![Telstra]

Telstra PBS
太平洋电信

云网安融合，让安全互联如此简单

企业客户案例

太平洋电信微信公众号

高新技术制造业企业出海全球组网案例分享
深圳市英唐智能控制股份有限公司

YITOA 英唐

英唐智能总部位于深圳市宝安区海纳百川总部大厦，主要从事电子元器件分销、芯片研发、设计及制造等业务，在全球四个国家或地区设立有22个分公司或子公司，是中国领先的半导体元器件综合解决方案供应商之一。

公司拥有自己的MES、WMS、ERP、OA和CRM等UAS软件系统支撑及投后整合的平台，逐步确立了以电子元器件渠道分销为基础，半导体设计与制造为核心的发展战略，并致力于成为半导体设计、制造及电子元器件分销的行业标杆。

> **"**
>
> ■ 作为我们企业网络发展的关键部分，太平洋电信所提供的二层传输链路、全球骨干网络以及专业的接入路由器，给我们带来了巨大的便利和效益。
>
> ■ 太平洋电信的传输链路表现出色，不仅传输速度快，而且稳定可靠。这对我们的日常业务非常重要，能够确保数据的快速传输和节点之间的流畅连接。
>
> ■ 全球骨干网络的覆盖范围也让我们印象深刻。作为一家全球性企业，能够依靠你们的网络覆盖，确保我们不论身在何处都能稳定连接到数据中心，这对我们的跨国业务运作至关重要。
>
> ■ 接入路由器也是我们网络架构中的亮点。不仅性能出色，而且管理和调整起来非常灵活。我们可以根据需求轻松调整网络结构，这为我们的业务发展提供了更大的空间和可能性。
>
> ■ 此外，太平洋电信提供的数据中心托管服务也让我们感到安心。我们的重要业务数据得到了高水平的保护，而且数据中心的性能和可靠性也让我们对数据安全更有信心。
>
> ■ 总体而言，太平洋电信所提供的组网服务真正满足了我们的需求，并且超出了我们的预期。感谢你们的专业支持，相信在太平洋电信的帮助下，我们的企业网络将会更加稳健，为未来的发展打下坚实的基础。
>
> **"**
>
> ——该企业IT部主管

客户需求

研发需要

客户在芯片的设计、研发以及制造上投入了大量的资源，包括系统、网络、设备等；同时在海外的研发团队始终需要和国内保持低时延的数据交互，对于传输大文件数据提出了更高的要求。

办公室与数据中心互联互通

实现日本办公室、上海数据中心，上海办公室、深圳办公室之间的内网互访。

灵活扩展和部署

重要数据的传输要求供应商具备灵活扩容大带宽的能力，部署的设备能满足未来某时期的性能要求。

数据备份和灾备

高等级的数据中心为客户提供了稳定的电力保障、冗余的带宽能力、灵活的增值服务选择。

解决方案

通过太平洋电信全球骨干网络打造安全稳定低延时的网络链路和便捷的多站点互联方案

- 客户节点由Telstra PBS提供MPLS VPN解决方案，所有接入点提供二层业务传输。
- 客户海外站点通过二层传输链路，就近接入Telstra PBS的POP点，实现海外与国内的互联互通。
- 所有办公站点由Telstra PBS提供本地传输与备份链路加骨干网实现了稳定、低时延的组网能力。
- 具备弹性能力的骨干网可以适应未来高标准的网络扩容需求。

案例亮点

- 核心业务系统线下托管在Telstra PBS在上海的数据中心，各站点之间通过专用链路进行内网互访。
- 海外站点双设备架构设计，分别接入不同的POP点，实现了主备冗余，保障了业务的连续性。
- 帮助客户优化了网络架构，提升了带宽、稳定性和安全性，同时具备了一定的扩容能力。

实施效果

灵活性和弹性

优化后的网络架构提供了灵活的和弹性扩展能力，并可以根据实际需求扩容，从而适应业务的快速变化。

成本效益

通过太平洋电信全球的骨干网络，客户组成了内部的局域网路，大大减少前期的固定成本和后期的运维成本。

高可用性和容灾性

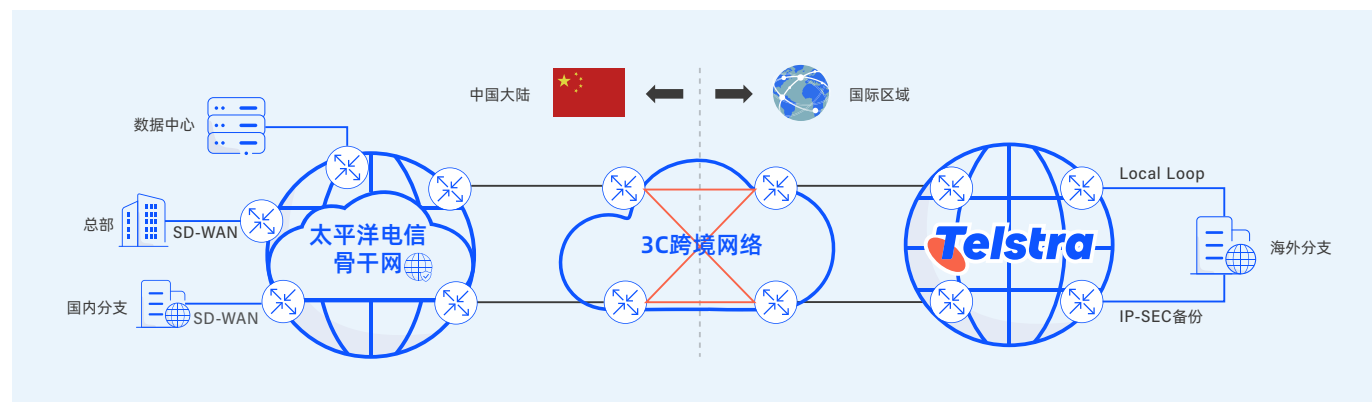通过专用链路与环网保护架构、实现了线上和线下数据的差异部署，确保企业数据的安全、可靠和持续性，降低了业务中断风险。

提高效率与协作能力

集中化的网络管理平台，提升了团队成员之间的协作与沟通。

安全性和隐私保护

从设备接入层到网络传输层提供了全程的安全保障，保护企业的数据隐私并防范网络攻击。

方案拓补图

Shenzhen Yitoa Intelligent Control Co.,Ltd. Case

MPLS networking case of high-tech manufacturing industry

Yitoa is headquartered in Haina Baochuan Headquarters Building, Baoan District, Shenzhen, mainly engaged in electronic components distribution, chip research and development, design and manufacturing business, in the world has set up 22 branches or subsidiaries in four countries or regions worldwide, is one of China's leading semiconductor components integrated solution providers.

The company has its own UAS software systems, including MES, WMS, ERP, OA, and CRM, which support its operations and post-investment integration platform. It has gradually established the electronic components channel distribution based on the development strategy of semiconductor design and manufacturing as the core, aiming to become the industry benchmark of semiconductor design, manufacturing and electronic components distribution.

- As a key part of our enterprise network development, Telstra PBS provides layer 2 transport links, a global backbone network and professional access routers, which bring us great convenience and benefits.

- The transmission link of Telstra PBS performs well, not only with fast transmission speeds, but also with stability and reliable. This is very important for our daily business to ensure fast data transfer and smooth connectivity between nodes.

- We are also impressed by the coverage of the global backbone network. As a global company, we can rely on your network coverage to ensure that we have stable connectivity to our data centers, regardless of our physical location. This is essential for our multinational business operations.

- The access routers are also a highlight of our network architecture. They not only deliver excellent performance but also offer flexibility in management and adjustment. We can easily adjust the network structure according to our needs, which provides flexibility and possibility for our business development.

- In addition, the data centre hosting service provided by Telstra PBS also gives us peace of mind. Our vital business data is protected at a high level, and the performance and reliability of the data centre also gives us greater confidence in data security.

- Overall, the networking services provided by Telstra PBS really met our needs and exceeded our expectations. We appreciate your professional support, we believe that with the help of Telstra PBS, our enterprise network will be more robust and lay a solid foundation for future development.

What customers say

Customer demand

R&D needs

customers have invested a lot of resources in chip design, R&D and manufacturing, including system, network and equipment. At the same time, the overseas R&D team always needs to maintain low latency data interaction with China, which puts forward higher requirements for the transmission of large file data.

Office and data center interconnection

Achieve intranet access between the Japanese office, the Shanghai data center, and the Shanghai office and the Shenzhen office,enabling seamless communication and data exchange.

Flexible expansion and deployment

the transmission of important data requires suppliers to have the ability to flexibly expand large bandwidth,and the deployed equipment can meet the performance requirements of a certain period in the future.

Data backup and disaster recovery

high-level data centers provide customers with stable power protection, redundant bandwidth capabilities, and flexible value-added service options to ensure data backup and disaster recovery capabilities.

The solution

By leveraging the Telstra PBS Global Backbone Network, a secure, stable, and low-latency network link is established, providing a convenient multi-site interconnectivity solution.

■ MPLS VPN solution is provided by Telstra PBS for client nodes, and all access points provide layer-2 service transmission.

■ Through the layer 2 transmission link, the customer's overseas sites are connected to the nearest POP point of Telstra PBS to realize the interconnection between overseas and domestic.

■ All office sites are provided by Telstra PBS with local transmission and backup links and backbone network to achieve stable and low delay networking capabilities.

■ The backbone network with elastic ability can adapt to the demand of high standard network expansion in the future.

Case highlights

■ The core business system is hosted offline at Telstra PBS's data center in Shanghai, with Intranet exchange visits between sites through dedicated links.

■ The dual device architecture of the overseas sites was designed, and different POP points were accessed to achieve primary and backup redundancy and ensure the continuity of business.

■ It helps customers optimize the network architecture, improve bandwidth, stability and security, and has a certain capacity expansion ability.

Implementation effect

Flexibility and elasticity

The optimized network architecture provides flexible and elastic expansion capabilities, and can be expanded according to the actual demand, so as to adapt to the rapid changes in the business.

Cost effectiveness

Through the Telstra PBS global backbone network, customers form an internal local area network, which greatly reduces the upfront fixed costs and later operation and maintenance costs.

High availability and disaster tolerance

through the dedicated link and ring network protection architecture, it realizes the differential deployment of online and offline data, ensures the safety, reliability and continuity of enterprise data, and reduces the risk of business interruption.

Improved efficiency and collaboration

a centralized network management platform enhances collaboration and communication among team members.

Security and privacy protection

The solution provides end-to-end security, from the device access layer to the network transport layer, , ensuring the protection of corporate data privacy and safeguarding against network attacks.

