

## Global Coverage



## Why CTA

### Global coverage

CTA owns more than 300 backbone nodes in China and cover 63 PoPs around the world.



### The world's largest network

358 million wireline broadband subscribers and more than 230 million mobile internet subscribers.



### ChinaNet (AS4134)

hosts more than 3 million Chinese websites, manages approximately 65% of all Chinese Internet domain names, and owns more than 70% of all Chinese Internet content resource.

### CN2 (AS4809)

with highest resiliency redundancy and low latency.

### Customer controlled community tagging

automatic changes in routing as per customer specified preferences and route tags, six different regional signal community tag.

## About China Telecom Americas

China Telecom Americas, a wholly-owned US-based subsidiary of China Telecom Corp. Ltd. (NYSE: CHA), is an international telecom provider for data, IP and voice wholesale services to multinational companies, organizations and international carriers requiring China domestic services and international access to China & throughout Asia-Pacific. Headquartered in Herndon, Virginia, China Telecom Americas is the largest international subsidiary of China Telecom Corporation Limited, as well as the only authorized re-seller of domestic Chinese telecom products to North American companies. China Telecom Americas has offices in 31 countries, providing access to Chinese telecom network assets for customers in the United States, Canada and Latin America. As the largest operating broadband operator in the world (127 million subscribers), as well as the world's largest CDMA mobile operator (227 million subscribers), China Telecom delivers a comprehensive global telecom service scope based on cutting edge technology, exceptional customer service, and a visionary approach to international telecommunications.

## Awards

- **Best Telecommunications Company in Asia** (2016) FinanceAsia
- **Best Managed Company in Asia Telecom Sector** (2010-2016) FinanceAsia
- **Customer Relationship Excellence Award** (2012-2016) Asia Pacific Customer Service Consortium
- **Best Managed Company in Asia** (2010-2016) Euromoney
- **Most Honored Company** (2011-2016) Institutional Investor
- **The Best of Asia** (2010-2016) Corporate Governance



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# Global Internet Services Connected to Grow

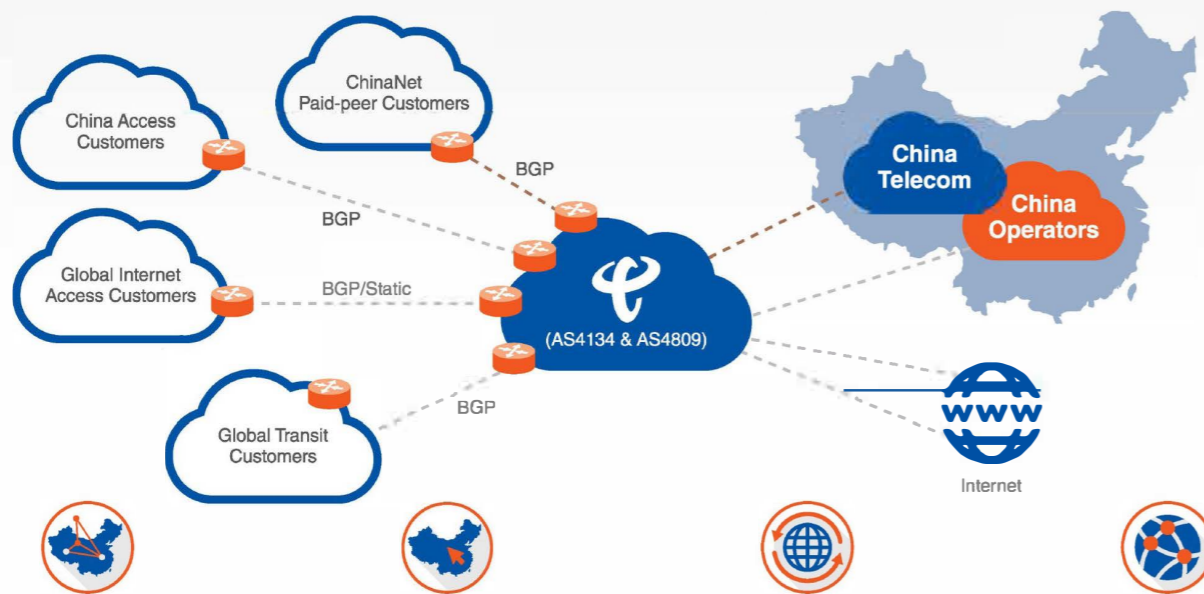
 中国电信  
CHINA TELECOM  
Connecting the World



Being the world's largest fixed-line and broadband service provider, and with abundant experience in internet business operations, CTA is your best partner for Global Internet Service.

## Products

CTA provides internet access and global transit services to carrier and enterprise customers through various technologies. In addition to the core GIS services, CTA also offers value-added services enhancing users experience.



