

Robust routing in the Recursive InterNet Architecture

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The Internet has been an enormous success and has seen an incredible growth. In order to keep the Internet working, lots of patches and hacks have been applied which work only temporary, and don't solve fundamental problems. This has made research on network Architectures more a craft than a science. RINA, the Recursive InterNetwork Architecture, is a back to basics approach learning from the limitations of the current Internet and from the experience of other technologies in the past. A lot of the functional elements in RINA still need to be developed, among them the routing functionality. In computer networks, computers send packets of data to each other, instead of a stream of data. Each packet has to be relayed, or routed, until it reaches the destination computer. We will research different routing schemes in RINA, different ways of relaying the packet to the destination.

How to design a hardware router for RINA is one of the key challenges. The functional design of a hardware router will be researched, the influence of hardware limitations, ... The ultimate goal is to have functional blueprints for routers of different scale (LAN, Data Center) and a software proof-of-concept prototype.