



"The Internet's Most Trusted Company"

Overview of Internationalized Domain Name (IDN) Market & VeriSign GRS' IDN Testbed



About VeriSign

VeriSign, Inc. is the leading provider of trusted infrastructure services to Web sites, enterprises, electronic commerce service providers and individuals. The company's domain name, digital certificate and payment services provide the critical Web identity, authentication and transaction infrastructure that online businesses require to conduct secure e-commerce and communications. VeriSign's services are available through its Web site (www.verisign.com) or through its direct sales force and reseller partners around the world.

- **#1 "trusted infrastructure services" company**
- **Compelling end-to-end services offering**
- **Highly differentiated market position**
- **Key technology and distribution partnerships**
- **Critical mass and global reach**
- **Scalable, recurring business model**

Company of "Internet Utility" Services

Today

- Domain name sales
- Web site creation
- Hosted e-mail
- Special services

Today

- Website certificates
- Managed PKI Services
- Authentication Bureau
- Validation services

Web Identity
Services

Global Registry
Services

Authentication
Services

Payment
Services

Today

- Massive registration system
- Active .com, .net, .org names
- Internet root server
- DNS constellation *(See Appendix)*
- Managed DNS

Today

- Credit & Purchase cards
- ACH payments
- Processor connectivity
- Fraud screening



About VeriSign *(continued)*

Enterprise/Service Provider Division	Mass Market Division
VeriSign's Enterprise and Service Provider Division sells its services through a direct sales force.	VeriSign's Mass Market Division sells its services through its retail Web sites as well as a network of ISPs.
<ul style="list-style-type: none">➤ Managed Public Key Infrastructure (PKI) Services➤ Network And Security Consulting➤ Corporate Domain Name Management➤ Managed DNS➤ The Worldwide Affiliate Program➤ Global Registry Services	<ul style="list-style-type: none">➤ Domain Name Registration and Web Presence Services➤ Website Digital Certificates➤ Payment Services➤ Web Authoring➤ Secure E-Mail Certificates➤ Digital Notarization Service➤ Developer Certificates



About VeriSign GRS

Exclusive Provider of Domain Name Registry Services for the .com, .net & .org Top Level Domains (TLDs)

- Maintains the database of over 30 million domain names, and propagates that information to the Internet twice daily.
- Provides ICANN-accredited registrars with the support needed to become and remain active participants in securing domain names for customers.
- Has an agreement in place with ICANN and the US Department of Commerce to remain the exclusive provider of registry services for .com, .net, and .org through 2007, 2005, and 2002, respectively.



About VeriSign GRS *(continued)*

Going forward, VeriSign GRS is working to

- Expand the services and value of the current TLDs (.com, .net, and .org)
- Leverage its carrier-class infrastructure to provide Registry services to other TLD registries and DNS management services to Web-based businesses
- Further the convergence of Internet Protocol (IP) and other communications media (PSTN)
- Make Internet truly accessible to non-English speaking population



I. IDN Market Overview



What are IDNs?

