

4 November 2004

Ms. Marlene H. Dortch
Secretary
Office of the Secretary
Federal Communications Commission
445 12th Street, S.W. Room TW-A325
Washington DC 20554

Re: ***Ex Parte* Presentation**

In the Matter of : Communications Assistance for Law Enforcement Act and
Broadband Access and Services, ET Docket No. 04-295, RM-10865

Dear Ms. Dortch:

This is to inform you that Anthony M. Rutkowski, VP of Regulatory Affairs, and Brian Cute, Director of Government Relations of VeriSign Inc, met on 2 November 2004 at Commission headquarters with Office of Engineering and Technology staff members Julius Knapp, Jeffery Goldthorp, Geraldine Matise, and Rodney Small , and Wireline Competition Bureau staff member Michael Goldstein.

The purpose of this meeting was to provide an overview of new international and technology developments relevant to the proceeding, especially the recent Lawful Intercept Technical Committee meeting, and Next Generation Networks directory services. The attached slides formed the basis of dialogue, and convey the substance of what was discussed.

VeriSign is a globally recognized leader in providing an array of large-scale, ultra-high availability infrastructure support capabilities for traditional voice telecommunications, Internet, security, and financial transaction services to providers and consumers through its various divisions in the U.S. and worldwide. As part of these commercial infrastructure support services, it provides *NetDiscovery Services*[™] to wireless, wireline, cable, satellite, and IP-enabled service providers as a cost-effective means of meeting CALEA obligations (and the equivalent in other countries) through a service bureau.

VeriSign looks forward to continued collaboration with the Commission in considering matters relating to the subject rulemaking proceeding.

Pursuant to the Commission's rules, this *ex parte* letter together with presentation notes are being filed via the Commission's Electronic Comment Filing System for inclusion in the public record of the above-referenced proceeding.

Respectfully submitted,

/s/

Anthony M. Rutkowski
Vice President for Regulatory Affairs
VeriSign Communications Services Div.
21355 Ridgetop Circle
Dulles VA 20166-6503
tel: +1 703.948.4305
mailto:trutkowski@verisign.com

cc: Julius Knapp
Jeffery Goldthorp
Geraldine Matise
Rodney Small
Michael Goldstein

This document may be stored in the LI docbox.

PROPOSED Agenda of the ETSI/TC LI plenary meeting #07
Bremen, 28-30 September 2004
[docs until Td036]

1 Opening, welcome, approval of proposed agenda, announcements07litd001

2 IPR statements (Chairman)

The attention of the members of TC LI is drawn to the fact that ETSI members have the obligation under Section 4.1 of the ETSI IPR Policy, Annex 6 of the Rules of Procedure, to inform ETSI of Essential IPRs they become aware of. This section covers the obligation to notify its own IPRs but also other companies' IPRs.

The members take note that they are hereby invited:

- *to investigate in their company whether their company does own IPRs which are, or are likely to become Essential in respect of the work of TC LI;*
- *to notify to the Chairman or to the ETSI Director-General all potential IPRs that their company may own, by means of the IPR Information Statement and the Licensing Declaration forms that they can obtain from the ETSI LI Technical Officer or http://www.etsi.org/legal/IPR_database/IPRforms-V3.doc.*



3 Reports from other meetings / liaison statements / general

- 3.1 TC LI general.....
- 3.2 TC LI rapporteur's meeting
- 3.3 ETSI.....
- 3.4 3GPP S3-LI (Giorgi)
- 3.5 TC AT-D / STF261 (Scott)..... 002 (LS+Spec), 003 (LS+Spec)
- 3.6 TC SES (Paul).....
- 3.7 EP Tetra (Scott)..... 017, 018
- 3.8 TC TISPAN.....022 (LS)
- 3.9 T1S1 LAES (Greg)005 (LS)
- 3.10 ITU-T Q.7/SSG
- 3.11 [REDACTED]
- 3.12 Other bodies
- 3.13 Other Issues

4 Issues on **published TC LI specifications and reports**

- 4.1 TS 101 331: Requirements of Law Enforcement Agencies (v1.1.1) (Koen)
- 4.2 ES 201 158: Requirements for Network Functions (v1.2.1) (Erwin)
- 4.3 TS 101 671: Handover Interface specification for LI (v2.9.1) (Peter)
..... 009 (v2.10.1)
UUS via HI2.....019 (CR082)
ASN.1: Identifiers in ASCII021 (CR084)
ASN.1: HI1 interface..... 023 (CR085), 024 (CR086)
ASN.1: PDP Context031 (CR088)

