Swayed by Huawei’s extensive experience in the public cloud arena, China Telecom Global (CTG) teamed up with Huawei to expand its share in the public cloud market. Targeting Chinese multinationals, the operator aims to become a data haven for Chinese companies, a data exchange center for the Asia-Pacific, and a world-class integrated IT services provider.

Headquartered in Hong Kong, China Telecom Global is the international subsidiary of the China Telecom Group responsible for expanding China Telecom’s international presence. Using the group’s considerable resources, CTG has grown its business across the Asia Pacific region and beyond, emerging as a world-class integrated information services provider.

CTG goes global with cloud services

The Internet age has fundamentally changed the way operators do business, and the concept of integrated services in telecommunications has changed along with it. Targeting the huge potential of the international IDC market, CTG has improved its service quality and won more customers. It has also investigated business models in new areas, and explored potential needs in the enterprise market.

CTG’s customers include Chinese multinationals, Internet companies, and multinational finance companies that want to expand internationally. One such customer is Tencent. The tech giant’s global strategy is
to expand its presence in other markets, and it’s invested US$2 billion to do so. According to Tencent President Martin Lau, "We want international partners that can help us expand market share."

When it comes to international expansion, companies such as Tencent mainly worry about finding a partner that can ensure consistent services at home and abroad. These companies may also require locally tailored ICT services that consider local market and network needs and have the capability for on-demand, smooth scaling.

CTG aims to meet the requirements of these types of companies. It has set out a global development plan for the public cloud market to become an integrated ICT services company that combines Internet services, public cloud services, and telecommunications services.

Under the Nebula project, which was launched in October 2013, CTG has developed cross-border public cloud services, the first stage of which was to construct two IDCs in Hong Kong and Singapore, followed by 30 such centers across the globe.

To help complete this project, CTG needed a partner with extensive experience in operating public clouds so that it could expand into the Southeast Asian and other global markets. According to CTG’s CIO, "The globalization of enterprises requires multiple cross-regional data centers with unified management. Overcoming the challenges of regional limitations and fragmented IDC is critical to the success of public cloud services and improving RoI."

Public clouds need to lower expenditure, but only large-scale ones are cost competitive. The design of global super-scale public clouds must include leading solutions, services, and innovative architecture.

### Huawei’s end-to-end solution

In line with CTG’s global services plan, Huawei provided end-to-end public cloud solutions – including consultation, planning, construction, and operations – for CTG’s Nebula project.

The project aims to create a global network of public cloud sites – a nebula – to act as a data haven for Chinese companies, provide a data exchange center in the Asia-Pacific, and transform CTG into a world-class integrated IT services provider.

Today, CTG has built 17 public cloud sites, with numerous Chinese multinationals such as Haier already taking up residence.

### Expanding its reach

With extensive public cloud construction in all major world cities, Huawei was CTG’s first-choice vendor for Nebula, where CTG’s global network will enable the construction of public clouds in more than 20 countries.

The global service plan for Nebula, which has service innovation at its core, requires a global unified IT infrastructure. It will form a large-scale resource pool by bridging the whole computing, storage and network resources of multiple sites. A unified resource pool enables CTG to provide regionally consistent IT services to multinational Chinese companies.

Huawei’s service network, which spans over 300 countries, helped CTG establish cloud data centers in 30 regions, including Hong Kong and Singapore, so that CTG can provide global companies with integrated services that include secure and reliable storage, management, and disaster-recovery for data.

CTG’s global service centers provide self-service portals where services are publicly available, allowing internal and external customers to apply for, use, and unsubscribe to services on-demand.

The portals also enable users to calculate resources accurately, simplifying internal costing.
and minimizing resource waste. Self-service portals also set different roles for users by applying different permissions control on different roles.

Users can select their own service goals via a unified portal website, and quickly deploy services and O&M systems, making the customer experience friendlier.

**Distributed architecture for huge cost benefits**

Another challenge facing Nebula was maximizing the operational efficiency of public clouds and thus cost-effectiveness.

According to the project’s director, "To construct super large-scale multinational public clouds, we needed better architecture and cost-effectiveness to compete with the leading international public cloud service providers."

Huawei employed a distributed architecture for CTG’s public cloud platform based on the following features: super-scale clusters, delayering, and software-defined storage. These make the solution high-performance, highly reliable, and easy to expand.

Super-scale clusters cut TCO by up to 20 percent via natural advantages that improve stability, enhance resource utilization, and boost management efficiency.

Delayering allows system architecture to be easily expanded by better matching Nebula’s service development needs in different regions.

Software-defined storage lowers investment in traditional external storage, cutting project CAPEX and accelerating ROI for public cloud service providers to less than three years, with profits predicted for the second year.

**Build the ecosystem together**

Building public cloud platforms is only the first step of CTG’s Nebula Project. The next and most crucial step is attracting customers. In its end-to-end public cloud solution, Huawei offers business consultation, service plans, and customized expansion policies as well as products so customers can focus on expanding market share.

Openness is vital for the public cloud because multinationals require service diversity. Nebula seeks to construct a public cloud ecosystem that contains service supermarkets where local information providers can offer products and services. This type of public cloud can provide Huawei’s cloud services, telecom service products, and products and applications from dozens of third parties in a continually expanding ecosystem.

**Efficient, reliable, green**

CTG’s Nebula Project is the basis of the company’s expansion into the global ICT market. The public cloud services platform aims to provide customer-oriented ICT services in a way that is efficient, reliable, and green.

CTG’s Nebula Project is the basis of the company’s expansion into the global ICT market. The public cloud services platform aims to provide customer-oriented ICT services in a way that is efficient, reliable, and green. It has helped CTG to break into the international market, and successfully assisted more than 10 Chinese enterprise customers, including Haier, to grow.

Thanks to Huawei’s distributed architecture, the solution has doubled performance and reduced TCO by 20 percent. As Huawei’s public cloud solution is a heterogeneous multi-cloud platform, it improves management efficiency threefold and ensures service quality.