

# Standardization on AI and Big in China



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# Small Data of CAICT



Standard, Testing & Certification, Policy,  
Consulting, Platform on ICT and Industries

62 Years old

3,260 Employees at 35 years old on average

14 Research Institutes, 3 Supporting Centers  
of MIIT

1 HQ in Beijing, 4 Branches  
in Shenzhen, Chongqing, Shanghai, Guangzhou

11 Offices

- Xinjiang, Shanxi, Shanxi, Yunnan, Jiangsu, Sichuan, Hunan, Shandong, Zhejiang, Inner Mongolia, Soul

# Multi-level AI Standardization

## Alliance Standards (Artificial Intelligence Industry Alliance, AIIA)

- Evaluation and Test methodologies & guidelines
- Open source tools and frameworks

## Industrial Standards (China Communication Standards Association, CCSA)

- Smart Speaker
- AI in Telecom
- Intelligence Speech
- Computer Vision
- Multimedia Datasets

## National Standards

- National AI Standardization Framework
- AI Terminology

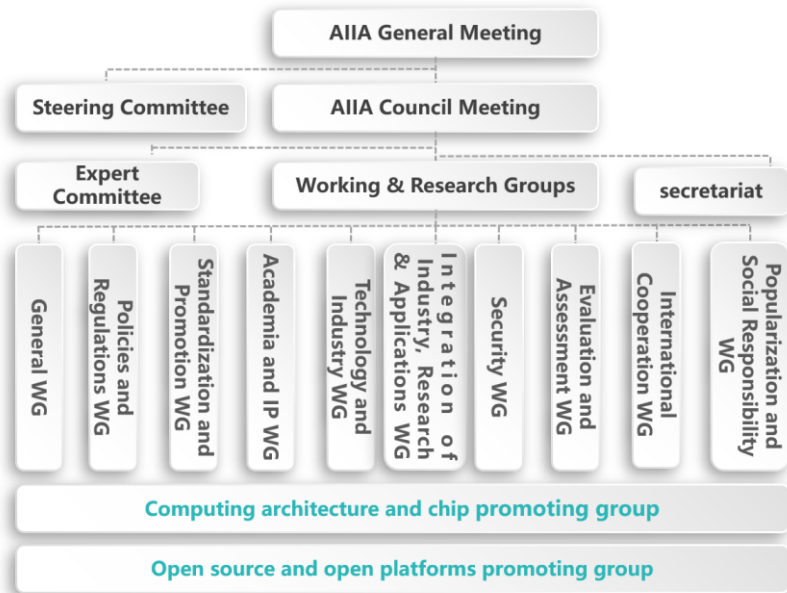
## International Standardization (ITU)

- SG13 FG-ML5G AI+Telecom
- SG16 Q5 Artificial intelligence-enabled multimedia applications
- SG16 FG-AI4H AI+Health

**Faster Procedure and Alliance Consensus**  
**6 Years of Trusted Cloud Service**  
**Build Trust for Consumers**  
**Show Power of Vendors**



# AIIA Standards and Evaluation Testing Accelerate the Product and Service to the Market



- Guided by 4 Ministries:
  - NDRC, MOST, MIIT, CAC

■ 471 Members

■ 10 WGs, 2 Promoting Group, 2 Committees



## Product & Services

- Intelligent Classification of Smart Speakers
- Intelligent Customer Service

## Platforms

- Intelligence Speech, Computer Vision
- Industrial applications

## Infrastructures

- AI Accelerator Chip Benchmark
- Multimedia Datasets
- Deep learning computing platforms

# Welcome to Join the ongoing AI Standards

Topics	Ongoing work	Contributors Including SMEs
<b>Smart Speaker</b>	Evaluation of level of intelligence of Smart Speakers ◆ “Intelligent classification index system of artificial intelligence Part 1: Smart speaker ”	Baidu, Alibaba, Tencent, JD.com, Xiaomi, etc.
<b>Intelligence Speech</b>	Evaluation of Intelligence Speech Service Platforms ◆ “Machine Translation Services evaluation” ◆ “Speech Synthesis Services evaluation”	Baidu, Tencent, iFlyteck, AISpeech, d-Ear, etc.
<b>Computer Vision</b>	Deep-learning based face recognition and verification ◆ “Technical requirements and test methods for face recognition-based gate system” ◆ “Consumer-level smart camera assessment specification for function & performance: Part 1: Humanoid detection function evaluation” ◆ “Technical requirements and test methods for face capture camera” ◆ “Video structured system requirements and evaluation methods” ◆ “The index requirements and evaluation methods of the meter reading and recognition system based on artificial intelligence” ◆ “Hardware requirements and evaluation methods for on-board intelligent equipment”	Baidu, Alibaba, Tencent, YituTech, CloudWalk, Hikvision, DaHua Tech, etc.
<b>Multimedia Datasets</b>	Standards of Datasets used for AI training and inference, including data collection, data labelling, data control and data delivery. Covering speech recognition, speech synthesis, etc. ◆ “Specifications of Corpus for Text to Speech” ◆ “Specifications of Corpus for Speech Recognition”	SpeechOcean, iFlytech, Tsinghua University, datatang, etc.