ASN.1: IRI-parameters (alignment TS 33.108)	035 (CR089)
ASN.1 modules (new annex).....	030 (CR087)
GLIC header: sequence number	020 (CR083)
GLIC header: GGSN/SGSN indicator	025
NGN LI.....	026
Tetra	open (CR057) (rapporteur)
Format of the DSS1 calling party number	open (CR070) (Swiss Telecom)
BC	open (CR071) (Swiss Telecom)
4.4 TS 102 232: Handover specification for IP delivery (v1.2.1) (Ian)	
.....	010 (v1.2.1)
Addition layer 2 information	006 (CR001)
IP Telephony LI	026
4.5 TS 102 233: Service specific details for E-Mail Services (v1.2.1) (Jon)	
4.6 TS 102 234: Service specific details for Internet Access Services (v1.1.1) (Johan)	
[CR002 and CR003 agreed TC LI#06]	
CC over layer 2	011 (CR001r2)
4.7 TR 102 053: Notes on ISDN lawful interception functionality (v1.1.1) (Robin)	
4.8 TR 101 943: Concepts of interception in a Generic Network Architecture (v1.1.1) (Stefan)	
New draft proposal for the TR (working version 0.2.4)	007
Formal CR to replace v1.1.1	016 (CR001)
4.9 TR 101 944: Issues on IP Interception (v1.1.2) (Leopold)	
5 Progress on new TC LI specifications and reports	
5.1 DTR LI-00014: Lawful Interception of public Wireless LAN Internet Access (v0.0.3) (Johan)	
Updated version after TC LI#06	012 (v0.0.3)
Proposed text for section 5.3 "Lawful Interception issues"	013
Proposed text for section 5.4 "Lawful Interception approaches".....	014
5.2 DTR LI-00015: ASN.1 tree structure of the Security Domain (v0.1.1) (Manfred)	
First proposal.....	004 (v0.1.1)
Proposed Additions/modifications	008, 036
6 Other contributions / issues	
6.1 IP multimedia Time Critical Services (Scott)	
DTS 101 909-20-2 v0.0.8.....	002 (attachment of LS)
Review comments.....	032
Addition Reference to TS 102 234 in section C.2.....	034
TS 101 909-11 v1.2.2.....	003 (attachment of LS)
6.2 VoIP Handover of packet data	015
6.3 Data retention (Stefan/Tony)	
.....	033, 027, 028
6.4 National LI Implementations / plans for implementation	
.....	029
6.5 Global LI workshop	
.....	
6.6 LI officials for 2005-2006	
.....	
7 Management matters on Work Items (Claire)	
7.1 New work items	
7.2 Closing work items	
8 Agreement on output documents	
8.1 Change Requests.....	
8.2 Liaison Statements.....	

9 Any other Business

10 Future meeting dates **to be decided** and closing of the meeting

November 2004	Global LI workshop	planned to be organised in Middle East Region (In investigation Dubai)
22-24 February 2005	TC LI#08	invitation from Pine Digital Security in Den Haag
March/April 2005	Global LI workshop	planned to be organised in Asian Region (In investigation by Karanvir)
June 2005	TC LI#09	hosting is requested (In investigation: CISCO in Belgium)
October 2005	TC LI#10	hosting is requested

**FCC Ex Parte Presentation
2 November 2004
IP-Enable Services Framework and CALEA
Dockets 04-36, 04-295**



**The Directory as critical intelligent infrastructure for NGN
protection, NS/EP, and other national needs**

Tony Rutkowski
VeriSign

tel: +1.703.948.4305

The problem with open network infrastructure



"On the Internet, nobody knows you're a dog."

by Peter Steiner

New Yorker

5 July 1993

Why is The Directory important?

