Task Force CI Plus

Considerations for migration to CI Plus 2.0

Since March 2020, the members of Deutsche TV-Plattform have been working in the CI Plus Task Force of the AG Ultra HD on a possible introduction of the new version of the CI Plus interface ("CI Plus 2.0"). In broadcasting, CI Plus stands for interoperability and enables the reception and use of audio-visual services protected by an encryption system (CA) with devices of the horizontal market, i.e. without proprietary set-top boxes. Thanks to CI Plus, encrypted HDTV channels, for example, can also be used with devices that do not have a built-in conditional access system. CI Plus thus fundamentally contributes to flexibility and consumer convenience.

The Task Force discussed arguments for and against the introduction and gradual migration of CI Plus in its current version (based on the PCMCIA slot) to CI Plus 2.0 (based on the USB form factor). The list below reflects the results of this discussion. It is intended to provide an overview of the situation for market participants and the interested professional public, and to enable sound decisions to be made in companies. It is agreed that a sufficiently long transition period for end users should be provided for where both CI Plus

Considerations for a migration to CI Plus 2.0

- CI Plus 2.0 is based on the well-known USB form factor and is therefore more modern, less error-prone and more flexible:

    o The old PCMCIA slot is "getting on in years" and is also mechanically prone to errors. In contrast, the USB form factor is easier for consumers to trade and therefore less prone to errors, i.e. fewer customer complaints can be expected with CI Plus 2.0.
    o Smart cards are no longer required - the user only needs a "USB stick". This eliminates another source of error (user often inserts the smart card upside down)
    o Less logistical effort of the USB sticks instead of CAM and separate CI+ card, and thus also fewer errors (e.g. wrong CI+ card dispatch) on the part of the suppliers/logistics centres
    o Handling the sticks is easier for the consumer. They can take the stick with them and thus use services more easily on the move (e.g. when travelling in a motorhome or holiday home)
    o Due to the lower cost of the USB stick, households might be willing to purchase several sticks (e.g. parents' room, children's room) and providers might also be willing to offer interesting deals for second USBs.

- Thanks to the USB form factor, CI Plus can open up new markets:

    o The USB form factor allows the interface to be used in small devices that previously could not use CI Plus due to the size of the PCMCIA form factor. This also allows new markets and device classes to be opened up.
    o The USB form factor also makes CI Plus interesting for worldwide use, as USB slots are usually available in the devices anyway.
        ▪ Italy plans to use CI Plus 2.0 / to include it in the Italian HD book
        ▪ India shortlists CI Plus 2.0 for encryption
        ▪ CI Plus 2.0 is attracting general interest because of its ease of implementation in Asia.

- There are several advantages for hardware manufacturers (TV sets, set-top boxes and modules):

    o CI Plus 2.0 takes up much less space on the boards of TV sets, which is an advantage in the manufacturing process.
    o USB connections are common today and are already available on all TV sets. Therefore, the migration to CI Plus 2.0 causes practically no additional or only little hardware effort
    o CI Plus 2.0 modules (USB sticks) are also advantageous in the production process due to the elimination of the complex PCMCIA form factor.
    o Increased sales through a future enlarged market for CI Plus v2 (USB) is conceivable.

- There are various advantages for the platform providers of media:

    o Updating the software is easy with CI Plus 2.0, whereas previous CAM modules are cumbersome to update (if at all).
    o It is an open standard that enables all CA system providers to offer their encryption system on the market.

- By introducing a modern and user-friendly technology at an early stage, Germany can position itself as a pioneer and set a "political" signal.

Considerations to consider when migrating to CI Plus 2.0

- CI+ 2.0 offers no advantage in terms of security compared to CI+ 1.4 (among other things, not suitable for UHD content / premium content)

    o *Note*: Increased security for UHD and premium content is achieved with CI Plus ECP, which supports both PCMCIA and USB (i.e. CI Plus 2.0), making it fully flexible

- During the migration phase, parallel operation of CI Plus on the basis of PCMCIA and USB is necessary, since the users of CI Plus cannot be expected to make a hard cut on the consumer side - this initially results in increased effort or no relief (for example, due to the elimination of board space or production effort).

- No market impulses are set by the change, there is only a replacement of one form factor by the other.

    o *Note*: This is offset by the possibility of increased sales in the future, for example in Asian markets, and the lower threshold for the purchase of modules from users due to the production of larger quantities.

- The advantage for TV manufacturers will be particularly noticeable if as many countries as possible switch to CI Plus 2.0, otherwise the demand for the PCMCIA slot will remain.

- The need for a new CI Plus solution is questionable if the TV market as such moves away from DVB towards IP broadcasting.

    o *Note*: According to the assessment of the vast majority of Deutsche TV-Plattform, DVB-I and IP will not replace traditional broadcasting in the foreseeable future: on the one hand, the Covid 19 crisis has just shown how important the mass medium television is. On the other hand, on the contrary, a growing demand for the protected distribution of high-quality content via broadcast is emerging precisely because of the constantly increasing diagonal size of the screen. This is how long there is still a need for CI Plus.

- In the meantime, a new trend, or rather the possibility of incorporating encryption systems "embedded" in the devices, is emerging. This could render interoperability solutions such as CI Plus obsolete in the medium term.

    o *Note*: Solutions such as the HbbTV "Op Apps" are very development-intensive procedures which are applicable for individual operators and equipment manufacturers but are only selective solutions and cannot replace standardised interfaces such as CI Plus.

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