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# The Seoul Peering Paradox in the Age of AI

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# The Big Question

- On paper, South Korea has the world's fastest, most advanced consumer internet.
- It is a leading global economy and technological powerhouse.

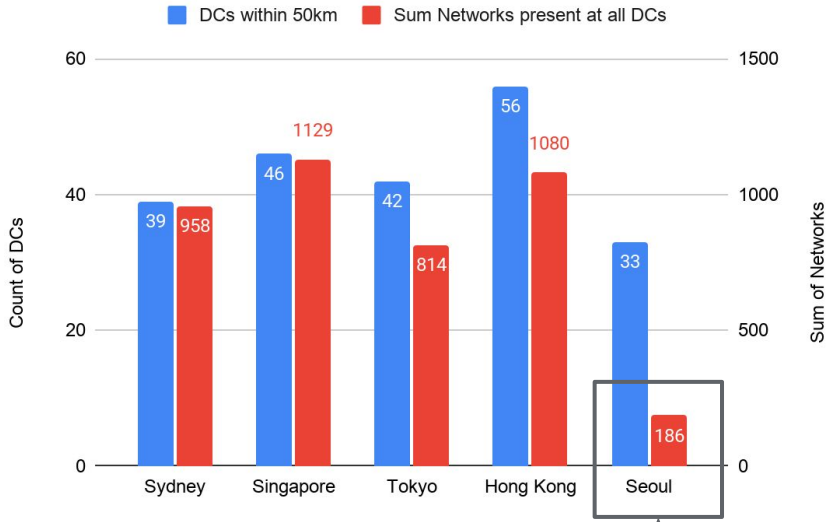
**Yet, why is Seoul isolated from the global peering ecosystem?**



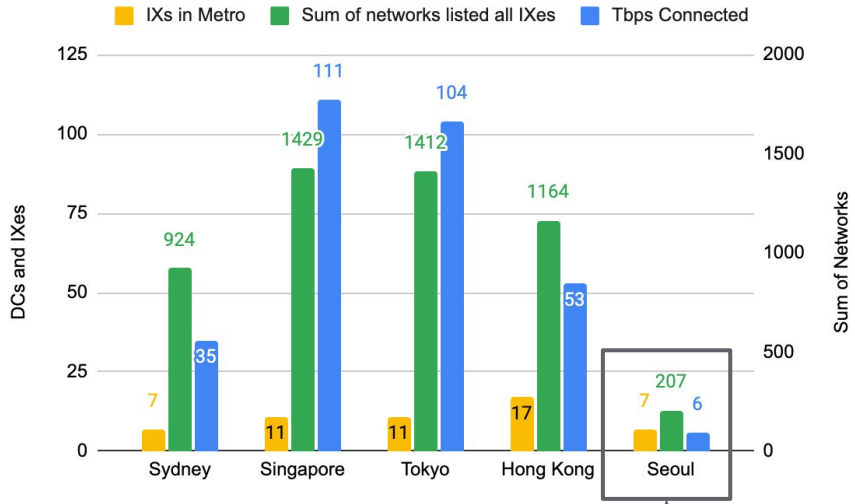
# What the data shows: Seoul is not a peering hub

Many fewer networks listed at IXes and in DCs; Fractional IX capacity vs other APAC

Count of Data Centers in Metro (Blue);
Networks Listed as Present at all DCs in that Metro (Red)




Count of IXes in Metro (Yellow);
Count of IX Connections (Green);
Tbps Connected (Blue)