- + Without a secure, authenticated, common global directory structure for our public communication networks
 - + They will be substantially vulnerable to disruption and fraud
 - + Cannot establish who is responsible for services or identifiers
 - + Most national public policy needs cannot be supported
 - + critical infrastructure protection
 - + public safety needs
 - + law enforcement support
 - + fraud prevention
 - + restoration after failures
 - + call prioritization during emergencies
 - + competition
 - + consumer protection against unwanted intrusions (e.g., SPAM)
 - + privacy and data protection
 - + disability assistance
- + With Next Generation Network integration now contemplated, the time to act is now

Help is on the way: IRIS - the Internet Registry Information Service

- + Designed to provide critical “Directory” services for IP-Enabled Next Generation Networks
 - + Equivalent of SS7 Intelligent Network databases in the telecom environment (LIDB, CNAM, etc)
- + Completely open suite of standards developed in Internet Engineering Task Force (IETF)
- + Universal, internationalized text based protocol designed to allow registries of Internet resources
 - + Provides flexible query and result information services about any Internet “resource”
 - + provides a framework for authentication, structured data, entity references and search continuations
 - + Imposes no constraints on distribution of the data nor means of transport
 - + XML based for compatibility, flexibility, extensibility, and interoperability

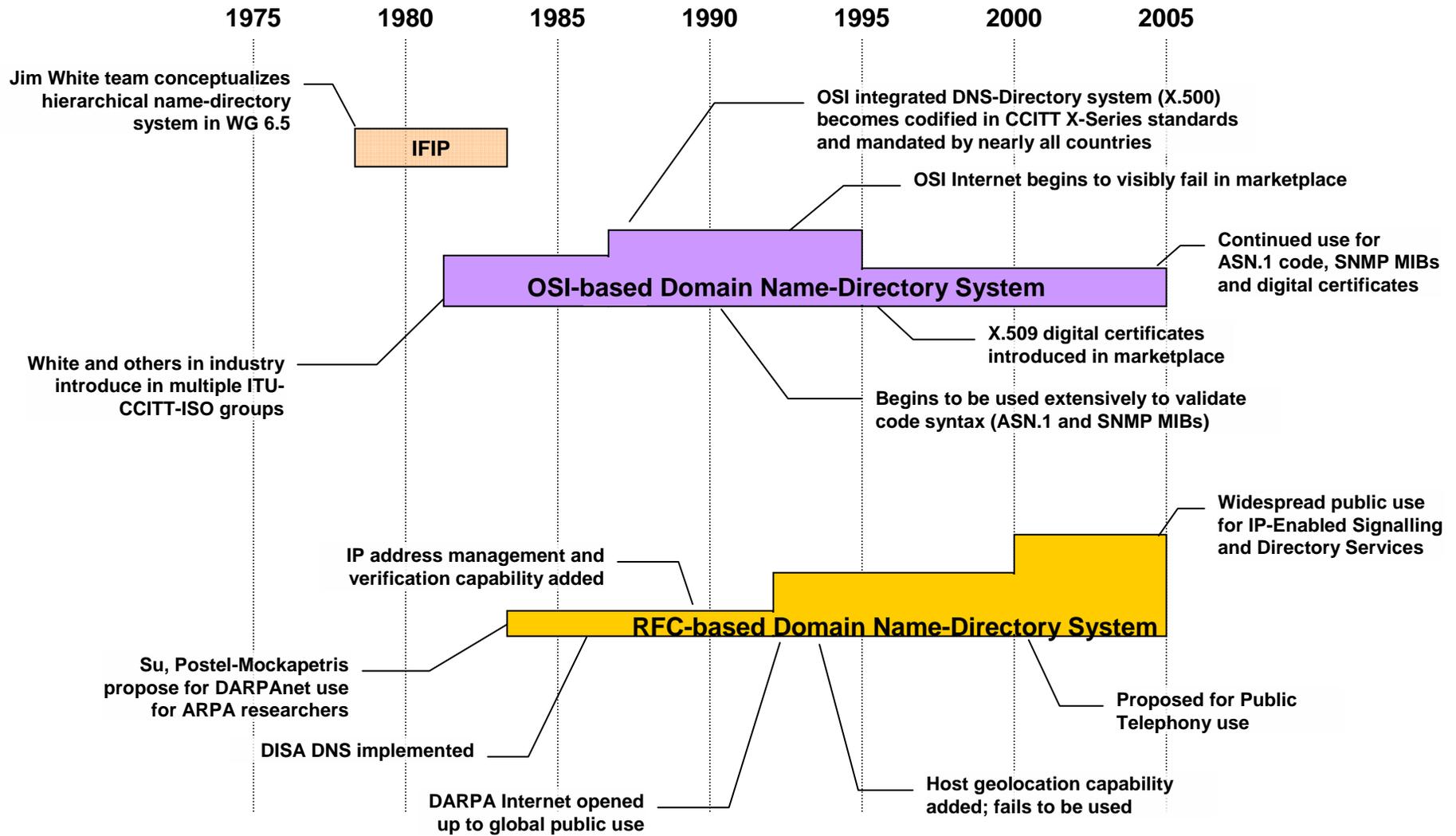
What is IRIS designed to provide?

