National Traffic Control Centre
Highways Agency, England

Himadri Hazarika *(IBI Group)*,
Dr. Mahendra ‘Mandi’ Patel *(IBI Group)*,
Pete Radford *(Serco)*

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NTCC – Overview

Highways Agency (HA)
- Managing, maintaining and improving England’s motorways and trunk roads
- Information to enable smarter travel choices

National Traffic Control Centre (NTCC)
- Strategic signage and real time traffic information delivery to partners and public
- PFI contract, 2001 – 2011, Traffic Information Services (Serco)

NTCC Information Services
- TIH feeds – DATEXII, UTMC, CORBA, TPEG, OTAP
- Others – RSS, IVR, Emails, Desktop, HAIL, Traffic Information Provider

NTCC DATEXII service
- Pre release version 47 – Pilot (2006)
- Version 1.0 – Production (July 2007), Last update (Jan 2010)
- Version 2.0 – Awaiting standard publication
NTCC – DATEXII Publisher service system environment

Traffic Monitoring Units
- Vehicle Flow, Speed, Occupancy
- Time-stamped & tagged number plates

General Packet Radio Service (GPRS)

Automatic Number Plate Recognition (ANPR) Cameras

National Traffic Control Centre (NTCC)
- Journey Time Management System
  - Journey time Section speeds
  - Spot Speeds, Events, VMS, Signals

Journey Time Management System
- Strategic Roadworks
  - Roadworks
  - Spot Speeds, sign settings

Event and Response Management System
- Operators
  - Events

Storage Area Network

National Road Telecommunication Service (NRTS)

Regional Control Centre (RCC)
- Message Sign sub system
  - VMS, Signals, MIDAS settings
  - Matrix Signals

Traffic Control Centre Interface
- Traffic
  - Vehicle Flow, Speed, Occupancy

Motorway Incident Detection and Automatic Signalling (MIDAS)

Web Server 1
- JTS Speeds
- Spot Speeds, Events, VMS, Signals

Web Server 2
- Spot Speeds, Events, VMS, Signals
- JTS Speeds

DATEXII Premier Service
- Events, Traffic data
  - VMS, Signals, Locations, Status

DATEXII Standard Service
- Events, Traffic data
  - VMS, Signals, Locations, Status

NTCC’s DATEXII PRODUCTS
- Event = All current and future events
- Traffic data = Loop based speed, flow, occupancy + ANPR based travel times (actual, ideal, expected)
- VMS = All set and faulty VMS
- Signals = All set and known signals
- Locations = Links, sections and signs
- Status = 3 minute Service update

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NTCC – DATEXII Products and Services

