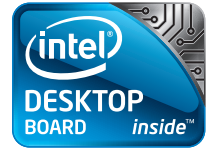


Digital Signage on the Next Unit of Computing and Ryarc® Campaign Manager*

David Ting
Intel Desktop Boards



Revision History

0.1 Initial Release

9/19/2012

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Digital Signage on the Next Unit of Computing and Ryarc® Campaign Manager*

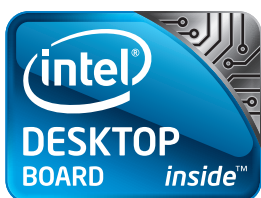


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Intel Corporation

Introduction

This cookbook provides a guideline for the design of Intel® Desktop Boards Next Unit of Computing (NUC) into a small form factor digital signage product.

1.1. Scope

This document consolidates ideas, technical requirements & specifications for delivering a digital signage media player based on the Intel® Desktop Boards D32217GKE and DC3217IYE Next Unit of Computing product. This document will also provide a quick setup guide for the Ryarc® CampaignManager* digital signage software.

This document does NOT:

- Cover setup procedures for Intel® Active Management Technology or Intel® Audience Impression Metric Suite (AIM Suite)
- Repeat information readily available in standard specifications but will refer to them.
- Address warranty, distribution cost and regional tariff.
- Cover supply chain optimizations.

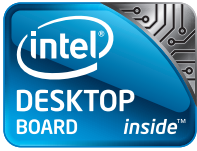
1.2. Audience

The target audience for this document includes:

- System integrators.
- Direct Intel OEM customers.
- Intel® Technology Provider partners.
- Ingredient suppliers.

1.3. References

Intel® Desktop Boards Resource Center	http://www.intelbettertogether.com/main.html
The Next Unit of Computing	http://www.intel.com/nextunitofcomputing
Intel® Desktop Boards Youtube channel	http://www.youtube.com/intelboards
BIOS and driver updates	http://downloadcenter.intel.com
Integration information	http://www.intel.com/support/go/buildit
Intel® Active Management Technology	http://software.intel.com/en-us/articles/intel-active-management-technology/?wapkw=active%20management%20technology
Intel® AIM Suite	http://intel.cognovision.com
Ryarc® CampaignManager*	http://www.ryarc.com



2. The Next Unit of Computing

The Next Unit of Computing (NUC) is the smallest complete unit of computing powered by an Intel® 3rd Generation Core™ i3-3217U processor and an Intel® QS77 Express chipset for responsive performance and energy efficiency at the same time.

The Intel® Desktop Board DC3217IYE NUC unit is truly a computing revolution at a size of just 4.6" x 4.4" x 1.55". It offers dual HDMI display outputs, 3 external USB 2.0 ports for expandability and an Intel® 82579V 10/100/1000 LAN Ethernet. It also has dual SO-DIMM memory slots supporting up to 16GB of DDR3-1600 memory and dual PCI Express Mini Card connectors (1 full length and 1 half length) with USB 2.0 routed. The unit is powered through a backpanel DC-jack which supports 12V-19V DC power supplies at 65W. A Kensington lock power is provided for additional security.



Figure 1: Front view of the Intel® Desktop Board DC3217IYE NUC



Figure 2: Rear view of the Intel® Desktop Board DC3217IYE NUC

The DC3217IYE comes with a standard VESA mounting bracket for mounting behind VESA-compatible displays.



A motherboard-only Intel Desktop Boards D33217GKE sku is also offered. An internal USB 2.0 header supporting up to 2 USB ports, internal DC power connector and standard Intel Desktop Boards front panel header is offered to ease integration and expand its capabilities.

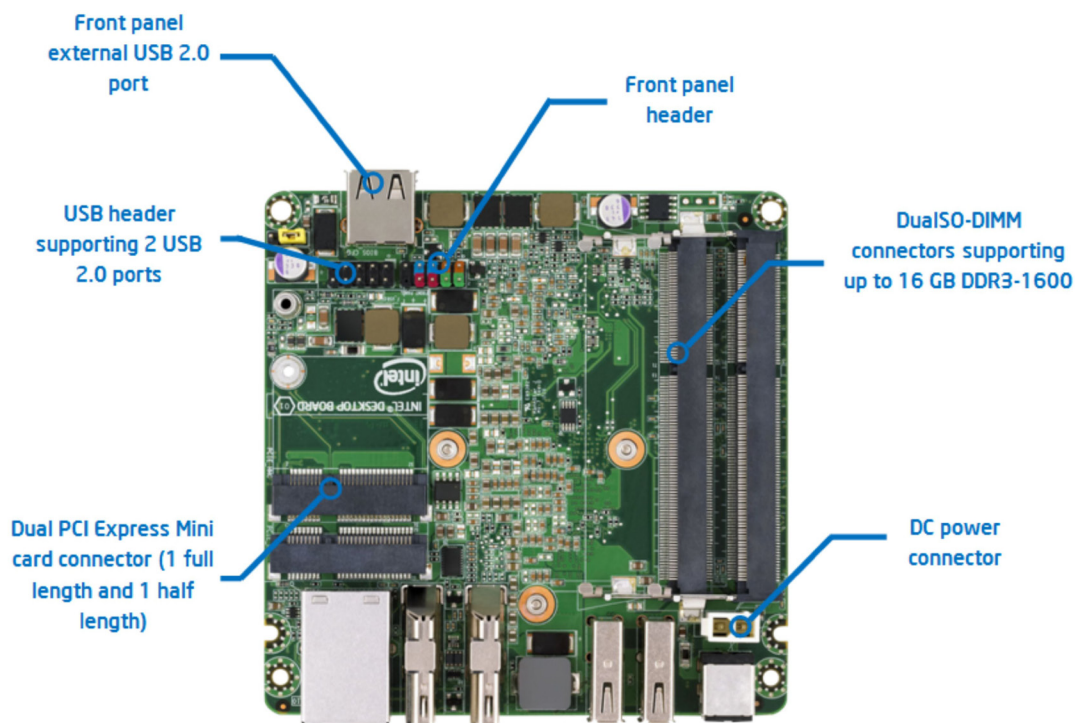


Figure 6: Bottom-side view of the Intel® Desktop Board D33217GKE

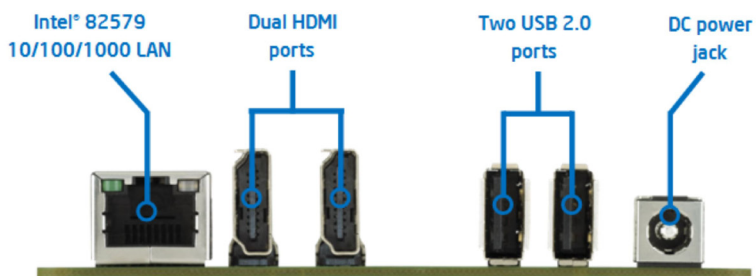
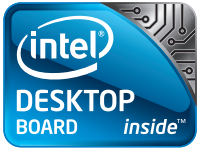


Figure 7: Backpanel view of the Intel® Desktop Board D33217GKE

Both skus are offered with 3-year availability from Intel®. Please contact your Intel® representative for product code and ordering information.



