

# Background information on JourneyWeb

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## Overview

JourneyWeb allows two or more journey planning engines with knowledge of different areas or transport modes to carry out distributed journey planning, that is to dynamically combine data from both servers to build up composite journeys that span the respective areas covered by the different engines.

JourneyWeb depends on NaPTAN, the UK standard for identifying stops, stations and other access points to Public Transport.

## How is JourneyWeb used?

JourneyWeb is a request/response protocol: each exchange of data consists of a request message and a response message. Both journey planners are peers - they can both initiate queries by sending a request. The messages consist of XML documents, whose tags and content are exactly specified by the JourneyWeb Schema.

The JourneyWeb protocol supports six basic types of travel information request between journey planning systems

<b>Request</b>	<b>Purpose</b>	<b>Version</b>
POINTS	Returns a list of remote stops for a NPTG locality or coordinate	1.0
JOURNEYS	Calculates a journey between combinations of stops	1.0
LEG DETAILS	Returns details about specific Journey Legs	2.4
TIMETABLES	Returns a matrix of timetable data suitable for producing columnar timetables.	2.1
STOPEVENTS	Returns departures for a stop at a specified time. Responses can include real time as well as scheduled information.	2.1
SERVICES	Returns a list of services for which the remote journey planner can return timetables.	2.1
OPERATORS	Returns the transport operators supported by the remote journey planner.	2.1

The JourneyWeb Schema also includes additional response messages to handle error conditions.

## Compliance levels

Not all journey planners will necessarily support all the features of JourneyWeb. The different named features that can be supported are systematically identified as distinct modules in the 'Compliance' section of the Documentation listed below.

## Documentation

The following documentation about JourneyWeb is available free:

- This **JourneyWeb site** provides a brief overview and information on the available schema Versions and where they can be found.
- **JourneyWeb Schema Guide:** An electronic document providing a high level guide to JourneyWeb and its use.  
The guide has content suitable variously for both users and implementers.
- **JourneyWeb XML Schema:** The JourneyWeb Schema contains detailed comments describing the elements and their intended use.  
The schema should be regarded as the definitive definition of JourneyWeb.
- **Documentation for Related Standards** See documents for [NaPTAN](#), the National Public Transport Gazetteer and [TransXChange](#).
- **Licensing & IPR:** The JourneyWeb schema is available for free under the Open Government Licence.

### Additional tools

- **NaPTAN Data** needed for JourneyWeb can be downloaded for free and used according to the Open Government Licence.

## Versioning

JourneyWeb uses a systematic versioning scheme in line with GovTalk & e-Gif standards.

## Version Numbering

### Version Number Format

All JourneyWeb schemas are have a version Identifier of the form **N.Ma**, where:

- **N** indicates a **Major release**, e.g. "2.0". A major release is usually not strictly compatible with the previous release. That is, a document at level  $n+1$  cannot be parsed by a client at level  $n$ .
- **M** indicates a **Minor release**, e.g. "2.1". A minor release is compatible with the previous release, providing any new optional features added in the release are not used. That is, a document at level  $n.(n+1)$  can be parsed by a client at level  $n$ , provided it does not contain new optional features.
- **a** indicates an **Unapproved draft**, e.g. "1.0a", "4.3a". A letter suffix indicates that the release is not yet officially approved or released. Unapproved drafts may be superseded by later drafts without ever being promoted to a full release.

### Version Incrementation

Any material change or changes (i.e. other than changes to a comment) to a published schema must be reflected in a new schema version.

## Version Location

### Schema versions

JourneyWeb schema versions are always located at a specific, versioned URL. The URL has the general form:

- `//www.journeyweb.org.uk/schema/N.M/JourneyWeb.xsd`

### Examples.

*Version 2.1 of JourneyWeb:*

- [www.dft.gov.uk/journeyweb/schema/2.1/JourneyWeb.xsd](http://www.dft.gov.uk/journeyweb/schema/2.1/JourneyWeb.xsd)

*Draft of Version 3.0 of JourneyWeb:*

- [www.dft.gov.uk/journeyweb/schema/3.0a/JourneyWeb.xsd](http://www.dft.gov.uk/journeyweb/schema/3.0a/JourneyWeb.xsd)

## Namespace versions

Note that the namespace used for [JourneyWeb](http://www.journeyweb.org.uk) is not itself versioned, in line with GovTalk & e-Gif standards, thus:

```
<xs:schema targetNamespace="http://www.journeyweb.org.uk/schemas/"
```

## The Current version

The official 'current' version of JourneyWeb may be referenced without a version number, for example:

- /journeyweb/schema/JourneyWeb.xsd

Only one version of the JourneyWeb schema will be current at a time; different previous and new draft versions may exist concurrently.

