



The Services & Technical Infrastructure Associated with Digital Identifiers

- Service infrastructure provided by CrossRef & DOI
- Technical infrastructure behind the DOI (a simplified view)
- CrossRef / DOI community
- Support infrastructure (what's needed to keep it running)

I have 4 slides, not including this one ☺

Chuck Koscher
Technology Director, CrossRef
ckoscher@CrossRef.org

Service Infrastructure

DOI as a URI



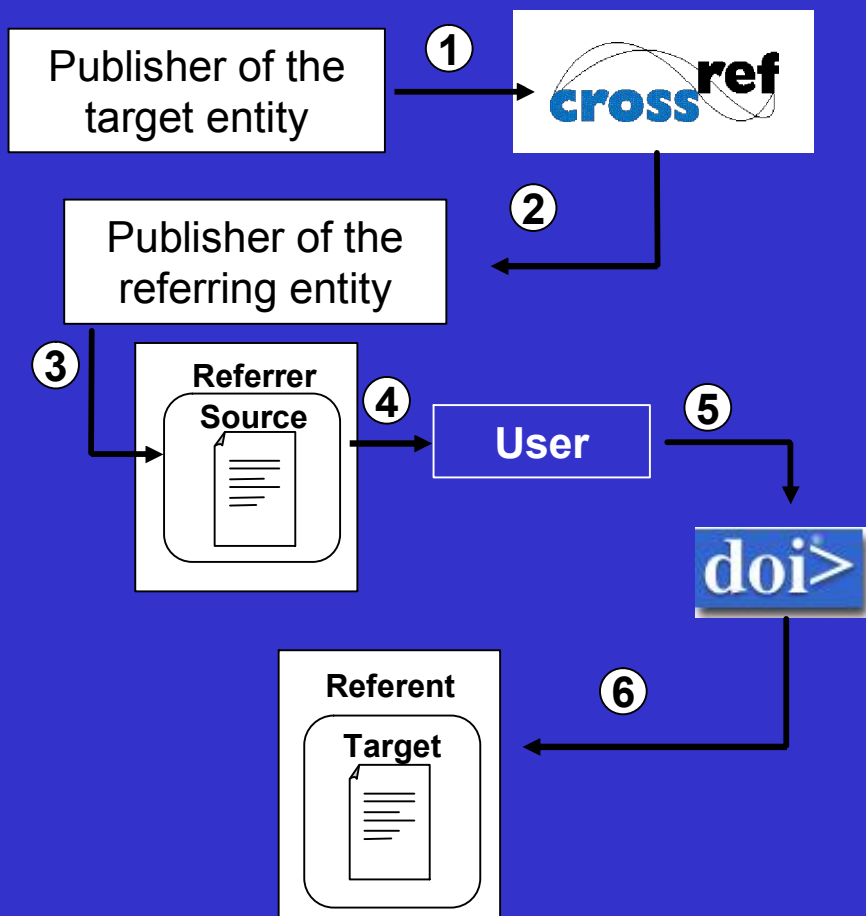
`HTTP://dx.doi.org/10.1016/S0040-4039(01)80789-9`

