Tiesse
Innovation made in Italy®

Network automation

TNA - Tiesse Network Architecture

CoS

Centralized management module

Datasheet

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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:

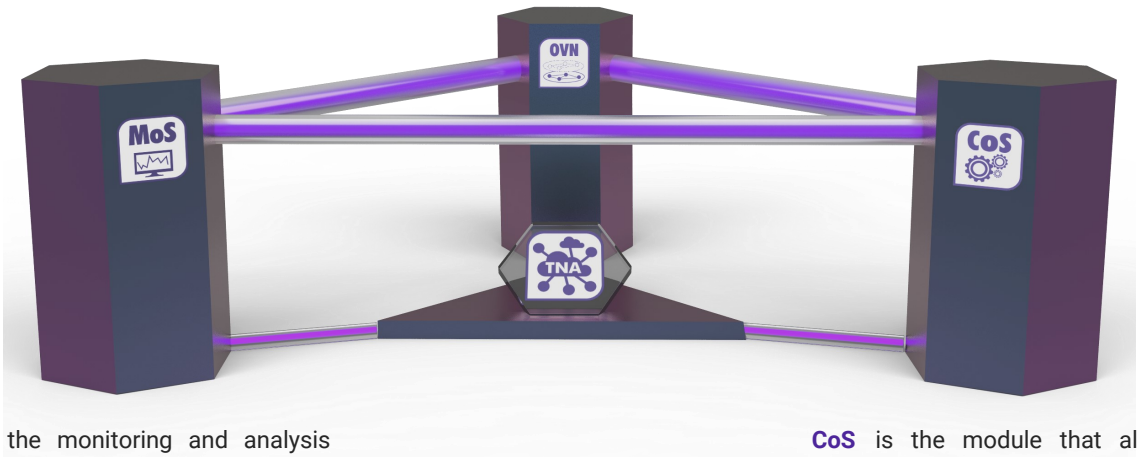
- **monitoring** of equipment and network status
- **displaying** of aggregated data
- **automatic management** of configuration **updates** according to user-set policies, triggers, or data-based information from all devices.

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.

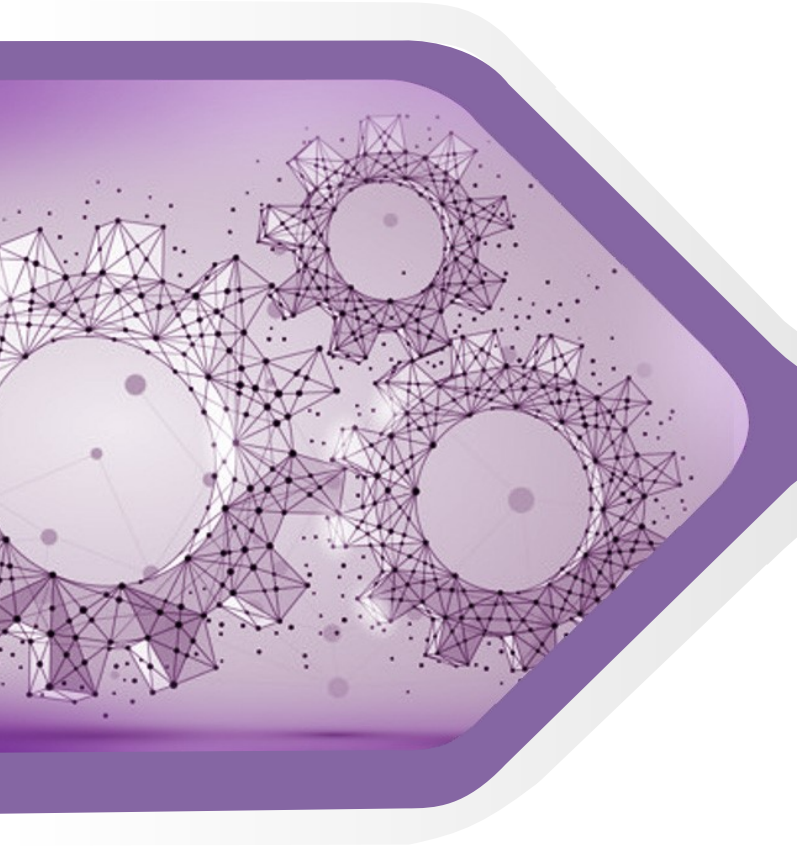
OVN is the module that allows to create and manage an **overlay network** over IP networks subject to NAT, both public and private.



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.



CoS

Centralised management module

CoS is a component of the TNA (Tiesse Network Architecture) a web-based centralised management platform.

The objectives of TNA are **Zero Touch Provisioning** (with the CoS module), **monitoring** of routers and network status, display of aggregated data, automatic **updates** of router configurations based on user policies, triggers or information based on data from all devices, traffic engineering which is the ability to transparently select, in the case of multiple connections, the one that best matches the performance requirements of the user's applications, and connecting remote sites through an overlay network via the public Internet (OVN module).

In the TNA platform, **CoS** is the module that allows configuring, maintaining and updating a large number of remote Tiesse routers and M2M/IOT devices, on both public and private IP networks.

KEY FACTORS

Setting up devices one-by-one require manual work, and implies the possibility of human errors, which increases the deployment time.