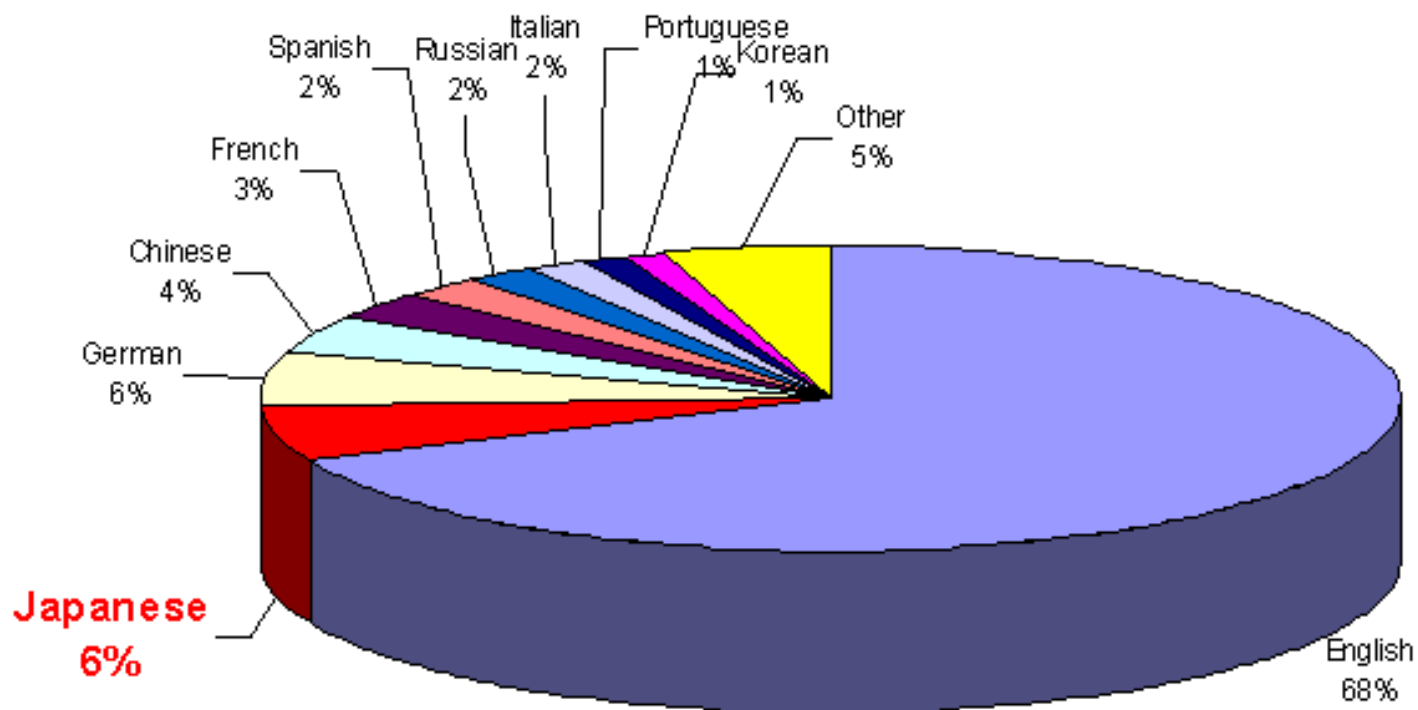
Internationalized domain names are domain names represented by native language characters. The native language domain name will be followed by .com, .net, .org in the VeriSign GRS' IDN testbed (for example: サンプル名簿.com).



How IDNs are Processed?

IDNs in the VeriSign GRS' IDN testbed currently use Row-based ASCII-Compatible Encoding (RACE) and valid name prep checks to convert native language characters into ASCII-compliant codes. These ASCII strings will then be sent to the VeriSign Global Registry Services database via an internationalized domain name testbed protocol. The ACE algorithm is subject to change based upon a decision by the IDN WG of IETF.

