



## Relationships available in IYP

Relationship	Description
ALIAS_OF	Equivalent to the CNAME record in DNS. It relates two HostNames.
ASSIGNED	Represent the allocation by a RIR of a network resource (AS, Prefix) to a resource holder (see OpaqueID). Or represent the assigned IP address of an AtlasProbe.
AVAILABLE	Relate ASes and Prefixes to RIRs (in the form of an OpaqueID) meaning that the resource is not allocated and available at the related RIR.
CATEGORIZED	Relate a network resource (AS, Prefix, URL) to a Tag, meaning that the resource has been classified accordingly to the Tag. The reference_name property provide the name of the original dataset/classifier.
CENSORED	Relate ASes to an OONI censorship test in form of a Tag or a network resource (IP, URL), meaning that there exists a censorship test result from a probe in this AS to the connected node. The

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	reference_name property provides the name of the test.
COUNTRY	Relate any node to its corresponding country. This relation may have different meaning depending on the original dataset (e.g. geo-location or registration).
DEPENDS_ON	Relate an AS or Prefix to an AS, meaning the reachability of the AS/Prefix depends on a certain AS.
EXTERNAL_ID	Relate a node to an identifier commonly used by an organization. For example, PeeringDB assigns unique identifiers to IXPs (see PeeringdbIXID).
LOCATED_IN	Location of a resource at a specific geographical or topological location. For example, co-location Facility for an IXP or AS for an AtlasProbe.
MANAGED_BY	Entity in charge of a network resource. For example an AS is managed by an Organization, a DomainName is managed by an AuthoritativeNameServer.
MEMBER_OF	Represent the membership to an organization. For example, an AS is member of an IXP.
NAME	Relate an entity to its usual or registered name. For example, the name of an AS.
ORIGINATE	Relate a Prefix to an AS, meaning that the prefix is seen as being originated from that AS in BGP.
PARENT	Relate two DomainNames and represent a zone cut between the parent zone and the more specific zone.
PART_OF	Represent that one entity is a part of another. For example, an IP address is a part of an IP Prefix, a HostName is a part of a DomainName.

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PEERS_WITH	Represent the connection between two ASes as seen in BGP. It also include peerings between ASes and BGPCollectors.
POPULATION	Indicate that an AS hosts a certain fraction of the population of a country. It also represent the estimated population of a country.
QUERIED_FROM	Relate a DomainName to an AS or Country, meaning that the AS or Country appears in the Top 100AS or Country to query the most the DomainName (as reported by Cloudflare radar).
RANK	Relate a resource to a Ranking, meaning that the resource appears in the Ranking.  The <b>rank</b> property gives the exact rank position.
RESERVED	Indicate that an AS or Prefix is reserved for a certain purpose by RIRs or IANA.
RESOLVES_TO	Relate a HostName to an IP address, meaning that a DNS resolution resolved the corresponding IP.
ROUTE_ORIGIN_AUTHORIZATION	Relate an AS and a Prefix, meaning that the AS is authorized to originate the Prefix according to RPKI.
SIBLING_OF	Relate ASes or Organization together, meaning that they represent the same entity.
TARGET	Relate an AtlasMeasurement to an IP, HostName, or AS, meaning that an Atlas measurement is setup to probe that resource.
WEBSITE	Relate a URL to an Organization, Facility, IXP, AS, representing a common website for the resource.