



Intelligence in the Network

Or “Should a Network Service Provider be allowed to run their own network”





Reality bites ...



“Artificial intelligence will never be a match for natural stupidity”

Unknown internet sage

A wireless service provider in the UK had a particularly problematic switch.

- ➔ *After a halon extinguisher malfunction caused the evacuation of the switch room, the switch ran for several hours with no problems.*
- ➔ *Until the network operations personnel were allowed back into the room*
- ➔ *After this, all RCA for that switch began with a check of the log files to see what the technicians had been up to immediately before the failure occurred*

Configuration/Provisioning errors in complex network elements are a leading contributor to failures within a network.





The shape of things to come ...



Elements must become capable of independent parameter audit and optimization

Elements must be capable of managing themselves in the event of a network management system failure

Elements must be capable of “undoing” the “work” of network operations technicians based on a set of established rules

Policy is the answer to keep the “free range” network element from taking over the network





Just smart enough ...



Each network element must become smart enough to prevent human error from causing a network failure

Humans must be kept in the loop

A “practical intelligence” created through autonomous network elements

Policy with a federated, decentralized policy distribution points

- ➔ *The PDPs can have policies composed of policies that are created dynamically based on the local “history”*
- ➔ *PDPs can exchange these and other policies in “low volume” times to enable learning from other areas of the network*

