

# **UA DAY 2024**

## **UPDATE OF UA PROGRESS IN CHINA:**

### **Technical Perspective**

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Universal Acceptance

# Progress of UA Measurement Standard in China

- To improve UA readiness and the whole application environment of IDN in China, the Chinese community is establishing the UA Measurement Standard.
- According to the actual experience for UA adoption work in last couple of years, the community decided to enlarge the measurement fields from browser/ EAI/ Search Engine to more broad perspective.
- The Measurement Standard now covers the following fields in 3 major categories:
  - **Software/Interface towards Internet users:** web browser, search engine, social media app& applet, instant messenger, SMS, e-mail client, blog/BBS/forum, input toolkit, etc.
  - **Online Services towards website developers:** authoritative DNS, cloud firewall, CDN service, Cloudflare WAF/DDOS attack defense service, SSL certificate, threat intelligence, online payment interface, etc.
  - **Hardware Devices towards website developers:** DDI equipment, load balancer hardware, hardware firewall, DNS hardware, etc.

## Web Browser



## Instant Message App



## SMS

## Search Engine



## e-mail Client



# Authoritative DNS

The screenshot shows a DNS management interface. At the top, there's a '全部域名' (All Domains) section with a '域名管理' (Domain Management) tab. Below it, there's a table with columns for '域名' (Domain), '状态' (Status), '记录数/数' (Record Count/Count), '添加日期' (Add Date), and '操作' (Action). One entry is visible: '中文.商标' with a green status dot, '是' (Yes) for record count, and '2023-11-27' for add date.

Below the domain list, there's a '云中心 > 记录管理' (Cloud Center > Record Management) section for '成都大运会.网址.' (Chengdu World Military Games Website). It has a '记录管理' (Record Management) tab. Below this, there's a table with columns for '主机名' (Host Name), 'TTL', '类型' (Type), '记录值' (Record Value), '智能线路' (Smart Line), '状态' (Status), and '操作' (Action). One record is shown: '@', '3600', 'CNAME', '8vi91kgm6n0ek7.gt1cdn.com', '默认' (Default), and '正常' (Normal).

# CDN Service

The screenshot shows a '域名配置' (Domain Configuration) interface. It has three radio buttons for '加速区域' (Acceleration Area): '中国境内' (China), '中国境外' (Overseas), and '全球' (Global). The '加速域名' (Acceleration Domain) field contains '中文.中文' and has a red box around it with a red arrow pointing to it. Below the field, there's a note: '非英文域名请转punycode后接入.' (Non-English domain names must be converted to punycode before access). There's an '添加' (Add) button and a dropdown for '加速类型' (Acceleration Type) with the text '请选择加速类型' (Please select acceleration type).

At the bottom, there's a note: 'CDN和ECDN分别适用于静态资源/动态资源加速。CDN和ECDN的计费方式及价格不同。详情可查看产品文档。' (CDN and ECDN are used for static/dynamic resource acceleration. Their billing methods and prices are different. For details, please refer to the product document.)

# Threat Intelligence

The screenshot shows a threat intelligence profile for '小度.中国' (xiaodu.com.cn) on a platform called '情报社区' (Intelligence Community). The profile includes a search icon, the domain name, and various statistics: 'Umbrella 100w+', 'Alexa 100w+', '备案历史次数' (Number of ICP filing history), '域名URL 1', '解析IP数 3', '注册时间 2010-11-30 11:16:09', '过期时间 2029-11-30 11:16:09', '域名所有者 南宁在线科技股份有限公司' (Nanning Online Technology Co., Ltd.), and '域名注册邮箱 baidu@nionsertrampedach.com'.

At the bottom, there's a note: 'XGPT目前处于beta测试阶段。数据内容由人工智能模型生成，请谨慎参考使用。我们会持续关注反馈并持续优化。' (XGPT is currently in the beta testing phase. The data content is generated by AI models, please refer to it with caution. We will continue to pay attention to feedback and optimize it.)

# Case of UA Problems

- The 2023 FISU World University Games Summer held in Chengdu used a Chinese domain name 成都大运会.网址
- They chose the cloud service of a well-known cloud vendor in China.
- However, since the vendor did not support Chinese domain name, they had to switch to another vendor.

