

# Deploying IDNs in the .no domain

Some experiences from the preparations, introduction and  
subsequent operations

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RIPE-48 - Amsterdam 2004-05-04

## About Norid

- Located in Trondheim, Norway
- Part of UNINETT, the Norwegian academic network provider
- Separate, limited company since 2003
- Staff of 10 employees
- Has run the .no registry since 1987
- Currently 200.000+ registrations in the .no zone
- 2000 – 3000 new registrations per month
- Activities overseen by Norwegian Post and Telecommunication Authority

## Operational framework

- Thick registry
  - Contact data (persons, roles, and organizations)
  - May bill registrants directly
  - Enforces registration policies
    - \* DNS delegation checks
    - \* Validates organization information
- $\approx$ 500 registrars
- E-mail based application processing

## Peculiarities in the .no registration policies

- Domains are registered to organizations, not individuals
  - Organizations identified by number in national business registry
- Domain name quota per organization (20 domains)
  - Intended as policy component to combat domain name speculation

## A bit of history

- Liberalization of policy in February 2001
  - No longer requirements for an association between names
  - Quota system introduced
  - First week of applications ordered by lottery draw
  - Liberalization considered successful
- Dispute resolution policy in place October 2003

## Introducing IDN - New characters

Common to all the written Norwegian languages : æ, ø, and å

Additional characters for written languages:

- Bokmål and nynorsk – as sanctioned by the Norwegian language council
  - à, ç, è, é, ê, ñ, ò, ó, ô, ü, and ä
- The Sámi languages – as sanctioned by the Sámi council
  - Northern Sámi: á, č, đ, ŋ, š, ʦ, and ž
  - Southern Sámi: none
  - Lule Sámi: á and í
- Personal names – the Norwegian register of names
  - ä, é, è, ô, ö, and ü.
- No bundles – would create more rather than less confusion

## Adaptations to the registry system

- Accept US-ASCII, ISO-8859-1, UTF-8 character sets in forms
- Customized whois-service and web-proxy with support for UTF-8
- Validation of IDNs
- Update of billing software and routines
- Mostly tried to take the path of least resistance
- No complete re-design/-implementation of the system

## Introducing IDN - Transition Mechanism [1]

- Expected huge initial demand
- Many applications for popular domain names
- No sunrise period
- No special rights for holders of existing domain names
- Handle conflicts after the fact, instead of preventing them
- “Something will go wrong”! How do you plan for that?



## Introducing IDN - Transition Mechanism [2]

Need a transition period with built in “slack”

Draw lots

- Accumulate applications over a suitable period of time
- Process applications immediately. Queue valid ones.
- Randomize processing order if  $> 1$  application for an IDN
- Process the queued applications

Additional requirements

- Limit number of applications  $\rightarrow$  eliminate (domain name, organization) duplicates

## Pros and Cons

- + Registrars have the opportunity to correct mistakes
- + Registry have the opportunity to correct mistakes
- + Slack make it possible to handle technical problems
- + Equal chance for applicants
- + It did work once before...
- Longer duration than “Big Bang”
- Requires adaptations to the registry software
- Requires a limited application form
- Registrars and registry must adapt operations to temp regime
- Requires thorough info to registrars, registrants and media

## The Transition

**Fri Feb 6th 16:00** Registry closed for new applications, started express processing of applications already in the system.