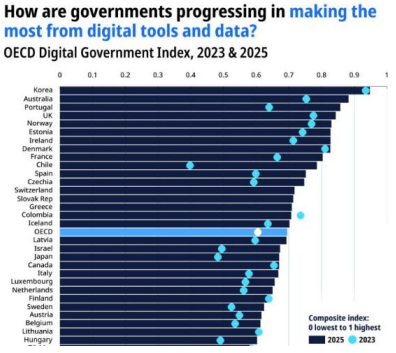


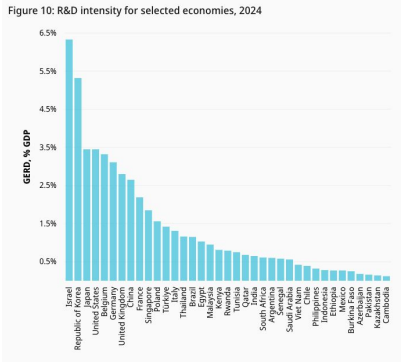

Source: PeeringDB, August 2026

# Yet, Seoul leads many telecom and digital rankings

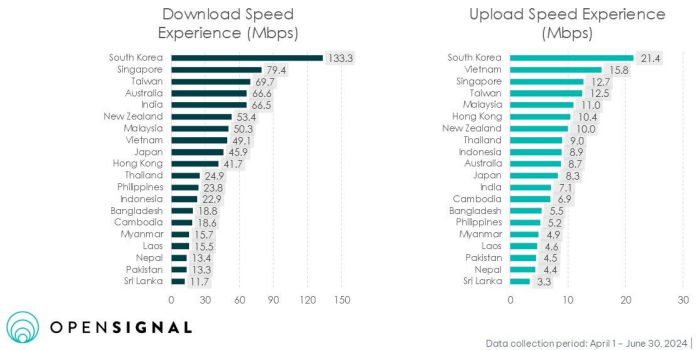
## Korea leads in 5G, R&D, FTTH, Downloads, OECD Rankings

| Hub | Median 5G SA Download Speed [1] | R&D Intensity (% of GDP, 2024) [2] | FTTH Fiber Share of Broadband [3] | Overall Mobile Download Speed [4] | OECD Digital Gov't Index Score [5] |
|---|---|---|---|---|---|
| Seoul | 766.9 Mbps | 5.32% | 89% | 133 Mbps | 0.95 (Rank #1) |
| Singapore | ~350.0 Mbps | 2.20% | 75% | 98 Mbps | ~0.75 |
| Tokyo | 277.5 Mbps | 3.45% | 86% | 65 Mbps | ~0.80 |
| Hong Kong | 212.4 Mbps | ~1.50% | 70% | 80 Mbps | ~0.70 |
| Sydney | ~200.0 Mbps | 1.90% | ~30% | 68 Mbps | 0.88 |




South Korean users enjoy the fastest Download and Upload experiences in Asia Pacific



# So, why are networks not gravitating towards Korea?



Seoul compared to other APAC Peering Hubs



Regulations overview and real world observations



How could Seoul position itself?



Who benefits if Seoul does become a hub?

# How Seoul Stacks Up Globally Today

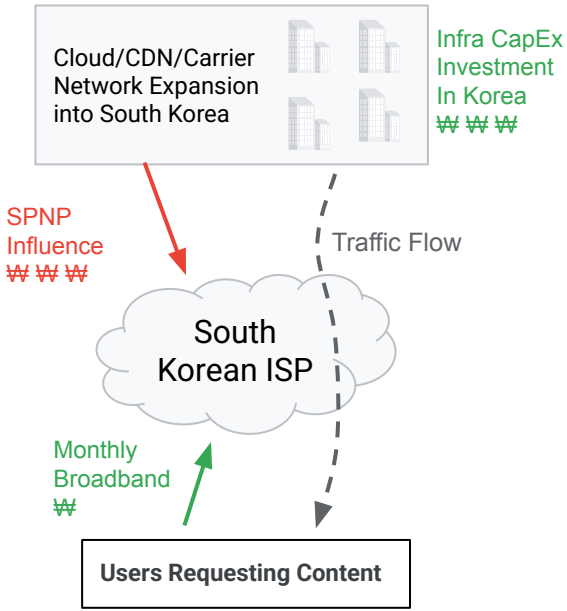
A strategic comparative matrix of major Asia-Pacific interconnection hubs

| Evaluation Pillar | Seoul (South Korea) | Singapore | Tokyo (Japan) | Sydney (Australia) |
|---|---|---|---|---|
| **1. Strategic Geography**<br>Does the location naturally sit on major subsea cable routes? | **Small terminal, early signals of growth**<br>~9-10 active subsea cables. Functions as a stub/island rather than a transit crossroad. | **Global Crossroad**<br>25+ subsea cables. Primary connector for EMEA, APAC, and Oceania. | **Pacific Anchor**<br>20+ subsea cables. The vital bridge for US to Asia trans-pacific traffic. | **Oceania Gateway**<br>12+ subsea cables. High capacity anchor point for South Pacific connectivity. |
| **2. Regulatory & Costs**<br>How do policy, taxes, and IP transit fees affect investment? | **Restrictive**<br>SPNP legally mandates sender-pays fees, driving local IP transit to 10x other APAC markets. | **Open & Competitive**<br>Frictionless trade, global commodity transit pricing | **Open Market**<br>Highly competitive transit marketplace keeping costs low and stable. | **Stable & Open**<br>Highly competitive transit marketplace keeping costs low and stable. |
| **3. Ecosystem & Neutrality**<br>Are data centers and exchange points open or carrier-dominated? | **Mixed DC and IX**<br>Increasing amount of non telco owned DCs. Peering remains limited to Korea only traffic. | **Hyper-Dense Hub**<br>Massive ecosystem of competing neutral DCs and IXs acting as APAC's core hub. | **Massive Ecosystem**<br>Dense mix of neutral facilities, cloud providers, and active global carrier hubs. | **Concentrated Hub**<br>Highly stable and growing regional hub dominated by neutral operators. Oceania Hub. |

