



Technical details.

The market leading platform for creating and publishing content for digital signage.

PL Yipp

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The sync process

PLAYipp was built with two basic concepts in mind; ease of use and security. Since the network security is vital to our customers' operation, they must trust that PLAYipp neither spreads viruses, or house security risks. To ensure these goals are met, a core principle was created:

A media player must never receive data.

Instead media players fetch the data it needs rather than receiving it from the server. This ensures that PLAYipp can offer a secure service without having to compromise on functionality. To make this work all media players connect to PLAYipp's cloud service, where it receives the information it needs; what it should play, when it should play it etc. All communications with the cloud service are encrypted using the HTTPS protocol.

Internet & connectivity issues

The media players use the Internet to connect to the cloud service in order to fetch updates and new material. If the Internet connection is temporarily down it will continue displaying downloaded material - no black screens or annoying error messages.

All surveillance and notifications are provided through PLAYipp Manager and/or through email.

Network

Wi-Fi:

PLAYport supports Wi-Fi encrypted using WPA-psk, WPA2-psk (recommended) and WEP. It also supports unencrypted Wi-Fi and hidden networks. PLAYport supports 802.1x over Wi-Fi, but only using username and password.

Most PLAYin-compatible screens support Wi-Fi, but there may be some exceptions. Verify with the screen manufacturer.

Wired network:

For a more robust Internet connection we recommend using a wired network connection.

Most PLAYin-compatible screens have ethernet ports, but there may be some exceptions. Verify with the screen manufacturer.

Proxy server:

All media players can connect to the internet through a proxy server. This is configured directly on the media player.

IP:

All media players can use static IP allocation or DHCP. For static IP - Input your IP address including netmask, gateway and at least one DNS server.

Technical deep dive

A media player can be a screen with a built in media player that is supported by PLAYipp ([see list of supported screens here](#)). A media player can also be an external media player from PLAYipp, for example the PLAYport that is based on the Android operating system.

PLAYport is built with security in mind, hardened and stripped of all unnecessary network services.

The media players never receive data using push or similar services, instead it fetches data through HTTPS which is an encrypted protocol. This in turn makes the system robust and secure. PLAYipp manages all client software updates, which ensures the media players are always up to date with the latest stable release.

Servers

PLAYipp's data centers are located in Sweden, specifically the cities of Stockholm and Falkenberg. Backups of customer data are done every 30 minutes and are encrypted using LUKS full disk encryption. If the servers were to experience temporary outages your media players will continue displaying any downloaded material.

Ports

The media players use the following outbound TCP ports to connect to PLAYipp Cloud:

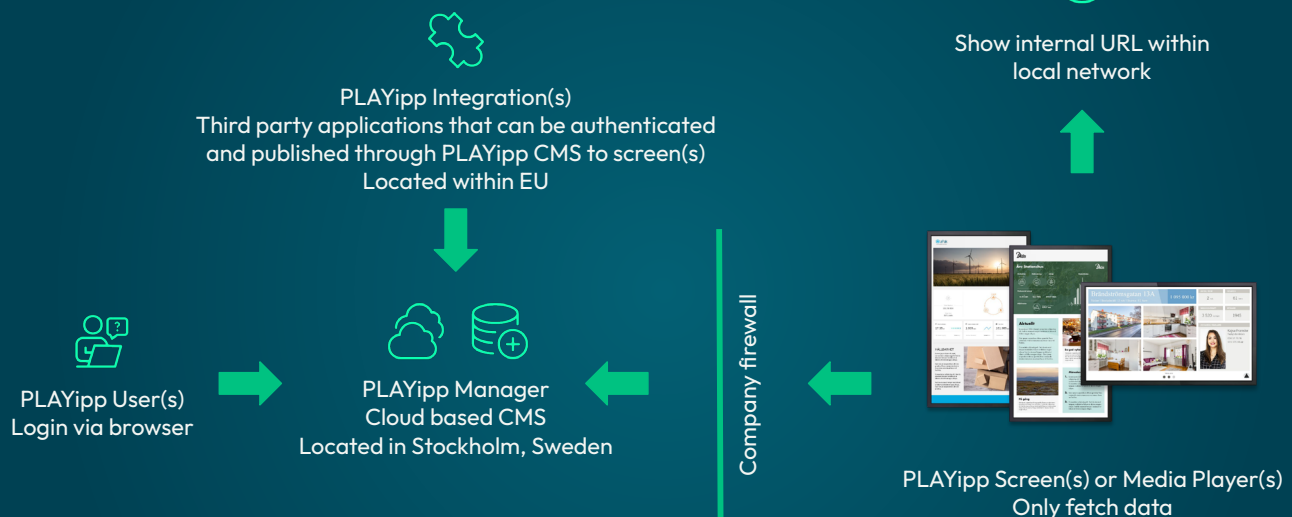
- 80 – HTTP: To display non encrypted websites on the screen, and to set the system clock for PLAYport.

- 443 – HTTPS: To fetch data and files, report status etc.

Both ports need to be opened to the subnet 192.165.76.0/23 (IP addresses 192.165.76.0 - 192.165.77.255)

PLAYipp System sketch

PLAYIPP



Publising internal URL's

When our customers want to automatically publish data from their internal systems (for example sales or production numbers), it's vital that data never leave the internal company network. Since the media player directly connects to both internal and external web resources you avoid the risk that data is spread outside your network.

The only thing that is stored in PLAYipp Cloud is the URL where the data is located on the customers own server. The actual data connection is made directly between the media player and the local server.

Step by step: How it works

- 1 The URL is published using PLAYipp Manager. The only thing that's saved is the URL itself.
- 2 The media player requests updates from PLAYipp Cloud. The server replies with the URL to the material.
- 3 Within the company firewall the media player communicates directly with the company server and receives the data that is shown on the screen.
- 4 The media player is showing the internal data on the screen.

