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DISTRIBUTED INFORMATION SYSTEM INFRASTRUCTURE – DISSEMINATION PLAN

by

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Abstract:

This document is the result of the process of collecting WP 3.5 partner strategies for resulting dissemination.

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– PRELUDE, COMPASS, MDO, DtDO, EDM, DISI, INFRASTRUCTURE, REQUIREMENTS, USE CASES, ADVANCED CAPABILITIES, SIMULATION, DISTRIBUTED SIMULATION, INFORMATION SYSTEM, INFORMATION TECHNOLOGY, NETWORK, COLLABORATIVE TOOLS, SECURITY, SERVER, WORKSTATION

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1. EXECUTIVE SUMMARY

The dissemination plan of the Distributed Information System Infrastructure (DISI) workpackage aims to make known which available technologies DISI could rely upon and use (State of the Art) and which Infrastructure release is accessible {from the VIVACE internal website (Mayetic Village) DISI room}.

To accompany this infrastructure development - user training courses, workshops and meetings will be organised throughout the VIVACE project duration.

2. INTRODUCTION AND CONTEXT

The objectives of WP3.5 are described as follow in the VIVACE DoW :

1) Set up a Distributed Information System Infrastructure (DISI) based on the three following components :

- a distributed computer network based on UNIX, LINUX or Windows-based hardware platforms,
- connection and control software,
- knowing that the application software tools will be selected by other workpackages, IT standards to achieve application software tool interoperability and a security strategy for engineering data real time exchange and simulation results dissemination

2) Provide the services and infrastructure (including the software and hardware platforms) to:

- Validate the functional capabilities developed by WP3.1 (Knowledge Enabled Engineering), WP3.2 (Multi Disciplinary Design and Optimisation), WP3.3 (Design to Decision Objectives), WP3.4 (Engineering Data Management),
- Check interconnectivity between Use Cases to contribute to the virtual aircraft,
- Offer convenient collaborative framework to validate systems simulation in a virtual aircraft context.
- Test their model of organisation involving sub-contractors to contribute to the virtual enterprise.
- Validate industrial deployment capabilities

To involve WP3.5 in the developments, in order to favour a good understanding of what is developed within the SP1 and SP3 work packages as well as to establish continuous links with their developers; WP3.5 has been charged to perform the following "light" developments for some of its Use Cases:

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- SYSTEM SIMULATION : contribute to the development of the demonstrator,
- PRELUDE : develop services for Workflow Manager and services and IT infrastructure for Data Management and Collaborative simulation,
- IMPACT ANALYSIS : Contribute to the development of the validator.

This development task, requiring the management of the specifications and of the integrations on DISI, will contribute to better define WP3.5 strategy to capture IT requirements.

The dissemination plan is focusing on DISI and is aiming at supporting its usage to simulate Use Case behaviour in the framework of the Extended Enterprise and of the Virtual Enterprise.

The final WP3.5 deliverable which proposes a methodology to set up an IT infrastructure will take advantage of what will have been learnt from the use of the different DISI releases.

3. WP3.5 OBJECTIVE ANALYSIS

For the coming period, the WP3.5 work organization has been established as follow :

