Indio Cloud

WiFi Service Management Platform

Indio Cloud

Technical Overview

About Indio Networks

Indio Networks is one of the leading companies in India and abroad that provide hardware, software and managed services for wireless industry. Today, Indio Networks manages thousands of Wi-Fi networks across the world including those in United States, Mexico, Latin America, Canada, United Kingdom, Europe, India, Middle East, Vietnam, Africa and many more countries. Over 25 million users get online each month using Indio Networks powered hotspots worldwide.

Wifisoft's has developed carrier-class, proprietary OSS/BSS software for centrally managing and monitoring public Wi-Fi hotspots. The solution can be either deployed in the cloud or on a central server in the NOC. The software provides wide range of services including AAA (Authentication, Authorization and Accounting), Network Management, policy management, bandwidth management, credit card billing, SMS/OTP verification, CDR collection, prepaid vouchers, 24x7 monitoring, captive portals, social media integration, reporting and many more. In addition to cloud-based services, Indio Networks also sells appliance-based network controllers called UniBox. The access controllers are all-in-one devices that provide Hotspot Gateway, AP Manager, DHCP Server, AAA Server, Captive Portal System, Policy Manager, Hotspot Billing, Multi-WAN Router, VPN Server, Firewall, Web Logger and many other functions on a single appliance.

Wifisoft sells range of managed WiFi access points for indoor, outdoor and vehicular deployments. All access points can be centrally managed either through a Cloud or UniBox controller. Access points come in wide range of models for in-wall, ceiling mount, pole-mount and outdoor deployments. For cloud-managed setup, the access points can be configured and monitored from central NMS dashboard without having to deploy a hardware appliance.

Wifisoft has also developed different types of 4G/LTE routers that can be deployed where broadband connectivity is not possible. It can be deployed in vehicles like buses, metros, taxi and other public transportation systems for providing WiFi connectivity to travelers.

In short, Indio Networks has complete range of solutions needed for managing public WiFi access.

Indio Networks highlights

 - ➢ **Leading company for WiFi products and Hotspot Software**
 - ➢ **16 years of successful track record**
 - ➢ **Delivering right products at right price**
 - ➢ **Customers in over 45 countries**
 - ➢ **Serves over 25 million WiFi users each month**
 - ➢ **Highly trained and experienced technical and support team**
 - ➢ **Over 100+ resellers**

Lines Of Business

WiFi OSS / BSS

- Hotspot Management
- Captive Portals
- Bandwidth Control
- Policy Manager
- Hotspot Billing
- Vouchers
- Hotspot Monitoring
- URL Filtering
- User Management

UniBox Controllers

- All-in-one Controller
- Network Gateway
- Firewall
- AP Controller
- Hotspot Manager
- Multi-WAN Router
- VPN / Branch Network
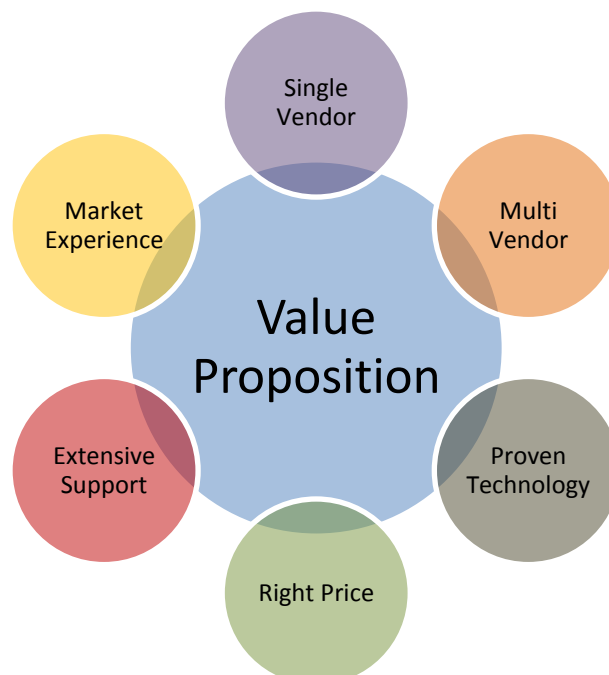- Web Logger
- URL Filtering
- Guest Access

