Webification (W10N) – Data on the Web Platform. Z. Xing[1], E. Sayfi[2], [1]Jet Propulsion Laboratory, California Institute of Technology 4800 Oak Grove Dr, Pasadena CA, 91109, Zhangfan.Xing@jpl.nasa.gov, [2]same, Elias.Sayfi@jpl.nasa.gov.

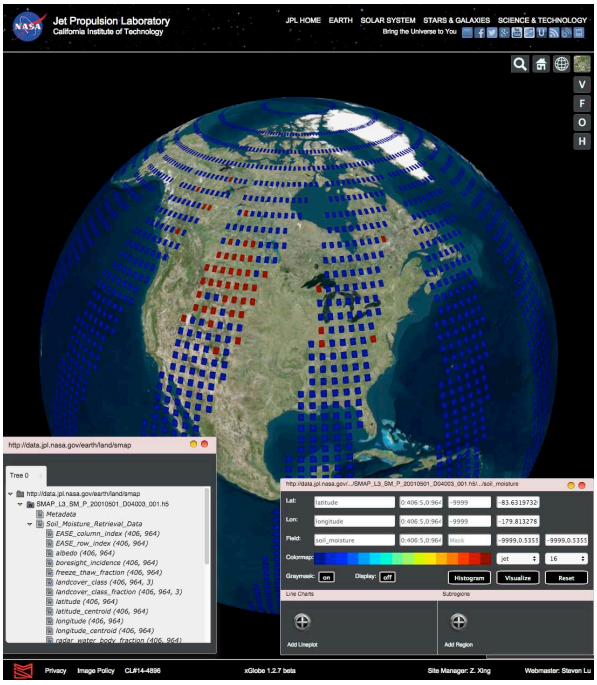
Introduction: Webification (W10N) is an enabling technology that simplifies the use of data on the web platform. It has been successfully applied to large and complex data sets, such as the ones archived by Planetary Data System (PDS) and Distributed Active Archive Centers (DAAC).

With the proliferation of the web as an application platform, the need for a simple yet robust interface for exposing data to web consumers has become very important. The core idea of Webifcation is to make the inner components of resources directly addressable and accessible via well-defined and meaningful URLs. It abstracts an arbitrary data store as a tree, in which two types of entities exist: nodes and leaves. A node can contain sub-nodes and leaves. A leaf holds data and is terminal. Both nodes and leaves can have attributes.

W10n can be applied to practically any type of file. It can support many different data formats and we're constantly adding new ones: VICAR, PDS, HDF 4/5, NetCDF, GRIB, & FITS, but it's even been applied to powerpoint and excel.

Benefits: These are some of the benefits of exposing data in this way:

- Simplifies client application development
- Semantic URLs, access via HTTP & HTTPS
- Meta info exhange format is JSON by default
- Fully ReSTful style request/response. Read & Write.
- Data format indepence - Standard methods for accessing and using data regardless of storage formats
- Ubiquitous access
- Easy to incorporate new data types
- Enables smart search/query/subsetting of inner components of data
- Promotes reuse
- New applications can be quickly built because the underlying access layer for data and applications is defined



Additional Information: Some more information and some client that were built on top of webification:

- http://scifari.org/taiga/
- http://data.jpl.nasa.gov
- http://rex.jpl.nasa.gov
- http://xglobe.jpl.nasa.gov
- http://webviz.jpl.nasa.gov