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INOVAMESH OVERVIEW

ZERO TRUST NETWORKING FOR THE POST-VPN ERA

MAR 2025

INOVAMESH - AN INNOVATIVE APPROACH

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- Never as today the increasing moving of data and information due to digitalization and remote working request high protection to the integrity and the access of a system. Threads like data theft, alteration of the structure or impossibility of access, for a company can mean risk to stop and block entire manufacturing process.
- It is necessary to delineate new defensive strategies from aggression on the network with a new concept, called Software Defined Perimeter (SDP). This is the Zero Trust Network Access (ZTNA) , a security framework where access is continuously verified.
- Based on SDP/ZTNA concepts and exclusive capabilities like mesh network with Dynamic Overlay Control (DYNOC©, a CyberInova Ltd patent pending Id #102023000017760 technology). InovaMesh is designed to improve how people connect, offering the most agile, secure, and efficient cybersecurity framework.
- This is the reason why we designed InovaMesh.

INOVAMESH 2.0 - THE AGILE SECURITY SOLUTION

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- The innovative cyber security strategy: Evolution of previous version, InovaMesh 2.0 now is a SaaS cloud system application . InovaMesh 2.0 replaces centralized security controls with distributed software agents that operate under the control of the web application manager. This will provide access to the application infrastructure only after identify verification.
- Security without compromise: Inovamesh 2.0 is a SaaS system developed with a VeraCode-certified Java architecture, using 'secure by design' software development techniques. More, is delivered on Amazon AWS, the leading cloud platform on the market.
- ZTNA made simple: ZTNA Mesh networks are recognized to be effective but very complex to implement. InovaMesh addresses this problem with auto-configuration agents wizard, graph representation of mesh device relationships, programmable security policies, orchestration. Device policies are deployed securely via a central repository, with no online exposure and full multi-customer, multi-mesh support.

InovaMesh 2.0 is the ZTNA Security SaaS Solution.

INOVAMESH – IN-DEPTH DOCUMENTATION

Detailed information is available on the Documents page of the InovaMesh.Cloud website, where a permanent SaaS Demo & PoC is hosted. A summary of the documents is provided below:

- 👉 Inovamesh® Broshure.
- 👉 Inovamesh® At a Glance.
- 👉 Inovamesh® Overview.
- 👉 Inovamesh® Use Cases.

Upon request for further technical analysis, detailed Inovamesh® documents can be made available, as listed below.

- 👉 Inovamesh® Concepts and Architectures.
- 👉 Inovamesh® White Paper and Topologies.
- 👉 Inovamesh® Security Features, Cryptographic Protocols and Certificate Management.

INOVAMESH 2.0 - THE SW DEVELOPMENT ARCHITECTURE

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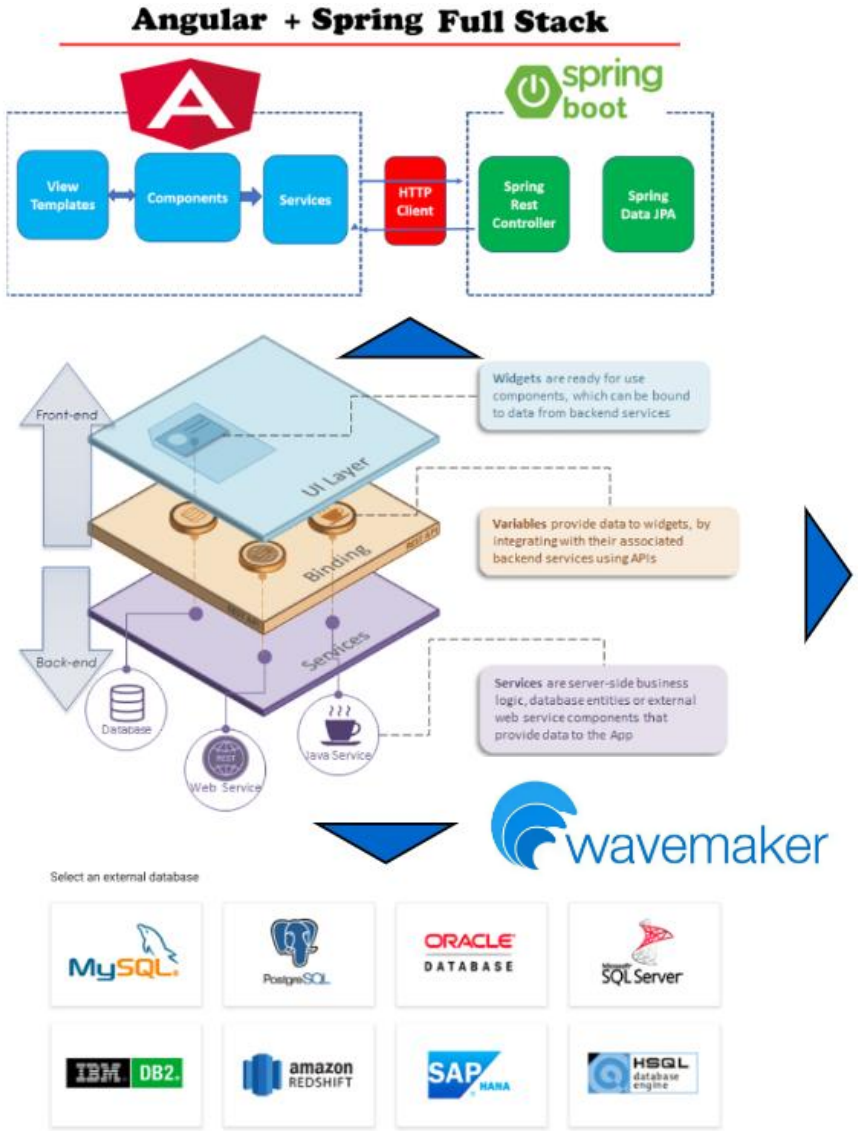
Cloud-native architecture

InovaMesh 2.0 is built on a modern, resource-optimized software environment. We adopted the **WaveMaker platform**, which delivers enterprise-grade solutions. Its architecture is designed **with a secure-by-design** approach and **VeraCode-certified Java Spring code**. This ensures high availability and native application scaling, leveraging Angular, Java Spring, and a Hibernate layer for DB independence.



