



Generation and Resolution of Global Identifier: A Solution Based on the Internet

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<http://urlib.net/QABCDSTQQW/3ST4GN8>

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Observation

Part of the content here presented was extracted from another content:

***Persistent access to items of information: Proposal of sustainability
for the solution adopted by INPE***

as compiled by

Gerald Jean Francis Banon

and that can be found at the URL:

<http://urlib.net/rep/J8LNKB5R7W/3NKH24H>



Abstract

The use of global and persistent identifiers is an imperative in the management of items of information potentially inter-related to any other items. This presentation recalls the definition of an identification system, compares the generation and resolution of Handle and of IBI and details the systems that identify the use of IBI and that resolve the use of IBI.



Content

Items

Definition

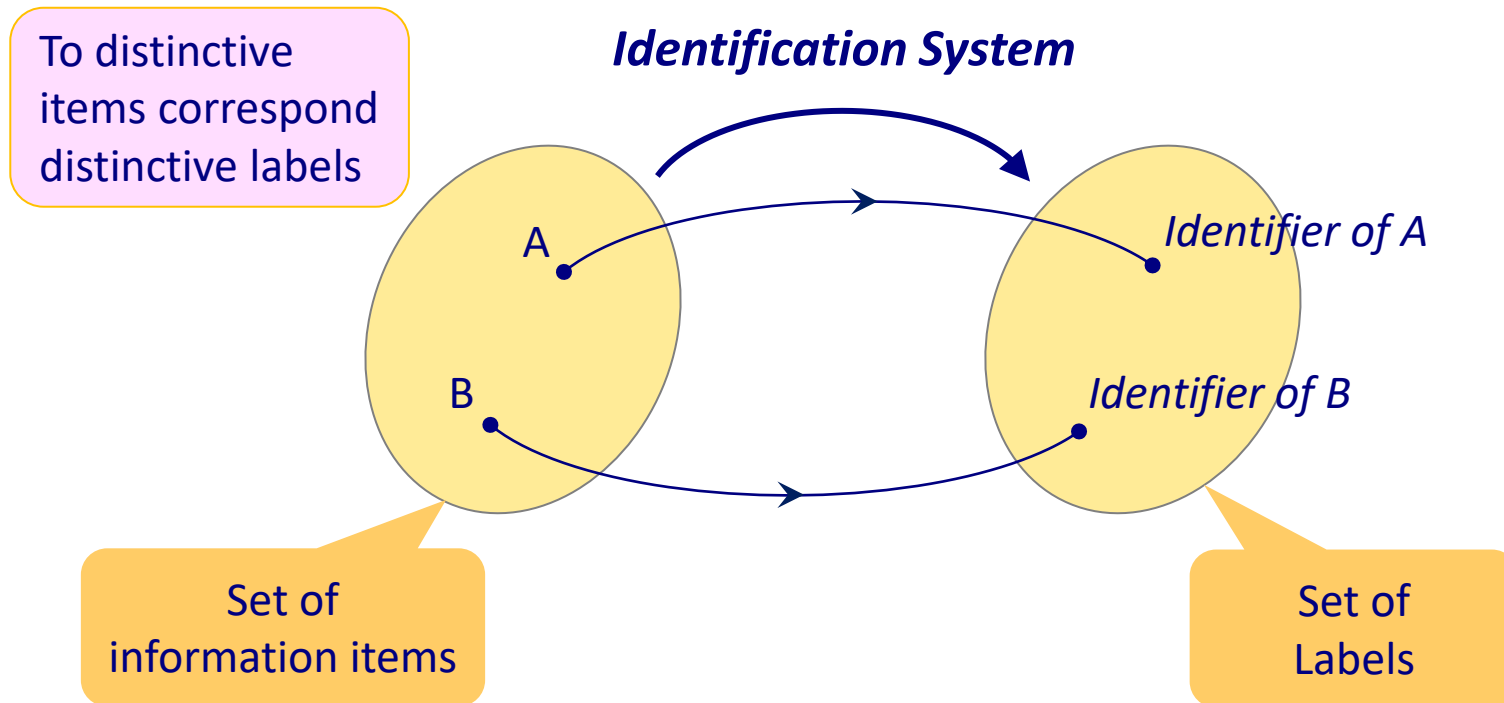
Some Global Identifiers

Generation and Resolution of IBI

References

Definition

Identification System: One-to-one mapping, between a set of items and a set of labels, associating to each item an identifying label.





