



BnF and its 30 million kittens

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A report on BnF long-running attempts at building an in-house identification ecosystem for interconnected library resources



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1.

ARK at BnF, 2006–2014

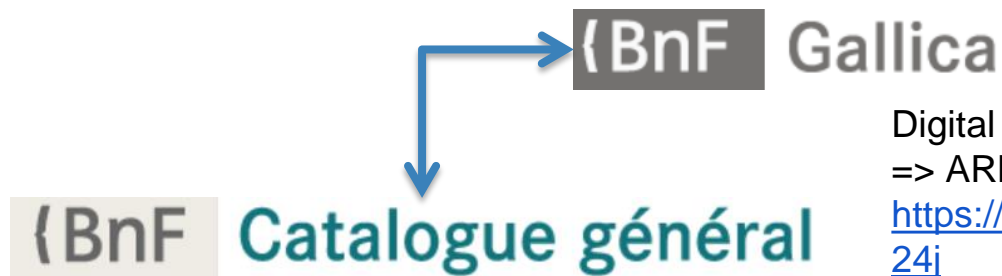
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Why BnF chose ARK in 2006?

- To keep full control of the assignment process;
- To avoid paying fees to a registration agency for millions of resources already created.



2006: a simple ARK landscape



Digital item barcode: 10722824

=> ARK identifier:

<https://gallica.bnf.fr/ark:/12148/btv1b10722824j>

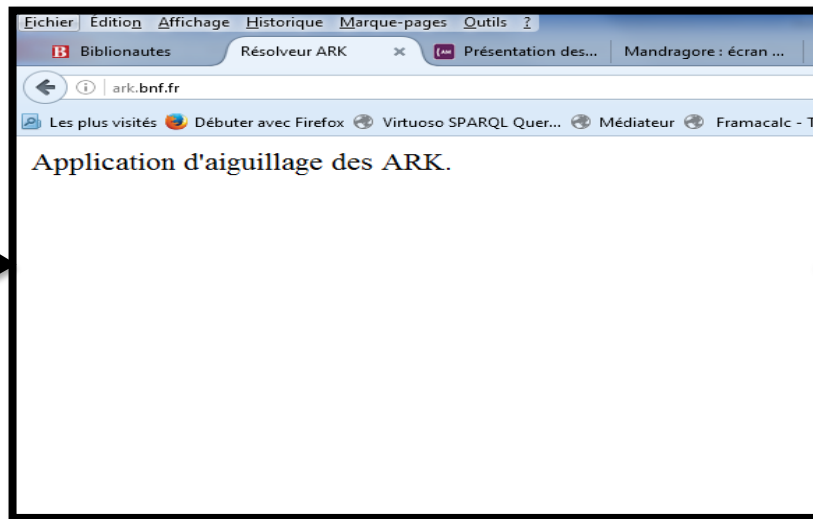
Record number: FRBNF32931365

=> ARK identifier:

<https://catalogue.bnf.fr/ark:/12148/cb32931365g>

A single piece of ARK central infrastructure: the resolver <http://ark.bnf.fr>

ark:/12148/cb329111107 ?



catalogue.bnf.fr/ark:/12148/cb329111107 !

Catalogue général

ARK publication



Citation  needed

All ARKs were published with the domain name of their application.

