



TeraFlow

TeraFlow SDN:

OpenSource SDN controller for integrated IETF network slice management

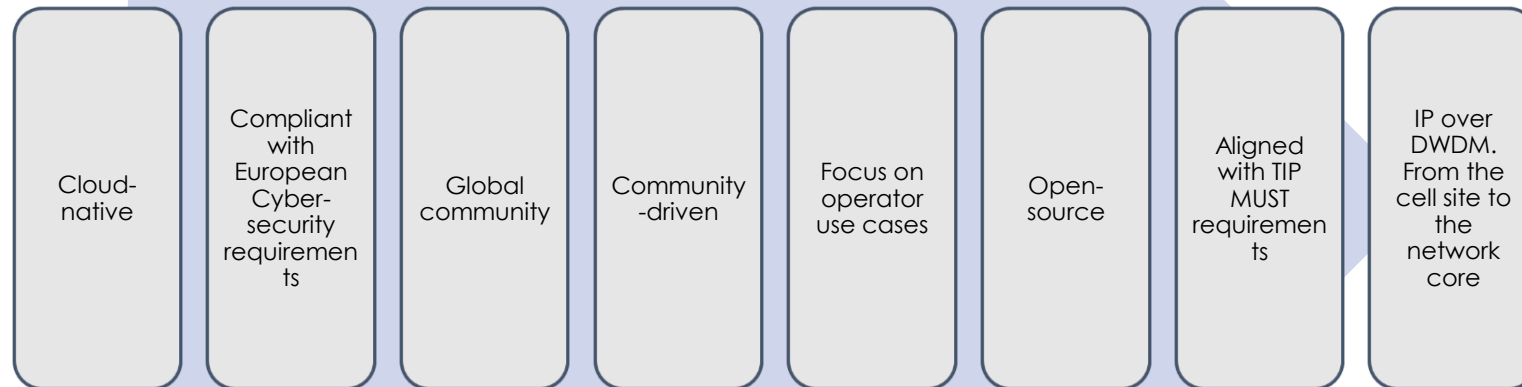
Ll. Gifre, D. King, O. González de Dios, A. Farrel, E. King



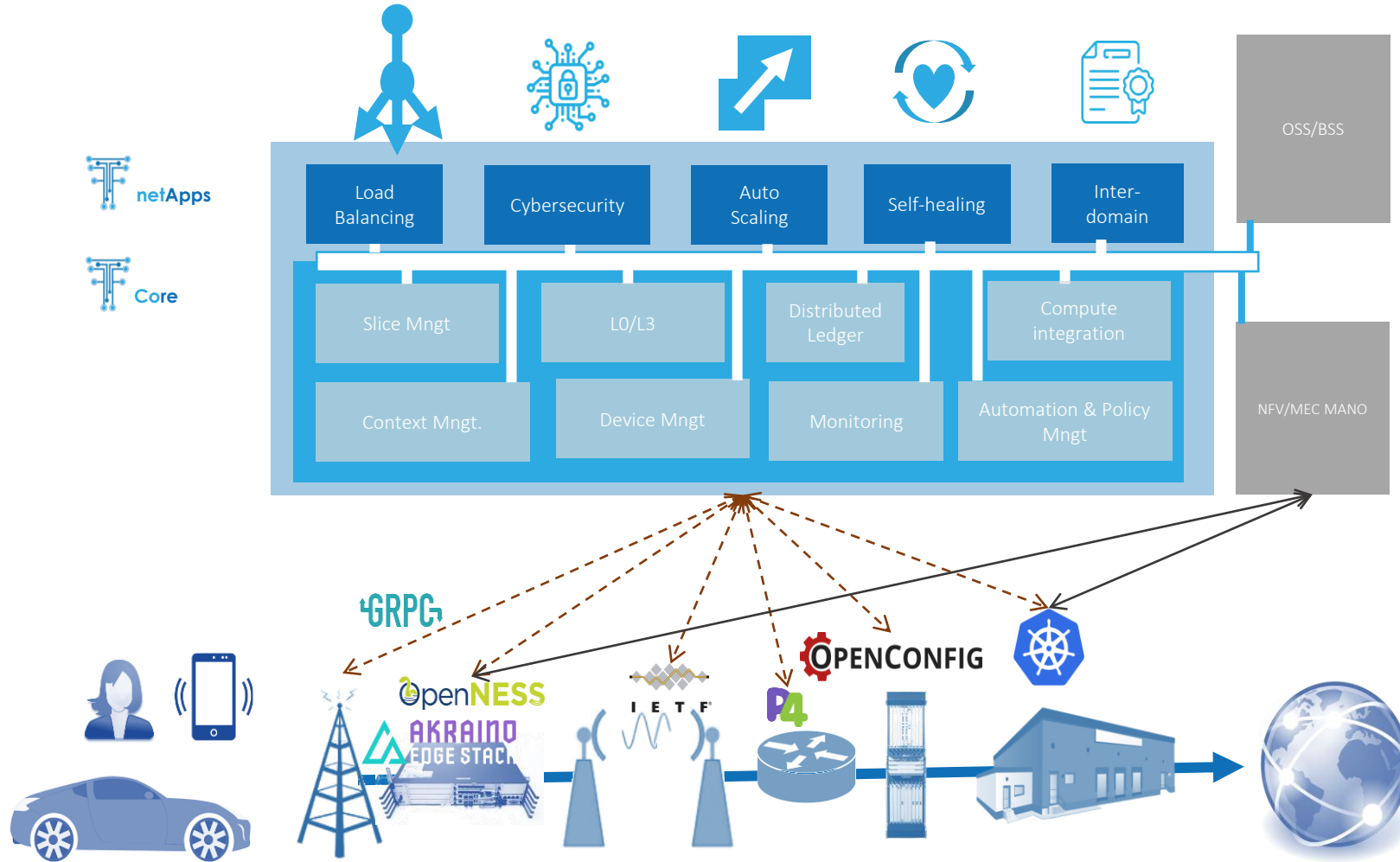
This project has received funding from the European Union's H2020 research and innovation programme under the grant agreement No. 101015857