22 products
- 1M – 30M
- Regional

Premier Service
- 2 minutes

Standard Service
- 10 minutes

<table>
<thead>
<tr>
<th>Information Product</th>
<th>Premier Update Frequency</th>
<th>Standard Update Frequency</th>
<th>Estimated Payload Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Roadworks</td>
<td>2 minutes</td>
<td>10 minutes</td>
<td>1 M bytes</td>
</tr>
<tr>
<td>Future Roadworks</td>
<td>6 hours</td>
<td>6 hours</td>
<td>2 M bytes</td>
</tr>
<tr>
<td>Current Planned Events</td>
<td>2 minutes</td>
<td>10 minutes</td>
<td>10 K bytes</td>
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<tr>
<td>Future Planned Events</td>
<td>6 hours</td>
<td>6 hours</td>
<td>200 K bytes</td>
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<tr>
<td>Unplanned Events</td>
<td>2 minutes</td>
<td>10 minutes</td>
<td>50 K bytes</td>
</tr>
<tr>
<td>Variable Message Signs</td>
<td>2 minutes</td>
<td>10 minutes</td>
<td>3 M bytes</td>
</tr>
<tr>
<td>Matrix Signals</td>
<td>2 minutes</td>
<td>10 minutes</td>
<td>9 M bytes</td>
</tr>
<tr>
<td>All Traffic Data</td>
<td>5 minutes</td>
<td>10 minutes</td>
<td>30 M bytes</td>
</tr>
<tr>
<td>Journey Times Traffic Data</td>
<td>5 minutes</td>
<td>10 minutes</td>
<td>500 M bytes</td>
</tr>
<tr>
<td>NERCC Loop-based Traffic Data</td>
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<td>10 minutes</td>
<td>4 M bytes</td>
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<tr>
<td>NWRCC Loop-based Traffic Data</td>
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<td>10 minutes</td>
<td>4 M bytes</td>
</tr>
<tr>
<td>SERCC Loop-based Traffic Data</td>
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<td>4 M bytes</td>
</tr>
<tr>
<td>SWRCC Loop-based Traffic Data</td>
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<td>4 M bytes</td>
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<tr>
<td>EMRCC Loop-based Traffic Data</td>
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<td>WMRCC Loop-based Traffic Data</td>
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<tr>
<td>ERCC Loop-based Traffic Data</td>
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<td>10 minutes</td>
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<tr>
<td>ATM Loop-based Traffic Data</td>
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<td>10 minutes</td>
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<td>Dartford PCO Loop-based Traffic Data</td>
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<td>10 minutes</td>
<td>1 M bytes</td>
</tr>
<tr>
<td>All Predefined Locations</td>
<td>On occurrence within 5 minutes</td>
<td>On occurrence within 5 minutes</td>
<td>25 M bytes</td>
</tr>
<tr>
<td>Journey Time Sections Predefined Locations</td>
<td>On occurrence within 5 minutes</td>
<td>On occurrence within 5 minutes</td>
<td>1 M bytes</td>
</tr>
<tr>
<td>Links Predefined Locations</td>
<td>On occurrence within 5 minutes</td>
<td>On occurrence within 5 minutes</td>
<td>14 M bytes</td>
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<tr>
<td>Variable Message Signs and Matrix Signals Predefined Locations</td>
<td>On occurrence within 5 minutes</td>
<td>On occurrence within 5 minutes</td>
<td>9 M bytes</td>
</tr>
</tbody>
</table>
Publisher Inputs
- Traffic data every 5 minutes
- Processing time upto 13 minutes

Service Status
- Service update
- Payload update

TIH feed registered users
- DATEXII – 45
- UTMC – 7
- CORBA – 10
- OTAP – 2

Premier service (3 users)
- Every 2 minutes
  - Google
  - Journey times through roadworks (Mouchel)
  - Southwest RCC

Standard service (42 users)
- Every 10 minutes
  - 20 local authorities
  - Traffic Scotland
  - Media
  - 20+ research and traffic information providers
Change and relationship management

- With the customer (HA)
  - Joint Improvement Process (JIP)
  - Reactive to contract and Agency requirements

- With the users
  - Email survey questionnaire
  - Updates notified by email after the change
  - 24/7/365 ICT contact by email and telephone
  - Limited support to users for their receiver development

- DATEXII development group
  - No direct contributions to development
  - DATEX specification queries to Dr. Tim Wright
NTCC – DATEXII current issues

Incorrect usage of the feed
- Server Connections and Frequency of Downloads

Incorrect Monitoring of service outage
- Metadata / If-Modified-Since / Polling every 10 minutes

Size of downloads
- Load analysis – requires hardware upgrades

Awareness of the service
- Minimal amongst non ITS / NTCC traffic community

Development of receiver
- Time and cost, software sharing

Updates take up
- January update, good trial but no current users

Pictograms
- Numbers and Consistency with HA standards
Future – NTCC and HA Operational Interfaces

END USER DOMAIN (TPEG, RDS-TMC, Internet, ...)

Fleet Operators  Service Providers  Media  Public Transport

HAIL

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Future – NTCC and HA Operational Interfaces

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Thank you

Email queries to
hhazarika@ibigroup.com