Some Global Identifiers

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Structure: <Prefix / Suffix>

Example of Handle: 10.1016 / j.isprsjprs.2019.01.019

Example of IBI: QABCDSTQQW / 3ST4GN8



Some Global Identifiers

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Non-Profit Entities

Name	Date	Prefix	Suffix	Maintenance
Handle (DOI)	1995 (2000)	Proprietary Identifier	Local Space of Names	CNRI (DOI Foundation)
		Depends on the creation of a central authority		
IBI	1995	Internet Encoded Address	Date of creation of IBI	AMI (Under formation)
		Derives from Internet Central Authority		

CNRI: Corporation for National Research Initiatives

AMI: Association for the Maintenance of IBI



Some Global Identifiers

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Name	Fee for the user (Archive)
Handle DOI	US\$ 50 per year and for prefix US\$ 1 per DOI (CrossRef)
IBI	0 (Nov. 2015) t.b.d.

(November 2015)



Generation and Resolution of IBI

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ABNT (Brazil) Standards for the IBI Identifier (*)

1) ABNT NBR 16066:2012

System for generation of identifier based on the internet (IBI)

2) ABNT NBR 16709:2018

System for resolution of identifier based on the internet (IBI)

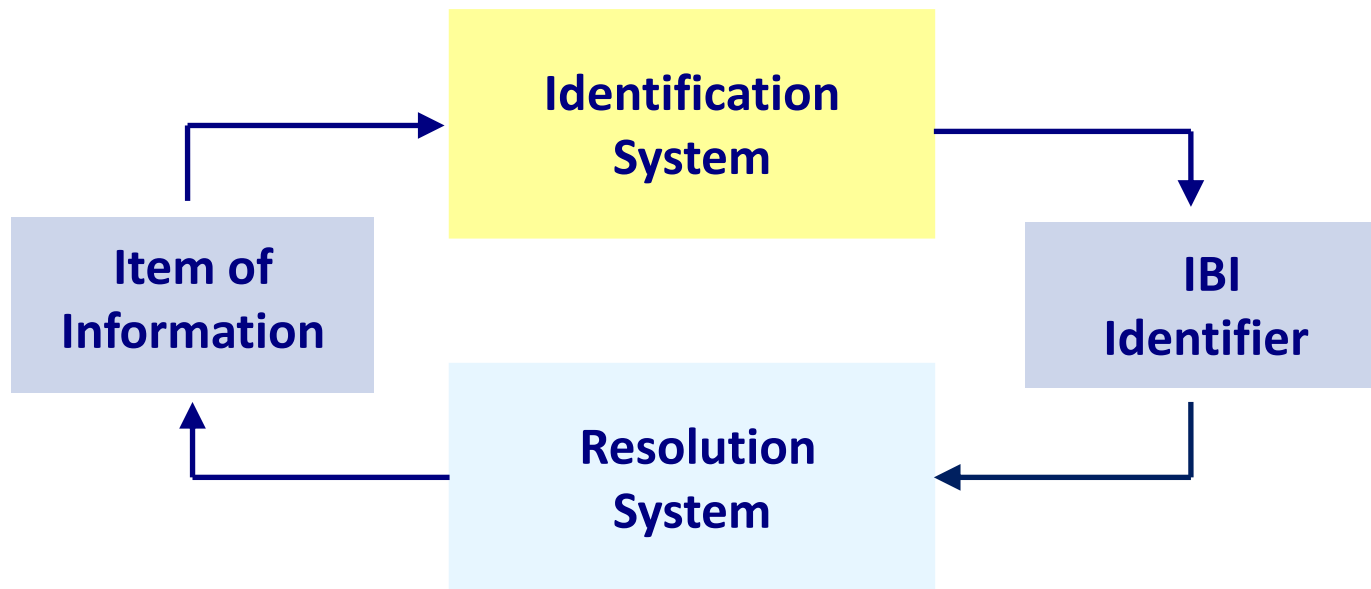
(*) The two above listed ABNT Standards were elaborated by mean of two Projects under the responsibility of Gerald J. F. Banon, in his role as a Membro of the Commission of Study ABNT CE:08.010.70 in *Space Data and Information Transfer Systems*.