INOVAMESH 2.0 - THE SW DEVELOPMENT ARCHITECTURE

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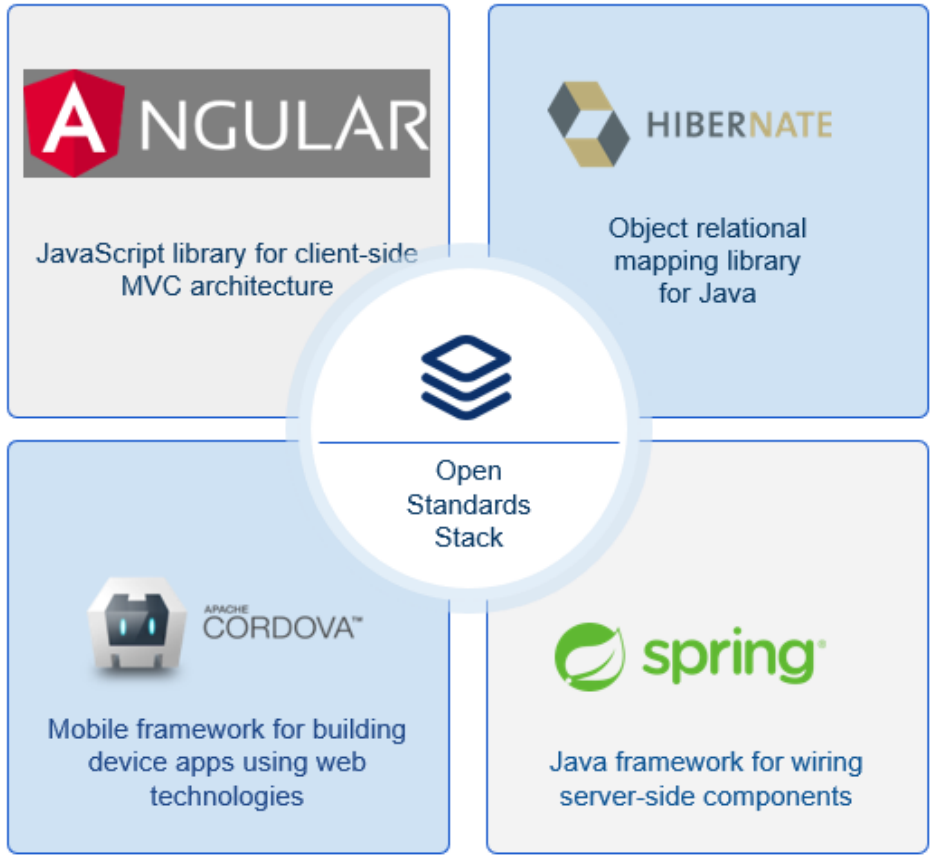
Open Technology Stack

The adoption of the WaveMaker platform made it possible for InovaMesh 2.0 to be built using an **open-standards** technology stack, **without any lock-in** to vendor-specific software frameworks. This allows, alongside the main SaaS version, the **customization** and deployment of InovaMesh 2.0 on partner platforms.



1.Front-end: Angular for user interface, data binding and events. Bootstrap provides responsive layouts for various form factors

2.Object Relational Mapping (ORM): Hibernate and JPA provide standards based ORM layer and Entity model for database interaction and indipendence

3.Back-end Services: Spring framework provides the back-end service layer in Java with support for dependency injection, REST controllers, security etc.

4.Hybrid Mobile: Cordova framework is used for enabling access to mobile device features and native installer creation using the appropriate SDKs.