Permalien : <https://bp16.bnf.fr/ark:/12148/cb41873089r/>

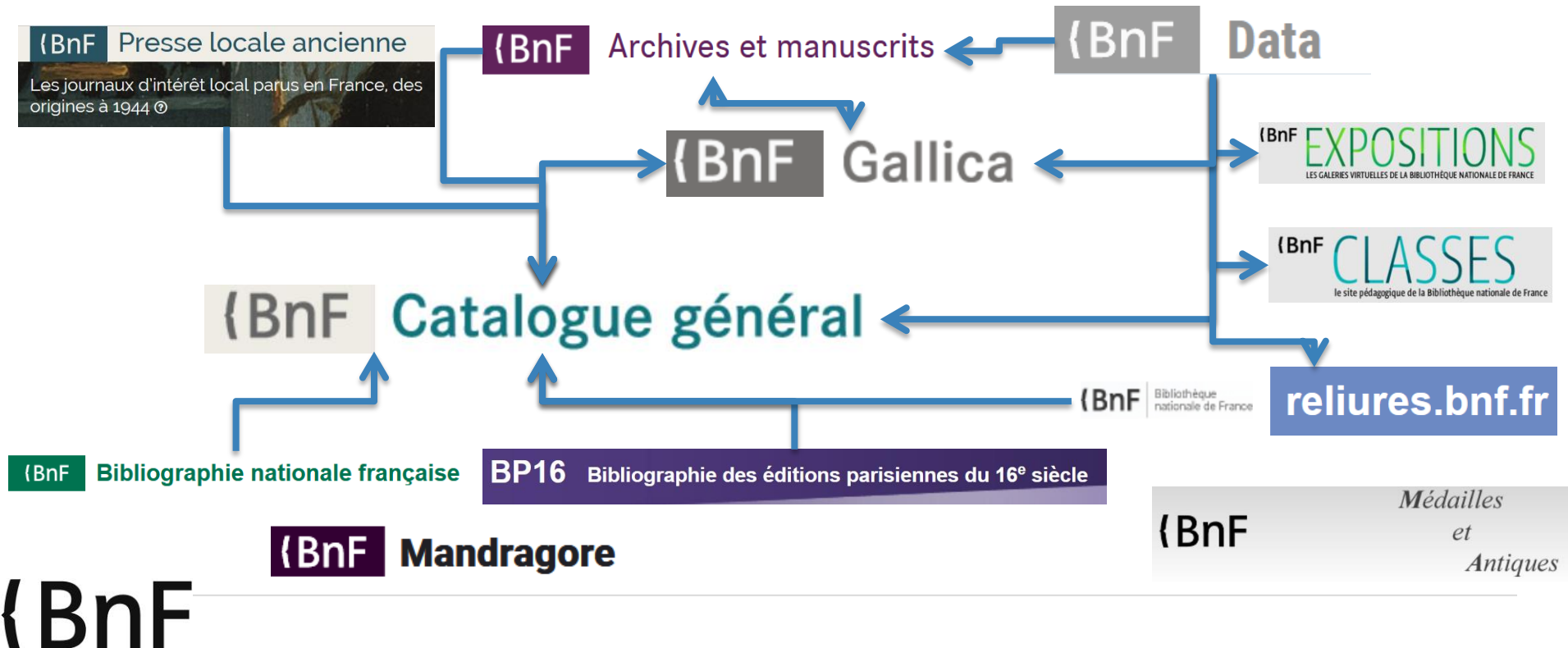
Citer la page

Outils 

Permalien :

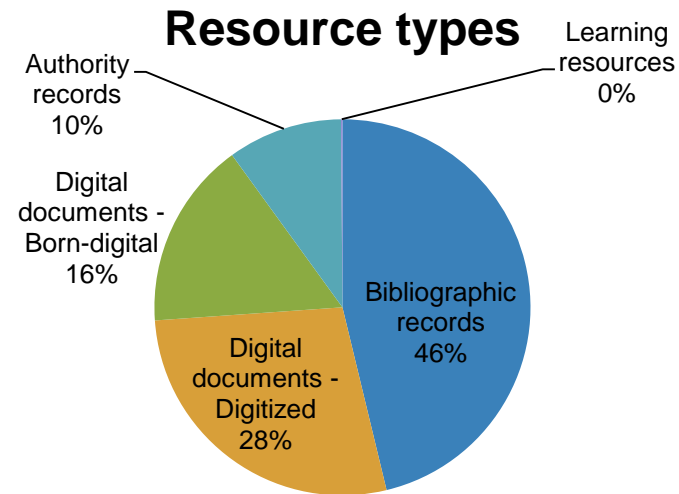
Citer la notice :

Over-simplified diagram of BnF end-user applications using ARKs for interconnection

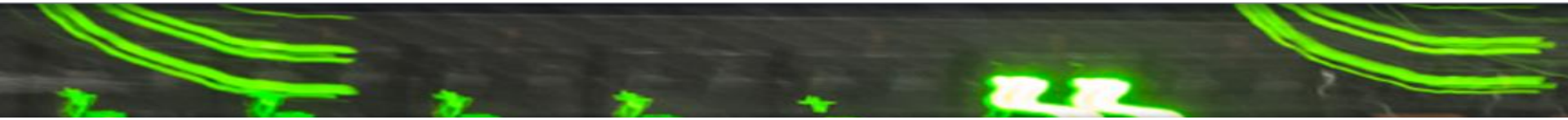


ARKs are assigned to resources produced by BnF

Bibliographic records	15 341 811
Digital documents - Digitized	9 179 467
Digital documents - Born-digital	5 352 034
Authority records	3 276 374
Learning resources	38 005