Generation and Resolution of IBI

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ABNT NBR 16066:2012 Standard

System for generation of identifier based on the internet (IBI)



ABNT NBR 16709:2018 Standard

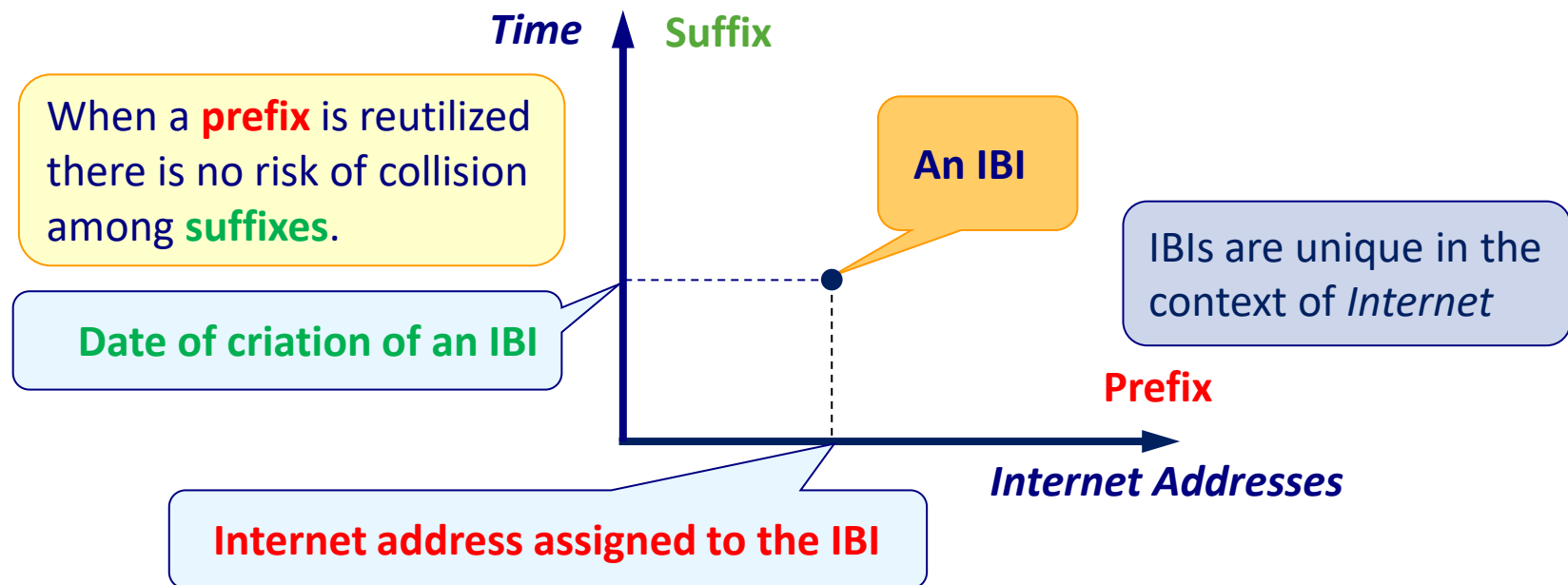
System for resolution of identifier based on the internet (IBI)

Generation and Resolution of IBI

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Definition of IBI (Identifier Based on Internet):

An IBI is a point in the space-time where the space is the set of all possible *Internet* addresses and where the time is the set of fractional numbers of second of time, accounted for by departing from UTC zero hour of August 1, 1995.

