

# Electronic Flight Bags

## PREAMBLE

An Electronic Flight Bag (EFB) is an electronic device intended for flight crew functions traditionally accomplished using paper references such as operating manuals, aeronautical charts, and performance calculations. In addition, the EFB may host other applications that have no paper equivalent. IFALPA favors the use of fixed systems (either a portable EFB with a mount or viewable stowage or an installed EFB) on the flight deck, preferably in an ergonomically optimal position. An EFB should not have write access to critical aircraft systems.

## AVAILABILITY

There should be one EFB system for each flight crew member required by certification. If EFB usage is required by operators' SOPs during flight, EFB data should be available at all times.

Failure Cases (Back Up):

a) **Single EFB System Failure:** If the remaining system cannot be used by all crew members, the operator should provide alternate means, ideally an identical EFB system.

b) **Software Failure / Malicious Update:** For software failures, which may fail multiple devices simultaneously, there should be means to reuse the last running configuration (e.g. partition prior to update).

## PRIVACY/DATA SECURITY

IFALPA strongly recommends protection of all data (e.g., generation of data, data transfer, data storage), linked to operation of the aircraft in accordance with 16POS08 and 16SECBL01. When this is not possible, the usage of data should be restricted to data which does not influence operational safety or the privacy of the flight crew.

The following actions are suggested (this list is not exhaustive):

- Physical and state-of-the-art protection of hardware.
- State-of-the-art encryption of data, especially during data transfer.
- Enable prosecution of the abuse of data by appropriate laws.
- Prohibition of hard- and software, which enables the abuse of data.

The operator should not record or monitor the individual-related EFB usage by flight crew. Any electronic performance monitoring and/or control of flight-crew behaviour should be prohibited, unless required by regulation. This data should be de-identified and used only for compliance with the regulatory requirements.

## SYSTEM PERFORMANCE MONITORING

The operator should ensure the system performance according to its certification of an EFB throughout its lifetime. This includes issues of latency and processing time after updates of the applications or the operating system.