



The Standards People

ETSI NFV Conference

Evolving NFV towards the Next Decade
Celebrating the 10th Anniversary of ETSI NFV

In the Light of Ten Years from the NFV Introductory Whitepaper

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Ten Years of a First Call to Action



As we all celebrate NFV tenth anniversary

- It all started by a joint whitepaper
 - Produced by a number of operators active in the then emerging technologies
 - As the starting point of what became ETSI ISG NFV
- ETSI NFV was initiated by the technology customers
 - Trying to address their needs
 - Trying to keep a voice in its evolution
- Hence the role of the NFV NOC
 - An advisory group made of NSPs active in NFV
- The NOC has authored a whitepaper on this tenth anniversary
 - Recently published and publicized
 - And announced in the same environment as the foundational whitepaper
- Aligned with the general whitepaper on NFV evolution
 - Both documents constitute an integral manifest on NFV recap and evolution



In Retrospective



An analysis of the NFV evolution

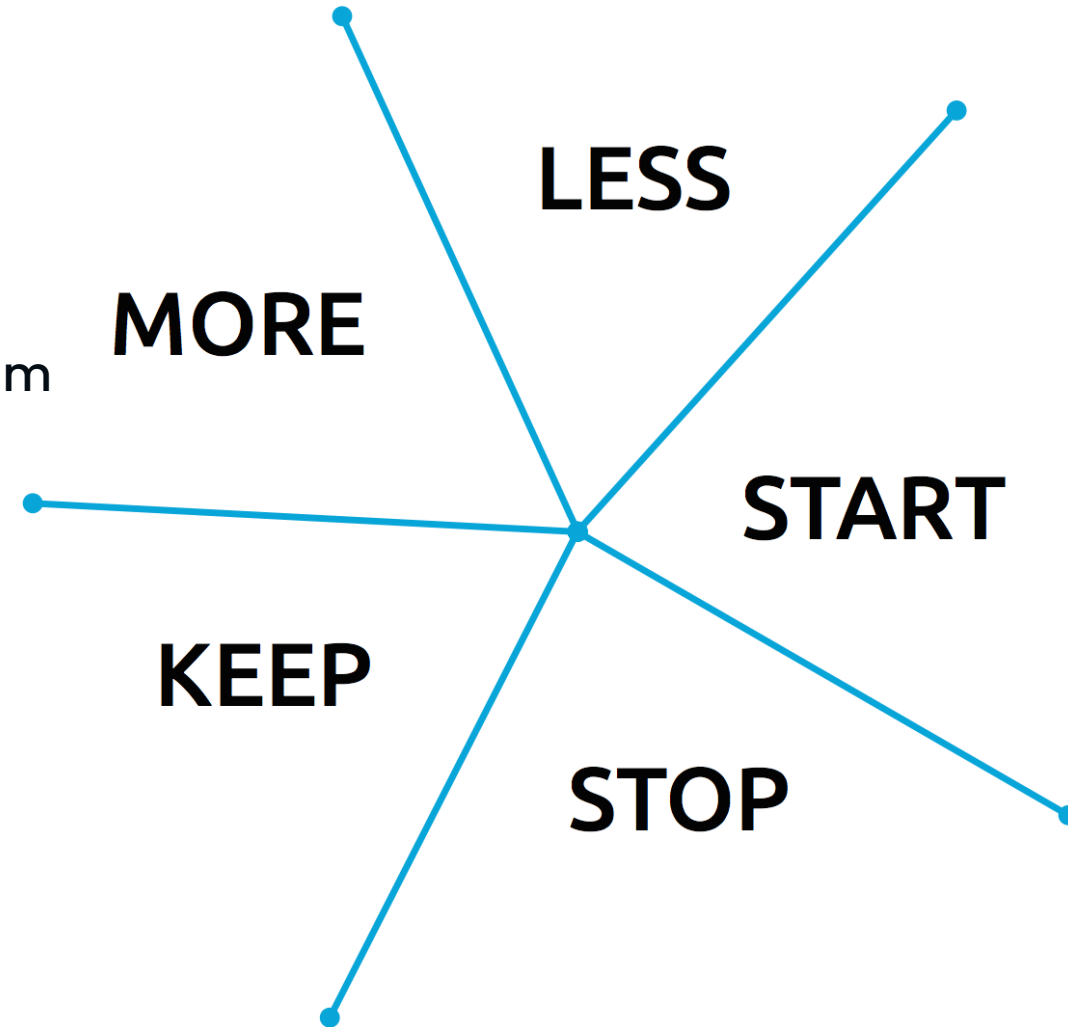
- The successive releases and their goals
- IT and telecoms convergence
- Extending NFV towards the edge-cloud continuum

