How the System Works

- Continuously extracts Internet’s registry and BGP monitoring data.
- Unified data model for storing disparate data sources.
  - Designed for 5+ Terabytes.
- Research platform for the design and analysis of robustness mechanisms.
- Information quality measurements of registry data.
- Allows automated report generation of periodically produced analysis results.

The Temporal Design Aspect

- Keep track of changes in regards to data increase, decrease, and modification over time.
- Allow the introduction of new attributes to classes over time.
  - Adaptable to future structure changes.

A NetHandle Object created in 2006

NetHandle: NET-192-168-0-0-1
NetRange: 192.168.0.0 – 192.168.255.255
Comment: NIST nethandle

A NetHandle Object change in 2009

NetHandle: NET-192-168-0-0-1
NetRange: 192.168.0.0 – 192.168.255.255
OriginAS: 49
Comment: NIST nethandle

The NetHandle Object in TERRAIN

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>OriginAS</td>
<td>49</td>
</tr>
<tr>
<td>NetRange</td>
<td>192.168.0.0 – 192.168.255.255</td>
</tr>
<tr>
<td>Comment</td>
<td>NIST nethandle</td>
</tr>
</tbody>
</table>

Database Design Graph

Registry Classes
- RPSL classes in TERRAIN
  - as-block
  - as-set
  - as-rtr
  - net
  - route
  - route-set
  - rtr-set
- SWP classes in TERRAIN
  - NetHandle
  - Prefix
  - OriginAS
  - AS

Database Classes
- class
- class
- attribute
- attribute
- class
- class
- attribute

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