StreamGlobe: P2P Stream Sharing

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Publish & Subscribe in a P2P Network

- Publish
- Stream 0
- Subscribe
- Query 1
- Super-Peer
- Backbone
Deficiencies of traditional approach:
• Redundant transmission of data streams
• Redundant execution of stream transforming operators
• Transmission of unnecessary data

⇒ Increased network traffic
⇒ Increased peer load
StreamGlobe Approach using Stream Sharing

Benefits of StreamGlobe approach:

• Stream sharing avoids redundant data stream transmissions
• Sharing computational results avoids redundant computations
• Early filtering and aggregation avoid unnecessary transmissions

⇒ Reduced network traffic
⇒ Reduced peer load
Demonstration Outline

- Publish & Subscribe to data streams in a Grid-based P2P Data Stream Management System
- Optimization using data stream sharing
- Prevention of overload situations
- Throughput experiments
- Various network topologies and scenarios
- Real astrophysical data (ROSAT All Sky Survey (RASS) and others)

Vela Supernova Remnant

RXJ0852.0-4622 Supernova Remnant
Demonstration Times

Group 2: P2P Based Systems

- Tuesday 14:00-15:30
- Thursday 14:00-15:30