Web Content by Language

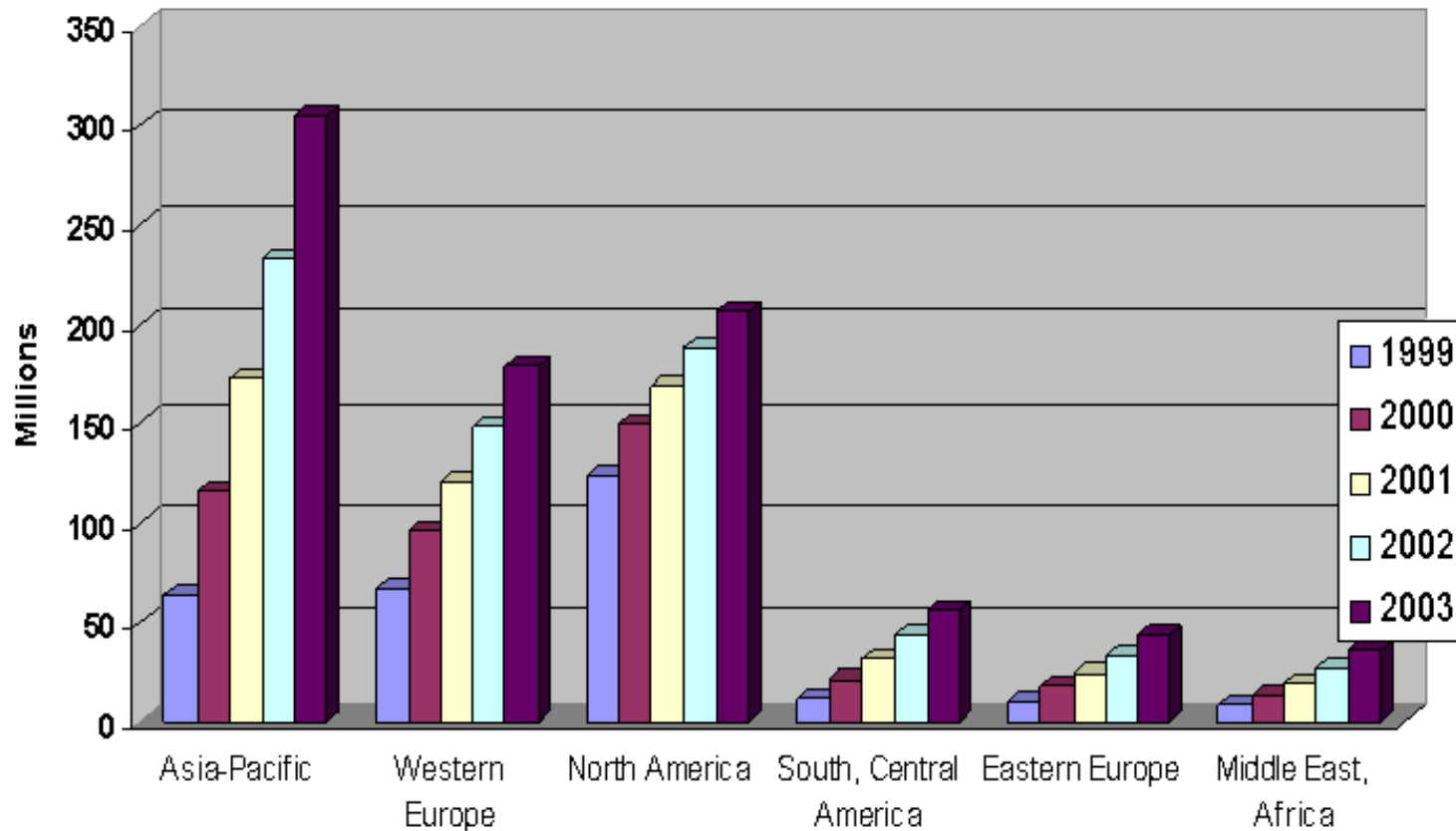


In 2001 one third of the Web content in the world is non-English.

Web content is expected to become increasingly non-English to appeal to the changing demographics of internet users. It is logical to assume then that addressing schemes for this content will also HAVE to be in the native script (IDN).



