SOLANA VALIDATES IPv6 NETWORK DISCOVERY AND MONITORING ON ITS SMARTHAWK SOLUTION

Solana made use of CENGN's infrastructure to simultaneously emulate large IPv4 and IPv6 routed networks to test, validate, and showcase their Route Analytics based SmartHawk network discovery and monitoring solution.

NETWORK APPLICATIONS PROJECT OVERVIEW

THE CHALLENGE

IPv4 address exhaustion has expedited the adoption of IPv6 in Internet Service Provider (ISP) networks. IPv4 and IPv6 addressing co-exists in most ISP networks. However, IPv6 management and monitoring tools are not as mature as IPv4 tools. This has led to the requirement of an IPv4 and IPv6 network topology discovery solution that is scalable and accurate.

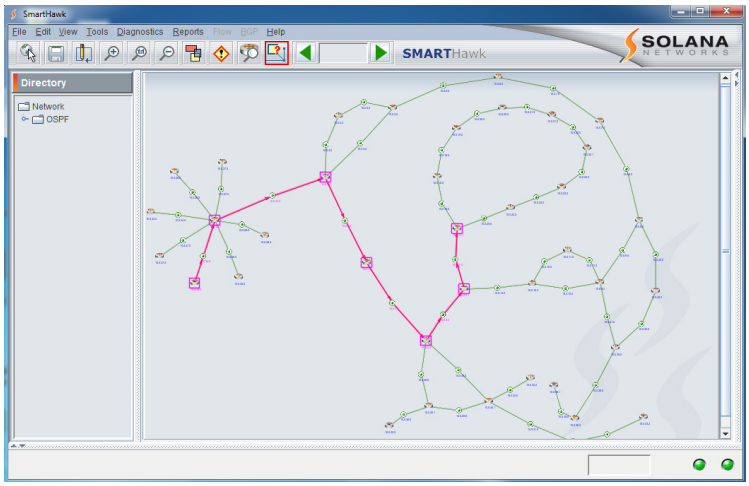

Figure 1. Solana SmartHawk GUI displays a path trace between two points in a network

THE SOLUTION

Solana addresses these issues with its SmartHawk solution, which has been extended to include the IPv6 Open Shortest Path First (OSPF) Network Discovery and Monitoring tool. This tool allows network operators to easily discover and monitor IPv6 networks, while maintaining the existing IPv4 mapping capabilities.

SOLANA NETWORKS	SmartHawk VA, SmartHawk Management Client and CORE emulator
CENGN	CENGN Cloud Infrastructure and Bare Metal Services

THE PROJECT

Last year, CENGN and Solana worked together to emulate a large scale routed network and deployed various building blocks (CORE and SmartHawk) in a cloud tenancy of the CENGN Infrastructure. This allowed Solana to validate scalability of the IPv4 Route Analytics solution.

Building on this, the main objective of the most recent project was to validate and demonstrate the capability of Solana's SmartHawk network discovery solution to be compatible with IPv6. A secondary objective was to demonstrate the route-change detection tool in various networks using the SmartHawk appliance.

CENGN MEMBERS

Bell cisco EXFO FUJITSU GENBAND Invest Ottawa | Investir Ottawa JUNIPER NETWORKS

Mitel NOKIA ROGERS TELUS WIND AN INTEL COMPANY zayo

RESULTS

An OSPF IPv6 network of approximately 13 nodes was emulated on a virtual machine (VM) in CENGN bare metal. At the same time, an OSPF IPv4 network of approximately 50 nodes was emulated on another VM on CENGN's cloud platform.

Discovery and visualization of the emulated IPv6 and IPv4 networks on Solana's SmartHawk Management Client was successful, as the solution accurately and rapidly discovered all 13 nodes in the IPv6 network and 50 nodes in the IPv4 network. Demonstration of the various analytic capabilities of Solana's SmartHawk solution was also successful, as the project showcased unique network solutions such as route-change detection, path tracing, asymmetric links, link and node up/ down, and what-if scenario emulation.