3. Ryarc® Campaign Manager 6.0

Ryarc Campaign Manager* is a digital signage single platform software solution that centrally manages, controls and distributes content to:

- Public screens, projectors, LED, etc.
- Audio (audio channel / retail radio)
- Corporate communication – screen saver player for desktops and laptops
- Interactive screens and kiosks

Campaign Manager allows publishing of content which can be common, or unique among any number of display devices.

Multi Zone Screen Layout

The Screen Designer allows a user to create and manage unlimited screen “Zones” on a screen.

All standard graphic formats - Movies, Flash*, Live TV, Web Pages, Images, Streaming, Interactive Content, HD Content, etc.

Each zone can contain its own individual playlist.

Screens can be defined as per Landscape or Portrait, and as per different aspect ratios - 4:3, 16:9, etc.

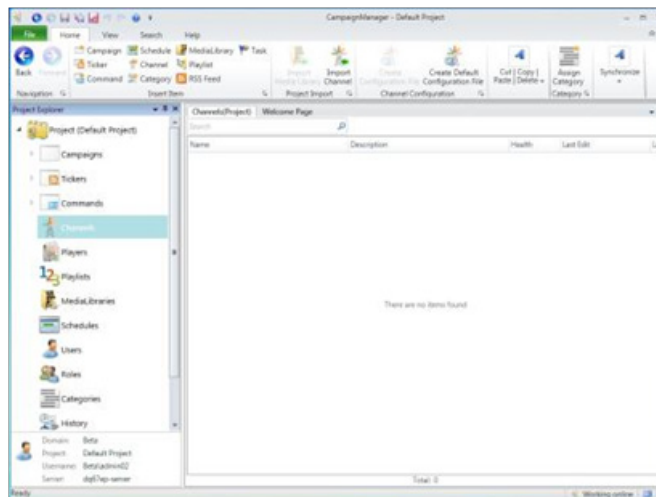


Figure 8: Campaign Manager - User Interface

Screens can be defined and designed as per Landscape or Portrait and as per different aspect ratios - 4:3, 16:9, 16:10, etc.

The Screen can also be designed using Pixels for specifying target screen resolution.

Pop-up zones can be used to play media items in a zone which appears and disappears based on specific intervals. Any zone can be configured to be a pop-up zone.



Supported Media Format

Campaign Manager* supports all standard media formats - All Standard Images, Shockwave / Flash*, RSS Feeds, Live Analogue Television, DVB Format Digital TV, Live Video Capture (DVD, Web Cams, CCTV etc.), XML, Web Pages, Windows Media Formats, Advanced Systems Format, DivX, Windows Media Video, Windows Media Video High Definition, Microsoft Digital Video Recording*, Audio Visual Interleave (AVI), MPEG-1 (.mpeg, .mpg, .m1v), MP4 (.mp4) - With 3rd Party Codec.

Scheduling Feature

Campaign Manager* has a powerful scheduling feature that allows users to schedule the content as required.

Each media items can have their own activation and expiration dates or they can follow the Campaign activation and expiry dates as per Campaign Scheduling created by the users.

Multi-Instance Support

If two or more computer screens are connected to different video outputs on one digital signage system, a separate content can run on each of the screens.

Stretch Content Across Screen

Digital Signage players can also be configured to stretch across multiple screens.

Unlimited Tickers

Users can publish any number of tickers they want which could be Static (what you type is what you see) or Dynamic (can take RSS feeds). Users can also selectively Show or Hide the ticker on the screen when a particular content is played.

Multiple Campaigns to the Same Screen

Campaign Manager* allows users to publish multiple campaigns to the same screen each having different screen design or content and allowing priority control.

Grouping and Categorization

Screens can be grouped and categorized. The content can be narrowcast and targeted to individual screens or as per grouping and categorization.

Individual audio volume and balance levels can be set from the Campaign Manager for individual media files.

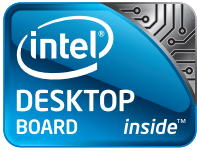
Adjusting the balance can also be used to split the audio channels for Dappler and Campaign Manager Player to avoid audio overlapping when running both applications simultaneously.

Emergency Messaging/Localized Content Play on Trigger

Campaign Manager* has a trigger features that allows any emergency content to interrupt existing content being played on the screen and start playing the emergency content.

Remote Commands

Campaign Manager* allows users to issue remote commands such as custom serial commands (For TV control), restart player, get device information, etc.



Network Agnostic

Campaign Manager* works on any type of IP based network - LAN, Internet, VPN, VSAT, IPLC, GPRS etc. Campaign Manager supports unicast as well as multicast.

Alerts to Administrator

Digital Signage players can automatically send an email to the administrator in case of any problems.

Security Protection

Campaign Manager* has built-in security features including groups and user based security.

Password Protection on Player Exit

Password protection can be set and prompted when users attempt to close the player.

Pooling Feature

Campaign Manager* has a unique pooling feature that allows users to create pools of related files which are then used for randomized playback based on cyclic patterns. 'Pool Patterns' can be created to emulate structured playlists similar to those used in commercial radio and TV broadcasting.

Intel® Active Management Technology Support

Intel® Active Management Technology integration into Campaign Manager provides powerful tools that help customers manage remote assets, reduce downtime and reduce costs by avoiding site visits. This feature will be available if remote managing an Intel® vPro™ board (Example: Intel® Desktop Board DQ67EP).

