Anapaya Systems

Building a flexible backbone for the
Next-Generation Internet

consoleconnect
by **PCCW Global**

CONNECTING NETWORKS, CLOUDS & BUSINESSES

Overview of Anapaya Systems

Anapaya Systems is a Swiss company providing service providers and businesses around the globe a way to securely and transparently transport business critical data across a B2B internet.

Anapaya's SCION-Fabric aims to be an international ecosystem of internet, telecom, hosting, colocation and cloud service providers that collaborate to create a B2B-oriented public network separate from the traditional internet. This next-generation network enables businesses to connect their users, partners and customers to their apps and resources in a path-aware, high-availability, high-performance, and secure way.

The Anapaya CORE virtual server software enables service providers and partners to become part of the SCION-Fabric, providing increased reach and extremely reliable B2B connectivity.

The Anapaya EDGE software is the gateway to the SCION-Fabric, allowing customers to benefit from SCION's main properties (real path-control, geofencing, true multi-path communication, fast-failover, hijacking prevention...) and to manage their business policies.

Summary

Aiming to provide service providers and businesses around the globe a way to securely and transparently transport critical business data across a new B2B-oriented internet, Anapaya Systems needed a preferred partner that could help them build a flexible backbone that grew with their needs, without significant upfront investment.

Challenge

By allowing users to benefit from dynamically determined end-to-end paths over the service providers' infrastructure, Anapaya Systems is looking to remove the decision-making process from individual routers along the path. Coupled with a cryptographic verification that a specific path was taken, the company believes it can introduce new security benefits as well as application optimization for businesses in all sectors.

In politically or commercially sensitive applications this may mean avoiding certain paths over the network, ensuring that traffic has only travelled routes that are operated by trusted partners and service providers.

The company claims that in a SCION network hijacking is impossible. Senders and receivers determine in advance which path the data will take and every data packet contains the complete path information. On more traditional infrastructure, the data packets contain only the addresses of the sender and receiver and routers on the path determining the most appropriate efficient steps when passing on data packets, usually the cheapest one.

Traditionally, a task of this magnitude and scope would have been nigh on impossible to undertake without significant investment in backbone infrastructure, effectively requiring Anapaya Systems to become a network service provider.

But Console Connect by PCCW Global, with its elastic network-on-demand solution, gave Anapaya Systems the opportunity to invest in its network footprint on a purely opex model, growing the footprint as required without the financial or resource investment in self-owned infrastructure.

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Solution

According to Samuel Hitz, CTO of Anapaya Systems, in order to build "the next, fully optimized evolution of a B2B internet," PCCW Global became the partner of choice because of its global reach, true elasticity through Console Connect, and an all opex model. This gave Anapaya Systems a pay-as-you-go footprint that is key for growth.

The company recognized it would be challenging to deal at the same time with the longhaul connections and with the hardware logistics of creating points of presence in multiple countries, so they looked to virtualize their PoPs:

- Console Connect gave them opportunity to start out low and grow capacity as needed for longhaul interconnection to create their own backbone.

- Ultimately, Anapaya Systems intends to become a transit provider and the global reach of PCCW Global is crucial to that vision, as is the fine-grained control of the Console Connect offering. The company has control over the capacity it buys on a Mbps level.

- The decision to go with Console Connect by PCCW Global as a preferred partner was also influenced by PCCW Global's existing relationship with Anexia, an Austrian-headquartered cloud services provider. Although one of the smaller cloud operators, Anexia specializes in building custom instances, which in Anapaya Systems' case is what it needed for its compute workloads for its operation.

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Results

Anapaya Systems' application of Console Connect by PCCW Global supports an ambitious vision. The company is building what is essentially the next-generation internet, based on SCION and designed around the resilience and security of B2B applications.

Ultimately Console Connect is proving itself flexible enough for Anapaya Systems to build, grow, and operate its own backbone network without having to become an infrastructure provider in its own right and purchase its own backbone hardware.

"We are able to reduce our initial operational resources with Console Connect because the number of interconnections and level of elasticity we require is still manageable manually, so we can do it all within the portal. Looking to the future however when we grow or add more PoPs, we will plug into the API as we are also very big on the concept of network automation and continuous integration," said Hitz.

Only by buying international leased lines can you stay private with dedicated network-to-network connectivity. Whereas the SCION-Fabric is providing the flexibility of public networks, with the robustness, reliability and security of private ones, Anapaya Systems needed an infrastructure that could scale and reach the key regions. "You don't have to build one-to-one interconnects with everybody, it's all part of a much larger open ecosystem," said Hitz.

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Samuel Hitz, CTO of Anapaya Systems

Outcomes

Olivier Moll, Head of Product at Anapaya Systems, said the elastic connectivity offered by Console Connect was essential, as were the capabilities of PCCW Global. "We could have gone elsewhere for elastic interconnectivity, but we would still have to build out physical PoPs and everything that comes with that. Consider building a rack in Hong Kong, one in Singapore and another in Seoul. Logistically this is not all that easy without being a global infrastructure player ourselves. It's quite challenging just to deal with the hardware logistics," said Moll.

These were key factors, along with a combination of reach, flexibility and also crucially, PCCW Global's existing partnership with Anexia.

Demonstrating PCCW Global's credibility in highly demanding markets, SCION is already proving beneficial for the financial sector. Anapaya Systems said several banks have been testing it to connect some locations for two years already. In the future, the Swiss financial industry could benefit from SCION to share critical data more widely between banks and financial infrastructure.

The partnership between Console Connect by PCCW Global and Anapaya Systems is an example of the brand new and transformative business models coming to the fore as a result of the capabilities of software-driven networking.

In today's cloud-driven world businesses are used to the on-demand nature of cloud portals and to make the Anapaya Systems vision possible depended on how Console Connect applied this concept to network connectivity.

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Olivier Moll, Head of Product at Anapaya Systems

Connecting Networks, Clouds and Businesses

Console Connect is a Software-Defined Interconnection® platform that makes connecting to cloud-based, business-critical applications simple, predictable and secure. Backed by PCCW Global, one of the world's leading telecommunications groups with an uncontended global MPLS network spanning 150 countries, Console Connect allows you to create direct and private connections in just a few clicks. The intuitive platform includes all the tools needed to dial bandwidth up or down on-demand and view utilization and connection performance; no more lengthy contracts and long set up times.

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