

# Packet Status Prediction Model Using Packet Sniffer Data

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## Network Topology Proposal

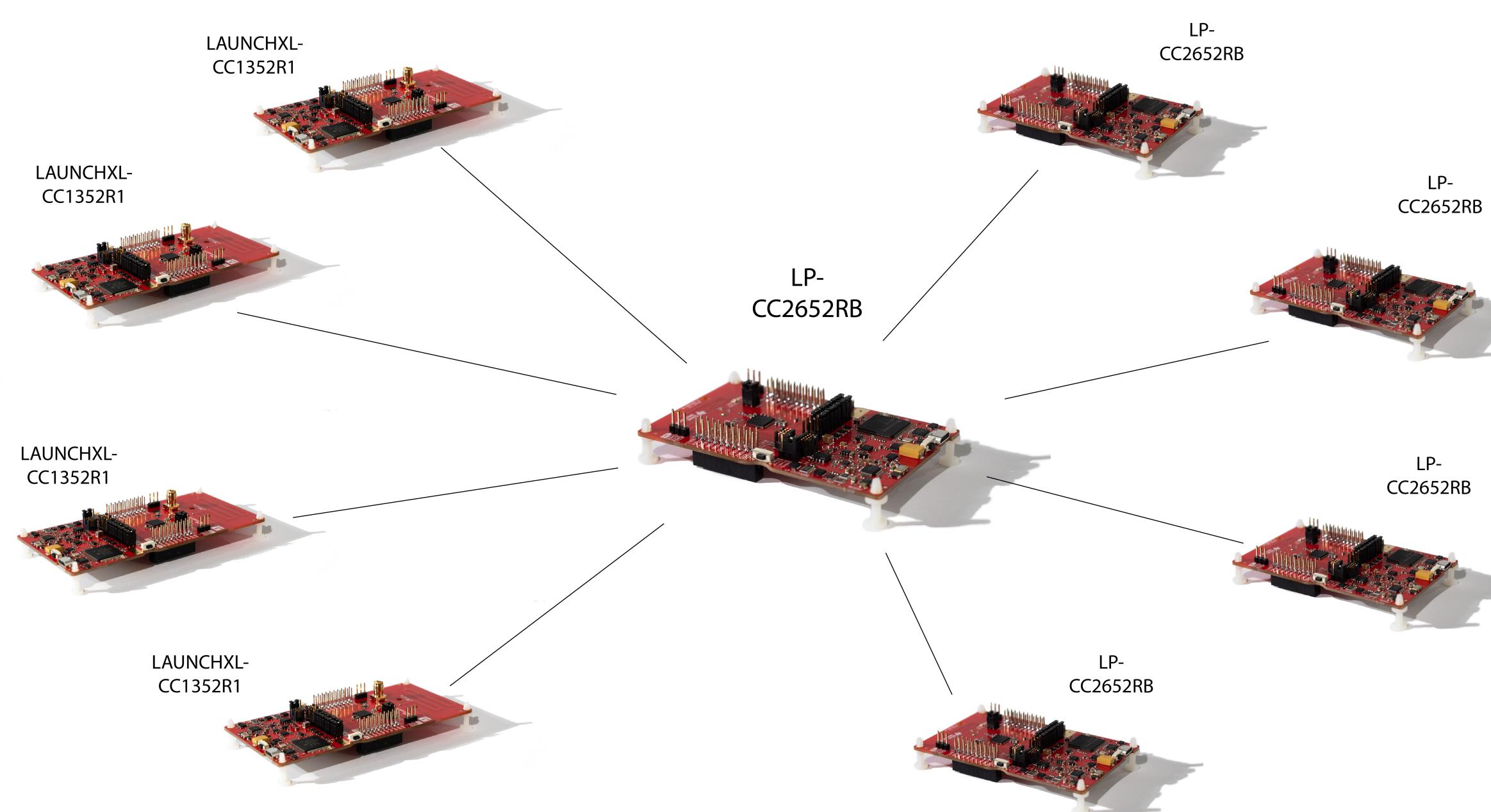


Figure 1. Network implementing a star topology.

