# CDM & Sector Team Operations OSED & Requirements - Part 1 (OSED)

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***Abstract***

The contractual deliverable D27 of the Project 04.03 – Integrated and pre-operational validation & cross validation covers the OSED, safety, performance and interoperability requirements of the “CDM & Sector Team Operations” quick win. This document represents the part 1 of the D27 and deals with the OSED part. It describes the generic operational concept for an En-Route Air Traffic Organizer (ERATO), intended to provide an assistance to air traffic controllers for the detection and resolution of conflicts, and cooperation on a controller working position (CWP).

The main expected benefits from ERATO are an improved level of security and an increased capacity on En-Route airspace sectors.

This document is based upon the common characteristics of the ERATO concept which is currently being developed by the DSNA.

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# Document History

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# Executive summary

The contractual deliverable D27 of the Project 04.03 – Integrated and pre-operational validation & cross validation covers

- OSED,
- SPR
- INTEROP

of the “CDM & Sector Team Operations” quick win.

This document represents the part 1 (OSED) of the contractual deliverable D27.

Part 2 covers the SPR.

Interoperability requirements for the CDM & sector team operations quick win have not been identified for several reasons:

- Theses validations are taking place at Brest centre, using the current DSNA legacy platform. The ERATO server is connected with the FDP (Flight Data Processing, called STPV at the DSNA). Thus inherits the interop property of the system it is connected to.
  We can sum up in saying, the future INTEROP needs for ERATO will be fully encompassed within the next FDP INTEROP (COFLIGHT, iTEC,……)
- CDM and sector team operation project, is focused on the operating work, to observe and confirm the benefit through the way tactical and executive controllers use ERATO tools. Thus, there is no impact on the system INTEROP needs, except what has been explained above, through the exchange of Flight Plan Information for the time being and the Flight Object in the future, including 4D Trajectory data from a/c.

This document describes the generic operational concept for an En-Route Air Traffic Organizer (ERATO).

The objectives of this concept are to provide an assistance to air traffic controllers for the detection and resolution of conflicts, and cooperation on a controller working position (CWP). In fact, ERATO is a decision aid toolkit for En-Route air traffic control in an electronic environment, with four main features that make air traffic and time management easier:

- Filtering: on controller request, this feature shades flights which are irrelevant to the analysis of the situation. Linked to this feature, a monitoring process continuously checks that the aircrafts are flying according to their flight plan. Based on the knowledge of controllers, this feature increases their ability to detect and solve conflicts but the choice of solutions and the responsibility for decisions are left to them.
- Task scheduler: this feature provides a visual aid to the controllers (with conflict problems displayed as timely tasks to be done). It allows them to schedule the tasks attributed to the CWP, and so to plan their workload and to monitor the situation through time. It is also a support for the cooperation between the planning controller and the executive controller in order to help them to build a common view of the traffic on the CWP.
- Extrapolation: on controller request, this feature extrapolates on the radar image the predicted trajectory known by ERATO for a set of filtered flights (highly interactive view of a filtering allowing a faster graphical analysis of the situation). It provides an aid to diagnose for the controller, to get him ahead of air traffic, and to speed up the building of his mental situation awareness.
- Geographic markers: this feature provides a way for the controller to record a task reminder for a flight at a specific location (point of the flight trajectory in the airspace of the CWP) and a monitoring aid to check for it to be overflown, raising then an alarm on the flight. It frees the controller from the stress related to forgetting something and eases to do the "right task at the right time" (without a substantial mental load consumed for this monitoring).

This toolkit is the French implementation in the legacy platform (CAUTRA) of Medium Term Conflict Detection (MTCD), of monitoring aid and a first step to CORA (Conflict Resolution Assistant) which have been described at European level.

The main expected benefits from ERATO are an improved level of security and an increased capacity on En-Route airspace sectors.

This document is based upon the common characteristics of the ERATO concept which is currently being developed by the DSNA.

# 1 Introduction

## 1.1 Purpose of the document

This document is the Operational Service and Environment Definition (OSED) for an En-Route Air Traffic Organizer (ERATO) system.

The Operational Service and Environment Definition (OSED) describes the operational concept defined in the Detailed Operational Description (DOD) in the scope of its Operational Focus Area (OFA).

It defines the operational services, their environment, scenarios and use cases and requirements.

The OSED is used as the basis for assessing and establishing operational, safety, performance and interoperability requirements for the related systems further detailed in the Safety and Performance Requirements (SPR) document. The OSED identifies the operational services supported by several entities within the ATM community and includes the operational expectations of the related systems.

The figure below presents the location of the OSED within the hierarchy of SESAR concept documents, together with the SESAR Work Package or Project responsible for their maintenance.

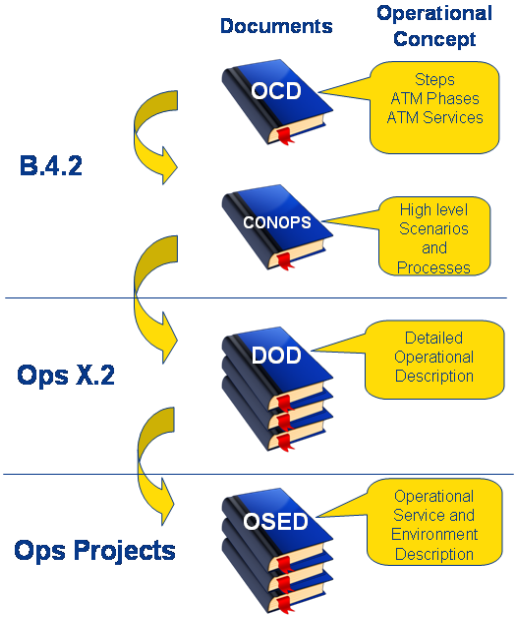


*Figure 1: The 4 types of SESAR Operational Concept documents*

It is important to note that this OSED is produced in the context of early Step 1 activities, and so that the relevant DOD is not yet available.

Therefore, this OSED describes the operational concept basic for an En-Route Air Traffic Organizer (ERATO) system through a “bottom up” approach. Hence it mainly contains information which should be consolidated back into the higher level SESAR concepts using a “bottom up” approach, in particular

- Into the documents produced by WPB.04.02 project (SESAR OCD and ConOps), and
- Into the En-Route Operations DOD produced by the federating OPS 4.2 project.

This OSED is to be integrated into the WP 4.7.8 “state of the art” that deals with these issues, in order to integrate the ERATO features, in both the MSP (Multi Sector Planning) and sector team cooperation concept.

It is expected that many updates to this OSED will be produced during the lifecycle of the P04.03 project execution phase.

Indeed, this document is intended to serve as basis for further concept development such as the integration of collaborative decision making tools on en-route Controller Working Position (CWP).

## 1.2 Scope

This OSED details the operational concept relating to the Operational Focus Area (OFA) "**Conflict Detection, Resolution and Monitoring**" and "**Sector team operations**", as defined in the SESAR Operational Focus Area Programme Guidance (see Ref. [9]).

As mentioned in the previous section, the traceability of the concept developed in this document to higher level documents such as the En-Route Operations DOD is not made in this initial version (see note in §2).

However, the following Operational Processes and Services, Scenarios and Use Cases are refined in this OSED:

- Operational Processes:
  - Identification of groups of flights sorted according to operational criteria associated to flight trajectories
  - Materialization of conflicts
  - Updates of conflicts representation
  - Monitoring of the evolution of ongoing conflicts to act at the right time
  - Construction and maintenance of a mutual traffic representation on the CWP to ensure efficient cross-checks
  - Shared management of conflicts on the CWP
  - Collaborative management of workload on the CWP
  - Temporization or anticipation of tasks presentation
  - Synchronous and asynchronous communication on the CWP
  - Optimization of memory use
  - Check of the materialization of the detected conflicts
  - Organization of tasks in the frame of conflicts management
  - Differentiation between conflicts taken into account and conflicts not yet handled
  - Differentiation between conflicts taken into account and conflicts not yet handled
  - Decision making on a conflict resolution on the basis of information contained in the flights of the conflicts' contexts
  - Anticipation of clearance consequences on the traffic
  - Task execution control in order to check the actions efficiency or to correct them if needed
  - Understanding and prediction of the system behaviour
- Operational Services:
  - *To Be Completed once WP4 DOD will be available.*
- Scenarios and Use Cases:
  - Identification of the contextual view for a flight with visualized radar track to detect associated conflicts based on the helping tool providing contextual view
  - Identification of the contextual view for a flight with a modified route and visualized radar track to detect associated conflicts
  - Identification of the best moment to make a flight climb because it can't climb as soon as possible to its cruise flight level due to traffic
  - Conflict materialization based on a flight analysis not resulting from a system proposition
  - Merging of two problems
  - Rescheduling of a problem to be handled taking into account its scheduling
  - Detection by the executive controller of a conflict already materialized by the planning controller
  - Transfer of a problem performed by the executive controller
  - Problem amendment on the basis of its analysis
  - Problem amendment on the basis of a flight analysis
  - Rescheduling of a new materialized interaction
  - Materialization of a reminder on an action to perform based on a flight analysis

- Rescheduling of a reminder on an action to perform to be handled considering its scheduling
- Identification of the contextual view for a flight based on the helping tool providing contextual view to anticipate a clearance issue
- Identification of the contextual view of a flight cleared to a level, with discrepancies between effective aircraft performances and theoretical performances
- Identification of the contextual view of a flight cleared to a level, with discrepancies between effective speed and theoretical speed (flight with strong tailwind)
- Management of an incoming flight with a direct to clearance issued by a CWP A towards a waypoint of the CWP B without any preliminary coordination nor direct transmission to CWP B
- Management of a flight following a heading clearance during several minutes

This OSED defines also the Operational Requirements for the above processes, based on the expected performance, scenarios and use cases.

## 1.3 Intended audience

This document is intended for the following audience:

- Primary projects P04.03, to provide the reference set of ERATO operational requirements describing a basis for further operational improvements;
- SWP 04.02 for consolidation with the DOD document,
- WP 4.7.8 for integration within their OSED,
- Potentially, WP B for architecture and performance modelling, and Transverse and federating projects;
- And, more generally, the SESAR JU community.

## 1.4 Structure of the document

The structure of this OSED is as follows:

- **Chapter 1** (the present section) provides general information about the document;
- **Chapter 2** details the operational perimeter of the document including reduced links to Processes and Services identified in the SWP B4.2 and in the En-Route Operations DOD.
- **Chapter 3** defines the operational environment in which the future concept is presented. (main operational characteristics, actors and constraints);
- **Chapter 4** describes the current and the new operating methods and provides an analysis of the differences between those operating methods;
- **Chapter 5** details the scenarios and Use Cases describing the concept;
- **Chapter 6** lists the operational requirements derived from the future concept.
- **Chapter 7** lists the reference and applicable documents.
- **Appendix 1** *<To Be Completed>*

## 1.5 Background

ERATO project was launched in the middle of the eighties. It ran counter to fully automated system projects. Rather than trying to progressively replace controllers with automated systems, ERATO immediately aimed at building the future system around the air traffic controller.