Access Points

- Enterprise Grade
- Indoor & Outdoor
- High Power & Range
- Cloud/Controller Mgmt
- POE Enabled
- Plug-n-play setup
- Location-aware
- Integrated Hotspot
- Full featured NMS
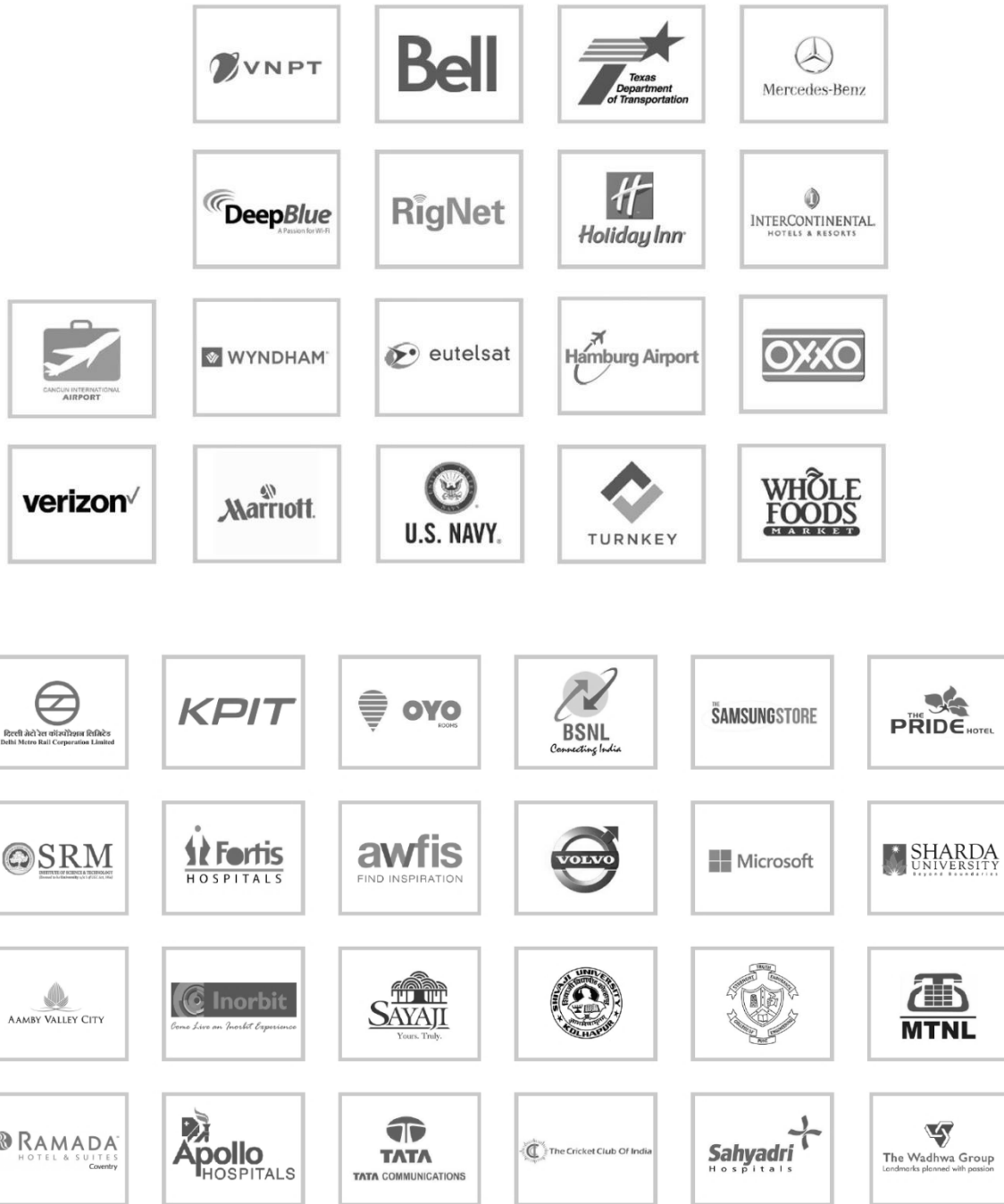- Mesh Enabled
- Events & Alarms

4G Routers / IOT

- 4G / LTE Routers
- Multi-SIM Models
- Cloud Management
- IOT Modems
- Sensors
- MQTT Enabled
- Secure
- WiFi/LORA/ZWave
- End-to-End Solution
- Custom Engineering

Why Indio ?

Value Proposition

- Single Vendor
- Multi Vendor
- Proven Technology
- Right Price
- Extensive Support
- Market Experience

Customers

VNPT · Bell · Texas Department of Transportation · Mercedes-Benz

DeepBlue · RigNet · Holiday Inn · InterContinental Hotels & Resorts

Cancun International Airport · Wyndham · eutelsat · Hamburg Airport · OXXO

verizon · Marriott · U.S. Navy · TURNKEY · Whole Foods Market

Delhi Metro Rail Corporation Limited · KPIT · OYO Rooms · BSNL Connecting India · Samsung Store · The Pride Hotel

SRM Institute of Science & Technology · Fortis Hospitals · awfis Find Inspiration · Volvo · Microsoft · Sharda University

Aamby Valley City · Inorbit · Sayaji · Shivaji University Kolhapur · MTNL

Ramada Hotel & Suites Coventry · Apollo Hospitals · Tata Communications · The Cricket Club Of India · Sahyadri Hospitals · The Wadhwa Group

Indio Cloud Overview

Integrated WiFi Service Management Platform

Indio Cloud is an integrated, cloud-based WiFi management and monetization platform that is hosted on Amazon Web Services. The platform provides a single window management of remote WiFi networks and hotspots with functions like user authentication, captive portals / User journeys, WiFi billing, policy management, WiFi NMS, Voucher Management, Network Insights, WiFi Monetization and many more functions.