INOVAMESH 2.0 - THE CLOUD SAAS ARCHITECTURE

advanced device data collection

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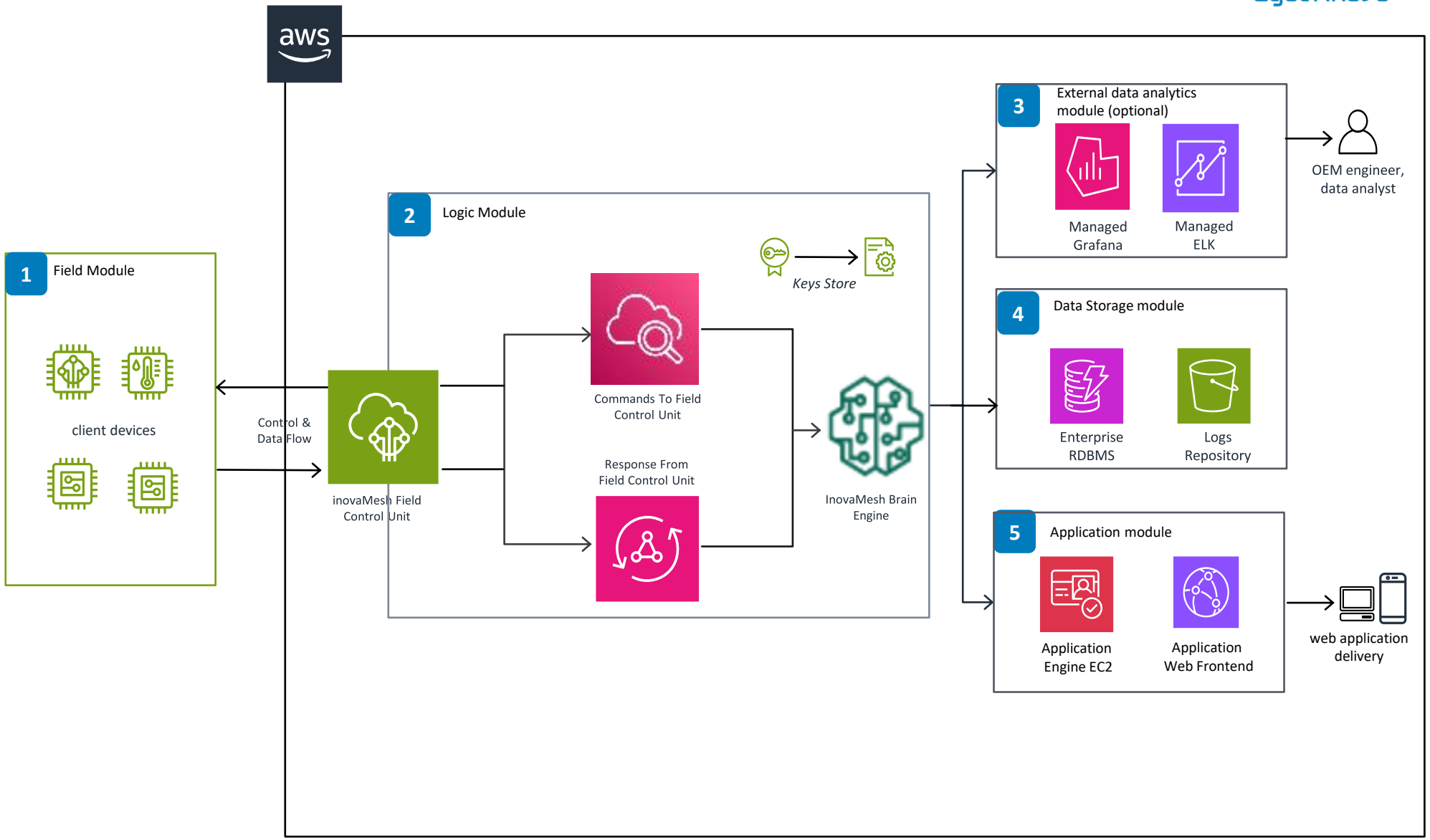
Native SaaS Cloud Solution

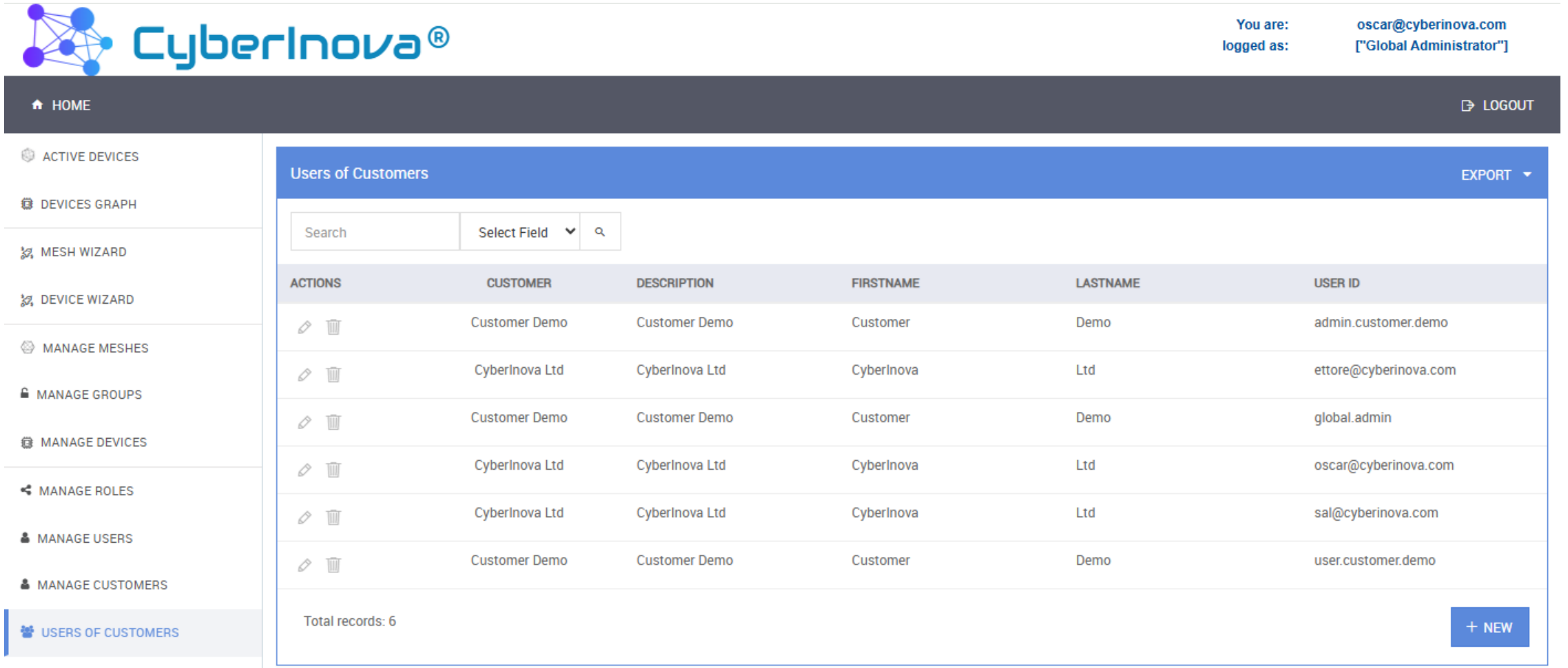
InovaMesh 2.0 is a cloud-native application built with advanced Amazon AWS services to ensure resilience, reliability, and compliance with leading security certifications.



