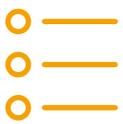


## CASE STUDY:

# Outdoor Wi-Fi Guest Access & Backhaul Scenario

NFT 2ac Outdoor / DLB 5-90 & 5-15 | Lagos de Moreno, Mexico



## Context

Jugos del Valle – Santa Clara, a Mexican producer of fruit juices and beverages, and a subsidiary of the Coca-Cola Company, was hosting a grand opening event in Lagos de Moreno, Mexico. It was a significant event, drawing the attendance of a number of influential people & government officials.





## Problem

The venue of the event was located in the industrial part of Lagos de Moreno, in Jugos del Valle's factory, which until now did not have a wireless internet access network.

On top of having to set up an outdoor Wi-Fi network from scratch, Jugos del Valle needed a solution that would also meet several other requirements:

- The network infrastructure must be designed with high-density Wi-Fi applications in mind, supporting increased concurrent user counts condensed into one area. Because it was a public event for guests, the network also had to have a guest access feature.
- The integrator had just one week to implement the entire project, and a portion of the network could have only been installed when the outdoor tents were pitched for the event, so the network devices had to be flexible and easy to install to save time.
- The wireless network must cover an area of approx. 4,000m<sup>2</sup> and allow for easy end device roaming between access points.
- Since it was not only an outdoor, but also an industrial setting, all network devices must be equipped with adequate protection against appropriate environmental factors.
- Needless to say, a lot of influential people were attending the event and the client had to make a good impression, so the wireless network also had to work flawlessly.



## Solution

ICSA, the wireless network integrator for this project, chose LigoWave's DLB 5-90 and 5-15 links as a backhaul connection paired up with NFT 2ac Outdoor access points for local Wi-Fi connectivity.



*Wireless backhaul and Wi-Fi network topology: internet access was provided via the ISP's router, which was hooked up to a DLB 5-90 wireless base station operating as a PTMP backhaul bridge. It linked 5x DLB 5-15 client devices, each of which was connected to an NFT 2ac Outdoor Wi-Fi access point. The maximum distance between the base station and the client devices was 500 meters.*

In order to save time, network setup and configuration was done using the Infinity Cloud Controller. This solution automates many network installation processes by employing automated device onboarding and preconfigured scenarios, including the Guest Access scenario, which was used in this project. Guest access is designed to simplify and secure the way users connect to Wi-Fi.

The network was planned to connect up to 350 end devices concurrently. Access point placement and transmit power were adjusted to allow for optimum roaming conditions.

Several factors played a role in choosing LigoWave for this project:

- Simple roaming among access points.
- Increased concurrent Wi-Fi client device capacity per AP (up to 100).
- Infinity Cloud Controller for simple and fast setup and management.
- No software licensing fees.
- Guest Access feature.
- Receive signal configuration, traffic shaping, and client isolation.
- IP-rated hardware made from resilient materials.



## Results

LigoWave exceeded the expectations and requirements set out for this project.

Thanks to the Infinity Cloud Controller, network setup time was reduced from days to mere hours, leaving ample time before the event. It also allowed to monitor the network during the event, this way keeping an eye on its status and metrics.

During the event, the network registered a total of approx. 200 end devices, with some access points accommodating upwards of 60 clients simultaneously. Guests had no problems roaming and did not experience any disconnections throughout the entire 4,000m<sup>2</sup> area.

The ability to adjust Tx power and signal levels—either via the device GUI or the Controller—allowed for optimum device roaming conditions, while traffic shaping improved overall performance and client isolation guaranteed added security in the network.

The network was set to work in free access mode, which requires very little effort to configure and makes guest onboarding simple. In this case, visitors connected to the Wi-Fi by simply tapping the “enter” button on the Jugos del Valle’s customized splash screen.

## Tip for Integrators

The Infinity Cloud Controller offers 3 guest access modes designed for different applications. Multiple modes can be used to fit specific guest access scenarios.