Indio Cloud is designed for multi-tenancy so it supports multiple customers on the same platform. Alternatively Indio Cloud can be also hosted on private cloud or other cloud platforms based on the customer needs.

Indio Cloud comes with a built-in, high performance, scalable RADIUS server that provides all AAA services. It also supports all leading vendors like Cisco, Ruckus, Aruba, Meraki, Mikrotik and many other WiFi hotspot vendors.

Indio Cloud also provide a complete WiFi monetization platform that helps operators monetize their WiFi infrastructure through advertisements, push notifications, surveys and SMS messages.

Software Architecture

Indio Cloud is developed on a scalable, redundant architecture to ensure that the system handles the increase in load as the number of hotspots and subscribers increase. Redundancy is achieved by developing a replication model that allows Indio Cloud to operate on different servers while preserving the consistency of the data.

These servers can be located in geographically separate data centers to ensure high reliability and availability of the service. Scalability is achieved by using tiered software architecture that can be segmented on separate servers to improve speed and performance of the servers.
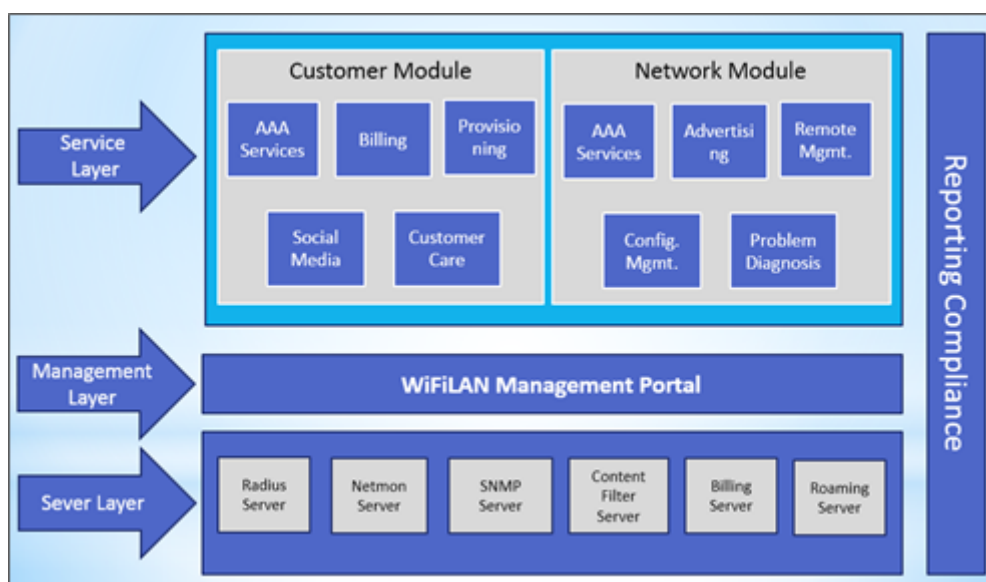
Indio Cloud– Features

Cloud Management

Indio Cloud provides all the services needed for managing WiFi hotspots from a cloud-based, integrated management portal. Operators can centrally manage, monitor and configure hundreds of hotspots without having to invest in servers, data centers, software and expensive support staff.

Branded Captive Portal

Indio Cloud provides the wide range of options for designing branded captive portals (splash pages) as per venue requirements. It also provides web templates to design a fully functional captive portal without having to do any programming.

Hotspot Billing

Indio Cloud provides multiple billing options for hotspot operators to monetize their Wi-Fi setup. These options include credit card billing, PayPal, prepaid/access codes, PMS/Folio integration, usage based billing, tiered pricing and many more.

Hosted RADIUS

Indio Cloud provides AAA (Authentication, Authorization and Accounting) services over the Internet using hosted RADIUS servers. The service can scale to accommodate thousands of Wi-Fi hotspots and works with wide range of network access gateways (NAS).

Vendor Neutral

Indio Cloud is designed to be compatible with wide range of network access controllers/hotspot gateways available in the market today. It works seamlessly with any gateway that provides captive portal and RADIUS thus allowing administrators to manage heterogeneous networks centrally through a single management console. Indio Cloud supports all major brands like Cisco, Aruba, HP, Ruckus, Meraki, Cambium, Mikrotik and many more.

Monitoring and NMS

Indio Cloud implemented comprehensive NMS and monitoring system to provide deep insights into the remotely running networks. NMS provides hierarchical visibility into the network all the way to the user level.

Policy Management

Indio Cloud has a comprehensive policy management framework for enforcing restrictions on user's online sessions. Each user session can be controlled based on time, bandwidth, browsing speed, concurrency settings and number of clients. In addition, the policy engine also allows administrators to define fair usage policy to ensure that the Internet resource can be used optimally.

