



# Background of Golden Shield Project

# Subject

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- Recent Development
- Three Issues
- Four Hot Spots
- Three Case Studies

# E-Government “Fifteen” Project

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- 1. Government's Intranet and Extranet
- 2. Key Service Systems
- 3. Important Government Information Resource
- 4. Public Services
- 5. Network and Information Security Systems
- 6. Standardized System
- 7. Training and Evaluation on Information Systems for Civil Servants
- 8. Legal System Building up

# E-Police— Six Major Tasks of Golden Shield Project

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- 1. Foundation Facilities of Communication and Communication Network for the Public Security
- 2. Application Systems for the Public Security (Including Information Resource )
- 3. Network and Information Security Systems for the Public Security
- 4. Management of the Public Security's Information Operation (Including Training and Evaluation)
- 5. Standardization for the Public Security's Information Systems (Including Rules and Regulations)
- 6. Security and Monitoring Center for the Public Security's National Information Network

To enable mobile polices on duty to access the information systems anywhere and anytime

# Golden Shield Project: Application is the Soul, Network is the Foundation

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1. Push for “Application” and “Benefit”
  2. Put the Grass-roots Foundation Work First
  3. Persist in innovation
- Actual service combat: Push for application and benefit
  - Start from where benefits can be achieved

# Recent Development

- **Golden Shield Project:**

Ministry of Public Security to lead, Ministry of Justice, Supreme Procuratorate and Supreme Court of Justice to participate

- **The Foundation of Information System on Population:**

Ministry of Public Security to lead, Bureau of Statistics, and Family Planning Commission to participate

(Meeting minutes of the Dept. of E-government construction, LIU He 829 speech)

- **Public Service:** Handling of immigration document, passports, migration accounts, police's public service, and society interlock system

- Society interlock system: Public Security, Fire prevention, First Aid, Traffic police, Public Services (Water, Gas and Electricity), Civil defense and other government departments are all integrated into an unified Command scheduling system

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# Issue 1: The 2<sup>nd</sup> Level Network Will Become the Bottleneck

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- The 1<sup>st</sup> -level Network: 4M to 155M, 622M
- **The 2<sup>nd</sup>-level Network: 2-6M** Beijing, Shanghai 1000M
- The 3<sup>rd</sup>-level Network: n\*64K Hangzhou, Taizhou, Guangzhou, Nanhai, Dalian, Zhengzhou, Jinan... 1000M
- Access Network: n\*64K Beijing, Shanghai 1000M
  
- The Current 2<sup>nd</sup>-level Network is Star topology, no backup
- 70% of the criminal groups commit crimes at different places and multiple places, that generates a high demand on cross districts inquiries and information retrieval.
- One makes more inquiries/access to higher level database (DB) than to the database at the same level
- Local DB---higher level DB---other city and county or higher level DB

# The 2nd-level Network: Optimization and Upgrading

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- Optimization: To adopt QoS to guarantee the key services; to adopt ACL to restrict network traffic; Border defense, Fire prevention, Profession public security are only allowed to access the public security network at the same level; Reducing routing table
- Upgrading: 155M POS; Star + Ring

## Issue 2: Slow Progress on Mobile Police Service

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Mobile Police Service is a natural choice:

350M analog colony: small capacity, limited coverage, too many product models, various signaling and dial-up mode, 9.6K

CDPD: 19.2K, actual transmission speed is about 10k

Digital colony TETRA: the cost is high, 7.2 K, pure speed 3K

1. Every inquiry takes one channel, lack of channels with large scale spontaneous usage
2. Problem of Base Station coverage
3. Speed problem

