As businesses get more connected, the market for network services continues to grow. But for service providers, it’s getting harder to stand out from the crowd. SoftBank, a tier 1 telecommunications provider in Asia, is getting a jump on the competition by using virtualization, software-defined networking (SDN), and network orchestration. Customers can create custom network solutions tuned precisely for their needs, combining physical and virtual device capabilities from multiple vendors in a single package through a self-service portal. And the service provider can deploy them in minutes—automatically.

No two businesses are the same, and neither are their network service requirements. So the more diverse offerings a service provider can package and deliver, the larger they can grow their customer base. But traditionally, network operators that want to chain multiple Layer 4 through Layer 7 functions to a service offering have to wire together multiple physical network appliances, often from different vendors. This challenge makes services complex, expensive, and difficult to manage and provision, limiting the differentiated capabilities network operators can offer to different market segments. It also means that designing and onboarding a new type of service can take many months, impeding an operator’s ability to respond to new opportunities and competitive threats.

SoftBank is taking a smarter, faster approach using network and service automation software from Cisco. It’s virtualizing key network elements and managing them as a flexible, scalable SDN resource pool with Cisco Virtual Topology System. And it’s combining those virtualized resources with multivendor physical-device capabilities as ready-to-activate services—all automated end-to-end with Cisco Network Services Orchestrator (NSO) enabled by Tail-f.

Transforming Service Delivery

Cisco Virtual Topology System and Cisco NSO are part of the comprehensive Cisco NFV portfolio—encompassing SDN, network orchestration, virtualized network function management (VNFM), and more—all automated to reduce operational expenses (OpEx) and accelerate service provider agility.
For SoftBank, Cisco Virtual Topology System and NSO empower it to mix and match network capabilities to meet diverse customer needs. The service provider can provision and chain capabilities from both virtual resources and existing physical network elements to create customized offerings. And it can orchestrate every element of a service and deliver it in an automated way. With Cisco Virtual Topology System and NSO, the service provider can:

• **Drive down CapEx and OpEx:** Cisco Virtual Topology System combines virtualized and physical network elements across multiple data centers into a single, flexible resource pool. The operator can lower CapEx by virtualizing network functions where it makes business sense, while continuing to interoperate with existing physical devices from different vendors. And it can deliver services at a much lower cost by automating multivendor device capabilities through software, instead of manually wiring appliances.

• **Automate services end-to-end:** The service provider can design new services using the standardized YANG modeling language. By describing both service-level intent and device-level configurations in the same language, it can define what a new service should do at a high level. The network then automatically configures all the physical and virtual devices to instantiate it—in minutes, with no manual intervention.

• **Accelerate multidevice, multivendor service offerings:** Using the same data models, the service provider can model and orchestrate both virtual and physical network elements from multiple vendors. It can chain together a wide range of services to meet diverse customer needs and deliver them as a packaged offering on demand.

**Business Results**

Today, SoftBank can offer a broad range of customizable network solutions to serve a wider range of business needs:

• Customers can log on to a self-service portal to add or change services, selecting the exact services, security policies, and resiliency they need. The solution allows for real-time configuration changes.

• SoftBank can deploy the solution in minutes instead of weeks—and at a much lower cost.

• When rolling out new services, SoftBank no longer needs a fleet of people to manually provision and wire physical appliances. With automated provisioning, the service provider can begin generating revenue from new services faster. Leveraging the combination of Cisco NSO as orchestrator and Cisco VTS as SDN controller, SoftBank improved its time-to-delivery by 70 percent with an 86 percent reduction in man-hours.

Additionally, SoftBank’s open, modular, multivendor architecture also gives them the flexibility to quickly address new opportunities as they arise. With end-to-end lifecycle service automation, they can design and onboard entirely new services in a matter of months—instead of needing a year, like in the past. They can move faster than the competition to enter new markets, add new capabilities, and meet the changing demands of their customers. At the same time, with the ability to automate physical devices just as easily as virtual ones, SoftBank can evolve to a fully virtualized environment pragmatically, while continuing to gain value from its existing physical appliance investments.