



# Tuya Smart Cloud Platform Overview

Introduction of Tuya

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## Contents

<b>1</b>	<b>Tuya Cloud Advantage</b>	<b>2</b>
1.1	Deployment across the Globe . . . . .	2
1.2	Global Acceleration . . . . .	2
1.3	Elastic expansion . . . . .	2
1.4	Data Security . . . . .	3
1.5	Open . . . . .	3
<b>2</b>	<b>Analysis of Tuya Smart Cloud</b>	<b>4</b>
2.1	Introduction of Available Zones . . . . .	4
2.2	Introduction to Network Acceleration . . . . .	5
2.3	Global Network Report . . . . .	6
2.4	Secure cloud services . . . . .	9



## Contents

### Tuya Smart Cloud Platform Overview

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We are deploying cloud services around the world and are committed to providing safe, stable, and fast Tuya Smart cloud services to our customers worldwide. Tuya Smart cloud has 100 million massive data and 10 million users concurrent processing capacity, continuous service 99.99%. Integration of Ali cloud, Amazon global service node for users around the world to provide access to nearby services to ensure efficient and stable equipment experience, help China manufacturing services worldwide!

The platform provides service capabilities ranging from product definition, simulation testing, hardware development, client development, platform interaction, product testing, operational management and data analysis to intelligent hardware access and operational lifecycle. Tuya Smart cloud platform provides self-service hardware and software development SDK and open and perfect cloud platform API for creators and vendors. While providing debugging assistant, can minimize the hardware manufacturers to develop the threshold, saving research and development costs, enhance the manufacturers of intelligent products into production speed. At the same time can also help manufacturers to upgrade hardware and software intelligence, continuing to provide quality services to end consumers.



## 1 Tuya Cloud Advantage

### 1.1 Deployment across the Globe

- Wide coverage: Tuya Smart cloud is deployed in China, the Americas, Europe, Indian. the deployment of data room, in Hong Kong, Japan and other places to deploy data acceleration services to protect the service high availability and user experience. Customer products have covered the main cities around the globe except for the Arctic continent.
- Multi-available area: currently available in **Asia, America west, America east, Europe, Indian** five available areas. According to the user's area, it automatically select the nearest availability, with minimum data link service response speed to the user localization Experience. While Tuya Smart data drift to provide services to protect users in any country can be safe and stable use.

### 1.2 Global Acceleration

- High-speed network: In domestic, Tuya Smart is having depth cooperation with Ali cloud, enjoy the same level of network link with Tencent. Outside China, it is having deep cooperation with Amazon and foreign countries and deploying multiple machine rooms (See third-party network test data)
- Accelerated service: Tuya Smart cloud acceleration CDNs have covered 500 + city domestic nodes, 100 + mainstream city outside China. At the same time, Tuya Smart cloud provide different DNS acceleration and SMS acceleration and other localization services according to various local operator in order to help Chinese enterprises to sea
- Data Drift: Tuya Smart cloud's own algorithm let Chinese enterprises in the country can publish global products and view the global data.

### 1.3 Elastic expansion

- High availability: Tuya Smart cloud use the industry's latest **Distributed Micro-service** architecture, could automatically expan according to the business peak. Modular architecture design allows business modules can be parallel expansion and hot-swappable.



- Service hot deployment: Service-oriented code release means that even if the Tuya Smart cloud releases new features weekly, it also provides an uninterrupted service experience for users with zero perception. Guaranteed user control instructions are not lost.
- Massive data: Tuya Smart cloud core R & D team are from the BAT has a wealth of massive service architecture and processing power. The current Tuya Smart cloud process hundreds of millions of requests per day, the user data exceeded 3 billion, storage capacity of nearly 2P (2097152GB).

#### 1.4 Data Security

- User Device Security: Tuya Smart Cloud provides a **Five-fold Security Policy** to protect the security of smart devices. (See the safety-related policy)
- Enterprise data security: for enterprise clients, Tuya Smart cloud isolate their data, to protect customer data security. At the same time Tuya Smart cloud to provide different data storage services for different business scenarios and encrypted part of core data.