# Welcome to Join AIIA DNN benchmark

arm 中国



QUALCOMM®

Cambricon  
寒武纪科技



Tencent 腾讯



IAIR Est. 1986  
Institute of  
Artificial Intelligence  
and Robotics, XJTU



中国科学院计算技术研究所  
INSTITUTE OF COMPUTING TECHNOLOGY, CHINESE ACADEMY OF SCIENCES



UNIS  
清华紫光



SYNOPSYS®



AISPEECH 思必驰  
专注人性化的智能语音

ChipIntelli  
启英泰伦



Mobile AI Bench

DEEPHI  
深鉴科技  
Now Part of



南京新一代人工智能研究院  
Nanjing Research Institute of Next-generation Artificial Intelligence



南京华科广发

# AI International Cooperation



- ✓ AI FOR GOOD **SUMMIT**
- ✓ ITU-T SG13: Focus Group on **Machine Learning** for Future Networks including 5G, FG-ML5G
- ✓ ITU-T SG16: Question 5, Artificial intelligence-enabled **multimedia** applications
- ✓ ITU-T SG16: Focus Group on Artificial Intelligence for **Health**



- ✓ Opensource and **open platforms** promoting group
- ✓ Joint activities and further cooperation



- ✓ Computing architecture and chip promoting group
- ✓ AI **Chip** Benchmark



- ✓ **Telecommunications** working group

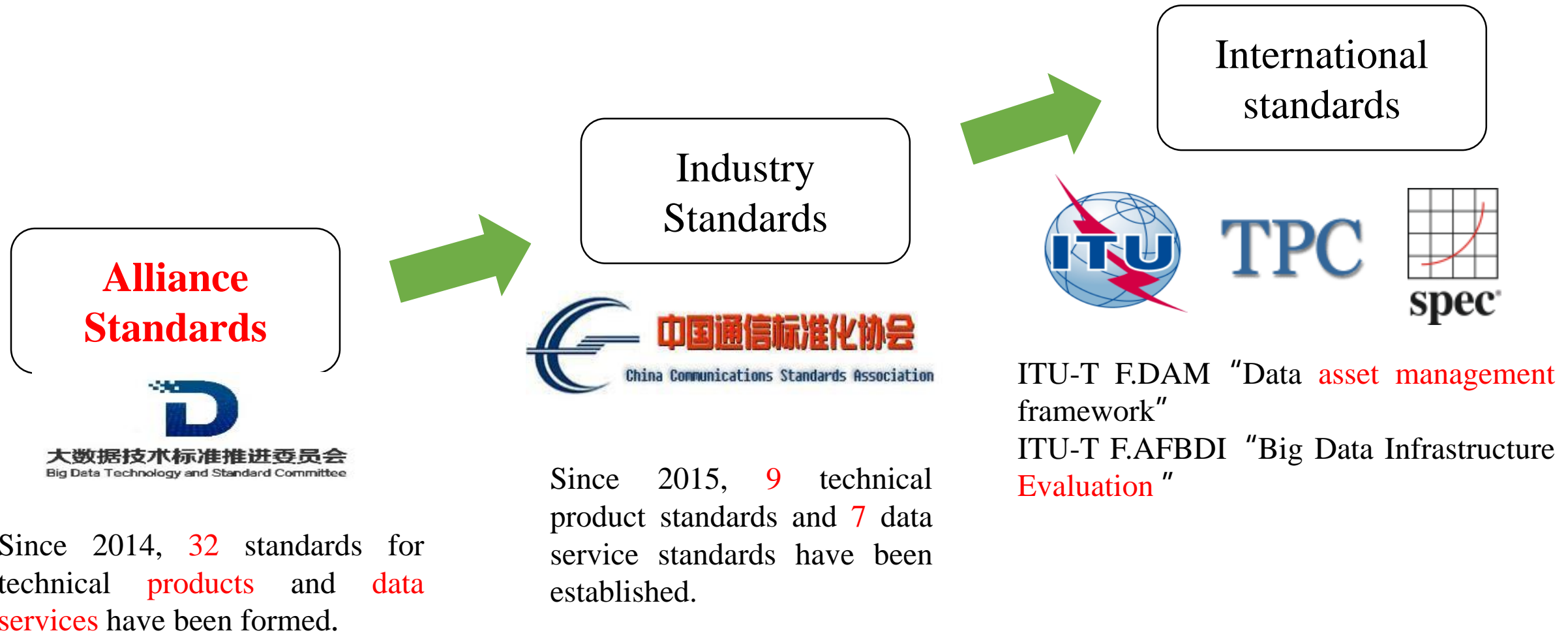


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- ✓ Intelligent Classification of **Smart Speakers**

