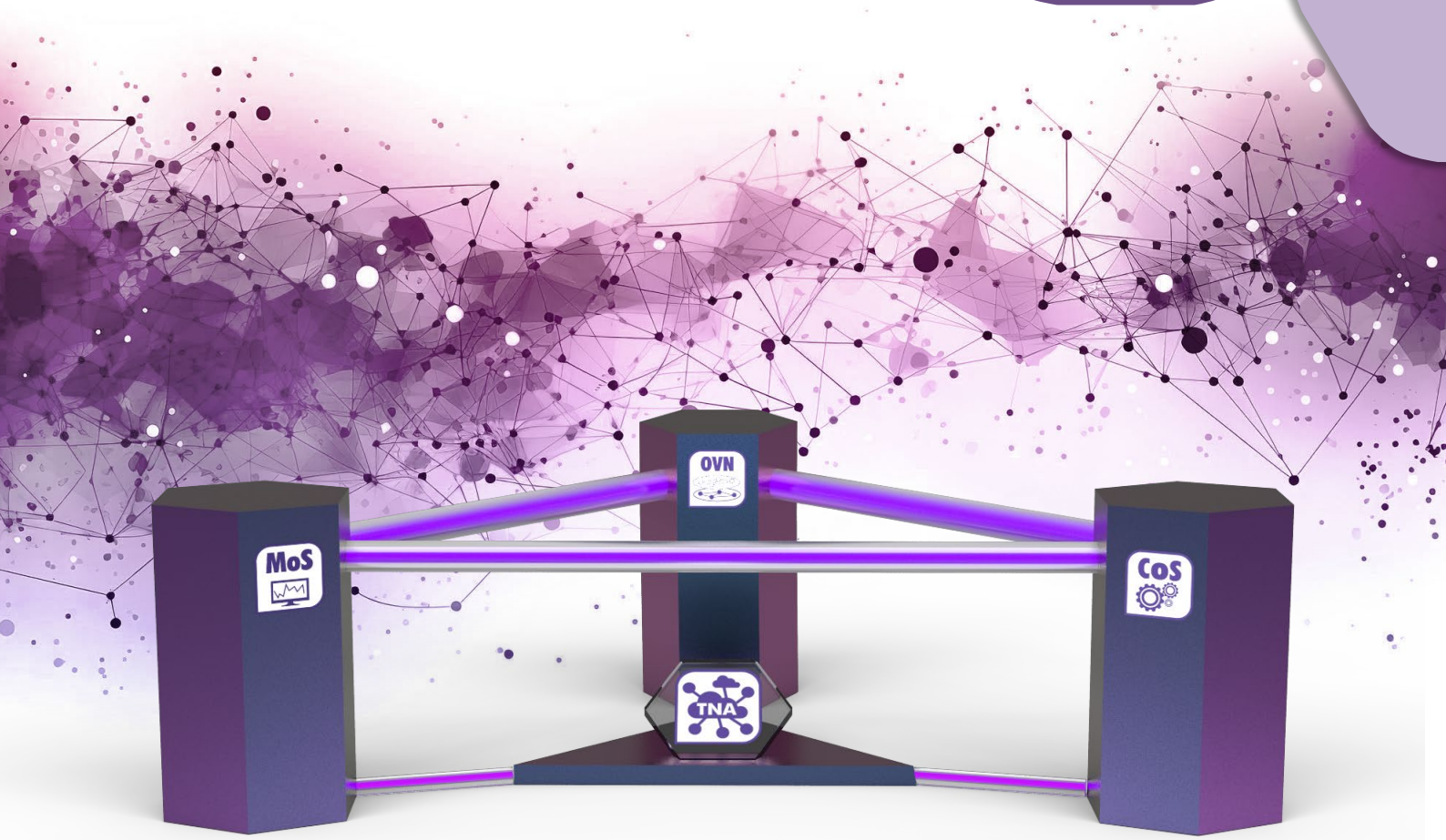
Tiesse
Innovation made in Italy®

Management and automation software



TNA software suite - Tiesse Network Architecture

CoS

Centralised management of data networks module

TNA

Tiesse Network Architecture

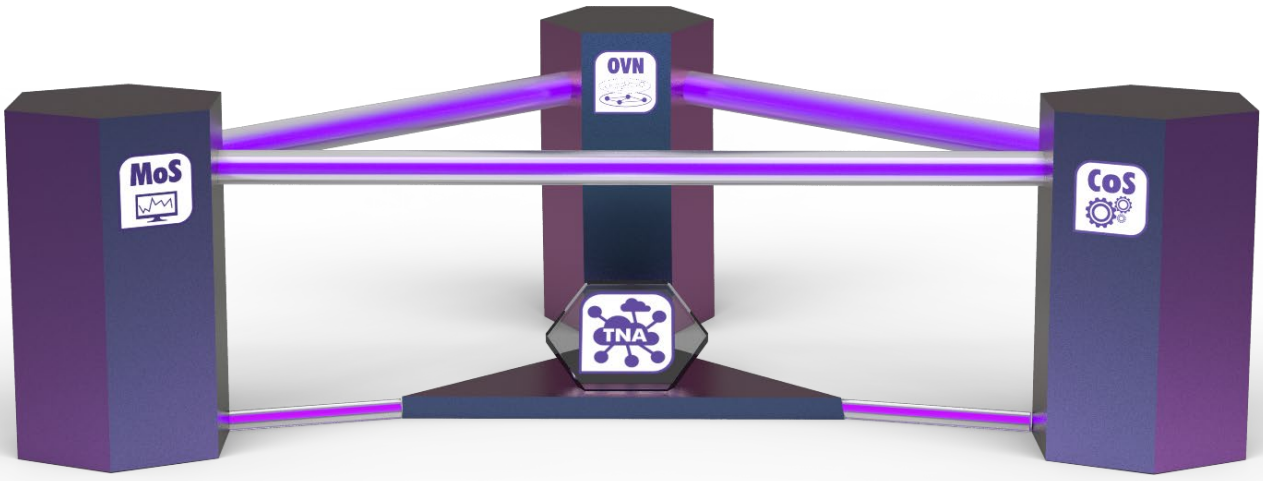
TNA is a distributed SD-WAN solution that gives you complete control over what happens on your network.

TNA (Tiesse Network Architecture) is the platform that gives you complete control over your network. Its main purpose is to enable the creation of a Zero Touch Provisioning network architecture and the monitoring of that network.
It allows you to:

- monitor devices and network status
- view aggregated data
- automatically manage configuration updates according to user-defined policies, triggers or information based on data from all devices.

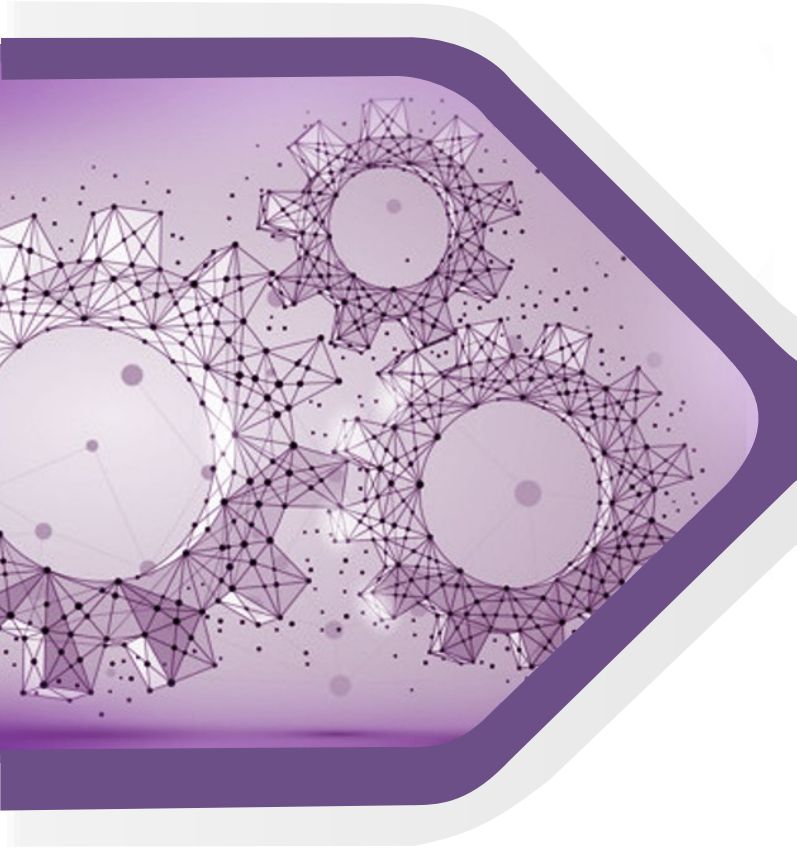
Another feature of the TNA suite is the ability to perform traffic engineering functions in order to transparently select the link that best suits the performance requirements of the applications.
In addition, the TNA suite allows remote sites to be connected by dynamically creating an overlay network on the public Internet.
The TNA suite is a modular and flexible solution consisting of the following modules **MoS**, **CoS** and **OVN**.

OVN is the module that allows you to create and manage an overlay network on both public and private IP networks subject to NAT, used in the context of an SD-WAN solution.



MoS is the monitoring and analysis module that collects data relating to the behaviour and status of both the network and individual devices. It is capable of monitoring the data traffic of **over 400 applications**, measuring the quality of the links used, detecting any network congestion, and measuring router performance.
MoS also has a specific **Network Anomaly Detection** module.

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



CoS

Centralised management module

CoS is a component of the TNA (Tiesse Network Architecture) suite that allows you to perform router inventory and manage configuration and firmware updates.
It allows you to perform the initial installation of the router in **Zero Touch Provisioning** mode.