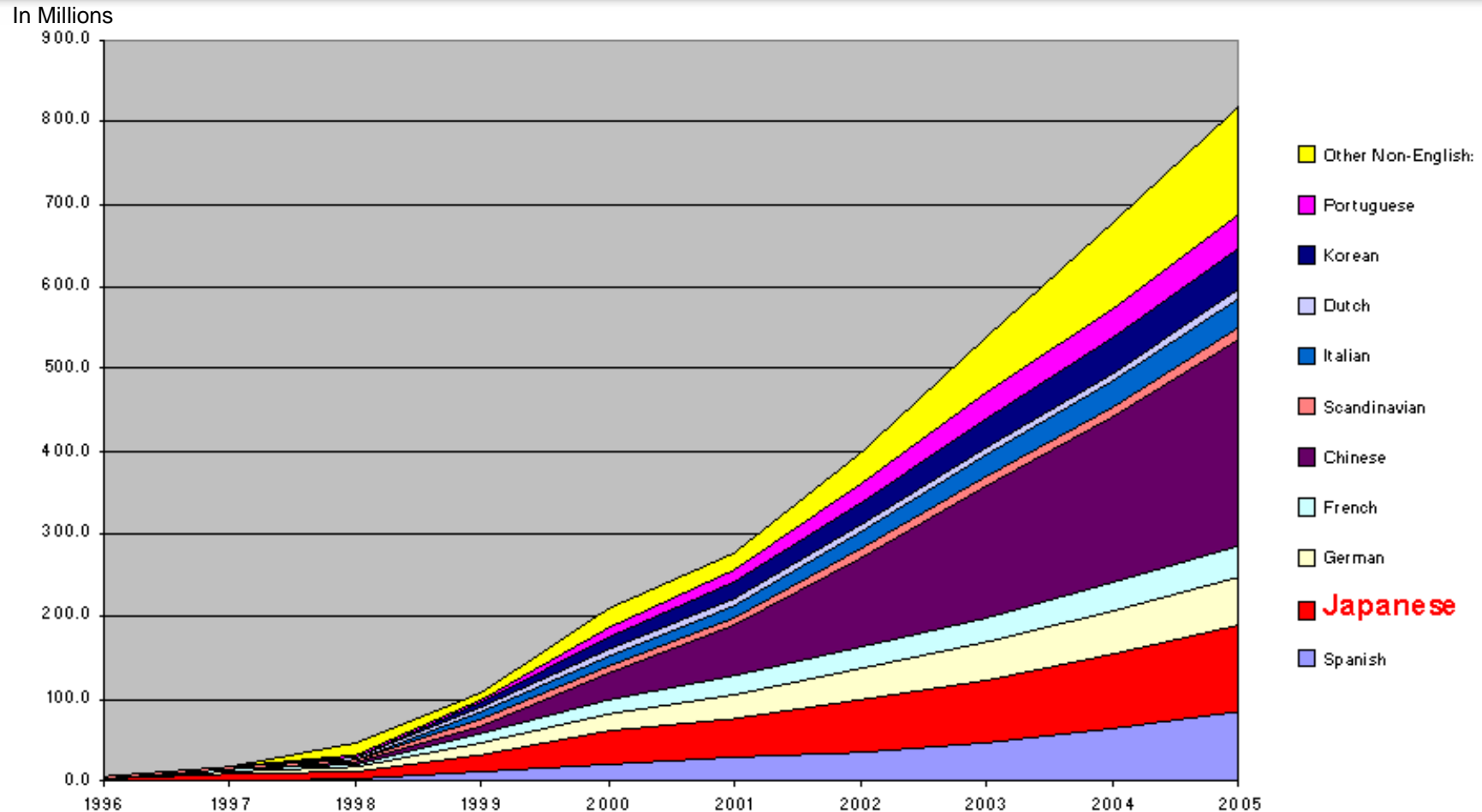
Asia-Pacific Internet Population Growth



Source: Computer Industry Almanac, Feb 2001



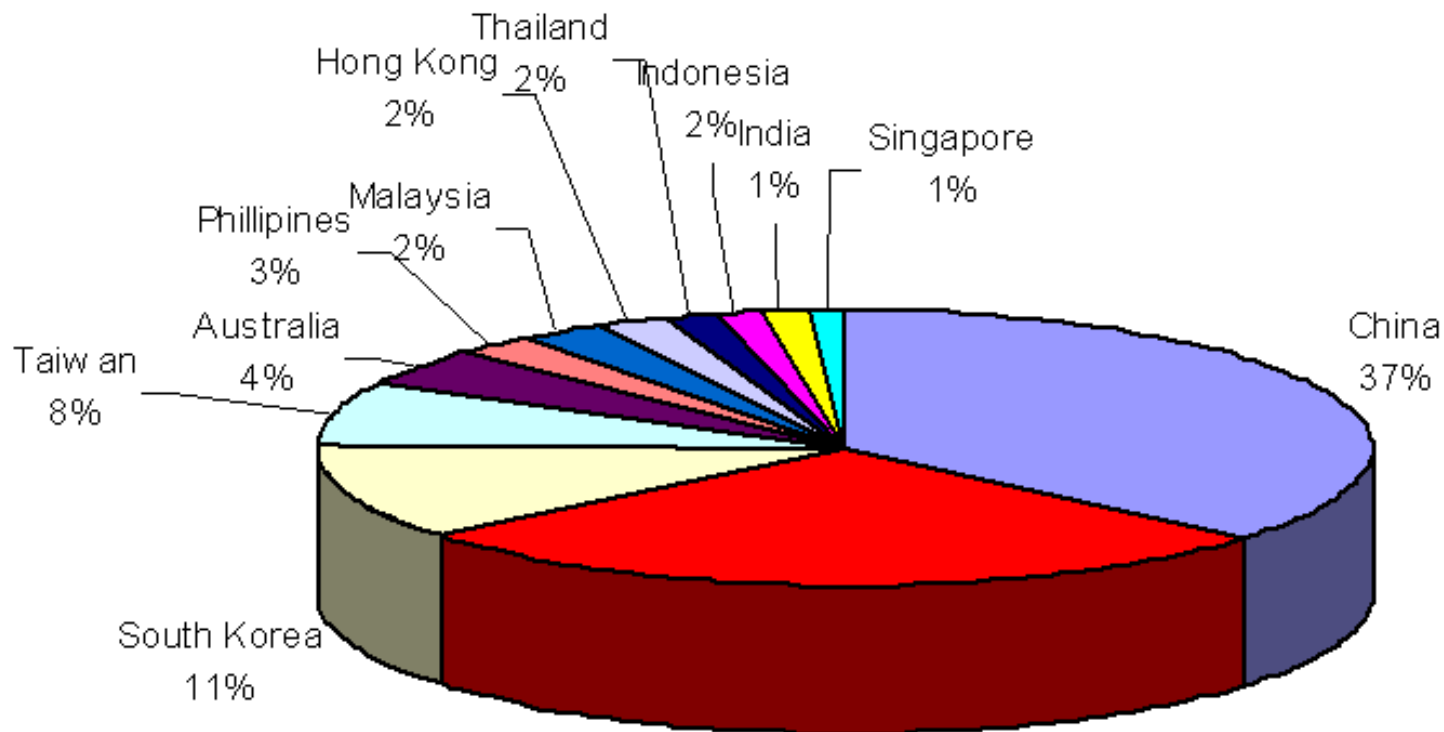
Projection of Online Linguistic Population



