

SCION – Next Generation Internet at the BIS

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About the BIS



- The Bank for International Settlements (BIS) is the world's oldest international financial organisation (founded in 1930).
- The BIS supports central banks and other financial authorities in their pursuit of monetary and financial stability through international cooperation, and it acts as a bank for central banks.
- The BIS is owned by 63 member central banks and monetary authorities from around the world, and provides its members with:

a forum for
dialogue and
broad
**international
cooperation**

a platform
for responsible
innovation
and
knowledge-
sharing

in-depth
analysis and
insights on
core policy
issues

sound and
competitive
**financial
services**



Why SCION?

- Current internet lacks adequate security and data protection, posing challenges for BIS in exchanging sensitive information with customers.
- BIS aims to provide top-tier services and technology to both customers and internal users.
- SCION offers a promising solution for secure communications.
- Implementing SCION can enhance data security and availability for BIS customers, while also allowing BIS to promote SCION architecture and explore new use cases within the central banking community.



WHAT ARE THE CURRENT CHALLENGES?

- Modern security threats of internet
- Internet resilience and fast recovery times requirements
- Data pathways are not guaranteed
- Finding a mature solution for international organisation

THE PROPOSED WAY FORWARD

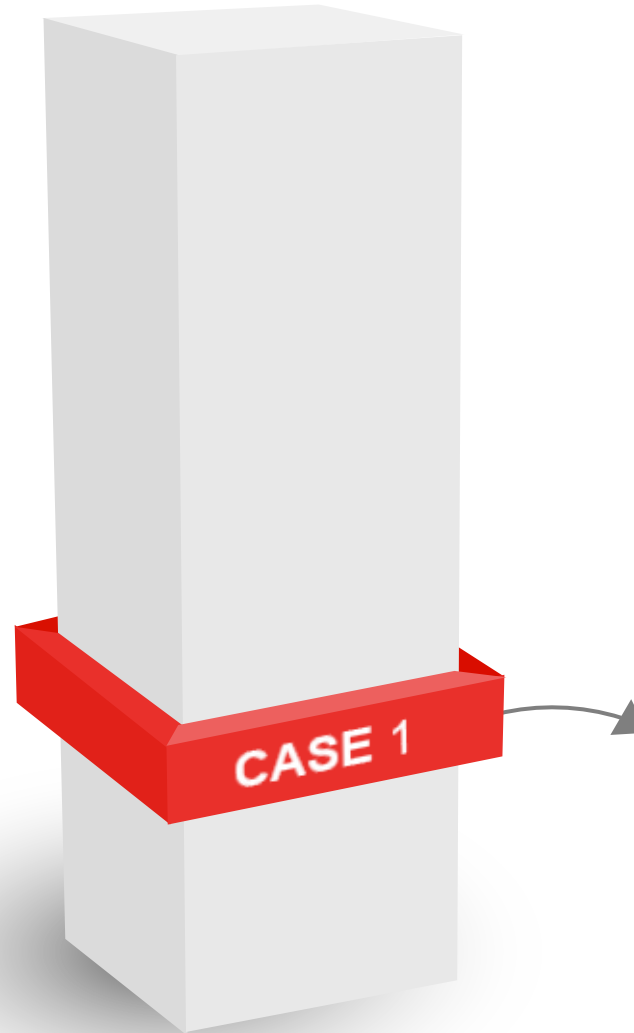
SCION™

- Path control, including limiting traffic to specific jurisdictions
- Reduced attack surface for path and denial-of-service attacks
- Inherent multi-path resilience
- Improved visibility
- Vendor neutral

What are the Use Cases for the BIS?

Key benefits:

- Geofencing to desired jurisdictions
- Higher Resilience
- Simplification



1. Securing BIS Extended Network

- a) Securing Management of Innovation Hub Centres
- b) Regional Site Connectivity