KEYS FACTORS

Configuring devices one by one requires a lot of manual work and involves the possibility of human error, which further increases release times.

Tiesse's **CoS**:

- **Reduces effort**
- **Limits errors**
- **Cuts costs**

allowing the user to modify the configurations of multiple devices at once, as well as upload firmware to different routers and devices, copy configurations, and schedule updates with a single click.

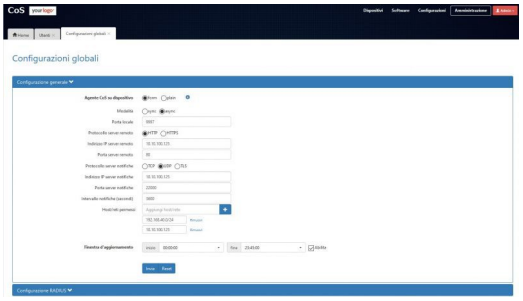
Furthermore, CoS enables:

- Rapid configuration implementation and reduced installation times
- Greater efficiency in deployment
- Reduced risks associated with general network administration
- Easy integration of new remote sites
- Long-lasting installations that support easy configuration migration

FEATURES

- Automatic network discovery and inventory
- Display of configuration and firmware version information
- Firmware and configuration updates performed by an operator or scheduled by setting time slots
- Creation and distribution of network device configuration templates
- Classification of devices and creation of multiple groups
- Bulk network parameter setting in a few simple steps
- Setting commands to enable or disable specific services for specific operators or connection types
- Viewing and downloading reports for each scheduled update
- Defining user accounts with different privilege levels, from read-only to administrator. Each user level has specific restrictions, such as setting updates, creating and modifying templates, managing additional services and exceptions, modifying and creating user accounts, and managing global settings.

HOW IT WORKS



Each router has an agent that periodically sends a notification to the Cos Server module.

This notification contains information about the current firmware and configurations.

After receiving the notification, the server process compares the version installed on the device with the desired version and thus determines whether an update (of the configuration, firmware, or both) is necessary.

The update can be performed immediately, as soon as the server receives the notification, or it can be scheduled on an hourly basis, at a specific interval.

Furthermore, to avoid congestion, the maximum number of updates to be performed in each time interval is programmed.

The COS Server can obtain the router configuration by interfacing with the customer's database. Specific APIs are available for this purpose, which the customer can use.

The specific configuration for each router is generated from the customer's database.

The initial configuration of the router can be done in two ways:

1. **Manual setup** of minimum reachability configuration, i.e. configuration of the router's IP address and routing route to connect to the COS server
2. **Auto-provisioning**: the router is delivered with auto-provisioning functionality directly from the factory. This configuration involves enabling a protocol that allows the router to automatically obtain its own IP address and, once discovered, it presents itself to the Cos server and receives the final configuration for that location.

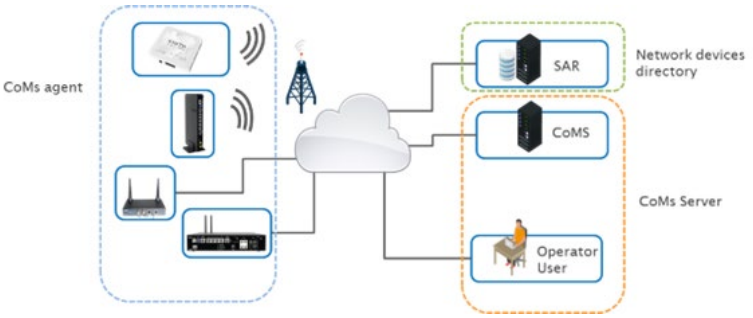
The configuration is expressed according to the YANG model; the protocol used between the CoS server and routers is NETCONF.

The advantage of this approach is that the CoS server can be easily adapted to configure other routers that support this standard.

SCENARIOS

CoS is composed by:

- Routers and M2M/IoT network devices equipped with the CoS agent
- CoS server, which manages both verification and update processes. The application is the heart of the CoS system and is responsible for listening for messages/notifications sent by various network devices. The web interface allows interaction between the operator and users.
- The database containing all information relating to each router (configuration, personal details, firmware release, etc.)



WEB GUI

The web interface is accessible with the corresponding authentication level (via Radius server). The interface is organised into tabs grouped by functionality, which are further divided into specific sections.

Main features	Sections
iOS	Firmware
Devices	Groups Routers Router exceptions
Admin	General settings Users Process logs

Main features	Sections
Configuration	Services Carriers Line types Router models Router functions Templates Add-on services

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.

Info: info@tiesse.com

Marketing & Commerciale: marketing@tiesse.com

www.tiesse.com

Disclaimer

The informations in this document may contain predictive statements including, without limitation, statements regarding the future financial and operating results, future product portfolio, new technology, etc. There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied in the predictive statements. Therefore, such information is provided for reference purpose only and constitutes neither an offer nor an acceptance. Tiesse may change the informations at any time without notice.

Ver. ENG 220925

erion

1000 Trees in Italy