This project used a cognitive engineering approach also employed in some other fields, which analyses the operators' activities and tries to discover what makes them difficult. It describes mental or perceptive mechanisms, decision-making processes and how these processes may change under pressure of time, tiredness, stress and workload. This analysis sets up the cognitive model and is the framework of the whole project.

The aim is then to define means for the controller to save mental resources on complex and time-consuming activities (like detection, analysis and monitoring tasks), so that these resources may rather be used to resolve conflicts between flights. Tools and their operating procedures are defined from operator activity, thus setting up a complete system: controllers, system, working methods and training.

Previous studies have been conducted on ERATO by CENA for 10 years with the participation of several controllers of the french ACC. They led to a proof of the concept in a simulated environment, showing that this controller-centred concept could improve both the safety and the capacity on the control areas.

After this initial study phase, the ERATO concept was then given to the DTI to be developed as an industrial system with the aim to test it out on real traffic. This is one of the objectives for the EOE experiments which are planned in both West and South/West french ACC in 2011.

As part of this development, operational needs and requirements for ERATO have been described by DTI in a specific document (see Ref [10]).

## 1.6 Glossary of terms

*This section identifies terms not covered in one or more referenced documents.*

| Term | Explanation |
|---|---|
| Flight of the CWP | Flights of the CWP correspond to the planned flights on the CWP and additional flights on the CWP. |
| Contextual view | For a given flight, the contextual view corresponds to the relevant flights for this flight analysis taking into account their trajectories. |
| Flight plan information | Generic term referring all or part of the information from the Flight Data Processing System.<br>Flight plan information examples:<br>▪ Flight ident<br>▪ EFL<br>▪ TFL<br>▪ Entry point<br>▪ Exit point<br>▪ Route (waypoints and ETO) |
| Entry point | First route waypoint to be presented on a CWP. This point is used by the controller to determine the entry point of a flight on this CWP. It can be located outside or inside the geographical area associated to the CWP. |
| Exit point | Route waypoint used by the controller to determine the exit point of a flight on the CWP. This information is useful for outbound coordination. It can be located outside or inside the geographical area associated to the CWP. |
| Flight plan waypoint | Point defined in the Flight Data Processing System. Some waypoints are geographical points, some others correspond to radio-navigation means location. The route of a flight is defined by a sequence of flight plan waypoints. |
| Clearance | Generic term referring all or part of the instructions given by the controller to the flight crew.<br>Clearances examples :<br>▪ Cleared Flight Level |

| Term | Explanation |
|---|---|
| | ▪ Direct to<br>▪ Heading<br>▪ Speed |
| Radar trajectory information | Generic term referring all or part of the radar related information associated to an aircraft at a given time. This information is provided by the radar processing system and transmitted to the CWPs.<br>Radar trajectory information examples:<br>▪ Location<br>▪ Horizontal speed<br>▪ Mode A<br>▪ Mode C<br>▪ Flight Ident<br>▪ Mode S address |
| GEODE | Part of the CWP fed with flight plan and radar trajectory information… |
| Planned flight on the CWP | A planned flight is a flight with flight plan information available on the CWP because this flight is planned to cross the geographical area associated to the CWP. |
| Duplicated flight on the CWP | A duplicated flight on the CWP is a flight that is not controlled on this CWP but with information available on it to take this flight into account regarding the traffic. |
| Additional flights on the CWP | An additional flight is either a duplicated flight on the CWP or a non planned flight on the CWP corresponding to a flight “shown” or “requested” or locally created (VFR flight, air dropping, …) on the CWP. |
| Integration | Mental acquisition process of new information and traffic representation update following the detection of new flight arrival on the CWP. |
| Operational constraints | Constraints with or without impact on controller responsibility. Operational constraints can especially be:<br>• SID (Standard Instrument Departure)<br>• STAR (Standard Terminal Arrival Route) |
| Problem | A problem materializes a conflict or one or several interactions. |
| Radar screen | A radar screen is made of:<br>• Radar tracks or markers allowing to locate the last radar track position detected by the radar<br>• Geographical information non radar related representing objects (points, axis, areas, volumes) and allowing the controller to locate the aircraft regarding these objects linked to the air traffic control operational area |
| Conflict | A conflict is an estimated risk derived from the result of the controller analysis determined as follows:<br>• Depending on the elements available, if the planning or executive controller considers that the separation (radar or not) may be less than a separation minimum, there will be a conflict.<br>• Depending on the elements available, if the planning or executive controller considers that the separation (radar or not) is greater than a separation minimum, there will be no conflict. |
| Flight associated to the problem | Flight of the CWP involved in a problem the controller may handle to solve it. The updates on flights proposed in a materialized interaction are considered as flight associated to the problem. |

| Term | Explanation |
|---|---|
| Interaction | An interaction is the result of a proposition from the helping tool providing conflicts materialization involving two flights.<br>Only the controller analysis can transform an interaction into a conflict. |
| Consultation (ongoing consultation, already consulted) | Identification for a given problem of the contextual view through the corresponding helping tool. |
| Flight ident | Information allowing the flight identification (generally coded with 7 alphanumeric digits). |

## 1.7 Acronyms and Terminology

*This section defines acronyms specific to this document.*

| Term | Definition |
|---|---|
| EFL | Entry Flight Level |
| CFL | Cleared Flight Level |
| TFL | Transfer Flight Level |
| ETO | Estimated Time Over |
| CWP | Controller Working Position |
| ERATO | En-Route Air Traffic Organizer |
| CENA | Centre d'Etudes de la Navigation Aérienne (DSNA Research Center) |
| DTI | Direction de la Technique et de l'Innovation (DSNA Technical Services) |
| FL | Flight Level |
| Nm | Nautical mile (1 Nm = 1852 m) |

# 2 Summary of Operational Concept from DOD

*In agreement with SWP4.2 Project Manager, this chapter of the OSED document is not completed in this version, because the En-Route Operations DOD is not yet available.*

# 3 Detailed Operational Environment

## 3.1 Operational Characteristics

The operational concept described in this document is related to air traffic handled by an En-Route ACC responsible for the air traffic services provided to all flights in cruise phase (excluding departure and arrival phases near airports).

Related to the ATM phases defined in SESAR program, it concerns part of the Climb flight phase, all the En-Route flight phase, and part of the Descent flight phase in the Trajectory Execution ATM phase (in green in the table below).

| ATM Phase | | Description |
|---|---|---|
| Long Term Planning | | The long term issues of the activities concerned to the Development of the Business/Mission trajectories ( e.g. business plans, resources, budget planning, historical data, performance targets, demand forecasts, trends, options, facilities). |
| Medium-Short Term Planning | | All activities concerned to the planning of Shared Business/Mission trajectories (e.g. resource allocations, airspace organizations adoption and mode of operations, network operations plan, adjustments or refinements of assets and budgets). |
| Trajectory Execution | | All activities concerned to the agreement and execution of the Reference Business/Mission Trajectories. It includes the monitoring of events applying service refinements or adjustments needed in order to maintain the stability of Network Operations Plan. |
| | Turn-Round | The period from in-blocks to off-blocks. |
| | Surface-Out | The period from off-blocks, through taxi and take-off until the wheels are off the ground. |
| | Climb | The period from take-off to the initial cruise level. |
| | En-Route | The period from reaching the initial cruise level to the top of descent. |
| | Descent | The period from the top of descent until touchdown. |
| | Surface-In | The period from touch down through taxi until in-blocks. |
| Post Flight Processes | | The period after the conclusion of the flight (on block), e.g. Performance Analysis. |

The airspace concerned by this concept covers all the sectors in the FIR (Flight Information Region, from ground to FL 195) and in the UIR (Upper information Region, from FL 195 to FL 660) which are under the responsibility of the ACC.

In this airspace, the separation standard between two flights is 5 Nm.

Several sectors of control may be grouped on the same CWP within the ACC, each CWP being managed by a pair consisting of an Executive Controller and a Planning Controller.

The specific operational characteristics in french West ACC are described here-below.

The french West ACC at Loperhet, near Brest, is responsible for air traffic and airspace in Western and North-West of France. Its area of responsibility covers about 400,000 $km^2$, much of which is maritime. An important part of the traffic controlled by this ACC includes:

- flights between Northern Europe and the Iberian Peninsula, Western Africa and the Canary Islands,
- flights linking Europe to North America and the Caribbean,
- flights between the UK and the Mediterranean countries.

Air traffic consists mainly of flights that are relatively stable to their cruise flight level, with few flights in climbing or descending phase.

The West ACC also operates a specific handling of transatlantic flights through oceanic clearances in cooperation with the Shannon center. This specificity does not constrain ERATO services.

## 3.2 Roles and Responsibilities

The airspace users (through the Flight Crew) are receivers of the Operational Service delivered through ERATO. However, neither their role nor their responsibility should change as a result of introducing this new operational concept.

The primary actors impacted by the introduction of the ERATO concept are the Planning and Executive Controllers on En-Route CWP in Air Traffic Services Operations.

When used in this document, the generic term « controller » refers both to Planning and Executive Controllers.

**Important note:**
In the operational environment planned for the introduction of the ERATO concept, there is currently no role for MSP (Multi-Sector Planner) as defined in the document [6], and the Planning Controller responsibility may be extended to several sectors grouped on a same CWP.

### 3.2.1 Planning Controller

**General:** The Planning Controller (PC) is part of the sector team responsible for a designated area (e.g. control sector, multi sector area). His principal task is to check the planned trajectory of aircraft intending to enter his area of responsibility for potential separation risk, and to co-ordinate entry/exit conditions leading to conflict-free trajectories.

**Responsibilities in ERATO context:** the Planning Controller (PC) main responsibilities (see Ref. [6]) concerned with ERATO are:

| | |
|---|---|
| 1. | Using automated tools, such as MTCD and CORA, evaluate the accuracy of conflicts and highlight those requiring action for the Executive Controller |
| 2. | Co-ordinate a conflict free entry for traffic approaching the sector with the upstream Planning Controller / Executive Controller as appropriate. |
| 3. | Maintain and monitor traffic conflict tools on the display |
| 4. | Determine expected sector and Executive Controller workload by general estimation of potential traffic conflicts |
| 5. | Advise the Executive Controller about any potential action |
| 6. | Input tactical route modification and modification of planned flight level into flight data processing system |

### 3.2.2 Executive Controller

**General:** The Executive Controller is part of the sector team responsible for a designated area (e.g. control sector, multi sector area). He is responsible for the safe and expeditious flow of all flights operating within his area of responsibility. His principal tasks are to separate and sequence known flights operating within his area of responsibility and to issue instructions to pilots for conflict resolution. Additionally, he monitors the trajectory (4D and 3D) of aircraft according to the clearance they have received. He is assisted in these tasks by automated tools for conflict detection and resolution and trajectory monitoring. The responsibilities of the Executive Controller are focused on the traffic situation, as displayed at the CWP, and are very much related to task sharing arrangements within the sector team.