Proof of Concept

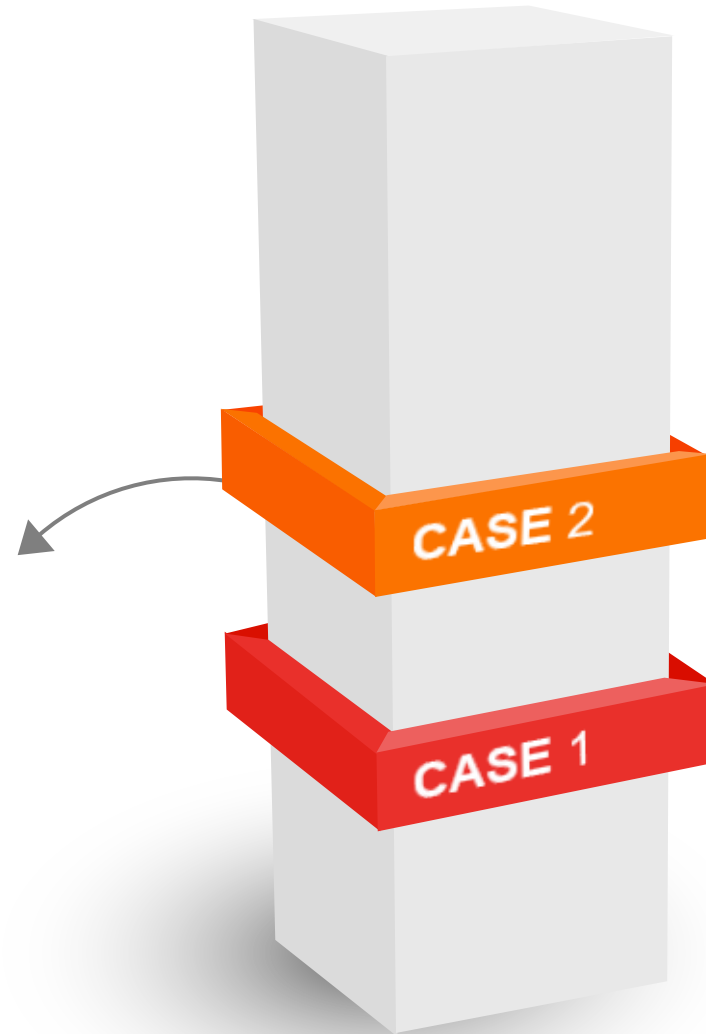
What are the Use Cases for the BIS?



2. Securing BIS Connectivity

Proof of Concept

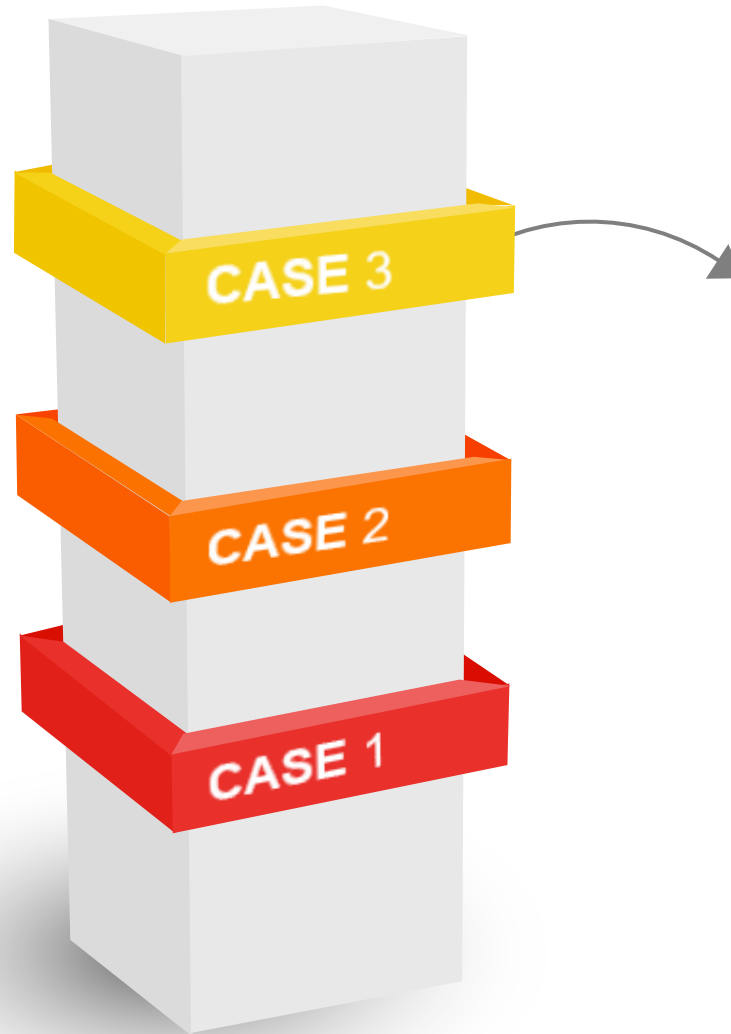
- a) Access to BIS Services (Azure, ServiceNow, Fusion)
- b) Access to BIS Innovation Cloud Services
- c) Remote Access



Key benefits:

- Resistance to attacks
- Fit with quantum-proofing innovation
- Geofencing to desired jurisdictions
- Higher Resilience
- Scalability & flexibility

What are the Use Cases for the BIS?