Other issues with ARKs and access persistence



- Applications with no tombstone policy (records are simply erased from the database – e.g., the digital library whose OAI-PMH repository is purged on a regular basis);
- Digital documents updated or corrected, replaced by higher-quality versions, or whose access has been restricted;
- Planned maintenance shutdowns;
- Hardcoded non-persistent URI elements (URI scheme, domain name);



Passerelle Simone de Beauvoir
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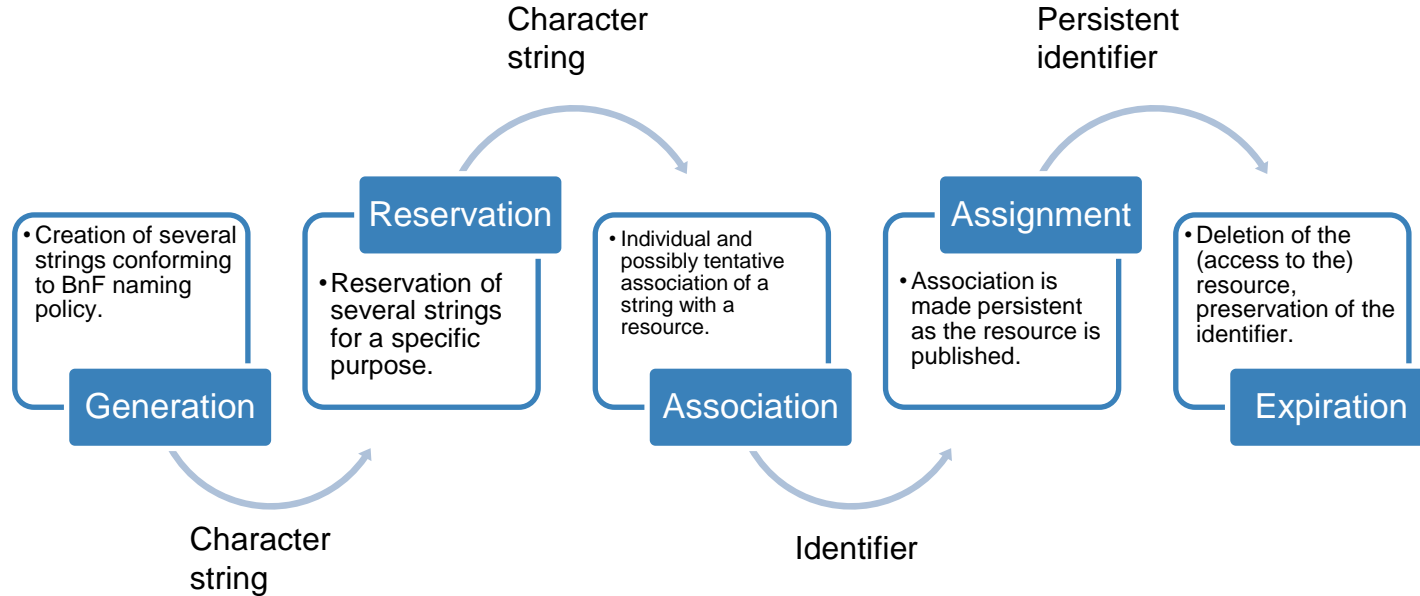
2. From 2014 on: Taking action

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1. Providing generic tooling

BnF has developed a central minter + database + API to foster good identification practices.

The tools helps managing the complete identifier lifecycle, from birth (generation & reservation) to death (deletion of the resource).



2. Publishing guidelines to BnF product owners

For sub-naming authorities (responsible for naming)

Indefinitely preserve the memory of assigned identifiers.	Preserve adequate information to provide if user requires a deleted resource.	Conform to the BnF naming policy.
Use a prefix assigned by the ARK coordinator.	Use a final control character.	