WiFi Monetization

Indio Cloud provides many features that allows operators to generate revenue from their WiFi networks. These include Banner and Video advertisements, Push Notifications, Customer Surveys, Pay-per-use billing, paid vouchers and more. Operators can use these features on any vendor hardware.

Indio Cloud – Benefits

Centralized Hotspot Management

Indio Cloud provides a simple yet powerful hotspot management in the Cloud. Manage thousands of hotspots centrally without having to incur any extra cost of software, server hosting and maintenance.

Vendor Interoperability

Indio Cloud uses hardware agnostic design thus allowing operators to use wide range of hotspot controllers and access points depending on their requirements and budget.

Saves Operational Cost

Indio Cloud provides tools needed to get a new hotspot operational in hours not days. Custom splash pages can be developed using pre-designed web templates within minutes thus saving on programming and design cost.

Monetize WiFi Networks

Operators can monetize their guest access networks using multiple billing options available in Indio Cloud. Implement credit card or PayPal billing with flexible billing plans based on time or bandwidth usage.

Flexible and Scalable

Indio Cloud's software architecture makes it extremely customizable and scalable cloud solution. Operators managing hundreds of hotspots need a solution that can be customized to their business needs.

High Availability

Indio Cloud promises high availability and redundancy to ensure your hotspots operate reliably 24 hours a day, 7 days a week.

Cloud Controller

This is a central controller architecture where only access points are installed in remote venues and managed centrally using a controller. The controller communicates with the WiFiLAN OSS/BSS within the data center and is responsible for managing and monitoring the remote access points. Each access point is programmed to periodically checkin with the controller and update its configuration. The cloud controller communicates directly with WiFiLAN OSS/BSS for captive portal and AAA.

Cloud Access Point Architecture
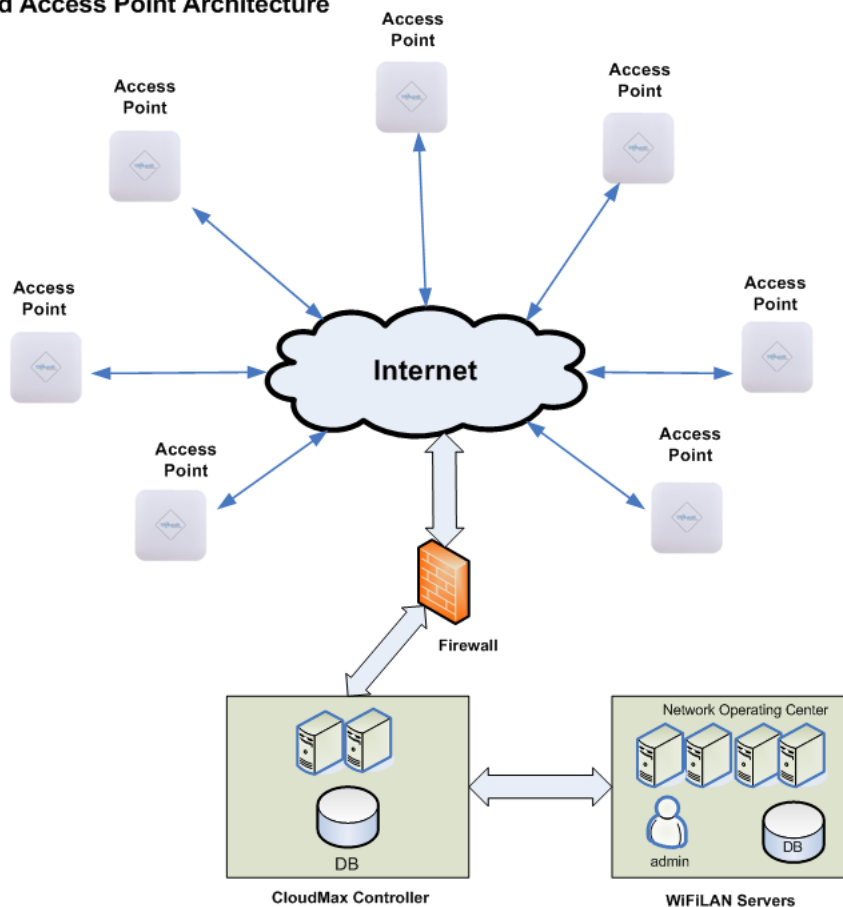
Indio Cloud Manager

AP Controller is a software module that is installed on a server in the NOC (Network Operating Center). The controller is centrally hosted and is responsible for controlling remote access points. The access points can be installed remotely in any corner of the world and the controller is able to communicate with them using a secure channel over the Internet.

