



# A guide to reliable file sharing with China





## Introduction

China is the world's most populous country. Its 1.4bn people – of whom 731m are internet users – produce a GDP of nearly \$10 trillion – 15% of the global total.

It is, therefore, no surprise that the country is seen as a huge opportunity for businesses in America and Europe.

However, China has a big business problem: sharing data is slow and unreliable.

- 1 China's big business problem
- 2 Why data sharing with China is difficult
- 3 Popular solutions... and their drawbacks
- 4 How Maytech solves the data sharing problem
- 5 Success stories



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A guide to reliable file sharing with China  
February 2017 | Author: Maytech | Version: 1.0 | 2 of 11



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# 1 China's big business problem

**The American Chamber of Commerce has stated that 72% of US businesses have had their trade affected by sluggish internet speeds, whereas a study by the European Chamber of Commerce has found that 9 out of 10 companies operating in China believe internet restrictions are affecting sharing speeds and harming their business as a result.**

Technology Blogged claims that many businesses and individuals have reported that some small files take hours to move, other organisations have noted that large data transmissions of more than 15GB simply cannot be transferred.

Businesses are struggling. But while sharing large files with China is problematic and extremely frustrating, there is a solution. Before we tell you more, let's delve into the reasons behind the problems.



*“Just having to overcome the mundane issues of slow Internet speeds and restricted access impacts your productivity and ease of conducting business in China. It’s a daily burden.”*

Patrick Chovanec, former Economics Professor at Tsinghua University



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A guide to reliable file sharing with China  
February 2017 | Author: Maytech | Version: 1.0 | 3 of 11



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2

## Why data sharing with China is difficult

### 1. Congestion at The Great Firewall

**Chinese internet censorship is extremely strict. The Chinese politician Deng Xiaoping was responsible for turning China from a closed communist country into one of the world's major economies. But in doing so, he began China's Golden Shield Project – or The Great Firewall of China, as it has been nicknamed.**

#### How does the Great Firewall work?

The Great Firewall filters all web traffic within China, as well as any information that enters or leaves the nation's network. The firewall is often congested due to the sheer volume of data which has a significant impact on transfer speed and reliability.

Additionally, the internet infrastructure in China is underdeveloped and although investment is planned, poor network performance is highly likely for the immediate future.

The Great Firewall of China has also been known to prioritise domestic traffic and statistics show data from foreign sites can take up to 80% longer to travel to its intended destination.

Further to this, the Firewall limits Western platforms that we may have come accustomed to, such as Gmail and Dropbox. Although this may protect the Chinese people and allow local technology firms to thrive, it can severely maim international business communications.

#### Packet loss, slow speeds and broken connections

Packet loss occurs when internet devices such as firewalls or routers are overloaded and ignore incoming data.

The huge amounts of data going to and from China mean that scanning and sifting it through the Great Firewall of China takes time – while it can only enter through one of three entry locations: Beijing, Shanghai or Guangzhou.

That results in the slow data transfer and broken connections that are a sad part of life for users sharing data with China.



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February 2017 | Author: Maytech | Version: 1.0 | 4 of 11



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## 2. Latency

**There are more than 5,000 miles between London and Beijing, and almost 7,000 between New York and the Chinese capital. These long distances show the limitations of the Transmission Control Protocol (TCP) – a key aspect of the internet – and make it hard for users to share data with China.**

### What is the TCP?

The Transmission Control Protocol (TCP) is a standard set up by the US military in the 1970s to help hosts establish a connection and exchange packets of data.

For example, when you send an HTML file, HTTP will ask TCP to set up a connection and to send the file. This file will then be divided into numbered 'packets' and forwarded to the intended IP Address.

### Latency over the TCP

A principle problem with the TCP is that it wasn't designed to send data over long links. As packets are sent over thousands of miles, information will be exchanged over dozens of routes. That will cause multiple retransmission requests and require the reordering of packets. As a result, latency occurs and sharing speeds are slowed.

And when data has to be sent over thousands of miles across countless packets, latency grows exponentially.

## 3. Peering in China

**In 2008, China became the largest population on the internet. Today 50% have internet connectivity, yet internet access is controlled by just three primary state-owned carriers:**

### China Telecom | China Unicom | China Mobile

Exchange traffic within China is relatively inexpensive to peer, but these three companies charge high amounts if any international carriers wish to peer with them. As a result, many carriers do not peer directly, even if they're located in neighbouring countries, and international traffic takes circuitous routes before it successfully arrives in China.

The result? Again users suffer slow internet speeds – sometimes as slow as a few kilobytes per second.