- + Queries by network/service address (IP-address, telephone number, Internet domain name, OSI domain name, eMail address, messenger address, object product code,...) to show
 - + What user is associated with the identifier
 - + Related service providers and contact information
 - + Related computer host information
 - + Optional attributes such as
 - + location of the user
 - + Emergency medical treatment information
 - + Disability information
 - + Do not call information
 - + Priority access information during or after an emergency
 - + Intercarrier authentication and compensation information
 - + Tax jurisdiction information
- + Legacy service gateway information
 - + Caller-ID and calling name
 - + Fraud prevention verifications

The Directory as Critical Infrastructure

- + In PSTN and public mobile networks
 - + the Directory is tightly bound to the SS7 signaling system, mandated, and protected
- + When public-scale open networks (OSI Internet) were first contemplated in late 70s in IFIP-CCITT
 - + The Directory was created as core infrastructure with tight bindings to signalling systems and code
- + The prevailing formerly private DARPA Internet
 - + did not need a core directory with tight bindings,
 - + had some similar capabilities (NICname/WHOIS for host names and IP addresses)
- + The DARPA Internet found its way into the public infrastructure and subordinated the OSI Internet
- + Significant security, critical infrastructure, and criminal problems have emerged and are rapidly scaling
- + Next Generation Networks (NGN) contemplate integrating the (formerly) DARPA Internet with the PSTN and mobile network infrastructure
- + The DARPA Internet Directory omission problem
 - + must be rectified globally

