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# PSAC IN DO 178C

Plan for Software Aspects of Certification

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So, I hope you will enjoy this article about DO-178C PSAC or DO-178B PSAC. I hope this would be helpful for both fresher and experienced professionals.

After reading the complete article if you think that I have missed any other aspects, please write in the comment box. It will be definitely helpful for others.

## Q1. What is DO-178C PSAC / DO-178B PSAC?

**PSAC** stands for **Plan for Software Aspects of Certification**.

As part of the initial project planning process, these five key planning documents need to be created:

1. Plan for Software Aspects of Certification [PSAC]
2. Software Development Plan [SDP]
3. Software Verification Plan [SVP]
4. Software Configuration Management Plan [SCMP]
5. Software Quality Assurance Plan [SQAP]

There are several deliverables documents that need to be prepared for airborne software in the Software Planning Process. PSAC is one of them.

So, PSAC is mainly created during the initial Software Planning Phase.

This document is one part of the software life cycle data required to satisfy the [DO 178C /](#)

## Q2. What is the purpose of the DO-178C PSAC document?

PSAC document is mainly used to describe the system overview, Software characteristics, certification considerations, life cycles and life cycles data, and software development schedule.

This document is used by both the certification authority and the applicant. As per DO-178C:

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*The Plan for Software Aspects of Certification (PSAC) is the primary means used by the certification authority for determining whether an applicant is proposing a software life cycle that is commensurate with the rigor required for the level of software being developed.*

**DO-178C PSAC**

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## Q3. What are the sections in DO-178C PSAC / DO-178B

# PSAC?

The PSAC document should contain the following sections:

- System Overview
- Software Overview
- Certification Consideration
- Software Life Cycle
- Software Life Cycle Data
- Schedule
- Additional Consideration
- Supplier Oversight

Now, let's see what should be the content for each of these sections in the PSAC document with respect to DO 178C:

1. **System Overview:** This section should describe the overall system and software. It can also contain information about the hardware, software, architecture, hardware-software interfaces, and safety considerations.
2. **Software Overview:** This section should briefly describe the software overview, Software Functions, Software Architecture, Software partitioning strategies, N-version software programming strategy, etc. It should also clearly explain how redundancy, fault tolerance, resource sharing, and process scheduling would take place from a software perspective.
3. **Certification Considerations:** This section is an important one from the certification perspective. It should clearly state the certification basis, proposed software levels, and potential software contributions to failure conditions.
4. **Software Life Cycle:** The 'software Life Cycle' section defines various aspects of the software life cycle, inter-relationships between the processes, their sequencing, feedback mechanism, and process transition criteria. This section should also describe the software life cycle in a detailed manner and explains how to achieve/satisfy the objectives for each software life cycle process.

5. **Software Life Cycle Data:** This section defines all the software life cycle data that are produced during various software processes. It also describes the relationship among various life cycle data. These life cycle data need to be submitted to the certification authority and this section should also mention how to make these data available to the certification authority.
6. **Schedule:** This section will contain information about the software life cycle schedule.
7. **Additional Considerations:** This section describes the additional considerations that may affect the certification process. For example, this section would include the tool qualification aspects, option-loadable software, COTS software, multiple-version dissimilar software, etc.
8. **Supplier Oversight:** This section should include the means to ensure that all the supplier processes and life cycle data are compliant with the process, plans, standards, and guidelines.

## Sample PSAC Document

Here are the two samples of the Plan for Software Aspects of Certification document:

Sample -1

Sample – 2

## Conclusion:

Plan for Software Aspects of Software certification (DO-178C PSAC / DO-178B PSAC) is a very important planning document that the applicant has to create in the initial software planning process and share with the certification authority.

You will find the PSAC documents for every airborne software project except Level-E software. It is very beneficial to go through the PSAC document before jumping into the project work.

It will help you to understand the system and software and other crucial aspects of the projects including life cycle, safety, and certification aspects.

Anyway, there could be areas that I might have missed to cover. Please feel free to comment below, if you think anything else could be added here in the context of DO-178C PSAC / DO-178B PSAC.

I have also compiled all the [DO178C tables](#) in one document along with the explanation and created a pdf copy of it.

If you want to get the FREE pdf copy, please comment your email ID in the below comment box, I will send you the copy. This document would definitely give you a far better understanding of the DO178C objectives.

Hopefully, this article could help you!

Cheers!



Admin

This post was published by Admin.

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