INDIO NETWORKS

UniBox

For all your wireless management.

Introduction

Industry forecasts estimate that by 2023, approximately 628 Million wireless hotspots will be functional. This rapid proliferation of wireless hotspot technology poses several big challenges, primarily, the biggest one being that of centrally managing complex and large network infrastructure, and secondarily, keeping it comfortable & affordable to the provider as well as the consumer. Developing geographies are only just starting to experience the growth of wireless accessibility pervasively. However, the prohibitive cost of wireless infrastructure and technical expertise required to install reliable WiFi setup is preventing growth of Internet in these countries. As Internet connectivity in businesses and establishments continue to grow, so have their requirements of being able to seamlessly design, deploy and manage their wireless networks. Our research indicate that it is difficult to scale and manage multi-vendor infrastructure from a single console. Moreover, scaling & centrally managing network infrastructure with multi-vendor hardware is nearly impossible because of incompatibility between devices from different vendors. At Indio, we work to identify such gaps and create products that solve these challenges by developing products that can work with multiple vendors while providing seamless management to the IT administrators. Monolithic architectures are rigid and tough to scale when necessary. We replace these monolithic architectures by providing a solution that is elastic & non-rigid, in terms of its scalability and compatibility to work with multi-vendor infrastructure. Often is the case that while businesses want to provide the best of WiFi services to their customers, the apprehension to provide these services stems from the monetary aspect of it. Procurement of wireless hardware, setting it up, bearing its operational costs can prove to be a daunting task for businesses, especially those who work in industry verticals where time is an extremely limited and precious resource. We help you solve this problem by providing an easily deployable, highly scalable and centrally managed network systems solution which can help your community or business grow at the highest rate possible.

UniBox is an integrated, all-in-one hotspot controller which takes care of all your core network elements and sub-services required for monitoring, maintaining and management your WiFi hotspot network. UniBox controller sits between your Internet Service Provider and internal network and functions as an access gateway and authentication system. Routing all traffic through the UniBox helps in centrally managing the entire network and all of its connected users. UniBox can be deployed in an existing wireless network of any vendor or deployed with Indio's UniMax access points to create a secure and fully controlled wireless infrastructure.

Sitting on an elastic architecture built to facilitate stable and reliable internet services, the UniBox solves a multitude of problems, each pertaining to several industries. Loaded with an array of features that serve different use-cases, it provides a well-tailored experience to end users. Hence, there are different Implementation Models that can be configured to serve the purpose of the establishment exactly the way it is supposed to. While integration of multi-vendor hardware is a USP of the UniBox, deploying the system with UniMax Access Points has added advantages. You can leverage even more control over the network since deployment of the UniBox with UniMax allows the UniBox to function as an AP Controller that enables you to control and manage the entire network of connected users, including the Access Points itself. For optimum network stability and performance, it is best practice to use this system in your establishment to extract the most out of your investment and help you generate value from it.

Universal Controller

The core functionality of UniBox is its ability to behave as a all-in-one, hotspot or AP controller across different types of network infrastructures. Managing Multi-vendor hardware presents the challenge of centralizing control of the network because there are compatibility issues that arise when using multi-vendor hardware's. Modern networks should be built on scalable and flexible architectures. When controllers are vendor dependent, they cannot scale across different requirements with ease. Major infrastructural changes are required to

fit controllers into a network for them to work. UniBox Controller is vendor-agnostic, which means that it

can be integrated within any vendor access points and provide complete hotspot and network management functions. UniBox can be deployed to manage WiFi installations in Hotels, Shopping Malls, Schools, Colleges, Airports, Retail Store and Public venues. It can also be deployed to manage guest access and corporate networks in modern work environments. UniBox comes in multiple models based on number of concurrent devices to manage networks of any scale.

Unified Authentication

Authentication and verification of users is one of the important functions of public WiFi hotspots. Authenticity of identity helps secure the network and prevent unlawful usage. User authentication is imperative for any Public WiFi to track users and prevent unlawful activities on the network. There have been several incidents of public WiFi being used for unlawful activity hence several countries have started regulating and monitoring the activities on these networks. UniBox provides a complete hotspot authentication and authorization module that provides multiple authentication methods to onboard guest users.