**Responsibilities in ERATO context:** the Executive Controller (EC) main responsibilities (see Ref. [6]) concerned with ERATO are:

| | |
|---|---|
| 1. | Identify conflict risks between aircraft. |
| 2. | Provide separation between controlled flights. |
| 3. | Monitor flights regarding adherence to flight plan/RBT. |
| 4. | Input data into the flight data processing system regarding tactical route modification, modification of flight level etc. |
| 5. | Co-ordinate with Planning Controller and adjacent centre/sector Executive Controllers. |
| 6. | Apply appropriate separation to all controlled flights departing his area of jurisdiction. |

## 3.3 Constraints

In order to provide the expected services, the ERATO toolkit must have knowledge of flight plan information, radar trajectory information, and clearances issued by air traffic controllers towards pilots. It must therefore be integrated in an electronic control environment that allows airs traffic controllers to fill the system with changes made to flight plans or clearances given to pilots.

As part of the EOE (Extended Operational Experiments) planned in West and South/West french ACC in 2011, one of whose objectives is to validate the benefits of the ERATO concept, the toolkit must be integrated into the french legacy platform (CAUTRA) and must be interoperable with the flight plan information system (STPV), the radar processing system (STR), and the HMI on CWP (ODS).

The ERATO toolkit only provides assistance upon request to the controllers to detect potential conflicts between flights and to help them plan the resolution of these conflicts in time. In any case, the toolkit does not calculate and does not provide strategies for resolving these conflicts. It is the responsibility of air traffic controllers to identify possible solutions and to implement the chosen solution to resolve a given conflict. In this, ERATO is a concept that keeps human in the decision loop.

The ERATO toolkit must have the ability to handle some operational data and constraints, including:

- Aircraft performances,
- SID exit points and STAR entry points, with flight level associated,
- LOA between sectors or ACC, and “good practice” points,
- Landing sectors, takeoff sectors, and sectors volume description,
- Airports and navigation beacons position.

# 4 Detailed Operating Method

## 4.1 Previous Operating Method

### 4.1.1 Process "Identification of groups of flights sorted according to operational criteria associated to flight trajectories"

The controllers identify their sorting criteria on the basis of their knowledge of the airspace structure, their control expertise, and their analysis of coding such as colour of strip bay or next sector or analysis of symbols such as the track symbol.

Depending on the task performed by the controller (sector quick look, integration, out coordination, conflicts detection, solution determination…), the controller sorts information to group flights by flight levels, entry or exit streams. The crossing results of the sorted information allow the identification of the contextual traffic associated to a flight or a group of flights. This crossed filtering of the information allows the controller to focus on a restraint and relevant number of flights (compared to the whole traffic to be taken into account). This filtering makes the task analysis quicker and more efficient. Moreover the identification of the contextual traffic corresponds to a step prior to the conflicts detection task and conflict solution determination since this identification provides the whole flight to be taken into account to act on a flight.

The trajectory information used by the controller to perform operational sorting is mainly provided on radar track labels.

### 4.1.2 Process "Materialization of conflicts"

The controller prevents the risk of conflict oversight for him or his team mate through conflicts materialization (he puts markers to remember it). This task contributes to build a mutual representation for both executive controller and planner controller of the current and future conflicts. Putting a marker on a conflict to memorize it requires a preliminary analysis of the context permitting the elimination of the problems that the controller considers as not or no more relevant.

This conflict materialization task follows the conflict detection task. It allows keeping a trace of the result of an analysis and constitutes a support for future conflicts monitoring.

### 4.1.3 Process "Update of conflicts representation"

During the evolution of the traffic situation, new flights are presented, integrated flights are modified and new conflicts arise or evolve leading the controller to revise some decisions. This revision aims at:

- optimizing the foreseen actions (focusing the actions on the most efficient ones),
- integrating the new flights in the existing conflicts,
- confirming the solved conflicts,
- smoothing his workload (actions scheduling to avoid increasing workload or decision to degroup).

Moreover the conflicts revision implies an update of current conflicts mental representation. The controller materializes this revision by writing down the results of these analysis, choices and decisions in order to memorize them. Besides these materializations are a means of information sharing with his team mate and contributes to a shared management of conflicts between the two controllers.

### 4.1.4 Process "Monitoring of the evolution of ongoing conflicts to act at the right time"

The controllers monitor the evolution of ongoing conflicts to act at the right time to solve these conflicts. They intend to prevent risks to forget the actions to make taking into account the flights evolution on the CWP.

By allocating a "right time" to act on a conflict, the controller monitors the geographical point where the flights position will allow him to optimize the result of his actions on flights and will result in flights separation.

Without any helping tool, this monitoring may consume a lot of resources, especially if there is a high number of conflicts to monitor. Moreover, the closer the controller is from the time to act, the greater is the risk to forget actions to make. So, the closer the controller is from the time to act, the more the flights evolution monitoring should be increased.

### 4.1.5 Process "Construction and maintenance of a mutual traffic representation on the CWP to ensure efficient cross-checks"

The cooperation between controllers relies on a mutual follow-up of their activities. This follow-up requires to build the traffic representation and to maintain the consistency of this traffic representation between the controllers. As the traffic evolves, its representation is progressively refined thanks to the information brought by one or the other controller. This mutual traffic representation contributes to a better follow-up of his team mate's activity and helps the understanding of his team mate's intentions.

In this context, the coordination's negotiations handled by the planning controller will help the implementation of the resolution choices or sequencing initiated or planned by the executive controller.

This mutual vision of ongoing and future tasks also contributes to establish cross-check recurrent activities. This type of cooperation between controllers of the CWP is a very efficient answer to error detection or oversight the controller might perform.

### 4.1.6 Process "Shared management of conflicts on the CWP"

The mutual traffic representation allows the planning controller to prepare tasks for the executive controller. He follows-up the executive controller's analyses and makes consistent proposals regarding his traffic representation.

The executive controller explicitly or implicitly informs the planning controller of his intentions, so that the planning controller takes them into account in his negotiations with adjacent controllers.

### 4.1.7 Process "Collaborative management of workload on the CWP"

One of the ways to cooperate is the collaborative management of the workload on the CWP. The planning controller may indeed act as the executive controller's assistant. In that case, the planning controller can take charge of some monitoring tasks to relieve the executive controller. This dynamic evolution of tasks sharing depending on the felt workload may also correspond to the completion of some planning controller's tasks by the executive controller.

It is important to note that this evolution of tasks sharing can be implicit and is temporary: it requires a common and shared working method within the controllers' team.

The planning controller's monitoring of the workload to come on the CWP (and the one felt by the executive controller) allows the planning controller to anticipate the moment where he will become an executive controller's assistant to help his team mate. Similarly, when the executive controller detects

that the planning controller is busy negotiating a coordination, he may be able to integrate new flights in order to go on planning the traffic management.

### 4.1.8 Process "Temporization or anticipation of tasks presentation"

When the executive controller workload increases, the planning controller temporally manages the information he gives to the executive controller. He avoids disturbing the executive controller with problems including flights still far away from the sector or including flights with not yet visualised tracks (information postponing).

On the contrary, the planning controller can also draw the executive controller's attention to critical problems if he finds it useful regarding the traffic (information anticipation).

When the planning controller workload increases, this temporization task is temporarily stopped in favour of a momentary tasks re-distribution where the executive controller will take charge of some tasks usually performed by the planning controller: it is then essential that the information available on a flight are accessible by both controllers.

### 4.1.9 Process "Synchronous and asynchronous communication on the CWP"

Controllers of the CWP communicate through verbal discussions and signs but also through all the information that each of the controllers mark on their common strips (notes, graphical signs) and through the strips location on the board (shifted strips, strips put across the others…). Control intentions may also be written by the executive controller (clearance written on the strip) or felt by the planning controller (frequency listening). The current support (paper strip) offers an asynchronous aspect of the cooperation. Indeed, the planning controller is aware of clearances given to aircrafts by listening to the frequency or by reading notes on the strips.

Besides, each controller communicates in a recurrent way with other external actors that are directly linked to the traffic evolution: adjacent controllers (civil or military), pilots (civil or military), but also with actors linked to ground organization: ACC supervisor, flow manager, shift handoff team… The more the exchanges with external actors are frequent and long, the more the controllers of the CWP use asynchronous communication means. These means allow them to go on communicating where one is in priority managing radio exchanges whereas the other is in priority managing coordinations.

### 4.1.10Process "Optimization of memory use"

The traffic situation memorization and the acquisition of necessary data to maintain its mental representation imply an important cognitive load for the controller.

Currently, the controller uses mechanisms allowing situation memorization and mental representation maintenance over time. To perform this memorization, he relies on a set of information such as flights idents, flight level ou waypoint on which conflicts are identified. To maintain his traffic representation, he regularly scans the whole traffic to refresh the list of ongoing conflicts and tasks to perform.

Moreover, the controller performs numerous actions and annotations on the strip, helping the memorization. This memorization activity also includes a gestural aspect that shall not be neglected. Indeed, the controller regularly positions strips according to his mental image. This action is as important as the initial positioning because the controller better memorizes the results of his analysis by manipulating strips or positioning them against each other.

### 4.1.11 Process "Organization of tasks in the frame of conflicts management"

The controllers schedule their tasks by putting priorities on conflict resolutions. They prioritize actions and resolution sequences to perform to ensure a good traffic flow taking into account constraints and pilots' queries. The tasks and actions structuring can be modified according to the traffic evolution and the workload to come. The result of this tasks scheduling is shared by planning and executive controllers, which allows cooperation.

### 4.1.12 Process "Differentiation between conflicts taken into account and conflicts not yet handled"

The controllers need to identify new conflicts on the CWP among the conflicts already considered. Indeed, to structure their representation, the controllers must make the difference between elements already taken into account and new elements because:

- Time and handling processes are not the same for elements already taken into account and new elements to consider
- This difference allows the controller to easily identify what remains to do from and what has already been handled.

### 4.1.13 Process "Decision making on a conflict resolution on the basis of information contained in the flights of the conflicts' contexts"

The information useful for decision making on a conflict resolution have various origins (flight plan data including exit data, radar trajectory data, clearance, traffic context, pilots queries, temporal information…). However, the controller does not take into account all this information to make a decision: he focuses on a relevant part of it, formed by the contexts of each flight of the conflict. The controller coordinates this information to make a decision that is efficient and safe at the right time.

### 4.1.14 Process "Anticipation of clearance consequences on the traffic"

The controller intends to optimize the actions to perform for each conflict resolution choice he makes. Indeed, the controller anticipates the consequences that each clearance may have on impacted flights but also on the whole CWP air traffic.
Under temporal pressure or in a high air traffic density context, this anticipation is not always possible and the controller may take some quick decisions for which it can be resource-consuming, and even difficult to immediately verify the long term consequences of this clearance.
This constraint can make the controller give security clearances, compatibles vision his short-term vision but that heavily impacts the pilot (when the aircraft follows a heading very different for its route) or himself when the given clearance doesn't at all correspond to the targeted level.