Intel® AIM Suite support

Intel® AIM Suite integrated into Campaign Manager 3.0 as Conditional Play. It provides support for Anonymous Video Analytics which collects viewer data and enables specific content to be played according to viewer demographics (e.g. age group and gender) detected from a front-facing camera.

Node Server

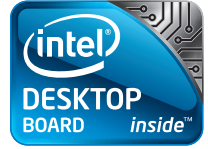
Helps save bandwidth cost and requirement. Node server allows one player in a group to act as the master player which downloads all the heavy content files on behalf of other players which then pick up their content locally over LAN. This helps in saving bandwidth costs as well as time.

Live TV and Camera Feeds

Users can configure up to 52 different live TV channels or camera feeds per screen and control which part of the screen users want to show them or at what intervals users want to show them.

Campaign Playback Reports

Ryarc Campaign Manager* comes bundled with Neptune which provides proof of playback reports.



4. Hardware Configuration

A basic digital signage infrastructure consists of two systems – a management console and a digital signage media player. For the purpose of this cookbook, both the management console and digital signage media player are combined into a single system. In practice, the management console can be any PC such as a desktop or laptop.

The Intel® Desktop Boards D33217IYE was configured into a typical digital signage media player with the following hardware:

- Intel® Desktop Boards D33217IYE
- 1x 2GB DDR3-1333 SO-DIMM
- Intel® 310 Series 80 GB mSATA SSD
- Intel® Centrino® Advanced-N 6235 dual-band WiFi with Bluetooth 4.0
- Logitech® HD 615 Webcam
- Broadband internet connection

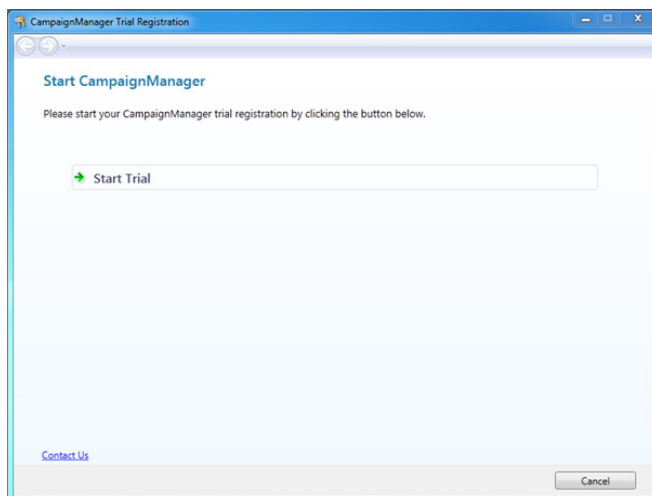
The following describes the software used for testing:

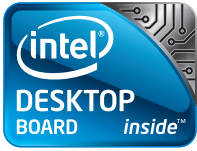
- Microsoft® Windows® 7 Ultimate SP1
- Ryarc® CampaignManager® 6.0.16.0727

5. Quick Start Guide

5.1 Installation and setup

1. Install Microsoft® Windows® 7 Ultimate SP1 and all associated drivers from Intel® Download Center - <http://downloadcenter.intel.com>.
2. Install .NET 4.0 from the Microsoft® Download Center - <http://www.microsoft.com/en-us/download/default.aspx>.
3. Install Flash Player 11 from Adobe® - <http://get.adobe.com/flashplayer/>
4. Visit Ryarc® at <http://www.ryarc.com> to register and download and install a fully-functional cloud-based 30-day trial.
5. Once installed, run Ryarc® CampaignManager® and click on Start Trial. Please ensure that the NUC is connected to the internet for this.





6. Fill in the required registration information to activate the trial. Please note that the password must be a strong password with both uppercase and lowercase characters and numbers.

7. An email will be sent to the registered email address with an activation link. Click on the link to verify and the Campaign Manager* will automatically start downloading to the NUC in a few minutes.

CampaignManager 6.0 Evaluation

Thank you for registering. We need to validate your email address which you can do by [clicking on this link](#).

- Once completed, your Evaluation window will begin downloading. The download is about 100mb in total.
- You will also receive instructions on how to log into your new free 30 day trial Our support team is standing by to provide assistance.

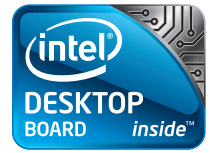
You can request free **phone help**, a **personalised one-on-one introductory tour** of the application or a **quick question and answers session**. Just reply to this email.

Kind regards,

The Ryarc Product Information and Sales Team

We aim to provide timely, accurate and polite responses. If you feel we have failed to meet those standards or have any other feedback, please let us know.

Australia: +61 (2) 800 400 16
 USA: +1 (408) 8444416
<http://www.ryarc.com>



8. You will also receive another email with the login credentials for your cloud-based server.

Success!

Your exclusive domain has been created and is ready for you to now log in and start using CampaignManager 6. Your evaluation period will last 30 days, and during this time you will have unlimited access to the system allowing you to control up to 2 displays. We strongly recommend that, if you are skipping the offer of a personalised session to introduce you to the system, that you spend a little time on the [quick start guide](#). This guide has been prepared especially for persons new to the product and will help you publish your first Campaign to your screen. To access this guide, [click here](#).