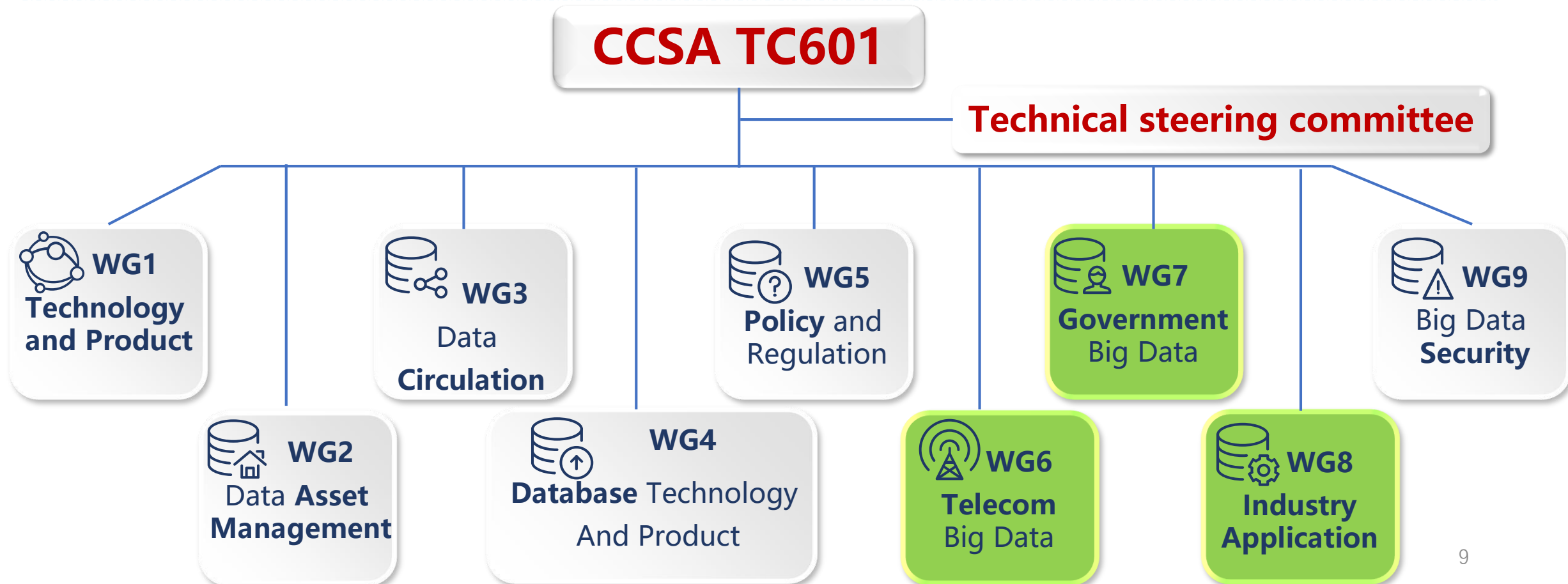
# Multi-level Promotion of **Big Data** Standards





# CAICT Leading the Establishment of Big Data Standards Organization in China

TC601 (The Big Data Standards Technology Promotion Committee) is a committee of the China Communications Standards Association (CCSA) to Study the Technology and Standards of Big Data. It has 9 Working Groups:



# Building Big Data Standard System

## Tool standards

- Hadoop Platform
- MPP Database
- Data Integration Tool
- Data Management Platform
- Data Mining Platform
- Business Intelligence (BI) Analysis Platform
- Distributed Database
- Time Series Database
- Stream Computing
- .....