# Cisco Mobile Police Service Solution:

## Take vehicles as the core

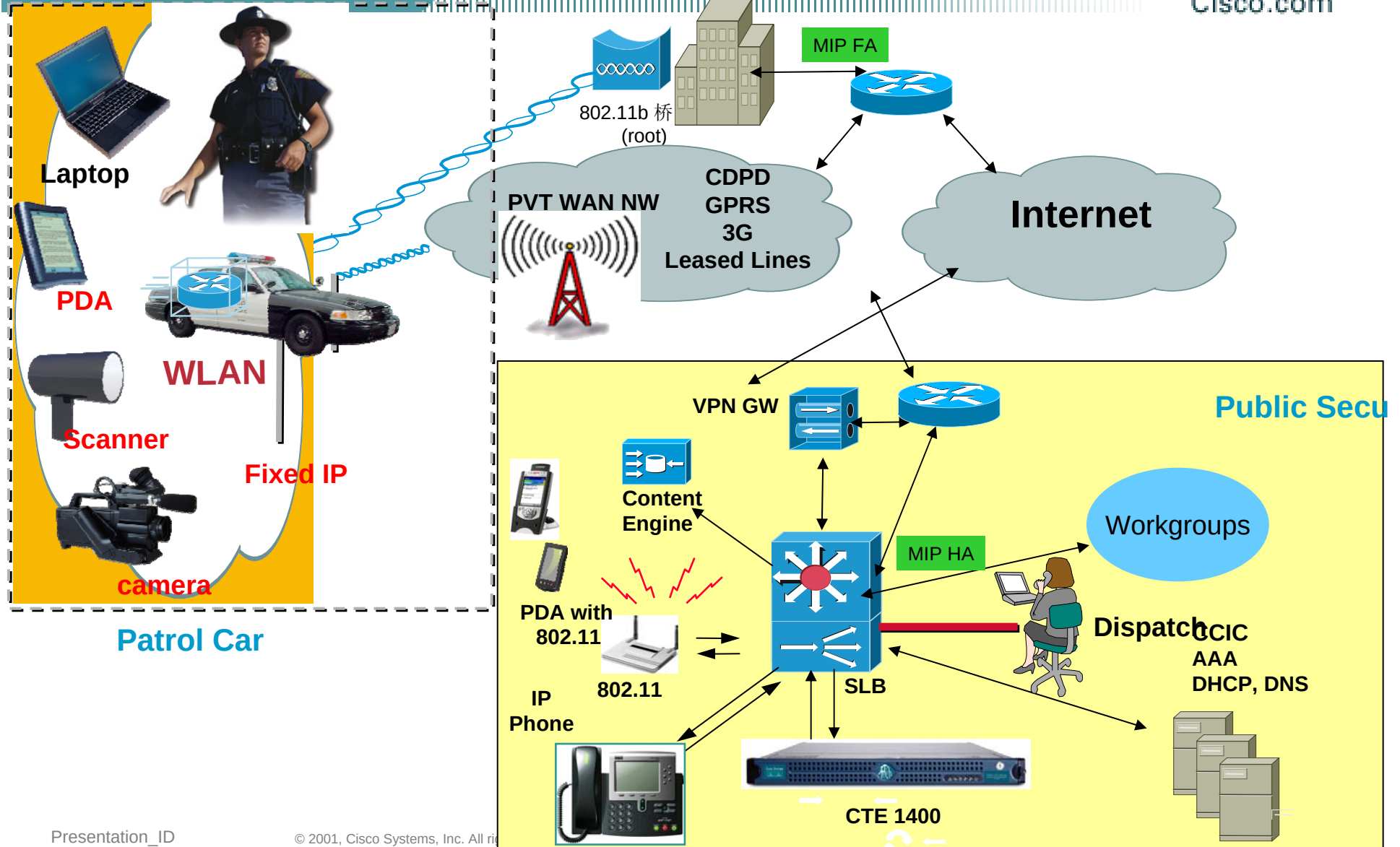
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- 110 Police vehicles 110 Emergency Police vehicles
- Patrol vehicles(110,122)
- Accident Handling vehicles
- Emergency Communication vehicles
- Command and Control vehicles
- **Mobile Database**