**ChinaNet Paid-Peer**  
One-hop access to China Telecom's Chinese internet resources for telecom operators worldwide

**China Access**  
Cost effective access to Chinese internet resources in Mainland China for local and regional ISPs and ICPS

**Global Transit**  
High speed IP transit service with the high capacity and most connected Tier-1 backbone network for local and regional ISPs and ICPS

**Global internet Access**  
Premium access solutions between mainland China and other countries for multinational enterprise customers

## Value-added Services

|                              |   |
|------------------------------|---|
| <b>IP Addressing Service</b> | Customers requiring a public IPV4 address and access to CTA internet through static routing may lease public IP address from CTA with monthly charges based on the size of the IP address.  |
| <b>Anti-DDoS Service</b>     | Two anti-DDoS options, namely Black-hole and Clean-pipe are available for server protection <ul style="list-style-type: none"> <li>Black hole service-When DDoS attacks the user server, CTA ISPs change the next hop of attacking target IP address to an empty address (or black-hole server) to block traffic and protect customer network. It is suitable for those who would demand a critical response time for halting attack traffic, including IDC and internet customers.</li> <li>Clean-pipe service - When DDoS occurs, it can be detected immediately, followed by traffic guiding, cleaning and re-injection with CTA's professional traffic clean platform server. It is suitable for those who need business continuity, such as finance and e-commerce customers.</li> </ul> |

## Key Features

| Feature                  | ChinaNet Paid-peer | China Access                   | Global Transit              | Global internet Access      |
|--------------------------|--------------------|--------------------------------|-----------------------------|-----------------------------|
| Access Network           |                    | ChinaNet (AS 4134)             |                             | CN2(AS4809)                 |
| Access Feature           | BGP-4              | BGP-4                          | BGP-4                       | BGP-4 or Static             |
| Routes and Policy        | CT Routes          | ISP's Routes in Mainland China | Global or customized Routes | Global or customized Routes |
| Chinese Resources        | Best effort        | Best effort                    | Best effort                 | Premium                     |
| Bandwidth limitation     | No limit           | No limit                       | No limit                    | <10G (To China <1G)         |
| SLA Support              | N/A                | N/A                            | √                           | √                           |
| Routes limitation        | No limit           | No limit                       | No limit                    | 300                         |
| BGP Community            | N/A                | N/A                            | √                           | √                           |
| Burstable Billing        | √                  | √                              | √                           | √                           |
| MRTG Report              | √                  | √                              | √                           | √                           |
| Looking Glass            | √                  | √                              | √                           | √                           |
| IP Address Service       | N/A                | N/A                            | N/A                         | √                           |
| Anti- DDoS (Black-hole)  | √                  | √                              | √                           | √                           |
| Anti- DDoS (Clean -pipe) | N/A                | N/A                            | N/A                         | √                           |

## GIA SLA

**Pop Availability**  
≥99.9%  
(outage in a given calendar month)

**Packet Loss**  
≤0.5%

**End to End Availability**  
Subject to what the access provider could provide and commit

| Service Delivery Point | Target Zones   |           |           |         |         |         |         |
|------------------------|----------------|-----------|-----------|---------|---------|---------|---------|
|                        | Mainland China | Hong Kong | Singapore | Europe  | US West | US East | Japan   |
| Hong Kong              | ≤ 50ms         | x         | ≤ 50ms    | ≤ 240ms | ≤ 200ms | ≤ 260ms | ≤ 70ms  |
| Singapore              | ≤ 80ms         | ≤ 50ms    | x         | ≤ 250ms | ≤ 230ms | ≤ 280ms | ≤ 120ms |
| Europe                 | ≤ 220ms        | ≤ 240ms   | ≤ 250ms   | x       | ≤ 180ms | ≤ 120ms | ≤ 280ms |
| US West                | ≤ 200ms        | ≤ 200ms   | ≤ 230ms   | ≤ 180ms | x       | ≤ 80ms  | ≤ 130ms |
| US East                | ≤ 260ms        | ≤ 260ms   | ≤ 280ms   | ≤ 120ms | ≤ 80ms  | x       | ≤ 200ms |
| Japan                  | ≤ 80ms         | ≤ 70ms    | ≤ 120ms   | ≤ 280ms | ≤ 130ms | ≤ 200ms | x       |
| Africa                 | ≤ 300ms        | ≤ 280ms   | ≤ 260ms   | ≤ 220ms | ≤ 380ms | ≤ 300ms | ≤ 320ms |
| Latin America          | ≤ 360ms        | ≤ 350ms   | ≤ 380ms   | ≤ 250ms | ≤ 200ms | ≤ 160ms | ≤ 300ms |

## Benefits

|   |  |  |  |
|---|--|--|--|
| <p><b>Largest Chinese internet content centre</b><br/>cost effective Chinese internet resources access for internet service providers</p> | <p><b>Top-tier stability</b><br/>highly redundant and reliable service with industry-competitive SLA on latency, jitter, packet drop rate (PDR), PoP availability and mean time to repair (MTTR)</p> | <p><b>Flexible billing options</b><br/>fixed monthly charges or burstable billing based on 95th percentile usage</p> | <p><b>High capacity</b><br/>bandwidth options from 10M to 100G</p>   |
| <p><b>Regional specific-route</b><br/>BGP-4 with full routes or regional specific routes</p>  | <p><b>Carrier-class Security</b><br/>Fast, efficient Anti-DDoS Defense Strategy safeguards user network security</p>   | <p><b>Web-based customer portal</b><br/>reports on link utilization and network performance</p>                      | <p><b>Guaranteed quality service</b><br/>7 x 24 proactive network performance monitoring and management by CTA's professional team</p> |