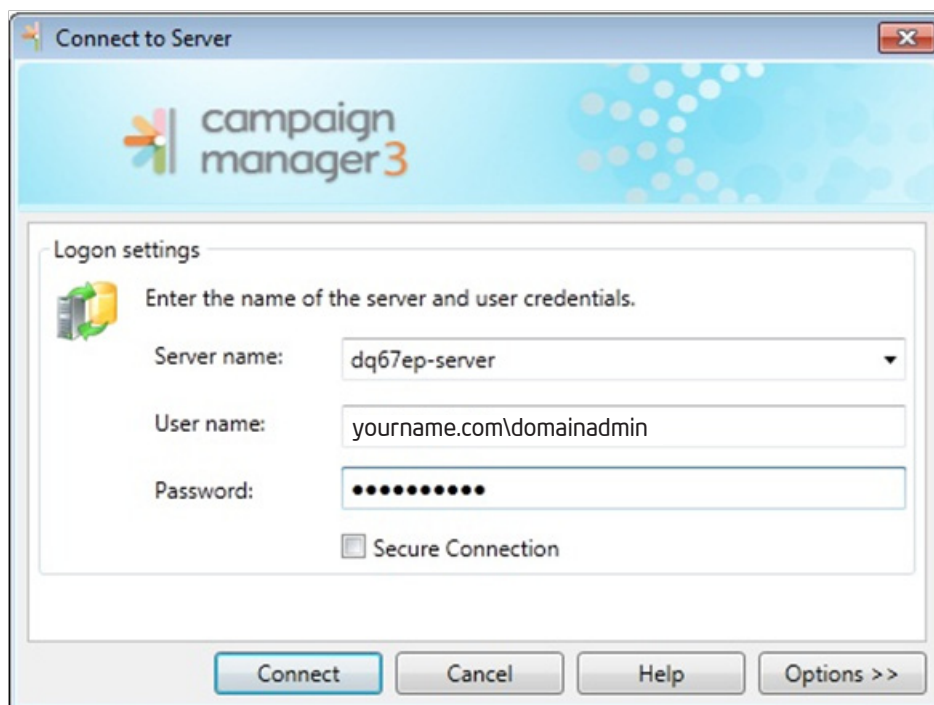
Log in now

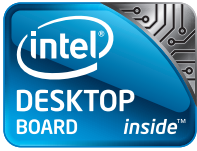
- Start CampaignManager
- Under 'Server', type www.ryarc.net
- Under 'User Name', type *david.ting.intel.com\domainadmin*
- In 'Password', re-type the password you used during your registration. If you have forgotten this password, reply to this email and we'll reset it for you.

You can request free **phone help**, a **personalised one-on-one introductory tour** of the application or a **quick question and answers session**. Just reply to this email and tell us what you need.

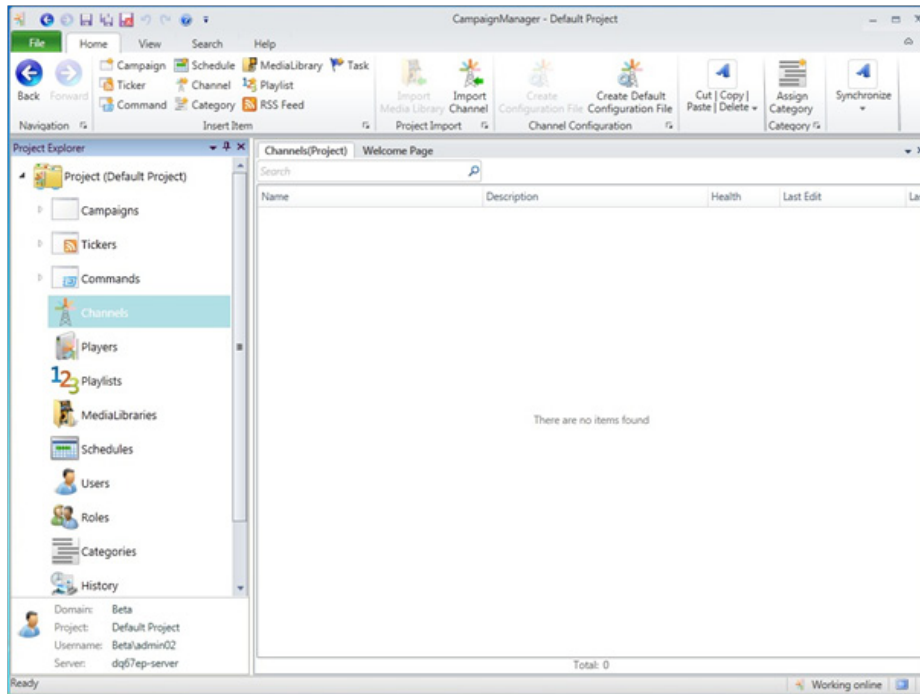
5.2 Creating and publishing a campaign

1. Launch Ryarc® CampaignManager* from the Start menu. Log in to the CampaignManager* server using the credentials provided by Ryarc.

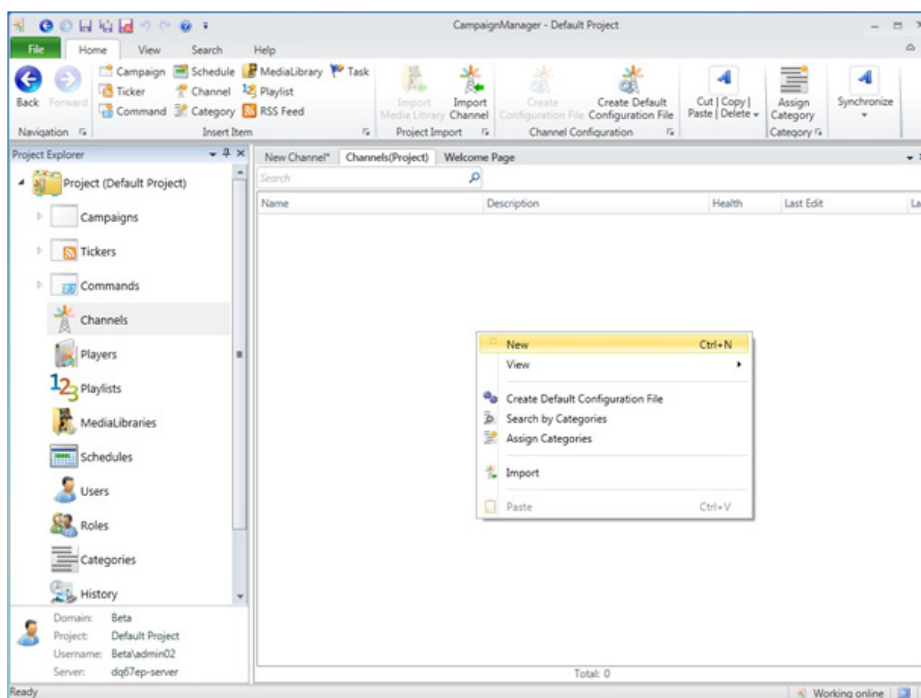


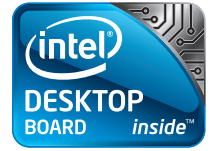


2. Double click on Default Project and you will be presented with the main interface. Users can access all aspects of Campaign Manager* from this interface, such campaigns, players and user access rights.