The makeup of the Internet user is changing to include more and more non-English speakers



AP Wireless Subscribers - 2001



Japan
27%

Source: Yankee Group, 2001
Asia-Pacific Wireless Market Overview

74% or 176 million mobile users are located in China, Japan and Korea
Total Mobile Users: 234 Millions



II. VeriSign GRS' IDN Testbed Overview



Purpose of the Testbed

- Create a functional end-to-end environment
- Provide operational experience with current IETF proposals
- Mitigate future risks of deploying internationalized solutions



Commitment to Internet Standards

- Adhere to the Internet Architecture Board principle of a single DNS root
- Ensure future compliance with:
 - Standards developed within the IETF IDN Working Group
 - ICANN policies (e.g., Registry fees, UDRP, etc.)
- Consult with IETF representatives throughout testbed
- Submit VeriSign GRS testbed experiences to the IETF through standard processes outlined in RFC 2026
- Conform to existing VeriSign GRS standards for gTLD name servers



Key Elements of the Testbed

- Registration services are provided for internationalized second-level domain names in the *com*, *net*, and *org* TLDs
- Internationalized domain names are registered, stored and resolved using an ASCII Compatible Encoding
 - Currently RACE
 - Will eventually migrate to the ACE chosen by the IETF IDN Working Group (DUDE??)