The AP controller is responsible for wide range of functions such as

1. **AP discovery and provisioning**
2. **AP Management**
3. **Configuration Management**
4. **Firmware upgrades**
5. **RF Management**
6. **AP health monitoring**
7. **Usage and bandwidth statistics**
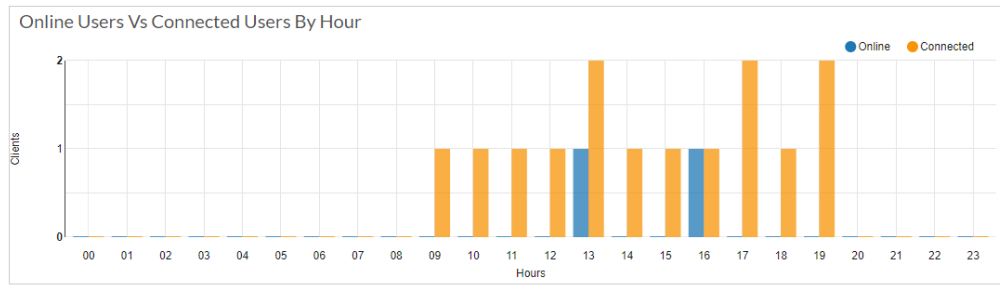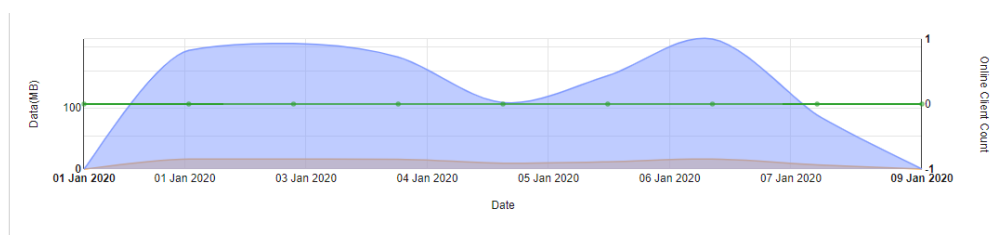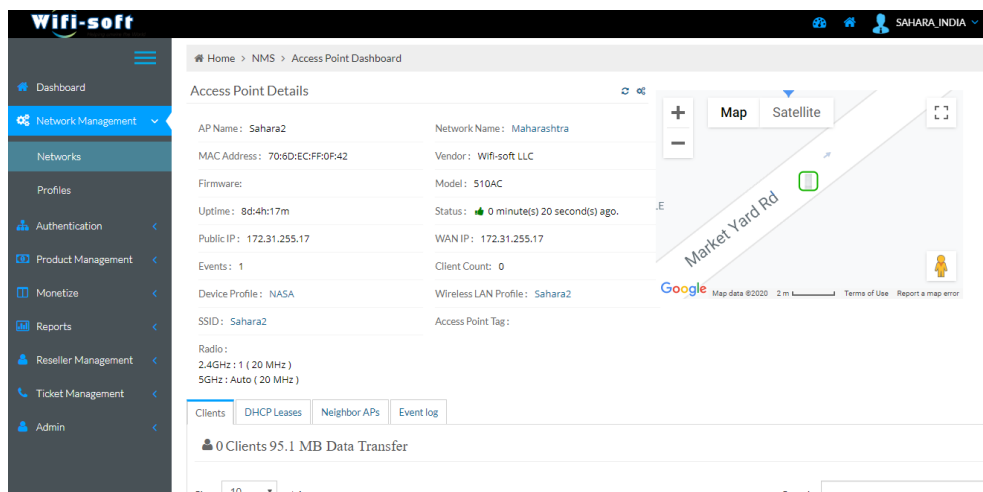
Indio Cloud OSS/BSS

Indio Cloud OSS/BSS has a very comprehensive captive portal system which allows administrators to define wide range of captive portals. Our solution offers flexibility of configuring a captive portal for each hotspot and multiple options on the captive portal for branding and advertisements.

Each captive portal offers option to set logo, branding, images, terms & conditions so the administrator have a full control on branding of the service.

We also help can build custom captive portals based on requirements of the project and host them on a secure web server.

Our captive portal system offers following options

1. **PAID (credit/debit/Bank Transfer/Wallet)**
2. **FREE ACCESS (click-through / T&C access)**
3. **SMS / OTP (Requirements for TRAI/DOT compliance)**
4. **PREPAID VOUCHERS**
5. **SOCIAL MEDIA (Facebook, Twitter, LinkedIn, Google, Instagram)**
6. **DATA CAPTURE**
7. **USERNAME/PASSWORD**
8. **ADVERTISEMENT BASED ACCESS**