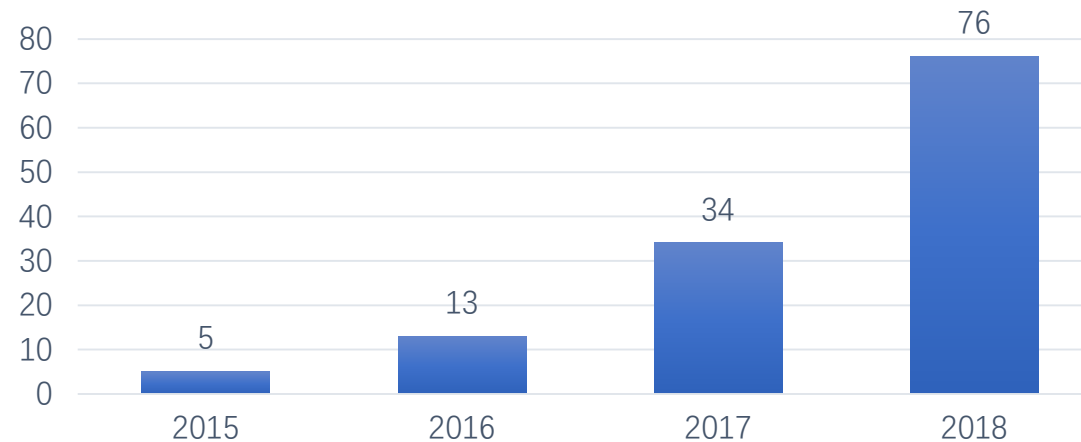
## Data service standards

- General Guidelines
- Credit Information Product Service
- Financial Risk Control Products
- Data Distribution Center

At present, **32** standards have been formed.

# Functional and Performance Test for Big Data Products

It has become an industry-widely recognized authoritative test, Push big data platforms from project services to productization.



Maximum performance test data size: 100TB

Maximum test cluster size: 10,000 nodes

# Blockchain Standardizations

## Alliance Standards

**Develop the first series of trusted blockchain standards in China :**

The 1st part : Blockchain technical **reference framework**

The 2nd part : General **requirements and evaluation Indicators**

The 3rd part : Functional **assessment method**

The 4th part : **Performance benchmark assessment method**

The 5th part : **BaaS assessment method**

The 6th part : **Blockchain security assessment method (including 4 sub-standards)**

## Industry Standards

**Two industry standards have been submitted for approval to CCSA :**

2017-0943T-YD Blockchain General Technical Requirements,

2017-0942T-YD Blockchain General Evaluation Indicators and Testing Methods

## International Standards

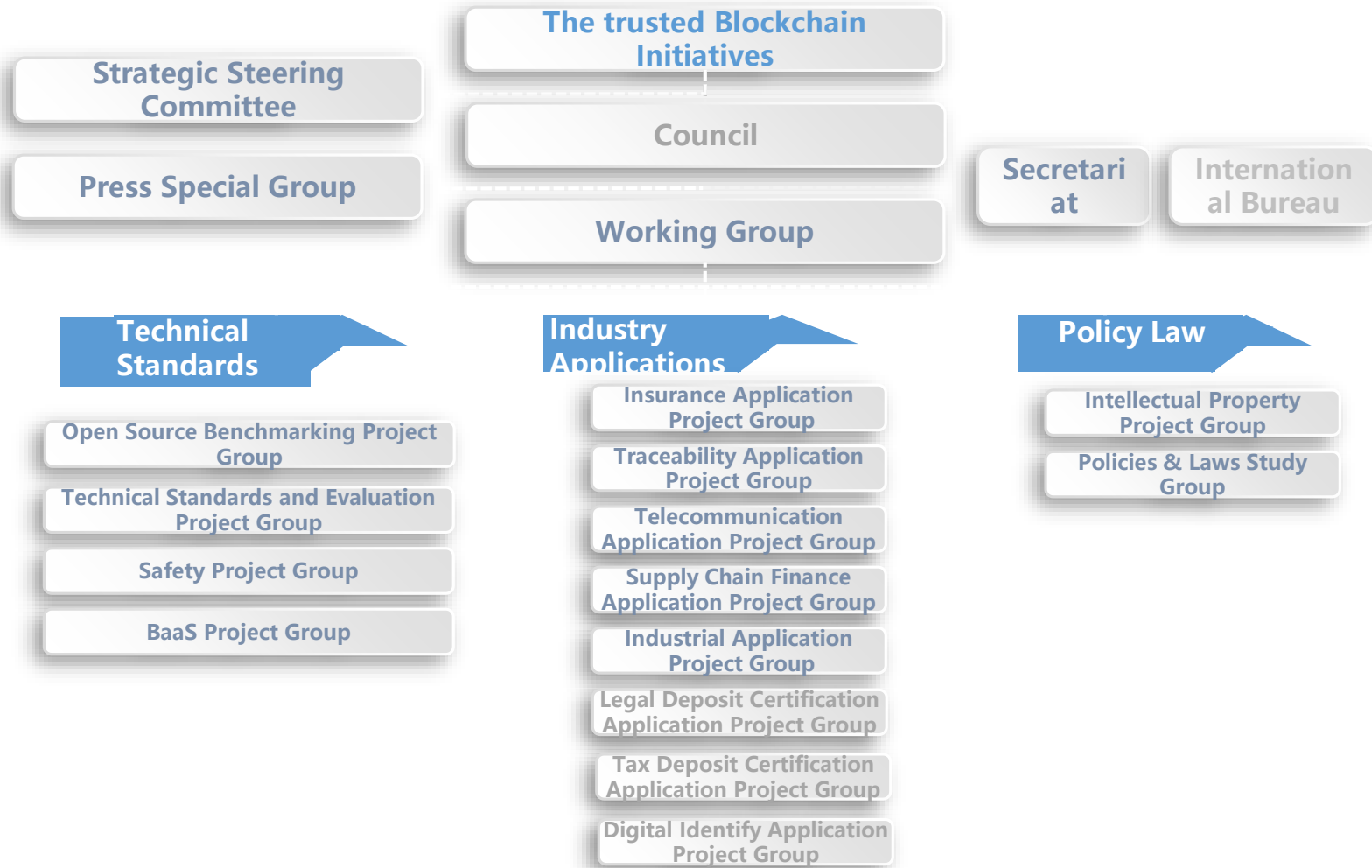
**ITU-T FG DLT Distributed ledger focus group and ITU-T SG16 research group**

