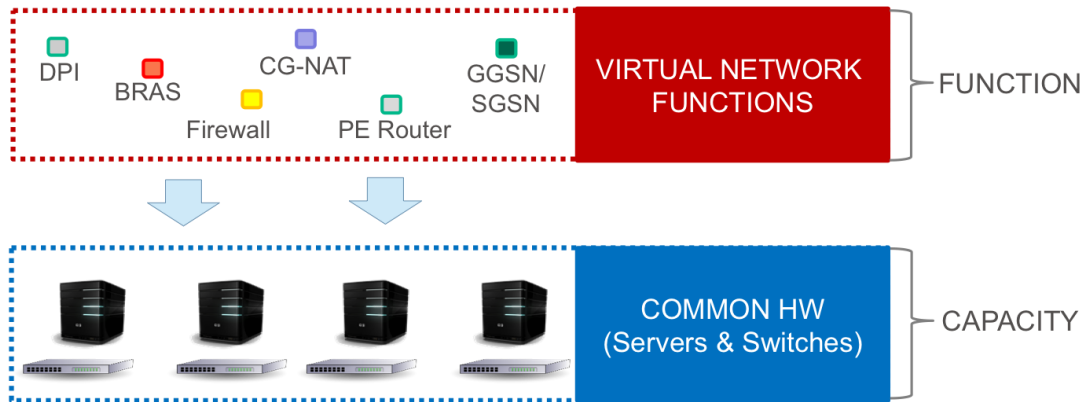# THE WHY, THE WHAT AND THE HOW OF ETSI NFV

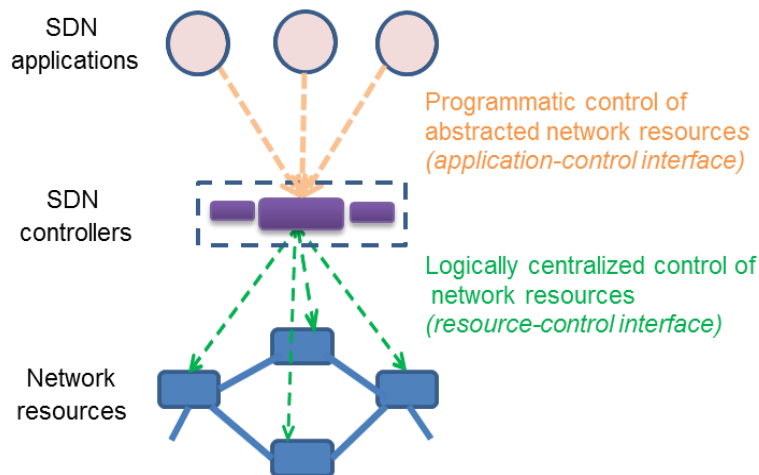**Diego R. López (Telefónica) – Chair, ETSI NFV ISG**

Useful Things

- Communication needs standards
  - Think of human language itself
  - Multi-vendor, multi-operator, multi-national, multi-…
  - In despite of recent moves through one-ended implementations
- Approaches like NFV are changing the standards landscape
  - Aligning with new practices like open-source
  - Providing new architectural options
  - And new ways of applying standards to planning and procurement

- "Everything needs to change, so everything can stay the same"

The Software Network Concepts

VIRTUAL NETWORK FUNCTIONS

DPI
BRAS
CG-NAT
Firewall
PE Router
GGSN/ SGSN

FUNCTION

COMMON HW (Servers & Switches)

CAPACITY

SDN applications

Programmatic control of abstracted network resources *(application-control interface)*

SDN controllers

Logically centralized control of network resources *(resource-control interface)*

Network resources

- NFV: Separate functionality from capacity
 - Increase network elasticity
  - Address heterogeneity

- SDN: Decouple the control and forwarding functions
  - Gain programmability
  - Abstract infrastructure
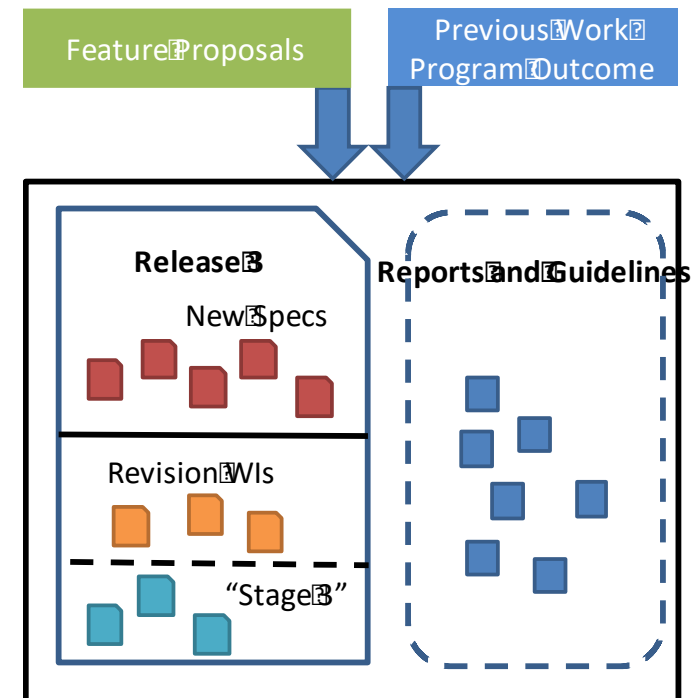
The ETSI NFV Recipe

