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# INTRODUCTION

## Purpose

## Scope

## Acronyms and Abbreviations

## External Documents

## Internal Documents

# SOFTWARE OVERVIEW

## Allocation of Requirements

Description of the allocation of system requirements to software in terms of

programmable devices/ multiple software items in the same device etc, providing

relevant details of various hardware resources available for software development.

## Modes of Operation

Functional and operational requirements under each mode of operation with attention

to potential failure conditions.

## Performance Criteria

Precision and accuracy, data rates, min, normal and max loads etc.

## Timing Requirements

a) Execution time (iteration time) i.e., time allowed between acquiring of inputs

to production of outputs

b) specific algorithmic time constraints

c) any persistency required for inputs/ outputs

d) redundancy changeover related timing constraints

## Constraints

General description of items that will limit the developers options such as,

a) Regulatory policies;

b) Hardware limitations (e.g., signal timing requirements, conventions);

c) Parallel operation;

d) Higher-order language requirements;

i) Reliability requirements;

j) Criticality of the application;

k) Safety and security considerations

## Memory Size Constraints

## Hardware and Software Interfaces

Protocols, formats, frequency of inputs and frequency of outputs. Where and how

information is available to and from the hardware.

## Failure Detection and recovery

The mechanism to detect external and internal failures of the system, failure reporting, actions to be taken in case of partial failures, Redundancy related event recognition and changeover etc.

## Partitioning Requirements Allocated to Software

How the partitioned software components interact with each other, and the software

level(s) of each partition

# SOFTWARE REQUIREMENTS IDENTIFICATION

The requirements are to be stated with a unique id per requirement, to a level of detail sufficient to enable designers to design a system to satisfy those requirements, and testers to test that the system satisfies those requirements.

Throughout this section, every stated requirement should be externally perceivable by users, operators, or other external systems. These requirements should include at a minimum a description of every input (stimulus) into the system, every output (response) from the system, and all functions performed by the system in response to an input or in support of an output.

These requirements should cover

a)Validity checks on the inputs

b) Exact sequence of operations

c) Responses to abnormal situations

d) Effect of any other parameters

e) Formulas for input to output conversion

f) Resource sharing and conflict resolution

# REQUIREMENTS TRACEABILITY MATRIX

A table indicating the origin of each of the software requirements from the system requirements/ technical specification.