INOVAMESH 2.0 - THE MULTI-CUSTOMER SAAS WEB MANAGER

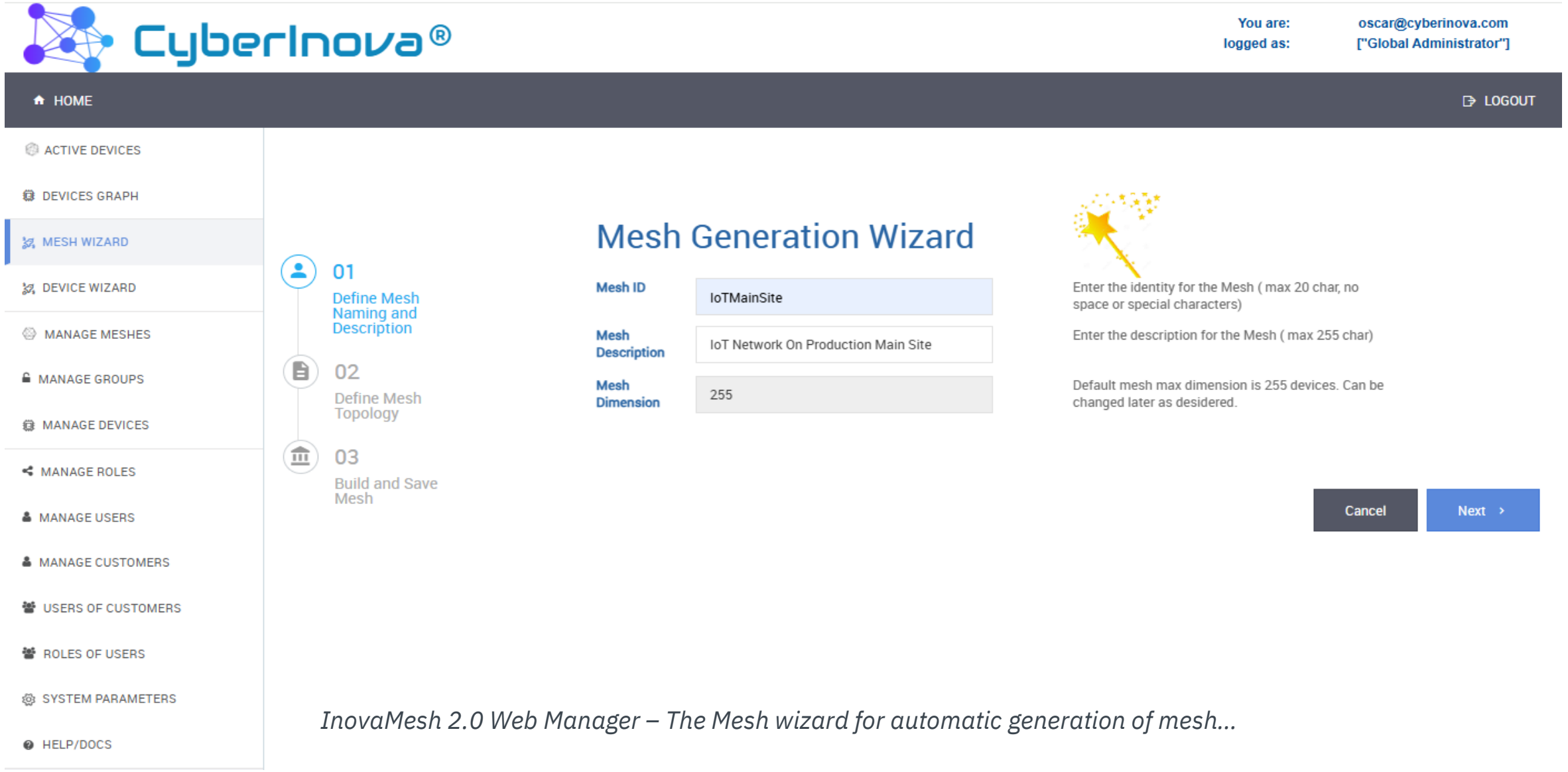
InovaMesh 2.0 Web Manager - User Frontend