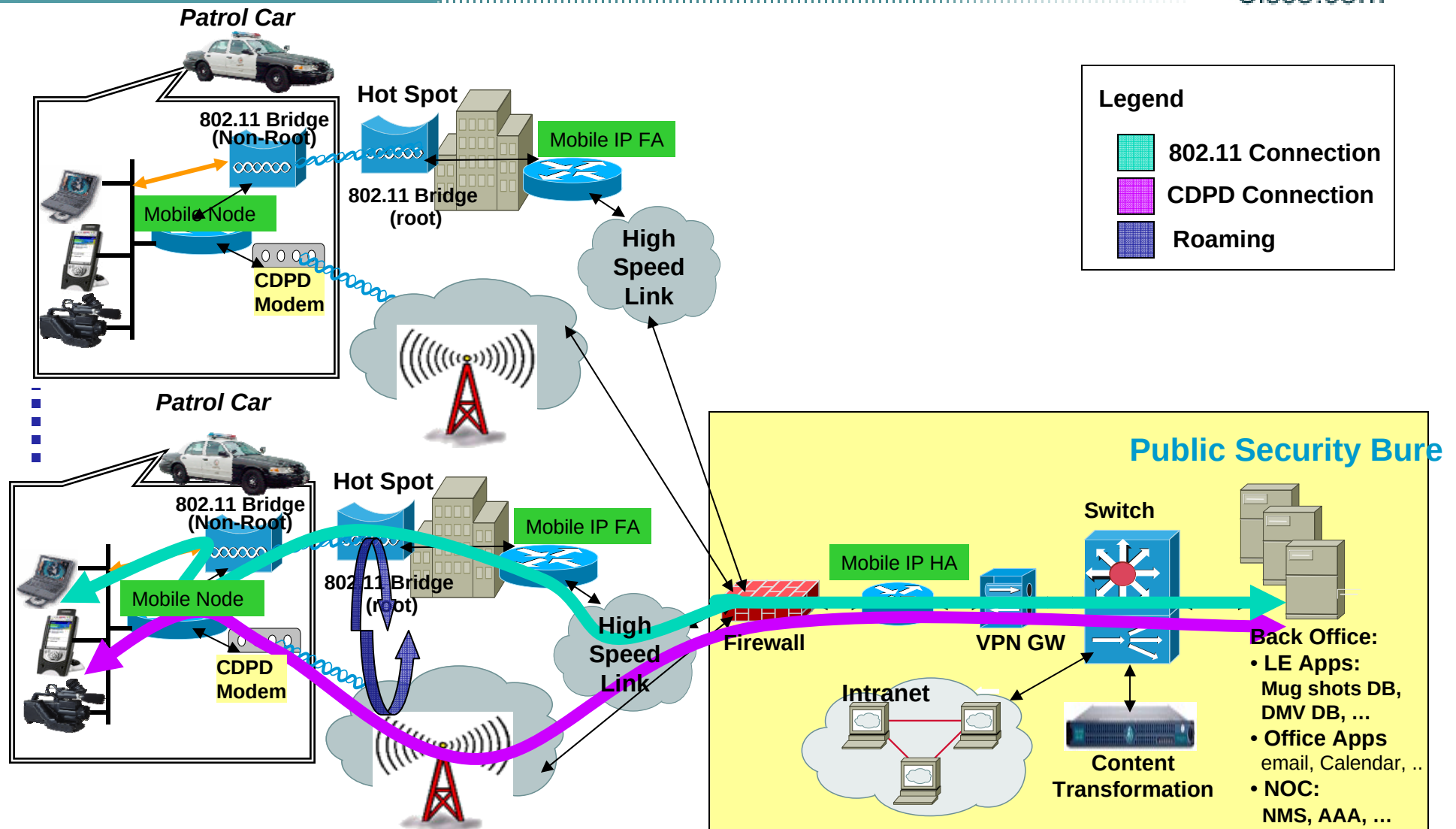
# Cisco Mobile Police Service Solution

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# Cisco Mobile Police Service Solution: Architecture

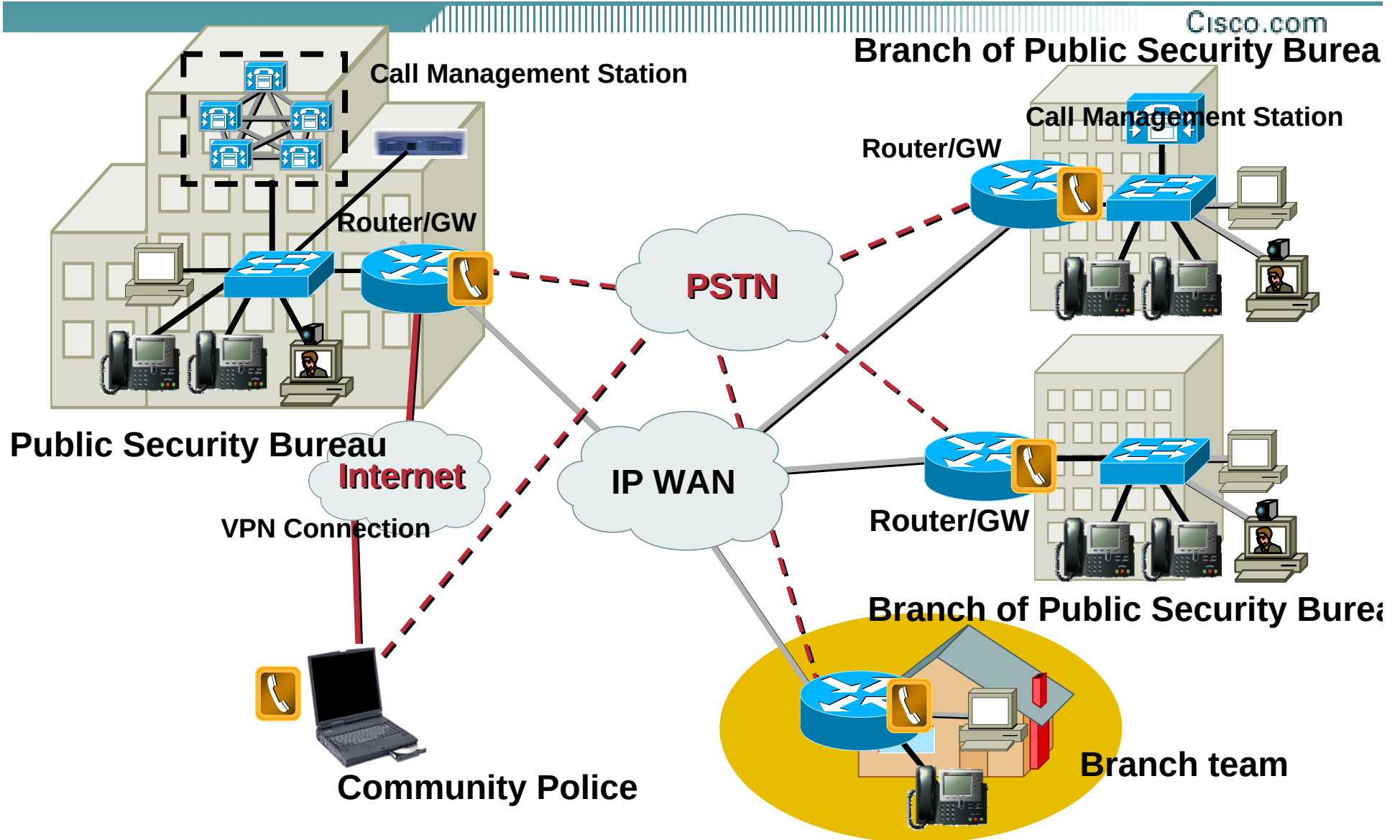
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## Issue 3: The voice communication is inflexible

- large number of local police posts and police services
- Mobile handling cases、 remote handling cases
- Voice Integrated Application
- New Building; Two sets of wiring; two sets of management systems

# IP Voice Solution



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# Four Hot Topics

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- Information Center(including CCIC)
- The Coordination of Politics and Law: VPN
- Operation Management
- Actual Service Combat

# Public Security Information

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Population Information:  $n^*TG$