# SPNP (Sending Party Network Pays) 101

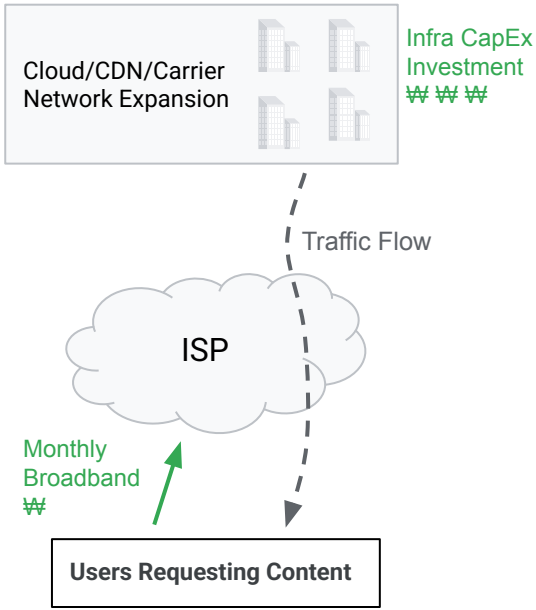
In South Korea, regulation legally mandates that the network sending data must pay settlement fees to the receiving network.

## South Korea Model




## Rest of World Model

**(Japan, Singapore, Hong Kong, Australia, India, etc)**




## Key Takeaways for Korea

**Hyperscalers Offload ISP Costs:** Heavy infrastructure investments deliver traffic closer to users and save ISPs transport expenses.

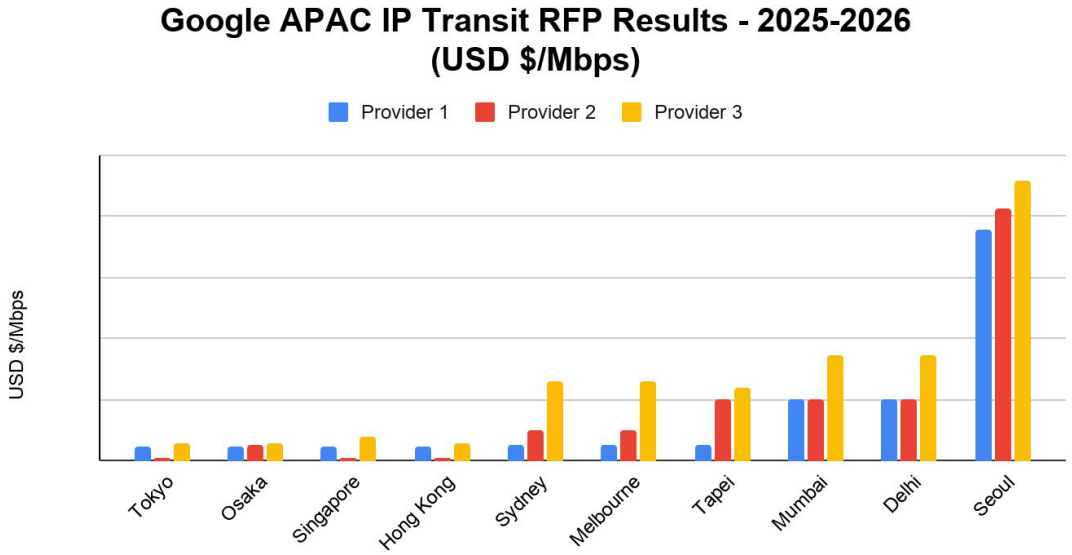
**SPNP Penalizes Investment:** Mandating fees on incoming traffic forces Cloud/CDN/Carriers to pay twice: for local infrastructure and SPNP.

**SPNP Inflates Costs by 10×:** Domestic transit rates are driven up to 10× higher than the APAC average.

**Disincentivizes Infrastructure:** High fees deter digital investment and degrade local user experiences.

# Real World Example: Google's APAC IP Transit RFP 2025-2026

RFP answers shows traffic exchange rates in Korea around ~10x vs other APAC metros




**Google IP Transit RFP (Q4 2025 – Q1 2026):** Actual pricing data closely mirrors Twitch's public experience. Google's Pan-APAC RFP for IP Transit in late 2025 and Seoul transit acquisitions in early 2026 confirm that **Korea IP Transit costs continue to remain ~10x higher** than other APAC metros.