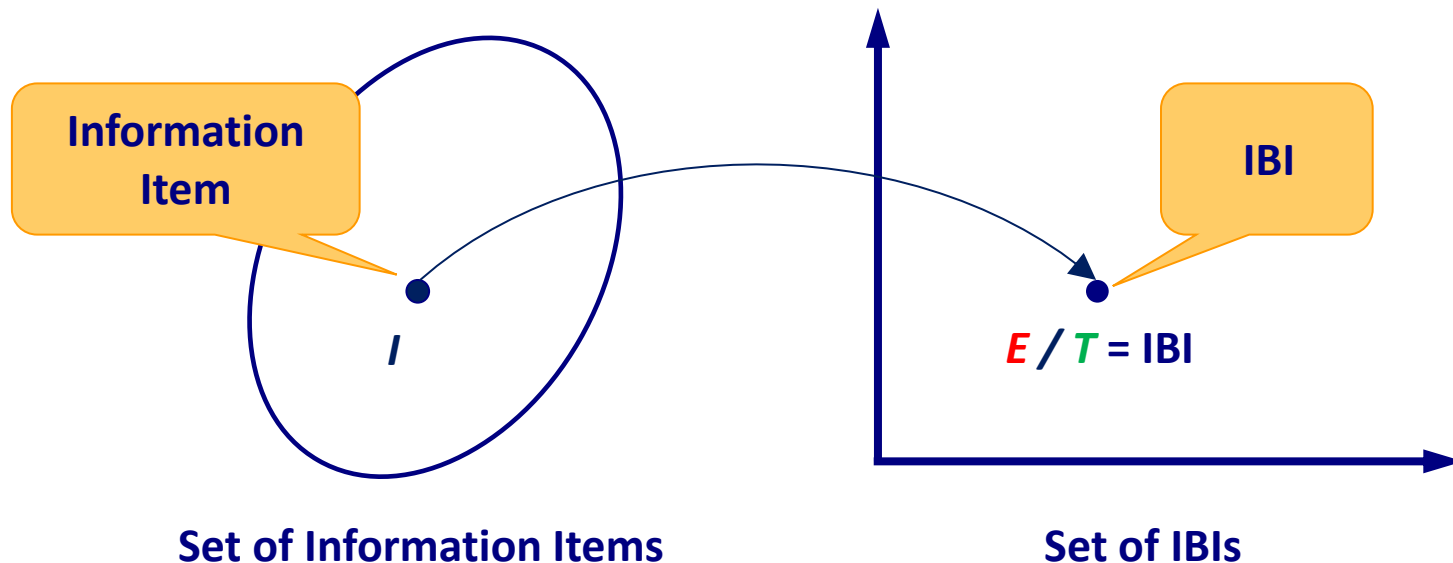


Generation and Resolution of IBI

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Principle of the identification by IBI:

The identification of an Information Item I by an IBI is the pair E/T , where E is the Internet address of the Archive at the time of storage, and where T is the moment when the storage of I occurs in the mentioned Archive.