Here are some examples of the captive portal
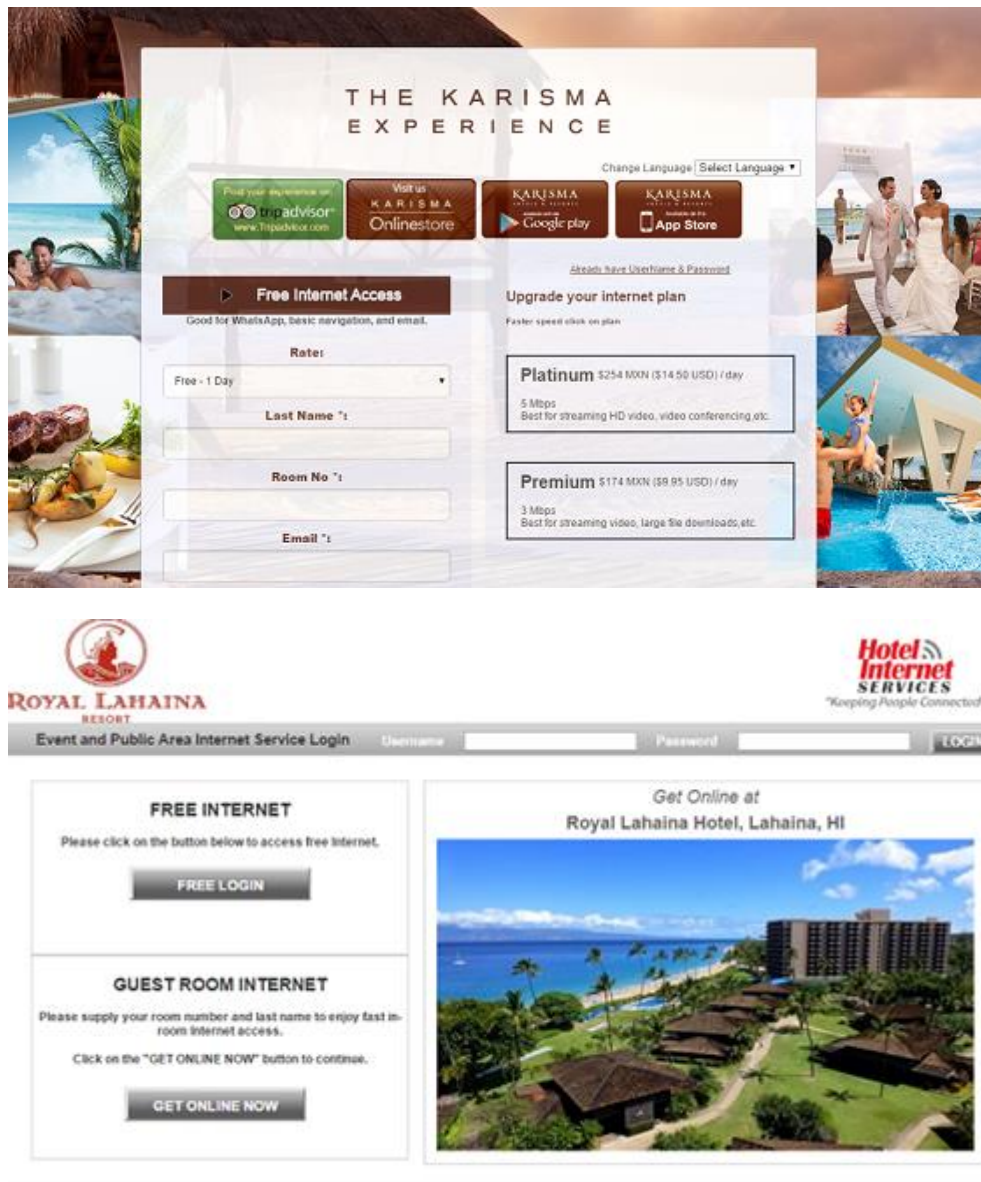
Subscriber Management

Indio Cloud OSS/BSS provides the user management module. This module allows administrators to manage users, track usage, enforce restrictions and generate reports for each individual hotspot.

Indio Cloud OSS/BSS provides a comprehensive API for provisioning the users from the captive portal and interfaces with the billing module to charge the users for bandwidth usage. Administrators can view detailed session history and bandwidth usage for each user.

Bandwidth Management

Indio Cloud OSS/BSS provides comprehensive bandwidth management capabilities for controlling the bandwidth and duration for each users Internet session. Bandwidth management is one of the important elements for any public network since it ensure fairly allocation of

bandwidth and provides a good browsing experience to the end users. Indio Cloud allows administrator to define bandwidth rules and policies using simple web interface. These restrictions can be enforced on user groups or individual users thus allowing administrators to finely tune the bandwidth policies

Following are some examples of bandwidth management

1. Provide 512 Kbps Free Internet session for limited time (e.g. 1 hour)
2. Capping users to 1 GB per day
3. Allowing users to purchase data based plans e.g. 1 GB, 5 GB with validity period
4. Allowing users to purchase unlimited plans with restricted speed e.g. 512 kbps
5. Restricting users to only 2 devices
6. Allowing users to login from certain devices concurrently
7. Restricting users to specific hotspot

