

ARK - Archival Resource Key

- Introduced in 1995
- Not a formal standard, all ARKs follow the same structure and workflows
- No central resolver
- Organisations can sign up to become Name Assigning Authority Numbers (NAANs) and run their own resolution infrastructure for ARKs

The system is run by the California Digital Library with dozens of NAANs worldwide through a combined ARK/DOI infrastructure EZID. This EZID infrastructure allows interoperability between ARKs and DOI names under the umbrella of DataCite.

Handle

- Established in 1995
- Non-commercial decentralized identifier resolution system Operated by CNRI
- Used by many other higher-level systems, e.g. DOI
- Non-commercial Handle system operated by the Corporation for National Research Initiatives (CNRI)

Different initiatives use commercial handle licenses to establish local handle system, like the European Persistent Identifier Consortium (EPIC)¹. Many existing content management systems, e.g. institutional repositories, currently also operate their own local handle system. As the DOI names and handles share the same technical infrastructure, there is 100% technical interoperability between these identifiers.

URN - Uniform Resource Name

- Introduced in 1994, formalized in 1997 and is now an IETF standard
- No central governance for URN and no central resolving infrastructure
- Major national libraries in Europe have established their own subgroup of URN, the URN:NBN and operate a joint resolving infrastructure
- ISBNs for books are part of the URN system

No license costs involved for assigning URNs, but a URN registration agency needs to establish an assigning and a resolving infrastructure. As no joint resolving infrastructure or workflow for URNs exist apart from "island-solutions" like URN:NBN, it is impossible to establish general interoperability with URNs. The biggest initiative to harmonize URN registration in Europe is currently undertaken by the PersID project