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Endian Security Administrator Training

Module :: Secure Digital Platform

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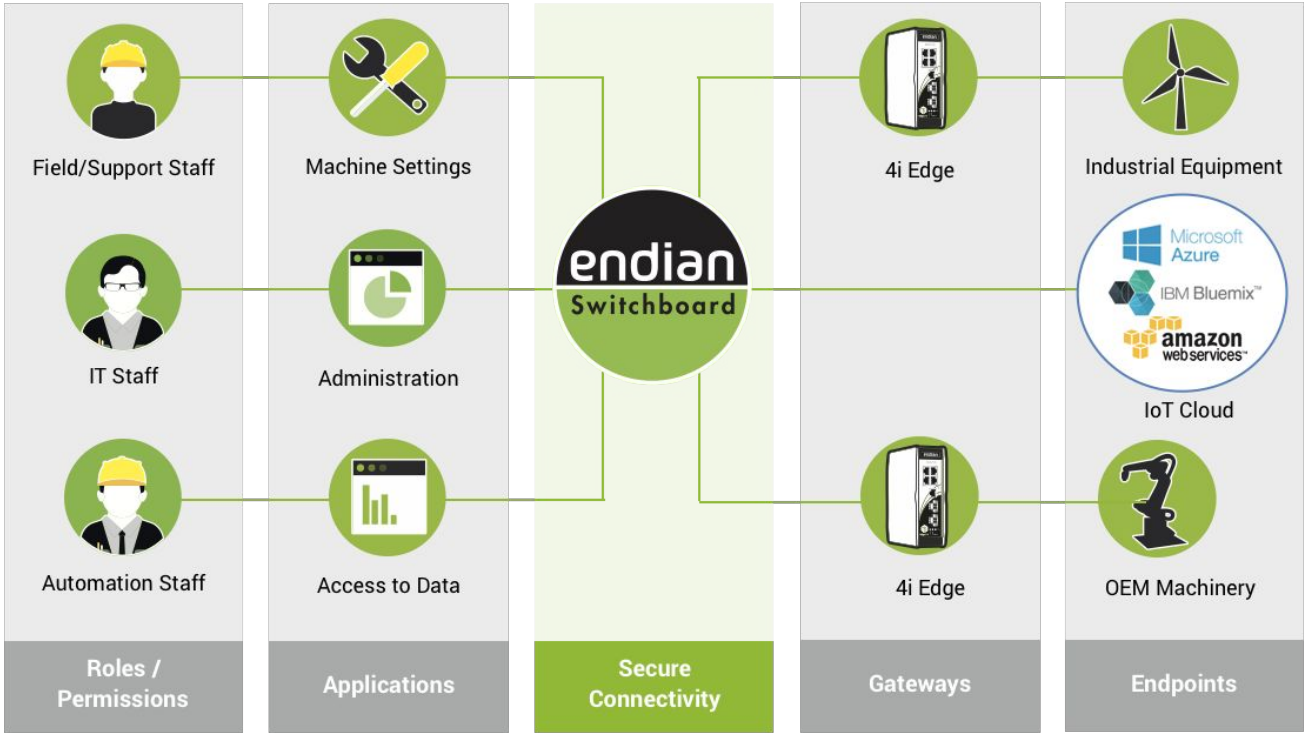
Module
Switchboard

Secure Digital Platform - Components



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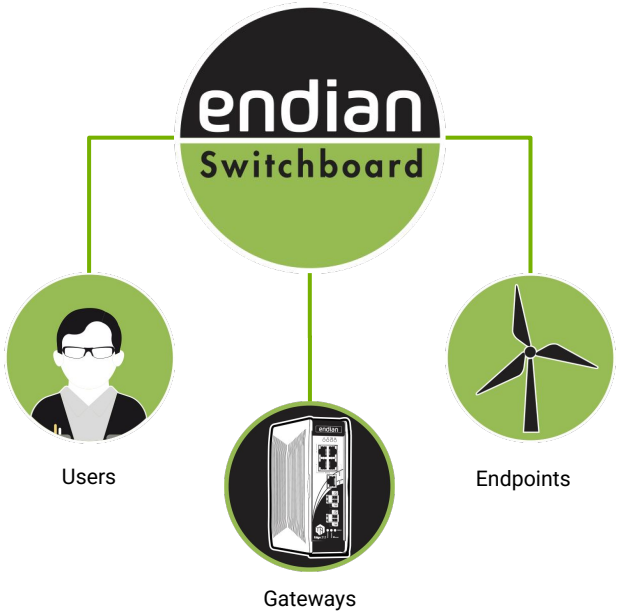
Switchboard

