

Internet Domain Names: Issues and Evolution



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Topics

- **What are domain names?**
- **Domain name trends**
- **Domain name registrations**
- **Trademarks and domain names**
- **Perceived problems with DNS**
- **DNS evolution**
- **Components of a solution**
- **Final Remarks**

What's a Domain Name?

- Maps user-friendly name like “www.netscape.com” to numeric address like “198.105.232.6”
- Provides “stable” address
- Conventions date from 1984 (RFC 920)
- 1984 definition created “generic” top level domains and ISO country-code based domains

Internet Top Level Domains (~1984)

“Generic” Top Level Domains

- **.com** **commercial**
- **.org** **organization**
- **.net** **network**
- **.gov** **government**
- **.edu** **education**
- **.mil** **military**
- **.int** **treaty orgs.**

ISO Code Top Level Domains

- **.jp** **Japan**
- **.ch** **Switzerland**
- **.dk** **Denmark**
- **.fr** **France**
- **.uk** **United Kingdom**
- **.us** **USA**
- **.il** **Israel**

Internet Top Level Domains (1996)

“International” Top Level Domains

- .com commercial
- .org organization
- .net network

“US-only” Top Level Domains

- .gov government
- .edu education
- .mil military

ISO Code Top Level Domains

- .jp Japan
- .ch Switzerland
- .dk Denmark
- .fr France
- .uk United Kingdom
- .us USA
- .il Israel

“Restricted” Top Level Domain

- .int treaty orgs.

Israel Top Level Domains (.il)*

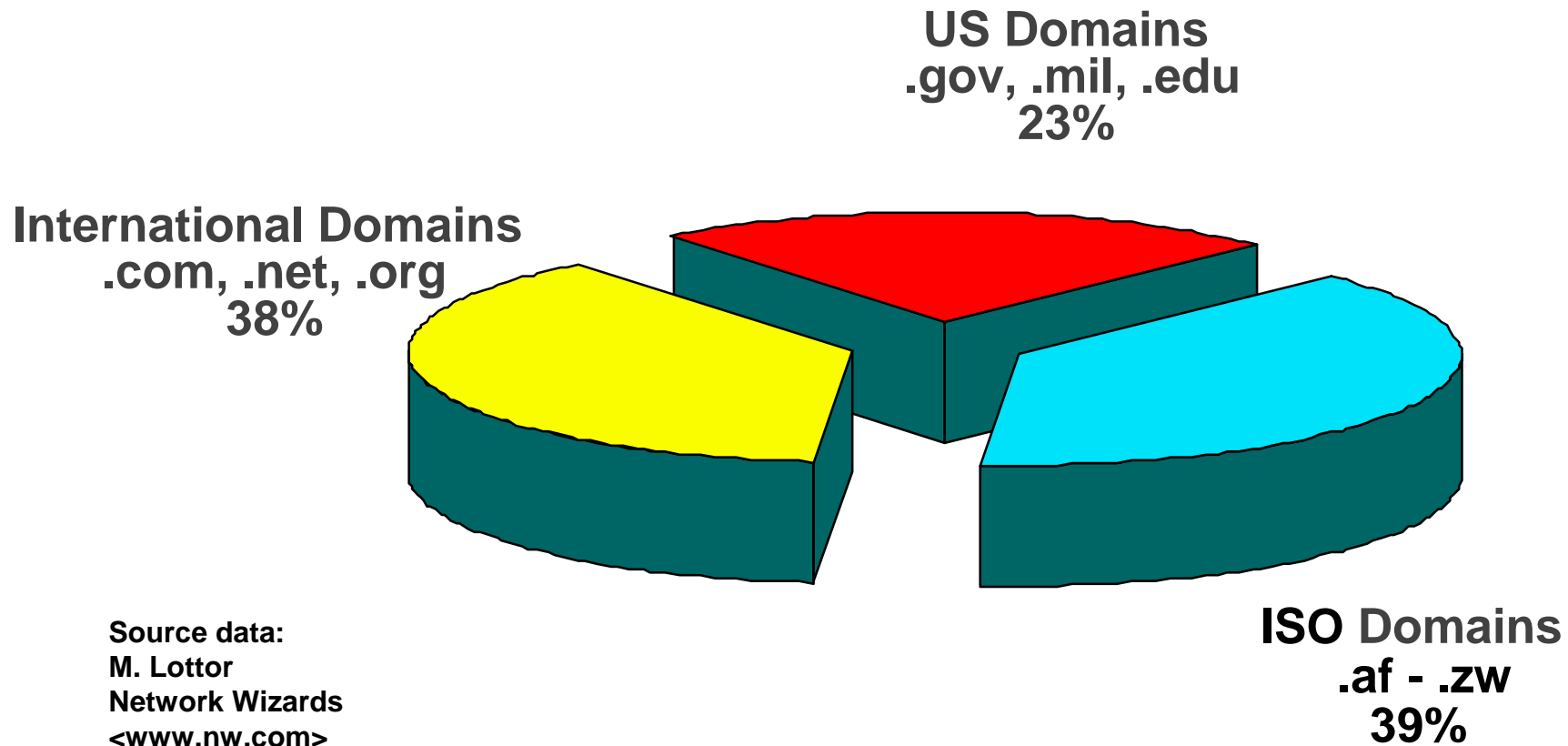
- **.co** commercial (86%)
- **.org** organization (Malkar or Amuta) (7%)
- **.net** Ministry licensed ISP (1%)
- **.gov** government (2%)
- **.ac** higher education (3%)
- **.k12** schools (1%)
- **.idf** Zahal
- **USA domains (8%)**
- **1800 domain names registered as of Nov 1996**