*“In China, traffic follows the route of least cost, rather than the route of highest efficiency.”*

Antony Freeman, Founder Maytech.net





## 3 Popular solutions and their drawbacks

**A number of methods have been created to help businesses circumvent data issues in China. However, each of these services has their drawbacks:**

### VPNs

Virtual Private Networks (VPNs) allow users to connect to another computer with a private web server in order to access the public internet. These are frowned upon by the Chinese government as the private connection's encryption means it is impossible for authorities and third parties to see what information is being exchanged.

Despite this, VPNs are widely used by Chinese internet users. According to the [Global Web Index](#), a quarter of online adults aged between 16 and 64 have used a VPN before, but this figure rises in China to 1 in 3. However, they do not come without faults.

Although they're not illegal in China, the Chinese Communist Party (CCP) has a constant practice of detecting and blocking VPNs, which means they're seen by many as unreliable for business purposes. They are also prone to routine outages and slow speeds due to the sheer number of people trying to use them.

### Email

Sending files to China via email is used by many, but comes with a whole host of problems.

Firstly, there is the issue that many Western email providers, such as Gmail and Outlook, are blocked in China. Even if you're using a system that is supported it is likely that there will be a maximum email size limit, meaning large data files will need separating into multiple small chunks in order to be sent.

Further to this, emails will be subject to slow speeds and censorship from The Great Firewall, unless a VPN is used – which are less than ideal.

Plus, where information is particularly sensitive email is not recommended on security grounds.





## File sharing options

Using a Chinese file sharing service may appear to be a simple solution to this speed and reliability issues many users experience when sending data to China. Baidu Inc. is one of the nation's biggest web service providers and offers its own free cloud storage, and therefore would be the obvious choice for many.

However, Baidu has potential security problems. [A February 2016 report from Citizen Lab](#) said that it:

“transmits personal user data to Baidu servers without encryption or with easily decryptable encryption, and is vulnerable to arbitrary code execution during software updates via man-in-the-middle attacks.”

Another option is Tencent Weiyun, another Chinese file sharing service. It allows 10TB of storage space and a maximum upload size of 1GB. However, it has only recently become available in English, and still has question marks on its security processes.

While these China-based file sharing services have direct access and remote uploading capabilities, most do not support FTP uploads or file versioning. More importantly still, they don't provide international services, meaning a secondary service would be required to transfer outside of Chinese borders.

## The shared problem...

VPNs, email solutions and Chinese file sharing options all share one primary failing for users seeking to share data reliably with and from China: they don't accelerate traffic. They are still subject to the speed and reliability problems highlighted in section 2. And that makes them unsuitable for business use.



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A guide to reliable file sharing with China  
February 2017 | Author: Maytech | Version: 1.0 | 7 of 11



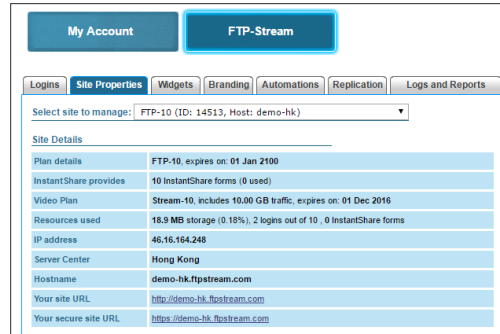
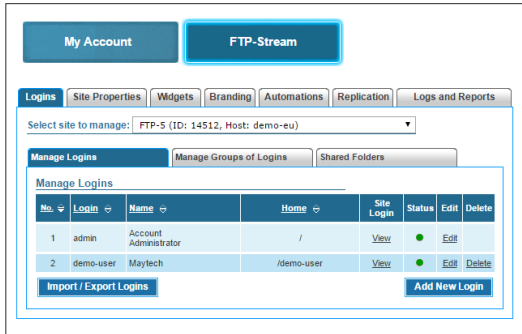
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# 4

## How Maytech solves the data sharing problem



*“FTP-Stream China was exactly what we needed: US servers with automatic file transfer to their servers in Hong Kong. More than 4 years have passed and we’ve never had a problem with file transfers to and from China.”*

Peter DeVries, CEO, Supply Solutions Network

**Maytech’s FTP-Stream China is a file sharing solution that allows fast, reliable and easy data sharing with China through the use of an uncongested fibre network and our local data centre in Hong Kong.**

Using some methods, transferring a 50MB file could take hours. Choose FTP-Stream China and it could be received in mere minutes.

