

XML Cover Pages - Created: October 19, 2001.

UK Ordnance Survey's Digital National Framework (DNF) Tests XML Schemas for Geographical Information.

Through its XML Schema Repository, the UK Digital National Framework (DNF) has released a number of draft XML schemas supporting the Ordnance Survey's geographical database. The schemas are based upon extensions to the GML version 2.0 specification. The draft DNF Release 1 product data specification includes XML schema documents, a specification overview, classification and attributes of DNF features, DNF themes, lifecycles of DNF features, DNF geometry and topology, DNF data in GML, and a DNF glossary. The DNF application schemas "define four main types of properties that are present inside a feature element. These are simple, complex, geometric, and topological properties. The ordering of properties within a feature element is important as XML validation is reliant on elements being in a specified order; the order of properties is specified within the XML schema." The Digital National Framework (DNF) "is a definitive, consistent and maintained framework for the referencing of geographical information in Great Britain. It comprises the [UK] National Grid linked to Global Positioning System (GPS), height data, detailed topographic information and unique identifiers on features. Key elements are: (1) Polygons: the building blocks of the data representing real world features; (2) Maintained topographic identifiers (TOIDs) on all features -- some 400 million self-contained individual objects; (3) Seamless data; (4) A themed classification based on the real world; (5) Availability of data by themes; (6) Metadata on each feature..."

Vanessa Lawrence (Director General and Chief Executive, Ordnance Survey's Digital National Framework) indicated that the DNF data will be issued in geography markup language (GML) format (a new international standard for storing and transporting geographical information), initially "layered into nine themes: buildings; structures; roads, tracks and paths; land; administrative boundaries; water; heritage; height; and rail. The database will offer complete seamless coverage of the whole of Britain; in addition, it will give users the ability to select not only the precise geographical area of coverage they needed but also only those themes -- such as roads or buildings -- they require from the data... around 400 million features in the new database have been allocated unique topographic identifiers (TOIDs) which will dramatically ease the task of associating different datasets from other sources to the Ordnance Survey material... the complete database includes identifiers for every feature, including individual fields, lakes and even pillarboxes... the is already used, for example, by the police to catch criminals, motorists to plan journeys with in-car navigation, and insurance firms to calculate risk. It is of growing importance in commercial marketing, business analysis, location-based services and in the delivery of efficient public services... [the research teams have] converted all 230,000 of the most detailed point-and-line Land-Line mapping tiles to a seamless data source containing 400 million self-contained individual objects... Data from the Digital National Framework is designed to be Internet- and customer-friendly, making it even easier for public bodies and businesses to pick and mix the mapping and geographical information they need..." [see [news item](#)]

Principal references:

- [Digital National Framework \(DNF\)](#)
- [Digital National Framework \(DNF\) XML Schema Repository](#)
- DNF XML schemas:
 - [OSDNFFeatures.xsd](#) provides a definition of the features and their properties used within the DNF. [[cache](#)]
 - [OSGeometryTopology.xsd](#) defines geometry and topology extensions to the GML 2.0 specification as required by Ordnance Survey. [[cache](#)]
 - [OSQueryresult.xsd](#) provides the definition of a query result within the DNF. [[cache](#)]
 - [OSSimpleTypes.xsd](#) defines the basic enumerated types used within the DNF including 'descriptiveGroupType' and 'accuracyOfPositionType'. [[cache](#)]
- ["UK Digital National Framework \(DNF\) for Geographical Information"](#) - Main reference page.
- See also: ["Geography Markup Language \(GML\)"](#) - Main reference page.

Prev: [Last Call Working Drafts from W3C XML Encryption Working Group.](#)

Next: [OASIS to Develop Interactive Web Applications Standard Through a Web Services Component Model \(WSCM\).](#)