



World's first CI+ Application Paper

August 2008

Ocean Blue, in conjunction SmarDTV, has produced the world's first Common Interface Plus (CI+) application, delivering advanced, graphic applications inside a CAM, to run on a CI+ enabled Television or Set top box. The new standard paves the way for highly interactive, secure subscriber content.

The ground-breaking application was previewed June 2008 at the ANGA Cable show in Cologne.

Ocean Blue developed software solutions, including: CI+ browser software for inclusion in host devices, such as set-top boxes and IDTVs; Triton an application authoring tool with applications for the CAM; a CI software product, which can be extended and updated to the CI+ standard, as and when it is adopted by the market, test and performance tools to ensure compliance.

The solution can deliver advanced, visually rich subscriber applications, such as PVR, Pay Per View and Video on Demand services.



Ocean Blue will be working with the CI+ Forum to evolve its CI+ browser to incorporate new features as specified in specification updates, such as high definition graphic support, 16-bit mode, fast rendering and caching.

The company will be offering a comprehensive CI+ developers pack including: a CI+ software stack, Triton, a CI+ authoring tool, Ocean Blue's visual design system; test & conformance software and activation software for embedding into a digital television.

About CI+

The CI+ Forum finalised the CI+ specification in June 2008, for the secure delivery of pay-TV services to digital TV receivers, including set-top boxes, IDTVs and PCs.

The CI+ Forum are promoting a CI+ profile for both MHEG & MHP middleware.

Figure 1 indicates a typical CI+ implementation and the areas of the system solution Ocean Blue can provide.

There are two major benefits of CI+ compared to the generic CI EN50221[7] standard

- The CI+ Content Control system introduces a secure link between the CICAM and Host enabling high value content to be encrypted.
- By using the CI+ browser and an embedded application in the CICAM, an advanced MMI can be generated allowing branding of the host to match that of the content provider / broadcaster.

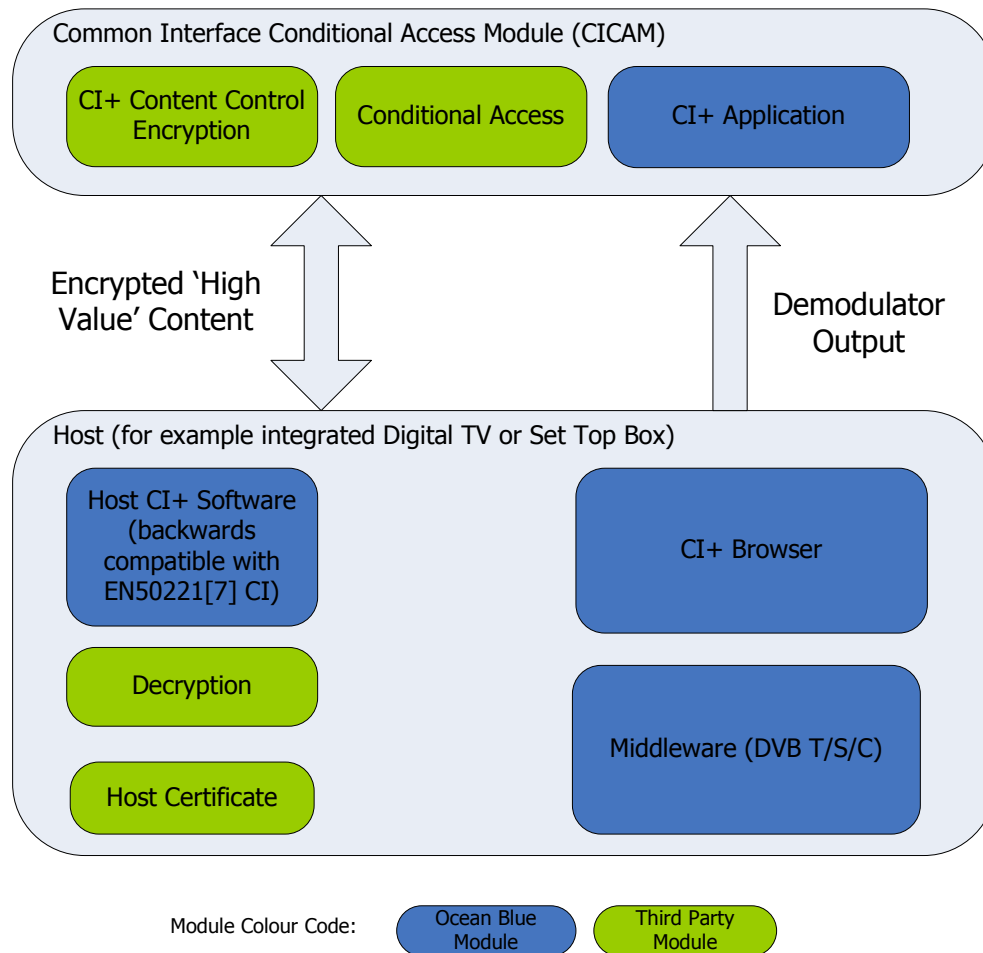


Figure 1: Above a Typical CI+ System Overview

For the content provider / broadcaster, Ocean Blues Triton authoring tool provides the ability to generate the CI+ applications that are embedded in a CICAM. Triton gives application authors a Windows based IDE that enhances and speeds up the application development process.

