WiOS

Cloud-based Hotspot Controller.

Introduction

WiFi has evolved over the years, this evolution continues even today. Wireless systems now work on much better hardware, with a focus on control through software. The paradigm of software-defined networking disrupted the wireless space because it allowed companies to manage and control their WiFi hotspots based on policies defined by software. Taking this paradigm ahead, we introduce WiOS. A cloud-based, WiFi hotspot management solution which allows you to remotely control and manage all of your WiFi hotspots through a single management console. WiOS is offered as a Software-as-a-Service platform, built on scalable, redundant architecture to ensure that the system handles the increase in load as the number of hotspots is scaled and subscribers to the network increase. WiOS is a multi-tenant software, it allows multiple tenants to use the same instance. However, each tenant has a separate account, all the data of an individual tenant is stored and retrieved separately to protect privacy of data and security.

WiOS can be installed on a public as well as a private cloud infrastructure. When deployed in a public cloud, the network operator is provided with web-based access to manage the network. A private instance provides flexibility to host the software on a private data centre, and customise the software as per requirements. WiOS offers a range of services which include access management, RADIUS service, captive portal, bandwidth management, policy control, user management and provisioning, problem tickets, hotspot billing, voucher management, social media logins, LDAP/AD and GSuite integration, NMS and monitoring, partner management, advertisement and much more. WiOS gives the network administrator high visibility & greater control over all elements in the network. These servers can be located in geographically separate data centres to ensure high reliability and availability of the service. Scalability is achieved by using micro-service software architecture that can be segmented on separate containers to improve speed, reliability and performance of the servers.

How we help with WiOS.

WiOS, being cloud-based, can be accessed from anywhere in the world to gain control of your network. WiOS is built on a tiered architecture which allows it to scale vertically and horizontally. The service layer consists of various servers like RADIUS server, billing, monitoring, advertisement and more. There is a web-based management layer that runs on the server layer. Finally there are various services that run on the management layer. The services are divided into two parts – customer module and network module. The customer module handles various customer related services like authentication, billing, provisioning and more. The network module handles NMS services like configuration management, firmware, notification and alerts and monitoring. The reporting and compliances runs across various sections to provide a complete visibility into the system. WiOS is a vendor neutral software, and can integrate multiple vendor hardware like Access Points, controllers and gateway devices. This makes WiOS extremely useful for managing heterogenous networks through a single console.

Cloud based Hotspot Control

WiOS is essentially a cloud-based hotspot manager, whose primary function is to control and manage WiFi hotspots installed on multiple venues. Each hotspot network can be configured, managed and monitored separately for each tenant. All services needed to run hotspots such as captive portal management, authentication, hotspot billing, user management, configuration management are handled through WiOS.

AAA with WiOS

UniBox comes with a highly reliable and scalable Authentication, Authorisation & Accounting (AAA) service and Two Factor Authentication that helps us to identify users, keep track of the identity of users who are connected to the network at all times, and describe permissions that each user has on the network. WiOS authentication services also provide login through Social Media credentials. The AAA service is also responsible for tracking user CDR records and log user's MAC address, IP address, session start and stop times, upload and download bytes et al. WiOS stores each and every CDR for compliance & record keeping.

Policy Enforcement with WiOS

WiFi hotspots can run into the hundreds, there is virtually no limit as to how many hotpots someone can deploy. However, when these hotspots are spread across thousands of miles, you need to be able to configure policies to all endpoints without having to manually visit each Access Point. Zero touch policy enforcement is an absolute necessity today. These policies can be regarding bandwidth, access control, usage limits and more. WiOS enables administrators to configure policies based on bandwidth, access and more to be applied to VLANs isolated user groups, or the entire network in totality.

Network Management with WiOS

WiOS comes integrated with a complete network management solution. This architecture is based on the cloud-controller model in which all the remote access points are managed and controlled from the cloud-based controller. This eliminates the need to have a physical hardware controller at the site and provides unmatched scalability and flexibility in network implementation. WiOS is vendor agnostic, it can integrate Access Points from any vendor into the network. WiOS allows remote configuration of advanced AP settings such as forward modes, AP operation modes, AAA profiles, 802.1x authentication groups, access control lists and more. WiOS's intelligent & proactive wireless intrusion detection system is always on the lookout for rogue elements that might be threatening to the networks security. If a device on the network is found to be a rogue, it is immediately isolated in a quarantine VLAN. With endpoint compliance abilities, WiOS ensures that the network is secure at all times from threat agents who might be a part of the internal network.

