

ABSTRACT

- Most of the data published on the web is unstructured or does not follow a standard.
- It makes the data harder to be retrieved and interchanged between different data sources
- Linked Open Data (LOD) technologies are applied in a scenario that deals with a large amount of computer network measurement data.
- As a result, we generated more structured data, hence easier to be retrieved, analyzed, and more interoperable.
- The challenges of processing large amount of data to: transform it into a standard format (RDF); link it to other data sources; and analyze and visualize the transformed data are discussed.
- An ontology that aims to minimize the number of triples is proposed and a discussion on how ontologies may impact query performance is presented.
- We emphasize the advantages of having the data in RDF format and show use cases on the scenario of the project.

SYSTEM MODELING AND RESULTS

Domain Analysis

PingER Ping end-to-end reporting

Understanding PingER Project's domain

- It involves data about network performance measurement
- 80 monitoring nodes
- 800 monitored nodes
- 8000 pairs of nodes (monitor-monitored)
- 160 countries, several cities within each country
- 16 network metrics (e.g. TCP throughput, packet loss, average RTT)
- Hourly data, since 1998
- Data can be applied to many different situations such as economical, geographical, and seasonal events.

Data stored in multiple flat CSV files

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latlon,source,destination,metric,value
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