Multivariate Network Exploration and Presentation: From Detail to Overview via Selections and Aggregations

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What?
Why?
How?
Who?
Huh?
When?

Nodes (also edges)
Example: Census data by county of USA

Overview
• Manual layout
• Scatterplots, parallel-coordinates, histograms, treemaps, small multiples
• Zooming
• Aggregation

Scale
• 5-10 selections (2-6 expected)
• 1-2 dozen attributes
• 100s-1000s of nodes
• more with aggregation
• $L < 4N$

Strengths
• Both network exploration and multivariate analysis
• Intuitive, easy to use (?)
• Dynamic exploration, visual querying
• Can be used by novices
• Expressive
  • Time
  • Topology

Migration in highly populated counties
Limitations

- Partitions only by nodes
- Only supports ranges
- Limited scaling up
- No help on where to start
- Overview can be too summarized
- Axis can be difficult to see
- One tool in a toolkit

In Summary

A tool for exploration and presentation of multivariate network data using selection and aggregation in juxtaposed linked views