Scheme extension diagram
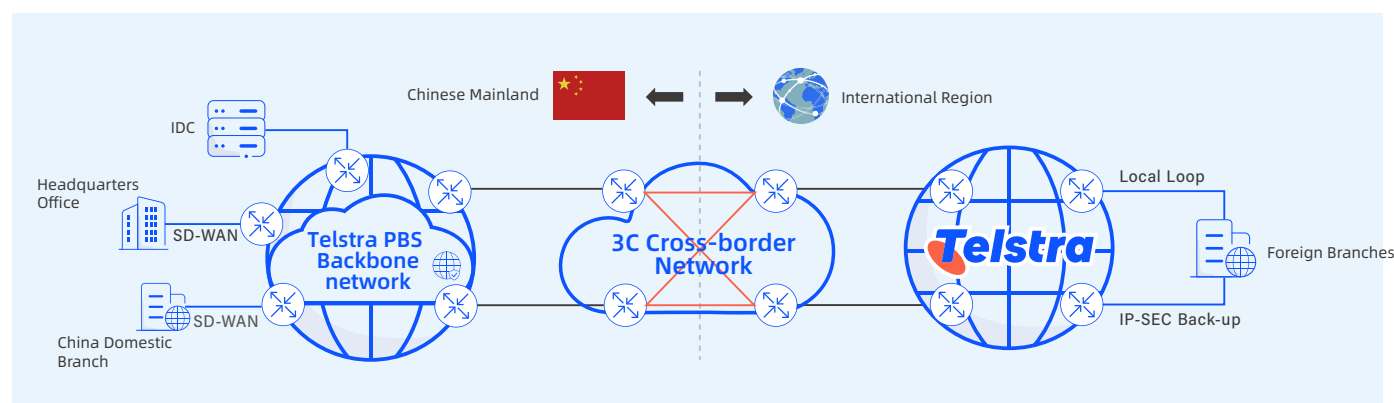
医疗DC+DIA客户案例

旭东数字医学影像技术有限公司

YORKTAL
旭东数字医学影像

旭东数字医学影像技术有限公司，是同时拥有国家级和深证市高新技术的"双高"企业。隶属于深圳市旭东集团，从 2006 年起，公司就在数字医学领域开始了执着的科学研究与探索。2012 年，承接国家十一五规划中的 863 重点科技攻关项目——三维可视化项目，成功研发出基于 CT、MRI 数据的 3D+ 医学影像可视化应用产品，取得突破性成果，为中国外科医生实现精准外科手术提供智慧工具，为中国数字医学的发展提供了最有力的支撑。

"高标准的电力和网络保障使得我们的业务能够持续发展，不会受到任何影响。太平洋电信专业的技术和运维团队为我们提供了一条龙式的服务，节省了大量的成本和时间。

特别是作为我们长期合作的云网安解决方案提供商，为我们提供了专业的安全网络架构设计。深入了解我们的业务需求，并帮助我们精确地计算设备所需的实际电量，为我们进行个性化测试来选择最合适的机柜电量和网络带宽，从而最大程度地避免减少的我们成本的浪费。

总的来说，我们的业务在太平洋电信这里得到了最好优质的保障和支持。我相信，在未来的合作中，太平洋电信将会继续为我们提供更加出色的技术支持和服务，让我们的业务更加顺畅和高效。"

——旭东数字医学影像技术有限公司IT部主管

客户痛点

1. 专业数据中心托管： 客户将负责医学影像 3D 模型处理计算的 AI 服务器放置到专业数据中心进行托管。

2. 高品质互联网接入： 客户需要获得电信级别的互联网接入品质及高连通率，以提高网络品质和稳定性。

3.电力保障与可用性： 客户要求数据中心具备电信级机房电力保障及高可用性，确保 24 小时不间断运行，并具有灵活的扩展能力。

4. 自建自运维的数据中心： 客户要求数据中心必须是自建自运维的，且对其运维能力要求很高。

客户网络示意图

BGP

天津武清数据中心

PBS接入设备

IHW   IHW

客户接入防火墙

6KVA机柜
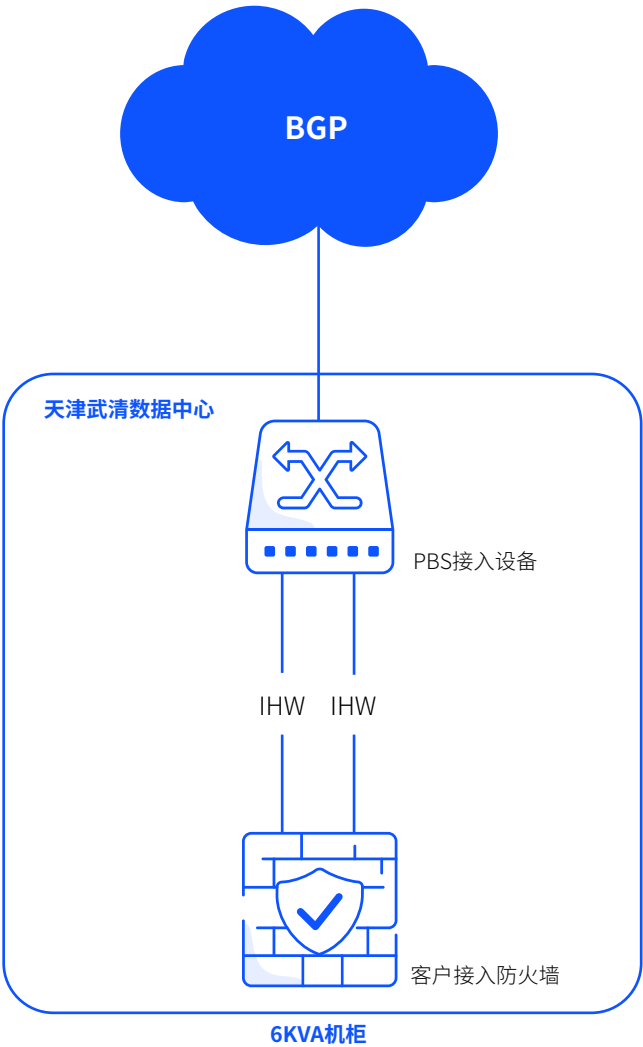
解决方案

太平洋电信作为旭东长期合作的云网安解决方案提供商，为其提供专业的安全网络架构设计，精确计算设备所需的实际电量，在拥有自运维团队的天津武清机房为其进行电量监控和网络监控等个性化测试，选择最合适的机柜电量和网络带宽，最大程度地避免成本浪费。

产品亮点

1. 区域化多线路： 保障了网络连通率。

2. 新一代云数据中心： 全面提升业务支撑能力。

3. 精密控制系统： 提高设备运行效率，节约成本。

4. 先进的安全架构： 全方位保护客户业务安全。

实施效益

1. 太平洋电信天津武清数据中心的网络连通率为 99.9%，电源可用性高达 99.999%，高标准的电力和网络保障为客户重点业务的持续发展保驾护航；

2. 太平洋电信专业的技术和运维团队为客户提供了咨询、架构设计、测试、实施、业务迁移、网络运维等一条龙服务，为客户节省了请专业咨询公司和建立 IT 团队的成本。

YORKTAL

旭东数字医学影像

Medical DC+DIA Case

Yorktal Digital Medical Imaging Technology Co., Ltd

YORKTAL
旭东数字医学影像

Yorktal Digital Medical Imaging Technology Co.,Ltd. is a "dual-high" enterprise, holding national-level and Shenzhen High-Tech certifications. It is a subsidiary of Xudong Group in Shenzhen. Since 2006, the company has been dedicated to scientific research and exploration in the field of digital medicine. In 2012, it undertook the 3D Visualization Project, a key 863 technology research project in the national 11th Five-Year Plan. The company successfully developed 3D+ medical imaging visualization applications based on CT and MRI data, achieving breakthrough results. These intelligent tools have enabled precise surgical procedures for Chinese surgeons and provided robust support for the development of digital medicine in China.

" The high-standard power and network protection allow our business to continue developing without any interruptions. Telstra PBS's professional technical and operational teams have provided us with comprehensive services, saving us a significant amount of cost and time.

As a long-term cloud and network security solution provider, Telstra PBS has offered us professional secure network architecture design. They deeply understand our business requirements and help us accurately calculate the actual power required for our equipment. They conducted personalized tests to choose the most suitable cabinet power and network bandwidth, minimizing cost waste.

Overall, our business has received the best quality assurance and support from Telstra PBS. I believe that in future collaborations, Telstra PBS will continue to provide us with excellent technical support and services, making our business smoother and more efficient. "

- Head of IT at Yorktal Digital Medical Imaging Technology Co.,Ltd

Customer Requirements

1.Professional data center hosting: The customer wants to place AI servers responsible for processing medical image 3D models in a professional data center for hosting.
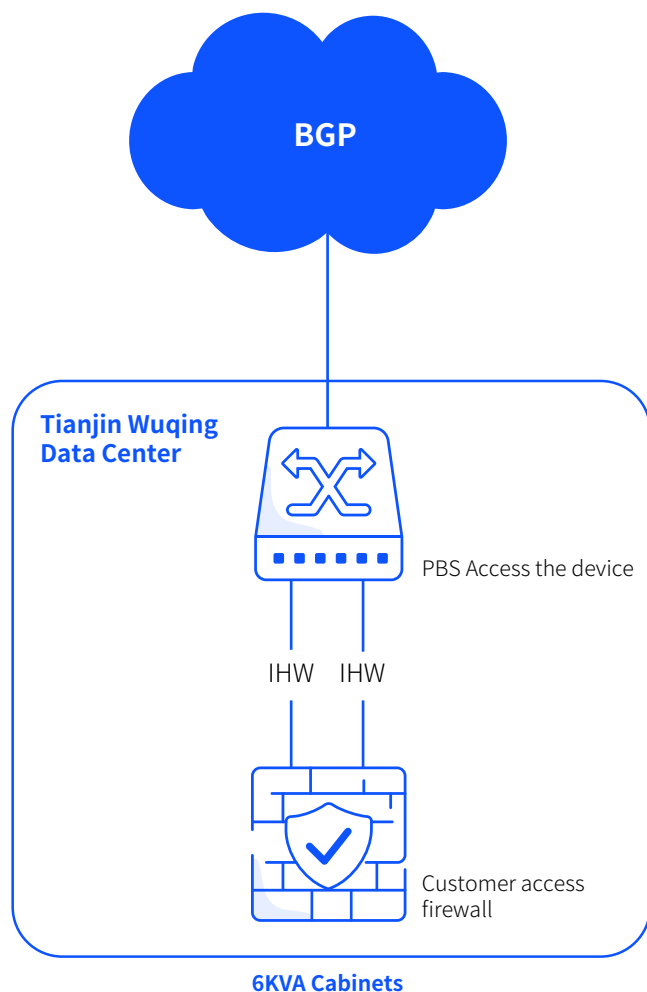
2.High-quality internet access: The customer needs telecom-grade internet access quality and high connectivity rates to improve network quality and stability.

3.Power protection and availability: The customer requires telecom-grade power protection and high availability in the data center to ensure uninterrupted operation 24/7, with flexible scalability.

4. Self-built and self-operated data center: The customer demands a self-built and self-operated data center with high requirements for operational capabilities.

Network Diagram

BGP

Tianjin Wuqing Data Center

PBS Access the device

IHW   IHW

Customer access firewall

6KVA Cabinets

Solution

As a long-term cloud and network security solution provider for the customer, Telstra PBS offers professional secure network architecture design and assists the customer in accurately calculating the actual power required for their equipment. In the Tianjin Wuqing data center with a self-operated team, Telstra PBS conducts personalized tests such as power and network monitoring to help the customer choose the most suitable cabinet power and network bandwidth, minimizing cost waste.

Product Highlights

1. Regionalized multi-line:
connections ensure network connectivity.

2. Next-generation cloud data center:
enhances overall business support capabilities.

3. Precise control systems:
improve equipment operational efficiency and save costs.

4. Advanced security architecture:
provides comprehensive protection for customer business.

Implementation Results

1. The network connectivity rate in Telstra PBS's Tianjin Wuqing data center is 99.9%, and power availability reaches 99.999%. High-standard power and network protection provide strong support for the customer's key business's continuous development.

2. Telstra PBS's professional technical and operational teams provide end-to-end services, including consultation, architecture design, testing, implementation, business migration, and network operations, saving the customer costs associated with hiring professional consulting firms or establishing an IT team.