Set up ITU-T SG16 Q.22: Distributed Ledger Technology and e-services

Two international standards have been established:

- ✓ F.DLT-AC Assessment criteria for distributed ledger technologies
- ✓ H.DLT Reference Framework for Distributed Ledger Technology

# The Trusted **Blockchain** Initiatives (TBI)



- ❑ **Trusted Blockchain Initiatives (TBI)** was established on April 9<sup>st</sup>, 2018.
- ❑ **267** Members including **CAICT**,
  - ✓ **BaiDu, Alibaba, Tencent, JD,**
  - ✓ **Microsoft, Intel, SAP,**
  - ✓ **China Mobile, China Telecom, China Unicom,**
  - ✓ **Huawei, ZTE,**
  - ✓ **Union Mobile Pay, BuBi,**
  - ✓ **Oracle, ChainNova**
  - ✓ **.....**



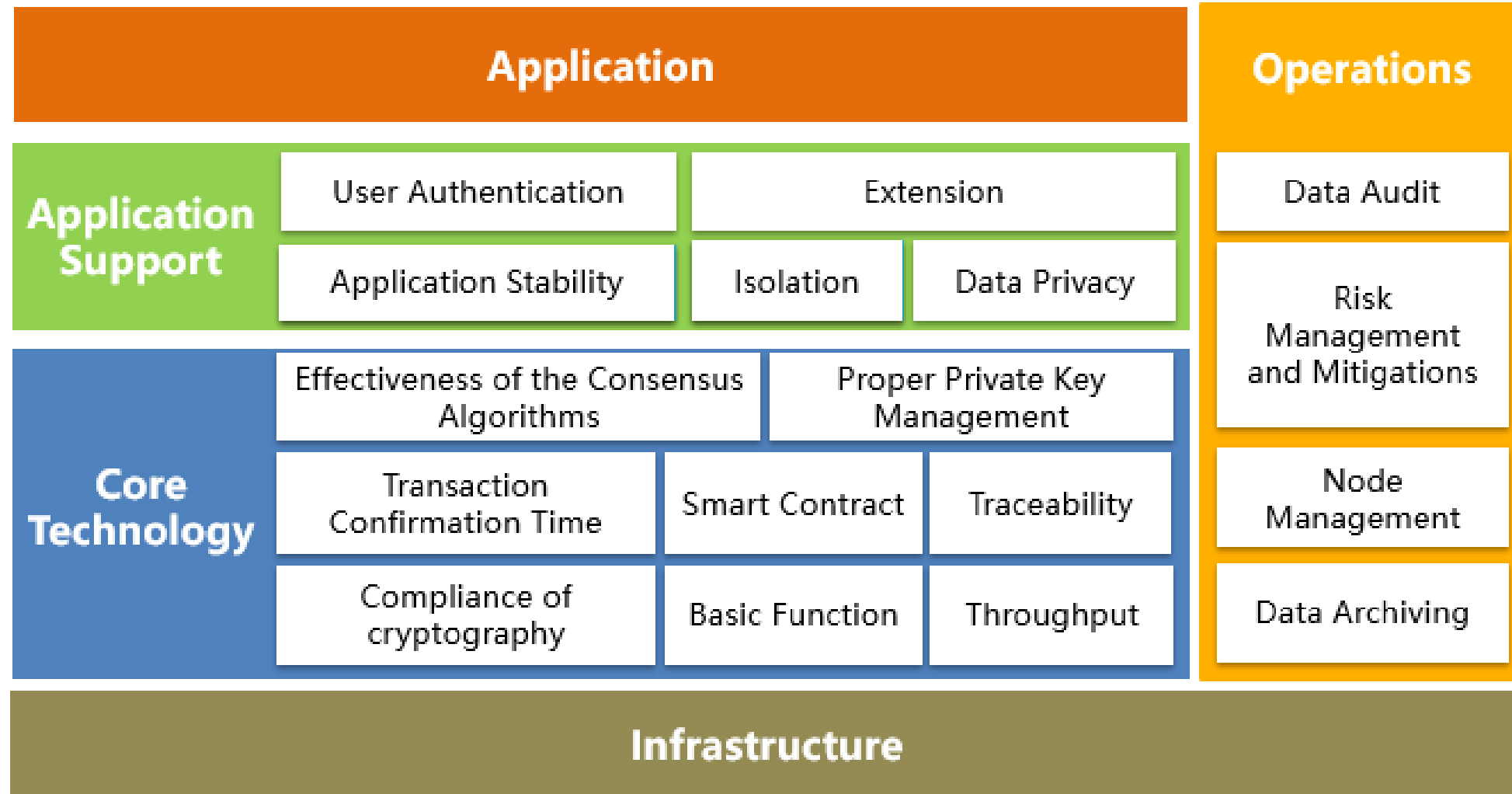
**HYPERLEDGER**



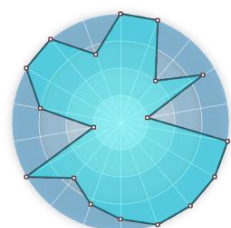