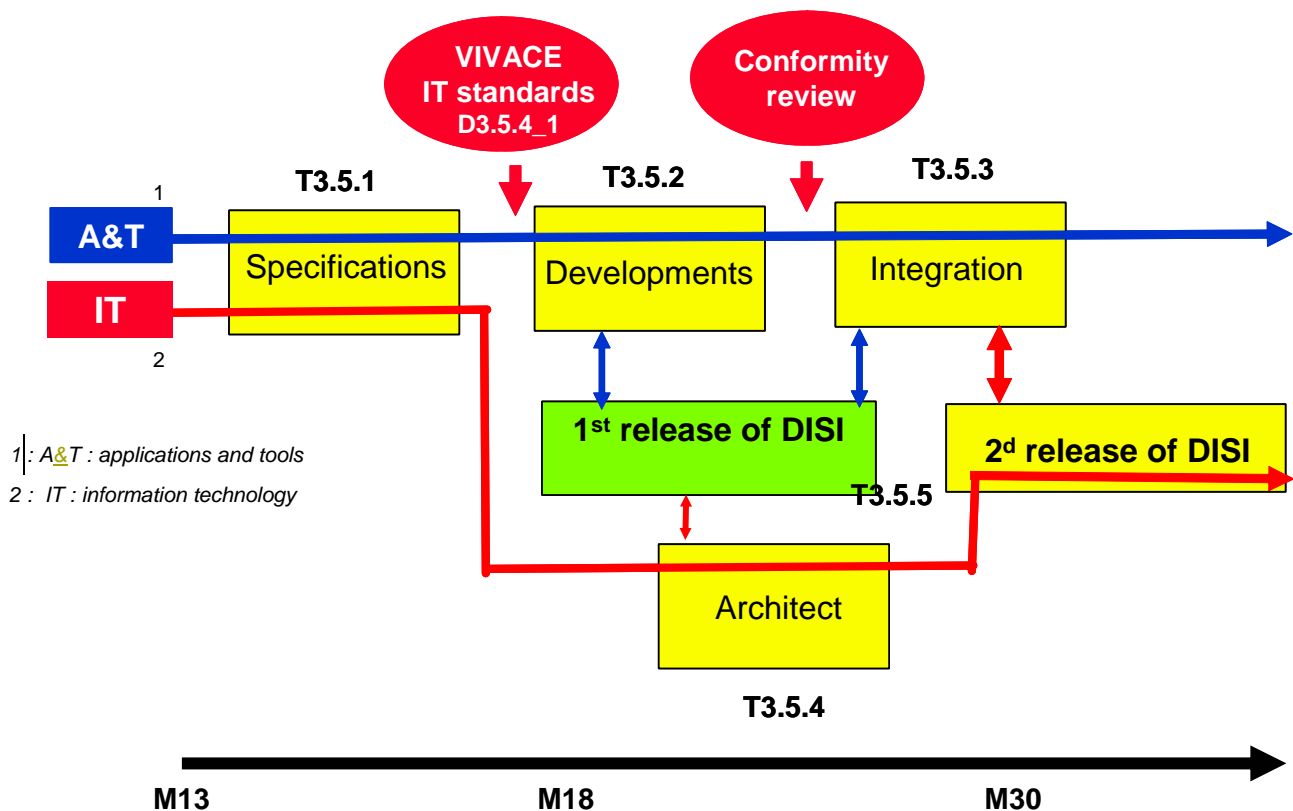


Figure 1: WP3.5 organization

The “Specification” task (T3.5.1) gathers partners in charge of the Applications and tools (A&T) developments and those in charge of DISI setting. The aim is to favour exchanges in order to select DISI IT standards letting open prospective choices for the implementation of the A&T developments.

The “Development” (T3.5.2) and “Integration” (T3.5.3) tasks only gather the partners involved in the A&T developments. Those in charge of DISI are gathered in the “Architect”

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(T3.5.4) task. The link between these tasks is provided by the “Administration” task (T3.5.5), which will support the IT distributed means requested to test and validate SP1 and SP3 A&T developments (DISI 1st release). These tests should enable the IT Architects to understand in practice UC needs when defining the IT architecture to be set up in the Extended Enterprise framework (DISI 2^d release).

If taking as an example System Simulation Use Case, it can be noticed that the developments performed within WP3.5 are bricks of a whole involving others partners. At least the global result (products) will be integrated and tested on DISI.

Products	Requirements T1.1.1 Deliverables	Specification	Implementation	Integration	Validation
Virtual Aircraft Structure	D1.1.1.2_3 & D1.1.1.2_7	T3.4.2	T3.4.3	T3.4.4	T3.5.3
		CRC-F	MSC, DDS, Intespace	SNECMA	AI-F, THAV
Virtual Simulation Components Repository	D1.1.1.4_6	T3.4.2	T3.4.3	T3.4.4	T3.5.3
		CRC-F	MSC, DDS, Intespace	SNECMA	AI-F, THAV
Physical Simulation Components Repository	D1.1.1.3_5	T3.4.2	T3.4.3	T3.4.4	T3.5.3
		CRC-F	MSC, DDS, Intespace	SNECMA	AI-F, THAV
Virtual Aircraft Process & Tools	D1.1.1.4_6	T1.1.1	T1.1.1	T3.5.3	T3.5.3
		CRC-G, AI-F	CRC-G, THAV	CERFACS, THAV	AI-F, THAV
Simulation Components Tools	D1.1.1.3_5 & D1.1.1.4_6	T1.1.1	T3.5.2	T3.5.3	T3.5.3
		CRC-G, AI-F	CRC-F, THAV	CERFACS, THAV	AI-F, THAV
Simulation Studio	D1.1.1.3_5	T3.5.1	T3.5.2	T3.5.3	T3.5.3
		CRC-F	CERFACS, THAV	CERFACS, THAV	AI-F, OKTAL, THAV
Functionnal Interoperability Check Tools	D1.1.1.3_5 & D1.1.1.4_6	T1.1.1	T3.5.2	T3.5.3	T3.5.3
		CRC-F	OKTAL, THAV	CERFACS, THAV	AI-F, OKTAL, THAV
Interface Interoperability Check Tools	D1.1.1.3_5 & D1.1.1.4_6	T3.5.1	T3.5.2	T3.5.3	T3.5.3
		OKTAL	OKTAL, (THAV)	CERFACS, THAV	AI-F, OKTAL, THAV
Simulation Builder	D1.1.1.3_5	T3.5.1	T3.5.2	T3.5.3	T3.5.3
		OKTAL	OKTAL, (THAV)	CERFACS, THAV	AI-F, OKTAL, THAV

Figure 2 : WP3.5 contribution to System Simulation

It underlines that the WP3.5 developers are one of the links between DISI architects and its users to define the most appropriate strategy to set up an IT infrastructure enabling to perform the VIVACE scenarios within the Extended and the Virtual Enterprise.