### Free Access

Unrestricted guest access whereby users connect to Wi-Fi freely without any registration. This mode can be used in places like public gatherings and events.



### Private Access

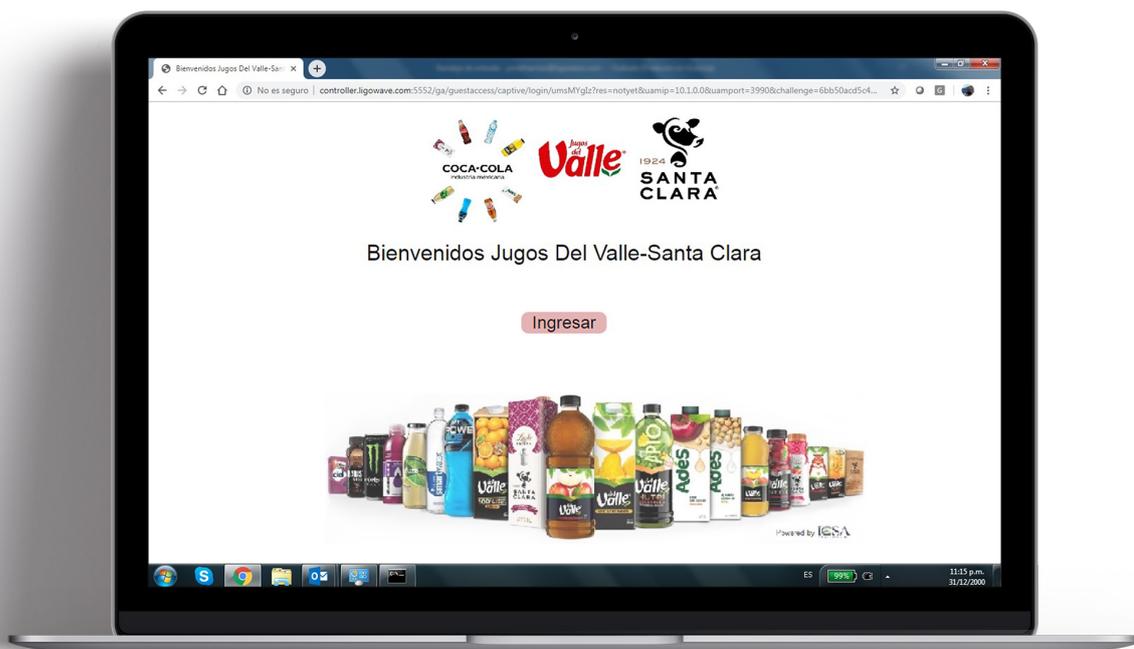
Personal guest access accounts for scenarios where users may spend an extended amount of time online, e.g. hotels, hostels or resorts.



