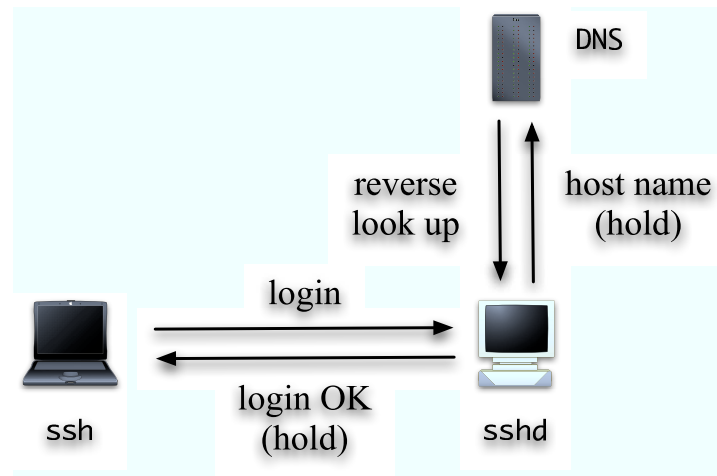


# Technical Consideration on Deprecation of ip6.int

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## Background

- ip6.int will be deprecated on 1 June, 2006
- A rumor
  - Deprecation of ip6.int will make reverse mapping worse
- It is true that some application servers have ill behavior when reverse mapping is a mess



- We need technical consideration
  - Will deprecation of ip6.int make reverse mapping worse?

# Reverse Mapping

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- What does "worse" mean?
  - DNS server response time will be longer
  - Host names will be unavailable
- Which applications use reverse mapping?
  - Most clients do NOT
  - Some servers do
- For what do servers use reverse mapping?
  - Logging host names
  - Authentication
    - Existence of reverse mapping
    - Consistency between forward mapping and reverse mapping

## After the day

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- What will happen on 1 June, 2006?
  - Roughly speaking, a name error (NXDOMAIN) will be always returned when names under ip6.int are looked up
- What does it mean?
  - It seems that no new LAME delegations will be generated
  - Rather, the number of LAME delegations will probably decrease because bad effects from lower "ill-maintained" domains will disappear
- So?
  - DNS server response time will be shorter
    - In the case where host name is resolved
    - Even in the case where host name is NOT resolved
  - An SSH server does not hold your login

## All happy?

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- The answer is NO
  - Side effects would happen
- Host name will be unavailable
  - Most servers use resolver libraries
  - "ip6.int only" resolver will not be able to resolve reverse mapping after 1 June, 2006
  - If a server is using "ip6.int only" resolver, host name is always unavailable
    - Again, response time will be shorter than before

## Resolvers

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- ip6.int only
  - Reverse look up always will fail after 1 June, 2006
- ip6.arpa only
  - No problem
- ip6.int then ip6.arpa
  - No problem
- ip6.arpa then ip6.int
  - No problem

## ip6.int only resolver

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- Most recent resolvers are NOT
- Some old resolvers are "ip6.int only"
  - FreeBSD 4.7 or earlier
  - OpenBSD 3.1 or earlier
  - glibc 2.0 - 2.0.6, 2.1 - 2.1.3, 2.2 - 2.2.4, 2.3.3
    - Linux% ls /lib/libc-\*.so
  - Windows XP (without update)
    - Do Windows update to get arpa only resolver
  - Windows Server 2003 (without update)
    - Do Windows update to get arpa only resolver
  - Solaris 8 and 9
    - Patches are available

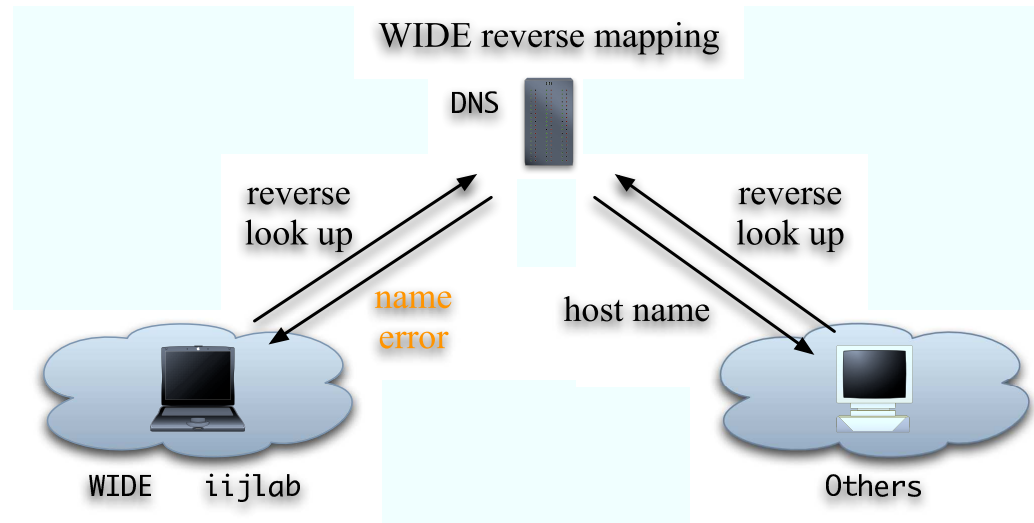
## Technical expectation

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- If a server is using an "ip6.int only" resolver
  - Logging
    - IPv6 addresses are recorded instead of host names
  - Host name based authentication
    - Access from some legitimate clients is denied
- These side effects are rare and NOT fatal



# Field test



- Separate views
  - The DNS servers of the WIDE project will return a name error to specific clients
  - v6fix WG of the WIDE project
  - Since 18 January, 2006
- No side effect has been observed

## Summary

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- A situation would be better after 1 June, 2006
- Side effects would happen  
but they are rare and NOT fatal
  - "ip6.int only" resolver should be replaced
- For more information
  - <http://www.v6fix.net/docs/ip6.int/>