Key Components:

- The **Switchboard** is the VPN concentrator
- Contains all the logical information about **Users**, **Gateways** and **Endpoints**, and **Applications**
- The **Switchboard** adds a layer for identity and access management (IdAM) on top of an OpenVPN infrastructure
- **Switchboard 5.0 (no longer available)** was simply an application installed as a module inside any existing Endian UTM appliance (hardware, software, virtual)
- **Switchboard 6.0** is an own product line NEW



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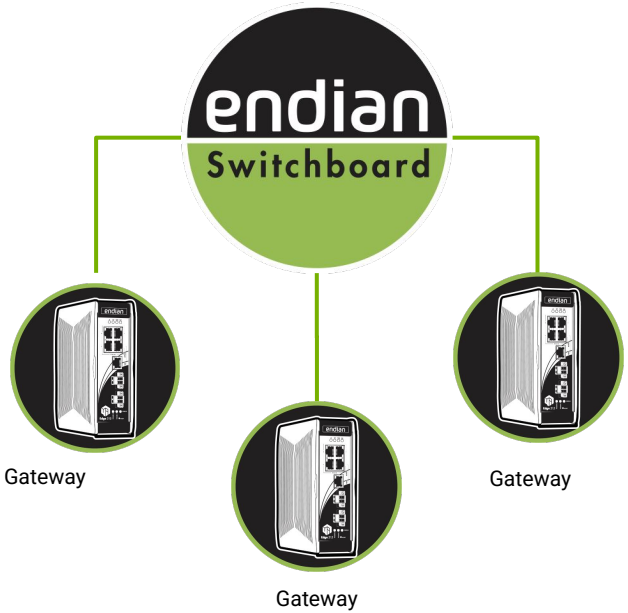
Gateways

Key Components:

- A **Gateway** (or “**Device**”) is a network appliance that can create a VPN connection to the Switchboard
- The **Gateway** creates the VPN connection and provides connectivity to devices connected to it (called **Endpoints**) via the LAN connection(s) on the **Gateway**
- In some cases, the **Gateway** helps to support certain types of **Application** connections using NAT “helpers”
- **Switchboard 6.0** supports only Endian devices as Gateway.



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Endpoints

Key Components:

- An **Endpoint** is any IP-enabled device that is connected to a Gateway in order to be accessed through the Switchboard
- **Endpoints** are the actual devices that a business users need to be able to access, manage, and support remotely
- User can utilize **Applications** which are defined on an **Endpoint**

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Applications

Applications allow admins to easily provision which programs (e.g. RDP, SSH , etc) they wish to allow users to be able to access on a given Endpoint

Two Types:

- An **Integrated Application** is one that is built into the Switchboard and can be utilized by either Connect Web or App
- An **External Application** is one that is not built into the Switchboard (i.e. all other applications) that can only be utilized by the Connect App