Security Information:  $n^*TG$

Criminal investigation information (CCIC):  $n^*TG$

Traffic Administration Information:  $n^*TG$

Immigration Information: Ministry 300G  $n^*10G$

Finance investigation information :  $n^*10G$

Technology investigation information :  $n^*10G$

Anti-drug information:  $n^*10G$

Monitoring information:  $n^*10G$

Legal information:  $n^*10G$

Fire information:  $n^*10G$

Border information :  $n^*10G$

Security guard information:  $n^*10G$

# China Crime Information Center: CCIC

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## **CCIC: Officially Started at the end of 1994**

Personnel at-large

Stolen and robbed Vehicles

Database of Abduction

Database of DNAs

Database of Stolen or robbed Guns

# NCIC 2000

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- Goal: Extended to patrol car and mobile policemen;
- To increase capacity, upgrade technology, add fingerprint and image processing function;
- More flexibility, and easy maintenance

- 1.Associated Search
- 2.Fingerprint Search (criminal at large、missing personnel)
- 3.Suspension of sentence, parole information
- 4.First Handbook
- 5.Improved Data Quality
- 6.Associated Information Link
- 7.Head Picture: fingerprint、signatures; 10:Scars, traces, and Tattoos Etc.
- 8.Other Image Information: e.g., Ford Wildhorse Vehicle of 1989
9. Crime information on Sexual violence
10. Adding and retrieval of the prison criminal information DB
- 11.Scheduled Query
- 12.Online Query

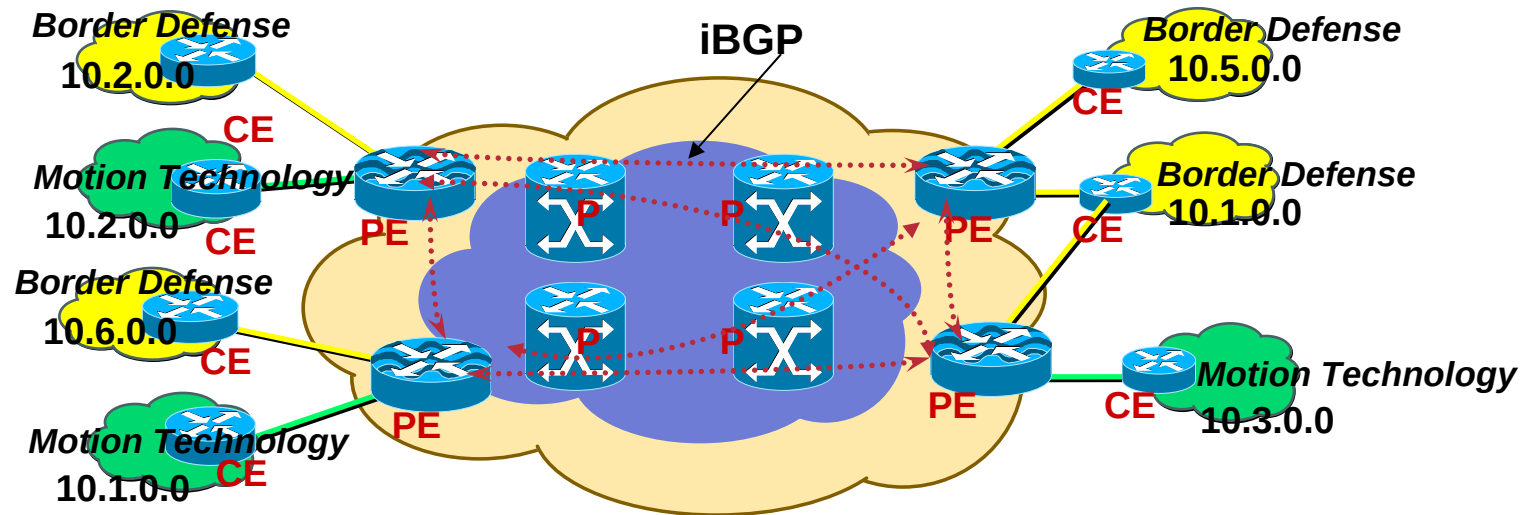
# CCIC/NCIC/NCIC 2000

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|                              | <b>CCIC</b>                               | <b>NCIC</b>                                  | <b>NCIC 2000</b>                             |
|------------------------------|-------------------------------------------|----------------------------------------------|----------------------------------------------|
| <b>Year</b>                  | <b>1984</b>                               | <b>1967</b>                                  | <b>1999</b>                                  |
| <b>Access Network Points</b> | <b>60k stations/teams</b>                 | <b>80k enforcement agencies</b>              | <b>80k enforcement agencies</b>              |
| <b>Users</b>                 | <b>1.6million policemen</b>               | <b>738k enforcement officials</b>            | <b>738k enforcement officials</b>            |
| <b>Data Quantity</b>         | <b>200k people at-large</b>               | <b>39million at large or missing</b>         | <b>39million at large or missing</b>         |
|                              | <b>1million stolen or robbed vehicles</b> | <b>people and stolen / robbed belongings</b> | <b>people and stolen / robbed belongings</b> |
| <b>Daily Service</b>         | <b>10k</b>                                | <b>5.5k/1968</b>                             | <b>2.1million/1999, 2.8million/2000</b>      |
|                              |                                           |                                              | <b>3,3million/3.15, capacity 4million</b>    |
| <b>Response Time</b>         | <b>5 seconds</b>                          | <b>1 second</b>                              | <b>0.15 seconds</b>                          |