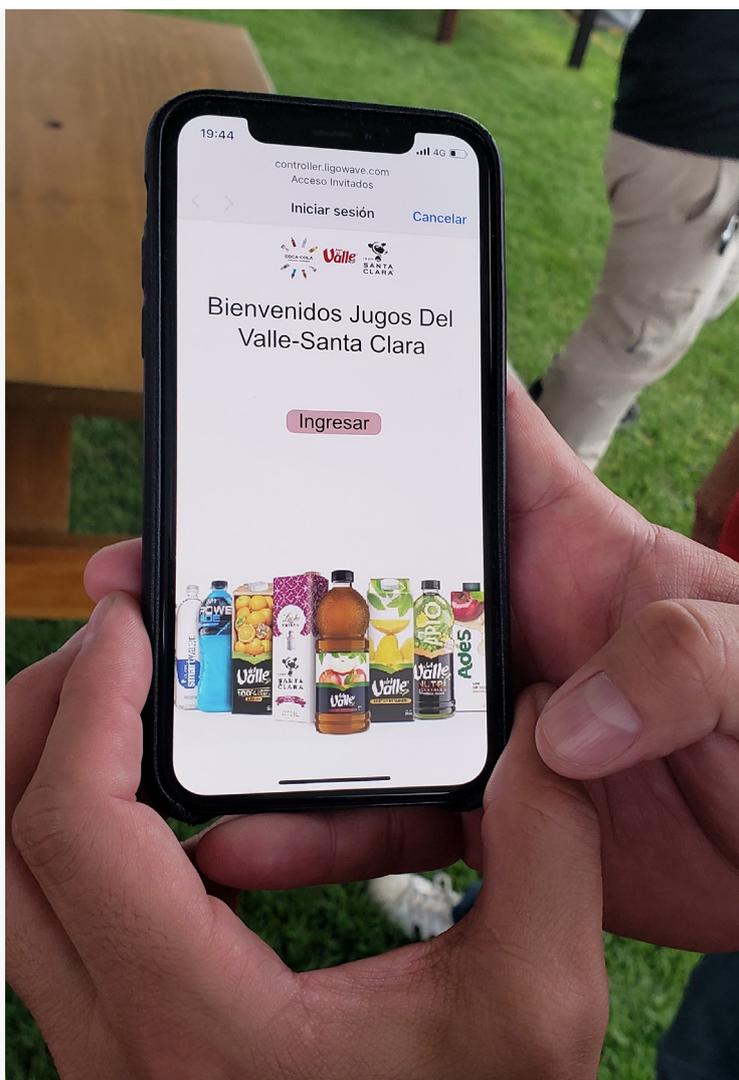
### Vouchers

Temporary Wi-Fi access codes used in scenarios where users spend short amounts of time in the venue, e.g. events, cafés or public transport.

LigoWave’s Guest Access feature cuts down on configuration and maintenance, reducing overall integrator costs and time spent on setup and upkeep.



ICSA used the editor available in the Infinity Cloud Controller to customize the splash page—everything from the logo, background & buttons were changed to fit the look and feel of the Jugos del Valle beverage business.



Jugos del Valle was pleased with ICESA's professional work in implementing LigoWave's quality wireless solutions. Guests had a smooth Wi-Fi experience throughout the entire event, staying connected without any network interruptions or issues.

**WIRELESS NETWORKS**

Uptime: 1 day 20:16:49 | CPU load (59%) | eth0: 100BaseT/full | 4 stations

SSID: Ligo\_BackHauling\_5G

Total stations/limit: 4 / 128

Station	IP address	Local Signal, dBm	Remote Signal, dBm	SNR, dB	Tx/Rx rate, Mbps	Link uptime
00:19:3B:11:9A:FC LigoDLB 5-15 #4	10.10.10.6	-45 / -43	-52 / -46	69 / 73	216 / 162	1 day 19:14:00
00:19:3B:11:9B:CC LigoDLB 5-15 #1	10.10.10.3	-51 / -51	-55 / -44	63 / 65	216 / 270	1 day 19:14:00
00:19:3B:11:A0:5C LigoDLB 5-15 #3	10.10.10.5	-56 / -48	-65 / -57	58 / 68	243 / 216	1 day 19:05:49
00:19:3B:11:A3:96 LigoDLB 5-15 #2	10.10.10.4	-46 / -46	-55 / -45	68 / 70	270 / 270	1 day 19:14:00

Kick selected

© 2019 LigoWave

Connected CPE with ideal signals and 2-day link uptime showing that there were zero interruptions during the event.

**INFINITY controller**

Organization: Infinity Cloud | ID: G10652412312810

Devices online: 6 | Devices offline: 3 | Active clients: 64 | Throughput: 5.36 Mbps

Most active networks by clients:

Name	Clients	Total devices (Up)	Status
Evento del Valle	65	7(6)	<span style="color: green;">█</span>
DLB Network	0	1(0)	<span style="color: red;">█</span>

Infinity Cloud Controller showing a bit over 60 devices connected with peak network throughput at around 15Mbps.