For name mapping authorities (responsible for acces)

Redirect to a generic resolver if unable to resolve.	Normalize ARKs before resolution (lowercase, ignore dashes, etc.).	Conform to the BnF naming policy.
Validate by checking the control character.	Define fallback behaviours if the user's needs (expressed by a qualifier or content negotiation) can't be met.	
Provide a landing page with resource metadata	Provide identifier metadata if the inflexion « ?info » is used.	Publish the identifier under both compact & URI forms

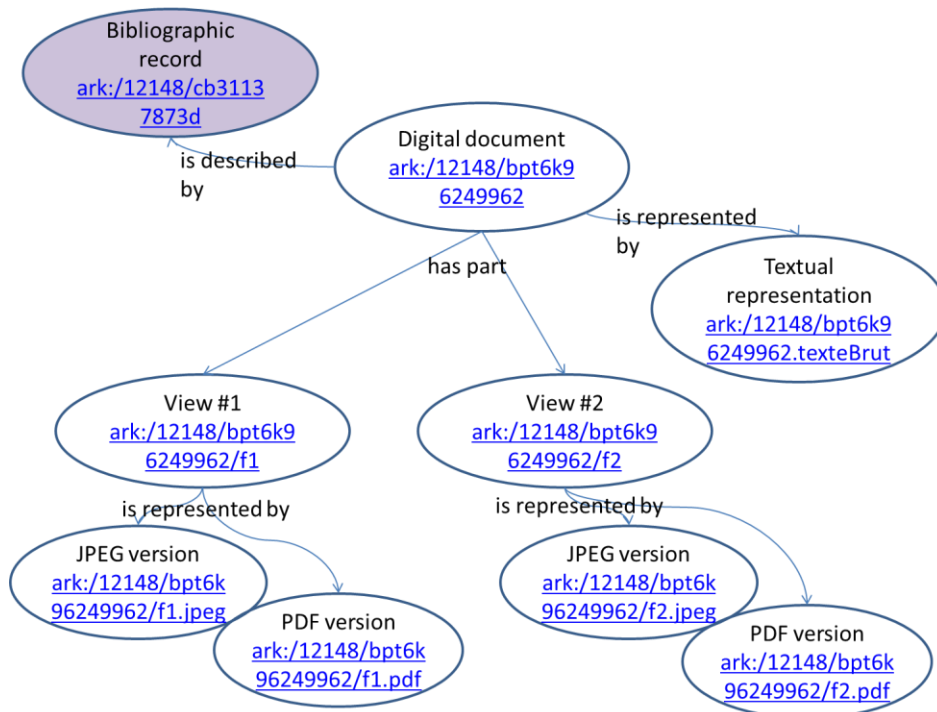
2. Publishing guidelines to BnF product owners

Requirements and self-assessment method available in French at <https://bnf.hal.science/hal-04152364v2>

When a new need for ARK assignment is identified, the POs are given the choice between:

1. Adopting the central infrastructure (minter + resolver), and spare the development of assignment and resolution functions;
2. Building another decentralized ARK implementation conforming to the 12 requirements;
3. If the requirements can't be met, providing regular, well-constructed URLs – instead of making a persistence promise they won't be able to keep.

Think about the services that you commit to maintain.



Pay attention to the way identifiers are published!

{ BnF Catalogue général Espace personnel Aide Une question ? Historique

Recherche avancée RECHERCHES CIBLÉES DANS UNIVERS

Accueil > Notice bibliographique

Notice bibliographique

Notice Au format public

Type(s) de contenu et mode(s) de consultation : Texte noté ; sans médiation

Auteur(s) : [Bouvier, Nicolas \(1929-1998\)](#)

Titre conventionnel : [\[L'usage du monde \(français\)\]](#)

Titre(s) : L'usage du monde [Texte imprimé] : récit / Nicolas Bouvier ; 48 dessins de Thierry Vernet

Publication : Genève : Droz, 1963

Description matérielle : 379 p. : ill., couv. ill. ; 19 cm

Citer la notice :

<http://ark.bnf.fr/ark:/12148/cb32931365g>

Identifiant de la notice : ark:/12148/cb32931365g

Télécharger/Imprimer
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Sig [verse.bnf.fr](#) • 13 m

3. Training the data producers & digital collection managers



Raising awareness among library professionals of the impact of their day-to-day practices on access persistence:

- MARC & EAD cataloguers when deleting records, moving or copying items or EAD components to other records, etc..
- Digital collection managers when deleting digital items or restricting their access.

Grande Bible historique complétée, BnF, Français 159, fol. 12r. <https://n2t.net/ark:/12148/btv1b844969rv/f29>

Thank you for your attention!

@BertrandCaron@digipres.club
bertrand.caron@bnf.fr