- **NFV is shaped as an ETSI ISG**
  - Open to ETSI members and non-members
  - Just bound by a cooperation agreement
  - Open membership with low fees to encourage involvement of smaller players from ICT industry

- **The most numerous ISG ever**
  - 312 organizations (127 ETSI members)

- **Working under strict consensus rules**
  - Voting only applied to elect officials

- **Re-use what is available and do not duplicate existing efforts**
  - Strong focus on the *NFV delta*

- **All draft documents openly available**
 - Publication implies general consensus and endorsement
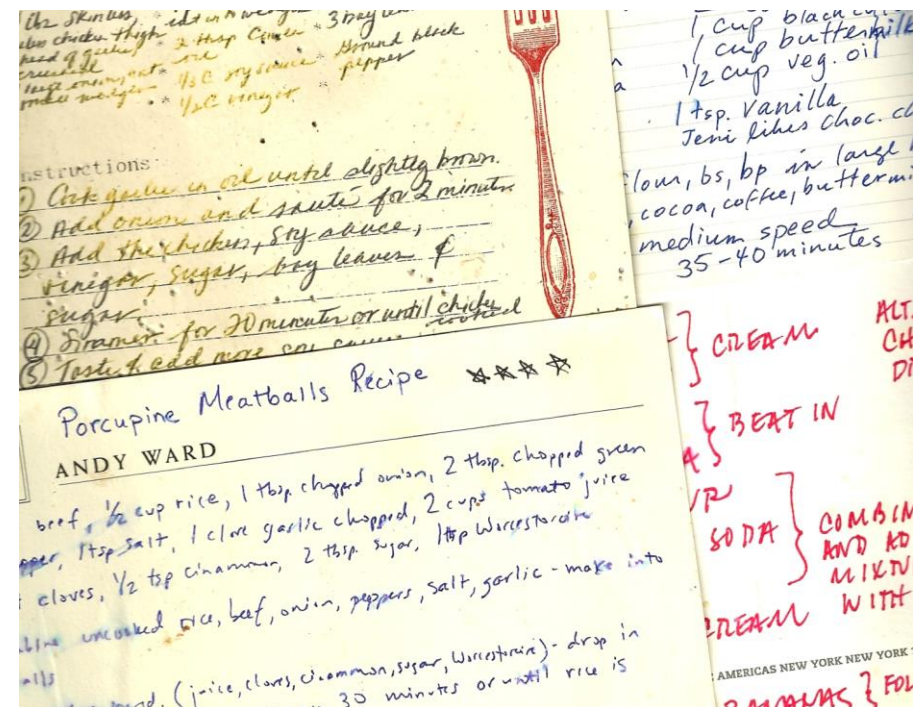
Structure and Current Plans

- Review plans and terms every two years
- Structured around WGs
  - Evolution & Ecosystem, Interfaces & Architecture, Reliability, Security, Test & Experimentation & Open-Source
  - Coordinated by a Technical Steering Committee
- The work program
  - Derived from the discussion of feature proposals
  - And the outcomes of the previous one
- The deliverables
  - Reports and Guidelines, *informative*
  - Specifications, *normative*
- Working in Release 3
  - Release 1 -> Framework
  - Release 2 -> Interoperability
  - Release 3 -> Operativeness
- Access to open API definitions
  - Work in progress

Feature Proposals

Previous Work Program Outcome

Release 3

New Specs

Revision WIs

"Stage 3"