YORKTAL
旭东数字医学影像

SD-WAN混合组网客户案例
某保险公司

该保险是一家行业领先的专业健康保险公司，紧密围绕"健康保险 + 健康管理"双轮驱动的经营理念，目前在国内西北和华南地区设立多个分子公司＆办事处。

> 对于现代保险行业而言，网络就是各项业务正常开展的生命线。基于太平洋电信提供的基于华为的 SD-WAN 解决方案，改变了我们公司目前简陋的网络拓扑结构。太平洋电信的网络专家能在我司在有限的经费预算范围内，设计符合我司现状的站点联网方案，且快速实现现有站点联网打通，而且更加简捷、高效和安全，为我司业务的平稳运行奠定了良好的基础。

——该保险公司IT部主管

方案标签

MPLS VPN 和 SD-WAN 混合组网
总部星型拓扑
分支总部互联

客户痛点

1. 稳定、可靠、安全地互联互通
实现国内的分子公司和办事处之间快速安全稳定可靠地互联互通。

2. 使用国内品牌终端设备
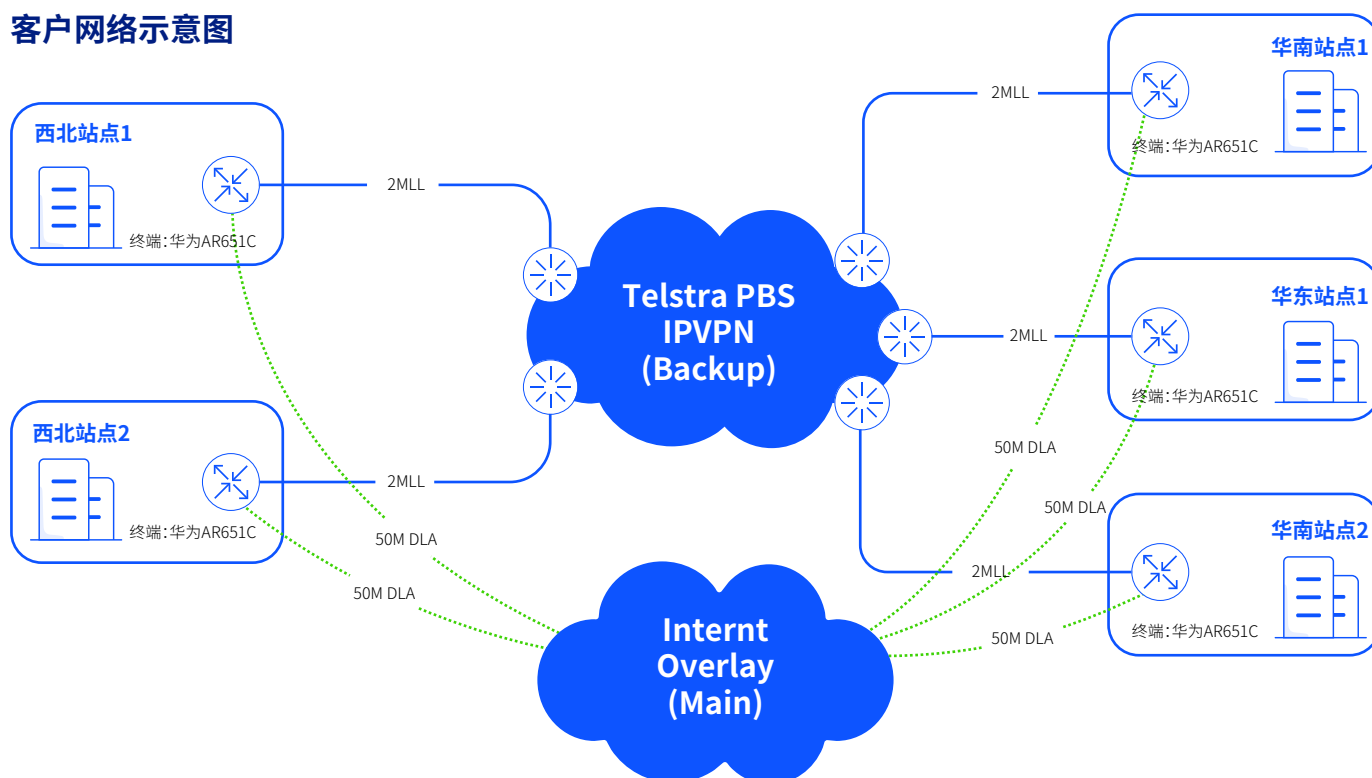从信创和信安角度，使用国产化品牌和国产化设备。

3. 整体预算有限，需要充分利用优质低廉的互联网资源，解决方案高性价比
性价比有，充分利用已有互联网出口带宽资源。

4. 网络运维管理简单，新增节点和扩容方便
免新增 IT 运维人员，整体运维简单，未来分支节点增加扩容方便。

客户网络示意图

解决方案

1. 全部客户节点，通过由 PBS 组建 SD-WAN 混合接入网络，经由专线和现有互联网链路接入 PBS MPLS VPN 骨干网；

2. 主体设备使用华为，满足国产化和信创要求；

3. 各站点采用主备线路接入，以大带宽互联网线路为主线路，充分利旧；

4. 利用 SD-WAN CPE 通过智能选路实现应用分流。

产品亮点

1. SD-WAN 网络具备更好的可视化运维监控；

2. 充分利用已有专线线路资源和优质互联网资源，IPVPN 线路和互联网线路流量负载；

3. 新增节点时，避免网络成本倍数增长，IPVPN+ 互联网线路全网优质带宽扩容约 20%，但总体成本只增加约 5%。

实施效果

1. 基于华为的 SD-WAN 解决方案通过将基于软件的网络技术应用于 WAN 连接，从而更有效地路由总部和分支机构的所有网络流量，从而促进了网络优化；

2. 帮助客户可观地降低了 网络成本；

3. 零接触部署技术使他们比以前更容易进行网络部署；

4. 客户的网络管理和运营维护也变得更加高效和便捷。

Business Case of SD-WAN Hybrid Networking
An insurance company

The Insurance, is a leading professional health insurance company with a business philosophy focused on "health insurance + health management." It has multiple subsidiaries and offices in the northwest and south China regions and is one of the top ten insurance companies in China for life insurance risk management.

> "For the modern insurance industry, the network is the lifeline for normal business operations. The Huawei-based SD-WAN solution provided by Telstra PBS has transformed our company's current rudimentary network topology. Telstra PBS's network experts were able to design a site interconnection solution that meets our current needs within our limited budget and quickly establish connectivity between existing sites. It is more streamlined, efficient, and secure, laying a solid foundation for the smooth operation of our business."
>
> **- IT Manager, The Insurance Company**

Solution Tags

MPLS VPN and SD-WAN Hybrid Networking

Headquarters Star Topology

Branch-Headquarters Interconnection

Customer Requirements

1. Stable, reliable, and secure interconnection
Achieve fast, secure, stable, and reliable interconnection between domestic subsidiaries and offices.

2. Use domestic brand terminal equipment
Use domestic brands and domestically produced equipment from the perspectives of innovation and security.

3. Limited overall budget, need to fully utilize high-quality and low-cost internet resources
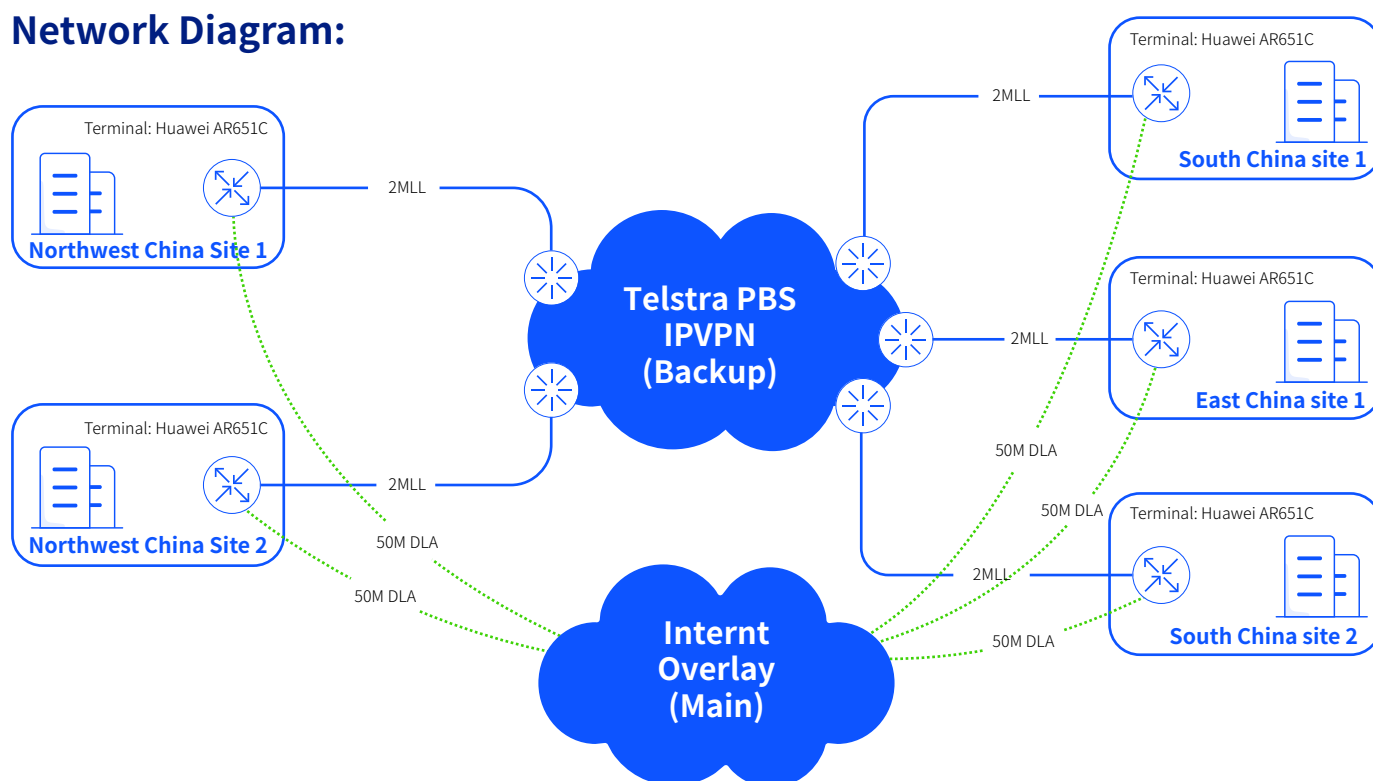Cost-effectiveness is important, leveraging existing internet bandwidth resources.

4. Simplified network operations and management, easy addition of nodes and scalability
Minimize the need for additional IT operations and maintenance personnel, ensure overall simplicity of operations, and facilitate future expansion of branch nodes.

Network Diagram:

Solution

1. All customer nodes are connected to the Telstra PBS MPLS VPN backbone network through the SD-WAN hybrid access network built by Telstra PBS, using dedicated lines and existing internet links.

2. Huawei equipment is used as the main devices to meet domestic production and innovation requirements.

3. Each site adopts primary and backup line connections, with high-bandwidth internet lines as the main lines, fully utilizing existing resources.

4. SD-WAN CPE is used for intelligent path selection and application traffic steering.

Product Highlights

1. SD-WAN network provides improved visualization for operations and maintenance monitoring.

2. Utilize existing dedicated line resources and high-quality internet resources for IPVPN and internet traffic load balancing.

3. When adding new nodes, the solution avoids exponential increase in network costs. IPVPN + internet line capacity expansion increases by approximately 20%, while overall costs increase by only about 5%.

Implementation Results

1. The Huawei-based SD-WAN solution effectively routes all network traffic between the headquarters and branch offices, facilitating network optimization.