History of Internet Signalling-Directory Systems



Signalling-Directory Systems Compared

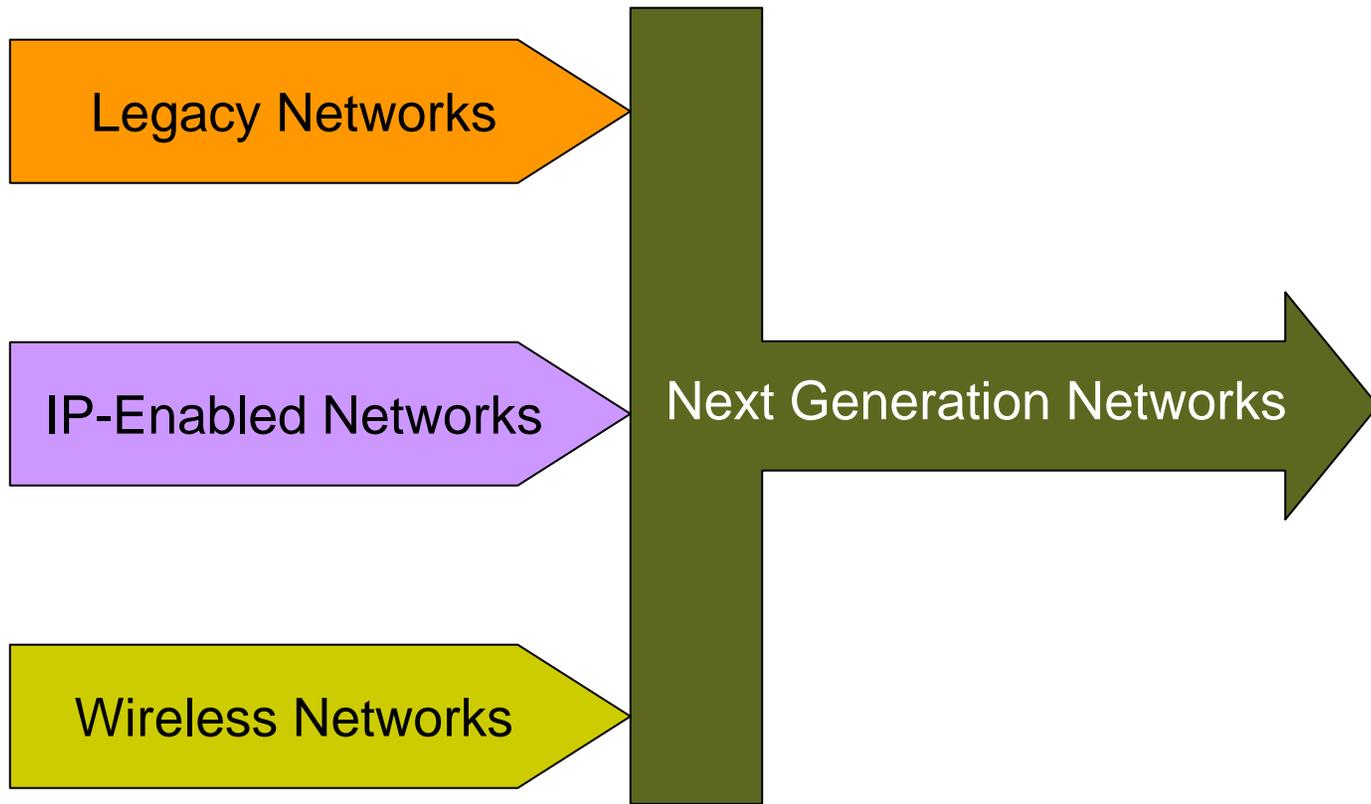
OSI Internet

- + Built from outset for secure global public infrastructure
- + Substantial operational and administrative overhead
 - + Ahead of the technology curve
 - + Disincented developer community
 - + Rigid, complex naming and expressions; acquisition was cumbersome and costly
- + No scaleable distributed identifier resolution system ever implemented
 - + No BIND code developed
- + Tightly integrated, secure, and well authenticated Directory system
 - + Originally mandated by regulatory authorities
 - + Substantial authentication
 - + Support for digital certificates
 - + Bindings among all global public network service identifiers integrated
 - + Some gateway and XML-based translation capabilities added