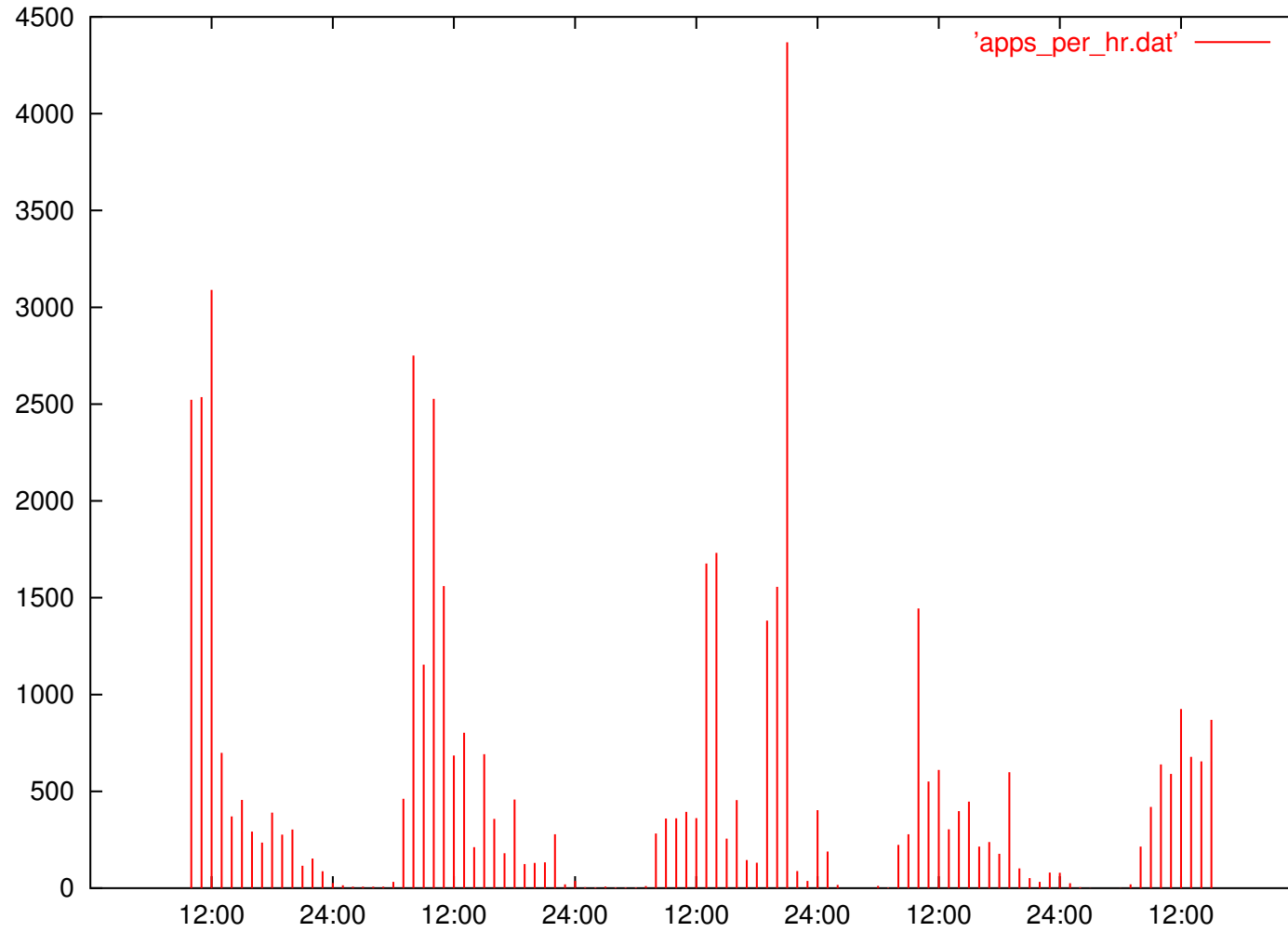
**Mon Feb 9th 10:00** Registry opened again with new policy. IDN apps were queued in lottery queue, other apps processed normally.

**Fri Feb 13th 16:00** Registry closed for new applications. Express processing of applications already in the system. Purged duplicate IDN applications.