Specific Israeli Rules

- **Domain names are non-transferrable**
- **Domain names cannot be “harmful to the sensibilities of the public”**
- **Domain names can’t infringe on well known names**
- **Example: besek.co.il would not be allowed**
- **<http://www.isoc.org.il/ildomain.html>**

Global Use of Domains



ISO Domain Registry Trends

- **Subdomains to maximize use & deal with growth (e.g., co.uk, ltd.uk, co.il)**
- **Fees for registration, annual and/or update**
- **Strategic interest by governments, national telecom regulatory bodies**
- **Clear national sovereignty for policies**

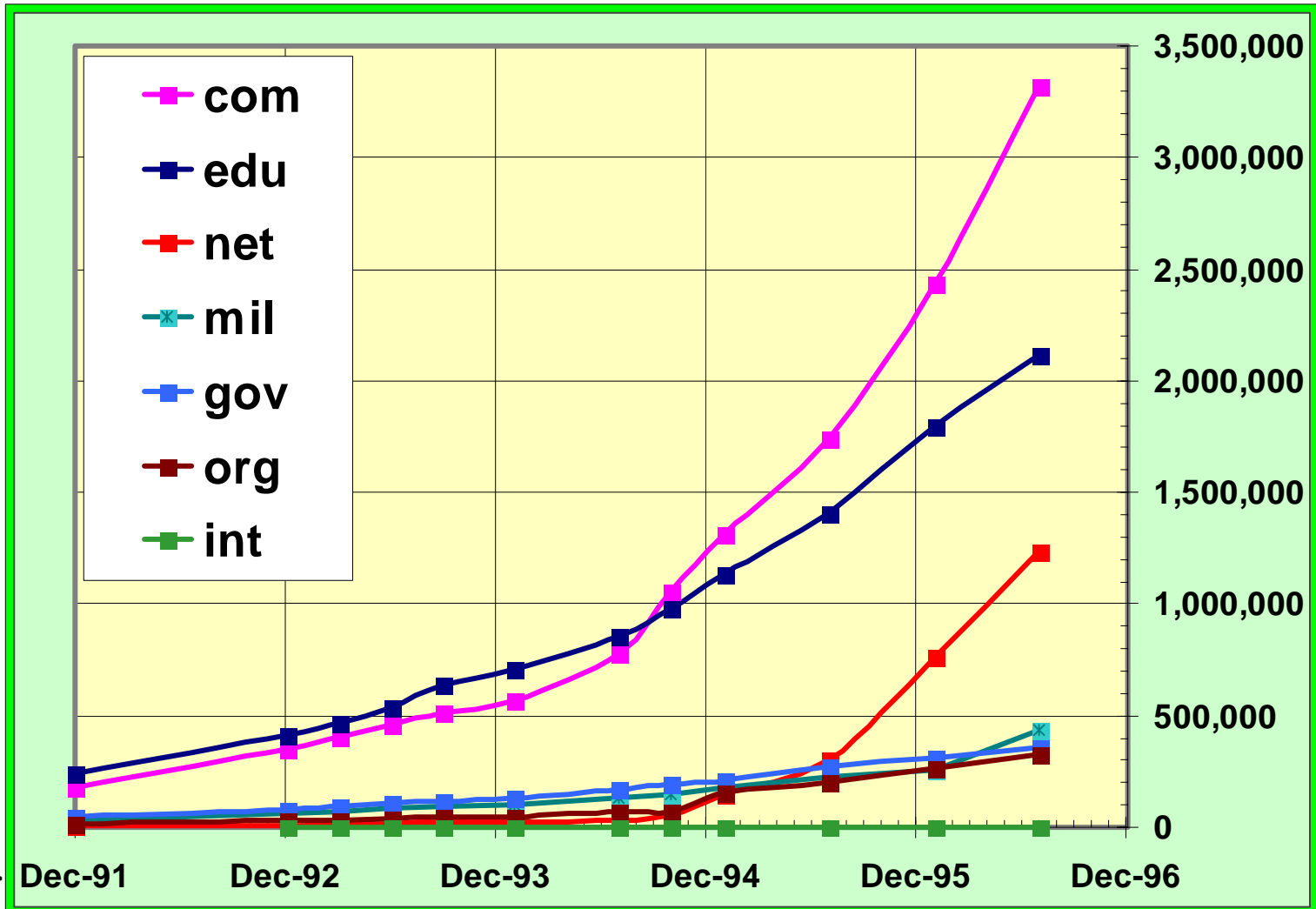
Example Country Code Subdomains

| UK Domain | Intended Usage |
|-----------------------|------------------------------|
| ac.uk | academic |
| co.uk, plc.uk, ltd.uk | commercial |
| gov.uk | governmental |
| mod.uk | Ministry of Defence |
| net.uk | Internet Networks |
| nhs.uk | National Health Service |
| org.uk | non-commercial organisations |
| sch.uk | schools |

International TLD Trends (e.g., .com)

- **Low profile of .us tag and ‘domain name envy’, ‘international envy’ conspire against use of .us tag in US**
- **Tremendous growth & ‘commercialization’ of the Net (popularity of ‘.com’)**
- **But non-US registrations in .com increasing**
- **Conflict between registrations in iTLDs & ‘national’ trademarks**