2. Significant reduction in network costs for the customer.

3. Zero-touch deployment technology makes network deployment easier than before.

4. The customer's network management and operational maintenance become more efficient and convenient.

VPLS VPN客户案例
某自动驾驶科技公司

该公司是全球领先的自动驾驶公司，致力于打造自动驾驶大脑，核心技术是基于深度学习的环境感知、高精度地图、驾驶决策算法。产品包括不同级别的自动驾驶方案，以及衍生出的大数据服务。

"
为着汽车企业适应快速转变的市场趋势，必须更开放、灵活应变，并且力求创新。太平洋电信针对汽车行业提供相应产品和服务支持，实现汽车行业企业无需为不同地点生产厂房投资及部署 IT 资源，或者在办公室及厂房预留空间放置 IT 设备，甚至无需管理或部署跨国 IT 资源及人员。

公司致力于通过突破性的 AI 科技，创造更美好的生活。太平洋电信提供灵活简便的一站式网络连接方案，通过自建及合作运营共拥有 2000+ 网络节点覆盖全球主要节点城市，跨区域多点间任意互联无障碍。太平洋电信的骨干网络已与数据中心实现互联，通过 MPLS 骨干网与 IDC 的线路传输，即可实现己方数据的秒速获取，解决公司办公室间的互通问题；太平洋电信网络已与各公有云实现 NNI 互联，可实现办公室的云灾备需求，数据专线实现数据中心与公有云的无缝安全连接，实现海量数据安全存储及实时传输。

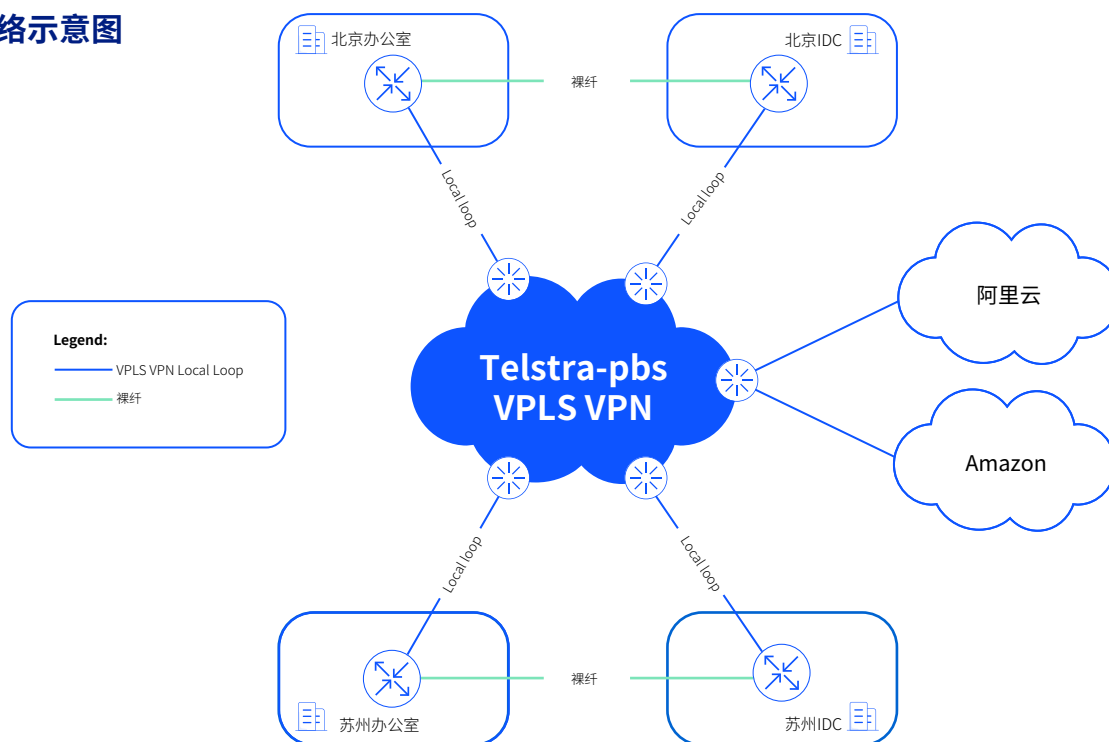通过太平洋电信丰富的网络节点、带宽资源和灵活可调的带宽网络，业务发展无后顾之忧，让未来有更多可能！

——该科技公司IT部主管
"

客户痛点

1.研发需要： 客户研发自动驾驶解决方案，需要结合最新的 AI 技术、大数据分析和强大的云计算技术来进行，力求自动驾驶方案零误差。

2.办公室与数据中心互联互通： 实现客户苏州办公室、DC，北京办公室、DC 以及公有云是上的网络互访。

3.灵活扩展和部署： 各分支办公室根据业务需求快速扩展或调整 IT 基础设施，实现弹性的计算和存储资源，。

4.数据备份和灾备： 提供更可靠的数据备份和灾难恢复机制，确保数据的安全性和业务的持续性。

客户网络示意图

北京办公室
北京IDC
裸纤
Local loop
Local loop

Telstra-pbs VPLS VPN

阿里云

Amazon

Legend:
VPLS VPN Local Loop
裸纤

Local loop
Local loop

苏州办公室
裸纤
苏州IDC

解决方案

通过太平洋电信国内的骨干网络打造安全稳定低延时的网络链路和便捷的多云互联方案

1. 客户节点由 Telstra PBS 提供 VPLS VPN 解决方案，所有接入点提供二层业务传输；

2. Telstra PBS 与北京 AWS，北京阿里云有 DX 连接，可以直接提供云专线业务；

3. 所有办公室由 Telstra PBS 提供本地裸纤连接；

4. 易于配置且稳定的大带宽网络，以适应高标准的网络互连需求。

技术亮点

1. 数据中心与公有云结合，实现资源的共享和统一管理，提高资源利用率和运维效率；

2. 通过将分支办公室上云，可以实现集中管理和监控，统一管理网络、安全策略和应用系统的配置，提高运维的效率和响应能力；

3. 对客户的现有网络进行优化，提升带宽、稳定性和安全性，以适应云网结合的需求。

实施效果

1. 灵活性和弹性
云专线提供了灵活的资源调配和弹性扩展能力，可以根据实际需求快速获取资源，实现按需付费的模式，从而适应业务的快速变化。

2. 成本效益
通过太平洋电信已有骨干网络，客户可以轻松打造多点互联、多云互联的局域网路，大大减少前期的固定成本和后期的运维成本。

3. 高可用性和容灾性
通过数据备份、分布式存储和灾难恢复机制，确保企业数据的安全、可靠和持续性，降低因硬件故障或灾难事件造成的业务中断风险。

4. 提高效率与协作能力
集中管理、自动化运维和协同办公等功能，能够简化企业的 IT 管理工作并提高运维效率，同时提供协同办公平台和工具，促进团队成员之间的协作与沟通。

5. 安全性和隐私保护
拥有专业的安全团队和安全技术，能够提供更高水平的数据安全保障，包括身份认证、访问控制、加密传输等措施，保护企业的数据隐私并防范网络攻击。

Business Case of VPLS VPN
An Autonomous Driving Technology Company

The Company is a global leading autonomous driving company dedicated to building autonomous driving systems with core technologies based on deep learning for environmental perception, high-precision mapping, and driving decision algorithms. Their product portfolio includes various levels of autonomous driving solutions and related big data services.

As the automotive industry adapts to rapid market trends, it must be more open, flexible, and innovative. Telstra PBS provides corresponding products and services to support the automotive industry, enabling automotive companies to avoid investing and deploying IT resources in different locations, reserving space for IT equipment in offices and factories, or managing and deploying cross-border IT resources and personnel.

The Company is committed to creating a better life through groundbreaking AI technology. Telstra PBS provides a flexible and convenient one-stop network connectivity solution. With over 2000 network nodes covering major cities globally through self-construction and cooperative operations, seamless interconnection is achieved between multi-point locations across regions. The backbone network of Telstra PBS is interconnected with data centers, enabling rapid access to data through MPLS backbone network and IDC line transmission, solving the intercommunication issues between the Company's offices. Telstra PBS's network is interconnected with various public clouds, enabling the to meet the cloud disaster recovery requirements for offices, and data dedicated lines realize seamless and secure connections between data centers and public clouds, enabling secure storage and real-time transmission of massive data.

Through Telstra's rich network nodes, bandwidth resources, and flexible and adjustable bandwidth networks, The business development can proceed without worries, opening up more possibilities for the future!

**- Head of IT at the technology company**

Customer Requirements

1.Research and Development: The customer requires the development of autonomous driving solutions, combining the latest AI technologies, big data analytics, and powerful cloud computing capabilities, aiming for zero errors in autonomous driving solutions.

2.Office and Data Center Interconnectivity: The customer needs seamless network connectivity between their offices and data centers in Suzhou and Beijing, as well as access to public cloud networks.

3.Flexible Scalability and Deployment: The customer requires rapid expansion or adjustment of IT infrastructure in branch offices according to business needs, enabling elastic computing and storage resources.

4.Data Backup and Disaster Recovery: The customer seeks reliable data backup and disaster recovery mechanisms to ensure data security and business continuity.

Network Diagram:
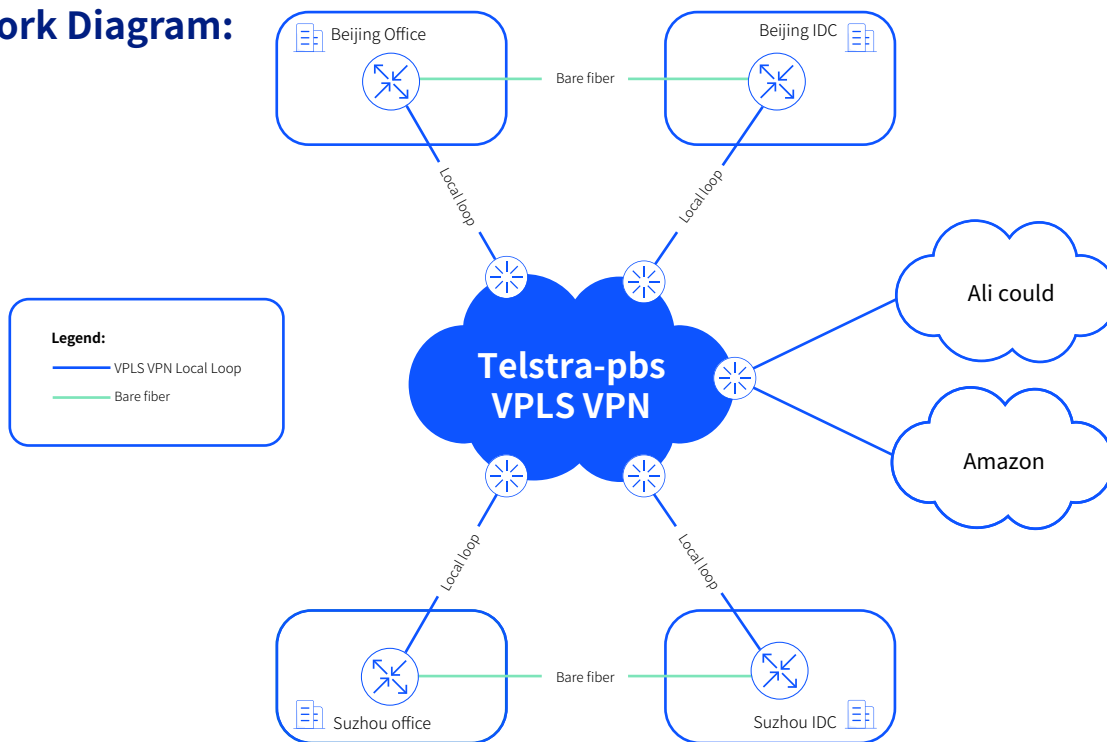
Solution

Creating secure, stable, low-latency network links and convenient multi-cloud interconnectivity through Pacific Telecom's domestic backbone network.

1. Telstra PBS provides VPLS VPN solutions for customer nodes, enabling Layer 2 business transmission for all access points.