CONSENSYS



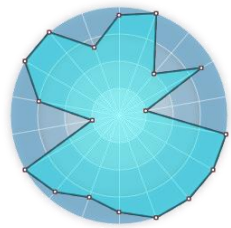
# Evaluation and Test Framework for DLT System



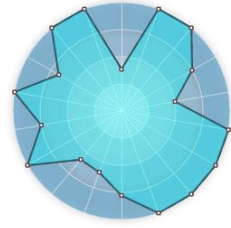
# Functional Testing results of 20 blockchain platforms



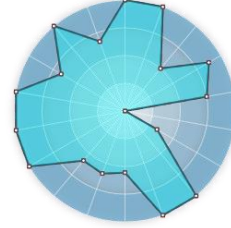
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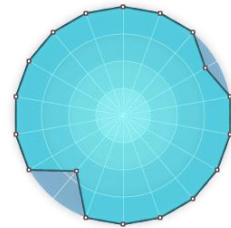
Baidu



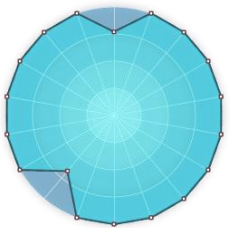
中证信用



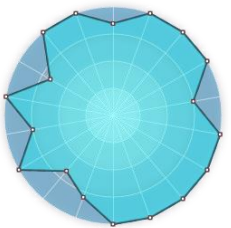
中兴华易



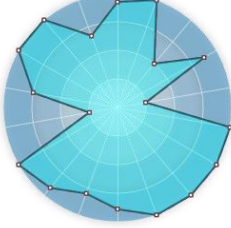
Tencent fit



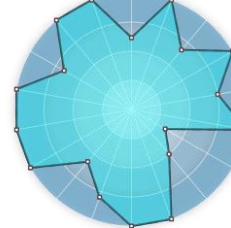
智链



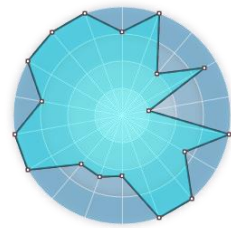
纸贵科技



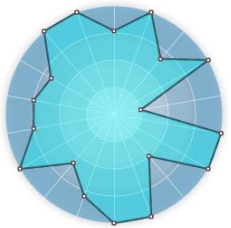
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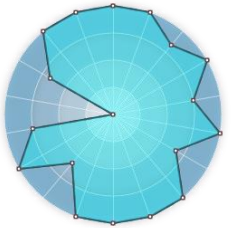
亿书



