



SCION Overview

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Fundamental Internet Issues

1

Single-path communication is optimized for low cost.
Cannot support diverse application requirements:
Low latency, high bandwidth, low loss rate, etc.



2

Slow BGP convergence and numerous outages leading to low availability



3

Lack of transparency leading to undetected re-routing, unclear paths



Vision: Advanced Next-generation Public Internet

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- A conceptual image featuring a globe with a network overlay of white nodes and lines. The globe is set against a dark blue background with streaks of light. A yellow sticky note is pinned to the right side of the globe with two red pushpins. The sticky note contains a bulleted list of three items.
- High security & availability
 - Path-aware networking
 - Multipath communication

SCION Overview in One Slide



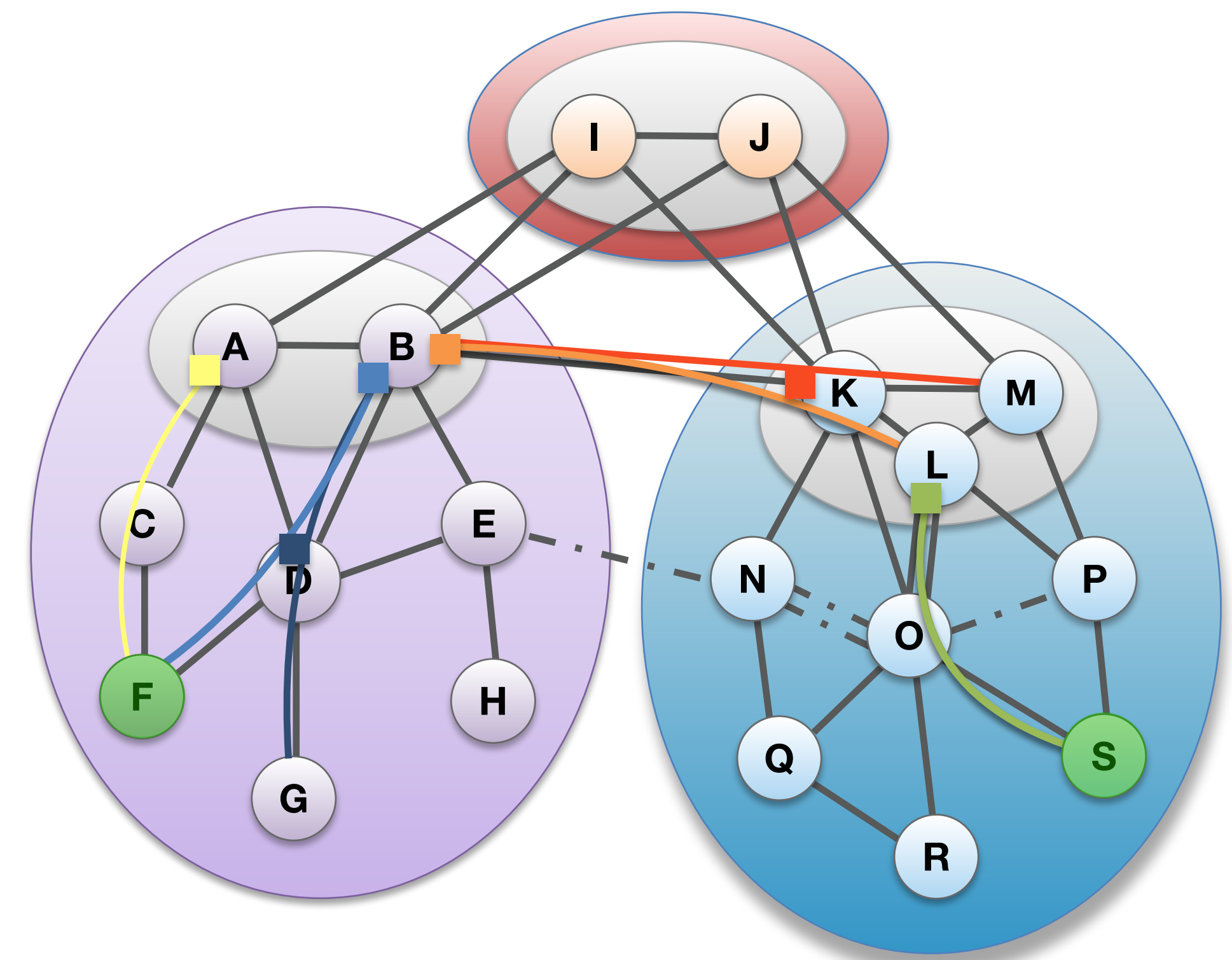
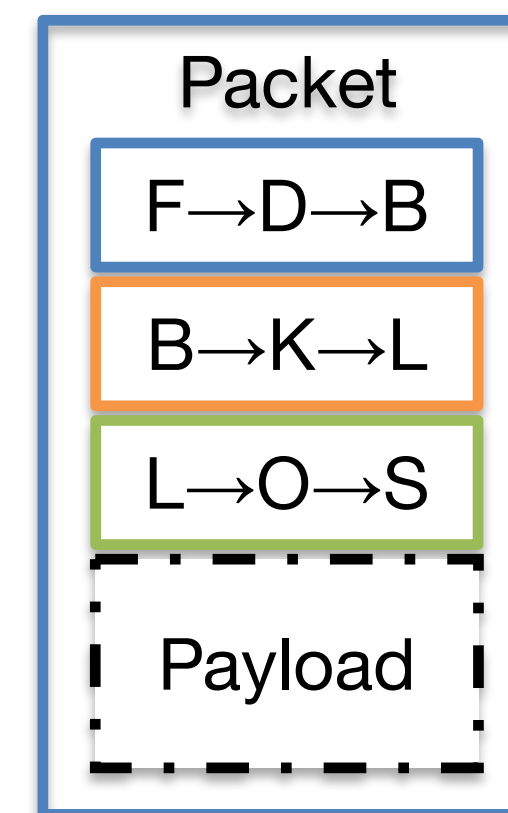
Path-based Network Architecture

Control Plane - Routing

- **Constructs** and **Disseminates** Path Segments

Data Plane - Packet forwarding

- **Combine** Path Segments to Path
- Packets contain Paths
- Routers forward packets based on Path
 - Simple routers, stateless operation



SCION Real-world Deployment

- Test deployment with several customers (healthcare, finance, government, education)
- Production traffic flowing over SCION production network since Aug 2017
- SCION connectivity offered by several ISPs