2. Telstra PBS has direct connections with AWS Beijing and Alibaba Cloud Beijing through DX, providing direct access to cloud dedicated connections.

3. Telstra PBS provides local fiber connections for all offices.

4. Configurable and stable high-bandwidth network infrastructure to meet high-standard network interconnectivity requirements.

Solution Diagram

1. Integration of data centers and public clouds to achieve resource sharing and unified management, improving resource utilization and operational efficiency.

2. By moving branch offices to the cloud, centralized management and monitoring can be achieved, enabling unified management of network, security policies, and application system configurations, improving operational efficiency and responsiveness.

3. Optimization of customers' existing networks to enhance bandwidth, stability, and security to meet the requirements of cloud-network integration.

Implementation results

1. Flexibility and scalability:
Cloud dedicated lines provide flexible resource allocation and elastic scalability, allowing quick access to resources based on actual needs and enabling a pay-as-you-go model to adapt to rapid business changes.

2. Cost-effectiveness:
Through Telstra PBS's existing backbone network, customers can easily establish local area networks with multi-point and multi-cloud interconnections, greatly reducing upfront fixed costs and ongoing operational costs.

3. High availability and disaster recovery
Ensuring the security, reliability, and continuity of enterprise data through data backup, distributed storage, and disaster recovery mechanisms, reducing the risk of business interruption caused by hardware failures or disaster events.

4. Improved efficiency and collaboration capabilities:
Functions such as centralized management, automated operations and maintenance, and collaborative office enable simplification of IT management, improved operational efficiency, and provide collaborative office platforms and tools to facilitate collaboration and communication among team members.

5. Security and privacy protection
With a professional security team and security technologies, higher levels of data security measures are provided, including identity authentication, access control, encrypted transmission, protecting enterprise data privacy, and preventing network attacks.

HeadSpin客户案例
某大型银行

HeadSpin（"HS"）是专为手机 APP 提供领先的数字化体验 AI 平台，帮助客户优化用户体验和缩短产品的上市时间。HS 的产品解决方案可以帮助企业测试、监控和优化其移动应用程序的性能，提供更好的用户体验。HS 的平台利用全球分布式的测试基础设施和真实的网络环境，使客户能够在不同网络、设备和地理位置上测试其应用程序的性能，从而提供更真实的结果和更全面的反馈。HS 的产品解决方案还包括问题追踪和分析平台，以便客户更快地发现和解决应用程序中的性能问题。HS 的客户范围包括各种行业，如金融、电子商务、社交媒体、游戏等，并且已经在全球各地建立了广泛的客户群。HS更在业界获得了许多奖项和认可，包括被评为2021年 Deloitte 北美科技 500 强中排名第 89 位，以及被 Gartner 评为 2021 年度移动应用程序性能监控供货商之一。

> "我们提升客户满意度，由于人手及设备投入成本都是主要的考虑因素，HS 能直接满足及解决到我们的需求，不单止是一个产品，更是一站式的专业服务提供，由前期的服务建议、平台体验、技术人员及终端试安排的配合都是快速、专业及可靠，让我们更能精准地了解自己的服务平台的不足，从而去做更好的优化及提升，增加现有用户的黏性及拉动新客。"
>
> ——该银行IT部主管

客户背景

该银行是中国最大的银行之一。近年来稳步推进集团化发展，已构建覆盖信托、基金、金融租赁、境外投行、村镇银行、货币经纪等多个业态的综合化经营格局。

客户痛点

该银行是一家大型的金融机构，拥有数百万的客户和数千个分支机构。他们的移动应用程序是让其客户进行转账、查询余额、支付账单等操作的主要渠道，有着闪退、界面转跳时间较长等问题。客户希望能积极解决问题，使其移动应用程序有更良好的用户体验，减少闪退、缩短界面转跳时间，从而提升专业可靠的品牌形象，却面对以下两项主要痛点：

1.欠缺精准数据分析系统，APP测试排障困难。　　　　　　　**2.设备及人力资源投资大，一次性投入成本费用高。**

解决方案

该银行利用 HS 独有 PBox 硬件设备及完善的自动测试数据系统，去仿真真实环境从而进行全方位监测 APP 性能，同时能够快速识别潜在问题并采取措施改进 APP。事实证明，HS 可以给该银行带来便利有效的测试环境、精准的数据分析，达至更好的用户体验、提高提高应用程序的可靠性、稳定性和安全性。

1.移动应用程序全面性能管理

HS 的 PBox 是一个硬件设备，可以在银行企业内部搭建一个私有的移动应用程序性能测试和监控环境，帮助 I 银行更好地掌握自己应用程序的性能和用户体验。

以下是 PBox 如何帮助该银行的几个方面：

(i) 稳定的测试环境隔离

PBox 在该银行内部搭建一个隔离的测试环境，减少应用程序测试对生产环境的影响，同时可以更好地保护该银行企业敏感数据的安全。

(ii) 全球范围内的性能测试

PBox 可以模拟全球范围内各种不同的网络条件和设备，以确保银行企业的移动应用程序在各种情况下都能够正常运行。

(iii) 实时监控和警报

PBox 可以实时监控该银行的移动应用程序性能和响应时间，并在出现问题时发出警报，以便该银行的 IT 团队及时处理问题。

(iv) 操作简单易用

HS 的 PBox 简单易用，该银行的移动应用程序不需改动任何的代码设计，只需将其连接到测试手机或平板计算机，就可以开始进行网络环境仿真测试。

2.精尽及实时的数据分析和报告：

HS 的平台提供了强大的数据分析和报告功能，可以帮助该银行更好地了解其移动应用程序的性能和用户体验，并及时发现和解决问题。此外，该银行还提供了 AI 建议和优化建议，以帮助该银行更好地优化其移动应用程序。

3.模拟真实操作环境：

HS 的平台提供了多种测试工具，包括性能测试、功能测试、压力测试等，以确保该银行的移动应用程序在各种情况下都能够正常运行。此外，HS 还提供了人工测试和自动化测试的结合，以更好地仿真真实用户的操作行为。

实施效果

1.提升移动应用程序性能及用户体验

HS 帮助该银行测试和监控其移动应用程序的性能，及时发现和解决问题，从而提升移动应用程序的性能和稳定性。这可以让该银行的客户更加顺畅及愉悦地进行账户操作，提升客户满意度。

2. 减少故障率和维护成本

HS 帮助该银行及时发现和解决移动应用程序的问题，减少故障率和维护成本。这可以让该银行的 IT 团队更加高效地管理移动应用程序，提高 IT 团队的工作效率。

3. 提高市场竞争力

该银行通过使用 HS 可以提升其移动应用程序的性能和用户体验，并及时进行调整和优化，提高客户满意度，从而提高市场竞争力。

HeadSpin Business Case
A Large Bank

HeadSpin ("HS") is a leading AI platform that provides digital experience solutions for mobile apps, helping clients optimize user experience and shorten time-to-market for their products. HS's product offerings help enterprises test, monitor, and optimize the performance of their mobile applications, delivering a better user experience. HS's platform utilizes a globally distributed testing infrastructure and real-world network environments, enabling clients to test their applications' performance across different networks, devices, and geographic locations, thereby providing more realistic results and comprehensive feedback. HS's product solutions also include issue tracking and analysis platforms to help clients quickly identify and resolve performance issues in their applications. HS's client base spans various industries such as finance, e-commerce, social media, gaming, and has established a wide customer base globally. HS has also received numerous awards and recognition in the industry, including being ranked 89th in the 2021 Deloitte North America Technology Fast 500 and being recognized by Gartner as one of the leading mobile application performance monitoring vendors in 2021.
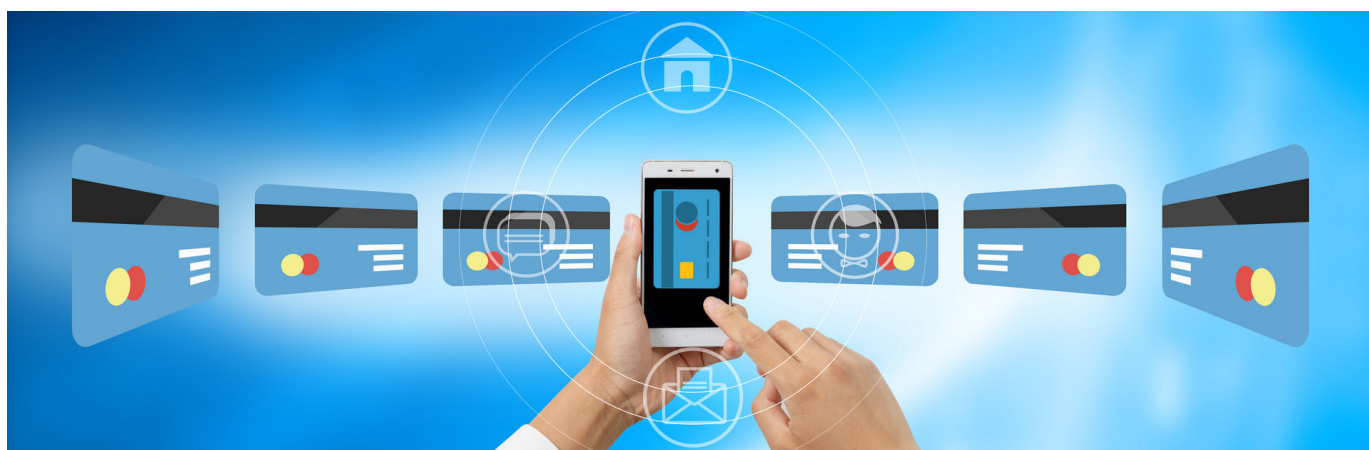
> By leveraging HeadSpin's AI platform and PBox hardware device, Telstra PBS was able to address their pain points related to mobile application performance and user experience. They gained access to a comprehensive testing and monitoring system, precise data analysis, and real-time reporting, allowing them to proactively identify and resolve issues. As a result, Telstra PBS improved the performance and stability of their mobile applications, reduced failure rates and maintenance costs, and enhanced their brand image and customer trust. With HeadSpin's solutions, Telstra PBS streamlined their testing and troubleshooting processes and gained access to competitive intelligence, further strengthening their position in the market.
>
> **- Customer Angle**

Client Background

Client is one of the largest banks in China. In recent years, it has steadily promoted group development and established a comprehensive business structure covering multiple formats, including trust, funds, financial leasing, overseas investment banking, village banks, and currency brokerage.

Client Pain Points

Client is a large financial institution with millions of customers and thousands of branches. Their mobile application serves as the primary channel for customers to perform operations such as fund transfers, balance inquiries, and bill payments. However, the application has issues such as crashes and long interface loading times. The client wants to proactively address these issues to improve the user experience, reduce crashes, and shorten interface loading times, thereby enhancing their professional and reliable brand image. However, they face the following two main pain points:

1.Lack of precise data analysis system for app testing and troubleshooting.

2. High investment in devices and manpower, leading to high upfront costs.

Solution

Telstra PBS leveraged HS's unique PBox hardware device and comprehensive automated testing data system to simulate real-world environments for comprehensive monitoring of app performance. It also enables quick identification of potential issues and implementation of measures to improve the app. HS has proven to provide Telstra PBS with a convenient and effective testing environment, precise data analysis, better user experience, and improved reliability, stability, and security of their applications.

1.Comprehensive mobile application performance management

HS's PBox is a hardware device that enables Telstra PBS to establish a private mobile application performance testing and monitoring environment within their organization. This helps Telstra PBS gain better insights into the performance and user experience of their applications.

The following are several aspects in which PBox helps Telstra PBS:

(i) Stable isolated testing environment
PBox creates an isolated testing environment within Telstra PBS, reducing the impact of application testing on the production environment while ensuring the security of sensitive data.