# Coordinated Teamwork: MPLS VPN Solution

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- **Public Security Vertical Group Network** (private business department 、 voice、 video, etc.)
- **Political and Legal Network** (Public Security, Procuratorate and Court to share)
- **Public Security Network** (Public Security, Traffic Administration and Fire Prevention to share )
- **To Lease MPLS VPN**

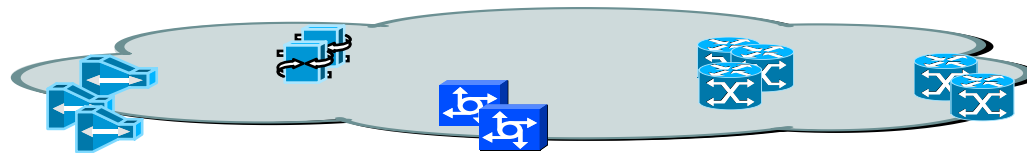
# Operational Maintenance: Three Major Management

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## 1.Information Policy Management

|              | Error | Configuration                    | Statistics | Performance |
|--------------|-------|----------------------------------|------------|-------------|
| Service      |       |                                  |            |             |
| Network      |       | 2.Network Application Management |            |             |
| Network Unit |       |                                  |            |             |

## 3.Entire Security Management



# Cisco's Objective and Strict Technical Standard

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Standard Desktop System Application

Development Tool:

Object-Oriented: ERWin, Java, Corba

Web Based: ERWin, Designer 2000

Take Oracle as core: Designer 2000

Client/Server: Business Objects, Power Builder

Programming Language: Java, Perl, c++

ERP: Oracle

DBMS: Oracle

HRMS: Peoplesoft

Enterprise Server: Sequent, Unix

Work Group Server: NT/Linux

Desktop: HP

Laptop: IBM

OS: Windows 2000

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End-to-End IP

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# Model of Outsourcing

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| <b>Company</b>                                                                                                                            | <b>Core</b><br>Any activity that will bring competition advantage<br><br><b>To Participate</b> | <b>Environment</b><br>Any Activity that will not bring competition advantage<br><br><b>Not to Participate</b> |
|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Key Tasks</b><br>Any work that will bring risk to company immediately if not completed effectively<br><br><b>Control</b>               | <b>1. Setup:</b><br>Participate and Control                                                    | <b>3. Outsource:</b><br>Control, don't participate                                                            |
| <b>Support</b><br>Any work that won't bring risk to company immediately if not completed effectively<br><br><b>Commission to Complete</b> | <b>2. Partner:</b><br>Participate and Commission                                               | <b>4. Contract:</b><br>Commission to complete, not to participate                                             |

# Security Requirement Evolution: 1-3-7

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保密性

Confidentiality

完整性

Integrity

可用性

Availability

可靠性

Reliability

认证性

Authenticity

审计性

Accountability

不可否认性

Non-Repudiation

# Security Standard

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Management Standard of Security:

BS 7799/ISO 17799

ISO 13335

AS/NZS 4360:1999

Technology and Engineering Standard:

ISO 15408

SSE-CMM

Interoperability standard:

3DES, IDEA, AES, RSA, IPSec, SSL, S-MIME, SET, CVE

Security Recommendation:

RFC 2504 Users' Security Handbook

RFC 2196 Site Security Handbook

RFC 3013 Recommended ISP Security Services and Procedures

Vendor, BSI, SANS

# Actual Service Combat :

## Information Requirement of Public Security

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- Information island and barrier: Little information sharing inside and between systems, and between the coordinated units
- Low Data Quality: inconsistent, incomplete and inaccurate systems
- Big Security Hidden Danger: Administrator, first line police mer
- Inconsistent front end interface: tedious switch between multi-systems
- Improper flow management: instable online operation

# Service Actual Combat : Project Plan

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1. Project Urgency Analysis
2. Project Feasibility Analysis
3. Project Difficulty Analysis
4. Project Benefits Analysis
5. Overall Project Plan Analysis
6. Last: Suggestion on Project Plan

# Project Urgency Analysis

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Service Urgency(0-10)  
Workflow Urgency(0-10)  
Application Urgency(0-10)  
Data Urgency(0-10)  
Foundation Architecture Urgency(0-10)  
Overall Urgency(0-10)

# Project Feasibility Analysis

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- Technical maturity
  - (0-impossible, 1-roughly mature, 2-very mature)
- Internal Management Availability
  - (0-not available, 1-roughly available, 2-completely available)
- Internal Technical Availability
  - (0-not available, 1-roughly available, 2-completely available)
- External Support Availability
  - (0-not available, 1-roughly available, 2-completely available)

# Project Difficulty Analysis

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- Technical Difficulty (1-10)
- Investment Requirement on Manpower Quantity and Quality (1-10)
- Complexity of External Support Resource (0-10)
- Investment in terms of time (1-5)
- Investment in terms of finance (1-5)
  
- Influence on Enterprise Strategy (0-5)
- Influence on Organizational management (0-5)
- Influence on the workflow in providing services (0-5)

# Analysis on Expected Project Benefits

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- Speed in Achieving Benefits (0-10)
- Improvement in Providing Services (0-5)
- Improvement on Workflow (0-5)
- Improvement on Application (0-5)
- Improvement on Data (management?) (0-5)
- Improvement on the System Foundation (0-5)

# Analysis on the Project Planning

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- Priority decided based on the overall evaluation of urgency, feasibility, difficulty, expected benefit, and the inter-dependency of above.