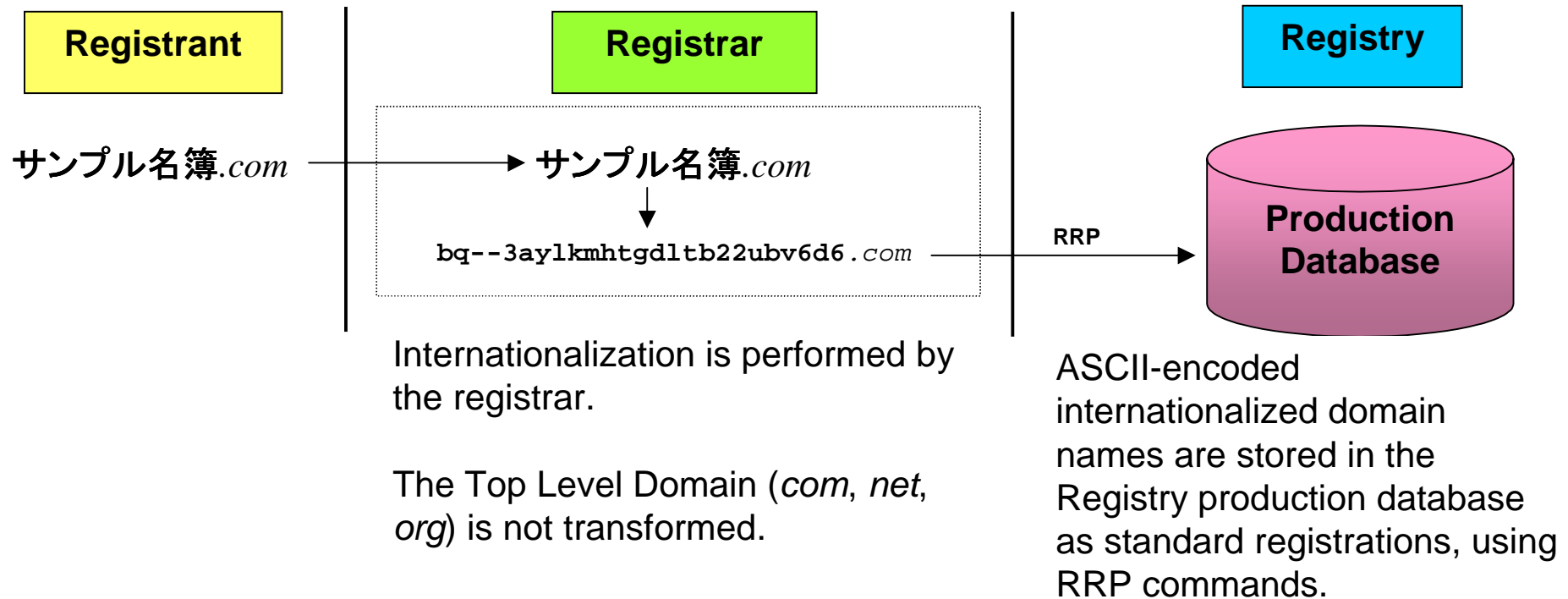
Registrar Channels

- VeriSign GRS has 87 ICANN Accredited registrars in operation (There are another 67 registrars which are accredited but not in operation yet.).
- Of those 87 operational registrars, 38 are IDN certified. These registrars are listed on our site (<http://www.verisign-grs.com/idn/customer.html>).

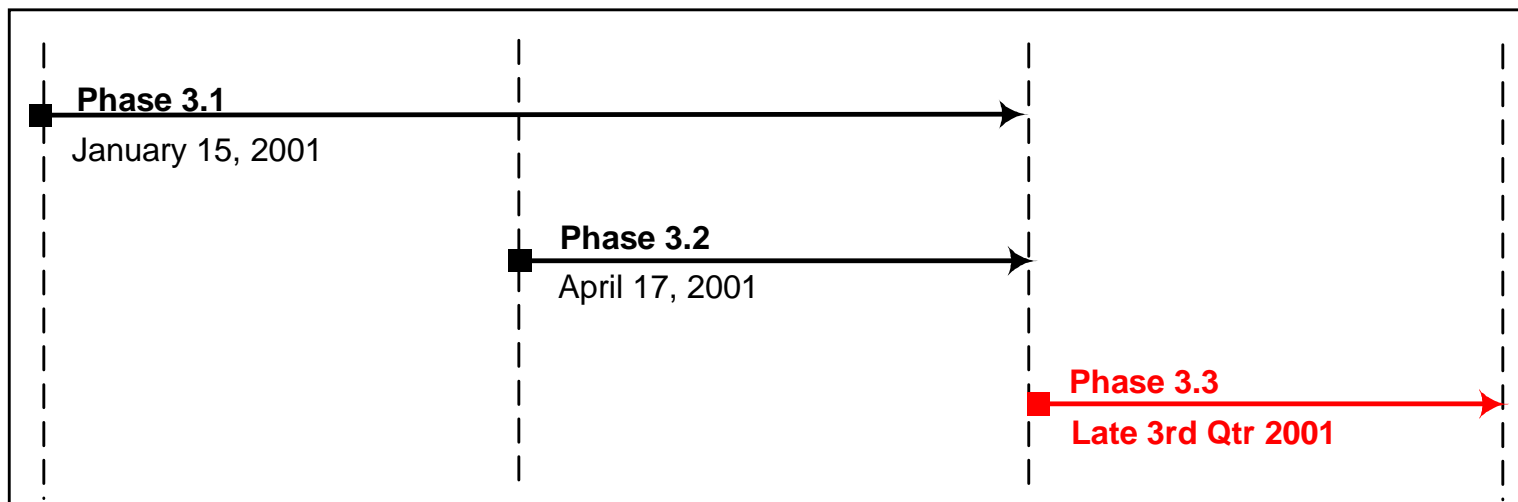


IDN Certified Registrars (38)