## Directory Structure

JourneyWeb artefacts are organised into a hierarchical directory structure relative to the root domain, in accordance with the e-Gifl versioning system. For example the directory structure used is as follows:

```
//www.journeyweb.org.uk/  
//www.journeyweb.org.uk/schema/  
...  
//www.journeyweb.org.uk/schema/2.1.1/  
//www.journeyweb.org.uk/schema/2.1.1/JourneyWeb.xsd  
//www.journeyweb.org.uk/schema/2.1.1/guide/  
//www.journeyweb.org.uk/schema/2.1.1/guide/journeyWebSchemaGuide.doc  
//www.journeyweb.org.uk/schema/3.0a/  
//www.journeyweb.org.uk/schema/3.0a/JourneyWeb.xsd  
//www.journeyweb.org.uk/schema/3.0a/errorHandling.xsd  
//www.journeyweb.org.uk/schema/3.0a/guide  
  
//www.journeyweb.org.uk/schema/3.0a/guide/JourneyWebSchemaGuide.pdf  
....
```

## Version Identifiers

### Schema Version Identifiers

All JourneyWeb schema versions have a formal version identifier in the header element:

```
<xs: schema targetNamespace="http://www.journeyweb.org.uk/schemas/"  
xmlns="http://www.journeyweb.org.uk/schemas/"  
xmlns:xs="http://www.w3.org/2001/XMLSchema"  
elementFormDefault="qualified"
```

```
attributeFormDefault="unqualified"  
version="3.0"  
id="JourneyWeb">  
...
```

## Document Version Identifiers

All JourneyWeb request & response documents have a version identifier which must be populated by the implementation to indicate the schema level against which the document validates. It can be used to determine the version of a given request or response document.

```
<?xml version="1.0" encoding="UTF-8"?>  
<JourneyWeb  
  xmlns="http://www.journeyweb.org.uk/schema/"  
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
  xsi:schemaLocation="http://www.journeyweb.org.uk/schema/3.0/  
  Version="3.0">  
<Request/>  
...  
<Request/>  
</JourneyWeb>
```

## Version Behaviour of Servers

### Request and Response Version Levels

A server that supports the JourneyWeb protocol should respond to a request with a reply at the same schema level as indicated in the request document. If the schema level is not supported it should return a specific exception message reporting the error.

A JourneyWeb server may support multiple schema levels. Support for deprecated schema levels will be withdrawn after an agreed date.

## History

The following is a log of significant changes to the JourneyWeb site content.

### Mar 2013

- New 2.5 draft of JourneyWeb available to consolidate accessibility features added for London 2012 Olympic Games.

### Jan 2012

- Revised 2.4c draft of JourneyWeb available to support London 2012 Olympic Games.

### Aug 2008

- Revised draft of JourneyWeb 2.4c is available
- 2010/12/08 Discussion draft of JourneyWeb 2.4b is available
- 2010/10/05 Discussion papers for enhancing NaPTAN & other standards

### Jan 2004

- Added JourneyWeb Schema 3.0a (and change notes)
- Revised site structure to explain versioning scheme etc.

### Dec 2004 v2.1.0a

1. Removed IncludeIntermediateStops attribute in StopEventRequest (use element instead)
2. Added type to min and MaxInterval in RangeType
3. Added Actual attribute to StopEventRequest filer origin and destination (annotation mentioned it was not included)
4. Changed the order of the DaysOfOperation so that only one Saturday item exists (software written in Delphi wouldn't load the schema without this changed)

### July 2003

- Added JourneyWeb Schema 2.1 (and documentation)
- Update of National Gazetteer format

### January 2003

- Added JourneyWeb Schema 2.0

## Terms of use

The purpose of this site is to enable the Public Sector, Industry and other interested parties to work together to develop and agree policies and standards for the exchange of public transport information. It is also aimed at promoting the production and management of centrally agreed, freely available XML schema, supporting the public sector data interoperability requirements of the UK Government's e-government strategy.

## Use of Schema

The JourneyWeb Schema is available for free under the Open Government Licence.

## Definitions

Words used in these terms and conditions have the following meanings:

### Schema

An XML Schema consists of components such as type definitions and element declarations. These can be used to assess the validity of well-formed element information items (as defined in [XML-Infoset]), and furthermore may specify augmentations to those items and their descendants. This augmentation makes explicit information which may have been implicit in the original document, such as default values for attributes and elements and the types of element and attribute information items. The process of schema validation consists of determining whether an element information item satisfies the constraints embodied in the components of an XML Schema, and if so of adding any appropriate augmentations. For detail of schema definition please see XML Schema Part 1: Structures. Available at: <http://www.w3.org/TR/2000/WD-xmlschema-1-20000407/>



Contact

## **Schema & Documentation**

For help or comments about the 2.5 JourneyWeb schema & Documentation, please contact <mailto:pti.support@trapezgroup.co.uk>.

## **Designated Owner of Schema**

The designated owner of the JourneyWeb schema is

JourneyWeb, Transport Direct Project  
Department for Transport,  
2/17 Great Minster House,  
33 Horseferry Road,  
London, SW1P 4DR