#### 1.5 Open

- OPENAPI: Tuya Smart cloud provides HTTP / HTTPS, MQTT, WEBSOCKET and other ways for companies to export their own data at any time
- Partners: Tuya Smart cloud provides service to connect with 3rd platforms such as Amazon Alexa, Google Assistant, WeChat.

## 2 Analysis of Tuya Smart Cloud

### 2.1 Introduction of Available Zones



**Figure 1:** Screenshot

Tuya Smart cloud deployment covers Asia, Europe, the United States three available areas, according to Chinese enterprises' sales areas in the export of submarine cable distribution area and the global cities of the measured results,

**Available area names are composed of two letters**,the specific definition is as follows

Availability	Service Area	Machine Room Area
AY	Asia	Tencent ShangHai Core Machine Room



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Availability	Service Area	Machine Room Area
AZ	American west	AWS Oregon Main Machine Room
UEAZ	American east	AZURE Virginia Machine Room
EU	Europe	AWS Frankfurt Machine Room
IN	Indian	AWS Mumbai Machine Room

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Optional spare rooms: Hong Kong, Singapore, Mumbai, Tokyo, Sao Paulo, and other rooms (according to the region of corporate clients, machine rooms could be expanded)

## 2.2 Introduction to Network Acceleration

### 2.2.1 DNS Acceleration:

- Tuya Smart cloud have done analysis and acceleration operations in accordance with different operators of domestic and overseas also in different major cities in the country.
- Tuya Smart automatic algorithm mechanism could maximize the stability of DNS resolution and resolving operator hijacking.

### 2.2.2 CDN Acceleration:

Domestic nodes:

- 500 + city nodes, enjoy the same level with the Taobao network edge acceleration
- Real-time monitoring of accelerated stability through autonomous monitoring services.

Nodes outside China:

- North American nodes: Ashburn, VA; Atlanta, GA; Chicago, IL; Dallas / Fort Worth, CA; New York, Newark, New Jersey; Palo Alto, CA; San Jose, CA; Seattle, WA; South Bend, Indiana; St. Louis, Missouri;



- South American node: Rio de Janeiro, Brazil, Sao Paulo, Brazil
- Europe, Middle East, Africa Nodes: Amsterdam, the Netherlands, Dublin, Ireland, Frankfurt, London, Madrid, Marseille, Milan, Paris, Sweden, Stockholm and Warsaw
- Asia-Pacific nodes: Chennai, Hong Kong, Philippines, Manila, Melbourne, India, New Delhi, Osaka, Seoul, Singapore, Sydney, Taiwan,

### 2.3 Global Network Report

- Domestic cities network response time is less than 40ms (ie 0.04 seconds), and enjoy the same level with Baidu
- Asian cities are less than 80ms (ie 0.08 seconds), with a speed response
- Europe and the United States is less than 90ms (0.09 seconds), the nearest access to the computer room on the side
- Middle East, Africa, can also provide better service response