**Mon Feb 16th** NPT randomly ranked IDN applications. Registry processed applications in the given order.

**Wed Feb 18th 10:00** Registry opened again for normal business. First Come, First Served.

# Application activity



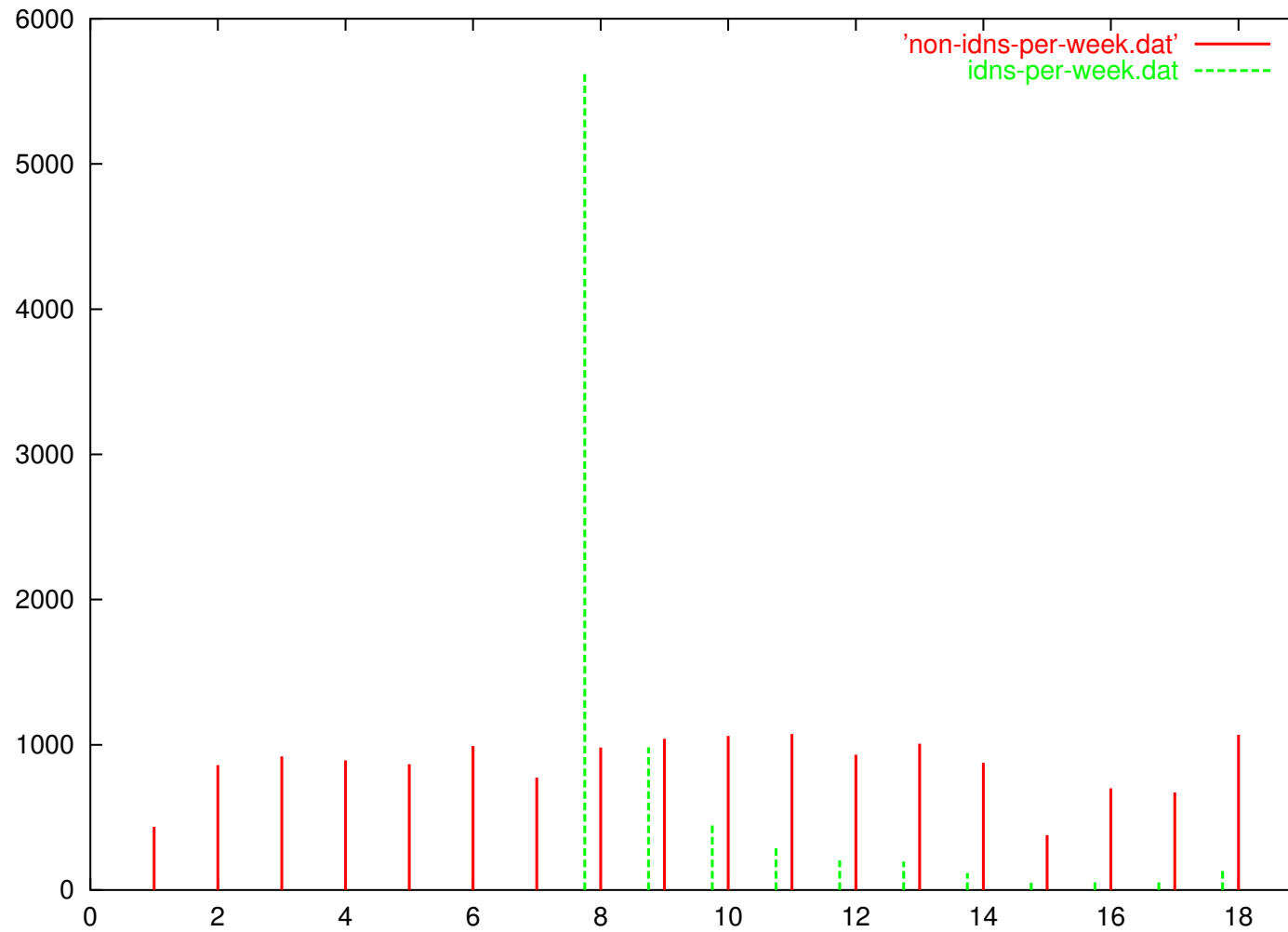
## Statistics and trends

- 43173 domain name applications
- 31441 valid IDN applications
- 983 eliminated as duplicates
- 30458 applications in draw
- 5083 unique IDNs applied for
- 3383 (67%) had only one applicant
- Very few domain names in any of the Sámi languages
- 217 registrars participated
- Majority of IDNs with  $> 1$  applicants were generic names
- 897 applications for `båt.no`

## Things that went wrong

- Typo in web example form → 4000 rejected applications
- Bug in BIND 9.2.1 resolver code
- Bug in IDN validation (prohibit '--' in domain names)
- File size limit on extra copy of received messages
- Misconfiguration of the registry system; a few applications were processed without lottery functions enabled
- Slight confusion in the media
- Most popular IDNs subject to “odds boosting” techniques

# Weekly registration activity



## Aftermath

- IDNs don't work! Or do they?
  - Need to continue information work on IDNs and ACE representations
- Accounting software limited to 8 bit character sets
- Disputes after IDN lottery:
  - 1 complaint decided against complainant
  - 10 complaints decided in favor of complainant
  - 4 complaints pending
  - 2 successful mediations
- Conclusion: We view the introduction of IDNs in the .no domain as successful.



## Some pointers

- <http://www.norid.no/> – the .no registry
- <http://www.npt.no/> – the Norwegian Post and Telecommunication authority

Questions?