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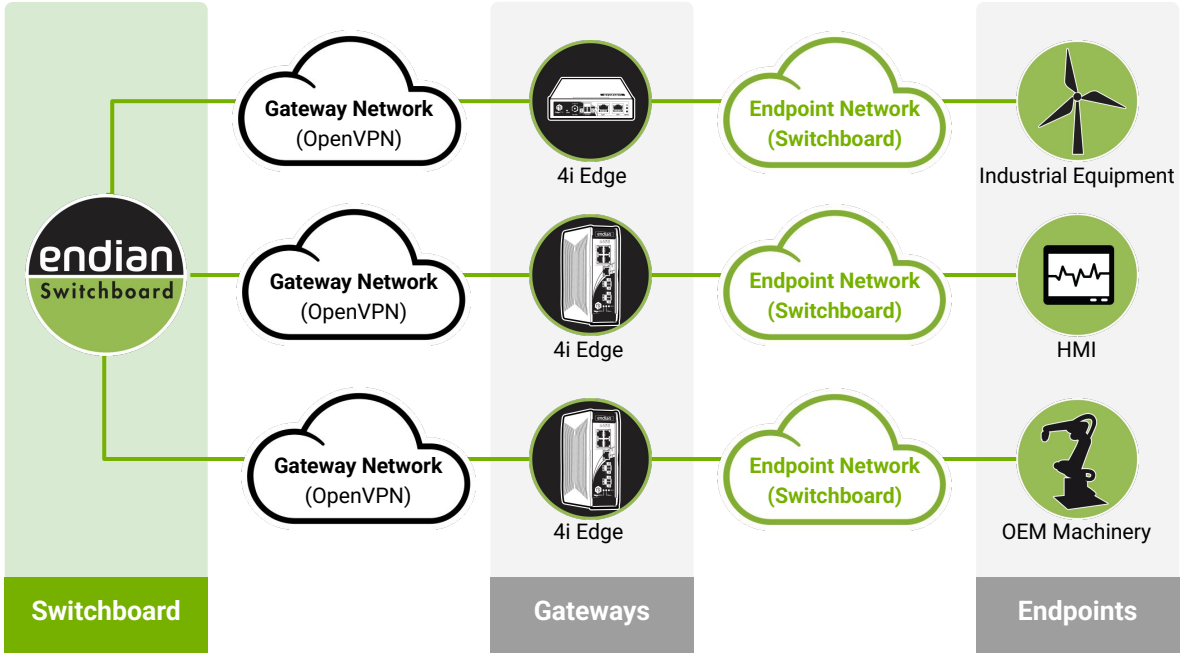
Secure Digital Platform - Topology



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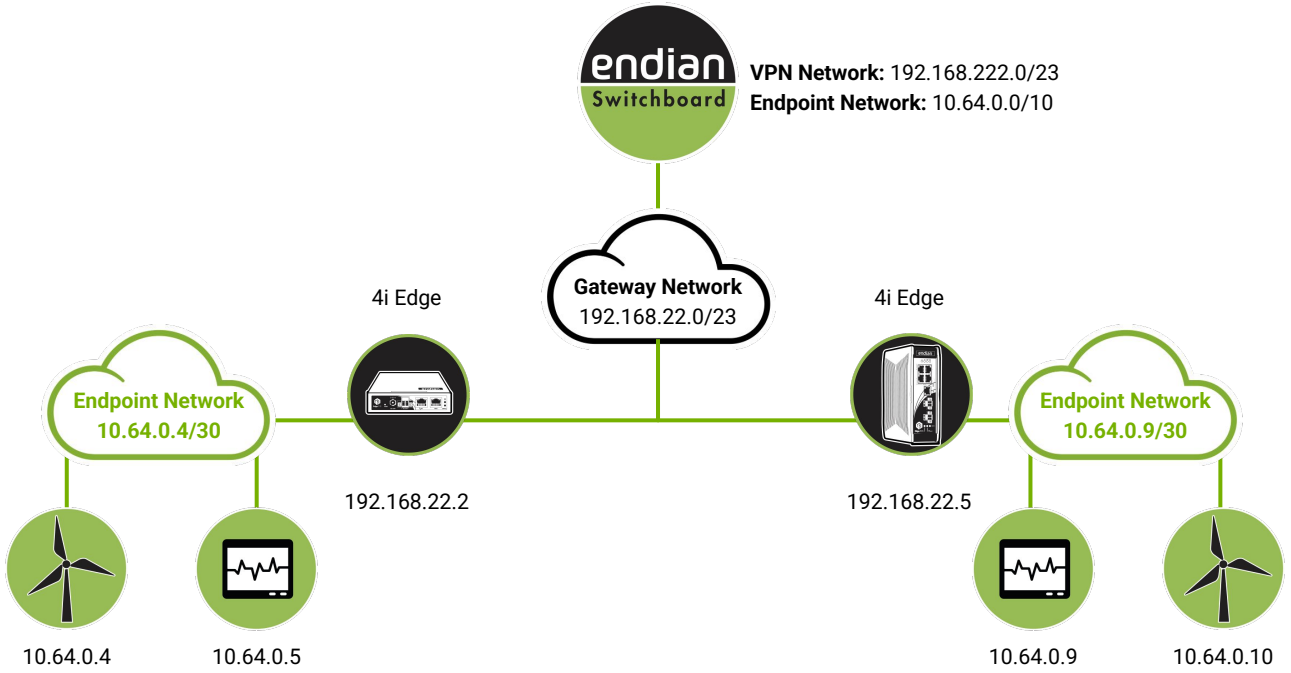
Secure Digital Platform - Example



