High performance programmable networks around Gbit backbones to support Grid infrastructure

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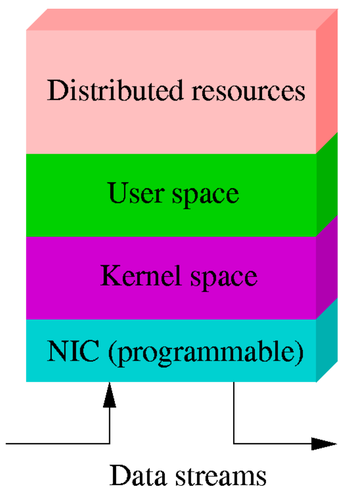
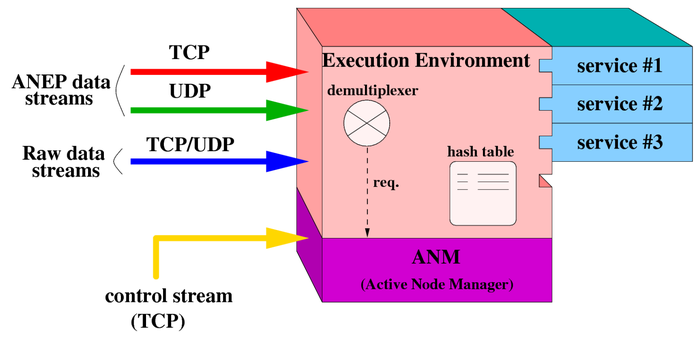
http://www.ens-lyon.fr/LIP/RESO/Tamanoir

Tamanoir : Gbit software programmable node

• In active and programmable networks, routers can perform and apply dynamic services on data stream



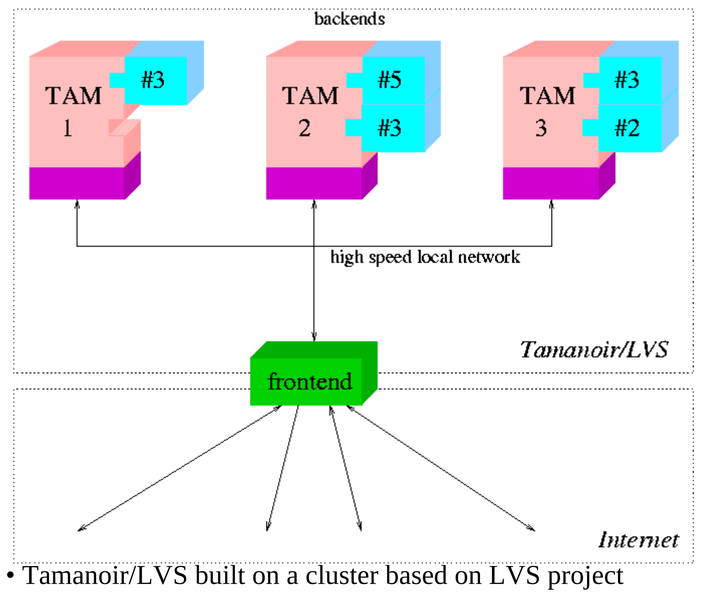


• Persistent Tamanoir Active Node (TAN)

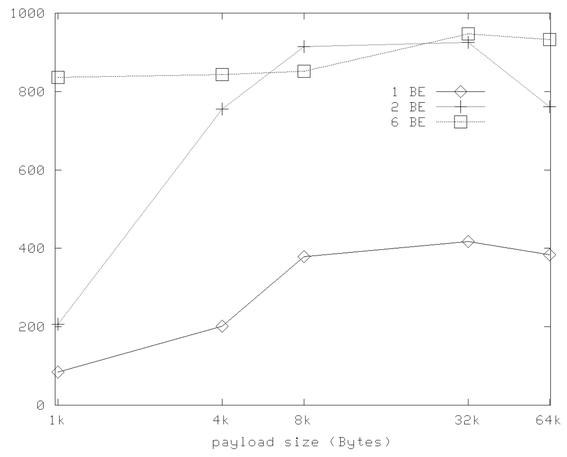
• Handle different applications and various data stream at the same time

• Support TCP and UDP / ANEP/IP packets

• Deployment on edge of networks



• Tamanoir/LVS built on a cluster based on LVS project



• Performance achieved around French VTHD backbone (http://www.vthd.org) with lightweight service.