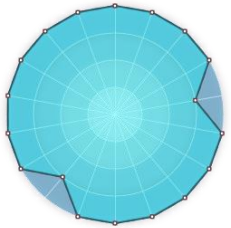
丹珠秘源



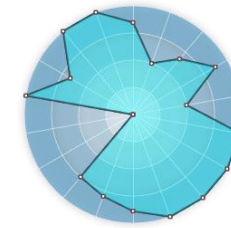
小犀智能



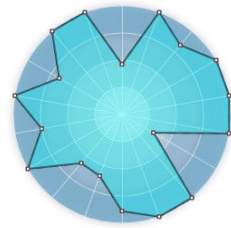
Tencent Cloud



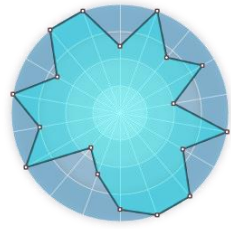
中链



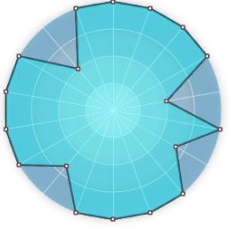
太一云



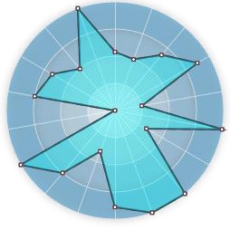
泛融



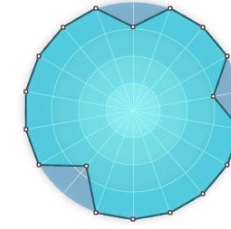
荣泽



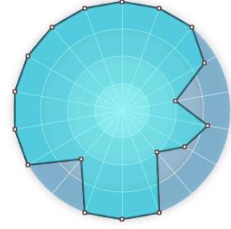
联动优势



金窝窝

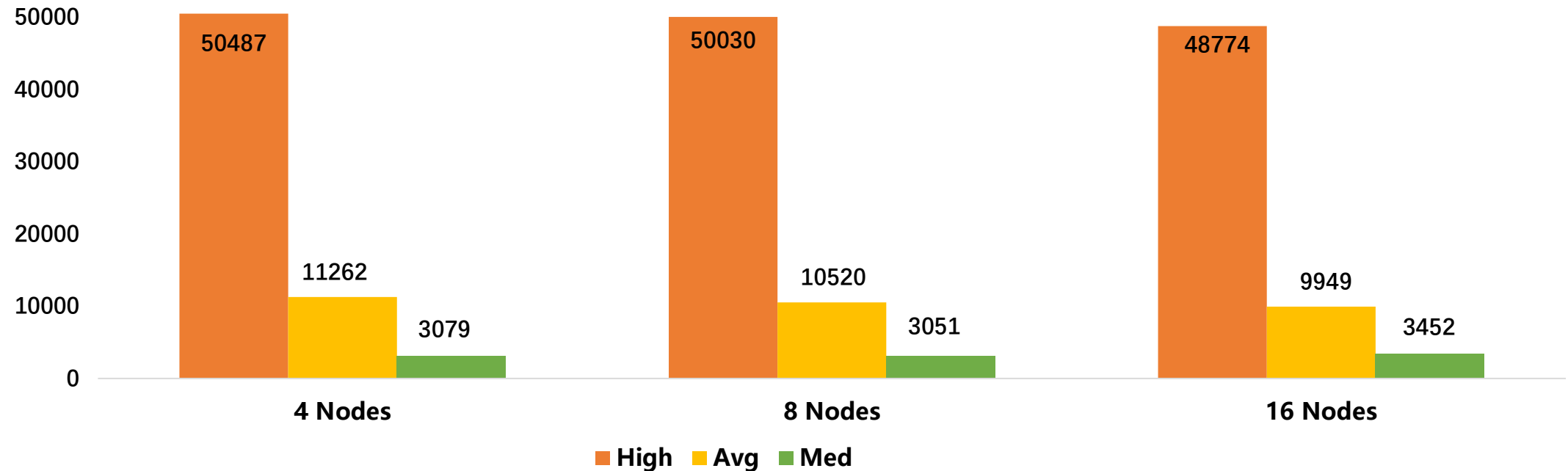