### How does it work?

Our Hong Kong-based data centre has direct regional links with mainland China, meaning you can ensure fast FTP(S), HTTP(S) and SFTP transfers from the following locations:

- USA – East and West Coast
- Europe
- South America
- Asia
- Australia
- Africa

FTP-Stream China uses twin hub architecture and data mirroring over proprietary technology to provide data transfers that are up to 40 times faster than other methods.



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A guide to reliable file sharing with China  
February 2017 | Author: Maytech | Version: 1.0 | 8 of 11



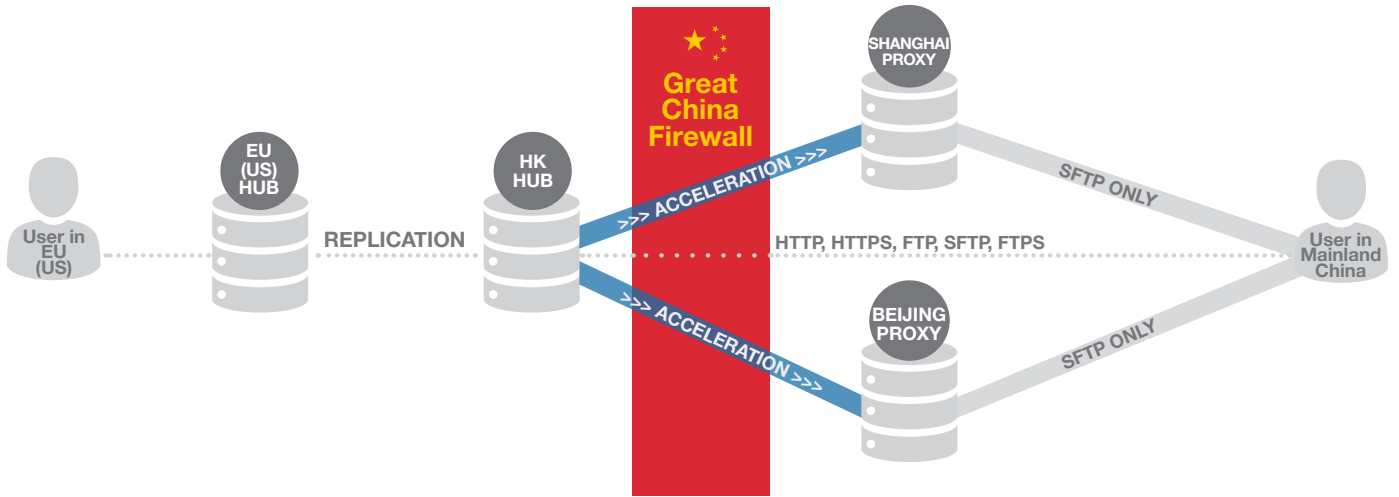
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## How FTP-Stream China works



Put simply, information is replicated from one of our local data centres to Hong Kong. Speed is ensured thanks to Maytech's use of proxy server access with Chinese telecom carriers and the fact that file transfers are always done locally. Users of FTP-Stream China remain in complete control of the entire process, deciding exactly what is replicated and when.

Maytech's system is constantly monitoring and adjusting routes based on the internet's changing conditions. Users in mainland China should see a fast connection with our hub in Hong Kong, however, we also provide additional proxies in Shanghai and Beijing (using China Netcom and China Telecom networks) to ensure fast downloading and uploading across the country.

Together these differences to 'regular' file sharing services mean that Maytech's FTP-Stream can provide three key unique points:



Speed



Security



Reliability



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A guide to reliable file sharing with China  
February 2017 | Author: Maytech | Version: 1.0 | 9 of 11



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## 5

## Success stories

**Maytech provides secure file sharing and data transfer to international businesses and helps them resolve problems with file sharing with China.**

*“I would highly recommend them as the best, world-class FTP provider out there!”*



*“We had problems sending larger graphic files to our Chinese printers using several FTP service providers. Our customers experienced long upload times, often files would arrive with problems or the FTP site was not available to our Chinese suppliers.*

*“We then found Maytech who has exactly the process we needed; US servers with automatic file transfer to their servers in Hong Kong. More than 4 years have passed and we’ve never had a problem with file transfers. Our FTP site was easy to customise, uncomplicated to add to our web page and providing a secure login for our customers was simple.”*

Peter DeVries, CEO, Supply Solutions Network

**Tableware and kitchenware company Bodum, which is known for its iconic cafetiere, uses Maytech's FTP-Stream services to communicate with their manufacturing partners.**



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A guide to reliable file sharing with China  
February 2017 | Author: Maytech | Version: 1.0 | 10 of 11



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February 2017 | Author: Maytech | Version: 1.0 | 11 of 11



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