**nSense: Decentralized Interest Management in Higher Dimensions through Mutual Notification**

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**Idea:** Employ more than three *spatial dimensions* for *interest management* in decentralized networked virtual environments
Challenges

Move through a portal

Mutual notification in NVEs

Warp holes/portals are challenging for decentralized overlays

Projecting to lower dimensions leads to increased traffic

Traffic [kBps]

- nSense 2D
- nSense 3D
- nSense 4D
- nSense 5D
- nSense 6D

0 200 400 600 800
nSense

- Determining the sector for a given point is efficient.
- The approach works for **any number of dimensions**.
- The overlay can directly support, worm holes, portals, unit-type visibility, team visibility, etc.
- Node properties can also be modeled as an additional dimension: link capacity, link latency, reliability, reputation.
References