3. Customer Services

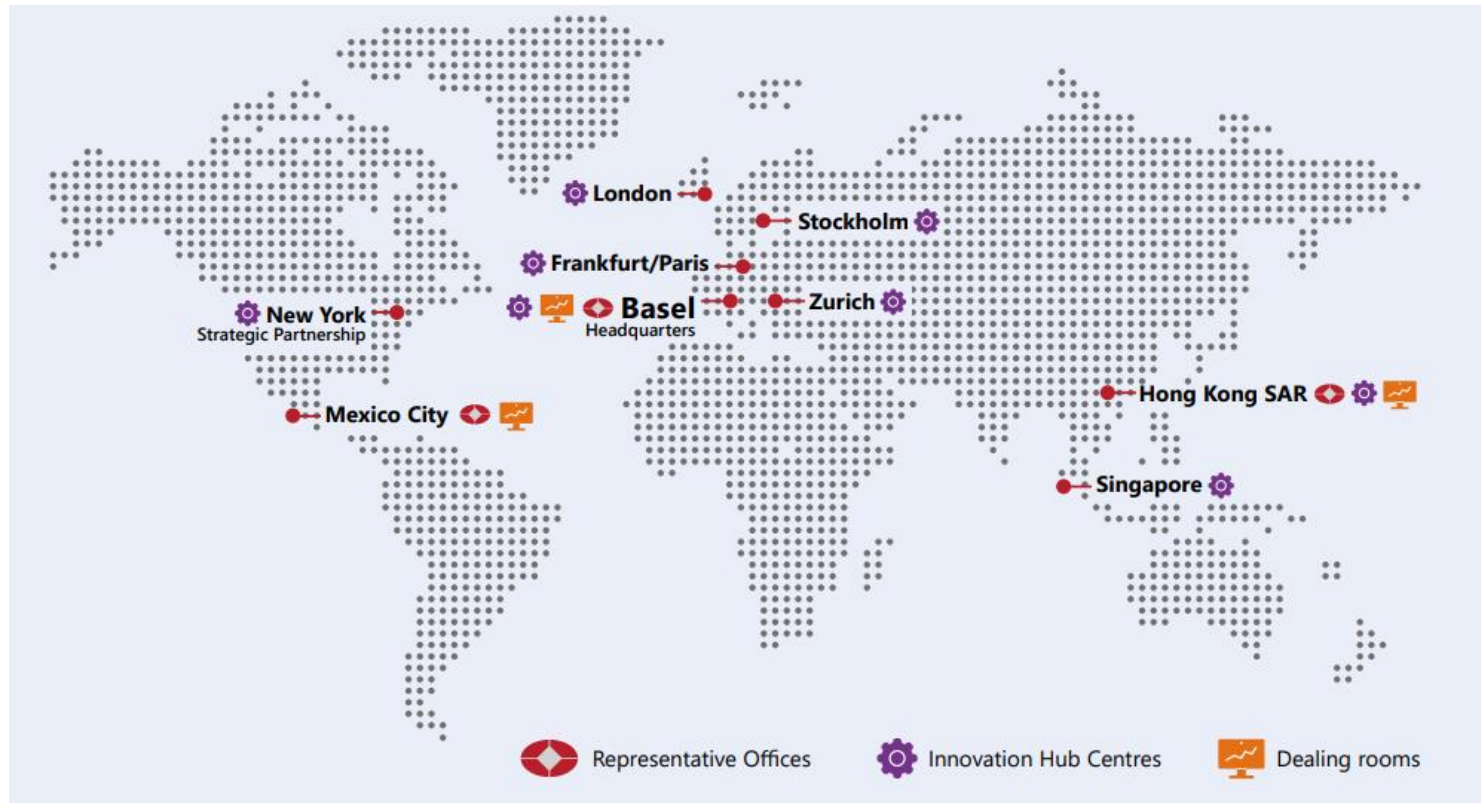
- a) Digital Customer Experience (eBIS, Customer Portal)

Key benefits:

- Resistance to Denial of Service attacks
- Higher Resilience
- Simplification

Proof Of Concept – Use Case 1

- **Deployment of Different Edges:** The primary use case was to deploy various edge locations to integrate several offices, rerouting a portion of the traffic through the SCION backbone to ensure more secure and efficient data transfer.
 - Familiarisation with the technology and features



Proof Of Concept – Use Case 2

- **Integration with Azure:** We are currently exploring the integration of SCION within our Azure setup in Switzerland. This would eliminate the need for a VPN connection between our on-premises data centre and cloud services running in Azure, enhancing security and reducing latency while maintaining direct and secure communication through the SCION backbone.