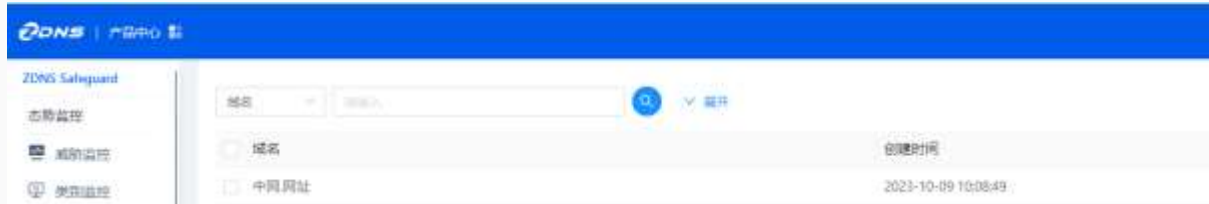




# UA Measurement Standard in discussion

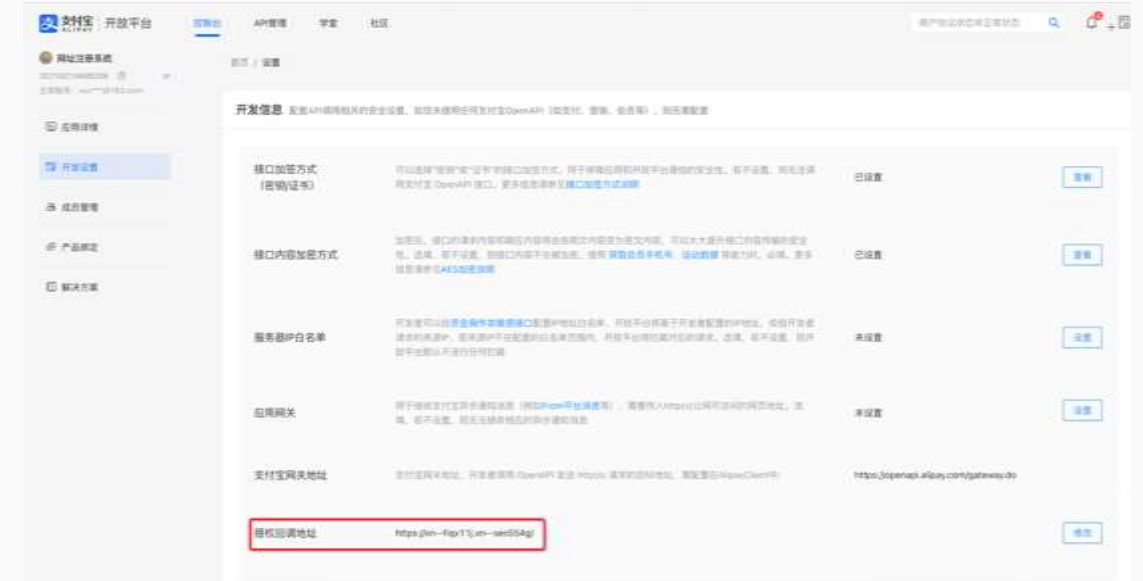
- Test whether valid Chinese domain names and Chinese email addresses can be resolved, recognized, retrieved, included and accurately displayed in various Internet applications, services, devices and systems.
- In the human-computer interaction process, for interfaces towards Internet users, the punycode form of domain name needs to be converted into recognized Chinese character forms; for interfaces that Internet users not directly face, such as the background configuration interface, Chinese domain names can be in the form of punycode, but it is recommended to present in Chinese at the same time.

# Detailed Examples



## Evaluation process - authoritative DNS

- (1) Add a Chinese domain name to the record and test whether it takes effect;
- (2) Record cname, mx, ns, 301, 302, etc. to the Chinese domain name and test whether they are effective;
- (3) If the device has a security interception function, test whether it takes effect on Chinese domain names.



## Evaluation process - online payment interface

- (1) Test whether the Callback URL setting in the online payment interface support a Chinese domain name;
- (2) Test whether the payment process can be completed after the URL change.

# Test Report on Chinese Domain Name Application (2023)



## Table of contents

- 01 Test Criteria
- 02 Browser
- 03 Search Engine
- 04 SNS
- 05 Short Video Platform
- 06 Online Shopping And e-Payment
- 07 Development Platform
- 08 E-mail
- 09 Mobile SMS Application
- 10 Input Method Application
- 11 Conclusion

## Test Result (2023)

Test date: April 10, 2023

测试域名	360 Browser			QQ Browser			Sogou Browser			支持率		
	Android	PC	MAC	iOS	MAC	PC	iOS	Android	PC		iOS	
1 蓝天救援.中国	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	92%	
2 注册局.网址	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	92%	
3 荣昌制药.公司	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	92%	
4 nic.商城	✓	✓	✓	✓	✗	✓	✓	✗	✗	✓	88%	
5 管理机构.商标	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	92%	
6 企业信息	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	92%	
7 注册局.手机	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	92%	
8 重庆工商.在线	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	92%	
9 管理机构.餐厅	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	92%	
10 管理机构.招聘	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	92%	
支持率	100%	100%	100%	100%	0%	100%	100%	0%	90%	100%	100%	92%

Desktop Browsers

## Test Result (2023)

Test date: April 10, 2023

测试域名	UC浏览器		华为	小米	OPPO	支持率
	Android	iOS	HarmonyOS	Android	Android	
1 蓝天救援.中国	✓	✓	✗	✓	✓	80%
2 注册局.网址	✓	✓	✗	✓	✓	80%
3 荣昌制药.公司	✓	✓	✗	✓	✓	80%
4 nic.商城	✓	✓	✗	✓	✓	80%
5 管理机构.商标	✓	✓	✗	✓	✓	80%
6 企业信息	✓	✓	✗	✓	✓	80%
7 注册局.手机	✓	✓	✗	✓	✓	80%
8 重庆工商.在线	✓	✓	✗	✓	✓	80%
9 管理机构.餐厅	✓	✓	✗	✓	✓	80%
10 管理机构.招聘	✓	✓	✗	✓	✓	80%
支持率	100%	100%	0%	100%	100%	80%

Mobile Browsers



# Conclusion & Outlook

- Under the leadership of the government and the coordination of the ISC, the Chinese community has established a comprehensive communication mechanism with Internet companies and hardware manufacturers in China. They will work together to solve UA issues.
- The Chinese community will conduct regular measurement tests following the UA Measurement Standard Chinese IDN and publish the results. CDNI is planning to publish a new test report in Q2 2024.
- The community believes the new measurement tests and results will be the thruster for UA improvement in China.