Generation and Resolution of IBI

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Basic Functional Entities of the IBI System Network (AMI Network):

- 1) User:** Person that submits to the Resolver the IBI of an Item resident in an Archive of the AMI Network with the purpose of receiving the content of this Item.
- 2) Resolver:** Central Entity of the AMI Network that receives from an User request for resolution of an IBI that identifies the Item of Information of interest, for being capable of communicating with the Archives through the intermediating support of the Repeaters, as a way to provide the User with the information on the Archive where the requested Information Item is resident.
- 3) Repeater:** Entity of the AMI Network that redistributes to the Archives the Request for Resolution of an IBI received from a Resolver. Optionally, a Resolver can also accumulate the function of an Archive.
- 4) Archive:** Entity dedicated to the storage and preservation of Items of Information identified by IBI and that are of interest of the AMI Network Users.

Legend: AMI – Association for Maintenance of IBI | Associação para Manutenção de IBI

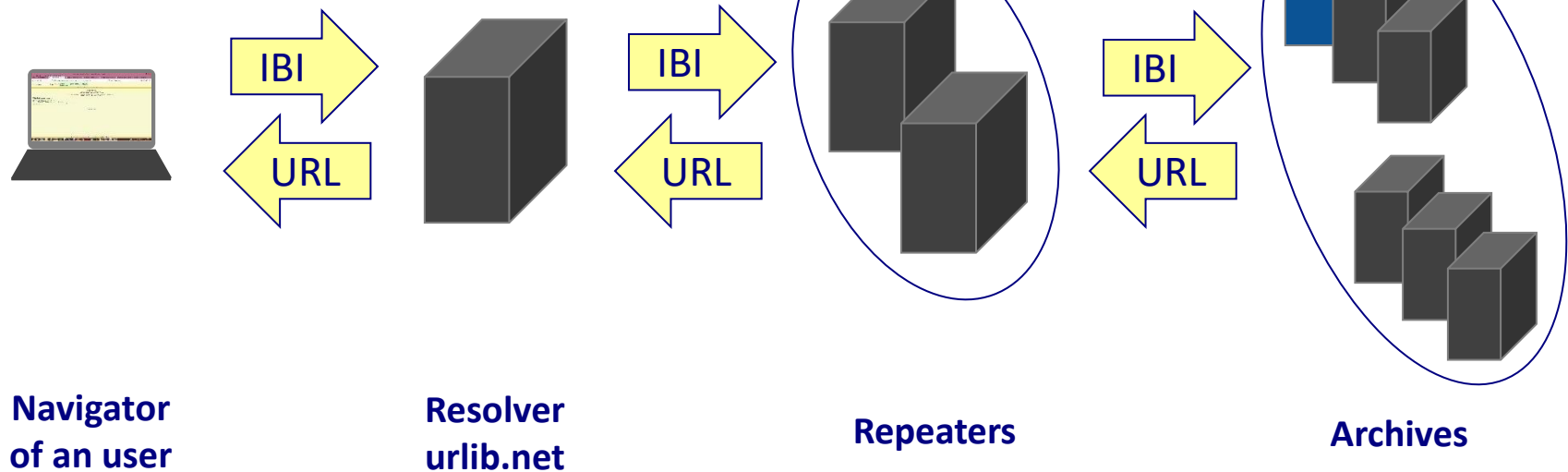
Generation and Resolution of IBI

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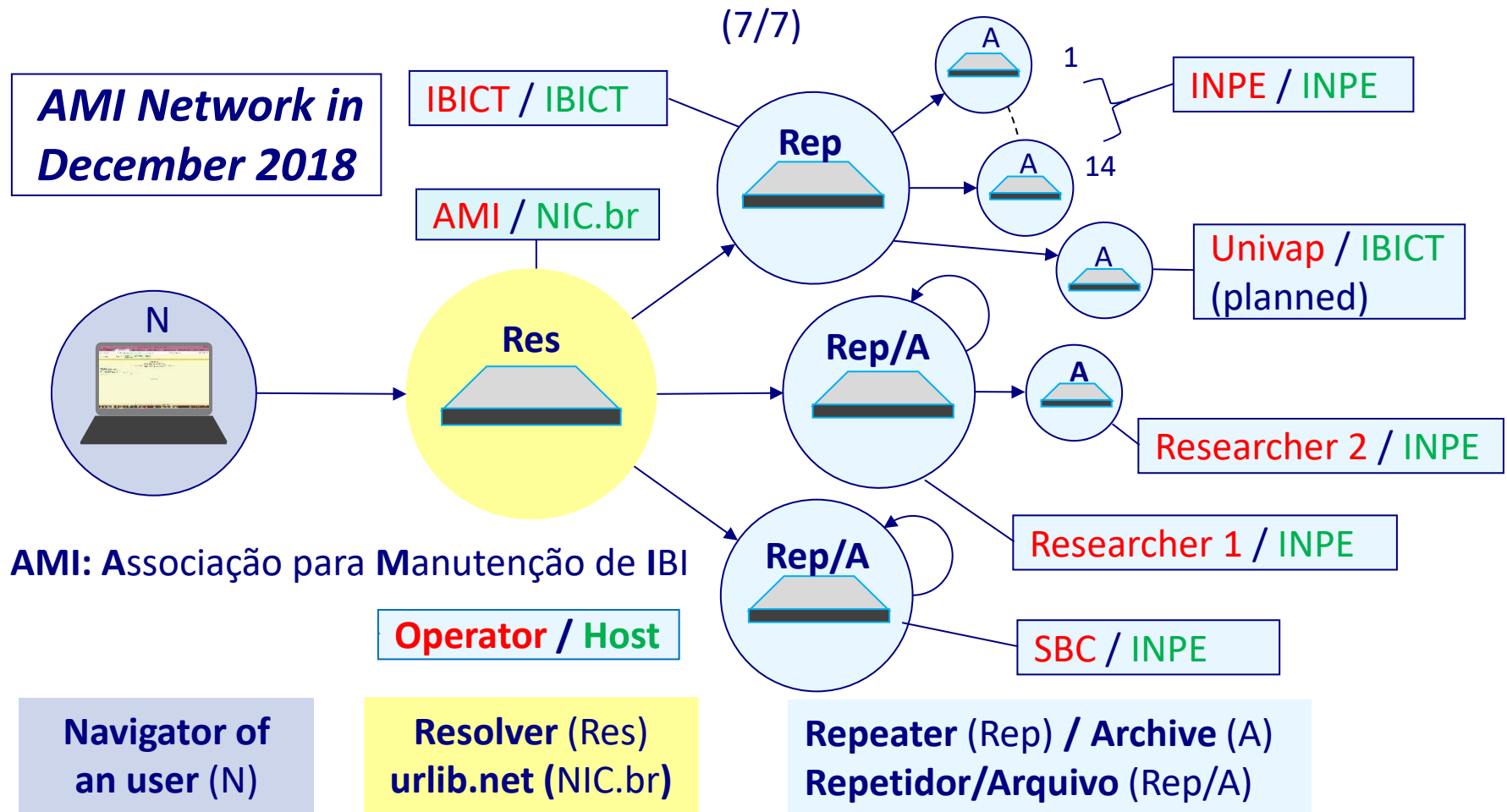
The components and the communication among them

Differently from Handle **there is no** indexing outside from the Archives

The Archive that contains the IBI returns an URL of the location of the Information Item



Generation and Resolution of IBI





References

BANON, G. J. F. **Identificador com base na Internet (IBI): Sistema de identificação.** São José dos Campos: INPE, 2011. 39 p. (iconet.com.br/banon/2009/09.09.22.01-RPQ). Available at: [<http://urlib.net/LK47B6W/362SFKH>](http://urlib.net/LK47B6W/362SFKH).

BANON, G. J. F. **Identificador com base na Internet (IBI): Sistema de resolução.** São José dos Campos: INPE, versão: 2016-01-16. 71 p. Available at: [<http://urlib.net/J8LNKB5R7W/3G2EKR5>](http://urlib.net/J8LNKB5R7W/3G2EKR5).



Thank you!