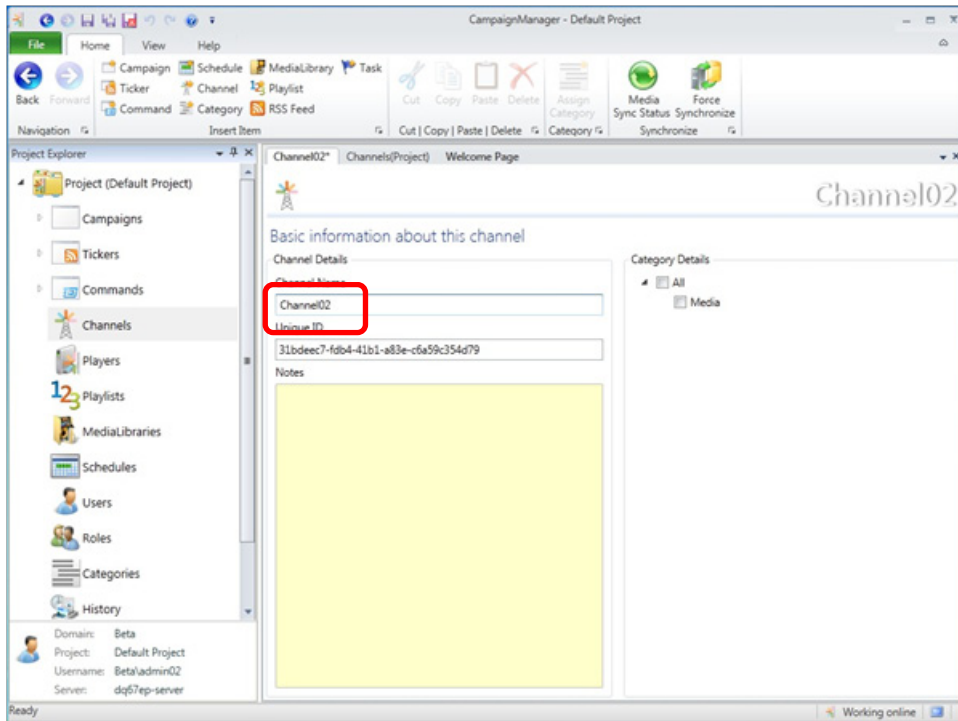


3. Select Channels on the left sidebar to show all available channels dedicated to this project. Channels are a compilation of campaigns which players can "tune in to". Right click-on the screen on the right to add a new channel.

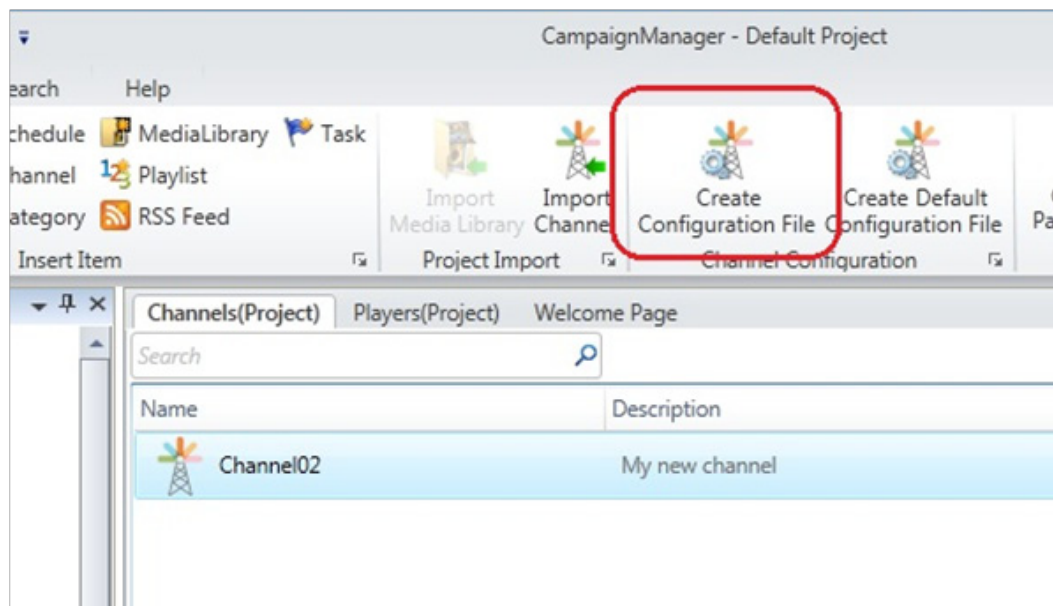


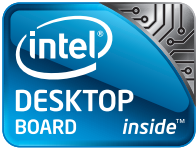


4. Enter a channel name and then click x to save and close.

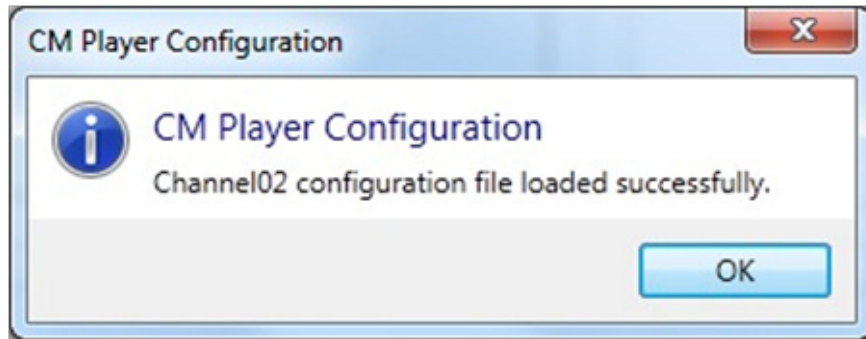


5. Select the channel that you have just created and click on Create Configuration File on the ribbon. CampaignManager* will automatically create a settings file that you need to transfer to the player. Since the console and player are the same machine for this guide, transfer it to the Desktop.

