SCiON Factsheet for SSFN

The SSFN is a communication network for the Swiss financial sector. It allows the exchange of data between all its members in an Internet-like manner. Over the course of 2020, the Swiss National Bank and SIX in partnership with Swisscom, Sunrise, and SWITCH as network operators, worked with technology provider Anapaya to build the technical infrastructure to power the new network.

Overview of SCiON

The Swiss Secure Financial Network (SSFN) is built upon SCiON technology researched and developed at ETH Zurich, in collaboration with Anapaya Systems. SCiON has proven to offer a high-quality, secure, and reliable networking experience based on more than 10 years of university research, theoretical and practical validation.

The SSFN is a SCiON-based Isolation Domain (ISD) that will be used exclusively for the Swiss financial sector. It will allow for trusted communication between Swiss financial institutions and its infrastructure in a more efficient way.

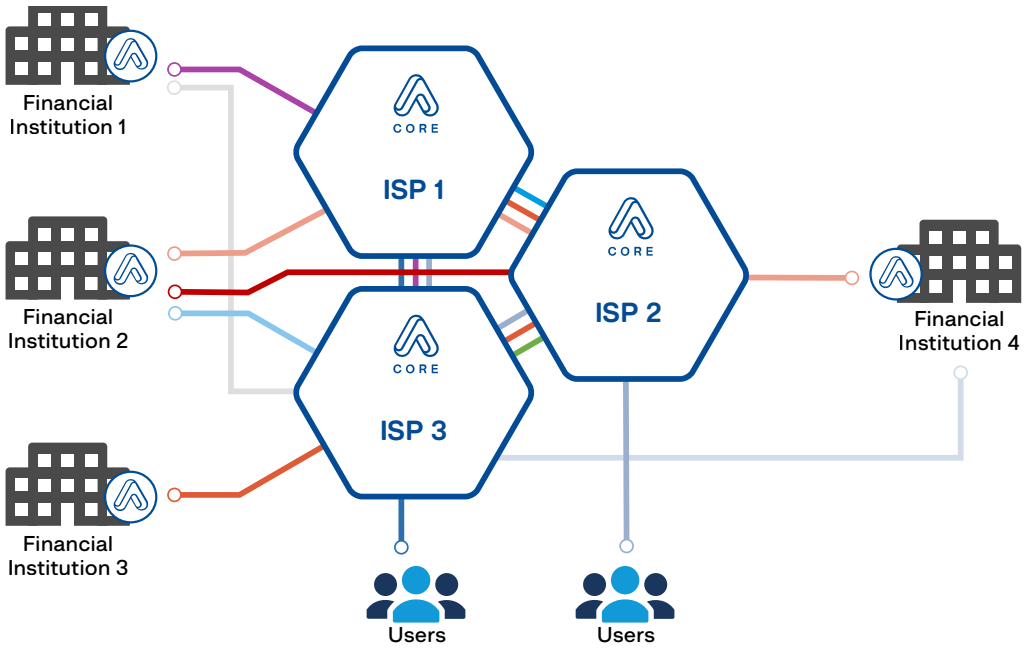
How an ISD works with SCiON

An Isolation Domain logically groups multiple Autonomous Systems (ASes) that belong to a specific country or industry operating under a specific set of governance policies. In SSFN's case, each AS represents a participant's site, which could be a branch office or data centre. Only participants who fulfil the criteria and have been verifiably trusted are permitted access.

SCiON primarily concerns itself with traffic between ASes within the same ISD. The protocol outlines how paths are created inside the ISD. It does this by helping to identify the most useful and efficient traffic routes while providing real-time data on the status of every available path. Traffic path segments can be combined to build paths between any source and destination within the same ISD. What this ultimately means for the end user is that they can find a path to any other host within the same ISD based on their own preferences and rulesets.

SCiON operates on the edge of a network, which means that an organisation does not have to completely change its network or any of its applications to use SCiON. In this way, a SCiON connection can be seen as an alternative to an internet or MPLS connection, as illustrated in the below diagram.

SSFN Participants can find a path to any other host within the same ISD based on their own preferences and rulesets.



End-users or employees of SSFN participants are able to securely connect from home or any other remote location without accessibility, performance or security concerns.

Advantages of an ISD

An ISD using the SCiON protocol has many advantages over traditional internet connectivity, which include:

- Greater sender control over data.
- More secure communications.
- Protection against cyber-attacks.
- Fast fail-over solutions.
- Stronger resilience and redundancy measures.
- Better performance based on cost or latency level rules.
- Enables a single point of access to all other companies.

The features and benefits of an ISD such as SSFN

The reasons for introducing the SSFN to the Swiss financial sector are primarily associated with providing an internal network for the Swiss financial sector that offers more features and benefits than currently available.

ISDs such as SSFN combine the advantages of private and public networks and present an innovative breakthrough for Swiss financial institutions and IT infrastructure. It offers a decentralized any-to-any architecture, extreme reliability, protection against network-level threats, and clearly defined governance and trust anchors.

The SSFN will provide many benefits to users and the Swiss financial sector alike.

- Central access control and governance provide additional security measures.
- Each user can communicate in a closed network efficiently with every other SSFN user with a flexible any-to-any architecture.
- Both data senders and recipients can connect through the same or different carriers, enabling them to be carrier independent.
- The SSFN provides additional protection against cyber risks such as Distributed Denial of Service (DDoS) attacks and BGP (traffic) hijacking in comparison to internet connections.
- SSFN connections have instant failover measures to guarantee business continuity and keep application sessions going, even if a physical supply line fails.
- The network is based on legacy-free technology, with a constant flow of innovation from the SCiON community and university research.
- The SSFN is highly agile, enabling changes and rapid integrations.
- The SSFN uses real-time, end-to-end path-awareness, finding the most secure and reliable networking routes.
- Active SCiON development adds new functionality to ISDs that use it, such as SSFN.

There are also many business benefits for the Swiss financial institutions and IT infrastructure using SSFN such as:

- Demonstrating innovation leadership in the market.
- Providing a competitive advantage for first movers.
- Maximizing investments into connectivity.
- Enabling a shorter time to market through reduced complexity and increased flexibility.
- Providing future proof for new digital business models such as instant payments and digitized banking.

The SSFN will launch in November 2021. SIX's existing communication service will continue to run until it is gradually replaced in favour of SSFN's superior services.

To learn more, **book-a-meeting**
or **send us a message ssfn@anapaya.net**