National Rail Enquiries

Incidents V5 XML Feed

Developer's Guide

Version 1.0

02/06/2020

Contents

1. Introduction

1.1 Overview

This document has been prepared to provide National Rail Enquiries with a documented schema of the Incidents XML feed which will be distributed to existing and prospective users of the XML feeds.

This document contains the following information:
- High level description of XML feed contents
- Information about the XML feed configuration (i.e. how it is accessed and how long it is cached)
- Outline schema (how the feed is structured and what XML tags it contains)
- Description of the XML tags
- High level user guide (how to interpret the XML tags)

1.2 Audience

This document is to be used by National Rail Enquiries and existing and prospective users of XML feed. This document will be updated and distributed following any future update of the XML schema.

2 Outline Schema

2.1 Overview

This chapter defines the structure, and provides a high level description, of the Incidents XML tags. The information contained in each XML tag is described.

This feed contains both service disruptions and engineering works, how these are differentiated is defined in this section.

Where a tag is marked mandatory, consumers can rely upon the presence of this tag. Tags not marked mandatory are optional, i.e. consumers should not rely on these elements existing. Sub-tags marked as mandatory are only mandatory if their parent tag exists.

Where a tag is marked multiple, this means that this tag can be repeated, tags not marked as multiple will not be repeated (albeit that the legacy schema may define that they can).

Within each table of tags and sub-tags, each grouped set of tags (root tag and its children, or choice options) is marked in the same background colour (which alternate).

Please note that this document does not fully define all data types.

2.2 <Xtis>

Tags	Sub tags/Values
<Incidents>	<PtIncident>
<PtIncident> (multiple)	See 2.3

2.3 <PtIncident>

Contains the tags that describe each incident (i.e. service disruption or engineering work).

Tags	Sub tags/Values
<CreationTime> (mandatory)	YYYYY-MM-DD Thh:mm:sss + 00:00. This is formatted as (UTC) time but the time is implemented as GMT/BST (at NRE's request - applies to all date times). Shows when the incident was created.
<ChangeHistory> <com:ChangedBy> (mandatory) <com:LastChangedDate> (mandatory)	<com:ChangedBy>, <com:LastChangedDate> Name YYYYY-MM-DD Thh:mm:sssZ
<ParticipantRef>	Unique reference number generated by the CMS.
<IncidentNumber> (mandatory)	Unique key, the unique incident number for the specified incident generated by the CMS
<Version>	Unique version of the incident, actually derived from Last changed date (YYYYMMDDhhmmss)
<Source> (mandatory) <TwitterHashtag>	<TwitterHashtag> Twitter hashtag associated with incident
<Progress>	Only applies to service disruptions, if present the only value that it will contain is 'closed', this means that the disruption is cleared.
<ValidityPeriod> (mandatory, multiple) <com:StartTime> (mandatory) <com:EndTime>	<StartTime>, <EndTime> Multiple items should only be expected for Engineering Works (i.e. multiple items will apply to repeating engineering works). YYYYY-MM-DD Thh:mm:sss + 00:00. Start time of the incident. YYYYY-MM-DD Thh:mm:sss + 00:00. End Time of the incident, this should only be populated for a disruption, once the disruption is cleared.
<Planned> (mandatory) Field is marked optional in the schema, but it is implemented to always be output.	Boolean; true = Engineering Work, false = service disruption. **This is the recommended field to determine incident type.**

<Summary>	Summary of the incident, i.e. heading.
<Description>	Detailed description of incident.
<InfoLinks>	<InfoLink>
<InfoLink> (mandatory, multiple)	<Uri>, <Label>
<Uri> (mandatory)	Information link. If the <Label> is 'nationalrail.co.uk' this is a link to the incident details. If the <Label> is 'Additional Maps' this is a link to a map of the incident.
<Label> (mandatory)	Label associated with the link
<Affects> (mandatory)	<Operators>,< RoutesAffected>
<Operators> (mandatory)	See section 2.3.1
<RoutesAffected>	Contains a description of the affected routes
<ClearedIncident>	Boolean value indicating if the incident is flagged as clear or not.
<IncidentPriority>	Numeric value indicating the priority of the incident. 0 (Highest priority) 1 2 (default value)

2.3.1 <Operators> Affected Operators

Contains details about the affected train operators.

Tags	Sub tags/Values
Immediate children of <Operators> is a mandatory choice – i.e. 1 or more <AffectedOperator> elements or the <AllOperators> element are required.	
<AffectedOperator> (option for mandatory choice, multiple)	<OperatorRef>, <OperatorName>
<OperatorRef> (mandatory) Field is marked optional in the schema, but it is implemented to always be output.	The 2 character TOC code of an affected Train Operating Company

<OperatorName>	The name of an affected TOC.
<AllOperators> (option for mandatory choice)	If output, this element will always be empty, its existence means 'true', i.e. the incident affects all train operating companies.