Reporting and Analytics

Indio Cloud provides wide range of options for reporting and generating analytics. We offer over 60 different reports, which allow administrators to understand the real-time and historical status of their hotspots. Reports can be generated at each hotspot level so administrators can understand all the activities across all their hotspots.
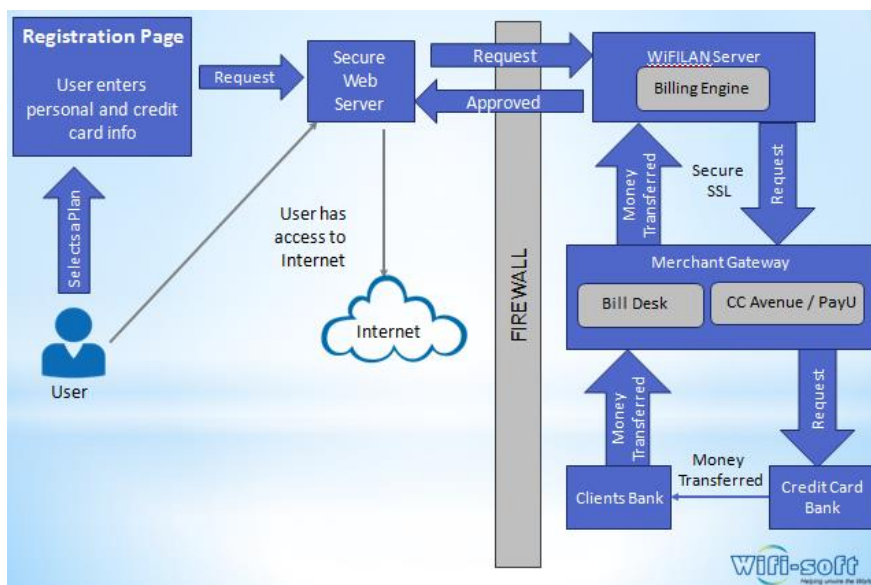
Here are some examples of reports available
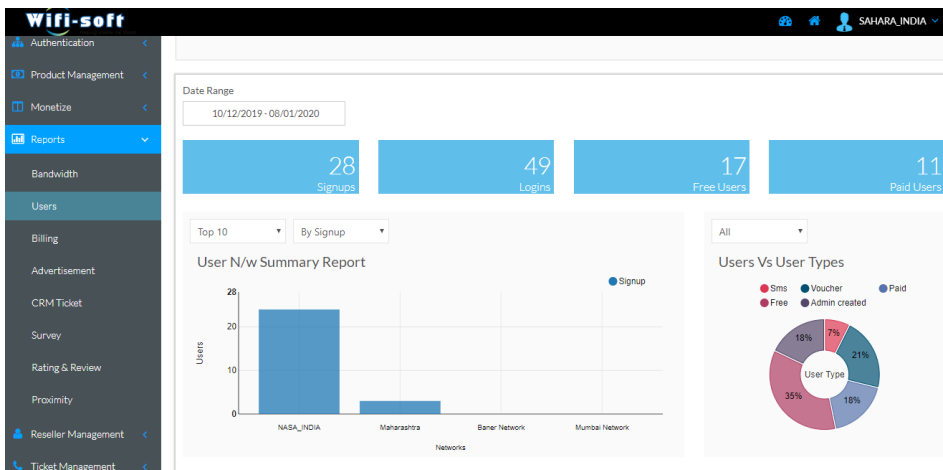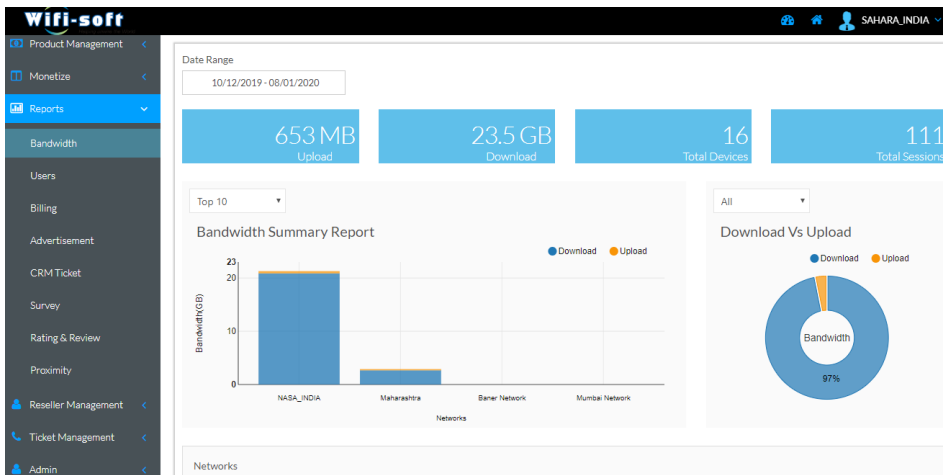
**Payment Gateway Integration**

Indio Cloud offers a comprehensive payment/billing solution for public hotspots. This includes online payment using credit / debit / bank transfer / wallet / PayPal and other payment methods.