INOVAMESH 2.0 – A MULTI-CUSTOMER SAAS APPLICATION



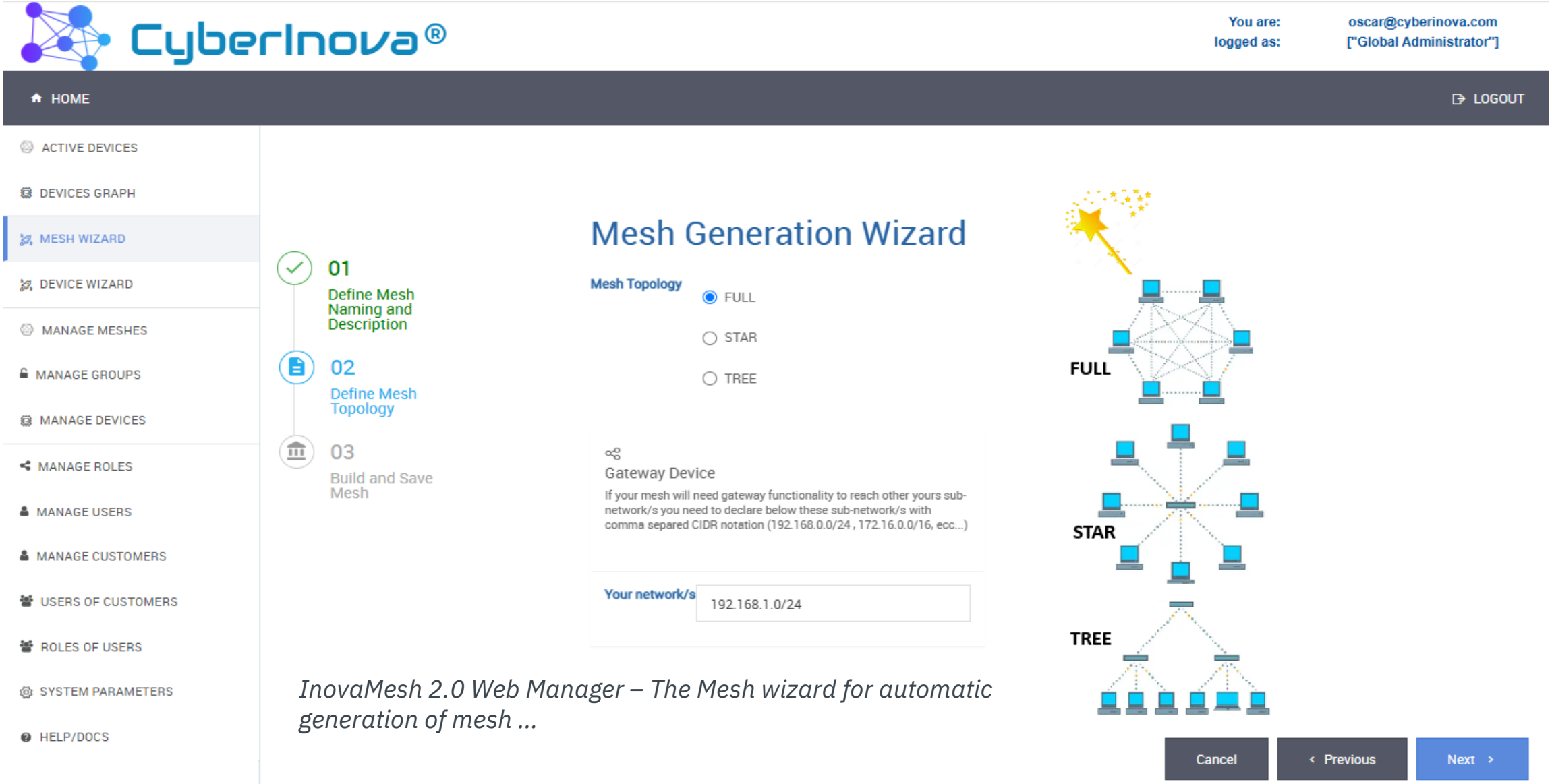
InovaMesh 2.0 Web Manager – A multi-customer, multi-mesh SaaS application that provides complete management of customers, users, user roles, customer meshes, mesh security policies. More, customer-specific visibility on their meshes and devices.

INOVAMESH 2.0 – MESH MADE SIMPLE BY WIZARDS



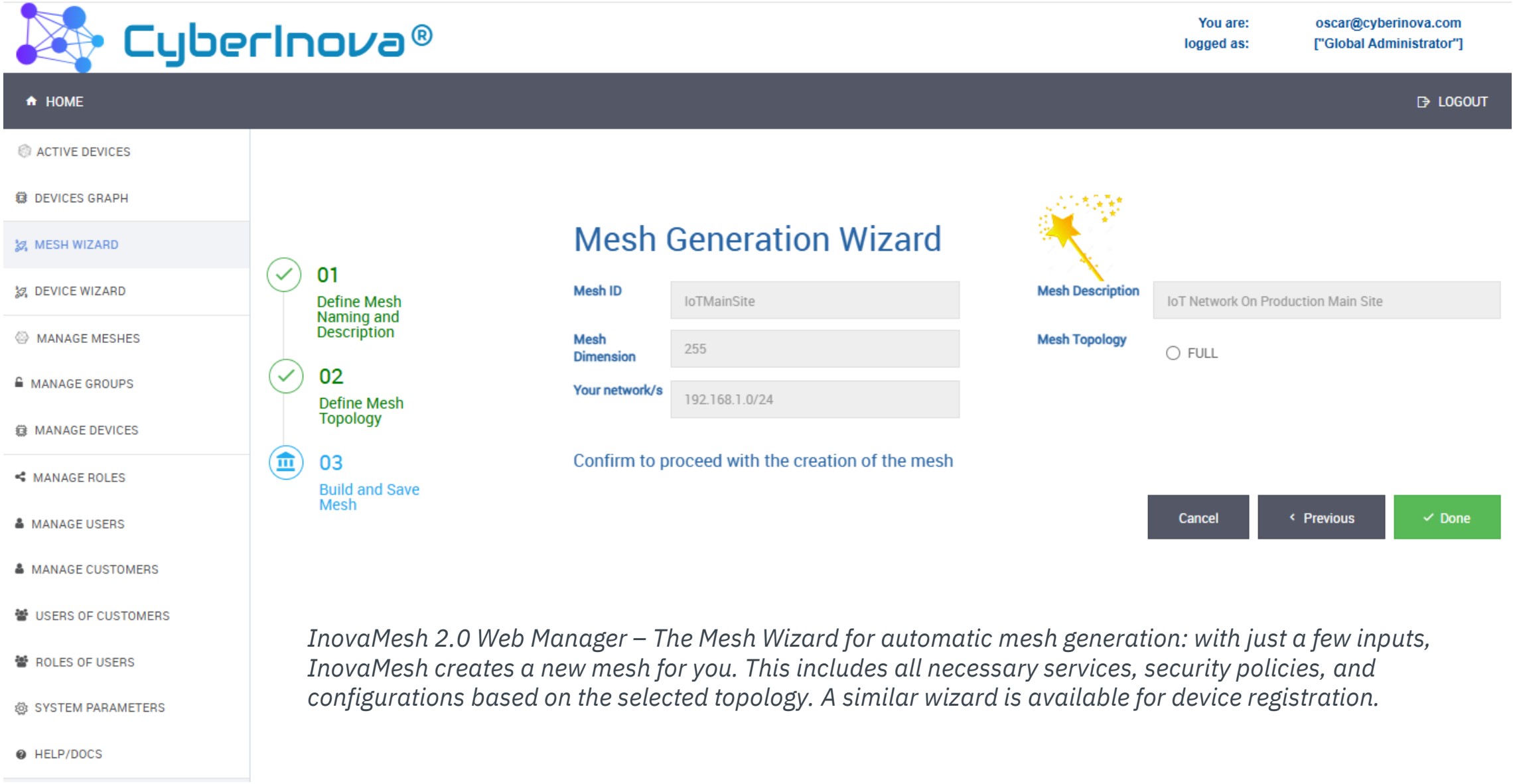
InovaMesh 2.0 Web Manager – The Mesh wizard for automatic generation of mesh…