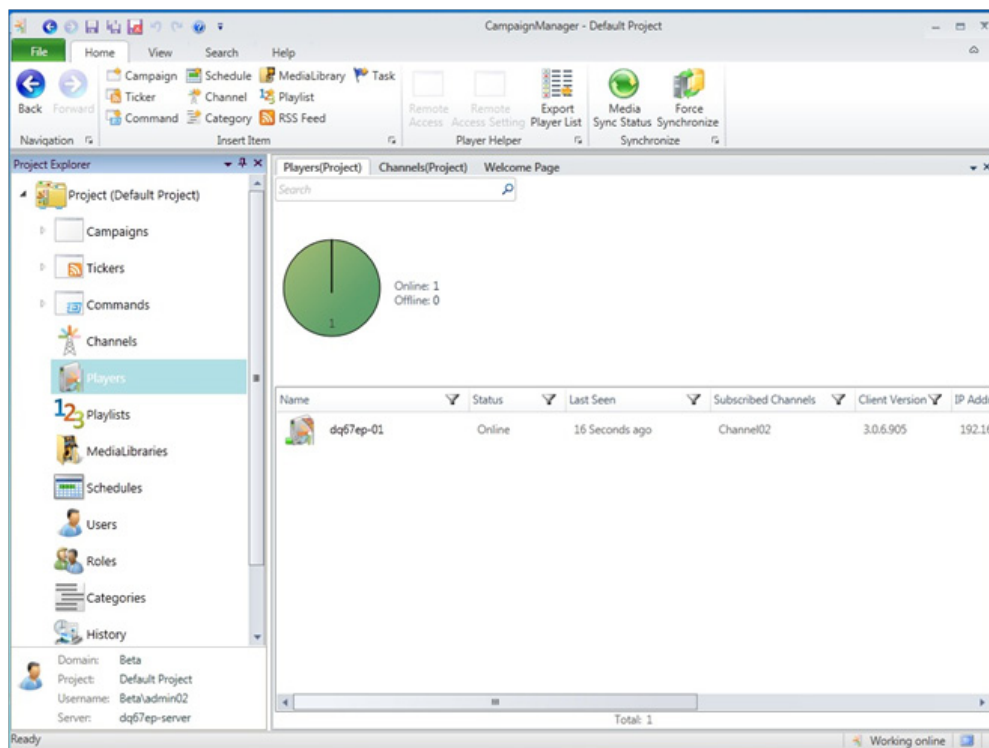


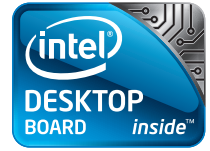


6. Launch Ryarc CM Player Configuration from the Start menu. Click on File followed by Configure and select the settings file you created. A message will confirm that the player has been configured. Click OK. The player will now know how to contact the server for content and administration.

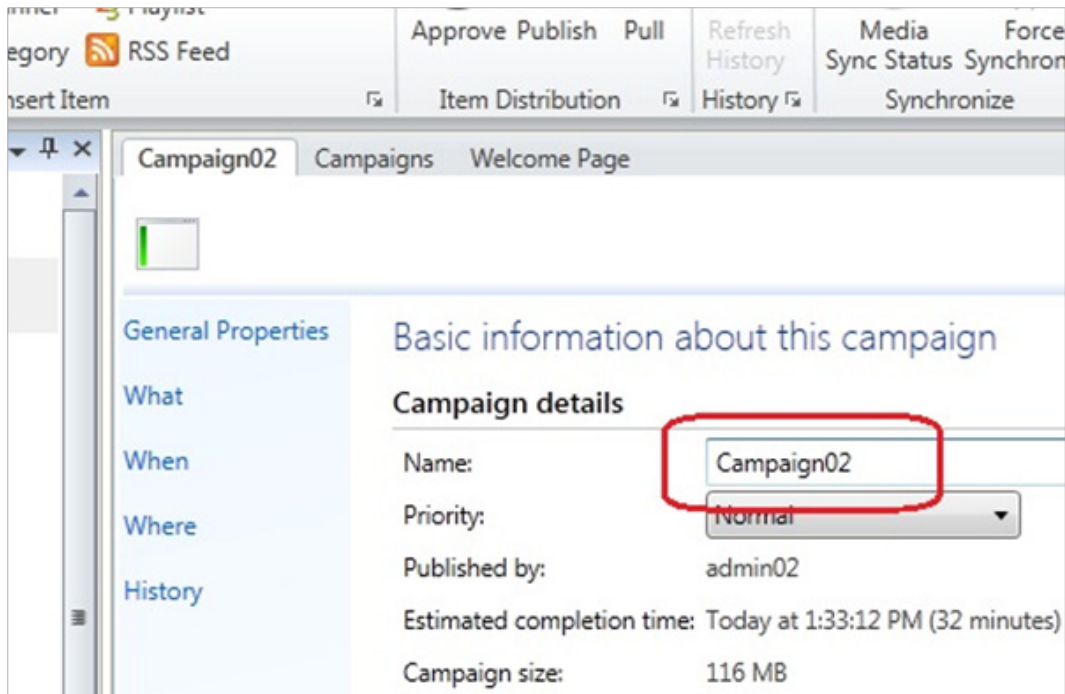


7. Click on Diagnostics and Run diagnostics. This will test the network connectivity between the player and the cloud server and check that the clock between the console and player is within allowable limits.
8. Launch Ryarc CM Player and let it sit there for 3 minutes in order for the player to be registered on the cloud-based server. Right click on the CM Player screen and select Close.
9. Back to CampaignManager. Click on Players in the sidebar and confirm that your player has been added to the database and is currently online. The name of the player is its Windows* 7 computer name. You may need to wait a while, or click Force Synchronize to refresh it.

