

HKT TRANSFORMS ITS NETWORK TO IP WITH TELCOBRIDGES

HKT

Largest Telecommunications Service Provider in Hong Kong Migrates 90 Central Offices to IP with Media Gateways from TelcoBridges



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—Tom Pang,
Vice President, HKT

BACKGROUND

Hong Kong Telecom (HKT) is one of the largest telecommunications service provider in Hong Kong, serving both consumers and commercial customers across the region with roughly 2.5 million phone lines. As part of PCCW Limited, HKT employs more than 17,000 personnel and operates numerous central offices and switching facilities across Hong Kong.

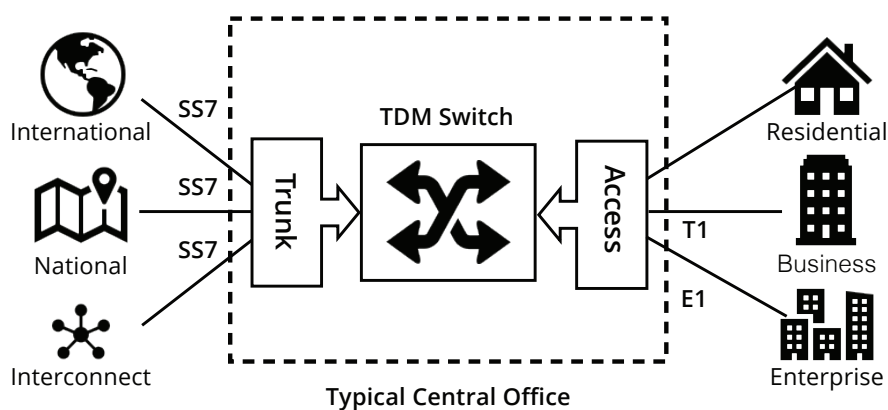
As the incumbent service provider in Hong Kong, servicing many large enterprise customers, HKT puts considerable emphasis on delivering reliable services with five 9's reliability.

CHALLENGES

Tom Pang, Vice President, Fixed Network Planning, Network Planning & Operation and a long-serving member of the HKT technical team is responsible for the design of the voice network infrastructure at the company.

In early 2018, Tom was tasked to develop a 5-year strategic plan to address the maintenance needs of the aging network of legacy PSTN switches in HKT's switching facilities. As Tom notes, "the legacy switches were becoming increasingly difficult to maintain, with spare parts becoming scarce". Beyond the maintenance and spare parts issues, "the TDM equipment is expensive to operate and requires cooling, resulting in significant operating costs".

TYPICAL HKT CENTRAL OFFICE BEFORE NETWORK TRANSFORMATION



CASE STUDY

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—Tom Pang

During this time HKT was also seeing a slow, steady reduction of TDM circuit traffic and increasing adoption of IP services. “Consolidation of the facilities was seen as an opportunity to further reduce operating costs.”

The challenge for Tom was to design and deploy on a new replacement solution that could continue to serve the existing TDM customers as well as offer new services to HKT’s IP-based customers by the end of 2022. As Tom noted, a key goal of the project included facilitating direct replacement of TDM services without impacting the end customer - “we must not disrupt the customer in any way - the transition must be transparent”.

Because of the tight timeline, it was important to choose vendor partners that could deliver the needed network elements and software, in addition to working closely with HKT on integration and enhancements that might arise.

While evaluating the project ROI, Tom recognized that there was an opportunity to significantly reduce energy usage, potentially reducing operational costs, which further justified much of the capital investment. The energy reductions could also help the company achieve some of their corporate environmental and Green objectives.

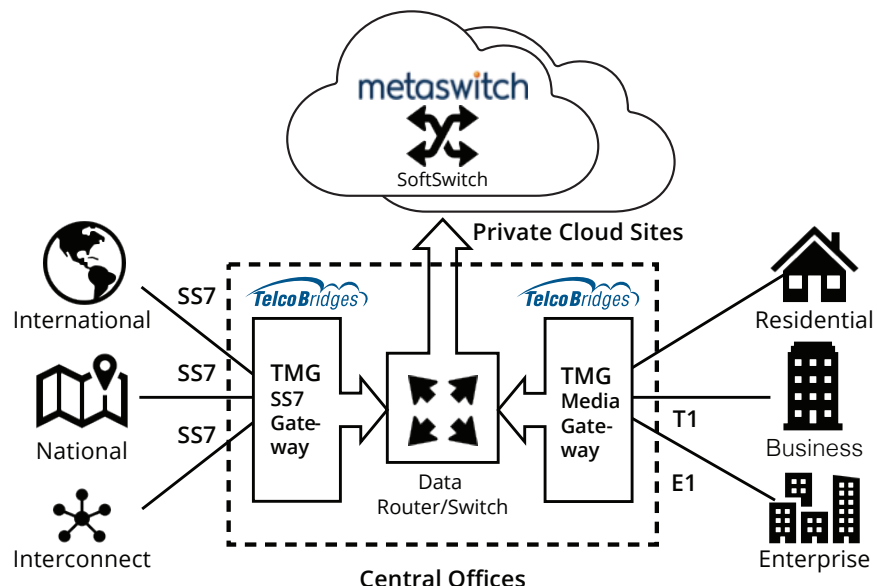
“we must not disrupt the customer in any way - the transition must be transparent”

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SOLUTION

To meet the stringent objectives, Tom devised a “Network Transformation” strategy that replaced the aging TDM switches with a combination of cloud-based softswitch software and media gateways, interconnecting trunking lines and customer’s existing TDM circuits with media gateways from TelcoBridges.

CENTRAL OFFICE AFTER NETWORK TRANSFORMATION



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"TelcoBridges has been very helpful with this project... we can always find the best way to meet both of our requirements"

—Tom Pang

This strategy puts the call switching and application logic in redundant cloud-based datacenters while replacing the trunk and access side connectivity with TelcoBridges TMG Media Gateways at the central office sites. Terminating SS7 trunk circuits is accomplished with TelcoBridges SS7 media gateways, converting trunk line signaling and media to SIP. On the access side, connections to consumers and businesses' existing last-mile TDM lines are accomplished with high-density TMG7800 media gateway clusters with 100% redundancy.

The key benefits of the Network Transformation strategy include:

- No customer disruption – switch-over is transparent to the customer, requires no action on their part, and occurs late at night without a site visit or CPE
- Centralizes call control and application logic to cloud datacenter, adding new services opportunities
- Maintains high reliability with quick switch-over in case of equipment failure
- Significantly reduces power and cooling requirements at central office facilities

During the design phase of the project, the engineers at HKT collaborated with TelcoBridges' developers on several custom enhancements to the TMG7800 architecture, integrating additional high availability features to meet HKT specifications. The enhancements reduced parts-counts and improved failure detection and recovery.

RESULTS

A pilot implementation was successfully completed, including the custom enhancement to the TelcoBridges' TMG7800 software and hardware, helping Tom and his team meet their strict timeline goals.

Roll-out of the remaining central office sites is set to occur over the next two years with work to be completed by the end of 2022.

With new state-of-the-art equipment in place, HKT engineers now have access to ongoing support and replacement parts are readily available.

Based on his calculations, Tom projects "the completed project will result in energy savings of US\$ 2 Million per year – making us eligible for Green awards"

MORE INFORMATION

To learn more about Hong Kong Telecom, visit: <https://hkt.com>

For more information on TelcoBridges TMG Media Gateways, visit:

<https://www.telcobridges.com/products/tmedia-voip-gateways>