Deep Network Visibility

Administrators are provided high visibility of the network through real-time usage insights with live heat maps & the health of every Access Point, which facilitates easy operability and alerts in case of AP failure. WiOS grants administrators deep insights into network health and status of every device connected onto the network. Deep network visibility improves operability on the network by granting administrators the information they need to optimise & improve performance of the network. These insights play in important role for IT admins in the long term too, it allows them to make smarter decisions when scaling the network and accommodating an increase in users. With WiOS, you can configure multiple SSIDs and tagged VLANs. Dynamic VLAN management feature of WiOS separates networks through separate SSIDs, these VLANs can be configured for different policies and behaviour. These VLANs also enable Group Based Routing. A DHCP server located in the Network Operating Centre provides IPs to the devices that connect to the network. WiOS also comes with a Captive Portal Server which allows you to configure and host your landing page, or splash page, customised as per your requirement.

WiOS as an Access Point Controller

AP Controller is a cloud-based, scalable controller that is installed on a server in the NOC (Network Operating Centre). The controller is responsible for provisioning, configuring, managing and monitoring the remote access points. Each access point can be automatically provisioned in the controller and its settings can be adjusted in the central dashboard. Deployed with feature-rich UniMax Access Points from Indio, WiOS becomes a full-fledged Access Point Controller. The access points are designed to communicate with the controller periodically through a secure tunnel and report the statistics of its health and end users. This data is displayed to the administrator through various reports. The AP Controller is responsible for a wide range of functions:

- AP Discovery and Provisioning

- AP Management

- Configuration Management

- Firmware upgrades

- RF Management

- Automatic Channel Selection

- AP Monitoring and inbuilt NMS

- Bandwidth and Usage Analytics

- Wireless Meshing

- IPv6 compatibility

- Traffic Analysis

- Device Profiling and Identification

- Rogue AP Detection

Bandwidth Management with WiOS

WiOS provides comprehensive bandwidth management capabilities for controlling the bandwidth and duration for each users Internet session. Bandwidth management is one of the many important elements for any public network since it ensures fair allocation of bandwidth and provides a good browsing experience to the end users. WiOS allows administrators to define bandwidth rules and policies using a simple web interface. These restrictions can be enforced on user groups or individual users thus allowing administrators to finely tune the bandwidth policies. These policies can be configured on the basis of time and data usage, session limits, daily quotas, speed limits, restricting device concurrency per user and more.

Subscriber Management with WiOS

WiOS provides a user management module. This module allows administrators to manage users, track usage, enforce restrictions and generate reports for each individual hotspot. WiOS 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.

Compliance with WiOS

WiOS implements two-factor authentication which is mandatory in many countries to validate the identity of the user. It can also interface with national registries to enforce country specific processes for user validation. WiOS comes with features which include Web Filtering, Web Logging, URL filtering and Call Detail Records (CDR) that ensure complete adherence to compliance related issues, at all times. WiOS can also track real-time User Activity, adding on top of that, you can isolate users to check their website access logs. Sometimes, one policy cannot be arbitrarily applied to all groups under a network. To eliminate this problem, WiOS can enforce Group Based Policies.

WiOS for WiFi Monetisation

Businesses which provide WiFi services to its customers also expect the WiFi services to return the monetary compensation it requires to operate and deploy the system. WiOS allows businesses to monetise their WiFi network through integrated Payment Gateways in the Captive Portal that businesses can deploy. Administrators can set up freemium pricing options which combine free and premium services for WiFi. A free service is session limited whilst the premium service works on a tiered billing architecture.

Reporting & Usage Analytics

WiOS comes with easy to comprehend, intuitive graphical network reports and usage analytics which help people gain insights into their WiFi system. WiOS Usage Reports include:

- Number of unique users per session or day

- Hourly usage

- Social Media Analytics

- Client devices & browser

 WiOS Network Reports include:

- Bandwidth Usage

- Traffic Report

- Reliability Report

- NMS Report
   WiOS Billing Reports include:

- Revenue by date, plan

- Prepaid Code Revenue

- Credit Report

- Account Receivable

- PMS report

    - Social Media Reports include:

- Gender distribution

- Dwell time report

- Visitor logs

- Daily traffic distribution by time

Leverage our solution.

We provide a single vendor solution that enables you to get the most out of your network. Centralised Hotspot Management: WiOS 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: WiOS 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: WiOS 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.

WiFi Marketing: WiFi has enabled industry verticals to utilise WiFi marketing as of the key drivers for their marketing strategies. WiOS can be used for designing a customised captive portal which reflects the brand's messaging and identity. With intelligent presence services, WiOS can enable inclusion & engagement with the user on a personal interaction level. The presence services enable intelligent push notifications on to the end users powered by smart decision making, made on the basis of the user's environment. Brands can also use splash pages for advertising content based on imagery of video either intermittently or pre and post login.

Wi-Fi Billing: Operators can monetise their guest access networks using multiple billing options available in WiOS. Implement credit card or PayPal billing with flexible billing plans based on time or bandwidth usage.

Flexible and Scalable: WiOS's software architecture makes it extremely customisable and scalable cloud solution. Operators managing hundreds of hotspots need a solution that can be customised to their business needs

High Availability: WiOS promises high availability and redundancy to ensure that your hotspots operate reliably 24 hours a day, 7 days a week.

Connect with our sales team.

sales@indionetworks.com

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