## Methodology For Finding Tendency in Data

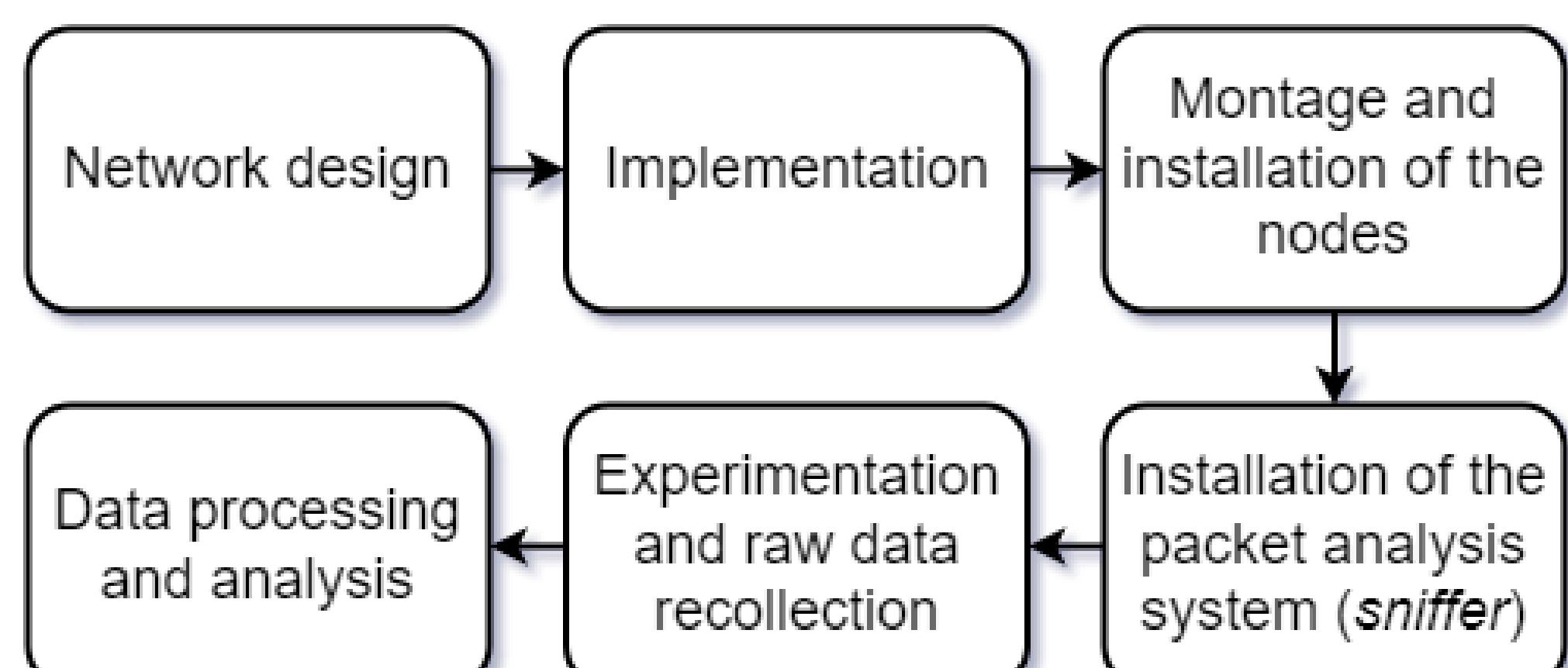


Figure 2. Diagram of the methodology.

## Hardware

The equipment or hardware that will constitute the network to be analyzed are Texas Instruments' Evaluation Boards:

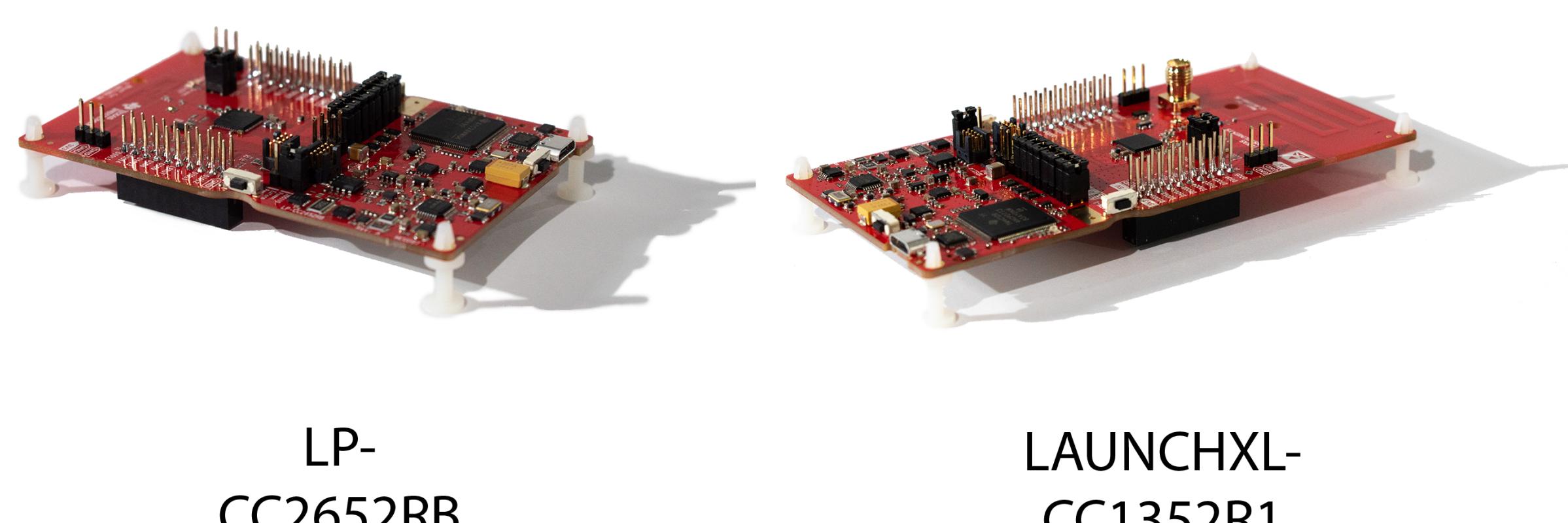


Figure 3. Texas Instruments hardware to be used.