$$\text{Priority} = \text{urgency} \times \text{feasibility} + (\text{Difficulty} + \text{Benefits})/2$$

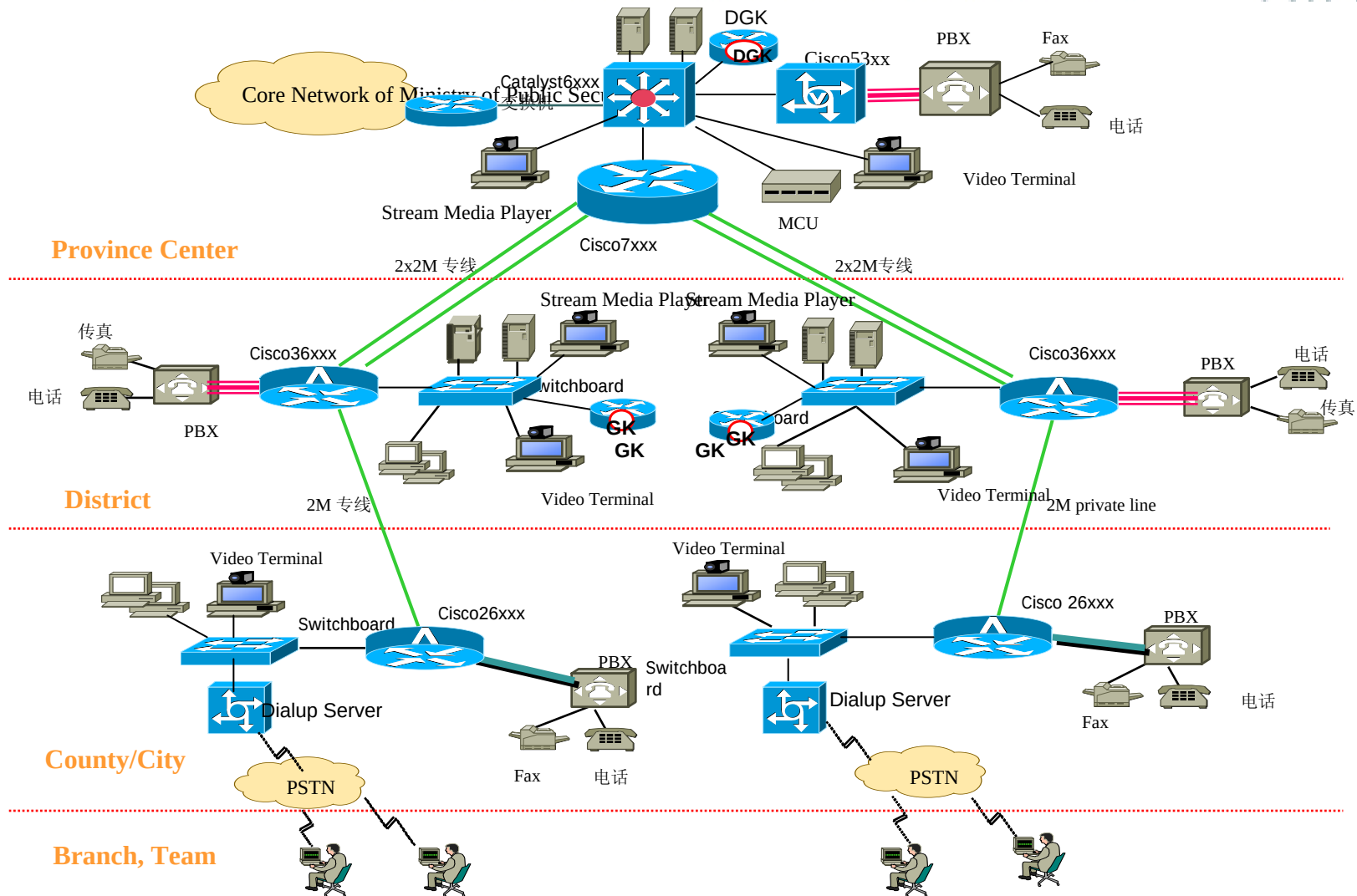
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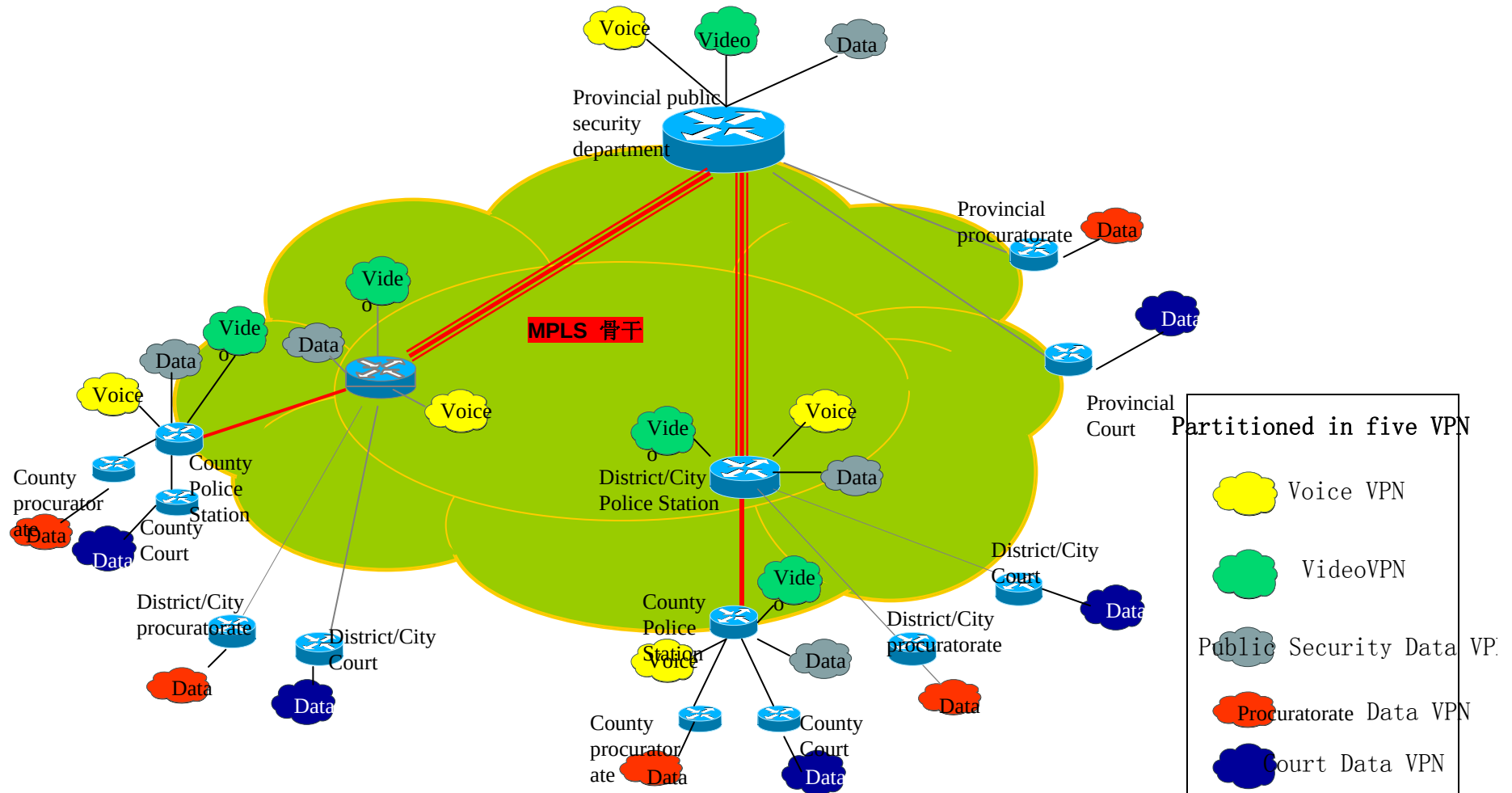
# Architecture of the 2<sup>nd</sup> and 3<sup>rd</sup> Level Networks of Yunnan Public Security