Resolver address

Prefix

Suffix

DOI



1. Deposit article meta-data to CrossRef with the DOI & URL

2. Query CrossRef for the DOI using meta-data

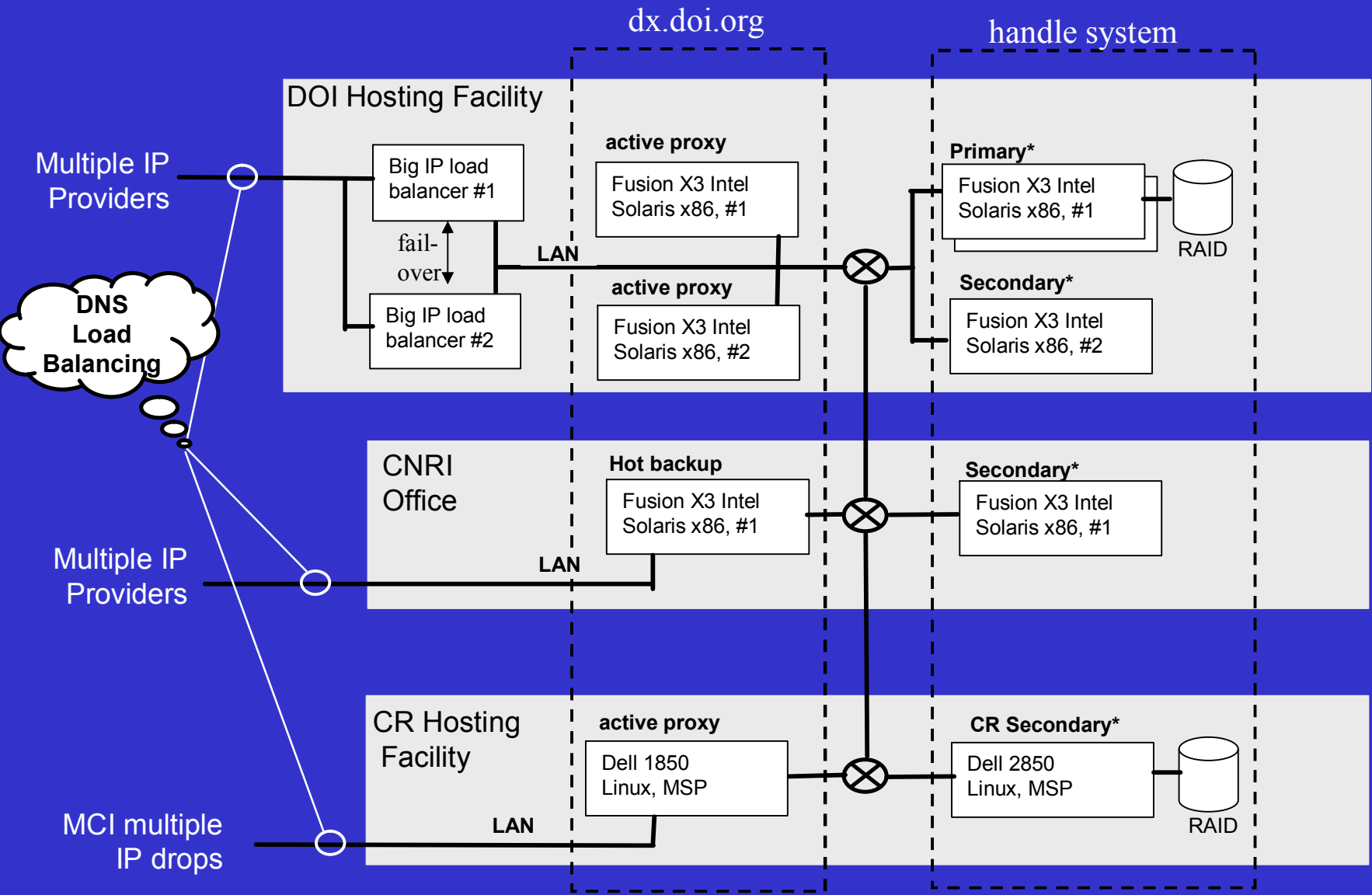
3. Present the referring article to the user with reference links active as DOIs

4. The user clicks on a link

5. Their browser sends the link to the DOI Resolver

6. The Resolver finds the URL and re-directs the user to the target document

Technical Infrastructure





Community Infrastructure



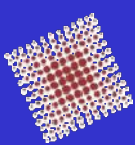
...and more !!



- Operates the metadata look-up service (DOI deposits and queries)
- Community of users (publishers, libraries, aggregators, secondaries...)
- Monitor & maintain the integrity of linking services (metadata and link quality)