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Secure Digital Platform - Topology

- By default, the Switchboard utilizes an automatic virtual subnet (for Endpoints) that overlays the OpenVPN subnet (for Gateways) in order to guarantee every Endpoint gets a unique virtual IP address
- On each gateway, you can disable the virtual IP usage and enable real IP addresses to be used which can be useful for certain Endpoints that do not work with virtual IPs or for Layer 2 connection requirements

NOTE: The default virtual subnet overlay provides an extra layer of abstraction in order to address a serious issue in many industrial networks: identical subnets used at every remote site. This issue can cause serious problems in creating a remote access solution however using the virtual subnet overlay (on top of the gateway network) eliminates the need to manage messy NAT rules to account for subnet conflicts.

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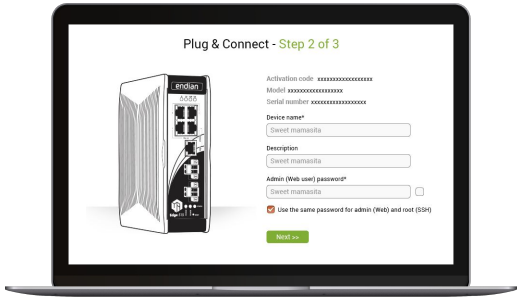
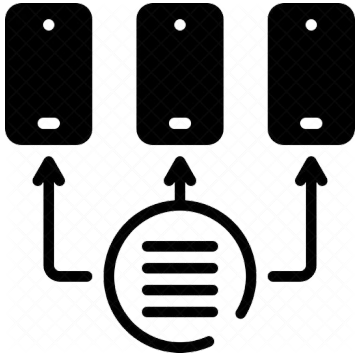
How Do Gateways Connect?

There are 3 methods to get a Gateway connected to the Switchboard:

1 Plug & Connect



2 (USB) Provisioning



3 Manual Connection

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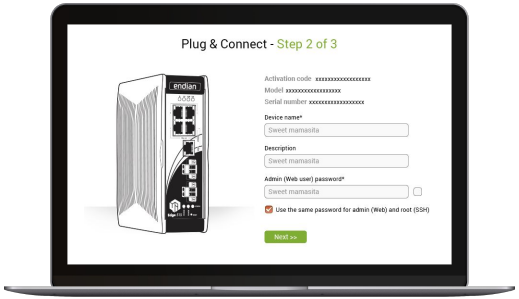
Plug & Connect

Plug & Connect is a proprietary technology Endian developed to simplify the complete deployment of Endian appliances. This feature makes deploying (potentially) thousands of Gateways quick and easy and eliminates the need for technically skilled staff at every deployment



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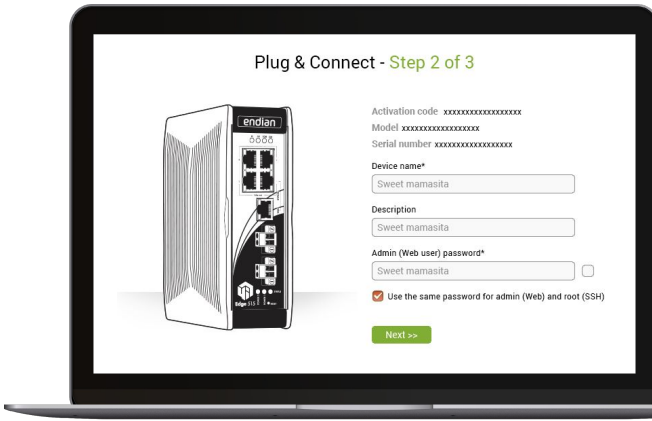
Plug & Connect

