

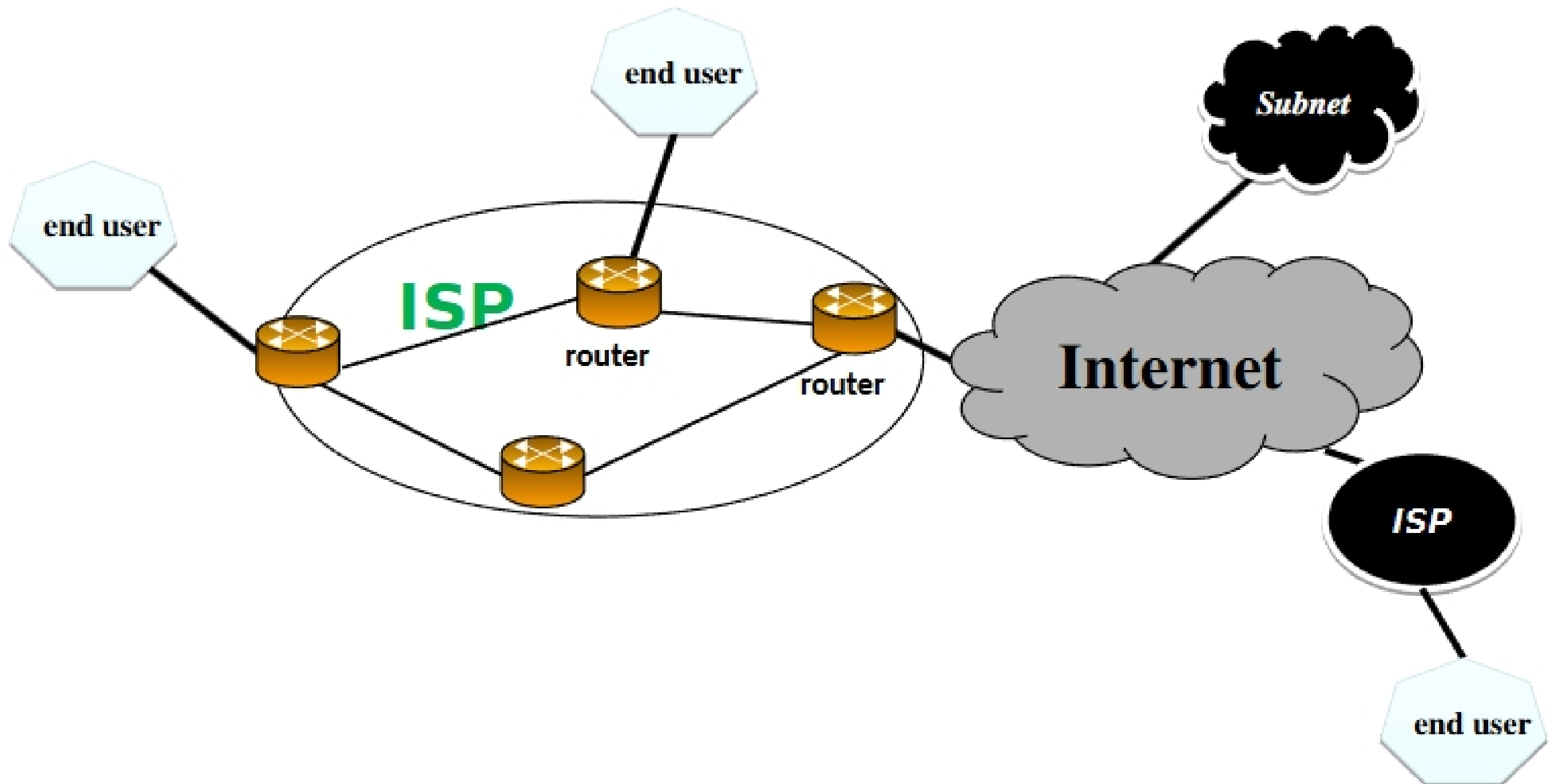
A Search Memory Substrate for High Throughput and Low Power Packet Processing

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Background



Network packet processing tasks

- Packet forwarding
 - Given an IP address
 - Look up in a table (IP table) a matching prefix
 - Make sure the chosen prefix is longest □ LPM (Longest Prefix Matching) requirement
- Rule-based packet filtering
 - Given a set of packet fields (src/dst IP, src/dst port, protocol, ...)
 - Look up in a rule database matching entries
- Deep packet inspection
 - Given a string in packet payload
 - Look up in a signature database matching entries