Internet Hosts: 3-Letter Domains



Source data:
M. Lottor
Network Wizards
<www.nw.com>

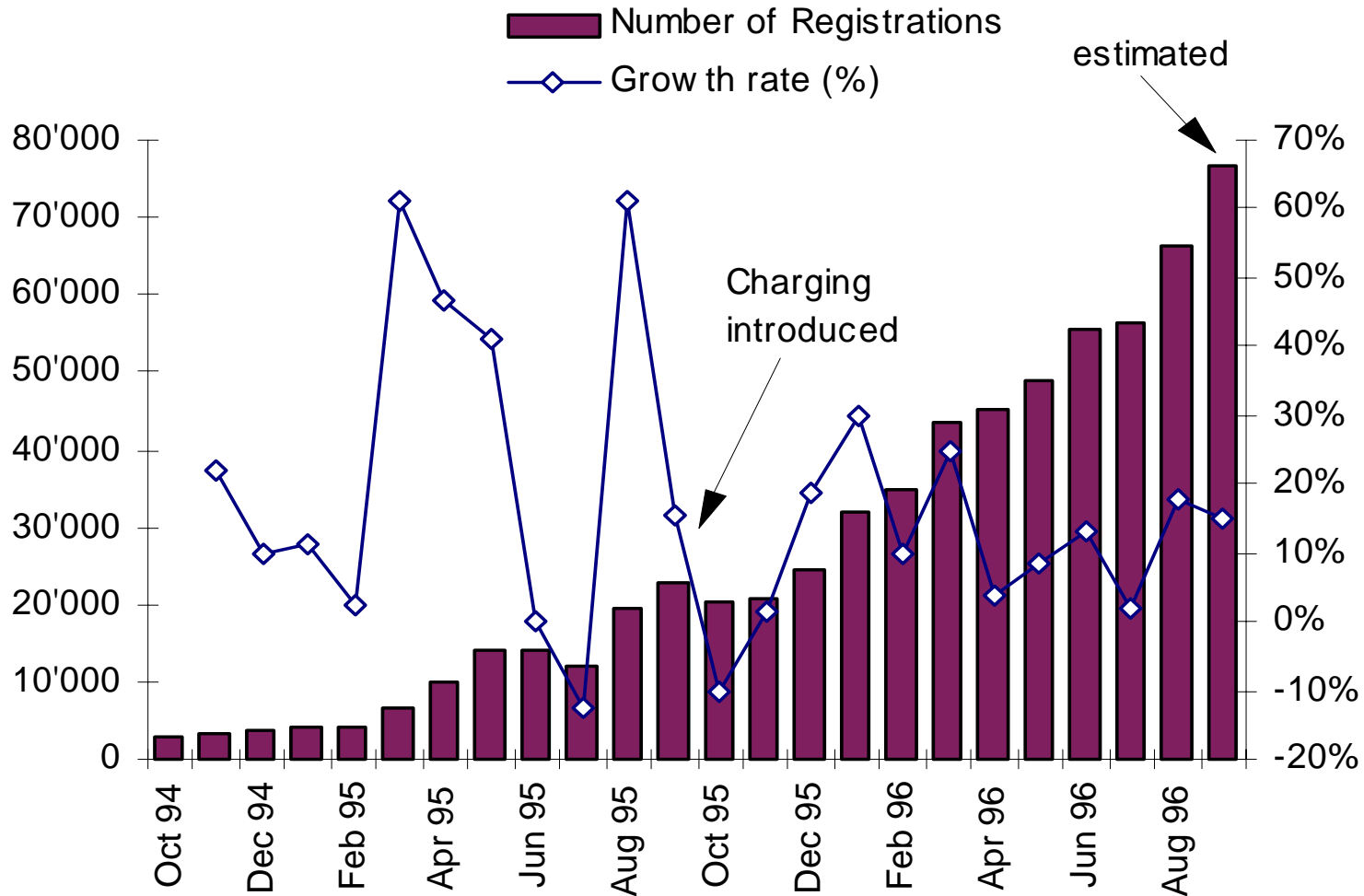
Graphic:
T. Rutkowski
<tony@genmagic.com>

iTLD Registrations performed by Network Solutions Inc. (NSI)

- **NSF contract 93 - April 98**
- **With ‘.com’ growth, NSF authorized US\$ 50 a year fee from Sept. 95**
- **Sept. 95-96 = ~US\$ 27 million annual revenue**
- **NSI keeps 70%, 30% goes to Internet “Intellectual Infrastructure” fund**
- **15% monthly growth rate**
- **Sept. 97: estimate ~\$160 million annual revenue**