**Twitch, Dec 2023:** "Our network fees in Korea are still 10 times more expensive than in most other countries." [1]

# Seoul as the Solution to Underlying APAC Peering Risks

How Seoul mitigates the critical power, space, and geopolitical constraints of existing North Asia hubs

### RISK 1: Japan

## Power & Seismic Threats

**The Hub:** North Asia's only active Tier 1 peering hub.

**The Constraint:** Challenged by power availability and price. High seismic vulnerability.

**HOW SEOUL HELPS**

No power constraints, significantly lower seismic risk.

### RISK 2: Singapore

## Severe Space + Power Limits

**The Hub:** The primary peering mega-hub for all of Asia.

**The Constraint:** Extreme physical space limitations prevent further physical datacenter expansion. Power constrained via local regulations..

**HOW SEOUL HELPS**

Ample physical land and advanced infrastructure available to support major new footprints.

### RISK 3: Hong Kong

## Geopolitical Realignment

**The Hub:** Historically critical routing hub for regional traffic

**The Constraint:** Evolving geopolitical environment causing operators to seek alternative locations.

**HOW SEOUL HELPS**

Offers a highly stable, democratic legal system and secure geopolitical alignment.

### Strategic Outlook: Seoul can have a dual phase infrastructure transformation

**Short Term:** A crucial regional alternative to Japan, providing cheaper power, ample land and reduced seismic risk

**Long Term:** Positioned to become "a second Singapore" — holding all key ingredients for a dominant regional hub.

# How SPNP Inhibits South Korea's Strategic Digital Goals in AI Era

A direct comparison of national policy objectives, supporting frameworks, and the counterproductive impact of SPNP

| Government Strategic Goal | Reference | How SPNP will inhibit that goal |
|---|---|---|
| **1. Top-3 AI Superpower ("AI G3")**<br>Deploy >2 Exaflops GPU compute; increasing current GPU capacity 15-fold; mobilize KRW 65T private investment. | MSIT Blueprint for Korea's Leap to Become One of the Top Three Global AI Powerhouse (AI G3) - 2024 | • **Taxes High-Traffic AI Workloads**<br>Inflates costs of continuous cloud sync & real-time inference.<br>• **Penalizes Local AI Training**<br>Disincentivizes hosting multi-tenant compute clusters locally. |
| **2. Increase Korea Cloud Market**<br>Target KRW 10T market by 2027; deregulate network separation. | MSIT 4th Cloud Computing Basic Plan (2025–2027) - 2024 | • **Structural Egress Cost Inflation**<br>Cloud platforms face heavily inflated outbound data fees.<br>• **Squeezes Provider Margins**<br>High underlying transit costs slow enterprise cloud adoption. |
| **3. Transform Seoul to a Digital Hub**<br>National vision to elevate the Seoul capital region into a "Global Digital Hub" | MSIT Announcement — Digital Strategy of South Korea | • **Bypasses South Korea**<br>Global networks interconnect outside Korea to avoid SPNP.<br>• **High-Cost "Data Export Tax"**<br>Mandated fees make Seoul transit 8–10x pricier than peers. |
| **4. Improve Network Resilience**<br>Resilience for key infrastructure at the national level. | MSIT National Cybersecurity Strategy (국가사이버안보전략 2024) | • **Promotes "Tromboning" of traffic country**<br>Traffic exchange via international indirect paths.<br>• **Limits growth for redundant Korea Hubs**<br>Inhibits multiple hub cities within Korea from developing |

# Conclusion: Resolving the Seoul Peering Paradox

Aligning digital policy with national AI goals is critical for South Korea's future infrastructure leadership

## The Strategic Opportunity

Seoul is uniquely **positioned** to become a dominant North Asia peering hub, addressing the severe power, space, and seismic constraints of neighboring markets (Japan, Singapore, Hong Kong).

By leveraging its stable legal system, robust local infrastructure, and regional positioning, South Korea can drive immense private cloud and AI cluster investments.

## The Policy Barrier

The counterproductive impact of **SPNP (Sending Party Network Pays)** remains the one of the largest barriers to South Korea's digital ambitions.

Mandated payment fees (8–10x higher than regional peers) actively disincentivize local infrastructure investments, inflates network costs, and encourages global networks to bypass Seoul entirely.

**Key Takeaway**: ***Policy frameworks stand as one of the contributing causes bottlenecking South Korea's digital ambitions. Modernizing network cost structures is critical to establishing Seoul as North Asia's leading digital hub.***

Thank You