- [1 eNamesCo](#) US
- [123 Registration, Inc.](#) US
- [1st Domain.net, division of G+D International, LLC](#) US
- [ABC Telemedia AG](#) Germany
- [Alice's Registry, Inc.](#) US
- [Alldomains.com, Inc.](#) US
- [BB Online UK Ltd.](#) UK
- [BulkRegister.com, Inc.](#) US
- [Capital Networks Pty. Ltd.](#) Australia
- [Catalog.com, Inc.](#) US
- [China-channel.com](#) China
- [Domain Bank, Inc.](#) US
- [Domaininfo](#) Sweden
- [DomainPeople, Inc.](#) US
- [doregi.com](#) Korea
- [Dotster, Inc.](#) US
- [Eastern Communications Co., Ltd.](#) China
- [eNom, Inc.](#) US
- [Gabia, Inc.](#) Korea
- [Interdomain SA](#) Spain
- [interQ Incorporated](#) Japan
- [Internet Names WorldWide](#) Australia
- [ItsYourDomain.com](#) US
- [Key-Systems GmbH](#) Germany
- [Namebay](#) Monaco
- [NameEngine, Inc.](#) US
- [Netpia.com](#) Korea
- [Network Solutions, Inc.](#) US
- [Nominalia Internet S.L.](#) Spain
- [NORDNET](#) France
- [pAsia, Inc.](#) China
- [PSI-Japan, Inc.](#) Japan
- [register.com](#) US
- [Registrars.com](#) US
- [Speednames, Inc.](#) Denmark
- [TUCOWS, Inc.](#) Canada
- [Xin Net Corp.](#) China
- [YesNIC](#) Korea



- Accepting IDN registrations in *com/net/org* zones since November 10, 2000
- Nearly one million IDN registrations
- Currently supports more than 350 languages



Features	Phase 3.1	Phase 3.2	Phase 3.3
Support ACE queries	√	√	√
<i>mltbd</i> resolution to VeriSign GRS web site	√		
ACE in <i>mltbd</i> zones	√	√	
Delegation of internationalized domains under <i>mltbd</i>		√	
ACE in <i>gTLD</i> zones			√
Delegation of internationalized domains under <i>gTLD</i>			√