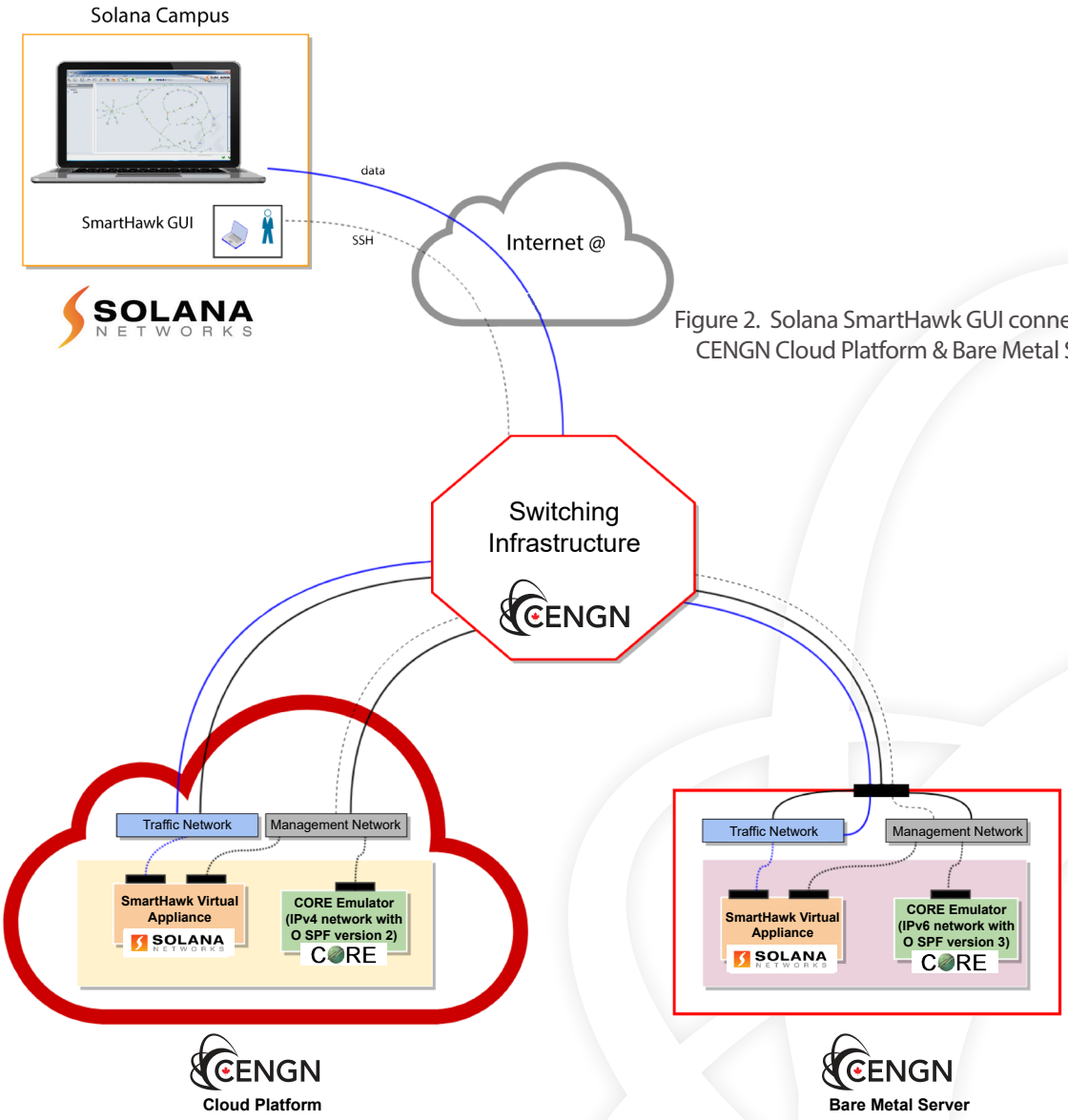

Figure 2. Solana SmartHawk GUI connecting to CENGN Cloud Platform & Bare Metal Server

CONCLUSION

In this project, Solana successfully tested their product through CENGN's hardware hosting and bare metal services. Solana's SmartHawk appliance provides a great tool for network operators looking to easily discover, monitor and analyze large IP networks. By demonstrating their solution's innovative capabilities, Solana will be able to better represent the value of their product to prospective clients and increase their footprint in the global market.

CENGN
CENTRE OF EXCELLENCE IN NEXT GENERATION NETWORKS

Rick Penwarden, Marketing Manager
rick.penwarden@cengn.ca
cengn.ca/projects

Bis Nandy, CTO
bnandy@solananetworks.com
http://www.solananetworks.com/
SOLANA NETWORKS