We also offer feature-rich voucher management system for prepaid billing. These vouchers can be fully customized and branded. Each voucher can be tracked using the batch and serial number to generate an audit trail.

Network Management Solution

NMS module allows administrator to check the health and status of each AP deployed in the network. The NMS dashboard displays all the statistics like connected clients, RF parameters, Upload/Download bytes, online users, uptime and more.
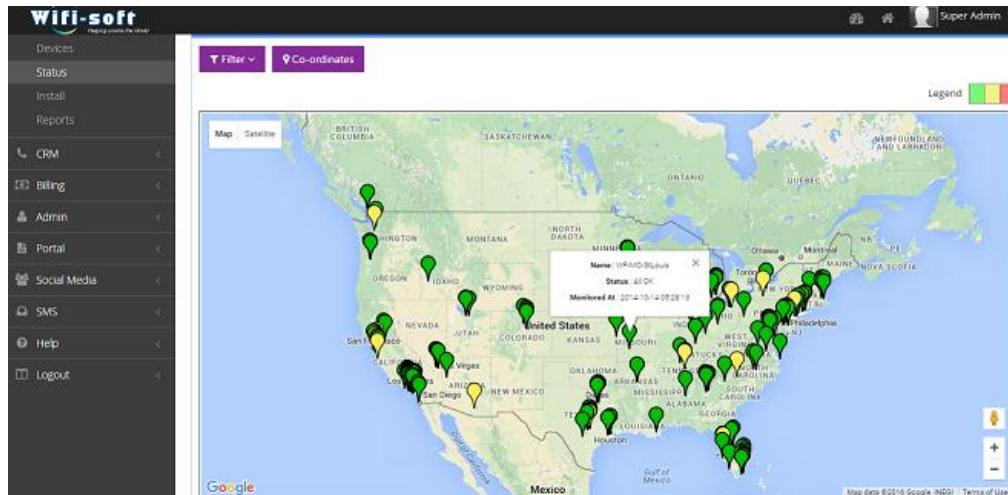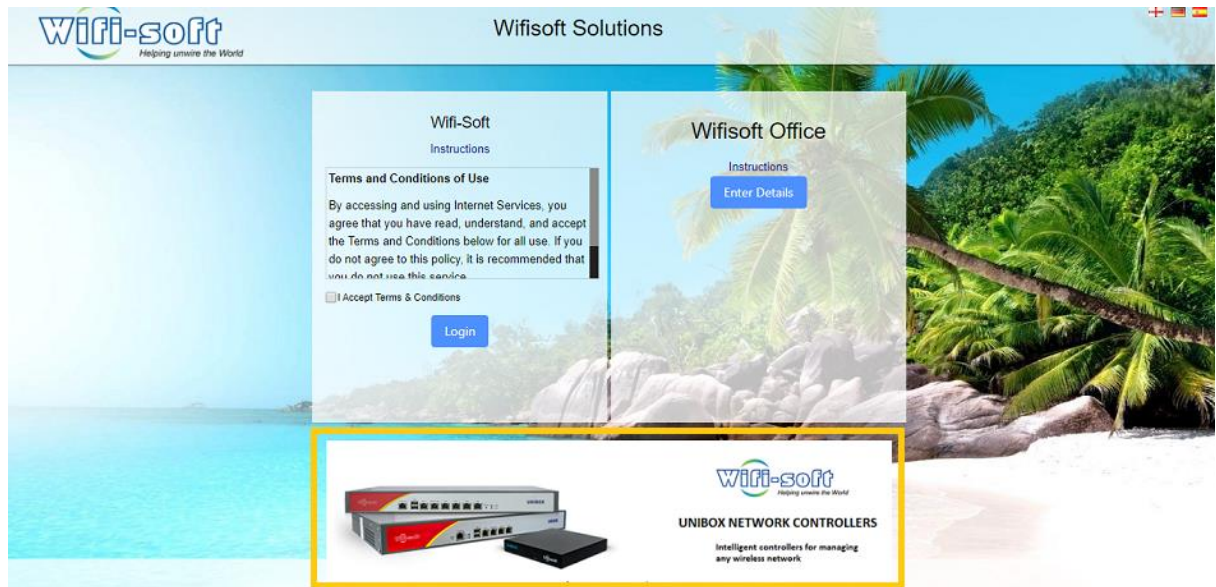

WiFi Monetization

WiFi Monetization Platform (WMP) provides various options to generate revenue from your hotspots.

Indio Cloud provides full advertisement engine for managing inventory of advertisements and group them. Both image and video advertisements are supported.

Here are few examples:

Fixed ads on the captive portal

Full Screen Ad on the Captive Portal

Surveys

WMP provides full survey capabilities for operators to solicit surveys from end users of the WiFi hotspot. The admin can define any type of survey based on the requirements. The customer will be prompt to fill the survey before given access to the Internet.

Detailed reports are generated for operators to review the survey results

Here's an example of WiFi survey