Advantages:

- Supports automatic EMC connection and management
- Supports automatic Switchboard connection and management
- Supports automatic Endian Network registration

Disadvantages:

- Only supported on Endian appliances



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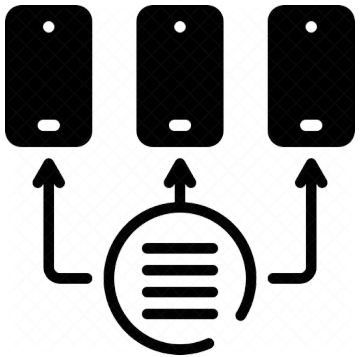
USB Provisioning

Provisioning is a proprietary technology Endian developed to simplify part of the deployment of Endian appliances. This feature makes getting Gateways online and registered quick and easy and, in some cases, eliminates the need for technically skilled staff at every deployment



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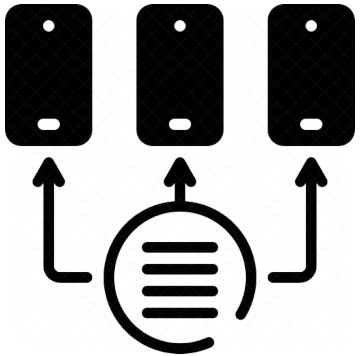
USB Provisioning

Advantages:

- Supports automatic Switchboard management
- Supports automatic Endian Network registration
- Can support automatic EN registration via Switchboard setting

Disadvantages:

- Does NOT support automatic EMC management
- Only supported on Endian appliances



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Manual

Manual is the process of manually configuring an Endian appliance connection to the Switchboard. This method is the most resource and time-intensive and requires technically skilled staff to perform the manual configuration.

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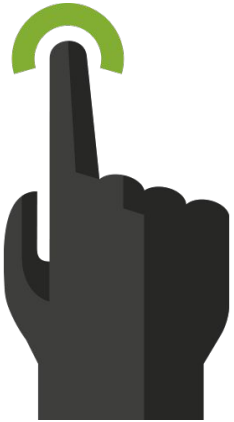
Manual

Advantages:

- Supports manual VPN connection to Switchboard

Disadvantages:

- Does NOT support automatic EMC connection and management
- Does NOT support automatic Switchboard connection and management
- Does NOT support automatic Endian Network registration



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How Do Users Connect?

There are 2 ways for a User to get connected to the Switchboard:

1 Connect Web

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2 Connect App

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Connect Web

Connect Web is web-based portal that users can login to and access “clientless” Integrated Applications that run strictly inside the browser using HTML5 technology. In addition they can manage Users, Devices (Gateways), Groups, Applications and Switchboard settings.

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Supported Apps

RDP VNC HTTP / HTTPS SSH / Telnet

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Connect Web

Supported Desktop Browser Platforms*:

- Chrome
- IE 10
- Firefox
- Opera
- Safari

Supported Mobile Browser Platforms*:

- iOS
- Android

*** (latest 2 versions)**

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Connect App

Connect App is full software VPN client that users download and install and can access Integrated or External Applications and provides full network connectivity to remote sites. The application is currently supported on Microsoft Windows and Mac OS X platforms.

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Connect Web vs App

	Connect Web	Connect App
Integrated Applications (RDP, VNC, SSH, Telnet, HTTP/S)	✓	✓
External Applications	✗	✓
Network Access to Endpoints	✗	✓
Platforms Supported	HTML5 Browser	Windows, Mac OS X

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Secure Digital Platform - API

The Connect Platform offers a full API which can be utilized to build applications that interface or utilize data from within the Switchboard. Any task that can be performed using the Web UI can also be done programmatically through the API. An example of a use case in using the API is a large customer who wants to interface their support portal into the Switchboard to allow support engineers to be able to support remote field equipment using their own (internal) support portal.

Link to API Documentation:
http://docs.endian.com/5.0/utm/switchboard_admin_api_swagger.yaml.html

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Thanks

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