### 4.1.15 Process "Task execution control in order to check the actions efficiency or to correct them if needed"

The control of task execution can be done during:

- The construction of the situation representation
- The construction and the implementation of resolutions choices or actions
- The evaluation of action results

This control relies on traffic evolution and behaviour hypotheses, highly linked with the acquired expertise and sectors knowledge. The controllers monitor the validity of their hypotheses and the actions impact on the traffic. The observed traffic evolution makes the controller repeatedly question his situation representation and the hypotheses on which the actions have been decided.

#### 4.1.16 Process "Understanding and prediction of the system behaviour"

At any time, the controller must be aware of the progress of his exchanges with the system: he has to identify the current status or context regarding these exchanges.

This cooperation with the system implies for the system to provide the adapted inputs and for controller to efficiently understand the outputs such as alerts, notification or propositions.

The controller must also be aware of the available services and the limits of the helping tools at his disposal. He must efficiently and appropriately answer to the system propositions, error messages and alerts provided by the system.

The helping tools propositions must be quickly and unambiguously understandable. The alerts must allow the controller to detect inconsistencies between values entered in the system and the real flight behaviour, and afterwards to detect the data entry errors.

The system must ease error detection and retrieval: these errors are less disturbing if easily correctable.

## 4.2 New SESAR Operating Method

### 4.2.1 Process "Identification of groups of flights sorted according to operational criteria associated to flight trajectories"

The helping tool providing contextual view for a given flight can be used on demand by the controller through the consultation of the basic filtering or extended filtering of this flight depending on its flight phase.

The helping tool providing contextual view for a given problem can be used on demand by the controller through the consultation of the problem filtering.

These helping tools consist in filtering among the flights of the CWP those that are not relevant for this analysis, and visualising at the same time the global traffic on the CWP. The result of these filterings can be visualized on the radar track label of the flights determined by the helping tools. The helping tool unavailability for a considered flight is indicated to the controller through a filtering alert.

### 4.2.2 Process "Materialization of conflicts"

The controller materializes conflicts through the helping tool providing conflict materialization that allows creation of problem labels in a task scheduler. This means available on demand provides information to the controller allowing the identification of flights associated to these materialized conflicts.

This helping tool also provides system propositions displayed in the task scheduler through the display of problem labels that the controller can delete or modify.

### 4.2.3 Process "Update of conflicts representation"

The updates of the conflict-related tasks representation on the CWP correspond to manual handling of problem labels i.e. problem merging, addition or suppression of flights from problem labels, problem labels suppression or retrieval.

Besides, the helping tool providing conflict materialization provides updates propositions on the problem labels through proposition of addition or suppression of flights from problem labels, or problem labels suppression or retrieval.

### 4.2.4 Process "Monitoring of the evolution of ongoing conflicts to act at the right time"

The controller monitors the evolution of on going conflicts through the movement of associated problem labels on task scheduler time axis.
The helping tool providing scheduling of materialized conflicts warns the controller through a notification when a problem label reaches the "right time" to act on the associated conflict. The notification can be manually acknowledged by the controller.

### 4.2.5 Process "Construction and maintenance of a mutual traffic representation on the CWP to ensure efficient cross-checks"

The controllers of the CWP have at their disposal the same information, particularly with the task scheduler and the result of the consultation of a basic filtering. This information helps the construction of a shared traffic representation.

### 4.2.6 Process "Shared management of conflicts on the CWP"

The problem labels (for instance, those manually created) and their updates (suppression, merging, addition of flights…), visible by each of the controllers of the CWP, contribute to a common vision of conflicts. Particularly, problem labels allow the executive controller to identify if a problem is taken into account by the planning controller.

### 4.2.7 Process "Collaborative management of workload on the CWP"

The movement of the transfer bar allows the controller to decide of the visibility he would like to have on the coming problem labels on his GEODE, depending on his workload.
The transfer bar movement also allows the controller to access to the same problem labels as his team mate so as to temporarily take charge of some conflicts allocated to his team mate when the workload of this controller requires it.
The number of problem labels contributes to the evaluation by a controller of his team mate's felt workload.

### 4.2.8 Process "Temporization or anticipation of tasks presentation"

The manual problem label transfer allows the controller to draw his team mate's attention on a conflict. The planning controller moves the transfer bar to adapt the visibility on problem labels he would like to give to the executive controller in order to temporize or anticipate the executive controller's actions.

### 4.2.9 Process "Synchronous and asynchronous communication on the CWP"

The problem label provides the controller with a set of information allowing him to ease the communication with his team mate regarding the materialized conflicts.

### 4.2.10 Process "Optimization of memory use"

The problem label provides the controller with a means to ease the conflicts memorization.
The geographic marker label provides a support to the memorization of actions to perform on a flight at a chosen time.

### 4.2.11 Process "Organization of tasks in the frame of conflicts management"

The movement of a problem label on the task scheduler time axis through the helping tool providing scheduling of materialized conflicts allows the controller to prioritize conflicts to manage and to make this prioritization on a common means for both controllers so that these information and intentions are shared between the team mates.
Problems merging allows the controller to group relevant flights together in the frame of global conflict management in order to schedule its handling.

### 4.2.12 Process "Differentiation between conflicts taken into account and conflicts not yet handled"

The controller knows if a conflict is taken into account through the associated problem label.

### 4.2.13 Process "Decision making on a conflict resolution on the basis of information contained in the flights of the conflicts' contexts"

The extrapolation of basic filtering or problem filtering allows the controller to visualize the evolution of the flights trajectories of these filterings.

### 4.2.14 Process "Anticipation of clearance consequences on the traffic"

The consultation of a simulated filtering (with a direct or a CFL) allows the controller to immediately assess the validity of a solution by showing the new context associated to the flight coming from this simulation.

### 4.2.15 Process "Task execution control in order to check the actions efficiency or to correct them if needed"

The notifications about horizontal and/or vertical difference with flight plan trajectory allow the controller to be warned that the flight deviates horizontally and/or vertically from its flight plan trajectory.
Then, the controller checks if this deviation is normal (consistent with his control intentions) or not (lack of data entry to update the system, pilot following a wrong clearance) and performs a corrective action if needed. The notifications are automatically acknowledged when the normal situation is restored.
The monitoring notification allows the controller to detect an increase of the number of flights in the contextual view for a flight provided by the helping tool since the last use of this helping tool. Thus the controller can identify the new contextual view for this flight.

### 4.2.16 Process "Understanding and prediction of the system behaviour"

The problem label provides the controller with a set of information regarding the associated conflict so that the conflict can be easily understandable.

## 4.3 Differences between new and previous Operating Methods

### 4.3.1 Process "Identification of groups of flights sorted according to operational criteria associated to flight trajectories"

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing contextual view that can be used or not by the controller.

### 4.3.2 Process "Materialization of conflicts"

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing conflict materialization.

### 4.3.3 Process "Update of conflicts representation"

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing conflict materialization through system propositions.

### 4.3.4 Process "Monitoring of the evolution of ongoing conflicts to act at the right time"

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing scheduling of materialized conflicts that warns the controller when he has to act on a conflict at the "right time"

### 4.3.5 Process "Construction and maintenance of a mutual traffic representation on the CWP to ensure efficient cross-checks"

The main differences between new and previous Operating Methods consist in:

- The introduction of several helping tools giving the same information to the controllers of the CWP:
    - A helping tool providing contextual view
    - A helping tool providing conflict materialization
    - A helping tool providing scheduling of materialized conflicts

### 4.3.6 Process "Shared management of conflicts on the CWP"

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing conflict materialization through system propositions, shared by the controllers of the CWP.

### 4.3.7 Process “Collaborative management of workload on the CWP”

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing conflict materialization allowing the adaptation of conflicts visibility on each GEODE.

### 4.3.8 Process “Temporization or anticipation of tasks presentation”

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing conflict materialization allowing the transfer or not of some materialized conflicts visibility from one GEODE to another on the CWP.

### 4.3.9 Process “Synchronous and asynchronous communication on the CWP”

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing conflict materialization.

### 4.3.10 Process “Optimization of memory use”

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing conflict materialization.
- The introduction of a helping tool providing the scheduling of reminders materialized on actions to perform

### 4.3.11 Process “Organization of tasks in the frame of conflicts management”

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing scheduling of materialized conflicts

### 4.3.12 Process “Differentiation between conflicts taken into account and conflicts not yet handled”

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing conflict materialization.

### 4.3.13 Process “Decision making on a conflict resolution on the basis of information contained in the flights of the conflicts’ contexts”

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing the visualization of the flight of the context’s trajectories evolution

### 4.3.14 Process “Anticipation of clearance consequences on the traffic”

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing contextual view for a given flight simulating the issue of a clearance (direct to or CFL)

### 4.3.15 Process “Task execution control in order to check the actions efficiency or to correct them if needed”

The main differences between new and previous Operating Methods consist in:

- The introduction of notifications:
  - Monitoring notification
  - Notifications about horizontal and/or vertical difference with flight plan trajectory

### 4.3.16 Process “Understanding and prediction of the system behaviour”

The main differences between new and previous Operating Methods consist in:

- The introduction of a helping tool providing conflict materialization.

# 5 Detailed Operational Scenarios / Use Cases

## 5.1 Process "Identification of groups of flights sorted according to operational criteria associated to flight trajectories"

### 5.1.1 Use case 1.1

"Identification of the *contextual view* for a flight with visualized *radar track* to detect associated *conflicts* based on the helping tool providing *contextual view*"

Step 1: The executive controller identifies a flight on which he tries to determine *conflicts*.
Step 2: The executive controller determines if the helping tool providing *contextual view* for the identified flight is available.
Step 3: The executive controller uses the helping tool providing *contextual view* for the identified flight.
Step 4: The executive controller analyses the result provided by the helping tool providing *contextual view* for the identified flight, keeping in mind his *conflict* detection objective.

### 5.1.2 Use case 1.2

"Identification of the *contextual view* for a flight with a modified route and visualized *radar track* to detect associated *conflicts*"

Step 1: The executive controller detects that a flight had his route modified.
Step 2: The executive controller takes interest in this flight on which he tries to determine *conflicts*.
Step 3: The executive controller consults flight trajectory information, including new route information.
Step 4: Based on this information, the executive controller identifies the *contextual view* of the flight, keeping in mind his *conflict* detection objective

### 5.1.3 Use case 1.3

"Identification of the best moment to make a flight climb because it can't climb as soon as possible to its cruise flight level due to traffic"

Step 1: The executive controller integrates a new flight in the traffic of the *CWP*"
Step 2: The executive controller intends to make this flight climb as soon as possible to its *TFL*.
Step 3: The executive controller identifies that this early climb is not possible due to traffic.
Step 4: The executive controller uses the helping tool providing *contextual view* for the identified flight in climb phase
Step 5: The executive controller analyses the result provided by the helping tool providing *contextual view* for the identified flight in climb phase, in order to determine the best moment to make it climb to its *TFL* the closest to the *CWP* exit, taking into account the trajectories of the flights of the *contextual view.*

## 5.2 Process "Materialization of conflicts"

### 5.2.1 Use case 2.1

"*Conflict* materialization based on a flight analysis not resulting from a system proposition"

Step 1: The controller identifies a flight on which he tries to determine *conflicts*.
Step 2: The controller identifies the *contextual view* for this flight (with or without the helping tool providing the *contextual view)*.
Step 3: The controller analyses the whole flights of the *contextual view* for the identified flight keeping in mind his *conflict* detection objective.
Step 4: The controller detects a *conflict* for this flight.
Step 5: The controller identifies if this *conflict* corresponds to a materialized *interaction.*

*Step 6:* If this *conflict* does not correspond to an *interaction* already materialized, the controller materializes it.