### 涂鸦云全球接入速度报告

区域	国家	城市	服务器连接速度 (单位:ms)
Asia(亚洲)	China(中国)	杭州	3
Asia(亚洲)	China(中国)	江苏	9
Asia(亚洲)	China(中国)	湖南	21
Asia(亚洲)	China(中国)	四川	40
Asia(亚洲)	China(中国)	广州	25
Asia(亚洲)	China(中国)	上海	7
Asia(亚洲)	China(中国)	深圳	31
Asia(亚洲)	China(中国)	广西	31
Asia(亚洲)	China(中国)	云南	38
Asia(亚洲)	China(中国)	福建	20
Asia(亚洲)	China Hong Kong(中国香港)	Hong Kong(香港)	49
Asia(亚洲)	Japan(日本)	Japan(日本)	73
Asia(亚洲)	Korea(韩国)	Korea(韩国)	68
Europe(欧洲)	Germany(德国)	Munich(慕尼黑)	6.152
Europe(欧洲)	Germany(德国)	Cologne(科隆)	4.078
Europe(欧洲)	Germany(德国)	Frankfurt(法兰克福)	0.629
Europe(欧洲)	Germany(德国)	Berlin(柏林)	16.145
Europe(欧洲)	Spain(西班牙)	Madrid(马德里)	34.787
Europe(欧洲)	France(法国)	Lille(里尔)	14.909
Europe(欧洲)	Italy(意大利)	Milan(米兰)	10.143
Europe(欧洲)	Italy(意大利)	Padova	53.637
Europe(欧洲)	Italy(意大利)	Rome(罗马)	22.347
Turkey(欧洲)	Turkey(土耳其)	Istanbul(伊斯坦布尔)	46.642
Europe(欧洲)	Norway(挪威)	Oslo(奥斯陆)	30.707
Middle East(中东)	United Arab Emirates(阿拉伯)	Dubai(迪拜)	152.772
Middle East(中东)	Saudi Arabia(沙特阿拉伯)	Riyadh(利雅得)	81.425
Middle East(中东)	Israel(以色列)	Kiryat-Matalon(马特隆)	53.221

Figure 2: Screenshot



区域	国家	城市	服务器连接速度 (单位:ms)
Africa(非洲)	South Africa(南非)	Durban(德班)	330.413
Africa(非洲)	South Africa(南非)	Cape Town(开普敦)	298.473
Africa(非洲)	South Africa(南非)	Johannesburg(约翰内斯堡)	319.452
North America(北美洲)	United States(美国)	San Ana(圣安娜)	29
North America(北美洲)	United States(美国)	Kansas(堪萨斯)	35
North America(北美洲)	United States(美国)	Los Angeles(洛杉矶)	38
North America(北美洲)	United States(美国)	San Jose(圣何塞)	23
North America(北美洲)	United States(美国)	Atlanta(亚特兰大)	70.117
North America(北美洲)	United States(美国)	Boulder(博尔德)	36.056
North America(北美洲)	United States(美国)	Boston(波士顿)	74.252
North America(北美洲)	United States(美国)	Chicago(芝加哥)	88.373
North America(北美洲)	Canada(加拿大)	Vancouver(温哥华)	12.916
North America(北美洲)	Canada(加拿大)	Toronto(多伦多)	87.596
South America(南美洲)	Argentina(阿根廷)	Buenos Aires(布宜诺斯艾利斯)	203
South America(南美洲)	Brazil(巴西)	Sao Paulo(圣保罗)	179
South American(南美洲)	Brazil(巴西)	Porto Alegre(阿雷格里)	220
Oceania(大洋洲)	Australia(澳大利亚)	Perse(珀斯)	227
数据来源:	数据由第三方平台提供		

Figure 3: Screenshot

Note: The data provided by third-party test platform, because of network volatility, each test may be a small range of bias

## 2.4 Secure cloud services

**Safe Cloud Service**  
The same security level with finance

Powered By **tuya** Intelligence Inside

• Full-scale deep security protection system for cloud platform

**Network security**

- 1 Data Encryption**  
The communication content is fully encrypted by AES. Even if the device is lost, it cannot be cracked.
- 2 Identification**  
Tuya's self-acting algorithm guarantees data isolation and increases authentication requirement.
- 3 Dynamic key**  
Data security can be guaranteed by dynamically assigned secret key, even if the algorithm is exposed.
- 4 Channel encryption**  
Full-link TLS encryption channel is supported to ensure network transmission security.
- 5 Security chip**  
Support independent security chip to protect hardware keys.
- 6 Virtual device**  
Unique virtual device protection, can be restored immediately after being attacked.
- 7 Security agency cooperation**  
Long-term cooperation with professional security agencies to create a security system with continuous iteration capabilities.

**Figure 4:** Screenshot