Huawei



分布科技

# Performance Testing Results of 7 Blockchain Platforms



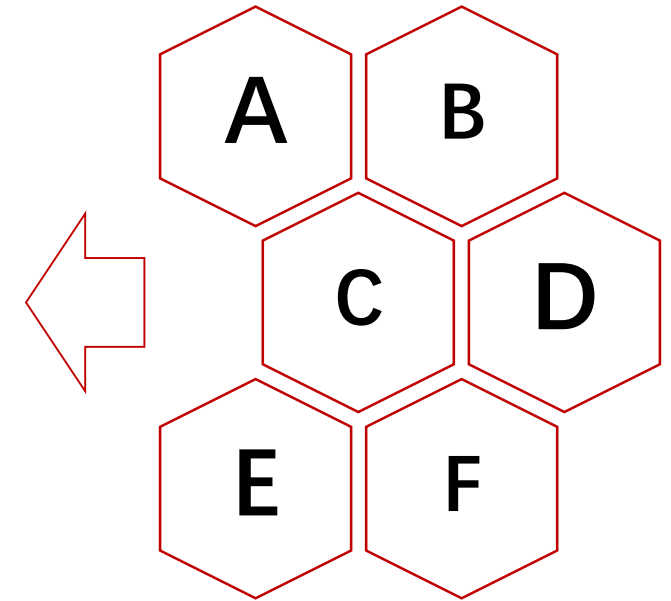
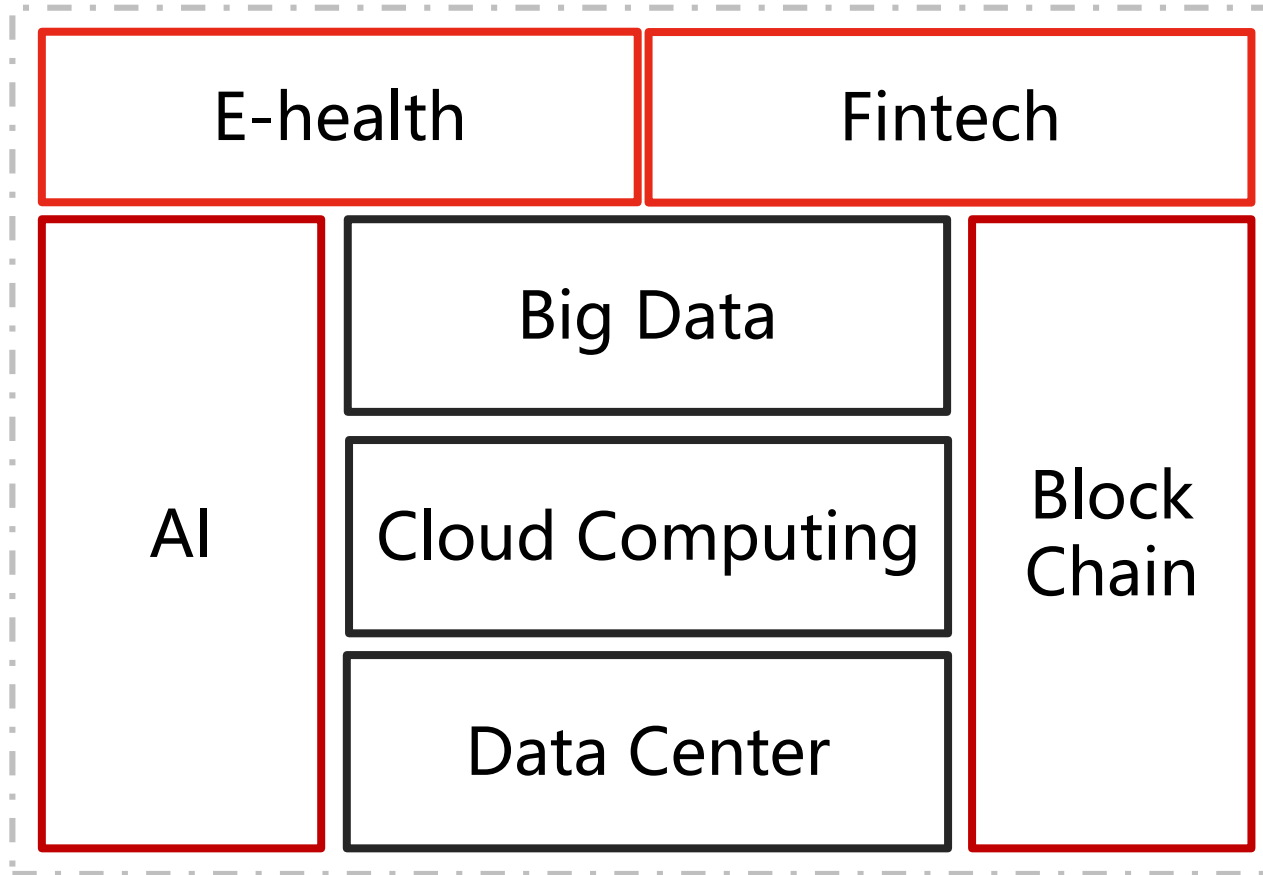
The First Public Testing for **Comercial** Blockchain Platforms on **Unified Hardware**  
Using **Standard Benchmark Tool (TrustedBench) !!**

# TBI International Cooperation





# Cooperation







**CAICT 云大所**

THANKS

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