NSI Registration Growth Rates

NSI Domain Name Registrations Oct 94 - Sep 96



Trademarks and Domain Names

- **Trademark law is fundamentally ‘national’ law**
- **iTLDs are ‘stateless’ so who has rights to a name and which courts have jurisdiction?**
- **WIPO (World Intellectual Property Organization) has closest to int’l registry system but only facilitates multiple national filings (US & Japan not signatories)**
- **Probably only strong trademarks (e.g., Kodak, IBM) defensible at international level**

More Trademarks

- **Traditional trademark does not allow generic terms - but milk, banana and cereal are all domain names**
- **Example: Carnetta Wong registered avon.com**
- **Avon sued and won under trademark dilution and reclaimed the domain name**

More trademarks

- **roadrunner.com owned by Roadrunner Computer Systems - claimed by Warner Brothers which has a trademark on the word Road Runner**
- **Roadrunner Computer went and registered the name as a trademark in Tunisia**
- **Oct 18, 1996 - 7th lawsuit against NSI from juno.com - went to court and NSI voluntarily dismissed the case**

Domain Name Hijacking

- Who has intellectual property rights to these “marks” in a domain name?

LE MONDE

AUSTIN REED

NAF-NAF

SKY RADIO

JAGERMEISTER

CACHAREL

VATICAN RADIO

FERNET-BRANCA

BBC PRIME

INDIAN AIRLINES

DENNER

FRASCATI

SOUTHERN COMFORT

SWISS ARMY KNIFE

Domain Name Hijacking

- But all these are registered (hijacked?) by the Swiss company “Bureau D’Esprit” in Zurich

LEMONDE.COM

AUSTINREED.COM

NAFNAF.COM

SKYRADIO.COM

JAGERMEISTER.COM

CACHAREL.COM

VATICANRADIO.COM

BBCPRIME.COM

FERNET-BRANCA.COM

INDIANAIRLINES.COM

FRASCATI.COM

DENNER.COM

SOUTHERN-COMFORT.COM

SWISSARMYKNIFE.COM

There are 1,000’s of similar examples!

Domain Name Hijacking

- Reporter registered nyt.com and New York Times paid an undisclosed sum to acquire it
- Sprint briefly held mci.com
- A 24 year old Utah student held windows95.com
- A writer for Wired registered mcdonalds.com and only after McDonalds donated money to a charity was domain relinquished
- KCRA radio in CA registered kvie.com and kpwb.com for fun

Domain name hijacking

- **taiwan.com** owned by Xinhua - official Chinese news agency
- **dc.com** registered for District of Columbia but Warner Bros. has trademark on DC Comics so name put on hold
- Zero Micro Software registered **micrs0ft.com**
- Princeton Review registered competitors name of **kaplan.com**
- Under arbitration Princeton relinquished the domain name

NSI Trademark Policy

- Introduced in '95 to allow trademark owners to claim back domain names
- Introduced 'reverse domain name hijacking'
- For example, Hasbro (since it has a game called 'Clue') wants 'clue.com' from current domain name owner
- But why not 'clue.hasbro.com'?
- Answer: 'domain name envy'

But these trademark owners can also claim 'clue.com'

- Educational Development Corporation, holding the registered trademark CLUE for an educational magazine (US trademark reg. no. 968,677)
- Equifax Canada Inc., holding the registered trademark CLUE for an insurance-related database service (Canadian reg. no. TMA 331,270)
- United Biscuits Limited, holding the registered trademark CLUE for chocolate confectionery (UK reg. no. 1007723)
- Nichols William, holding the registered trademark CLUE for various services (French reg. no. 1611272)
- Ciba-Geigy AG, holding the registered trademark CLUE for fungicides (French reg. no. 617205, Benelux reg. no. 617205, Swiss reg. no. 409319, Austrian reg. no. 617205, German reg. no. 617205, Italian reg. no. 617205, Liechtenstein reg. no. 617205)
- Monsieur Penangwala Ahmed Sadrudin, holding the registered trademark CLUE for cosmetics (French reg. no. 94504168)
- and many more...

