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IPV9人类共同的理想
IPv9 - The common ideal for human being

上海十进制网络信息科技有限公司
Shanghai Decimal System Network
Information Technology Ltd.
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IPV9目前和将来
Existing IPv9 and Future

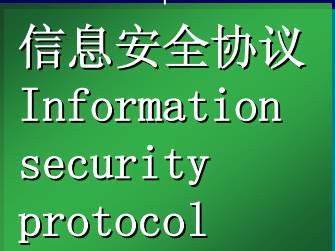- 目前中国在互联网上，除了IPV4、IPV6网络,还有一批以中国发明家和科学家为主，以市场方式推广的以IPV9协议和数字域名标准建设的十进制网络，己建成了一个世界上最大的可以供验证的工程系统。

- In China currently on the Internet in addition to IPv4 and IPv6 there are some of Chinese inventor and the scientist working with the marketing expansion of Decimal System Network which is based on Digital Domain Network System (DDNS) and the IPV9 protocol. Now the Biggest IPv9 working and verifying system in the world has been successfully set up in China.

IPV9目前和将来
Existing IPv9 and Future

- 目前正在建设一个可以商用化的系统。

- At present the new commercial IPv9 system is under construction.

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┌─────────────────────────────┐        ┌──────────────────────┐
│      十进制网络              │───────▶│   国际互联网         │
│ Decimal System Network      │◀───────│   Internet           │
└─────────────────────────────┘        └──────────────────────┘
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┌──────────────────────┐                    ┌──────────────────────────────────────┐
│   IPv9协议           │                    │        数字域名                       │
│   IPv9 Protocol      │                    │  Domain Network System (DDNS)         │
└──────────────────────┘                    └──────────────────────────────────────┘
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IPv9/(V6/V4) 地址资源 **IP resource**	信息安全协议 Information security protocol	IP电话 IP phone	电子标签 RFID	4G手机 4G Mobile	信息终端/网站 PC/Web site	IPTV
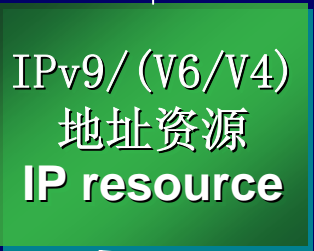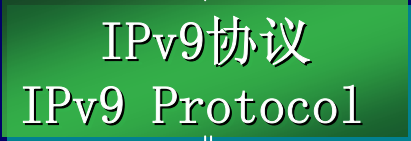
IPV9地址、IPV9/IPV4地址、数字域名、E164号码域名、法定全称域名、通用网址、电子标签域名、二维条码域名、CHINA域名 IPv9 address, IPv9/IPv4 address, DDNS, E164 Domain name, Legal Reg. name, Universal Web, RFID domain name, 2-Dimension bar code domain name, .china domain name

IPV9的由来、现状及发展
IPv9 history Existing and Future

- 互联网工程任务组**IETF 1994**年**4**月**1**日发布了**RFC1606**和**RFC1607**二篇协议。 **RFC1606**阐述了**IPV9**一些成功之处和因地址耗尽而失败。而**RFC1607**则展望了**21**世纪的网络建议在**21**世纪采用**1024**比特的地址长度。由于是在四月一日发布所以有人称这二个协议为愚人节的一个善意或恶意的玩笑。

- IETF published RFC1606 and RFC1607 files on Apr.1st of 1994. The RFC1606 elaborated some success of IPv9 and finally failed because of the address exhausting. The RFC1607 is a view for 21st century and suggested to use 1024 bit IP address.

- Due to the published day was April Fools' Day，so some of people call these 2 files as a well-meaning or vicious joke.

IPV9的成功----42层路由
The success of IPv9 - 42 layer routing

- **RFC1606**阐述**IPv9**的深达**42**层的路由层次是他得到广泛应用的关键特性。但是**40-42**层还没有发现需求，虽然当需要的时候，**39**层被用为器件的原子结构的试验用途。可以为小至每个原子结构分配地址。

- The RFC1606: The up to 42 deep hierarchy of routing levels built into IPv9 must have been one of the key features for its wide deployment. As yet, no requirement has been found for levels 40-42, with level 39 still being used for experimental interrogation of atomic structure of components where required.