INOVAMESH 2.0 – MESH MADE SIMPLE BY WIZARDS



InovaMesh 2.0 Web Manager – The Mesh wizard for automatic generation of mesh …

INOVAMESH 2.0 – MESH MADE SIMPLE BY WIZARDS



InovaMesh 2.0 Web Manager – The Mesh Wizard for automatic mesh generation: with just a few inputs, InovaMesh creates a new mesh for you. This includes all necessary services, security policies, and configurations based on the selected topology. A similar wizard is available for device registration.

INOVAMESH 2.0 – MESH CLARITY THROUGH CONNECTIONS GRAPH

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You are: oscar@cyberinova.com
logged as: ["Global Administrator"]

HOME | LOGOUT

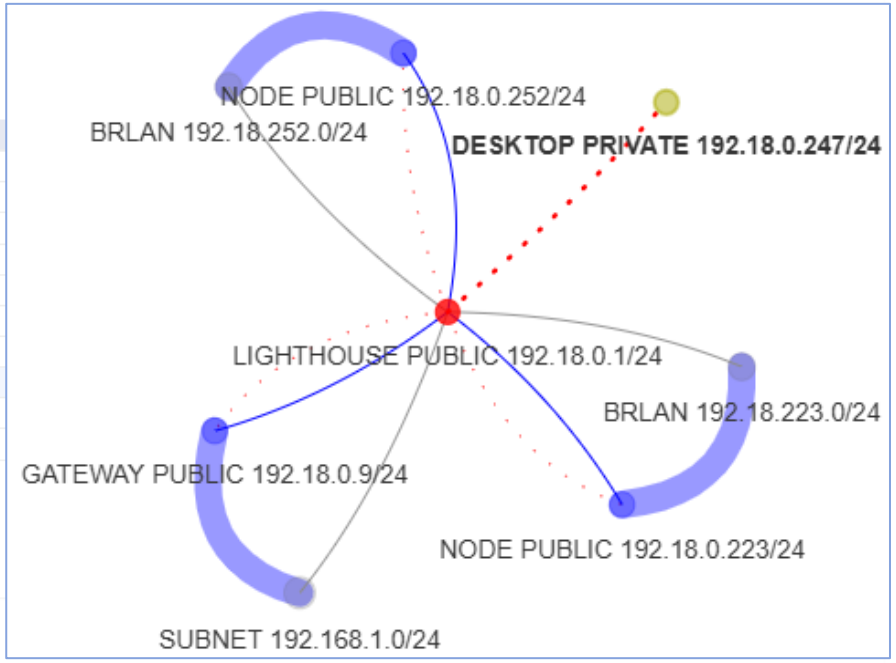
- ACTIVE DEVICES
- DEVICES GRAPH
- MESH WIZARD
- DEVICE WIZARD
- MANAGE MESHES
- MANAGE GROUPS
- MANAGE DEVICES
- MANAGE ROLES
- MANAGE USERS
- MANAGE CUSTOMERS
- USERS OF CUSTOMERS
- ROLES OF USERS
- SYSTEM PARAMETERS
- HELP/DOCS

Device Network Graph

Search | Select Field

DEV CUSTOMER	DEV MESH ID	DEV SN	DEVICE TYPE	DEVICE MODE
CyberInova Ltd	Alpha	1000000001	LIGHTHOUSE	PUBLIC
CyberInova Ltd	Alpha	1000000003	GATEWAY	PUBLIC
CyberInova Ltd	Alpha	1000000004	NODE	PRIVATE
CyberInova Ltd	Alpha	1000000005	NODE	PRIVATE
CyberInova Ltd	Alpha	1000000006	DESKTOP	PRIVATE
CyberInova Ltd	Alpha	1000000007	SERVER	PUBLIC
Cyberinova Ltd	RealMesh	1016032256	LIGHTHOUSE	PRIVATE
CyberInova Ltd	Beta	2000000001	LIGHTHOUSE	PUBLIC
CyberInova Ltd	Beta	2000000003	GATEWAY	PUBLIC
CyberInova Ltd	Beta	2000000004	NODE	PUBLIC