## 5.3 Process "Update of conflicts representation"

### 5.3.1 Use case 3.1

"Merging of two *problems*"

Step 1: The controller analyses a *problem*.
Step 2: The controller detects that the *problem* has to be handled more globally with another *problem*.
Step 3: The controller merges the two *problems*.
Step 4: The controller schedules the new *problem* resulting from the merging.

## 5.4 Process "Monitoring of the evolution of ongoing conflicts to act at the right time"

### 5.4.1 Use case 4.1

"Rescheduling of a *problem* to be handled taking into account its scheduling"

Step 1: The controller detects a notification on a *problem* to be handled taking into account its scheduling.
Step 2: The controller analyses this *problem*.
Step 3: The controller identifies that the handling of this *problem* can be delayed.
Step 4: The controller reschedules this *problem*.

## 5.5 Process "Shared management of conflicts on the CWP"

### 5.5.1 Use case 5.1

"Detection by the executive controller of a *conflict* already materialized by the planning controller"

Step 1: The planning controller materializes a *conflict*.
Step 2: The planning controller considers that the executive controller should quickly analyse the materialized *conflict* since it can interfere with the choice he's making to solve an ongoing *conflict*.
Step 3: The planning controller transfers the materialized *conflict* on the executive controller's *GEODE*.
Step 4: The planning controller informs verbally the executive controller of the transfer by using the *flight ident* of the flights associated to the materialized *conflict* and the type of *conflict*.
Step 5: The executive controller analyses the materialized *conflict*.
Step 6: The executive controller amends the materialized *conflict* following his analysis.
Step 7: The planning controller identifies on his *GEODE* the updates performed by the executive controller on this materialized *conflict* in order to update his representation with the executive controller's one.

## 5.6 Process "Temporization or anticipation of tasks presentation"

### 5.6.1 Use case 6.1

"Transfer of a *problem* performed by the executive controller"

Step 1: During shift handoff, the controllers of the *CWP* agree on the visibility level that each one has on the *conflicts* to visualize.
Step 2: Later, the executive controller feels the need to anticipate his future workload regarding his current low workload.
Step 3: Following his traffic analysis, the executive controller detects *conflicts* whose materialization is not yet visualized due to the setting of the helping tool providing *conflicts* materialization.
Step 4: The executive controller forces the presentation of *problems* not yet visualized on his *GEODE*.

## 5.7 Process "Synchronous and asynchronous communication on the CWP"

### 5.7.1 Use case 7.1

"*Problem* amendment on the basis of its analysis"

Step 1: The controller identifies a *problem*.
Step 2: The controller identifies the flights associated to this *problem* through their *flight idents*.
Step 3: The controller identifies the global *contextual view* corresponding to the *contextual views* of each *flight associated to this problem.*
Step 4: The controller analyses this global *contextual view* to define the relevancy of the *problem*.
Step 5: If necessary, the controller amends the *problem* (addition, suppression of a flight, suppression of the *problem*).

## 5.8 Process "Check of the materialization of the detected conflicts"

### 5.8.1 Use case 8.1

"*Problem* amendment on the basis of a flight analysis"

Step 1: The controller identifies a flight on which he tries to determine *conflicts*.
Step 2: The controller identifies the *contextual view* for this flight (with or without the helping tool providing the *contextual view)*.
Step 3: The controller analyses the whole flights of the *contextual view* for the identified flight keeping in mind his *conflict* detection objective.
Step 4: The controller detects a *conflict* for this flight.
Step 5: The controller identifies if this *conflict* corresponds to a *problem.*
Step 6: The controller identifies that the flight is involved in several *problems*.
Step 7: The controller analyses these *problems* to determine if one of them corresponds to the identified *conflict*.
Step 8: If a *problem* corresponds to this *conflict*, the controller amends it.

## 5.9 Process "Organization of tasks in the frame of conflicts management"

### 5.9.1 Use case 9.1

"Rescheduling of a new materialized *interaction*"

Step 1: The controller detects a new materialized *interaction*.
Step 2: The controller takes some interest on this new materialized *interaction.*
Step 3: The controller identifies the flights associated to this materialized *interaction* through their *flight idents*.

Step 4: The controller identifies the global *contextual view* corresponding to the *contextual views* of each *flight associated to* this materialized *interaction.*
Step 5: The controller analyses this global *contextual view* to define the relevancy of the materialized *interaction*.
Step 6: The controller considers this materialized *interaction* as relevant: the materialized *interaction* becomes a *problem*.
Step 7: The controller decides to handle this *problem* later.
Step 8: The controller reschedules this *problem*.

## 5.10Process “Optimization of memory use”

### 5.10.1Use case 10.1

“Materialization of a reminder on an action to perform based on a flight analysis”

Step 1: The controller identifies a flight on which he plans to perform an action.
Step 2: The controller materializes a reminder on an action to perform at a location where the action will have to be performed.

### 5.10.2Use case 10.2

“Rescheduling of a reminder on an action to perform to be handled considering its scheduling”

Step 1: The controller detects a notification about a reminder materialized on an action to perform has to be handled considering its scheduling
Step 2: The controller identifies the flight associated to this reminder.
Step 3: The controller identifies that the handling of this reminder can be postponed.
Step 4: The controller reschedules this reminder.

## 5.11Process “Anticipation of clearance consequences on the traffic”

### 5.11.1Use case 11.1

“Identification of the *contextual view* for a flight based on the helping tool providing contextual view to anticipate a *clearance* issue”

Step 1: The executive controller identifies a flight on which he tries to determine *conflicts*.
Step 2: The executive controller determines if the helping tool providing *contextual view* for the identified flight is available.
Step 3: The executive controller uses the helping tool providing *contextual view* for the identified flight.
Step 4: The executive controller analyses the result provided by the helping tool providing *contextual*
Step 5: The controller detects a *conflict* for this flight.
Step 6: To solve this conflict, the executive controller intends to issue a *clearance* to this flight.
Step 7: The executive controller uses the helping tool providing *contextual view* simulating the issue of a *clearance* for this flight.
Step 8: The controller analyses the result provided by the helping tool providing *contextual view* simulating the issue of a *clearance* for this flight, keeping in mind his *conflict* detection objective induced by the clearance issue.

## 5.12Process “Task execution control in order to check the actions efficiency or to correct them if needed”

### 5.12.1Use case 12.1

“Identification of the *contextual view* of a flight cleared to a level, with discrepancies between effective aircraft performances and theoretical performances”

Step 1: The controller identifies a flight on which he tries to determine *conflicts*.
Step 2: The controller uses the helping tool providing *contextual view* for the identified flight.
Step 3: The controller analyses the result provided by the helping tool providing *contextual view* for the identified flight, keeping in mind his *conflict* detection objective.
Step 4: The controller issues a level *clearance* for this flight.
Step 5: Later, when the flight has reached the cleared flight level with performances different from the theoretical performances, the controller detects that the *contextual view* of this flight has changed.
Step 6: The controller uses the helping tool providing *contextual view* for this flight.
Step 7: The controller analyses the new result provided by the helping tool providing *contextual view* for the identified flight, keeping in mind his *conflict* detection objective.

## 5.12.2Use case 12.2

"Identification of the *contextual view* of a flight cleared to a level, with discrepancies between effective speed and theoretical speed (flight with strong tailwind)"

Step 1: The controller identifies a flight on which he tries to determine *conflicts*.
Step 2: The controller uses the helping tool providing *contextual view* for the identified flight.
Step 3: The controller analyses the result provided by the helping tool providing *contextual view* for the identified flight, keeping in mind his *conflict* detection objective.
Step 4: Later, when the flight has evolved quicker than expected due to strong tailwind, the controller detects that the *contextual view* of this flight has changed.
Step 5: The controller uses the helping tool providing *contextual view* for this flight.
Step 6: The controller analyses the new result provided by the helping tool providing *contextual view* for the identified flight, keeping in mind his *conflict* detection objective.

## 5.12.3Use case 12.3

"Management of an incoming flight with a direct to *clearance* issued by a *CWP* A towards a waypoint of the *CWP* B without any preliminary coordination nor direct transmission to *CWP* B"

Step 1: The controller of the *CWP* A issues a direct to *clearance* to a flight towards a waypoint located in a *CWP* B.
Step 2: The controller of the *CWP* B detects the arrival of this flight on his *CWP*.
Step 3: The controller of the *CWP* B detects that this flight doesn't follows its horizontal flight plan trajectory.
Step 4: The controller of the *CWP* B makes a coordination with the controller of the *CWP* A to determine if this discrepancy with the flight plan trajectory is normal.
Step 5: The controller of the *CWP* B enters the waypoint corresponding to the direct to *clearance* issued by the controller of the *CWP* A so that the system trajectory corresponds to the effective flight trajectory.

## 5.12.4Use case 12.4

"Management of a flight following a heading *clearance* during several minutes"

Step 1: The controller issues a heading *clearance* to a flight with an intention to maintain it at this heading during several minutes"
Step 2: Later, the controller detects that this flight doesn't follows its horizontal flight plan trajectory.
Step 3: The controller identifies that this situation is normal due to his control intentions.