A key role in Network Transformation

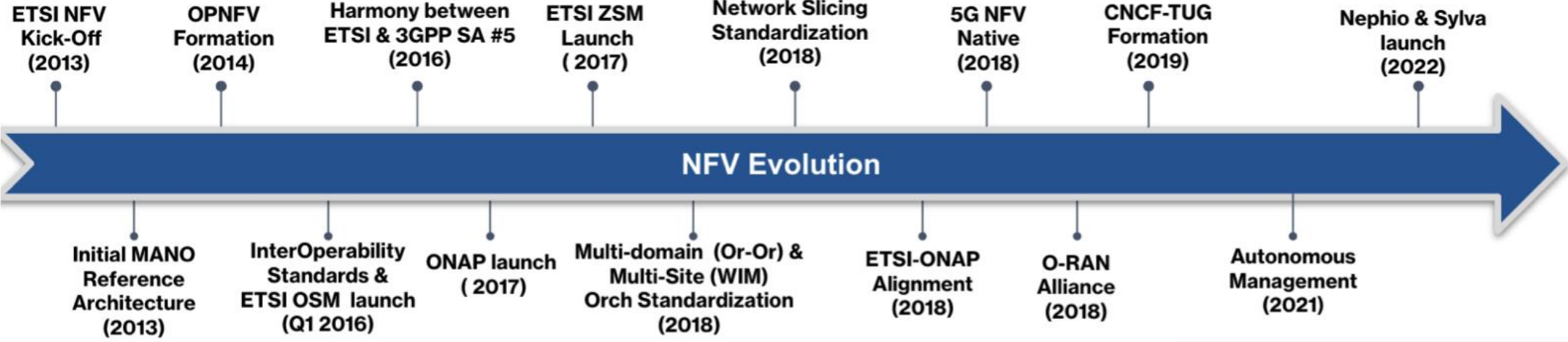
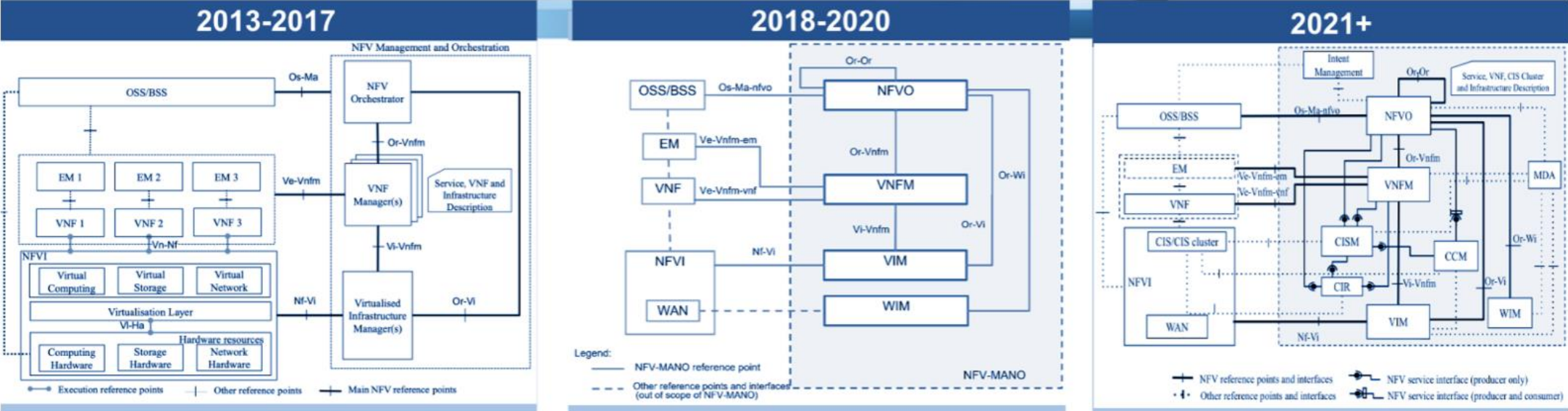
- As the foundation of other related activities
- *Demonstrative* deliverables
- Connecting with open source