IPV9的成功----42层路由
The success of IPv9 - 42 layer routing

■ 中国科学家和发明家解决了IPV9协议42层路由架构，并找到了40-42层的用途，同时可以兼容现有的IPV4/IPV6的路由架构。

■ Chinese inventor and the scientist fond the purpose of 42 hierarchy of routing levels and structure of IPv9 that is compatible with existing routing structure of IPv4／IPv6。

IPv9地址格式前缀的原始分配表

	地址类型	格式前缀（二进制码）	占地址空间的比例		地址类型	格式前缀（二进制码）	占地址空间的比例
1	保留地址	0000 0000 00	1/1024	22	地理区域单播地址	101	1/8
2	未分配地址	0000 0000 01	1/1024	23	未分配地址段	1100	1/16
3	IPv9十进制网络工作组	0000 0000 1	1/512	24	未分配地址段	1101	1/16
4	IPX保留地址	0000 0001 0	1/512	25	未分配地址段	1110 0	1/32
5	未分配地址段	0000 0001 1	1/512	26	未分配地址段	1110 10	1/64
6	未分配地址段	0000 0010	1/256	27	未分配地址段	1110 11	1/64
7	未分配地址段	0000 0011	1/256	28	未分配地址段	1111 00	1/64
8	未分配地址段	0000 0100	1/256	29	未分配地址段	1111 010	1/128
9	未分配地址段	0000 0101	1/256	30	未分配地址段	1111 011	1/128
10	未分配地址段	0000 011	1/128	31	未分配地址段	1111 100	1/128
11	未分配地址段	0000 10	1/64	32	未分配地址段	1111 1010	1/256
12	未分配地址段	0000 11	1/64	33	未分配地址段	1111 1011	1/256
13	未分配地址段	0001 0	1/32	34	未分配地址段	1111 1100	1/256
14	未分配地址段	0001 1	1/32	35	未分配地址段	1111 1101	1/256
15	未分配地址段	0010 0	1/32	36	未分配地址段	1111 1110	1/256
16	未分配地址段	0010 1	1/32	37	未分配地址段	1111 1111 0	1/512
17	未分配地址段	0011	1/16	38	未分配地址段	1111 1111 100	1/2048
18	可聚合全局单目地址	0100	1/16	39	本地链路单目地址	1111 1111 1010	1/4096
19	未分配地址段	0101	1/16	40	站内单目地址	1111 1111 1011	1/4096
20	未分配地址段	011	1/8	41	多目地址	1111 1111 11	1/1024
21	地理区域单播地址	100	1/8	42	全十进制地址	0	$0\text{-}10^{256}$

IPV9的成功----地址
The success of IPv9 - Address

- RFC1606阐述:IPv9协议的大量的号码空间也使得分配地址可以用一种直接的方式。从而可以不用解析系统简化了网络结构。

- RFC1606: The vast number space of the IPv9 protocol has also allowed allocation to be done in a straight forward manner.

- So we shall not use DNS and the network structure will be more simple.

IPV9的成功----地址
The success of IPv9 - Address

- RFC1606阐述:可以给每个房屋提供10亿个地址。

- RFC1606: Typically, most high street commercial internet providers issue a range of 1 billion addresses to each house.

IPV9的成功----地址
The success of IPv9 - Address

- 可以为宇宙空间分配地址，因为随着技术的发展，其他星系智能生命的发现以及超光速传送栈的同时发现是需要IPV9主要的原因。

- RFC1606:The discovery of intelligent life on other solar systems with the parallel discovery of a faster-than- light transport stack is the main cause.