# 6 Requirements

## 6.1 Process "Identification of groups of flights sorted according to operational criteria associated to flight trajectories"

| | |
|---|---|
| Identifier | EOPS_001 |
| Requirement | To identify the *contextual view* associated to a *flight of the CWP*, the controller shall have at his disposal:<br>• Planned trajectory information based on *flight plan information* (*EFL, Entry point, Departure Airport, TFL, Exit point, Arrival Airport, flight plan waypoints, ETO*)<br>• Trajectory information updated with *clearances*<br>• *Radar trajectory information*<br>• Aircraft performances |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 1.2 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| Identifier | EOPS_003 |
|---|---|
| Requirement | On his *GEODE,* the controller shall have at his disposal a helping tool providing *contextual view* for a given *planned flight on the CWP or a duplicated flight on the CWP* through a proposition of relevant flights grouped together on the basis of:<br>• Planned trajectory information based on flight plan information (*EFL, Entry point, Departure Airport, TFL, Exit point, Arrival Airport, flight plan waypoints, ETO*)<br>• Trajectory information updated with *clearances*<br>• Hypotheses on the most likely behaviour of this flight from the controller's point of view<br>• For a flight in descent phase, hypothesis of a descent to the *TFL* at any time<br>• *Radar trajectory information*<br>• Aircraft performances |
| Title | |
| Status | |
| Importance | |
| Rationale | The proposition of flights grouped together provided by the technical system requires further tasks of analysis, conflicts detection, resolution and decision choices that can only be performed through controller skills.<br>For *integration*, a *duplicated flight on the CWP* is considered the same way as a *planned flight on the CWP* since this kind of flight is integrated by the controller in the existing traffic.<br>Linked to use case 1.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| Identifier | EOPS_004 |
|---|---|
| Requirement | The controller shall have at his disposal a helping tool providing *contextual view* for a given *planned flight on the CWP* or a *duplicated flight on the CWP* through a proposition of relevant flights grouped together as long as the flights of the *contextual view* are within the geographical limits of the *CWP* extended with a margin along their trajectory corresponding to *operational constraints*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or | Operational Process or Operational | N/A |

| | | | |
|---|---|---|---|
| | <Operational Service> | Service Identifier | |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_005 |
| Requirement | The controller shall use the helping tool providing *contextual view* on demand. |
| Title | |
| Status | |
| Importance | |
| Rationale | The controller is the only one able to determine the relevance of the helping tool use since it depends on the task in progress and on the operational context. This requirement applies for the determination of contextual view for a flight or for a problem. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_006 |
| Requirement | During the determination of contextual view for a *planned flight on the CWP or a duplicated flight on the CWP* through the associated helping tool, the controller shall be able to identify this flight among the *flights of the CWP* in order to ease the information comparison between the given flight and the other flights of the *contextual view*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_007 |
| Requirement | For a given *flight of the CWP,* the controller shall be able to mentally build his own *contextual view* based on the proposition of the helping tool providing the *contextual view* according to his needs, the nature of the traffic and the felt workload, and control habits. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_008 |
| Requirement | The controller shall have at his disposal a helping tool providing *contextual view* for a given *planned flight on the CWP* as soon as *flight plan information* for this flight are available for the controller and as long as the flight is assumed to ease the analysis of the flight prior to its integration and to issue adapted *clearances*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_010 |
| Requirement | The controller shall be able to identify the *flights of the CWP* for which the helping tool providing the *contextual view* is available to use it appropriately and build and maintain a right representation of the situation. |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 1.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_011 |
| Requirement | For a *flight of the CWP*, the controller shall be able to visualize the flights of *the contextual view* provided by the helping tool especially on *radar screen* for an analysis performed with it. |
| Title | |
| Status | |
| Importance | |
| Rationale | The *radar screen* is considered as the main analysis source. However the *radar screen* provides a partial representation of the traffic and therefore *the contextual view* due to its tuning.<br>Linked to use case 1.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_070 |
| Requirement | To identify the *contextual view* associated to a *problem*, the controller shall have at his disposal:<br>• Planned trajectory information based on *flight plan information* (*EFL, Entry point, Departure Airport, TFL, Exit point, Arrival Airport, flight plan waypoints, ETO*)<br>• Trajectory information updated with *clearances*<br>• *Radar trajectory information*<br>• Aircraft performances |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_072 |
| Requirement | On his *GEODE*, the controller shall have at his disposal a helping tool providing *contextual view* for a given *problem* through a proposition of relevant flights grouped together on the basis of:<br>• Planned trajectory information based on flight plan information (*EFL, Entry point, Departure Airport, TFL, Exit point, Arrival Airport, flight plan waypoints, ETO*)<br>• Trajectory information updated with *clearances*<br>• Hypotheses on the most likely behaviour of this flight from the controller's point of view<br>• *Radar trajectory information*<br>• Aircraft performances |
| Title | |
| Status | |
| Importance | |
| Rationale | The proposition of flights grouped together provided by the technical system requires further tasks of analysis, conflicts detection, resolution and decision choices that can only be performed through controller skills. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |

| | | | |
|---|---|---|---|
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_101 |
| Requirement | For a given *problem* on the *CWP*, the controller shall have at his disposal a helping tool providing *contextual view* through a proposition of relevant flights grouped together as long as the flights of the *contextual view* are within the geographical limits of the *CWP* extended with a margin along their trajectory corresponding to *operational constraints*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_102 |
| Requirement | The controller shall have at his disposal a helping tool providing *conflict* materialization through *conflict* materialization for a given *planned flight on the CWP* as soon as *flight plan information* for this flight are available for the controller and as long as this flight is assumed to ease its integration and to issue adapted *clearances*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_103 |
| Requirement | The controller shall have at his disposal a helping tool providing *conflict* materialization through *conflict* materialization for a given *duplicated flight on the CWP* as soon as *flight plan information* for this flight to ease its integration. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_073 |
| Requirement | During the determination of *contextual view* for a *problem* through the associated helping tool, the controller shall be able to identify the *flights associated to the problem* among the *flights of the contextual view* in order to ease the information comparison between these flights and the other flights of the *contextual view*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_074 |
| Requirement | For a *problem* of the *CWP,* the controller shall be able to mentally build his own *contextual view* based on the proposition of the helping tool providing the *contextual view* according to his needs, the nature of the traffic and the felt workload, and control habits. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_075 |
| Requirement | The controller shall be able to identify the *problems* of the *CWP* for which the helping tool providing the *contextual view* is available. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_076 |
| Requirement | For a *problem* of the *CWP*, the controller shall be able to visualize the flights of *the contextual view* provided by the helping tool especially on *radar screen* for an analysis performed with it. |
| Title | |
| Status | |
| Importance | |
| Rationale | The *radar screen* is considered as the main analysis source. However the *radar screen* provides a partial representation of the traffic and therefore *the contextual view* due to its tuning. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_104 |
| Requirement | On his *GEODE*, the controller shall have at his disposal a helping tool providing *contextual view* for a given *planned flight on the CWP or a duplicated flight on the CWP* through a proposition of relevant flights grouped together on the basis of:<br>• Planned trajectory information based on *flight plan information* (*EFL*, *Entry point, Departure Airport, TFL, Exit point, Arrival Airport, flight plan waypoints, ETO*)<br>• Trajectory information updated with *clearances*<br>• Hypothesis of the evolution of the flight to the *TFL* at any time<br>• *Radar trajectory information*<br>• Aircraft performances |
| Title | |
| Status | |
| Importance | |
| Rationale | The distinction with EOPS_003 relies on the hypothesis regarding aircraft behaviour.<br>Linked to use case 1.3 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.2 Process “Materialization of conflicts”

| | |
|---|---|
| Identifier | EOPS_013 |
| Requirement | The controller shall have at his disposal a means to materialize *conflicts* detected on the *CWP* following the comparison of *flight plan information* of the flights from the *contextual view* of a given flight to ease *conflicts* memorization. |
| Title | |
| Status | |
| Importance | |
| Rationale | The *radar screen* is considered as the main conflicts analysis and follow-up source.<br>Linked to use case 2.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_014 |
| Requirement | During *conflicts* materialization, the controller shall be able to identify the *contextual view* associated to this *conflict*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_015 |
| Requirement | The controller shall have at his disposal a helping tool providing *conflict* materialization through the materialization of *interactions* corresponding to relevant situations for his *CWP* on the basis of *flight plan information* comparison of the *flights of the CWP.* |
| Title | |
| Status | |
| Importance | |
| Rationale | This system proposition is a draft to be amended by the controller. Indeed, the system is not able to model every situation (control intentions, flights for which the helping tool providing *conflict* materialization is unavailable, careful controller, etc.). On the contrary, the system may model some situations that seem irrelevant to the controller. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_016 |
| Requirement | The controller shall have at his disposal a helping tool providing *conflict* materialization through *conflict* materialization for a given *planned flight on the CWP* or a *duplicated flight on the CWP* :<br>• as soon as *flight plan information* for this flight are available for the controller<br>• and as long as the flight follows the trajectory defined by *flight plan information*<br>• and as long as the flight is assumed or is within the geographical limits of the *CWP* extended with a margin at *CWP* exit along its trajectory. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_105 |
| Requirement | The controller shall have at his disposal a helping tool providing *conflict* materialization through *conflict* materialization for a given non planned *additional flight on the CWP*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_017 |
| Requirement | The controller shall have at his disposal a helping tool providing *conflict* materialization through *interaction* materialization as long as these *interactions* are within the geographical limits of the *CWP* extended with a margin at *CWP* exit along the trajectory of the *flights of the CWP* involved in these *interactions*. |
| Title | |
| Status | |
| Importance | |
| Rationale | This margin is defined by the outbound coordination of those flights on the *CWP*. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_018 |
| Requirement | The controller shall use on demand the helping tool providing *conflict* materialization to materialize a *conflict*. |
| Title | |
| Status | |
| Importance | |
| Rationale | In case of *interaction* materialization, the system systematically provides propositions and does not require any actions from the controller. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_106 |
| Requirement | The controller shall be able to identify the *flights of the CWP* for which the helping tool providing *conflict* materialization is available regarding materialized conflicts. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.3 Process “Update of conflicts representation”

| | |
|---|---|
| Identifier | EOPS_022 |
| Requirement | The controller shall be able to complete a *problem* from his own traffic analysis through the addition of a flight to this *problem* to keep a trace of the results of his own traffic representation. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_023 |
| Requirement | The controller shall be able to amend a *problem* from his own traffic analysis through the suppression of a flight from this *problem* to keep a trace of the results of his own traffic representation. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_024 |
| Requirement | The controller shall be able to delete a *problem* from his own traffic analysis if it is considered as no more relevant to keep a trace of the results of his own traffic representation. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_025 |
| Requirement | The controller shall have at his disposal a helping tool providing *conflict* materialization through updates propositions of materialized *interactions* based on *flight plan information* of the *flights of the CWP*. |
| Title | |
| Status | |
| Importance | |
| Rationale | When an *interaction* has never been *consulted*, updates from the helping tool are immediately taken into account without any notifications since this materialized *interaction* has not been analysed yet. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| Identifier | EOPS_026 |
|---|---|
| Requirement | The controller shall be able to identify the updates propositions from the helping tool providing *conflict* materialization on a materialized *interaction* with ongoing *consultation* or already *consulted* by one of the controllers of the *CWP*:<br>• Proposition to add a flight to a materialized *interaction*<br>• Proposition to delete a flight from a materialized *interaction*<br>• Proposition to delete one or several materialized *interactions* |
| Title | |
| Status | |
| Importance | |
| Rationale | When an *interaction* has never been *consulted*, updates from the helping tool are immediately taken into account without any notifications since this materialized *interaction* has not been analysed yet. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| Identifier | EOPS_027 |
|---|---|
| Requirement | The controller shall be able to accept or refuse the updates propositions from the helping tool providing *conflict* materialization on a materialized *interaction* with ongoing *consultation* or already *consulted* by one of the controllers of the *CWP*:<br>• Proposition to add a flight to a materialized *interaction*<br>• Proposition to delete a flight from a materialized *interaction*<br>• Proposition to delete one or several materialized *interactions* |
| Title | |
| Status | |
| Importance | |
| Rationale | When an *interaction* has never been *consulted*, updates from the helping tool are immediately taken into account without any notifications since this materialized *interaction* has not been analysed yet. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_028 |
| Requirement | The controller shall have at his disposal a helping tool providing *conflict* materialization through *interaction* materialization on the *CWP* that:<br>• Completes *conflicts* already materialized on the *CWP*,<br>• Takes into account updates on *problems* performed by controllers of the *CWP* to get a global and non redundant representation of situations to monitor. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_029 |
| Requirement | The controller shall be able to merge *problems* from his own traffic analysis if he considers them as associated to a same situation to be globally and consistently handled through a unique *problem*. |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 3.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_030 |
| Requirement | Following *problems* merging, the controller shall be able to identify the *contextual view* of a *problem* resulting from this merging to have the good context to check the result of the merging. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_031 |
| Requirement | The controller shall be able to visualize the manually deleted *problems* on the *CWP* to ease the identification of a *problem* to be reconsidered. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_032 |
| Requirement | The controller shall be able to retrieve a *problem* already *consulted* and manually deleted on the *CWP* to reconsider this *problem*. |
| Title | |
| Status | |
| Importance | |
| Rationale | The retrieved *problem* is rescheduled using the location of the *problem* determined at the time of retrieval. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_033 |
| Requirement | Following the suppression of a flight from a *problem* already *consulted*, the controller shall be able to visualize the *interactions* on the *CWP* associated to this flight as long as they exist. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_034 |
| Requirement | Following the suppression of a flight from a *problem* already *consulted*, the controller shall be able to retrieve the *interactions* on the *CWP* associated to this flight. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_079 |
| Requirement | The controller shall be able to identify the *flights of the CWP* for which the helping tool providing *conflict* materialization is available, regarding updates propositions of materialized *interactions* |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.4 Process “Monitoring of the evolution of ongoing conflicts to act at the right time”