ETSI TeraFlowSDN

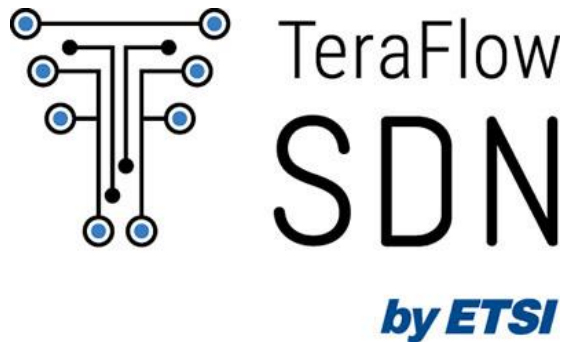


TFS Architecture and Partners



TFS Partners





Web: <https://tfs.etsi.org/>

Mail: TFSsupport@etsi.org

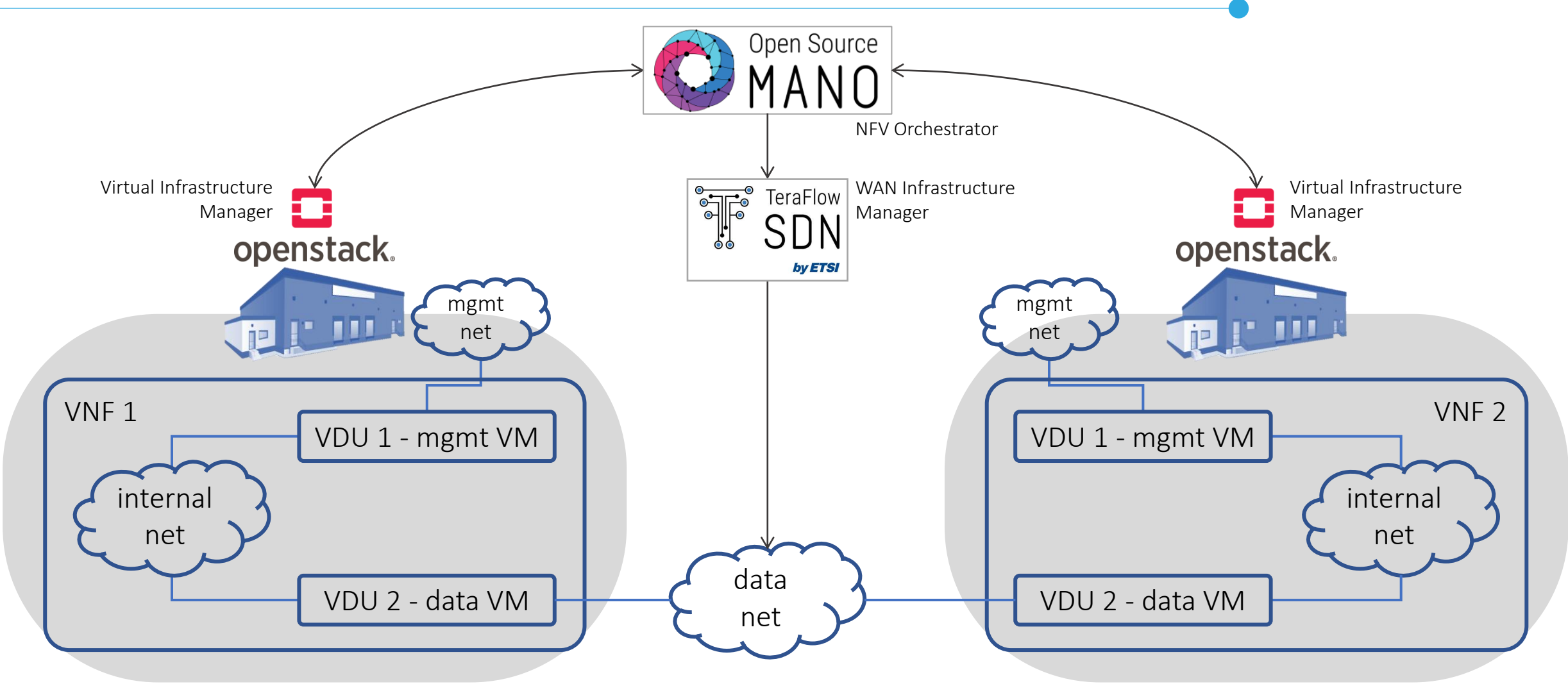
Twitter: @TeraFlowSDN

LinkedIn: <https://www.linkedin.com/company/teraflowsdn>

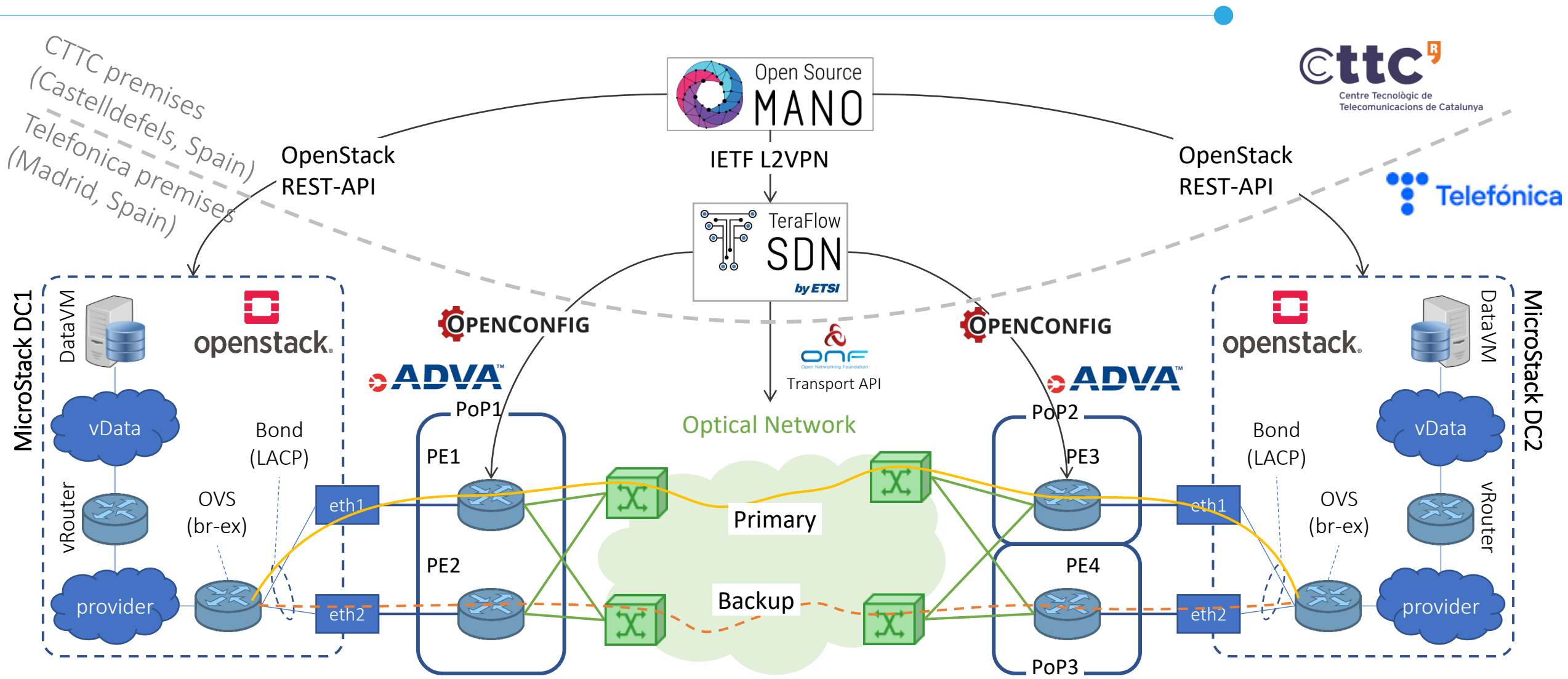
- ETSI TeraFlowSDN controller (<http://tfs.etsi.org>):
 - Cloud-native and microservice-based SDN controller.
 - Community-driven, open-source, scalable, flexible, and extensible.
 - Supports multiple technologies and standardized protocols and interfaces.
 - IP-over-DWDM, Inter-domain, Security, etc.
 - NBI: IETF L2VPN, **IETF Slice Framework**, **IETF Service Models**
 - SBI: OpenConfig, P4, ONF Transport API, **IETF Device Models**
- Provides an SDN toolbox for rapid prototyping and experimentation with innovative network technologies and use cases.
- Ease the adoption of SDN by telco operators.
- Bring innovation to the ecosystem and contribute to network programmability for current 5G and beyond deployments.
- Ease proof-of-concept demonstration for many ETSI ISG and OSG to demonstrate the proposed standard solutions faster.