‹ 1 2 3 ›

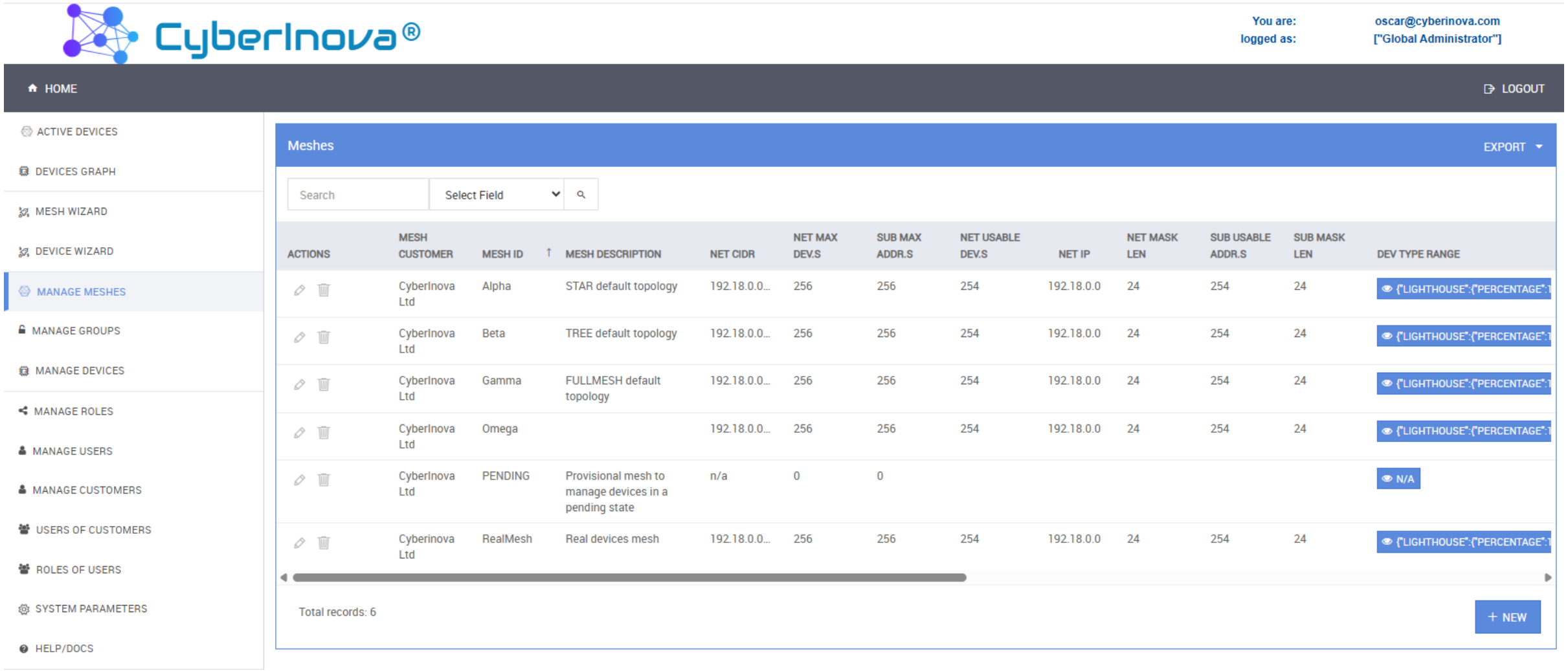


The object labeled **DESKTOP PRIVATE 192.18.0.247/24** with Serial Number: **2000000006** is connected to the selected device with Serial Number: **2000000001**.

Info: WAN UDP port: 4381
Note: The DESKTOP operates in firewall **PRIVATE** mode. It can initiate connections to any device, BRLAN, or SUBNET in **PUBLIC** mode on the mesh, but it cannot be contacted from the mesh.
Certified routes imported from security group(s): 1

InovaMesh 2.0 Web Manager – Device graph with detailed information about the device as resulting from its configuration, its connections within the mesh and its relationships to other devices.

INOVAMESH 2.0 – MESH AND DEVICE ARE OBJECT DEFINED ON DBMS



InovaMesh 2.0 Web Manager – Whether created through a wizard or manually, both meshes and devices are simple object definitions in the InovaMesh database, where you can refine configurations or create them from scratch. As a result, devices are remotely configured through AWS IoT Core without requiring any local configuration on them.

INOVAMESH 2.0 – ACTIVE MONITORING OF DEVICES ON MESHES

InovaMesh 2.0 Web Manager – Last but not least, the Device Monitor offers remote user action capabilities, including ping, mesh set/reset, device information and statistics, remote command shell execution, and more.

INOVAMESH 2.0 - MAIN FEATURES

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Feature	InovaMesh
Network Segmentation	Yes
Private Virtual Network Mesh	Yes
Active Mesh Isolation	Yes
Running on amd64,arm,arm64,mips,mips64,riscv64,ppc64	Yes
Cloaking (hide device from rest network)	Yes
Mesh on Client: support any Linux, Unix and Windows	Yes
Mesh on Mobile: support Android and iOS	In Progress
Isolation (blocking device internet access)	Yes
Layer 3 Filtering and Access Control	Yes
User Portal	Yes
Active Directory Based Access Control	Yes
Support SAML, OpenID, OAuth2	Yes
Code available for inspection and assurance	Yes
Self-hosted (private)	Yes
Cloud-hybrid hosted	Yes

