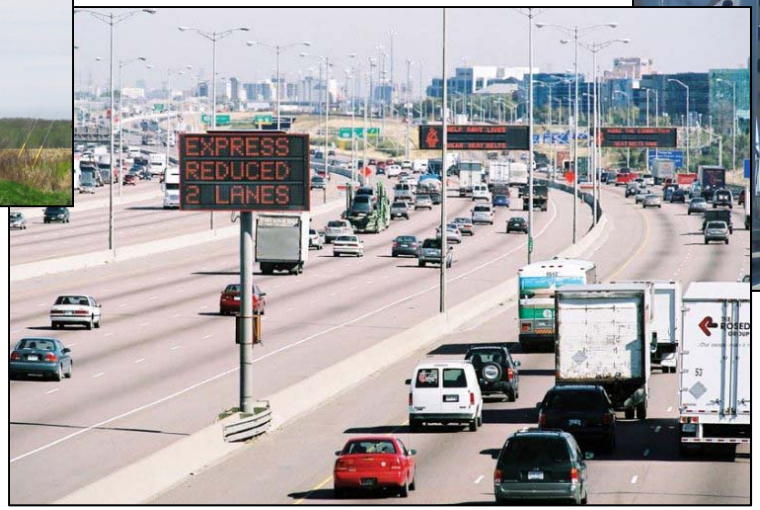
Parking Availability – All NTCIP

New Innovative Applications of the NTCIP Standards

Snow Plows and Maintenance Decision Support Systems

Canada

- Strong for Signs, Traffic Controllers, CCTV

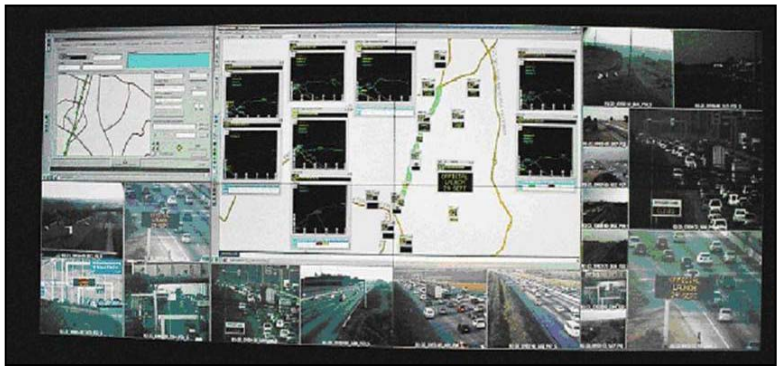


Competitive sign industry – Multiple NTCIP suppliers, some local, some international

South Africa

Competitive Sign Industry – Multiple NTCIP Suppliers

Johannesburg Road Agency: All NTCIP Signs and upgrade of 1,800 traffic controllers to NTCIP



Johannesburg Network Management Center: All NTCIP Signs, Sensors, Ramp Meters

Johannesburg Airport – NTCIP signs

Brazil

- Federal Regulation: Highway authority regulated that NTCIP will be used for all federal roads

Mexico

- Case Study – Mexico Toll Road
- Arco Norte
- 120 Miles toll road
- Signs, Cameras, Traffic Sensors, Control Room, Call Boxes, Incident Management
- NTCIP selected on purely technical merit
- Lower cost, faster deployment, assured functionality
- Created competitive advantage for USA companies
- 4 New toll road companies have NTCIP projects

Middle East

Dubai

Abu Dhabi

Qatar

Saudi Arabia

Bahrain

Libya, etc.

New Zealand

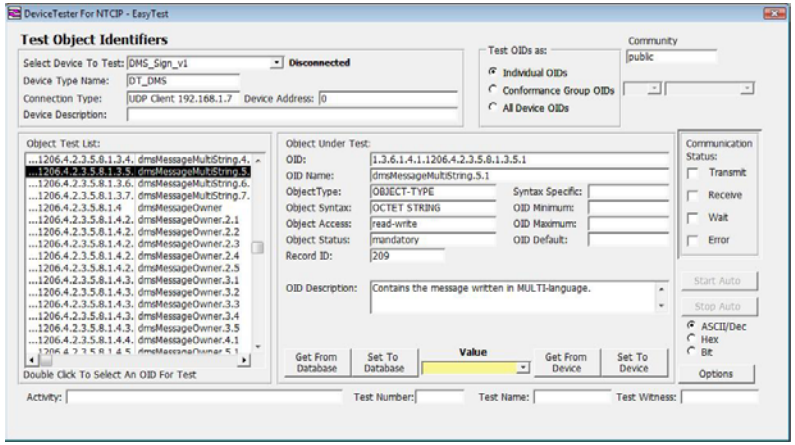
Competitive Sign Industry – Multiple Suppliers

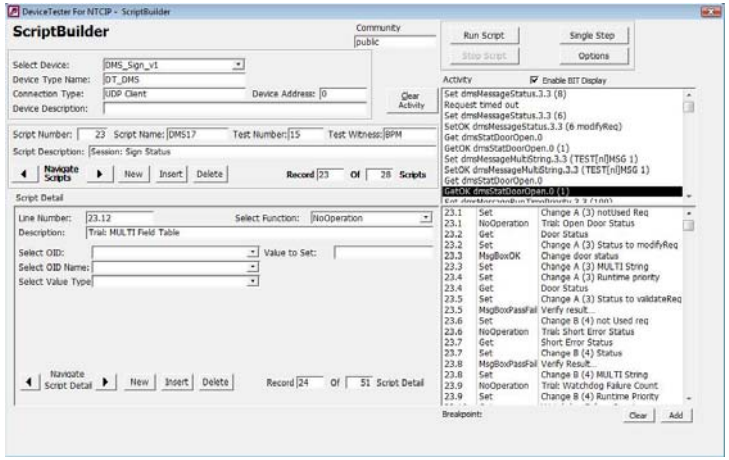
Other Countries

- China – Beijing Traffic System, Hong Kong Tunnel
- Venezuela
- Greece – Olympic Traffic System
- Israel – New ITS System
- Cyprus
- Columbia
- UK UTMC

Challenges and Lessons Learned

- When NTCIP standards were first introduced there was a lack of understanding of the critical factors
- An aggressive testing program and an effective method of testing NTCIP conformance is essential
- In the US, more effective automated testing tools and the NTCIP 8007 standard for test procedures were developed some time after the initial introduction of NTCIP standards
- Hard to break the purchasing agency habit of accepting custom features from vendors that do not conform to the standard





Practical Approach to NTCIP Testing

1. Prepare procurement specification
2. Establish NTCIP Acceptance Test Procedure (ATP) for each traffic device concerned
3. Procure a testing tool with ability to run scripts of the ATP automatically, e.g. DeviceTester, SimpleSoft, Ntester
4. Reference the ATP in the procurement specification, date/version number, and make available to prospective vendors
5. Reference the ATP scripts that will be used with the testing tool, date/version number, and make available to prospective vendors
6. Conduct Factory Acceptance Testing (FAT) for the traffic device concerned
7. Conduct Site Acceptance Testing (SAT) after the delivery of the device concerned

Thank You!

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