- Use TFS to deploy Network Slices with dedicated Service Level Agreements (SLAs)
 - Monitored through Key Performance Indicators (KPIs).
 - Other mechanisms, such as isolation, must be imposed by the orchestrator.
 - The interface between the NFV orchestrator and the SDN controller should allow SLA definitions.
- Implement elements of the following IETF Framework and YANG Data Models
 - A Framework for IETF Network Slices
 - <https://datatracker.ietf.org/doc/html/draft-ietf-teas-ietf-network-slices>
 - A YANG Data Model for the IETF Network Slice Service
 - <https://datatracker.ietf.org/doc/draft-ietf-teas-ietf-network-slice-nbi-yang/>
 - A YANG Data Model for L3VPN Service Delivery
 - <https://datatracker.ietf.org/doc/html/rfc8049>
 - A YANG Data Model for Layer 2 Virtual Private Network (L2VPN) Service Delivery
 - <https://datatracker.ietf.org/doc/html/rfc8466>
 - A YANG Data Model for Network Hardware Inventory”
 - <https://datatracker.ietf.org/doc/draft-ietf-ccamp-network-inventory-yang/>

Network Service



End-to-End Service Establishment



- Saturday
 - Remote and Local Participation
 - Lluís Gifre (CTTC)
 - Oscar González de Dios (Telefónica)
 - Emiko King (ODC)
- Sunday
 - Remote and Local Participation
 - Lluís Gifre (CTTC)
 - Oscar González de Dios (Telefónica)
 - Emiko King (ODC)
 - Adrian Farrel (ODC)
 - Daniel King (ODC)
- Anyone is welcome to visit our table to discuss or demo TFS

- Testbed Demo
 - Diverse (using SRLGs) end-to-end network slices were built over a common and shared underlying transport networks infrastructure.
- Success for IETF 116 Hackathon...
 - **Extended support for IETF “A YANG Data Model for the IETF Network Slice Service”** (draft-ietf-teas-ietf-network-slice-nbi-yang)
 - Provided configuration of IP addresses/prefixes, VLAN tags, MTUs, etc.
 - **Extended support for IETF “YANG Data Model for L3VPN Service Delivery”** (RFC8049)
 - Created new NBI plugin with basic support for the data model.
 - **Implement support for IETF “A YANG Data Model for Network Topologies”** (RFC8345)
 - Created new NBI plugin with basic support for the data model.
- Plans for IETF 117 Hackathon
 - **Extend support for IETF “A YANG Data Model for Layer 2 Virtual Private Network (L2VPN) Service Delivery”** (RFC8466)
 - Add support for additional constraints/configuration rules.
 - **Implement support for IETF “A YANG Data Model for Network Hardware Inventory”** (draft-ietf-ccamp-network-inventory-yang)
 - Create new NBI plugin with basic support for the data model.

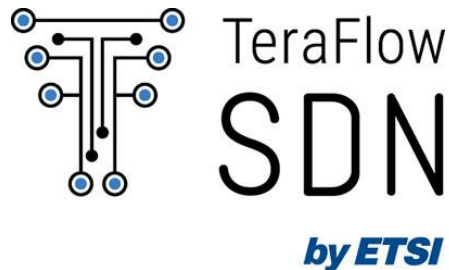
Thank you!

www.teraflow-h2020.eu

Join the ETSI TeraFlowSDN controller (<http://tfs.etsi.org>) project

- Cloud-native and microservice-based SDN controller.
- Community-driven, open-source, scalable, flexible, and extensible
- Try the Demo

<https://labs.etsi.org/rep/tfs/controller>



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