2.5 Sample XML Feed File

Appendix A shows a sample Incidents XML Feed File

3 XML Feed Configuration

3.1 Overview

This chapter describes how the XML feeds are configured and the process for changing this configuration.

3.2 XML Feed Configuration File

The XML feeds are configured using REST web services utilising Microsoft WCF. The web services are responsible for managing incoming requests for XML Feeds, and replying with the correct response.

WCF configuration determines the URL patterns that can be used to request a particular XML feed. For example the following URL can be used to request the Incident XML feeds.

All Incidents;

/xml/5.0/incidents.xml

Incidents by TOC code;

/xml/5.0/incidents-??.xml

TOC specific feeds are filtered on the <Affects><Operators> tags, if the <AllOperators> flag is set then the incident will appear in all TOC feeds.

Changes to configuration will need to be authorised by National Rail Enquires and the consumers of the XML feeds will need to be notified of any changes that may affect their current systems.

3.3 Restricting Access to the XML Feeds

Access to the XML feeds is controlled by the National Rail Enquires firewalls which are located at the hosting provider's two sites. If a new client requires access to the XML feeds they must request that their server's IP addresses are added to the firewalls. This request should be made to National Rail Enquires.

3.4 Pulling the XML Feed Data

The XML feed is configured to stay in the server cache for 1 minute, after which it is refreshed.

It's entirely up to the site taking the feed to define how often it's polled.

4 Using the XML Feed

5.1 Accessing the XML Feeds

The Incidents XML feeds can be accessed by requesting the following URLs;

5.1.1 All Incidents

The all incidents XML feeds contain a full list of incidents for all Train Operating Companies;

Production:

http://internal.nationalrail.co.uk/xml/5.0/incidents.xml

Staging:

http://kbstaging.nationalrail.co.uk/xml/5.0/incidents.xml

5.1.2 Incidents by Train Operating Company (TOC) Code

The TOC incidents XML feeds contain a list of service disruptions and/or engineering works for the specified TOC code. The "??" in the following URLs should be replaced by the required TOC two letter code;

Production:

http://internal.nationalrail.co.uk/xml/5.0/incidents-??.xml

Staging:

http://kbstaging.nationalrail.co.uk/xml/5.0/incidents-??.xml

6 Document Details

6.1 Document Version

Version	Date	Modified by
1.0	03 June 2020	Juan Londono

Appendix A Sample Incidents XML File

A.1 Sample Incidents XML File

```xml
<Incidents xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:com="http://nationalrail.co.uk/xml/common"
xmlns="http://nationalrail.co.uk/xml/incident"
xsi:schemaLocation="http://internal.nationalrail.co.uk/xml/XsdSchemas/Exter
nal/Version5.0/nre-incident-v5-0.xsd">
     <PtIncident>
          <CreationTime>2020-03-20T07:23:00.000Z</CreationTime>
          <ChangeHistory>
               <com:ChangedBy>MBaker</com:ChangedBy>
               <com:LastChangedDate>2020-06-
               02T11:56:00.000+01:00</com:LastChangedDate>
          </ChangeHistory>
          <ParticipantRef>101966</ParticipantRef>
          <IncidentNumber>8A535D89E1294CAC91C30204EF438435</IncidentNumbe
          r>
          <Version>20200602115653</Version>
          <Source>
               <TwitterHashtag>#COVID19UK</TwitterHashtag>
          </Source>
          <ValidityPeriod>
               <com:StartTime>2020-03-20T07:23:00.000Z</com:StartTime>
          </ValidityPeriod>
          <Planned>false</Planned>
          <Summary>
          <![CDATA[ Reduced Southeastern timetable with further changes
          from Monday 1st June ]]>
          </Summary>
          <Description>
          <![CDATA[ <p>Southeastern is currently operating a reduced
          timetable </p> ]]>
          </Description>
          <InfoLinks>
               <InfoLink>
                    <Uri>https://www.nationalrail.co.uk/service_disrupt
                    ions/245477.aspx</Uri>
                    <Label>nationalrail.co.uk</Label>
               </InfoLink>
          </InfoLinks>
          <Affects>
               <Operators>
                    <AffectedOperator>
                         <OperatorRef>SE</OperatorRef>
                         <OperatorName/>
                    </AffectedOperator>
               </Operators>
               <RoutesAffected>
                    <![CDATA[ <p>All Southeastern routes </p> ]]>
               </RoutesAffected>
          </Affects>
          <ClearedIncident>false</ClearedIncident>
          <IncidentPriority>2</IncidentPriority>
     </PtIncident>
```

```
</Incidents>
```