Perceived Problems

- **NSI perceived to be in ‘monopoly’ position handling international resource**
- **NSI perceived unfairly awarded ‘cash cow’**
- **NSI trademark policy seen to favor (US) trademark owners**
- **All the good (small-footprint) names are gone**
- **Authority vacuum: with US government extraction from activities, who has right to decide policy?**

The Internet Acronym Soup

- **IETF** Internet Engineering Task Force
- **IAB** Internet Architecture Board
- **ISOC** Internet Society
- **IANA** Internet Assigned Numbers Authority
- **FNC** US Federal Networking Council
- **NSF** National Science Foundation
- **InterNIC** Int'l Network Information Center
- **NSI** Network Solutions Incorporated
- **RIPE NCC** R^éseaux IP Européens Network Coordination Center
- **APNIC** Asian-Pacific Network Information Center

International Authorities

- **ITU - International Telecommunications Union**
- **WIPO - World Intellectual Property Organization**
- **INTA - International Trademark Association**



Yet More Internet ‘Authorities’

- **FNC ‘mission’ to support US National Information Infrastructure (NII) Initiatives**
- **US Department of Commerce’s National Telecommunications and Information Administration (NTIA) coordinates US NII and GII initiatives**
- **US Patent and Trademark Office (USPTO) to hold hearings on DNS issues in early 97**
- **US FCC has ‘authority’ but politically unpopular in US to ‘regulate’ Internet**
- **FCC+NTIA+US State -> ITU; USPTO -> WIPO**
- **WIPO & ITU attempt to ‘harmonize’ international policies**

Domain Name System Evolution

- **IANA has proposed to create additional top level domains (.web, .bus) and additional registries (like NSI)**
- **Who has rights to decide policy? Who has rights to be a registry?**
- **Fear of creating new ‘monopolies’ from valuable iTLDs (e.g., ‘.web’)**
- **Shared registries for single iTLDs?**
- **Considerable controversy on proposals**

DNS Evolution: more issues

- How to break ‘cachet’ of .com
- Unfortunately, used as a directory service (www.companyname.com)
- Trademarks and other potential forms of ‘rights’ (e.g., clinton.com and switzerland.com)
- Common dispute resolution policy?
- Fees - how much and what is money used for? What to do with excess?

Components of a Solution

- **Foster continued Internet growth**
- **Minimize governmental/intergovernmental intervention**
- **Provide long term solution, self-sustaining**
- **Driven by major stakeholders, consensus-based**
- **Recognition that Internet DNS is a global resource that must be shared equitably (like global spectrum)**

Internet Assignment Hierarchy Coalition

- **ISOC initiated panel formed to examine DNS policy evolution issues**
- **Representatives from global Internet technical community, ISOC, IANA, IAB, WIPO, INTA, ITU, FNC ---> IAHC**
- **Focused international expertise in legal, trademark, technical, business, standards and management issues**
- **Scope & charter: by March 1997 to have many more new iTLDs (i.e. .ltd, .inc, .home)**

International Ad Hoc Committee

- **<http://www.iahc.org>**
- **European Commission wants a seat**

Results from IAHC meeting

- **To be made public Dec 19th**
- **7 new generic TLDs like .inet, .iway, .inter**
- **Sharing of all gTLDs - including .com, .net**
- **20-30 new registries selected in round robin lottery by ITU regions (five)**
- **\$20,000 to be a new registry - refundable**
- **4-5 companies from Middle East/Africa can be registries like NSI in 1997!!**

Results of IAHC meeting - cont.

- **Recommend national domains form .tm.il**
- **Recommend 60 day waiting period**
- **Random alphanumeric SLD with no wait**
- **.int to add .tm.int for international trademarks**
- **Community feedback till Jan 17th**

Final Remarks

- **DNS policy issues proving to be a catalyst for dealing with evolving and difficult international Internet legal and policy issues**
- **Forcing traditional Net technical community and other new stakeholders to work together**
- **Trend towards new processes for international cooperation in management of Internet resources**