# The Asia Pacific information superhighway: Item 5 – Regional Internet Traffic Exchange/Management

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# The Internet is a Unique Piece of Infrastructure

To a unique degree, the Internet consists of **hardware and software components**. These software components and the communities which manage them, should be considered part of that **critical infrastructure**.

- We need cooperation as much as we need new cables
- Improved governance would deliver significant improvements

# Think Networks not Nations

- Internet is a set of federated independent networks
- They must play nicely for everybody to be connected to everybody else
- Routing is done through mutual cooperation (using BGP, etc.)

# What's Most Important?

- **Cost and latency optimizations depend on having many options:**
  - **Costs** are a function of competition and choice
  - **Latencies** (beyond lightspeed minima) are a function of straight paths and detour avoidance
  - **Detour avoidance** requires peering and rich interconnection (eliminate hairpin routes to Europe)

# What drives low-latencies in Internet traffic?

- Connectivity: Cables or Collaboration?
- Cables provide options, however actual paths matter!
  - Routes determined by many factors
  - Business agreements
  - Transit pricing
  - Routing configuration
  - Cables establish physical link diversity
  - Not necessarily the fastest paths

## Summary

- The hardware, software and human components of the Internet are all critical infrastructure.
- Collaboration and coordination are just as important as physical investments.
- Routing (BGP) and protocols (IPv6) are important examples of tangible way