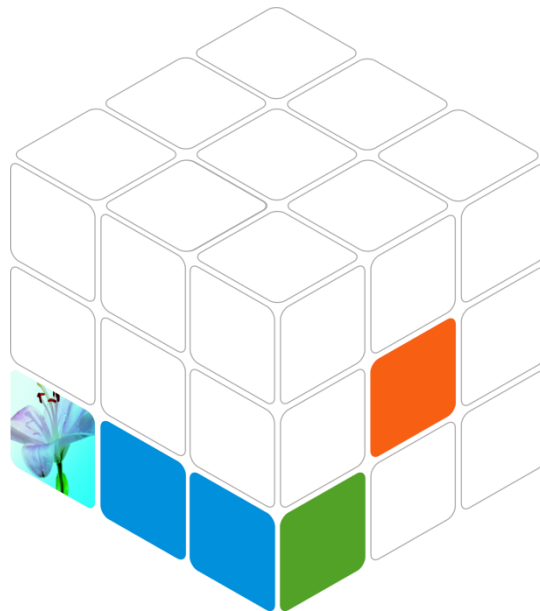


Real Multi-Display Support

vs.

Desktop Extension





Introduction

Latest computer hardware provides better support for multiple outputs from the same computers. More outputs are available because motherboards have more compatible slots which can accommodate graphic cards.

Graphic cards with three, four and even six outputs are available or will be shortly available.

As a result, different solutions supporting more than one display in digital signage have become available.

C-nario Canvas, the playback engine in C-nario's Universal Player is widely used with multiple display arrangements. It takes advantage of the above advancements in computer hardware coupled with high performance available with central processing units available from Intel. This document sheds some light on C-nario Canvas compared with other solutions.

Extended Desktop

Some of the digital signage systems make use of the standard Windows desktop. When multiple displays are connected, it becomes a matter of a mouse click to extend the desktop across multiple displays. Player software should generally accommodate such larger desktop without a change.

So what is the difference between extended desktop and C-nario Canvas?

Pixel perfect video becomes very difficult to play without synchronization concept:

- With extended desktop, a very large window (which can support multiple high definition resolution) hosts a huge single video file normally played by a single core. Moreover, light load compressors like MPEG2 cannot support such resolution in one file. **The result is a heavily stuttering video.**
- In comparison, C-nario Canvas supports synchronized playback of large video file split to multiple high definition files. Such approach makes optimal use of multiple cores. **The result is a smooth and perfect playback.**

Bezel support

- With most multiple displays through extended desktop, bezel calculation isn't supported. Bezel calculation is provided with some solutions, and



these solutions are relatively old and cannot provide the required performance for such arrangements anyway.

- In comparison, C-nario Canvas has bezel support for any arrangement including oddly arranged collages.

Scalability

- Extended desktops cannot be scaled beyond a single computer system.
- In comparison, C-nario Canvas is designed to be scalable by cascading additional players on the same network, creating practically unlimited size multi-display arrangements.
- In addition, based on cascaded systems, players are built into the display, or small form factor players can be used.

Content creation

- C-nario Canvas is the only digital signage player software designed with multiple outputs and multiple systems. As a result, content is created without worrying about the special requirements of huge resolution display arrangements. Text, images, dynamic data and 3D animation are pixel perfect while taking into consideration the shape and resolution of the arrangement.

Display linkage

More display vendors offer the feature of linking multiple displays to reduce costs. In some cases, pixel perfection is maintained as the resolution of the input fed into the first display is enough to drive multiple low resolution displays. In other cases, resolution is sacrificed for saving.

When linked displays are arranged in symmetrical fashion, e.g. 2 X 2, 3 X 3 etc., display linkage is transparent to any player. However, when linked displays are arranged in a different fashion, for example 4 X 1, real time content creation becomes difficult. C-nario collage support has a special feature for correctly mapping such arrangements transparently. This is useful with linked LCD and especially with odd shape LED arrangements such as line border in sport venues.