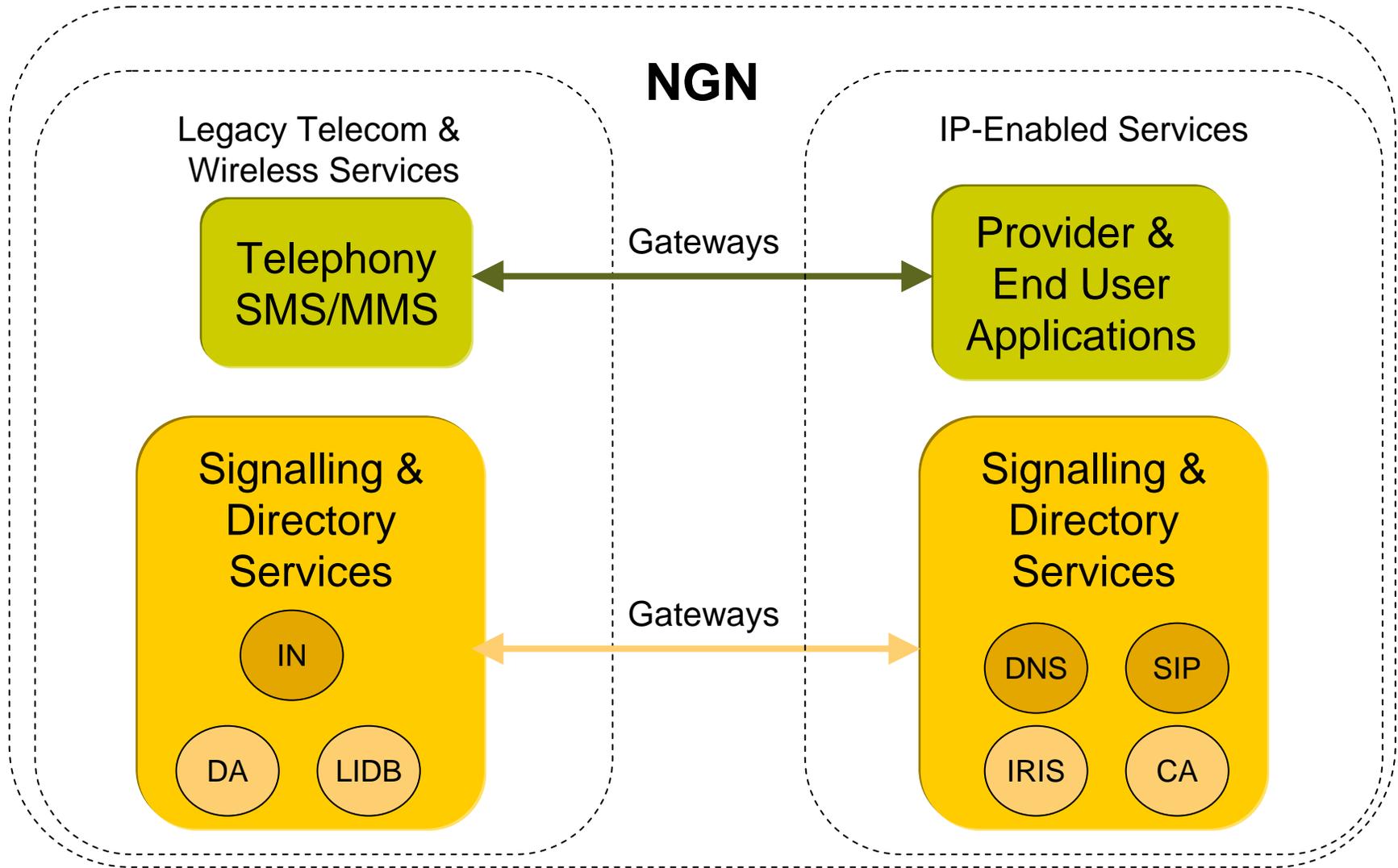
DARPA Internet

- + Built originally for closed DOD-NSF R&D infrastructure
- + Minimal operational and administrative overhead
 - + Matched available technology
 - + Incented developer community
 - + Flexible, simple naming and expressions: acquisition often fast and cheap
- + Elegant scaleable distributed identifier resolution system implemented
 - + BIND code developed, freely distributed
- + Loosely integrated, insecure, and non-authenticated Directory system
 - + Now being considered by regulatory authorities
 - + Usually little authentication
 - + Potential support for digital certificates
 - + Bindings with public telecom network numbers being considered
 - + Next Generation XML-based Directory capability just initially developed - IRIS

The looming NGN factor: convergence



NGN Interoperability Requirements



The IRIS Roadmap



Standards actions

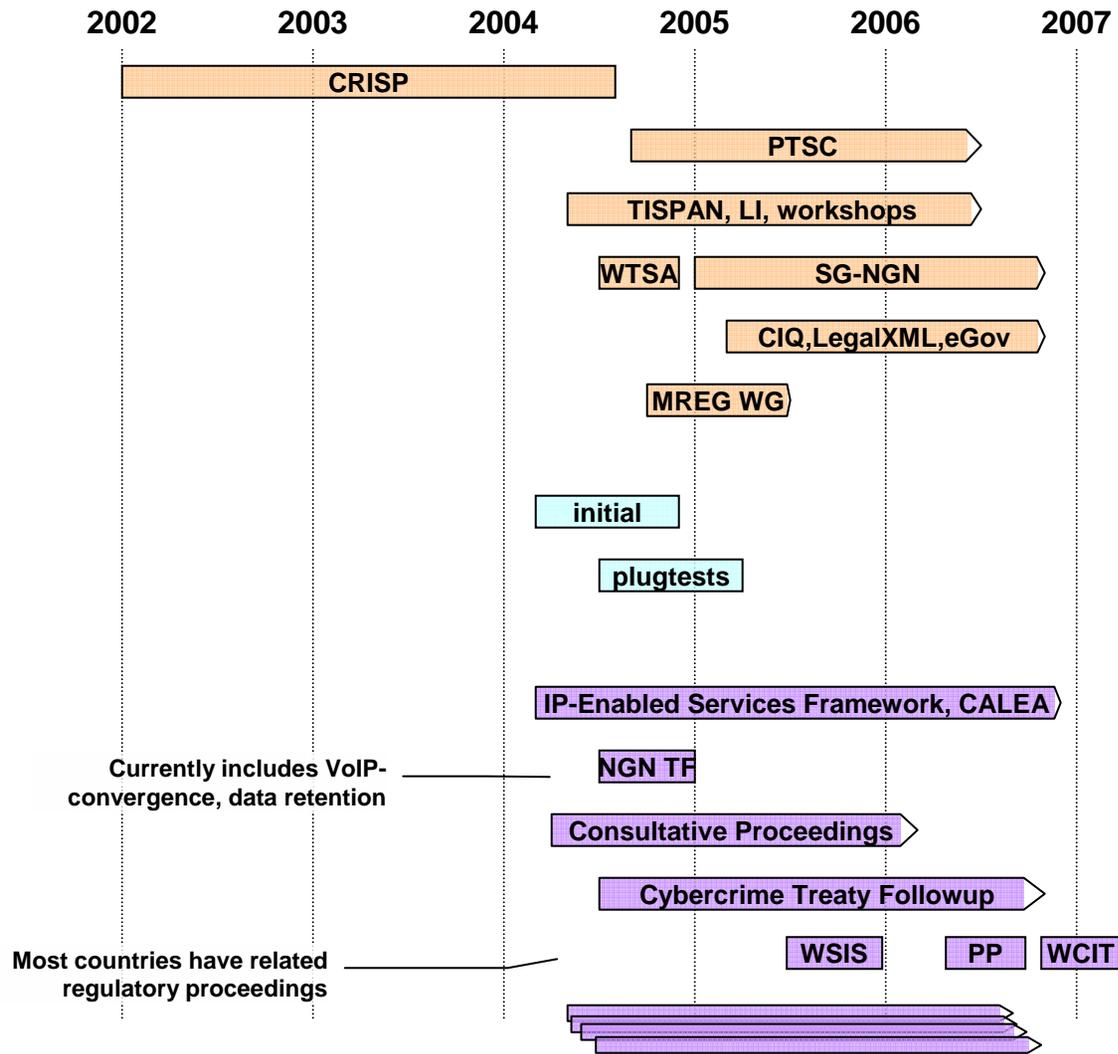
- IETF
- ATIS
- ETSI
- ITU-T
- OASIS
- Messenger adhoc