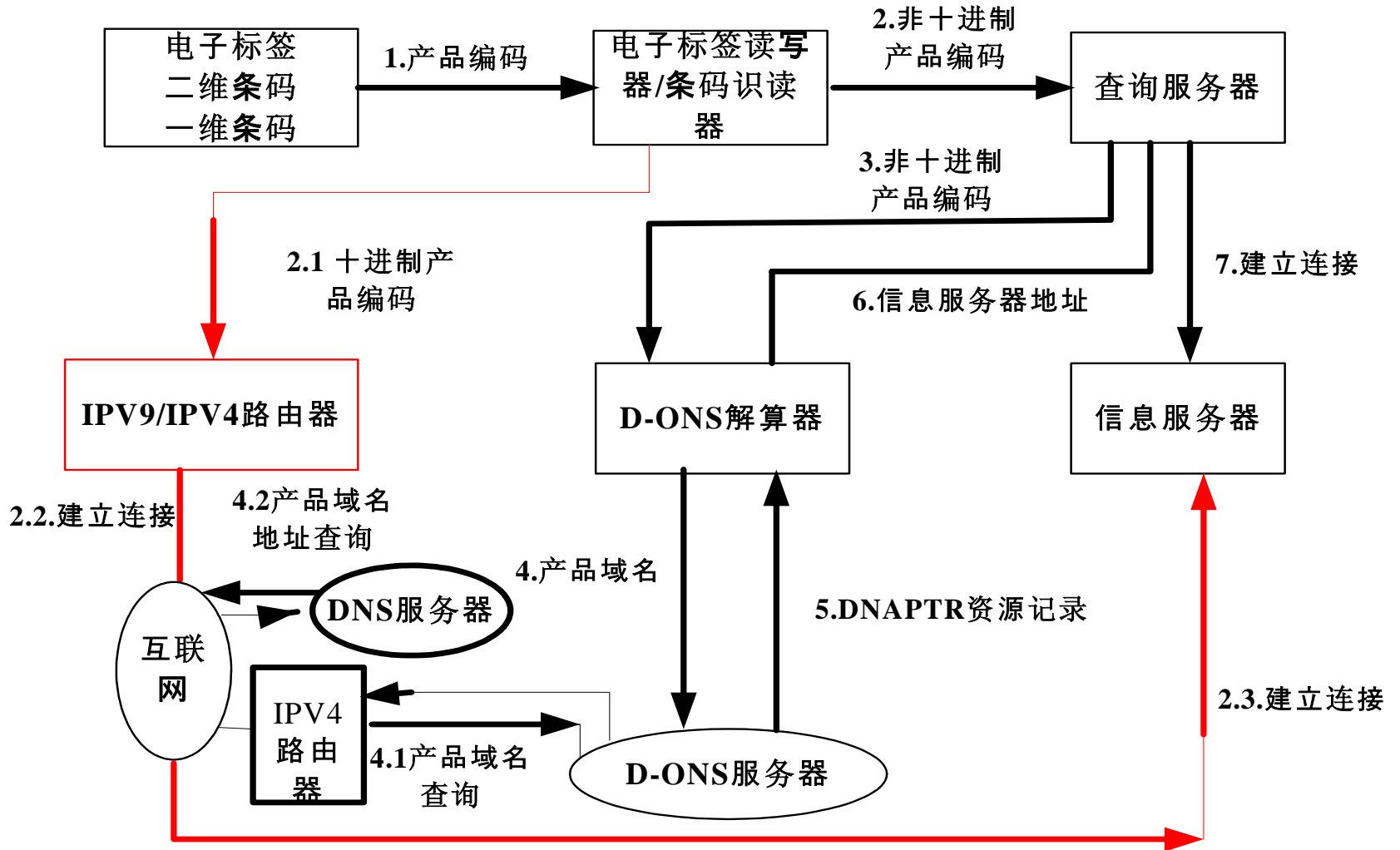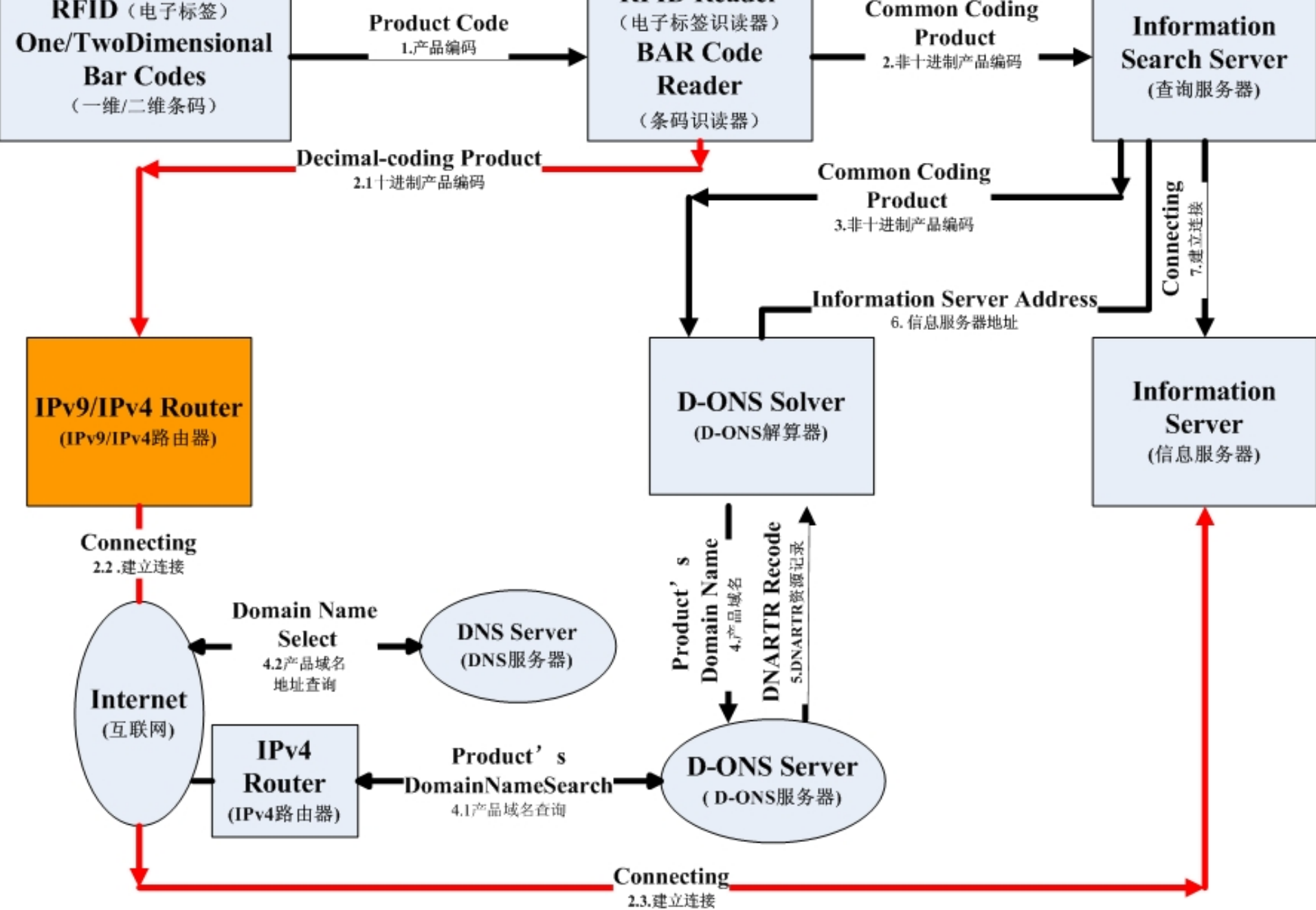- It can be distributed IP address to Universe Space.

