zebrix technical stack

zebrix external player

The zebrix player consists in the following technical stack



Let explain this stack starting at the top level

zebrix application for player

The zebrix application is the top level app that is responsible for building the HTML5 content that is displayed by the display. It's also the layer that receives orders from the CMS and returns information to the zebrix server.

At each startup, the player checks for updates of the zebrix application and updates it automatically if a new version is available. This application is less than 5 MB.

web engine

the web engine is responsible for rendering and display the HTML5 content.

zebrix firmware

zebrix firmware is package of different components : services, scripts and bunch of improvements that enhanced the operating system:

- its acts as an intermediary between the zebrix application running on top and the operating system :
- it retrieves informations from the operating system (ressources usage, logs, etc.)
- it provides the screenshots functionality
- it deals with HDMI ports to trigger screen panel ON and OFF
- it monitors the system and the zebrix application to detect any problem. If a problem is detected, an action (such as a reboot or application restart) can be triggered.
- it modifies some settings in the OS to improve the way it works
- it manages the content (image, video) caching

The firmware can be easily updated remotely by zebrix support team. Update is required only in case of problem or new feature needs. This package is less than 10 MB.

Operating System

The operating system is a Ubuntu GNU/Linux based distribution that has been tuned and hardened on

a security point of view. Unnecessary packages, softwares and services has been removed. Some additional softwares or services required by zebrix has been added.

Upgrade of the operating system is normally never needed. If an update is really required for any reason, it's never done remotely. On-premise full system re-installation via USB drive is required.

Kernel

The Linux kernel is the hearth of the operating system and is rarely updated on zebrix player, except in case of technical problem of security threat. Kernel upgrade can be done remotely.

Hardware

Thanks to its reliability and good value for money, the intel NUC platform has been chosen to run zebrix.

SAMSUNG SSSP (Smart Signage Platform)

The SAMSUNG SSSP screen consists in the following technical stack

Let explain this stack starting at the top level

zebrix application for SSSP

The zebrix application is the top level app that is responsible for building the HTML5 content that is displayed by the display. It's also the layer that receives orders from the CMS and returns information to the zebrix server.

At each startup, the player checks for updates of the zebrix application and updates it automatically if a new version is available. This application is less than 5 MB.

web engine

the web engine is responsible for rendering and display the HTML5 content. This software is never updated.

SAMSUNG Firmware

The SAMSUNG firmware is a package that contains the operating system (either VDLINUX or Tizen Linux) + additional softwares and API from SAMSUNG. The firmware can be updated remotely from the CMS. The file is quite big and can be up to 1,2 GB. Updates are only advised if problem need to be

solved. These updates usually never bring any new features.

SAMSUNG screen

The SAMSUNG screen is powered by an integrated SoC (System-on-chip).

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