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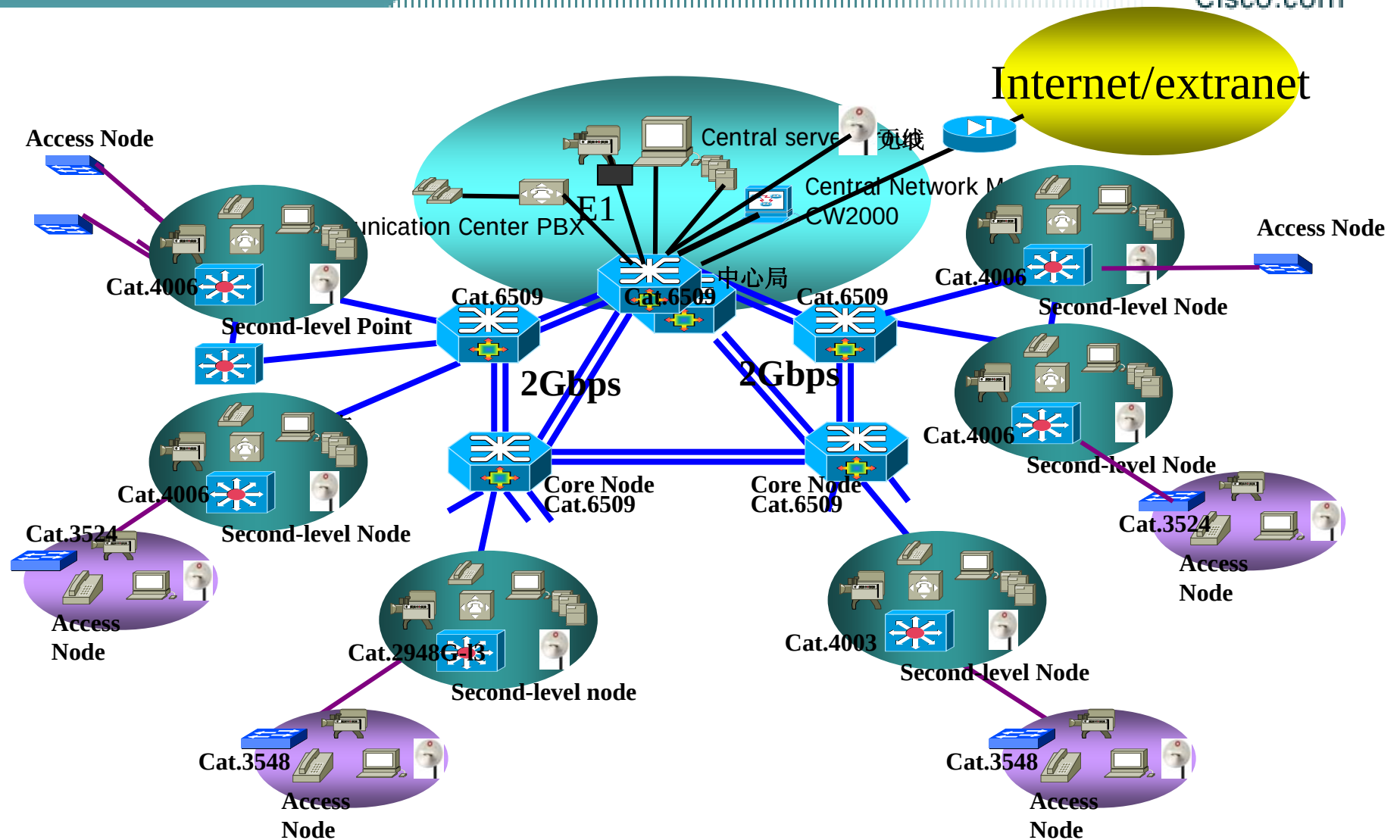
# Logical Model of Qinghai Politics and Law Network