CoS by Tiesse

- **reduces the effort**
- **limits the errors**
- **cuts the costs**

configurations at once, as well as to upload firmware to different Tiesse routers and appliances, copy configurations, planning updates with just one click.

Moreover, it enables:

- Fast configuration deployment and reduced setup time
- Greater deployment efficiency
- Reduction of risks due to the overall administration of the network
- Easy integration of new remote site
- Long life installations, supporting easy configuration migration

FEATURES

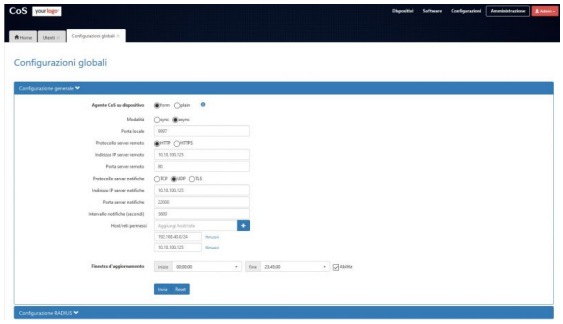
- **Automate** network discovery and inventory
- **Display information** about configurations and firmware versions
- **Update firmware and configurations** manually by an operator or **planned** by setting time slots
- Create and deploy network **devices configuration templates**
- **Classify** the devices and create multiple groups
- Set the network parameter in **bulk**, with few simple steps
- **Set commands** for specific services activation or deactivation, for specific carriers or types of connection
- Support **self-provisioning configurations**
- Display and download **reports** for each scheduled update
- Define **user accounts with different privilege** levels from read only mode up to administrator. Each level of user has specific restriction, like setting updates, creating and modifying templates, managing additional services and exceptions, modifying and creating user accounts and manage global settings.

HOW IT WORKS

CoS's server process (cosd) communicates with the **CoS** part installed on Tiesse routers (named **CoMS agent**).

Each device periodically sends a notification to the server process containing the information on current firmware and configuration. After receiving them, the server process compares the current versions installed on the routers to the desired ones and so determines if the devices need to be updated (configuration, firmware or both).

The process manage the updating process by contacting each single router on a specific web page. When this phase starts, the router contacts the CoS web server to ask which versions should be updated and applied. Server process continues to monitor the notifications to check the success or the failure of the update and then provides a report for each scheduled one.



The update on a single router can be performed by an operator or in the set time slot previously authorized via web gui.

CoS server achieves routers data via XML files in the Router Directory (SAR).

CoS is available both in Italian and English.

It is customizable with specific customer information and it allows, via API, the export of data to be used in the customer's monitoring platforms.

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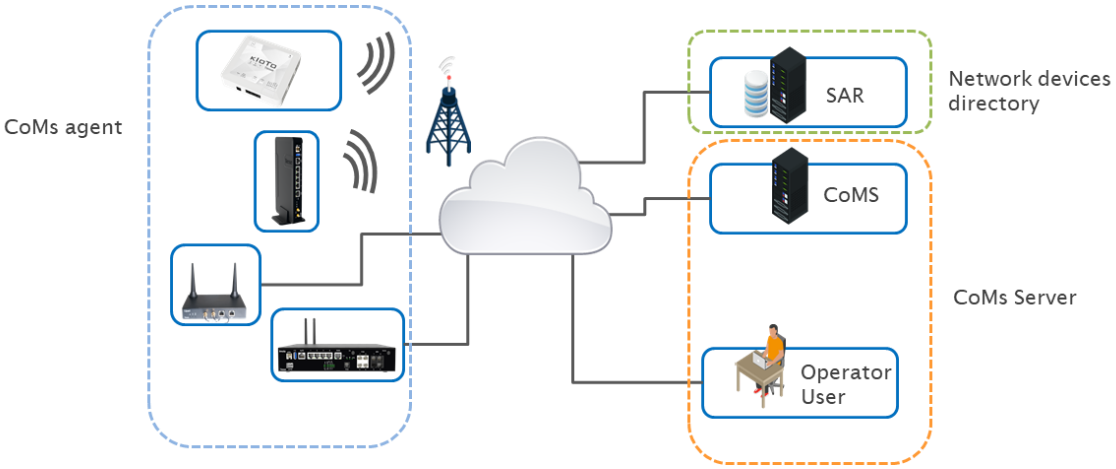
SCENARIOS

CoS consists of three elements:

⇒ **Tiesse routers and M2M/IoT network appliances** equipped with CoS agent

⇒ **CoS server** which manages both control and update processes. The application represents the CoS system core and is in charge of listening to the messages/notifications sent from the network devices. A web interface allows interactions between operators and users.

⇒ **The Router Directory (SAR)** in which the data related to the administrative status of each devices and the configuration parameters are stored in XML file format.



WEB GUI

The web interface is accessible with the proper level of authentication (via Radius server). The interface is organized by tabs grouped by functionalities as well as subdivided in specific sections.

Main Group Functionalities	Sections
iOS	Firmware
Devices	Groups
	Routers
Admin	Global Settings
	Users

Main Group Functionalities	Sections
Configurations	Services
	Carriers
	Line Types
	Router models
	Router functions
	Templates
	Add-on services

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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.

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