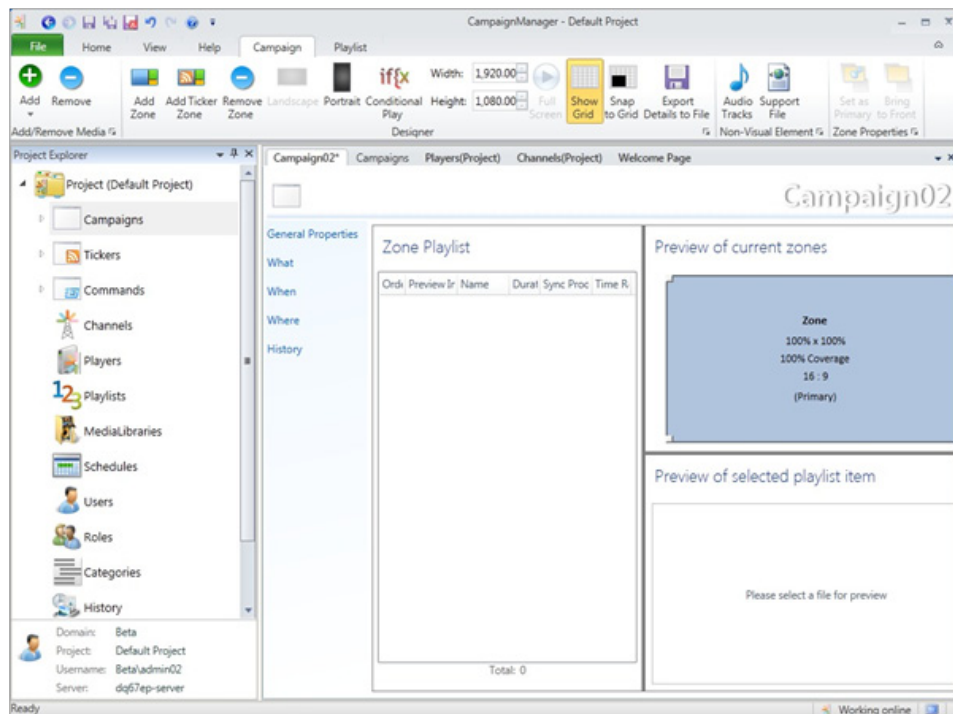


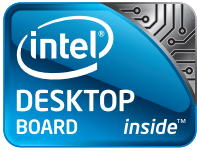


10. Click on Campaigns in the sidebar and right click in the right pane. Select New to add a new campaign. Give your campaign a title.

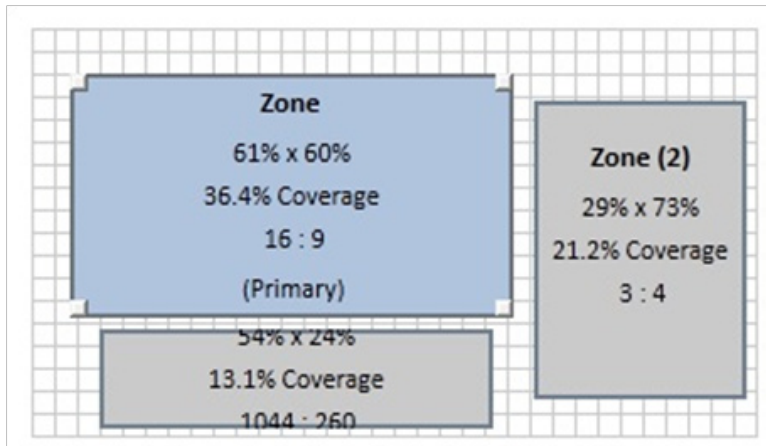


11. Click on What in the sidebar. The first thing that you need to do is to set the resolution for the campaign. Enter width and height corresponding to the monitor attached to the player.

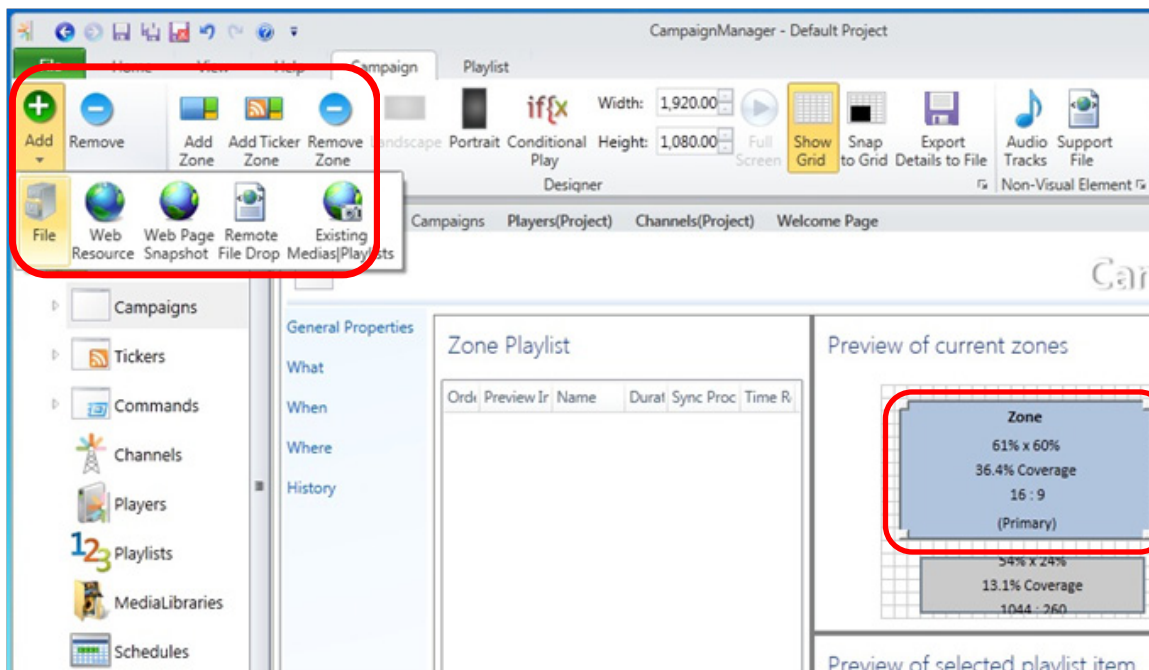




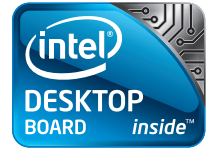
12. You can define multiple zones to show different media. So let's start by creating 3 zones, one for video and two for posters and banners. Click on the Add Zone button twice to add 2 additional zones. Resize and arrange them as shown in the example.



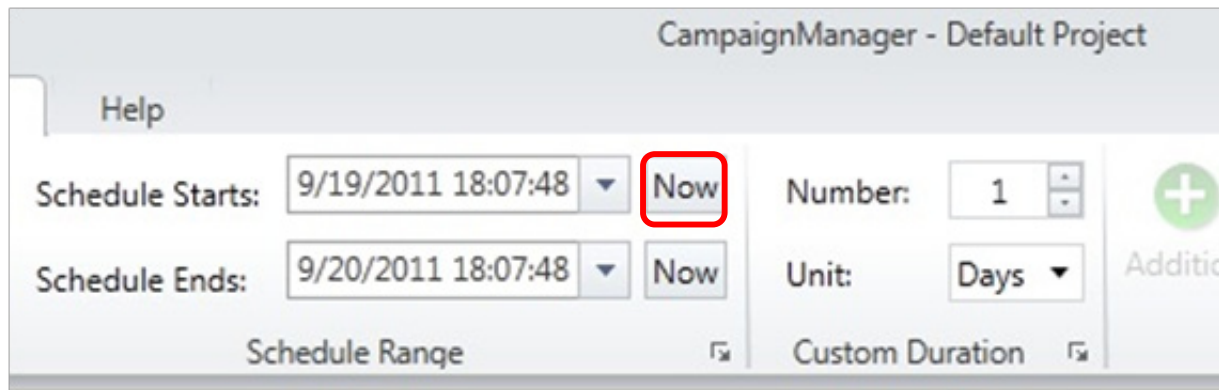
13. Click on Zone 1 in the Preview of Current Zones pane to select Zone 1. Click on Add -> File to add media to it. Select a few media files, videos or pictures. If you have limited bandwidth or internet speed, please select smaller sized videos since all media will need to be sync'd with the cloud-based server and the players over the internet.