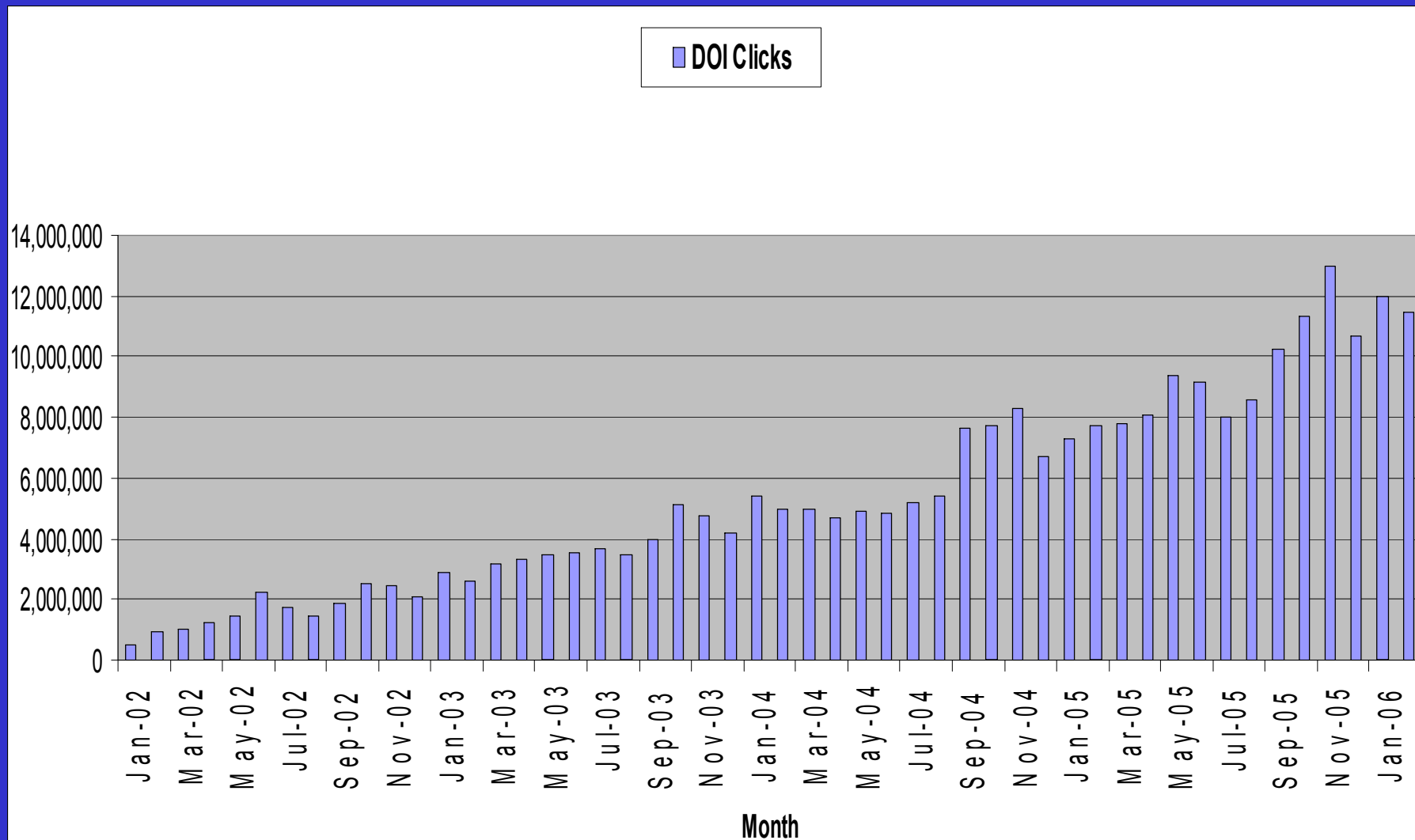
- Develops and maintains the DOI standard
- DOI advocacy
- Community of users (world wide registration agencies)



Corporation for
National
Research Initiatives

- Develops and maintains the Handle system
- Technology partner to the IDF
- Broad technical advocacy

What does this infrastructure accomplish?





Support Infrastructure - dedicated staffing (Crossref:7, CNRI:2-3, IDF:1+many)

- Support needed to indoctrinate new participants and over-see existing participants (lots of interfacing between people)
 - data construction issues, not everyone is an XML expert
 - technology issues, “so what is this HTTP Post thingy ?”
 - meta data issues, semantics are much harder than syntax
- Staff to keep the systems running (backups, updates, bug fixes ...)
- Creative people to move things forward
 - add new features (OpenURL, cited-by, free text queries, multiple resolution)
 - maintain service quality (static identifiers live in a dynamic world!)

A good identifier is much more than a string of text