IPV9的成功----地址
The success of IPv9 - Address

- 中国科学家和发明家解决了IPV9地址可以直接路由的方式。
- Chinese inventor and the scientist fond and solved the way that IPv9 address can be directly routed.

电子标签采用二种协议信息查询过程比较
红色部分为IPV9协议

电子标签 二维**条码** 一维**条码**	1.产品编码 →	电子标签读**写** **器/条码**识读 器	2.非十进制 产品编码 →	查询服务器

2.1 十进制产品编码

**3.非十进制
产品编码**

7.建立连接

6.信息服务器地址

IPV9/IPV4路由器

D-ONS解算器

信息服务器

2.2.建立连接

**4.2产品域名
地址查询**

4.产品域名

DNS服务器

5.DNAPTR资源记录

2.3.建立连接

互联
网

IPV4
路由
器

**4.1产品域名
查询**

D-ONS服务器

RFID（电子标签）
One/TwoDimensional Bar Codes
（一维/二维条码）

Product Code
1.产品编码

RFID Reader
（电子标签识读器）
BAR Code Reader
（条码识读器）

Common Coding Product
2.非十进制产品编码

Information Search Server
(查询服务器)

Decimal-coding Product
2.1十进制产品编码

Common Coding Product
3.非十进制产品编码

Connecting
7.建立连接

IPv9/IPv4 Router
(IPv9/IPv4路由器)

Information Server Address
6. 信息服务器地址

D-ONS Solver
(D-ONS解算器)

Information Server
(信息服务器)