(ii) Global performance testing
PBox can simulate various network conditions and devices worldwide to ensure that Telstra PBS's mobile applications operate smoothly in different scenarios.

(iii) Real-time monitoring and alerts
PBox provides real-time monitoring of Telstra PBS's mobile application performance and response time, issuing alerts when issues arise for timely resolution by their IT team.

(iv) Easy-to-use operation
HS's PBox is user-friendly, requiring no code modifications to Telstra PBS's mobile applications. It only needs to be connected to test smartphones or tablets to initiate network environment simulation testing.

2. Precise and real-time data analysis and reporting:

HS's platform offers powerful data analysis and reporting capabilities, helping Telstra PBS gain better insights into the performance and user experience of their mobile applications and promptly identify and resolve issues. Additionally, HS provides AI recommendations and optimization suggestions to help Telstra PBS optimize their mobile applications.

3. Simulating real operating environments:

HS's platform provides various testing tools, including performance testing, functional testing, and stress testing, to ensure the smooth operation of Telstra PBS's mobile applications in various scenarios. Furthermore, HS combines manual testing with automated testing to better simulate real user behaviors.

Implementation Results

1. Improved mobile application performance and user experience

Improved mobile application performance and user experience: HS helps Telstra PBS test and monitor the performance of their mobile applications, enabling timely issue identification and resolution, thereby enhancing performance and stability. This allows Telstra PBS's customers to perform account operations more smoothly and enjoy a better user experience, ultimately increasing customer satisfaction.

2. Reduced failure rate and maintenance costs
Reduced failure rate and maintenance costs: HS helps Telstra PBS identify and resolve issues in their mobile applications in a timely manner, reducing failure rates and maintenance costs. This enables Telstra PBS's IT team to manage mobile applications more efficiently and improve their work efficiencywhile reducing overall costs.

3. Enhanced brand image and customer trust
Reduced failure rate and maintenance costs: HS helps Telstra PBS identify and resolve issues in their mobile applications in a timely manner, reducing failure rates and maintenance costs. This enables Telstra PBS's IT team to manage mobile applications more efficiently and improve their work efficiencywhile reducing overall costs.

HeadSpin 客户案例
某大型跨境时尚服装电商

HeadSpin ("HS") 是专为手机APP提供领先的数字化体验 AI 平台,帮助客户优化用户体验和缩短产品的上市时间。HS 平台全球范围内提供云端真机设备以做到端对端的测试,而无需依赖任何软件开发工具套件(SDK)。HS平台算法会自动发现应用程序中存在的问题,还包括分析问题的根本所在并同时提出更好体验的建议,以帮助客户确保跨移动、网络、音频和视频交付最佳的用户体验。

客户痛点	1.网店在国外张速度快,无固定驻场IT,APP测试排障困难。 2.设备及人力资源投资大,一次性投入成本费用高。

解决方案

跨境电商可以利用HS在全球指定的国家或地区全方位监测APP性能,同时能够快速识别潜在问题并采取措施改进APP。事实证明,HS可以给跨境电商公司带来便利有效的测试环境、精准的数据分析,达至更好的用户体验、提高用家保留率,节省成本并增加收入。

1.在现实世界条件中进行发布前的测试
HS可安排人手及设备让开发者可透过网络浏览器远程控制遍布150多个地点连接高达22000的设备,测试APP的承载能力。同时可测试不同类型生物

识别,如:指纹识别及面容ID (IOS及Android),让客户有更住的体验。

2.测试和监测应用程序内交易的性能
APP内的购买流程性能可能会影响或破坏用户体验,从而对收入造成极大影响。HS允许开发者测试和监测应用程序内不同类型的购买形式(信用卡、礼品卡、Apple Pay、PayPal、电信网络账单等)。

3.了解广告活动的性能
可以让开发者看到APP内广告活动的性能,并了解这些广告对用户保留率和参与度的影响。

HeadSpin Business Case
A large cross-border fashion e-commerce company

HeadSpin ("HS") is a leading AI platform that provides digital experiences for mobile apps, helping customers optimize the user experience and shorten product launch times. The HS platform offers cloud-based real devices for end-to-end testing worldwide, without relying on any software development toolkits (SDKs). The HS platform algorithm automatically detects issues in the application and analyzes the root cause while providing recommendations for a better experience, helping customers ensure the best user experience across mobile, network, audio, and video delivery.

Customer Challenges

1. Difficulties in APP testing and troubleshooting due to the lack of fixed on-site IT support overseas.
2. Equipment and human resources are high which requires a large one-time capital investment.

Solutions

Cross-border e-commerce companies can leverage HS's global network of designated countries or regions to monitor their APP's performance comprehensively. At the same time, HS can quickly identify potential issues and take measures to improve the APP. HS has been proven to bring convenience and effective testing environments, accurate data analysis, better user experience, improved customer retention rates, cost savings, and increased revenue to cross-border e-commerce companies.

1.Pre-Release Testing in Real-World Conditions
HS provides a solution for pre-release testing under real-world conditions. HS can deploy personnel and devices, allowing developers to remotely control over 22,000 devices connected across more than 150 locations via a web browser to test the performance and load capacity of their APP. Additionally,

HS can test different types of biometric authentication, such as fingerprint recognition and facial ID (iOS and Android), to ensure a better user experience for customers.

2.Testing and Monitoring Performance of In-App Transactions
The performance of the purchasing process within the APP can significantly impact user experience and revenue. HS enables developers to test and monitor different types of in-app purchases (credit cards, gift cards, Apple Pay, PayPal, telecom network bills, etc.) to ensure optimal performance.

3.Understanding the Performance of Advertising Campaigns
Developers can gain insights into the performance of in-app advertising campaigns and their impact on user retention and engagement through HS.

SD-WAN客户案例
某新能源车公司

某公司是某知名新能源汽车企业,致力于打造世界一流的智能电动汽车品牌。

案例背景

随着4S门店数量增加,传统的网络架构已经无法满足对于安全、可靠和高效连接的需求。这就需要一种新的网络架构来优化和管理门店之间和门店与总部之间的通信。为了改善汽车门店的服务效率、提高售后升级和响应速率、优化顾客服务质量,特别是提高研发总部对各门店服务需求的快速及时响应能力,该企业决定优化现有门店和总部联网的网络架构,选择多家网络服务商设计了一套全国门店联网方案,以达到建立全国门店之间的互联互通,实现门店资源共享和数据交换,从而提高门店的管理效率和顾客服务质量。经过新能源车厂对多个供应商网络进行测试和对比分析,最终太平洋电信以优质的性价比,卓越的网络质量,贴心的技术服务成为该企业门店联网解决方案的供应商。

解决方案

软件定义广域网(SD-WAN)是一种利用软件控制和管理企业网络连接的技术。SD-WAN可供新能源汽车厂家用于连接工厂、办公室、研发中心以及门店等多个地点的网络,实现网络的统一管理和优化。

1、全网SDWAN设计, 统一管理, 集中控制

软件定义广域网(SD-WAN)是一种利用软件控制和管理企业网络连接的技术。SD-WAN可供新能源汽车厂家用于连接工厂、办公室、研发中心以及门店等多个地点的网络,实现网络的统一管理和优化。

2、核心节点多方式HA配置, 可靠稳健, 重点突出

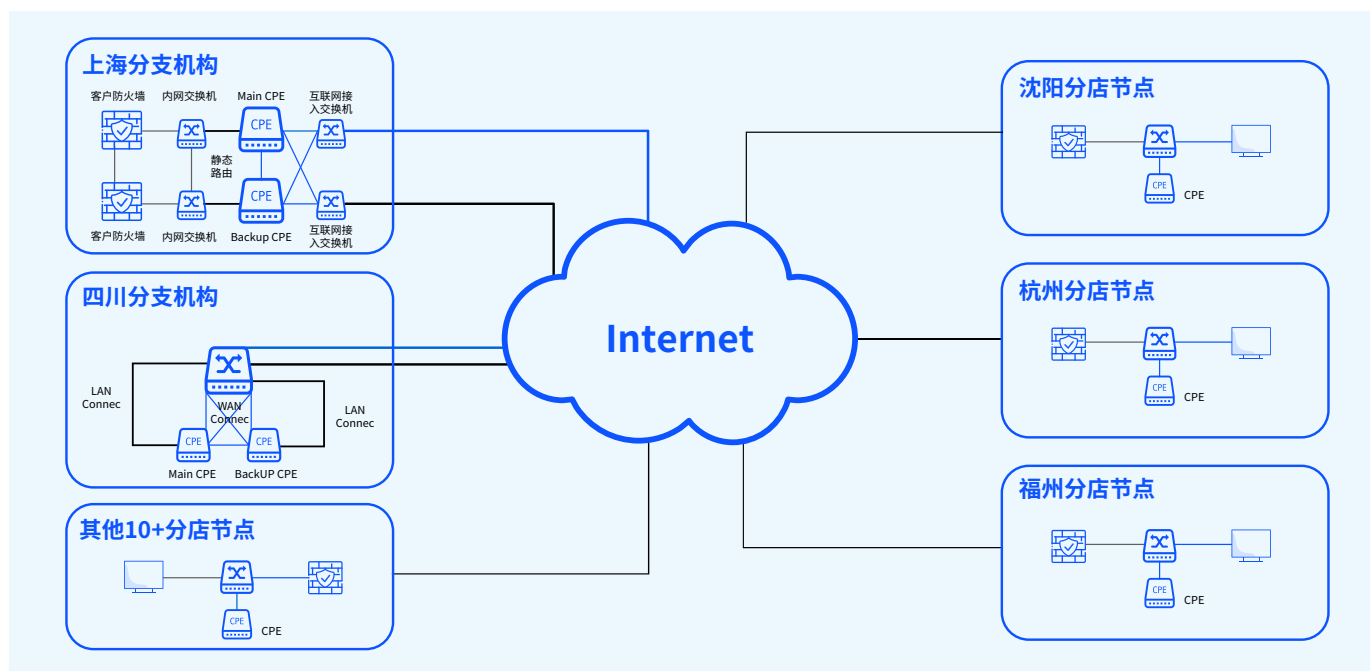为增加鲁棒性系统生存能力和稳定性,均采用了国际顶级品牌的SD-WAN终端,在总部和核心门店均采用主备双活或者增强双活的HA配置,门店节点充分利旧。

3、全网采用云管理平台, 集中管理, 可视操作

太平洋电信集中云管平台和NOC可以实时监测企业网络连接状态、流量负载情况以及带宽利用率等指标,并提供实时报警和告警通知功能。

4、智能负载均衡, 精准识别, 各行其道

通过SD-WAN技术优化网络连接质量,提高网络连接速度和稳定性。同时基于应用程序、协议、服务等因素进行智能负载均衡,通过访问控制策略控制和DPI技术,区分公司经营业务和门店客户的互联网流量,做到精准区别和避免网络瓶颈和拥堵,保障网络数据和核心业务的安全性。

项目,基于太平洋电信和基础运营商丰富的合作经验,该企业委托太平洋电信申请全国互联网上网线路,一站式管理全国网络资源,在降低了接入互联网的成本的同时,更是大大降低了新能源车厂IT的管理和维护的难度。

集中管理和控制

SD-WAN通过中央控制器来管理所有分支机构的网络连接。这使得网络管理人员能够更轻松地配置、监视和管理分支机构的网络设备和应用程序,从而降低了管理成本和网络管理员的配备和工作量。

网络安全

SD-WAN技术提供了全面的网络安全保障,包括强大的加密、身份验证、入侵检测和入侵防范等功能。4S店通过SD-WAN技术可以实现网络安全的可靠保护,以保障客户的隐私和数据安全。

业务连通性

SD-WAN技术支持多种连接类型,包括MPLS、VPN、云等。这意味着4S店可以实现多种业务之间的连通性,包括车辆销售、售后服务、财务管理等,从而提生整个公司业务连通性。

可以共 ... 率。

了解客 ... 意度。

免库存积压,降低库存成本。综上所述,全国门店联网方案能够有效地改善汽车门店的服务效率和提升顾客服务质量。

三、整体效果

经过前期的试点,该企业已经决定在2023年Q2对全部门店进行升级改造,这也为公司未来云化部署生成系统奠定了良好的网络基础。SDWAN改造为公司现有业务和未来云业务提供了更高效、更灵活和更安全的网络连接,从而为企业数字化转型奠定了良好的网络基础。

二、在网络服务方面

通过采用太平洋电信的SD-WAN网络服务,帮助该企业在多个门店之间实现高速、安全和可靠的数据传输,并提高互联互通效率。在改善4S店互联互通效果主要体现在以下几个方面:

增加网络可靠性

SD-WAN可以将多个物理链接组合成一个虚拟网络,从而提供更高的冗余和容错能力。这意味着,如果一个链接发生故障,其他链接可以继续提供服务,从而保证了4S店的网络连通性,减少了停机时间和损失。

网络降本增效提速

SD-WAN可以替代传统的MPLS网络,选择更加经济实惠的internet链路,大幅度降低网络运营成本,可以通过智能路由和流量优化算法,将应用程序和数据传输优化到最佳路径。这可以保证网络的稳定性、可靠性和延迟等关键指标的提高,为4S店提供更好的用户体验。本次

SD-WAN Business Case
A New Energy Vehicle Company

This company is a well-known new energy vehicle enterprise dedicated to creating a world-class brand of intelligent electric vehicles.

