

## TNA - Tiesse Network Architecture

# OVN

## Overlay Network module



# TNA

## Tiesse Network Architecture



**TNA is a distributed SD-Wan solution that allows complete control over what happens in the network.**

TNA (Tiesse Network Architecture) is the software suite consisting of three modules, whose main goal is to enable the realization of a **Zero Touch Provisioning** network architecture, including:

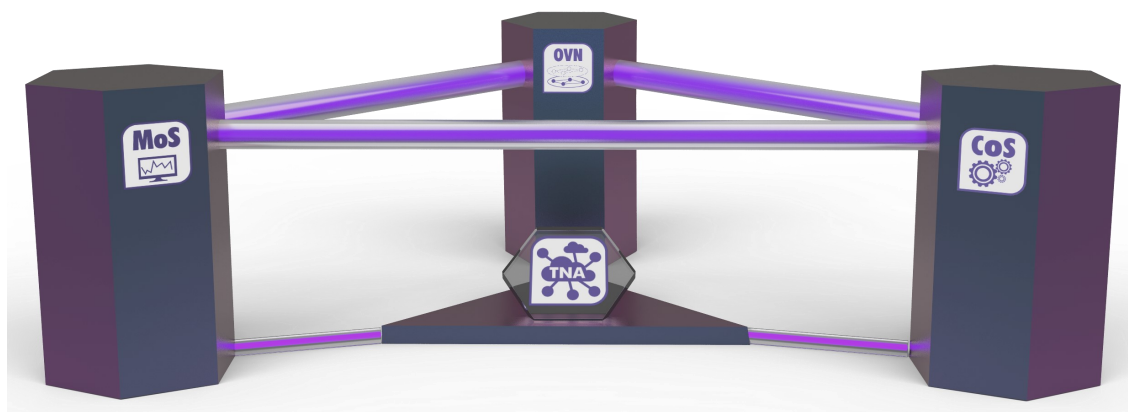
- **monitoring** of equipment and network status
- **displaying** of aggregated data
- **automatic management** of configuration **updates** according to user-set policies, triggers, or data-based information from all devices.

Another feature of the **TNA** suite is the ability to carry out **traffic engineering** functions, in order to transparently select the link that best fits the performance requirements of the applications.

In addition, the TNA suite allows you to connect remote sites by dynamically creating an **overlay network** on the public Internet.

The TNA suite is a modular and flexible solution and consists of the **MoS**, **CoS** and **OVN** modules.

**OVN** is the module that allows to create and manage an **overlay network** over IP networks subject to NAT, both public and private.



**MoS** is the monitoring and analysis module that collects data on the behaviour and status of both the network and individual devices. It can monitor the data traffic of more than 200 applications, measure the quality of the links used, detect network congestion, and measure router performance.

MoS also has a specific Network **Anomaly Detection** module.

**CoS** is the module that allows to inventory, configure, manage and update centrally networks of remote routers and IoT devices, both on IP public and private networks.

# OVN

## Overlay Networks Management Module



**OVN (Overlay Virtual Network)** is the ideal solution for creating secure and encrypted virtual networks, allowing routers to communicate across existing networks (public, private or NAT-subject). This technology offers a higher level of **security, agility** and **scalability**, while significantly reducing costs compared to traditional solutions such as MPLS.

OVN can be configured in two modes:

1. **Hub-and-Spoke topology:** perfect for companies that want to connect remote locations to their cloud or data centre. Our solution, based on open-source technologies such as OpenVPN and FRR-routing, is high-performance and scalable; it guarantees symmetrical routing and is resistant to network interruptions. Thanks to multi-mode links (wired and wireless) and the BGP protocol, route recognition is fully dynamic, making the network fault-tolerant by design, without additional redundancy costs.
2. **Full-Mesh topology:** A decentralised network with a supernode that coordinates the nodes, improving performance and reducing the steps required for data transmission. On-demand VPNs can be created between nodes using tunnelling protocols such as GRE, VXLAN and IPSEC.

### KEY FACTORS

The OVN module was designed to achieve

- **Security**
- **Agility**
- **Scalability**
- **Competitive**

And also

#### High Cost reduction

Unlike more popular solutions, such as MPLS and IPsec, which also require a very expensive hardware part, Tiesse's solution is much cheaper and lowers utilisation/management/maintenance costs, because it uses user-space tunnelling technologies and relies on 'general-purpose' hardware (such as virtual machines or physical servers on x86 platforms), exploiting parallelism for OVN tunnel management.

#### Advanced Monitoring

Integrated with **TNA** and **Grafana®**, the OVN module allows monitoring of nodes, data traffic and tunnel status, providing a complete and detailed view of the network

# Tiesse

Innovation made in Italy®

Tiesse is a totally Italian company with more than 25 years of experience in the design, development and production of network equipment and IoT devices, suitable for use in mission-critical and industrial scenarios. Tiesse's most successful series, Imola, Lipari and Levanto, are innovative, competitive and certified, and are present in the networks of the major telecommunications operators, in the energy sector, large-scale distribution and vertical sectors, both in the Italian and foreign markets.

Further information on Tiesse solutions can be found on the company website [www.tiesse.com](http://www.tiesse.com).



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