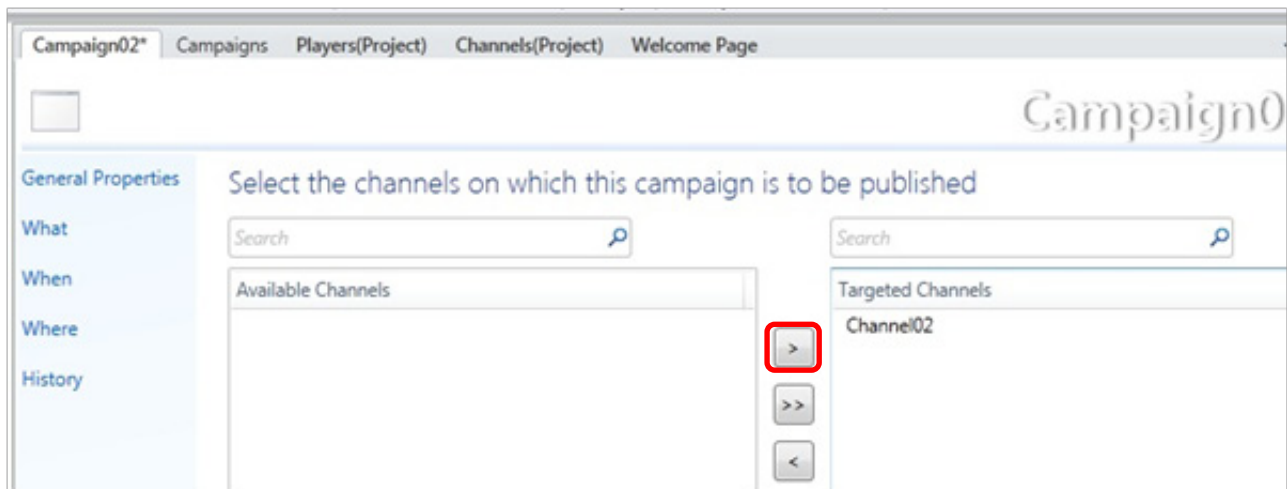
14. Repeat step 13 on Zone 2 and Zone 3 by adding other types of media such as pictures.

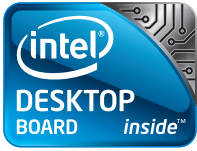


- Next we need to set a schedule for when the campaign will play. Click on When in the sidebar. At the top, for Schedule Starts, click on Now. Then enter 1 for Number and Days for Units. This will set the campaign to play for a period of 24 hours starting now.

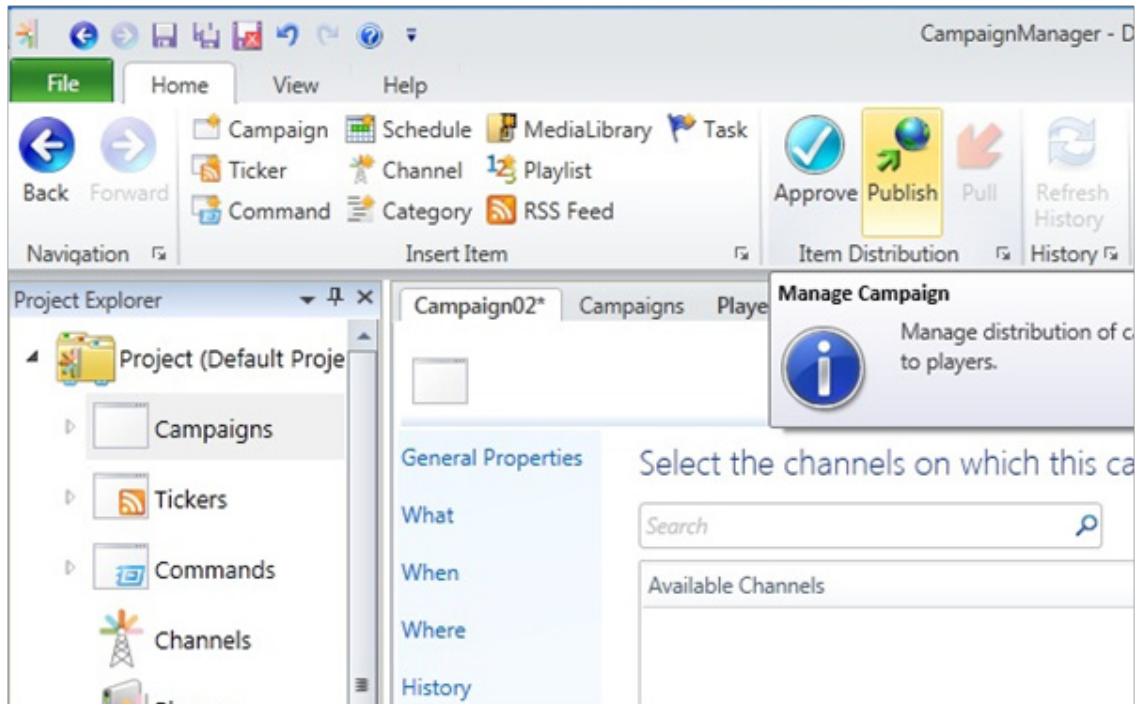


- Next we need to select which channel our campaign will play on. Click on Where in the sidebar. Choose the channel you created earlier from the Available Channelslist and click the ">" button to add it to the Targeted Channels list.





17. We are now ready to publish our campaign. Click the Publish icon at the top and select Yes to save.



18. Launch Rycar[®] CM Player. It may take some time for the campaign to reach the player depending on the network speed and the size of the campaign.