Case Background

As the number of 4S stores increased, the traditional network architecture could no longer meet the demands for secure, reliable, and efficient connectivity between stores and between stores and headquarters. A new network architecture was needed to optimize and manage communication between stores and headquarters. To improve the service efficiency of automotive stores, enhance after-sales upgrades and response rates, optimize customer service quality, and improve the rapid and timely response to service demands from all stores, the enterprise decided to optimize the existing network architecture connecting stores and headquarters. The company selected multiple network service providers to design a nationwide store networking solution, aiming to establish interconnectivity between all stores nationwide, enabling resource sharing and data exchange, and ultimately enhancing store management efficiency and customer service quality. After testing and comparing multiple network suppliers, the new energy vehicle company selected Pacific Telecom as the supplier for their store networking solution due to their superior price-performance ratio, excellent network quality, and attentive technical service.

Solutions

Software-defined wide area network (SD-WAN) is a technology that uses software to control and manage enterprise network connections. SD-WAN can be used by the new energy vehicle manufacturer to connect networks across multiple locations, including factories, offices, research and development centers, and stores, to achieve unified management and optimization of the network.

1.SD-WAN Design for the Entire Network, Unified Management, and Centralized Control

SD-WAN is a technology that uses software to control and manage enterprise network connections. It can be used by the new energy vehicle manufacturer to connect networks across multiple locations, including factories, offices, research and development centers, and stores, to achieve unified management and optimization of the network.

2.Multi-Mode HA Configuration for Core Nodes, Reliable and Robust with Emphasis on Key Points

To increase the robustness and stability of the system, international top brands of SD-WAN terminals have been used for the new energy vehicle manufacturer. The main

and backup active-active orenhanced active-active HA configuration is adopted at headquarters and core stores, while store nodes are fully utilized.

3.Cloud Management Platform for Network-wide Centralized Management and Visual Operations

The new energy vehicle manufacturer has adopted a cloud management platform for network-wide centralized management and visual operations. Pacific Telecom's central cloud management platform and NOC can monitor network connection status, traffic load, and bandwidth utilization in real-time while providing real-time alarm and notification functions.

4.Intelligent Load Balancing with Precise Identification for Efficient Traffic Management

SD-WAN technology has been used to optimize network connectivity quality, speed, and stability. Intelligent load balancing has also been implemented based on application programs, protocols, and services. Access control policies and DPI technology are used to distinguish between company operations and store customer internet traffic, ensuring precise identification and avoidance of network bottlenecks and congestion. This ensures the security of network data and core business operations.
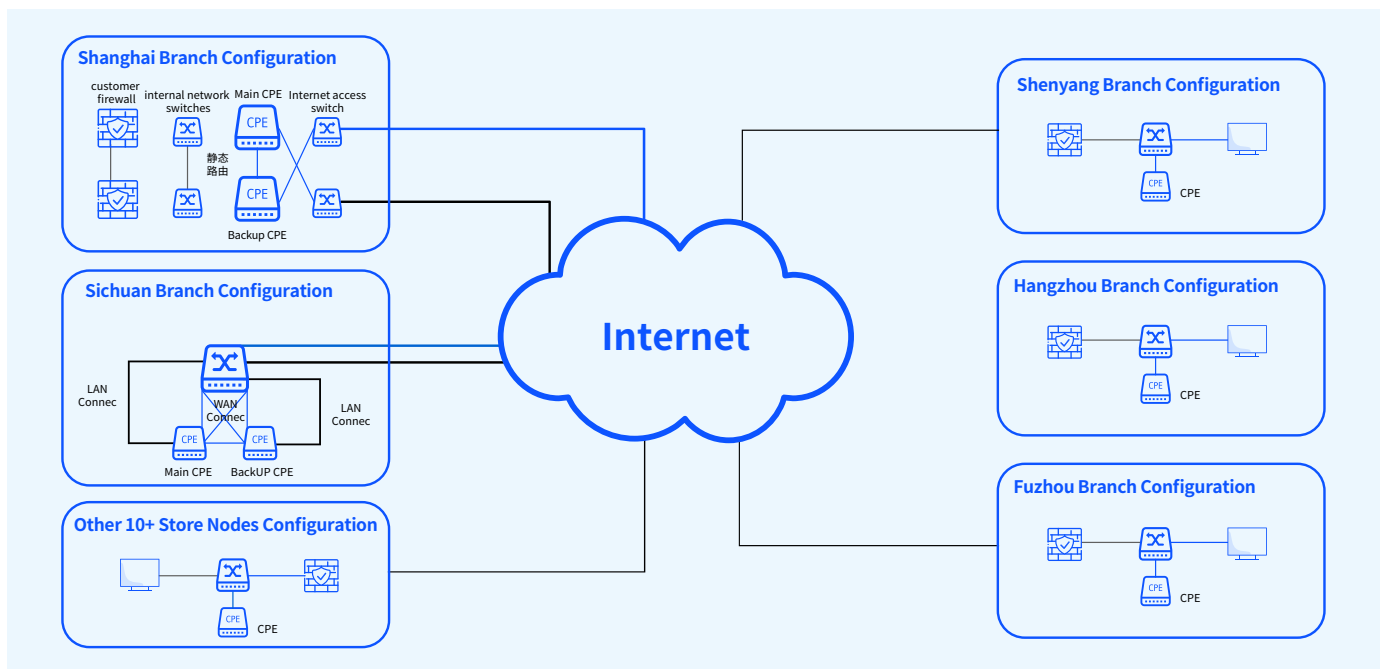
Excellent result

1. Corporate Operations Management

mproved Store Operations Efficiency: The implementation of an information management system and customer relationship management system can facilitate the sharing of information and resources between stores, eliminate information silos, reduce repetitive work, and ultimately enhance the operational efficiency of the stores.

Provided better services: An online booking and customer relations management system are implemented to enhance customer understanding, deliver personalized services, and promptly address customer feedback, improving overall customer satisfaction.

Provided better services: An online booking and customer relations management system are implemented to enhance customer understanding, deliver personalized services, and promptly address customer feedback, improving overall customer satisfaction.

Reduced inventory costs: A logistics distribution system is implemented to allocate and distribute resources among stores, minimize inventory backlog, and reduce costs. In summary, the nationwide store network solution effectively enhances the customer service efficiency and quality of auto stores.

2. Network Services

Telstra PBS's SD-WAN network service is adopted for high-speed, secure, and reliable data transmission among stores, improving interconnection efficiency. The improvement in the interconnection between 4S stores is mainly embodied in the following aspects:

Increased Network Reliability: SD-WAN technology can combine multiple physical links into a virtual network, providing higher redundancy and fault tolerance. If a link fails, other links can continue to provide service, ensuring network connectivity for the 4S stores and reducing downtime and losses.

Network Cost Reduction and Increased Efficiency: SD-WAN can replace traditional MPLS networks by selecting more affordable internet links, significantly reducing network operating costs. By utilizing intelligent routing and traffic optimization algorithms, it can optimize application programs and data transmission to the best path.

This ensures the improvement of key indicators such as network stability, reliability, and latency, providing a better user experience for 4S stores.For this project, the enterprise has relied on PBS's extensive cooperation experience with basic telecom operators to apply for national Internet access lines. This one-stop management of national network resources not only reduces the cost of internet access but also simplifies the management and maintenance of IT in new energy vehicle factories.

Centralized management and control: SD-WAN uses a central control hub to manage network connections for all branch offices. This allows network administrators to easily configure, monitor, and manage network devices and applications at branch offices, ultimately reducing management costs and the workload of network administrators.

Network Security: SD-WAN technology provides comprehensive network security, including powerful encryption, identity authentication, intrusion detection and prevention, and other functions. 4S stores can achieve reliable protection of network security through SD-WAN technology, ensuring customer privacy and data security.

Business Connectivity: SD-WAN technology supports multiple connection types, including MPLS, VPN, and cloud. This means that 4S stores can achieve connectivity between various businesses, including vehicle sales, after-sales service, and financial management, thereby improving the overall business connectivity of the company.

3.Overall Results

After the pilot phase, the enterprise has decided to upgrade and renovate all stores in Q2 of 2023, which will establish a solid network foundation for the company's future cloud deployment. The SD-WAN transformation provides a more efficient, flexible, and secure network connection for the company's existing and future cloud businesses, laying a solid network foundation for the enterprise's digital transformation.

一中心多节点混合云组网客户案例
某生命科学领域公司

客户的业务场景

生命科学领域自21世纪初以来迅猛发展,该公司的多种高科技核心服务,需要大量的核心数据处理平台、敏捷的网络传输、业务不可间断。

客户痛点

1.高存储需求:

生物技术高速发展的同时,数据的存储、分析成为生命科学研究的关键需求。一个完整的基因测序样本会产生千万量级的文件,据了解,目前一台先进的测序仪、分析仪等设备每天捕捉的测序数据平均水平已达到4TB,加之基因信息分析过程一般会产生原始数据量5倍左右的中间文件及结果,因此PB级别存储空间已经成为存储设备的基本要求。

2.高可靠性需求:

检测数据通常需要长期保存多年,通过合理的生命周期管理系统进行归档保留,数据的自动化迁移归档、数据的安全性、存储的易扩展性是数据归档存储考虑的重要因素。

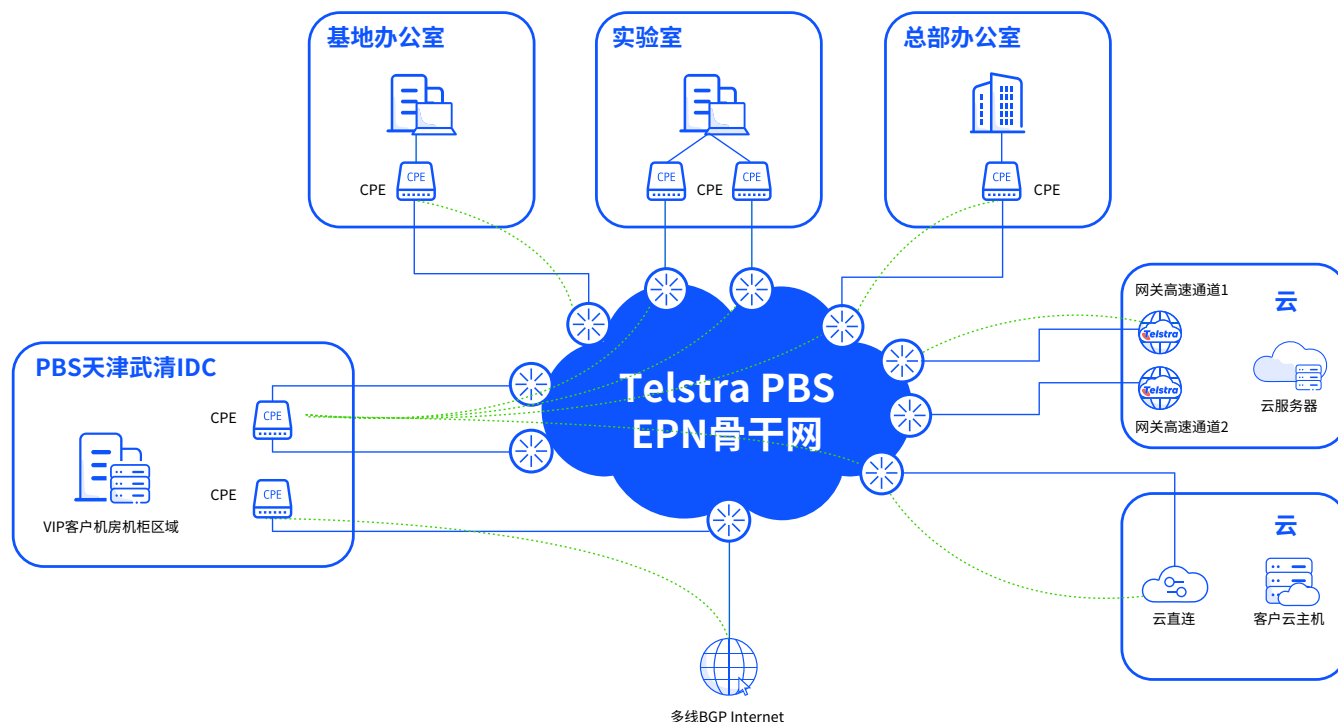**3.高实时性传输需求:**

基因测序访问实时性要求高。基因测序过程是一个超高并发的文件转换过程,整个生产过程有非常密集的文件读取和写入,必须在有限的时间内完成海量小文件的导入。

基于业务需求,客户需要:

1.多地的核心实验业务大数据中心,以及大数据中心的高品质互联网出口需求,需要高品质和满足资源不断扩容的专业数据中心,不断增加的机柜空间需求也要求有很好的成本控制,需要专业的数据中心维护服务;

2.数据中心和云平台的混合组网的互联互通;

3.国内外多个办公节点的数据传输。

客户网络示意图：

基地办公室　　实验室　　总部办公室

CPE

CPE　CPE

CPE

PBS天津武清IDC

CPE

VIP专享机房机柜区域

CPE

Telstra PBS
EPN骨干网

网关高速通道1

网关高速通道2

云

云服务器

云

云直连　客户云主机

多线BGP Internet

为客户提供的综合、高品质解决方案和服务

包括以下内容：

1.多区域距离客户最近的专业、高品质数据中心，不可中断的数据中心服务；

2.高品质连接云平台的云直连专线，不暴露在公网的安全的、不中断的连接；

3.运营商级别的低延时、高带宽的BGP多出口互联网服务，实现智能和高速连接；

4.不同运营商的多线接入实现主备方案，实现99.99%不间断服务；

5.多种资源、多种产品、以及云资源的一站可视化平台；

6.一站式7*24小时的网络服务保障，无需对接复杂的网络架构服务人员。

和客户一起实现：

1.太平洋电信自有高品质T3+天津数据中心作为大数据基地，100%保障了客户核心业务数据生产平台的运营，高品质硬件和优质服务体系保障客户业务不间断；专业的数据服务能力为客户统一提供多地数据中心服务和统一运维管理；

2.太平洋电信的BGP智能互联网出口将生产平台，满足对多运营商互联网资源的需求，无需复杂的多运营带宽资源应用和管理；

3.太平洋电信数据节点到云的超10G的直连专线接入能力；

4.太平洋电信EPN（SDN技术）的核心骨干支持客户的大容量带宽需求，利用SDN实现客户对带宽的灵活调度；

5.太平洋电信的网络服务可视化平台，让客户不可见的网络可视化，轻松通过平台总览网络整体情况、使用流量、设备性能等指标化管理；

6.太平洋电信的VIP客户经理的一对一服务，大大提升了服务品质和服务沟通效率；VIP客户经理对网络情况给予报告、建议的主动服务，提高了网络管理效率，实现了网络不断优化的要求。

Hybrid Cloud Network Solutions
A life sciences company

Customer business scenario:

The life sciences field has been rapidly developing since the early 21st century, and the customer's various high-tech core services require a large amount of core data processing platforms, agile network transmission, and uninterrupted business operations.

Customer Challenges

1.High storage demand:

 With the rapid development of biotechnology, data storage and analysis have become critical requirements for life science research. A complete genetic sequencing sample can produce millions of files, and it is currently estimated that an advanced sequencer or analyzer captures an average of 4TB of sequencing data per day. In addition, the gene information analysis process usually produces intermediate files and results that are about five times the size of the original data, so PB-level storage space has become a basic requirement for storage devices.

2.High-reliability demand:

Detection data usually needs to be stored for many years and archived through a reasonable lifecycle management system. The automation of data migration and archiving, data security, and the scalability of storage are important factors to consider for data archiving and storage.

3.High real-time transmission demand:

Real-time access to genetic sequencing is critical. The genetic sequencing process is a highly concurrent file conversion process, with very intensive file reading and writing throughout the production process. It is necessary to import a massive number of small files within a limited time frame.
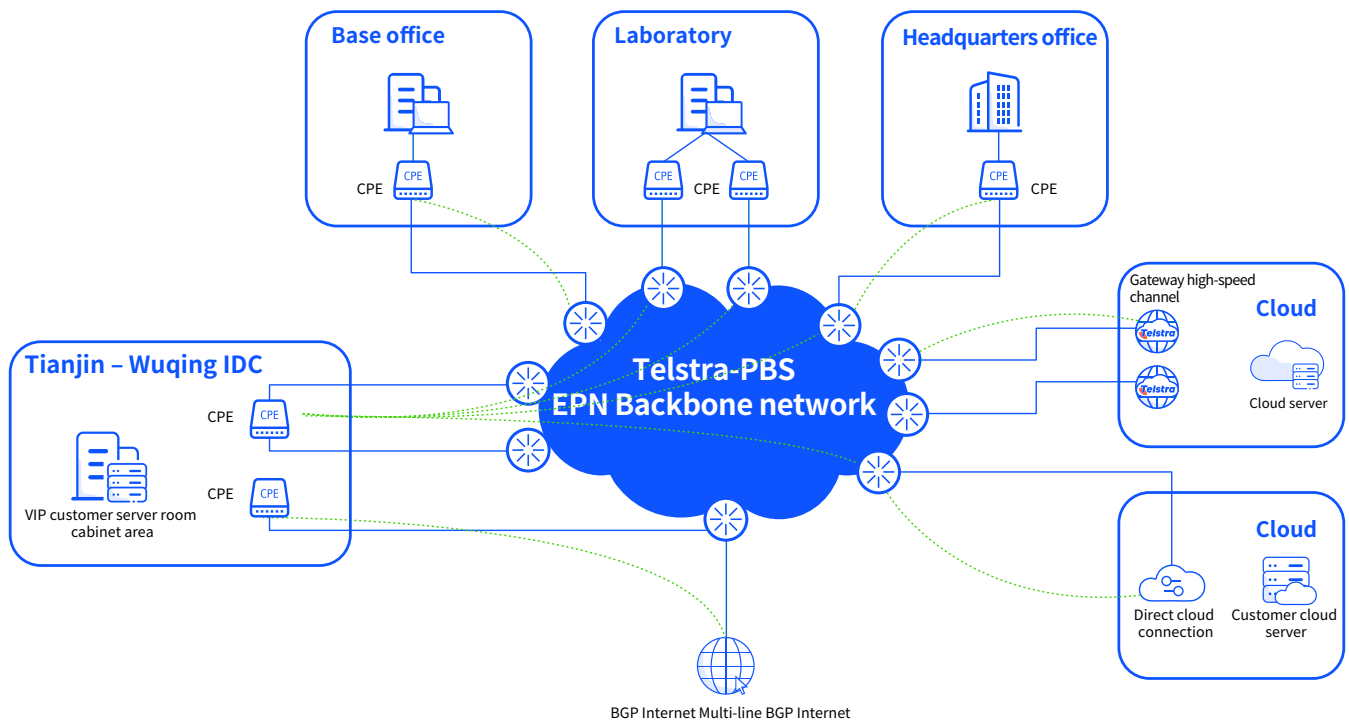
Based on their business needs, the customer requires:

1.Professional data centers with high-quality internet export and the ability to continuously expand resources to accommodate their core experimental big data centers in multiple locations. The increasing demand for rack space also requires good cost control and professional data center maintenance services.

2.Interconnectivity between their data center and cloud platform via a hybrid networking approach.

3.Data transmission between multiple office nodes both domestically and internationally.

Customer network diagram:

Base office

CPE   CPE

Laboratory

CPE   CPE   CPE

Headquarters office

CPE   CPE

Tianjin – Wuqing IDC

CPE   CPE

CPE   CPE

customer server room
cabinet area

**Telstra-PBS
EPN Backbone network**

Gateway high-speed
channel

Cloud

Cloud server

Cloud

Direct cloud
connection

Customer cloud
server

BGP Internet Multi-line BGP Internet

The comprehensive and high-quality solutions and services provided to customers include the following:

1.Professional and high-quality data centers located in multiple regions that are closest to the customers. These data centers provide uninterrupted services and ensure reliable access to customer data.

2.Secure and uninterrupted connectivity to cloud platforms through high-quality cloud direct connection lines that are not exposed to public networks.

3.Carrier-level, low-latency, and high-bandwidth BGP multi-exit internet services that enable intelligent and high-speed connectivity, ensuring efficient data transfer and access.

4.Multiple-line access from different carriers to implement primary and backup plans, providing 99.99% uninterrupted service, and ensuring business continuity.

5.A one-stop visualization platform for various resources, products, and cloud resources, streamlining operations and facilitating resource management.

6.comprehensive 24/7 network service guarantee that eliminates the need for complex network architecture service personnel to interface with, providing efficient and respon-sive support.

Working together and achieve the following:

1.Telstra PBS is a high-quality T3+ data center located in Tianjin, serving as a big data center, provides a 100% guarantee of uninterrupted operation for our customers' core business data production platforms. Our high-quality

hardware and service system ensures the continuity of ourcustomer's business operations. Our professional data service capabilities provide customers with unified multi-site data center services and unified operation and maintenance management.

2.Telstra PBS's BGP intelligent internet export meets the demand for multi-carrier internet resources, eliminating the need for complex management and application of multiple carrier bandwidth resources.

3.Telstra PBS's super 10G direct connection line capability from data nodes to the cloud.

4.Telstra PBS's EPN (SDN technology) core backbone supports customers' high-capacity bandwidth requirements. SDN technology enables customers to flexibly schedule bandwidth.

5.Telstra PBS's network service visualization platform provides customers with a visible network, enabling customers to easily manage their network's overall situation, usage flow, device performance, and other index-based management.

6.Telstra PBS's VIP customer manager provides one-on-one service to greatly enhance service quality and communica-tion efficiency. VIP customer managers proactively report on network situations and provide suggestions, improving network management efficiency and achieving continuous optimization of the network.

Telstra

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