## The Network

The protocols implemented by the network are based on IEEE 802.15.4.

An IoT (internet of Things) development example are Smart Cities, where these are defined as the quality of living improvement through the use of hardware, software, networks and data. The question that the prediction model would answer on a wider scale would be if, on a Smart City, whose network is presenting packet loss, the real need is more routers or simply a rearrangement of the network's nodes, coming from the type of interference it presents.

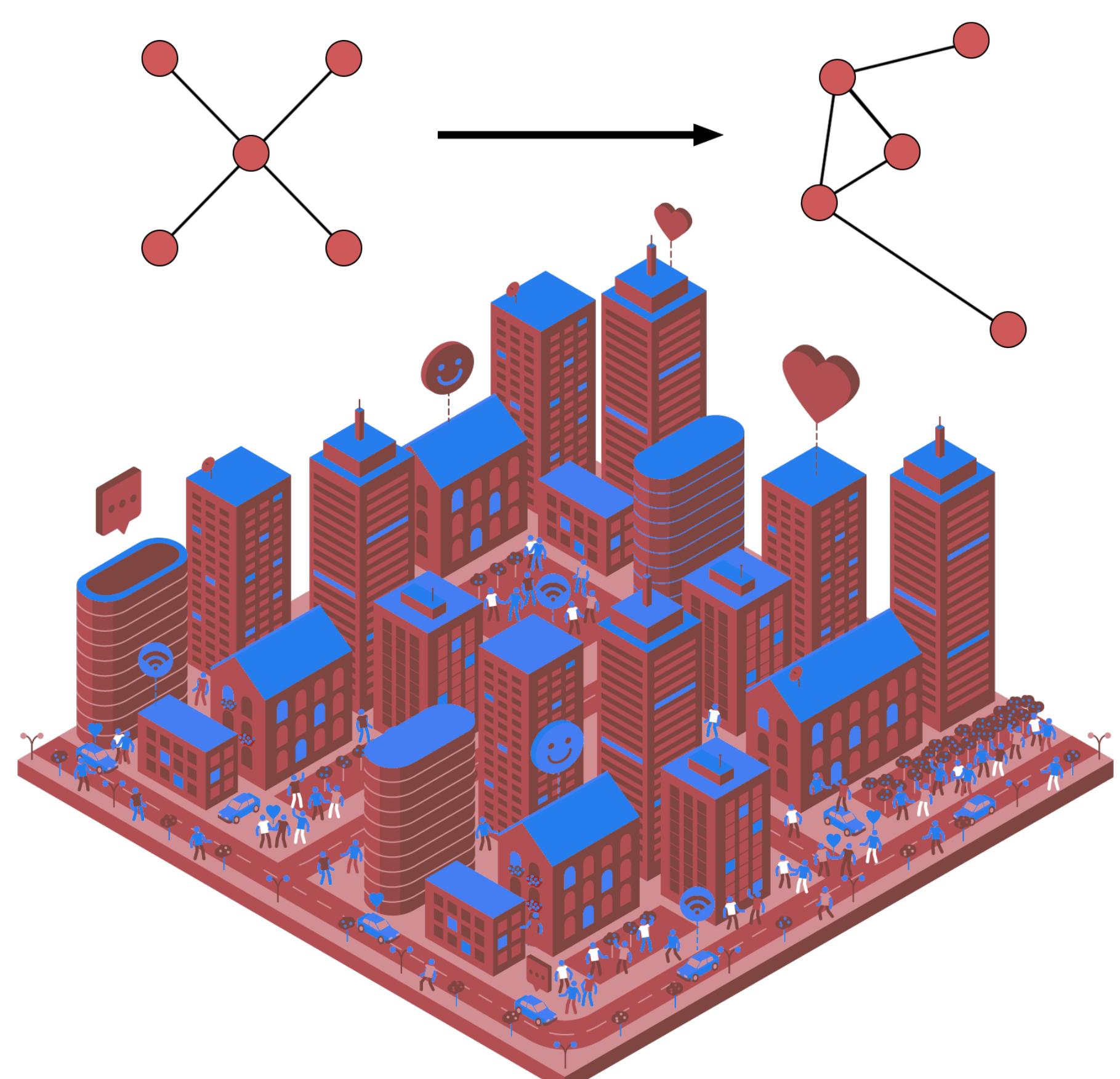


Figure 4. Smart City node rearrangement.

## References

- [1] Eiman Al Nuaimi, Hind Al Neyadi, Nader Mohamed, and Jameela Al-Jaroodi. Applications of big data to smart cities. *Journal of Internet Services and Applications*, 6(1):1–15, 2015.
- [2] La Voce Di Rekeep. La smart city come processo virtuoso.
- [3] Karen Rose, Scott Eldridge, and Lyman Chapin. The internet of things: An overview. *The internet society (ISOC)*, 80:1–50, 2015.