Connecting
2.2.建立连接

Domain Name Select
4.2产品域名地址查询

DNS Server
(DNS服务器)

Product's Domain Name
4.产品域名

DNARTR Recode
5.DNARTR资源记录

Internet
(互联网)

IPv4 Router
(IPv4路由器)

Product's DomainNameSearch
4.1产品域名查询

D-ONS Server
(D-ONS服务器)

Connecting
2.3.建立连接

三种协议技术方案比较：

采用协议

	IPV6	IPV4	IPV9

IP地址：

[FF:FF:FF:EC:9:6 B:4A:FF:FF:]   202.78.102.211   6901234567890

域名   www.6901234567890.epc.org   www.6901234567890.epc.org   6901234567890

4G编码   6901234567890   6901234567890   6901234567890

电子标签编码 FABC123 AFABCD   FABC123 AFABCD   6901234567890

IPV9的成功----市场应用
The success of IPv9 – Marking Application

- RFC1606:IPV9可以为纳米级的身体监视器的分配地址，作为IPv9可以取址的单元注入到血液流中，同时，在心脏，肾脏，大脑，等等中可以植入纳米机器人设备，在紧急情况下发送SNMPv9捕捉消息，这已经是医生的一个有用的监视工具。

- RFC1606:The introduction of body monitors as IPv9 addressable units injected into the blood stream has been rated as inconclusive. Whilst being able to have devices lodged in the heart, kidneys, brain, etc., sending out SNMPv9 trap messages at critical events has been a useful monitoring tool for doctors

IPV9的成功----市场应用
The success of IPv9 – Marking Application

- RFC1606阐述:IPv9地址用于商品包装的使用是讨论的热点。
- RFC1606：The usage of IPv9 addressable consumer packaging has been a topic of hot debate.
- 行销人视他为神赐之物，它能够反馈商品到底是如何使用和回收的。
- The marketing people see it as a godsend, being able to get feedback on how products are actually used.

IPV9的成功----市场应用
The success of IPv9 – Marking Application

- RFC1606阐述:采用基因技术让病毒按指令建造纳米技术的IPv9协议机(生物基因)。

- Few people would have foresee the advance in genetic manipulation that allowed viruses to be instructed to build nanotechnology IPv9 protocol machines by the billion for the price or a grain of sugar. Or similarly, the nano-robots that could insert and wire these in place.

IPV9的成功----市场应用
The success of IPv9 – Marking Application

- 中国科学家和发明家解决了将IPV9协议用于物品和商品的编码，从而实现了RFC1606的构想。

- Chinese inventor and the scientist fond and solved the way that IPv9 protocol can be used for the coding. Therefore the assumer of RFC1606 comes true.

IPv9实现的代价
The cost of IPv9

- RFC1606:当然，制造代价是设计IPv9时没有考虑的一个问题。
- RFC1606:The cost is one of the issues that was not considered when IPv9 was designed

IPv9实现的代价
The cost of IPv9

- 用IPV9协议制造的纳米机器人及最新的研究成果夸克-夸克转换器了采用IPV9地址，可以让原子当开关使用。制造这些东西非常昂贵（可能10倍于IPV9协议栈）。

- The recent research in quark-quark transistors, shows some promise and may allow specially built atoms to be used as switches. The manufacture of these will be so expensive (maybe up to 10cent an IPv9 stack)

IPv9的失败与成功
The success and fail of IPv9

- RFC1606阐述:IPV9再一次因为地址耗尽，IP版本9协议走向了有用生命的尽头。

- RFC1606:As the IP version 9 protocol comes to the end of its useful life, once again due to address space exhaustion.

IPv9的失败与成功
The success and fail of IPv9

- 但中国科学家和发明家采用RFC1607中的1024比特地址长度，采用定长不定位及定位不定长的方法，解决了IPV9地址不够及地址太长消耗资源的难题。

- Chinese inventor and the scientist fond the way using 1024 bits address which is suggested in RFC 1607 and can be reduced with fixed same space or no-fixed space to solved IPv9 address shorting and big cost due to address space too long.

- (RFC1607:I wonder why they didn't have enough sense just to allocate at least 1024 bits to make sure we'd have enough room for the obvious applications we can see we want, now?)

