

AERONAUTICAL TELECOMMUNICATIONS NETWORK PANEL

WORKING GROUP 3 (APPLICATIONS AND UPPER LAYERS)

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Interpretation of Extensibility Markers by Package 1 Applications

Prepared by: G. Saccone

SUMMARY

This paper identifies a need for package 1 applications to explicitly define how decoded information beyond extensibility markers are acted upon.

1. Introduction

This paper discusses how package 1 applications should respond upon decoding information beyond extensibility markers. Up until now, this has been left as a local implementation issue. However, with the advent of security, a need has been identified to explicitly state how this is handled.

2. Discussion

It is assumed that a package 1 application will be able to properly decode user data that has made use of extensibility; this is the purpose of the extensibility markers. However, a package 1 application will not be able to identify what the information beyond the extensibility is, and the action an application user takes in this case has always been left as local implementation. Some applications may be better served by aborting upon receipt of that information, some by ignoring the information.

For CM, in order for package 2 security modifications to maintain backwards compatibility with package 1, any data included beyond extensibility markers must be ignored. This is so that a package 1 CM-ground-ASE can recognize a package 2 CM-logon and properly reject it due to version incompatibility. If a local implementation decides to abort in this case, the CM-air-user will never get an indication that it is trying to perform a logon with a lower version CM. This may lead to multiple retries with the same result.

However, for another application like CPDLC, a requirement to abort may be more appropriate. This is because an operationally critical message may be added beyond the current message set, and a user will need to know that the message was not received properly. So simply ignoring the data beyond the extensibility marker could result in a safety critical case.

3. Conclusion

In order for air-ground applications (and possibly ground-ground applications as well) to function properly in a backwards compatible manner, explicit requirements should be included in package 1 which define what to do if data beyond the extensibility markers is encountered. This will be a package 1 PDR, but should not affect interoperability.

Therefore, it is suggested that single PDR be created, covering all the applications, which defines the handling of data which is determined to be outside of the extensibility markers.

The meeting is invited to comment on this suggestion.