Proof Of Concept – Use Case 3

- **Evaluation for Hong Kong and Mexico Offices:** We are also aiming to evaluate the integration of SCION in our two offices in Hong Kong and Mexico. The objective is to replace existing leased connections with leased line connections through the SCION backbone, providing a more secure, transparent and cost-effective solution.



Outcomes



Establishment of Native SCION Connection

first native SCION
connection in Basel
through SWITCH



Improved Network Communication

Enhanced visibility
and control over the
traffic and services
provided by
traditional internet
providers



Carrier independent / resilience

Not reliant on one
ISP across SCION
backbones



Fine-Grained Traffic Control with SGRP

Ability to fine-tune
traffic at the packet
level

Challenges of PoC

Physical Layer Constraints



Interoperability Issues



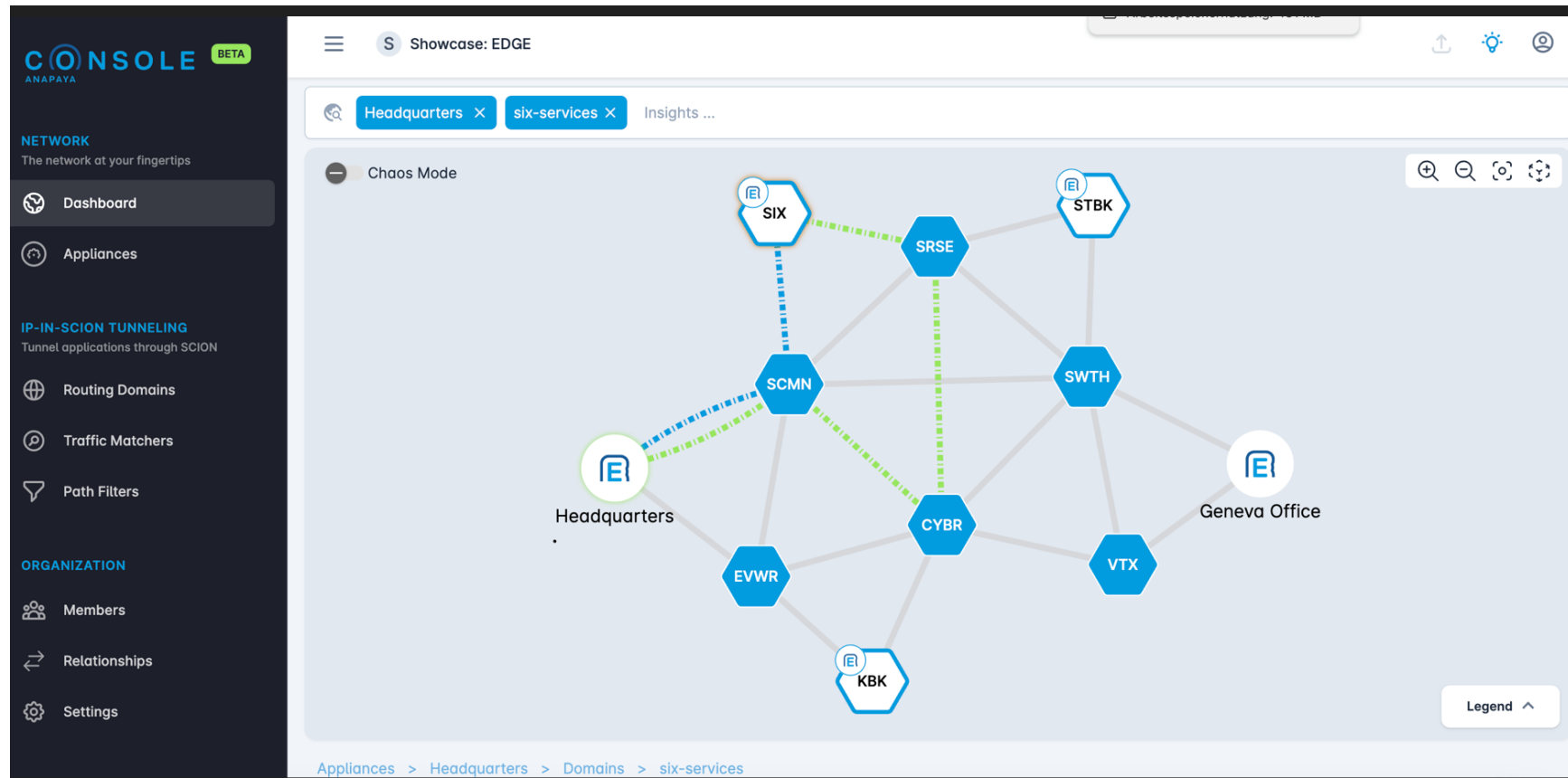
SCION VPN Over Internet



Global outreach



Improved visibility



What are next steps for the BIS?





Questions?