A review of the envisaged NFV benefits, plus

- Highly targeted services at all segments
- Closer interaction with the research community



A Timeline of NFV Architecture Evolution



Growing Application Environments



The 5G (and beyond) case

- NFV principles among 5G foundations
- The network slicing case as paradigm

Network-cloud convergence and integration

- Enabler for further evolution
- Support for and from AI

Autonomous Networks

- Dynamic monitoring
- Flexible operation

Industrial environments

- The network-of-networks revisited: NPN integration
- Reaching the edge



Challenges and Opportunities



Evolution to cloud nativeness

- Addressing the network service specificities

Performance trade-offs

- Dealing with the heterogeneity of acceleration technologies

Lifecycle management and automation

- Supporting CI/CD/CT

Intent and AI

- Making sense of monitoring data and policy-based actions

Outreach to verticals

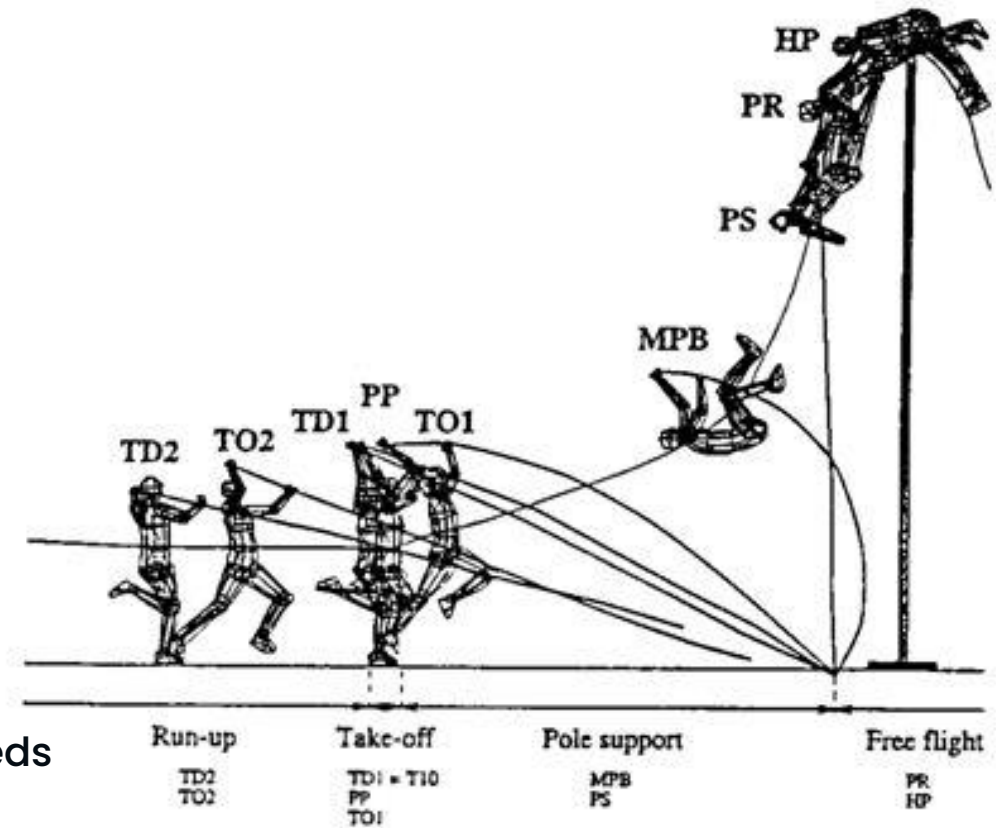
- Tackling multi-(tenant/cloud/site/...) issues

Energy efficiency

- Incorporating new metrics to lifecycle management

Ecosystem consolidation

- Interacting with open-source communities and open testbeds



And a Few Recommendations



- On focusing the ETSI ISG NFV work
- On the goal of E2E orchestration
- On balancing specification focus
- On specification development cycles
- On cloud-native, multi-cloud and autonomous operations technologies
- On fostering VNF-agnostic NFV platforms
- On specific matters for direct cooperation with open-source communities
- On the cooperation with other SDOs in telco space
- On collaboration with research and academia