IPv9的失败与成功
The success and fail of IPv9

- 中国科学家和发明家解决了,低成本高质量实现了IPV9协议的技术难题。从而为IPV9打开了应门之门。实现了人类共同的梦想。

- Chinese inventor and the scientist fond and solved the difficult problem of IPv9 protocol. Therefore IPv9 application gate has been opened. The dream of human been comes true.

中国IPV9试验规模
IPv9 Testing Size

- ● 十进制网络从提出到今天已走过了近十个年头，在上海建成了数字域名根解析中心，并分别在北京、长沙澳门等地建立了分中心，运转正常。

- Up to now The Decimal System Network has been published almost for 10 yeas. We have built Digital Root Domain Server center in Shanghai, and also some sub-center in Beijing, Changsha and Marco. All of them are operating properly.

中国IPV9试验规模
IPv9 Testing Size

- 在上海的**IPV9**综合信息试验网运行6年，稳定可靠。

- IPv9 integrated information services testing network has been operated for more than 6 yeas and is stabile and reliable.

中国IPV9试验规模
IPv9 Testing Size

- 中国澳门采用IPV9技术建成的新亚太信息中心, 已运行**3**年。

- Marco New Asia Pacific Information Center which is using IPv9 has been built and operated for 3 years.

中国IPV9试验规模
IPv9 Testing Size

- 建成了**IPV9**中国华中地区长沙节点正在试运行
- The Central China IPv9 Node has been built and is doing test operation.

中国IPV9试验规模
IPv9 Testing Size

- 北京网通十进制网络基础系统正在开通。
- The Decimal System Network that is located in China Netcom Company Ltd. Beijing branch now is operating.

IPV9试验的结果
Conclusion of IPv9 testing

● 中国设计的IPV9协议框架是可行的和可实现的, IPV9的专利等知识产权是有效。

● IPv9 protocol designed by China is feasible and comes true. IPv9 patent and intellectual property is availability.

● 完全能兼容现有网络，对应用透明

● IPv9 can fully compatible with present IPv4 and is transparent for application.

IPV9试验的结果
Conclusion of IPv9 testing

- ● 由于引入了地理概念，充分体现了国家成员体对虚拟国家成员体主权概念

- ● Due to introducing of the geography and Country conception IPv9 incarnates dominion in dummy world for Country member.

- ●从已实施的工程的正常运行，体现了IPV9具有经济、实用、安全、可靠优点。

- Based on the smoothly operation for present project IPv9 has some advantages such as economy, practicality，security and reliability.

IPV9技术的开放性
The Opening of IPv9 technology

● 下一代网络包括电信、电视、互联网融合是全人类信息共享的共同目标，不是某个国家的事，也不因由某个国家主宰。为此我们的IPV9技术是向全人类开放的，多元化的。

■ The next generation of network will combine the telecom, TV and internet together for all mankind and shall not controlled by one country. So our IPv9 technology will open for mankind.

IPV9技术的开放性
The Opening of IPv9 technology

- ● 我们愿意在平等、互惠、互利中和各国合作，共同建设管理好IPV9及十进制网络
- ● We are willing to cooperate with all countries based on equal opportunity and mutual benefit to build and manager IPv9 and The Decimal System Network.

IPV9技术的开放性
The Opening of IPv9 technology

● 愿意和各国共享IPV9及十进制网络的技术成果和法律框架, 包含知识产权

● We are willing to share our outcome with all countries including Intellectual Property under the law .