Reports and Guidelines

ETSI NFV PoCs

- Look for practical results
  - Demonstrate and disseminate NFV capabilities
  - Explore technology options
  - Facilitate gap analysis
  - Contribute to guide the future ISG activity
- Lightweight process
  - Few (objective) requirements to file a PoC proposal
  - Run PoC project
  - Openly report results to the community
- > 40 multi-vendor PoCs:
  - > 120 organisations
  - 100% key NFV use cases demonstrated
  - ALL architectural elements under study
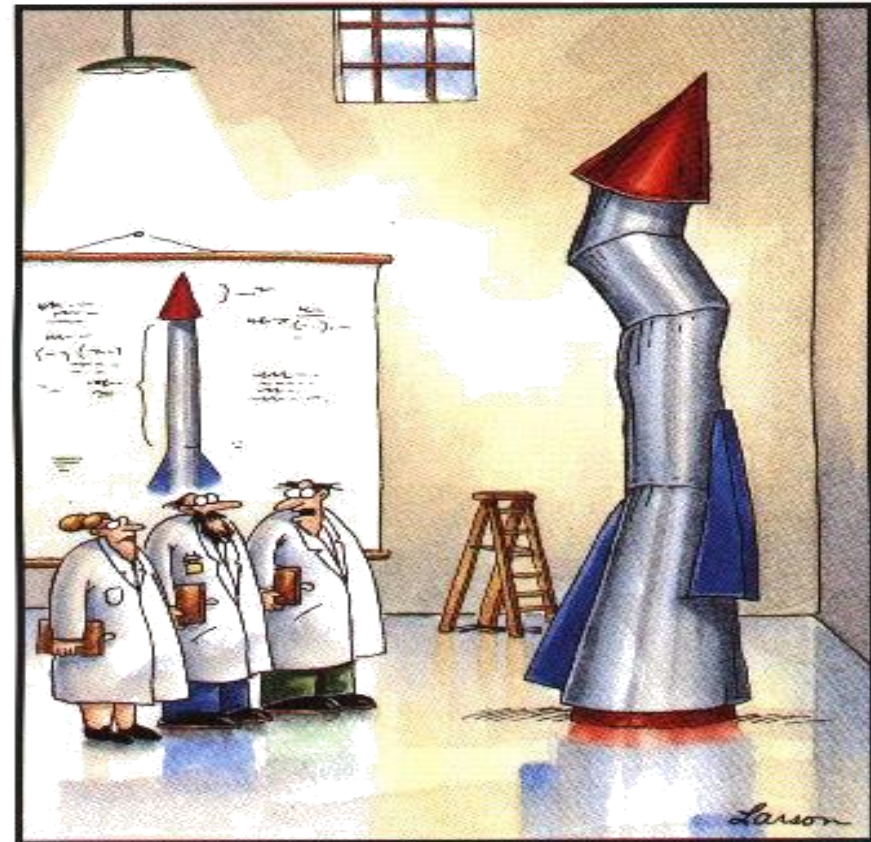
"It's time we face reality, my friends. ... We're not exactly rocket scientists."

ETSI NFV Plugtests

- Built on the PoC Framework key achievements
  - Consistent testing and feedback
  - Quality and relevance of specs
  - Alignment of implementations and specs
- Scoped interoperability test events
  - Usually, part of series, until technology maturity is reached
  - Open to any organization with an implementation to test
- Non commercial, strive for anonymity
  - Neutral and collaborative environment
  - Only statistical aggregated data are published
  - Detailed results are private to each participant
- First Plugtest run in January 2017
- A second one on its way
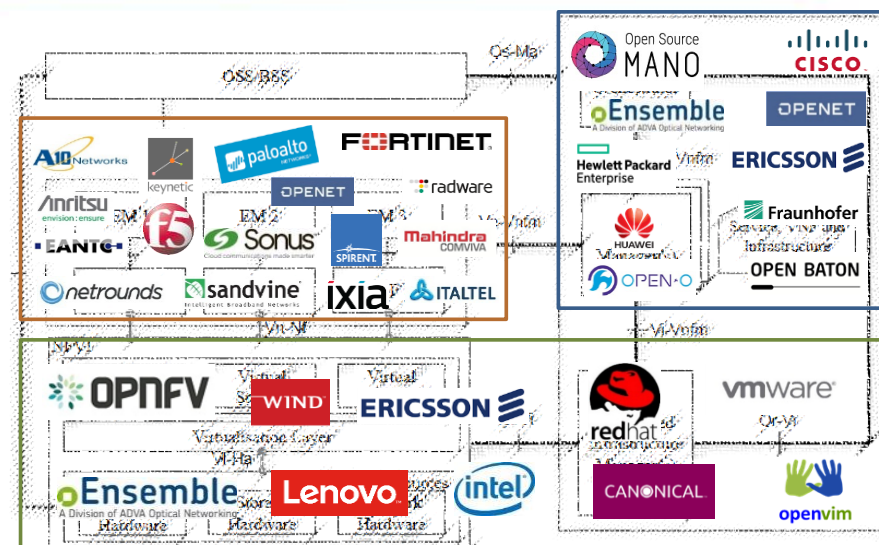
The Collaboration Game

- Participating in the NFV ISG
  - It is easy, productive, costless, and fun!
- Reviewing the specs and applying them
  - Architectures, requirements, protocols, data models, and profiles
  - Avoid reinventing the wheel
  - Facilitate adoption
  - Practical feedback from implementers is extremely valuable
  - Remember: drafts are **publicly available**
- Participating in PoCs and Plugtests
  - Wider community feedback in both directions
  - Strong direct technical interaction
  - Extend visibility
- <Your preferred way here>
  - Happy to discuss any idea