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# Plan of Beijing Integrated Service Digital Network: Network Topology

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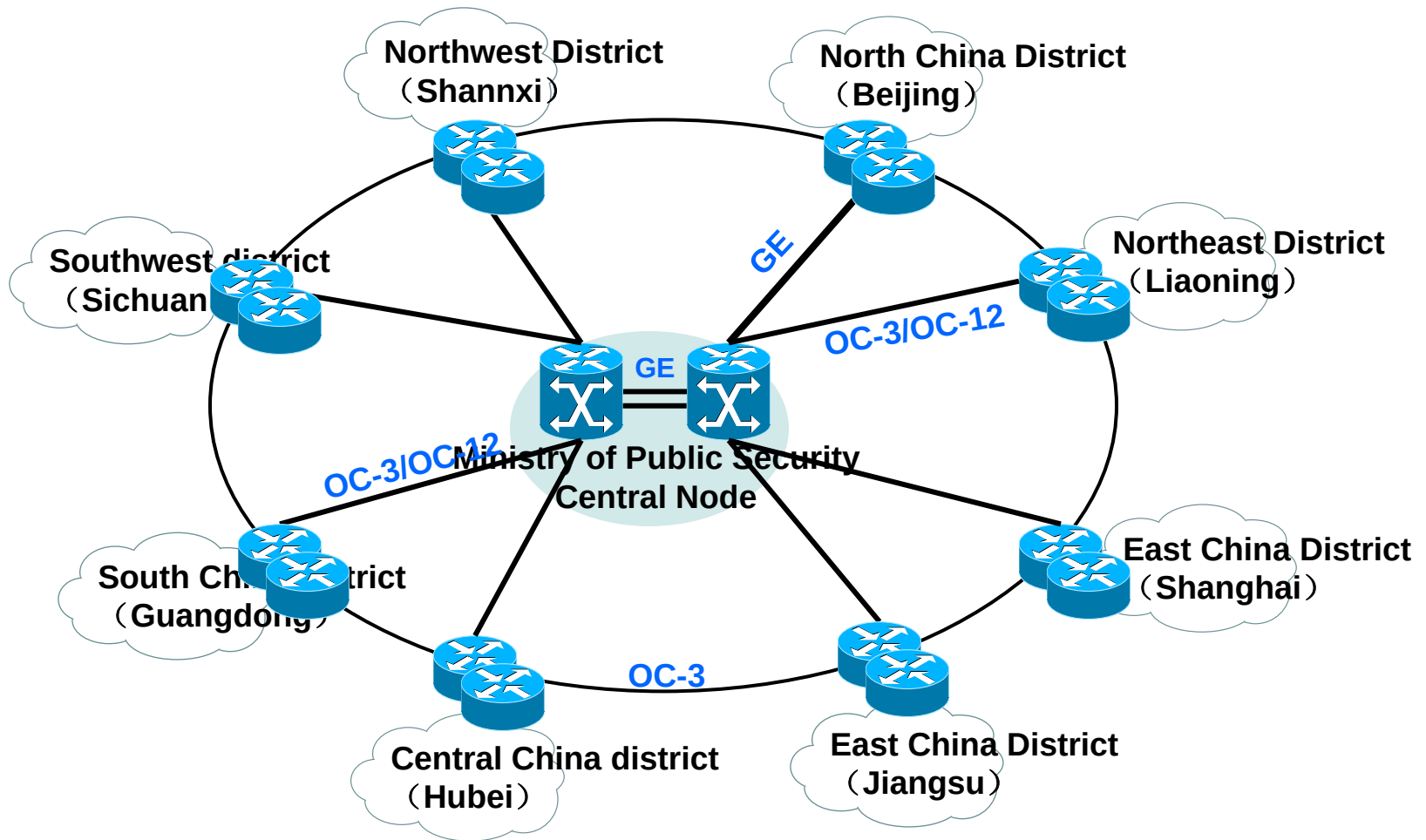
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# Architecture of the 1<sup>st</sup> Level Core Network for the Ministry of Public Security

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# The 1<sup>st</sup> Level Network Architecture of Ministry of Public Security——Northern China District

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