共同探讨与合作
Joint Discussing and Corporation

● 可建立和我国政府（商务部、信产部、中国知识产权局）协调下的民间协作机制。

● It can be established nongovernmental collaboration which is under the coordination between The Commission and China government (MOFCOM，Ministry of Information Industry，State Intellectual Property Office of the P.R.C ）
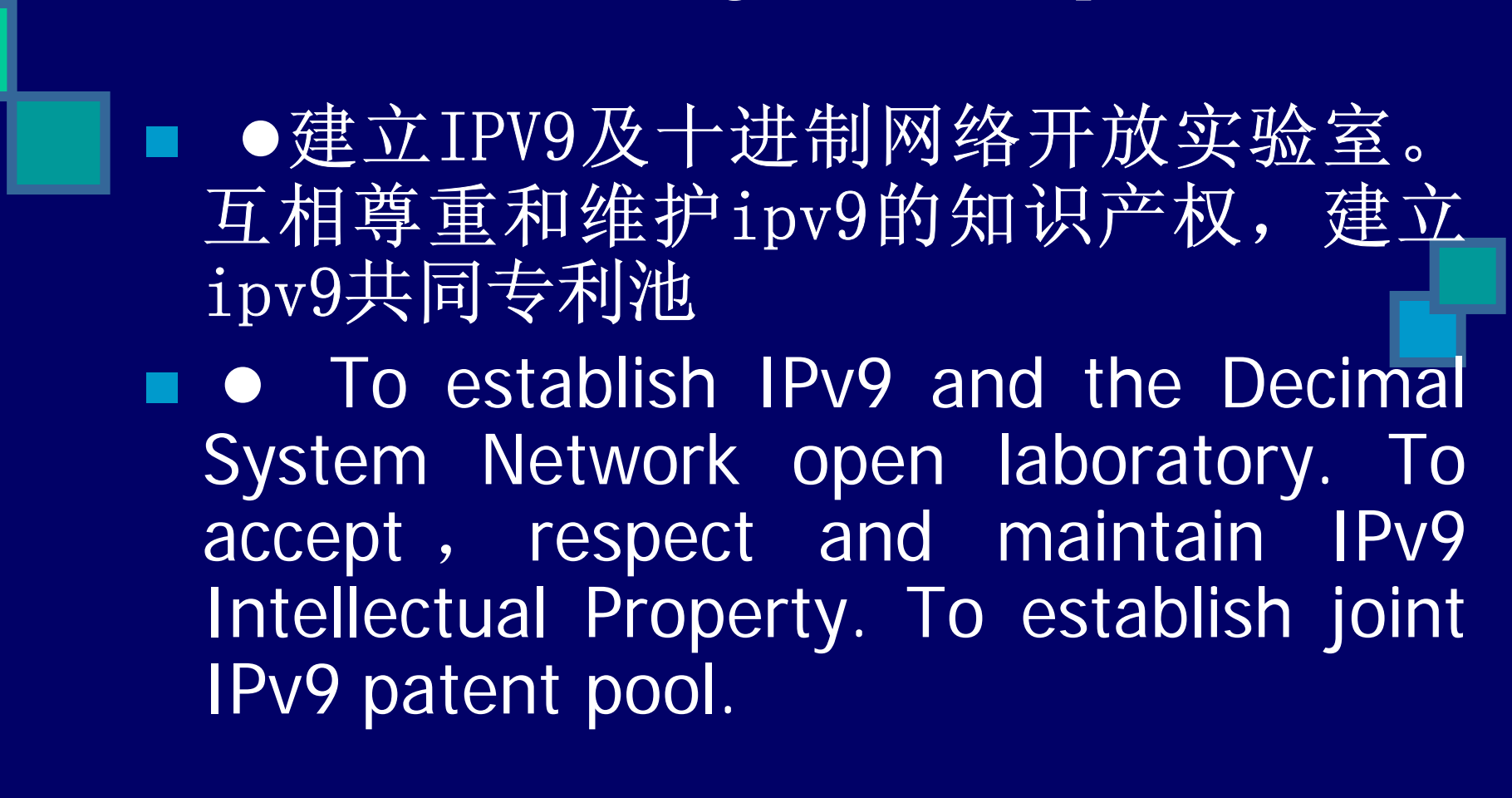
共同探讨与合作
Joint Discussing and Corporation

- ● 欢迎技术人员、学者来华考察、了解 IPV9及十进制网络,进行对IPV9及十进制网络的标准及产业化的研究及合作。

- ● Welcome scientist and technical people to China to understand and research for IPV9 and the Decimal System Network standard and industrialization。

共同探讨与合作
Joint Discussing and Corporation

- ●建立IPV9及十进制网络开放实验室。互相尊重和维护ipv9的知识产权，建立ipv9共同专利池

- ● To establish IPv9 and the Decimal System Network open laboratory. To accept，respect and maintain IPv9 Intellectual Property. To establish joint IPv9 patent pool.

共同探讨与合作
Joint Discussing and Corporation

- ● 成立十进制网络技术论坛, 交流和开发 ipv9和数字域名在太空的应用及电子标签与商联网的应用。

- ● To found IPv9 and the Decimal System Network forum. To change and develop IPv9 and "Digital Domain Name" application on the space, RFID and DPC (DDNS product code) application