Enforce User Policies

Users connecting to WiFi hotspots need to be regulated. Public networks are shared among the users which makes it is possible for few malicious users from misusing the network and preventing genuine users from good connectivity. WiFi operators need to enforce bandwidth rules to ensure the network bandwidth gets allotted fairly between the users. When multiple users connect, it can create an imbalance between the available bandwidth and result in unequal distribution of bandwidth to users, UniBox's *Bandwidth Rate Limiting* service solves this problem by limiting the rate of bandwidth per user. Administrators can set up *Time and Date, Daily Quotas* to users as they see fit. Additionally, UniBox also provides various policies to dynamically change the allotted bandwidth based on network load, class of users. It can also restrict user's data consumption, time on the network and number of devices a single user can use on the network.

Managing Networks with UniBox

Networks are a web of multiple networks elements which need to be monitored regularly to ensure that Service-Level Agreements (SLAs) with users are met. A good network ensures that users who are connected to the network have maximum uptime and are really meant to be in that network in the first place, meaning that they are authenticated users in a secure perimeter. To solve these problems, and satisfy the requirements of a good network, you need a capable hotspot controller that can work across multi-vendor hardware. A DHCP server onboard the UniBox integrates your users into the network automatically without hassle. UniBox's vendor-agnostic nature gives it an edge over other controllers. UniBox can define & manage multiple LAN and VLAN subnets with Group Based Routing. Security of a network and its users is taken care of by UniBox's enforcing multiple login schemes based on the network requirements. With Multiple WAN and Load Balancing capabilities, UniBox can aggregate bandwidth and seamlessly transition to secondary ISPs with a responsive failover mechanism when the primary ISPs fail. UniBox comes with built-in AP controller to configure, manage and monitor UniMax access points through a single console. UniBox also enables Branch Networking for remote workplaces through secure VPN tunnels ensuring top-notch security for remote devices and branch offices. One can view floor-wise heat maps that provides the signal coverage for network engineers to deploy the wireless APs.

WiFi Monetization with UniBox

UniBox comes with a WiFi Monetization Platform that allows businesses to monetize their WiFi at costs they desire and gauge to be the correct price. An inbuilt, fully customizable, Captive Portal Service gives you complete control over your landing page allowing you to monetize the public WiFi network. UniBox also comes with full billing system for charging the end users online through various payment mechanisms. It comes integrated with multiple payment gateways which can be used for charging the end users online. Additionally, it also offers a full voucher management system so hotspot managers can

create unlimited vouchers for distribution. Both billing and voucher systems can be configured with billing options to charge users based on time, bandwidth consumption and various other criteria.

Indirect Monetization through UniBox can be done through a variety of different ways, using static imagery (Image Ads) to intermittent video advertisement inserts. The advertisement system can be seamlessly integrated with onboard captive portals thus ensuring venues can design their own advertisement campaigns.

Simplified compliance.

Compliance is the bigger picture we cannot afford to overlook in any system, let alone wireless. Compliances, whether internal to an establishment or legally binding through State legislation, have to be enforced nonetheless. They are an important part of product and service management. UniBox can enforce multiple compliance related functions with ease. UniBox 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. UniBox 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, UniBox can enforce Group Based Policies.

UniBox as an AP Controller

It is best practice to deploy UniBox along with UniMax Access Points. UniMax Access Points surrender total control to the UniBox allowing the UniBox to function as an AP Controller. All of your network here can be controlled through a Single Console. As an AP controller, UniBox performs the following functions:

- 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

Leverage UniBox.

UniBox can serve all your wireless networking requirements, no matter what your industry is. End-to-end integrability and interoperability makes the UniBox stand out from other products of the similar category in the market today. We have helped craft many growth stories with the UniBox. UniBox has been deployed in wide range venues like airports, hotels, hospitals, educations campuses, public parks and many more. UniBox has proven to be an industry-leading product at an astonishing price point.

Connect with our sales team to learn more about UniBox and how it can benefit you.

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