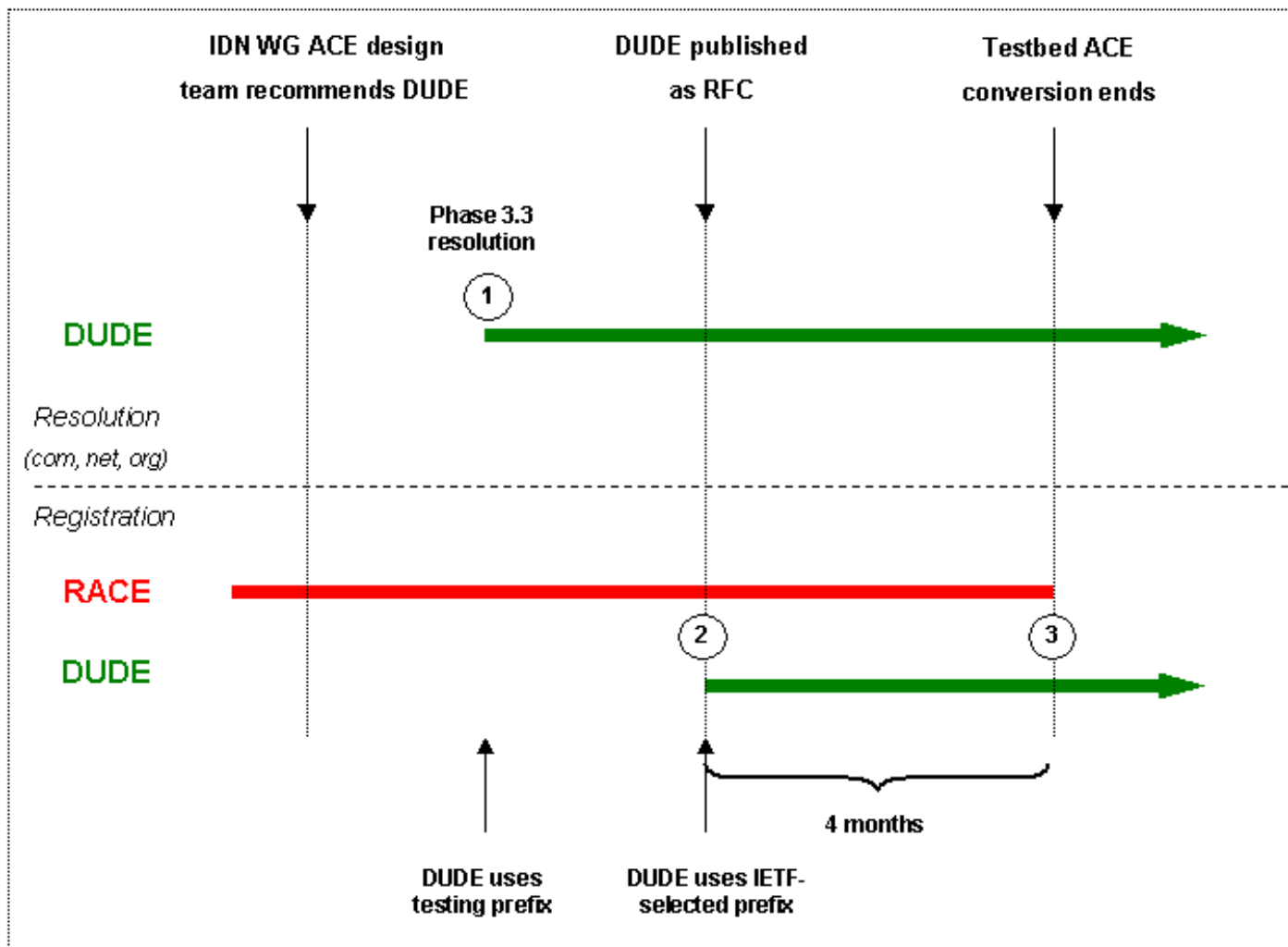


Breakthrough in Web Navigation using IDNs

- Internet users can now reach Web site destinations by typing domain names with characters used in their own languages into their Microsoft Internet Explorer 5.0 or higher browser software. These Internationalized Domain Names, or IDNs, contain non-ASCII characters to the left of the "dot" and are available in more than 350 languages.
- Using technology from RealNames Corporation, Microsoft modified a search function of Microsoft Internet Explorer 5.0 to enable the IDNs to work without the use of special plug-ins or client software.
- For more information, please refer to the following:
 - **Press Release** at http://corporate.verisign.com/news/2001/pr_20010620.html.
 - **Internet Draft** at <http://www.ietf.org/internet-drafts/draft-arrouye-idn-ie5-resolution-00.txt>.



Roadmap for IDN Deployment





IDN Enabling Applications

- VeriSign GRS wants to encourage application developers to “IDN enable” applications as soon as possible
- Also creating a list of IDN-enabled applications
- Developing broader open-source strategy and looking for partners/participants (e.g, JPNIC mDNKit)
 - IDN Technology Providers Information at <http://www.verisign-grs.com/idn/announce/techinfo.html>.

- The IDN market in the Asia-Pacific region, especially in Japan, has the greatest potential.
- Forging strong and cooperative relationships in the Asia-Pacific region.
 - JPNIC, JET, JDNA, MINC, APTLD, etc.
- Committed to the standards process.
 - Participating in the IETF IDN Working Group
 - Will conform to eventual internationalized standard
- On-going efforts in the IDN testbed.
 - Resolution Report at <http://www.verisign-grs.com/idn/IDNResolutionReport.pdf>.
 - Phase 3.3 Resolution and ACE Migration Plan at <http://www.verisign-grs.com/idn/resolutionplan.pdf>.
- Goal is interoperable internationalized DNS.



Appendix: gTLD Constellation





Thank You!