| Identifier | EOPS_002 |
|---|---|
| Requirement | The controller shall be able to schedule the materialized *conflicts* on the *CWP* to schedule the actions linked to these *conflicts*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| Identifier | EOPS_080 |
|---|---|
| Requirement | The controller shall be able to monitor the materialized *conflicts* on the *CWP* to perform an action on them according to their scheduling. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| Identifier | EOPS_071 |
|---|---|
| Requirement | The controller shall have at his disposal a helping tool providing monitoring of materialized *conflicts* on the *CWP* to perform an action on them according to their scheduling. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |

| | | | |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_054 |
| Requirement | The controllers of the *CWP* shall be simultaneously notified that a *problem* has to be handled considering its scheduling to act at the right time for the materialized *conflict*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_055 |
| Requirement | After having been notified that a *problem* has to be handled considering its scheduling, the controller shall be able to delay his handling through its rescheduling on the *CWP*. |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 4.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| Identifier | EOPS_056 |
|---|---|
| Requirement | The controller shall keep on being notified that a *problem* has to be handled considering its scheduling as long as he or his team mate hasn't handled it. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| Identifier | EOPS_057 |
|---|---|
| Requirement | The controller shall be able to take into account on his *CWP* the notification that a *problem* has to be handled considering its scheduling. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.5 Process "Construction and maintenance of a mutual traffic representation on the CWP to ensure efficient cross-checks"

| | |
|---|---|
| Identifier | EOPS_035 |
| Requirement | The controller shall have at his disposal a means to materialize *conflicts* detected on the *CWP* following the comparison of *flight plan information* of the flights from the *contextual view* of a given flight to have a mutual representation of the current and future *conflicts*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_036 |
| Requirement | The controllers of the *CWP* shall have at their disposal the *problems* of the *CWP* to ease a mutual representation of the *conflicts* associated to these *problems*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.6 Process “Shared management of conflicts on the CWP”

| | |
|---|---|
| Identifier | EOPS_037 |
| Requirement | The controller shall have at his disposal the updates performed on the *problems* of the *CWP* by his team mate to take into account his team mate's intentions for the building of its own traffic representation. |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 5.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_038 |
| Requirement | The controller shall be able to materialize *conflicts* for his team mate corresponding to his own traffic analysis. |
| Title | |
| Status | |
| Importance | |
| Rationale | The controllers of the *CWP* perform a shared management of workload and *conflicts* covering both *conflicts* detection and *conflicts* materialization. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.7 Process "Collaborative management of workload on the CWP"

| | |
|---|---|
| Identifier | EOPS_039 |
| Requirement | On his *GEODE*, the executive controller shall adapt the presentation of *problems* whose handling can be delayed to have a level of information adapted to his ongoing task. |
| Title | |
| Status | |
| Importance | |
| Rationale | The adaption consists in forcing the display of *problems* for the executive controller. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_083 |
| Requirement | The controller shall have at his disposal the *problems* presented on his team mate's *GEODE* to temporarily take charge of the monitoring of some *conflicts* handled by his team mate when this team mate's workload requires it. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.8 Process "Temporization or anticipation of tasks presentation"

| | |
|---|---|
| Identifier | EOPS_040 |
| Requirement | On the *GEODE* of the executive controller, the planning controller shall be able to adapt the presentation of *problems* whose handling according to him can be delayed by the executive controller so that this executive controller can have a level of information adapted to his ongoing task regarding *problems* to handle. |
| Title | |
| Status | |
| Importance | |
| Rationale | The adaption consists in forcing the display of *problems* for the executive controller. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_041 |
| Requirement | The planning controller shall, on demand, be able to force the presentation of a *problem* on the *GEODE* of the executive controller to call the executive controller's attention on the *conflict* associated to this *problem*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_058 |
| Requirement | On his *GEODE*, the controller shall be able to adapt his visibility on the future *problems* of the *CWP* to anticipate the handlings on these *problems* in a way adapted to the felt workload. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_059 |
| Requirement | On his *GEODE*, the executive controller shall be able to force the presentation of future *problems* on which he has no visibility due to *CWP* setting to anticipate the handlings on these *problems* in a way adapted to the felt workload. |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 6.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.9 Process “Synchronous and asynchronous communication on the CWP”

| | |
|---|---|
| Identifier | EOPS_042 |
| Requirement | The controller shall be able to identify the type of materialized *interaction* (entry or exit) to ease the designation of this materialized *interaction* to his team mate. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_043 |
| Requirement | The controller shall have at his disposal information helping him to precise the materialized *interaction* location (flight level and/or proximity to a geographical point known by the controller) to ease the designation of this materialized *interaction* to his team mate. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_044 |
| Requirement | The controller shall have at his disposal a means to materialize *conflicts* detected on the *CWP* following the comparison of *flight plan information* of the flights from the *contextual view* of a given flight to provide a communication support with his team mate. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_063 |
| Requirement | The controller shall be able to identify the *flights associated to a problem* through their *flight ident* to ease the communication of the controllers of the *CWP* on this *problem*. |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 7.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_081 |
| Requirement | The executive controller shall be able to identify that the planning controller he has already consulted a *problem* to identify the *problems* already analyzed by his team mate. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_082 |
| Requirement | The controller shall be able to identify that his team mate his consulting a *problem*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.10Process “Optimization of memory use”

| | |
|---|---|
| Identifier | EOPS_062 |
| Requirement | The controller shall be able to identify the *flights associated to a problem* through their *flight ident* to ease the memorisation of the *conflict* associated to this *problem*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_064 |
| Requirement | The controller shall be able to identify the type of materialized *interactions* (entry or exit) to ease the memorisation of the *conflict* associated to this *problem*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_067 |
| Requirement | The controller shall have his disposal information helping him to precise the materialized *interaction* location (flight level and/or proximity to a geographical point known by the controller) to ease the memorisation of the *conflict* associated to this materialized *interaction*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_084 |
| Requirement | The controller shall have at his disposal a means to materialize reminders on an action to perform at a given geographical point on a *flight of the CWP* to ease the memorization of this action. |
| Title | |
| Status | |
| Importance | |
| Rationale | The *radar screen* is considered as the main source for flight follow-up.<br>Linked to use case 10.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_085 |
| Requirement | The controller shall be able to schedule on the *CWP* a reminder materialized on an action to perform to monitor the evolution of this reminder. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_086 |
| Requirement | The controller shall have at his disposal a helping tool providing the monitoring of reminders materialized on an action to perform as long as flight is assumed to monitor the evolution of these reminders. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_087 |
| Requirement | The controller shall be able to delete a reminder materialized on an action to perform when this reminder is no more relevant. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|

| | | | |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_088 |
| Requirement | The controllers of the *CWP* shall be simultaneously notified that a reminder materialized on an action to perform has to be handled considering its scheduling to act at the right time. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_089 |
| Requirement | After having been notified that a reminder materialized on an action to perform has to be handled considering its scheduling, the controller shall be able to delay his handling through its rescheduling on the *CWP*. |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 10.2 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_090 |
| Requirement | The controller shall keep on being notified that a reminder materialized on an action to perform has to be handled considering its scheduling as long as he or his team mate hasn't handled it. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_091 |
| Requirement | The controller shall be able to take into account on his *CWP* the notification that a reminder materialized on an action to perform has to be handled considering its scheduling. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_092 |
| Requirement | The controller shall be able to identify the flight associated to a reminder materialized on an action to perform through its *flight ident* to ease the memorization of the action to perform. |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 10.2 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_093 |
| Requirement | The controller shall be able on the *radar screen* of his *GEODE* to visualize on demand the location where the reminder on an action to perform is materialized. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_094 |
| Requirement | The controller shall be able to identify that a flight is involved in a reminder on an action to perform. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|

| | | | |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_095 |
| Requirement | The controller shall have at his disposal a means to materialize reminders on an action to perform at a given geographical point on a *flight of the CWP*:<br>• As soon as *flight plan information* for this flight are available for the controller<br>• And as long as the flight follows the trajectory defined by *flight plan information*<br>• And as long as the flight is assumed. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_107 |
| Requirement | The controller shall be able to retrieve a reminder materialized on an action to perform on a *flight of the CWP* that has been handed over and then again assumed. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |

| | | | |
|---|---|---|---|
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_096 |
| Requirement | The controller shall have at his disposal a helping tool providing the monitoring of reminders materialized on actions to perform on a *flight of the CWP* through the suppression of reminders materialized not relevant anymore due to this flight trajectory modification. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.10.1Process “Understanding and prediction of the system behaviour”

| | |
|---|---|
| Identifier | EOPS_065 |
| Requirement | The controller shall be able to identify the type of materialized *interactions* (entry or exit) to quickly understand these *interactions* materialized by the helping tool providing *conflicts* materialization. |
| Title | |
| Status | |
| Importance | |
| Rationale | An entry materialized *interaction* has to be handled before an exit materialized *interaction*. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |

| | | | |
|---|---|---|---|
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_078 |
| Requirement | The controller shall have his disposal information helping him to precise the materialized *interactions* location (flight level and/or proximity to a geographical point known by the controller) to quickly understand these *interactions* materialized by the helping tool providing *conflicts* materialization. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_060 |
| Requirement | On the *radar screen* of his *GEODE*, the controller shall be able to visualize on demand the location where the *problem* is detected to ease its understanding. |
| Title | |
| Status | |
| Importance | |
| Rationale | The *radar screen* is considered as the main source for *conflicts* detection. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_068 |
| Requirement | The controller shall be able to identify that a given flight is involved in a *problem*. |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 8.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_069 |
| Requirement | The controller shall be able to identify the *problems* of the *CWP* associated to a given flight. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.11 Process "Organization of tasks in the frame of conflicts management"

| Identifier | EOPS_049 |
|---|---|
| Requirement | The controller shall be able to schedule on the *CWP* the materialized *conflicts* to organize their handling. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| Identifier | EOPS_050 |
|---|---|
| Requirement | The controller shall have at his disposal on the *CWP* a helping tool providing materialized *conflicts* scheduling to organize the handling of these materialized *conflicts*. |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 9.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| Identifier | EOPS_051 |
|---|---|
| Requirement | The controller shall be able on the *CWP* to reschedule a *problem* to reflect the change of emergency associated to its handling following his analysis. |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 9.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|

| | | | |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_052 |
| Requirement | During *problem* rescheduling, the controller shall be able to visualize on the *radar screen* of his *GEODE* the trajectories evolution of the *flights associated to this problem* on the basis of *flight plan information*, *clearances*, and *radar trajectory information* to ease the scheduling through the preview of the new location detected for the *problem*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_053 |
| Requirement | During *problem* rescheduling, the controller shall be able to identify the *contextual view* of this *problem*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_061 |
| Requirement | During the determination of contextual view of a *problem*, the controller shall be able to visualize on demand on the *radar screen* of his *GEODE* the trajectories evolution of the *flights associated to this problem* on the basis of *flight plan information*, *clearances*, and *radar trajectory information* to ease the *problem* analysis. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.12Process “Differentiation between conflicts taken into account and conflicts not yet handled”

| | |
|---|---|
| Identifier | EOPS_019 |
| Requirement | The controller shall be able to identify that he has already consulted a *problem* to make the difference between already analysed *problems* and *problems* to be analysed. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_020 |
| Requirement | During *problem consultation*, the controller shall be able to identify on his *GEODE* this *problem* among the *problems* of the *CWP* to maintain situation awareness. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
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| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_021 |
| Requirement | During *problem consultation*, the controller shall be able to analyse it without being disturbed by the team mate's actions on this *problem*. |
| Title | |
| Status | |
| Importance | |
| Rationale | This requirement excludes the suppression of a *problem* being *consulted* on another *GEODE*. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
| <APPLIES_TO> | <Operational Process> or <Operational Service> | Operational Process or Operational Service Identifier | N/A |
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| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.13Process "Decision making on a conflict resolution on the basis of information contained in the flights of the conflicts' contexts"

| Identifier | EOPS_097 |
|---|---|
| Requirement | During the identification of the *contextual view* of a *flight of the CWP*, the controller shall be able to visualize on demand on the *radar screen* of his *GEODE* the trajectories evolution of the *flight of the CWP* and of the flights of its *contextual view* on the basis of *flight plan information*, *clearances*, and *radar trajectory information* to ease the controller analysis. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
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| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| Identifier | EOPS_098 |
|---|---|
| Requirement | The controller shall be able to visualize the trajectories evolution of the flights of *contextual view* of a given *flight of the CWP* as long as:<br>• The helping tool providing the *contextual view* is available for this *flight of the CWP*,<br>• The trajectories evolution of this flight and the flights of its *contextual view* are within the geographical limits of the *CWP* extended with a margin along their trajectory corresponding to *operational constraints* |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
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| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_099 |
| Requirement | The controller shall be able to visualize the trajectories evolution of the *flights associated to a problem* as long as:<br>• The helping tool providing the *contextual view* is available for this *problem*,<br>• The trajectories evolution of the *flights associated to this problem* are within the geographical limits of the *CWP* extended with a margin along their trajectory corresponding to *operational constraints* |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
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| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
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| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_108 |
| Requirement | The controller shall have at his disposal a helping tool providing *contextual view* for a given *problem* to ease the *problem* analysis and make a decision on the *conflict* resolution. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA n) | <Full> |
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| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.14Process "Anticipation of clearance consequences on the traffic"

| | |
|---|---|
| Identifier | EOPS_109 |
| Requirement | On his *GEODE,* the controller shall have at his disposal a helping tool providing *contextual view* for a given *planned flight on the CWP* simulating at this time the issue of a *clearance* (direct to or *CFL*) to this flight through a proposition of relevant flights grouped together on the basis of:<br>• Planned trajectory information based on *flight plan information* (*EFL, Entry point, Departure Airport, TFL, Exit point, Arrival Airport, flight plan waypoints, ETO*)<br>• Hypotheses on the most likely behaviour of this flight from the controller's point of view<br>• Trajectory information updated with *clearances*<br>• *Radar trajectory information*<br>• Aircraft performances. |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 11.1 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
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| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
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| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_110 |
| Requirement | The controller shall have at his disposal a helping tool providing *contextual view* for a given *planned flight on the CWP* simulating at this time the issue of a *clearance* (direct to or *CFL*) to this flight through a proposition of relevant flights grouped together as long as the flights of the *contextual view* are within the geographical limits of the *CWP* extended with a margin along their trajectory corresponding to *operational constraints*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
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| <ALLOCATED_TO> | <Operator/Procedure> | Operator/Procedure identifier | N/A |

| | | | |
|---|---|---|---|
| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
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| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_111 |
| Requirement | During the determination of *contextual view* for a *planned flight on the CWP* through the associated helping tool, the controller shall use the helping tool providing *contextual view* simulating at this time the issue of a *clearance* (direct to or *CFL*) on demand. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
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| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_112 |
| Requirement | During the determination of *contextual view* for a *planned flight on the CWP* through the helping tool providing *contextual view* simulating at this time the issue of a *clearance* (direct to or *CFL*), the controller shall be able to identify this flight among the *flights of the CWP* in order to ease the information comparison between the given flight and the other flights of the *contextual view*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
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| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_113 |
| Requirement | The controller shall have at his disposal a helping tool providing *contextual view* for a given *planned flight on the CWP* simulating at this time the issue of a direct to *clearance* to this flight as soon as *flight plan information* for this flight are available for the controller and as long as the flight is assumed to ease the analysis of the flight prior to its integration and to issue adapted *clearances*. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
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| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_122 |
| Requirement | The controller shall have at his disposal a helping tool providing *contextual view* for a given *planned flight on the CWP* simulating at this time the issue of a *CFL clearance* to this flight as long as the flight is assumed. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier / (KPA 1) | <Full> |
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| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_114 |
| Requirement | For a *flight of the CWP*, the controller shall be able to visualize the flights of *the contextual view* provided by the helping tool simulating at this time the issue of a *clearance* (direct to or *CFL*) especially on *radar screen* for an analysis performed with it. |
| Title | |
| Status | |
| Importance | |
| Rationale | The *radar screen* is considered as the main analysis source. However the *radar screen* provides a partial representation of the traffic and therefore *the contextual view* due to its tuning. |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
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| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

## 6.15Process "Task execution control in order to check the actions efficiency or to correct them if needed"

| | |
|---|---|
| Identifier | EOPS_116 |
| Requirement | The controller shall be able to detect that a *flight of the CWP* does not respect its horizontal planned trajectory as soon as possible when *flight plan information* is available on the *CWP* and as long as this flight is assumed to be aware that:<br>• the services linked to the helping tool providing *contextual view* are downgraded<br>• and the services linked to the helping tool providing *conflict* materialization are unavailable. |
| Title | |
| Status | |
| Importance | |
| Rationale | Linked to use case 12.3 and 12.4 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
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| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_118 |
| Requirement | The controller shall be able to detect that a *flight of the CWP* does not respect its vertical planned trajectory as long as this flight is assumed to be aware that:<br>• the services linked to the helping tool providing *contextual view* are downgraded<br>• and the services linked to the helping tool providing *conflict* materialization are unavailable. |
| Title | |
| Status | |
| Importance | |
| Rationale | |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
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| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

| | |
|---|---|
| Identifier | EOPS_120 |
| Requirement | In order to update his representation of the new *contextual view* of a *given flight of the CWP*, the controller shall be able to detect on his *GEODE* that a new *flight of the CWP* belongs to the considered *contextual view*:<br>• Since the last use, on the *GEODE*, of the helping tool providing *contextual view* for the considered flight<br>• If no *clearance* has be issued to any *flights of the CWP*<br>• If no new *planned flight* is presented on the *CWP* |
| Title | |
| Status | |
| Importance | |
| Rationale | In case of a normal evolution of the *contextual view*'s content (new *planned flight*s on the *CWP,* new *clearances* issued…), the controller is not warned of this context change.<br>Linked to use case 12.1 and 12.2 |
| Category | |
| V&V Method | |

| Relationship | Linked Element Type | Identifier | Compliance |
|---|---|---|---|
| <SATISFIES> | <ATMS Requirement> | DOD Requirement Identifier | <Full> |
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| | | | |
|---|---|---|---|
| <APPLIED_IN_ENVIRONMENT> | <Environment Class> | Environment Class Identifier | N/A |
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| <ALLOCATED_TO> | <Information Service> | Information Service identifier | N/A |
| <ALLOCATED_TO> | <Application Service> | Application Service identifier | N/A |
| <ALLOCATED_TO> | <System Function> | System Function identifier | N/A |
| <CHANGED_BECAUSE_OF> | <Change Order> | Change reference | N/A |

# 7 References

## 7.1 Applicable Documents

This OSED complies with the requirements set out in the following documents:

[1] SESAR System Engineering Management Plan, Ed. 02.00.01
[2] SESAR System Engineering Management Plan Application Guidelines for 2011-2012
[3] SESAR Operational Service and Environment Definition Template, Ed. 00.00.00
[4] SESAR B4.2 Initial Service Taxonomy document, dated 03/09/2010

## 7.2 Reference Documents

The following documents were used to provide input/guidance/further information/other:

### 7.2.1 SESAR sources

[5] SESAR B4.2 - D08 processes and Services, dated 12/09/2010
[6] SESAR B4.2 Actors - Roles and Responsibilities, Ed. 00.01.02, dated 12/09/2010
[7] SESAR Requirements and V&V Data Structures and Writing Guidelines, Ed. 01.00.00, dated 01/12/2010
[8] SESAR Release 1 Plan v1.0, Ed. 01.00.00, dated 20/12/2010
[9] SESAR Operational Focus Area, Programme Guidance, Ed. 01.00.00, 02/12/2010

### 7.2.2 External Sources

[10] Consolidation des besoins ERATO, version V1R0, dated 08/02/2011

# Appendix A Assessment / Justifications

*Please provide in annex, the material that justifies the requirements allocation.*

-END OF DOCUMENT -