• Tamanoir nodes are deployed around VTHD backbone to support Grid applications in RNTL Etoile Project (http://www.urec.cnrs.fr/etoile)

Services are:

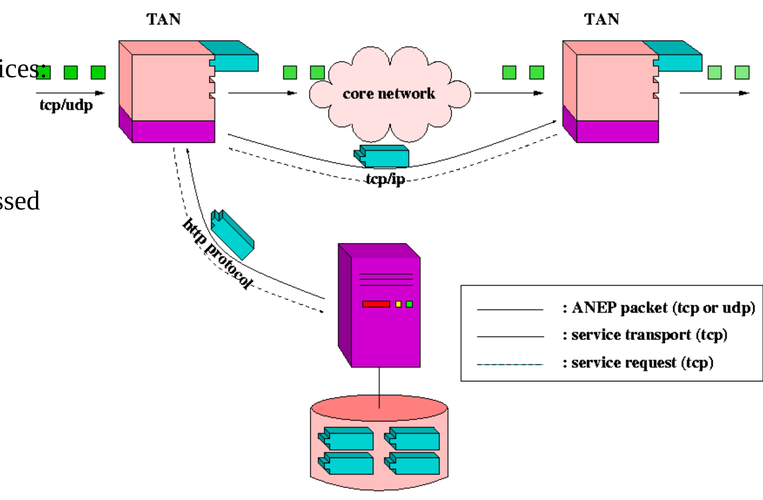
• independent from data streams

• deployed on demand when streams reach a TAN

Two ways to deploy services:

• by requesting a service broker (https)

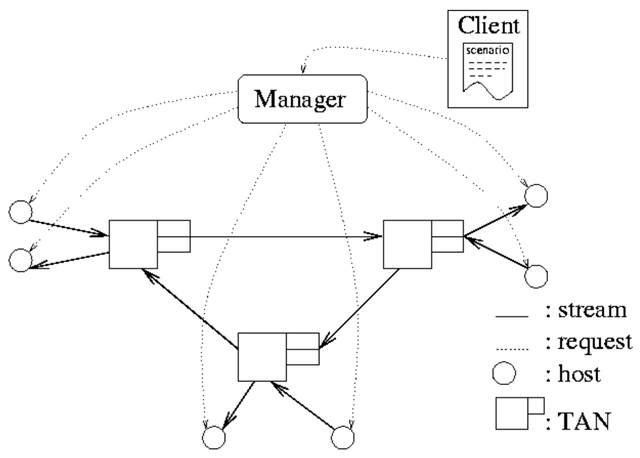
•By queering the last crossed TAN



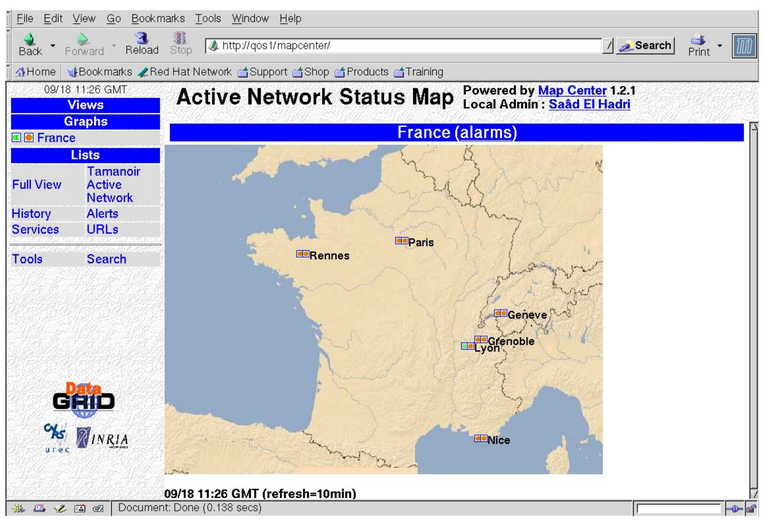
Echidna : Distributed Active Traffic generator

• Hybrid P2P architecture for large scale experiments

•Distributed manager keep user scenario, topologies and replay policies



Pangolin : Active network visualization

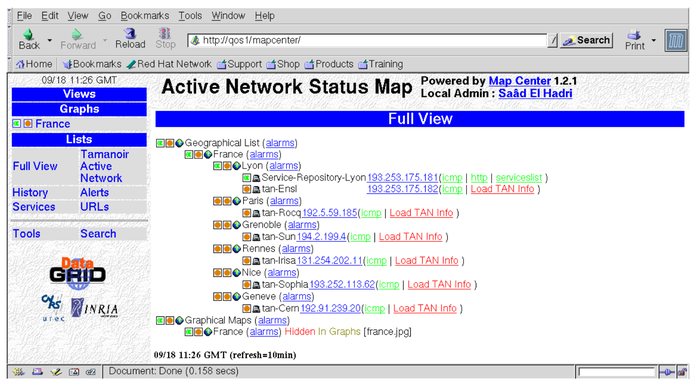


Active network resources deployed around VTHD backbone.

• Deployment of Tamanoir Active Node in large scale generates new challenges in active network monitoring.

• A monitoring and visualization tool called Pangolin based on *MapCenter* software (http://mapcenter.in2p3.fr).

• Visualisation is made through a simple web browser.



Full view of active deployed resources