For the manufacturers of host equipment, Ocean Blues CI+ stack and CI+ browser provides the interface between the CICAM and the host

Ocean Blues CI+ browser, combined with the new CI+ system, will offer a range of advanced features & functions:

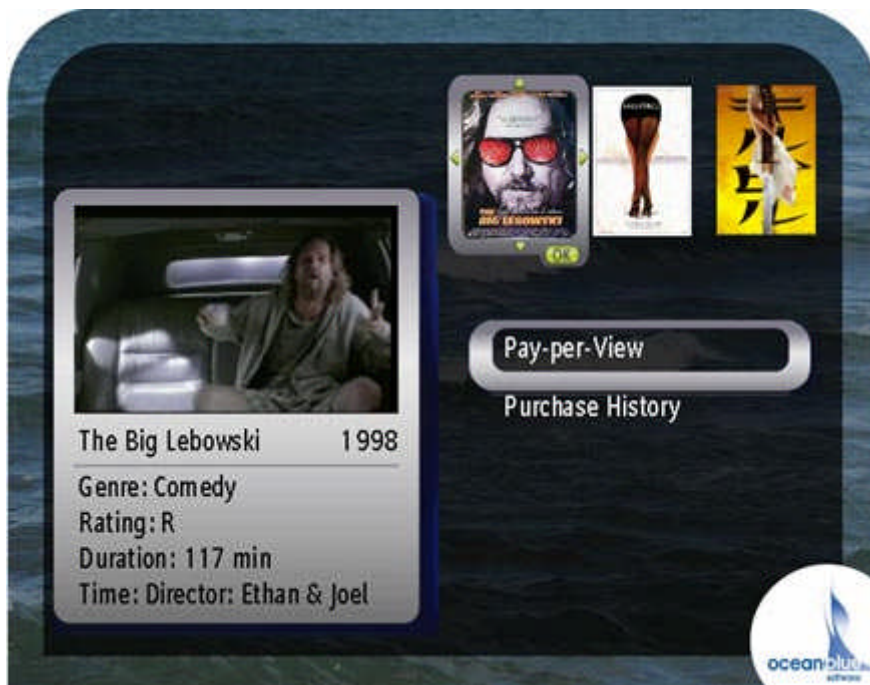
* The television or set top box can run applications contained in the Conditional Access module (CAM)

- * Via the browser and application CI+ menus can be branded, associating encrypted content to the broadcaster / content provider
- * Graphic & display capabilities are greatly enhanced (such as bitmaps, custom fonts and colour schemes)
- * Advanced applications combine broadcast CI+ content with embedded CI+ CAM content

For more information please contact:
www.smarttv.ch/index.php?page=dvbci&rubrique=ciforum

Ocean Blue CI+ Sample applications

Below are examples of CI+ application developed by Ocean Blue, which highlight the type of advanced look and feel of a content provider or cable operator displayed on a television.



Ocean Blue Company Profile

Ocean Blue Software is based in Bristol & Hong Kong, and specialises in the development, distribution and support of world-class software solutions, which are incorporated into Digital TV consumer electronics products, present in the Digital Home.

Ocean Blue's software products stand out in terms of maturity, usability, operability and adherence to international digital broadcast standards, notably DVB and DTG.

Ocean Blue is also active in both DTG & DVB assisting in the development of industry standards for Digital Video Recorders (DVR), DVB-H, DVB-SH, MHEG HD support. Ocean has recently opened a sales, development & product test centre in Hong Kong.

MHEG-5 software is embedded into Freeview TV receiver devices; this produces "Press Red" functionality and interactivity. Ocean Blue is in discussions and working with emerging broadcasters from Hong Kong to Africa who are looking to adopt MHEG standards.

For more details please contact: info@oceanbluesoftware.co.uk

SmarDTV Company Profile

SmarDTV products enable pay TV services through ubiquitous modular security technologies such as DVB-CI and CableCard. SmarDTV the CAM modules, but also the tools, adapters, chips, and software to enable the full ecosystem.

www.smartv.ch