INOVAMESH 2.0 - LEGACY IOT USE CASE

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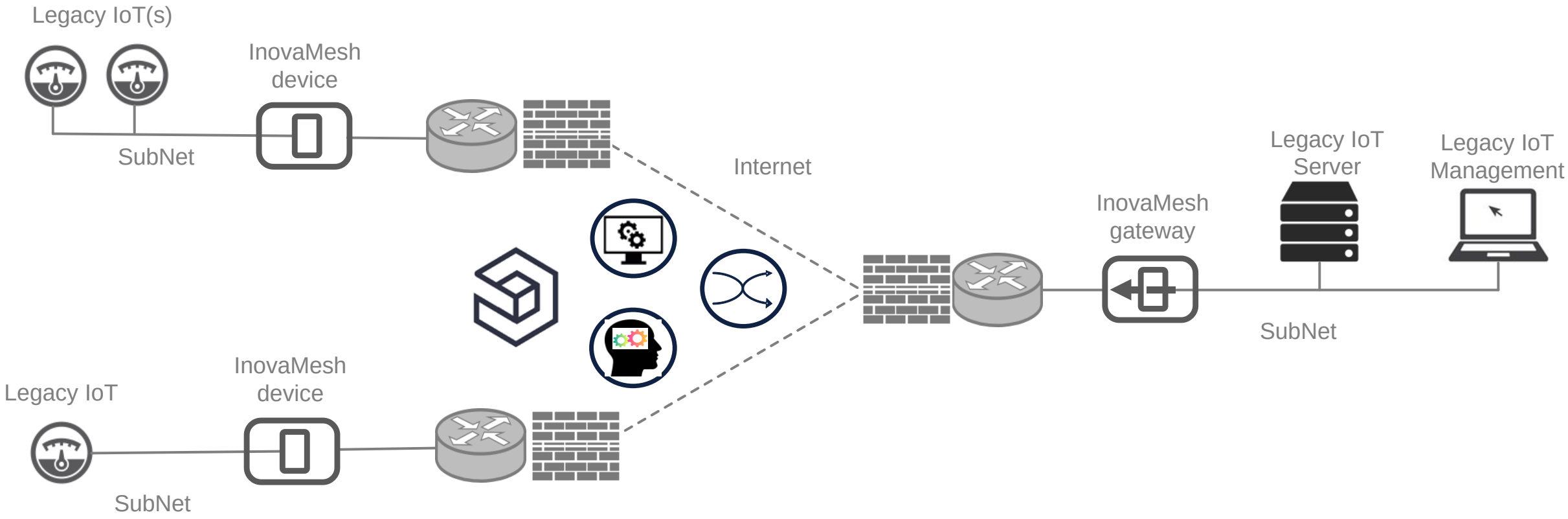
Possible use case of legacy IoT(s), InovaMesh devices and server(s)



INOVAMESH 2.0 - EMBEDDED IOT USE CASE

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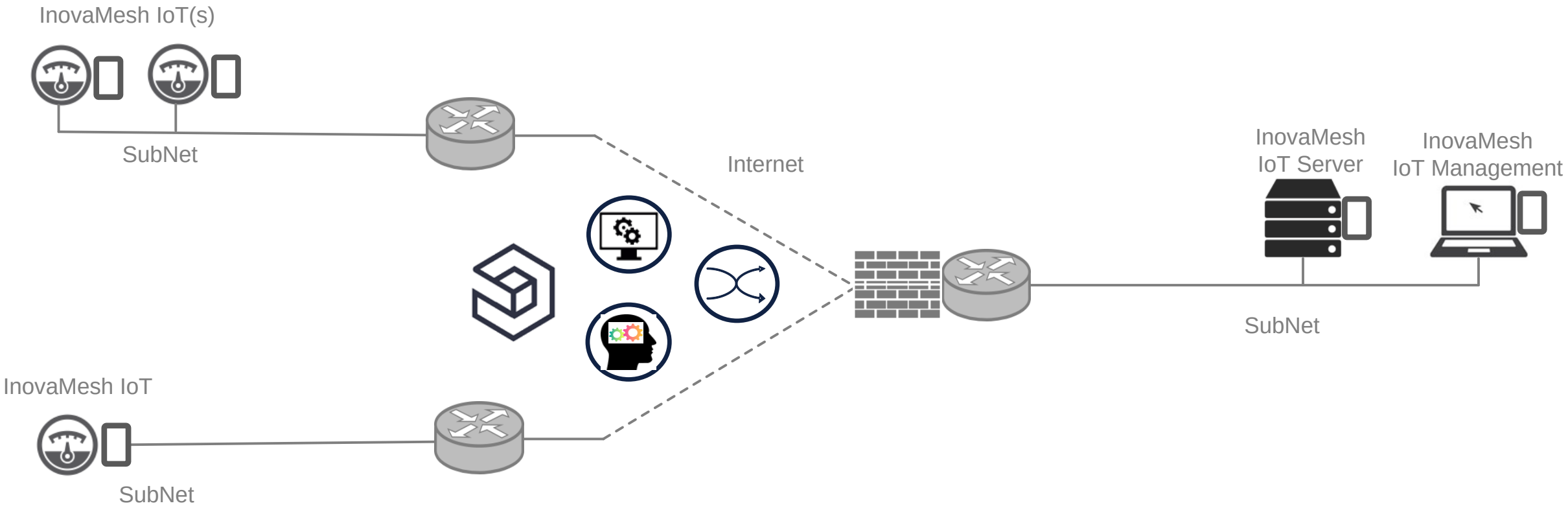
Possible use case of Industry 4.0. IoT(s) with InovaMesh embedded and server(s)



THANKS FOR YOUR ATTENTION

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