Implementations

- industry
- ETSI

Government actions

- FCC
- NSTAC
- EC
- CoE
- ITU
- Other



Query for all ENUM services hosted at a server



Enter server host name

Find ENUMs By Contact Find Contacts Find ENUMs By Host

Find By: Host Name ns1.netsol.com Execute

Authority: localhost:3434 Clear

Results

- find ENUMs by host
 - +1-703-555-1212
 - +1-703-932-9971
 - +1-703-555-1212
 - +1-703-932-9971

Follow

- All Local Entities
- All Local Searches
- All Remote Entities
- All Remote Searches
- Local Contacts

Follow

View Log

End Point: localhost(127.0.0.1):iris-beep(3434)

Get all ENUM E.164 numbers hosted on the server

Query for information about an IP address

The screenshot shows the 'Pimmit - IRIS Graphical Query Tool' window. It has a menu bar with 'File', 'Configuration', and 'Help'. Below the menu bar are tabs for 'General', 'Domain', 'IP Address', 'Credential', and 'ENUM'. The 'IP Address' tab is selected. Underneath, there are sub-tabs for 'Find By Name', 'Find Contacts', and 'Find Networks By Address'. The 'Find By' dropdown is set to 'Start-End or CIDR' with the value '10.0.0.2' entered. The 'Specificity' dropdown is set to 'more'. There is an unchecked checkbox for 'Equal Networks'. The 'Authority' dropdown is set to 'iris.verisignlabs.com:34034'. There are 'Execute' and 'Clear' buttons. Below the input fields is a 'Results' section with a tree view showing: 'find networks by address' (expanded) -> 'IPv4 Network 02' (expanded) -> 'American Registry for Internet Numbers' (expanded) -> 'technical contacts' (expanded) -> 'Cathy Murphy'. There is also a 'lookup entity' entry. To the right of the results is a 'Follow' section with checkboxes for 'All Local Entities' (checked), 'All Local Searches', 'All Remote Entities', and 'All Remote Searches', and a 'Follow' button. At the bottom, there is an 'End Point' field showing 'iris.verisignlabs.com.(65.201.175.18):iris-beep(34...' and a 'View Log' button. Annotations include: 'Enter IP Address' pointing to the 'Find By' input field, and 'Get all ownership and responsibility information associated with IP address' pointing to the 'Results' tree view.

IRIS Status and Planned Development

- + Running code exists for initial specifications – see <http://iris.verisignlabs.com>

Conclusion



"On the Internet, nobody knows you're a dog."

"With IRIS, everyone knows I'm a dog"