**Recursive InterNetwork Architecture: RINA**

### Networking is Inter-Process Communication (IPC) and only IPC

#### What's different?
- Functional layering, where each layer has the responsibility of a different function
- Fixed number of layers
- Routing on the interface (data link layer)
- Exposing addresses to applications
- Use of well-known ports
- Incomplete naming and addressing schema
- Lack of a security mechanism: A long list of threats and vulnerabilities
- Lack of a built-in mechanism to provide specific QoS: Only best effort service
- Exploding size of router tables
- Lack of a directory that maps applications to nodes

#### What's coming next?
- Development of a first RINA prototype on top of TCP/IP
- Measurements and evaluation against the current Internet architecture
- Refinement of the current specification

#### and more?
- Joining a DIF requires authentication, addresses are not exposed to the applications, well-known ports are not used, which results to a more secure network
- Each DIF can support a set of QoS cubes and provides an API to allow applications to request service with certain QoS parameters
- Each DIF has its own private internal addresses, which means that a global address space is not required
- Names for applications, nodes and Points of Attachments to the network exist, as well as a directory, mapping applications to nodes

### A collaboration between:
- **i2cat**
- **BOSTON UNIVERSITY**
- **TSSG**
- **TRIA**

### What's inside an IPC layer?
- Fundamental functions to provide communication
- Separation of mechanism and policy
- All layers use the same protocols but are configured differently through policy to achieve the desired service
- A single application protocol
- A single data transfer protocol

### Adoption, no migration!

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