The dissemination plan will focus on this WP3.5 contribution.

4. WP3.5 CONTRIBUTION

4.1. REMINDER

DISI roadmap has been described in the deliverable D3.5.2_2 (Synthesis).

Three releases have been planned with the following characteristics :

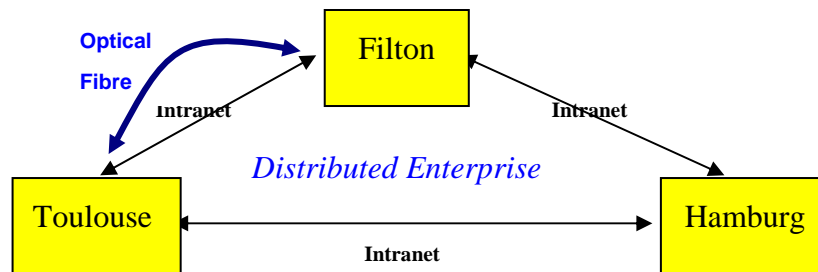


Figure 3: DISI first release

The first DISI release, based on three sites, is offering :

- Integrated computer resources in the so called “DISI in box” cabinet,
- Connection and control software for linking product data models, data containers, proprietary and commercial software, optimisation software, visualisation, etc,
- A communication layer suitable for engineering data real time exchange and simulation results dissemination.

Use Case partners can access from their site these resources via one of the satellite.

The second DISI release aims to introduce supplier representatives offering complementary resources.

In the deliverable D3.5.2_2, this second release has been represented as follow:

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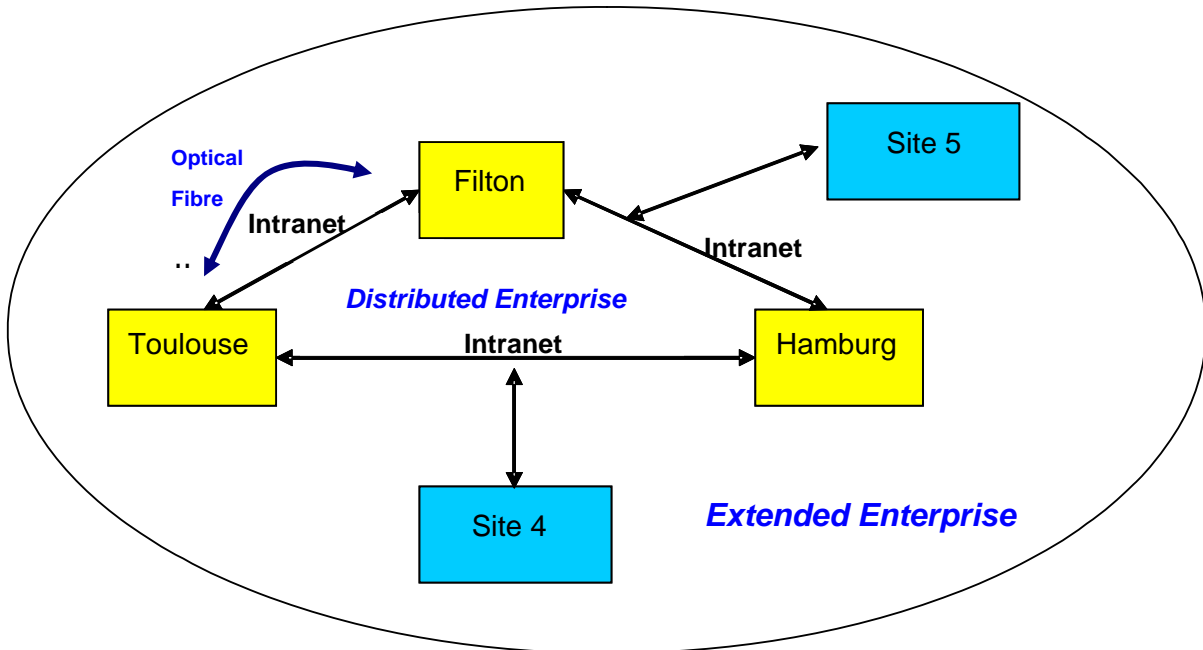


Figure 4: DISI second release

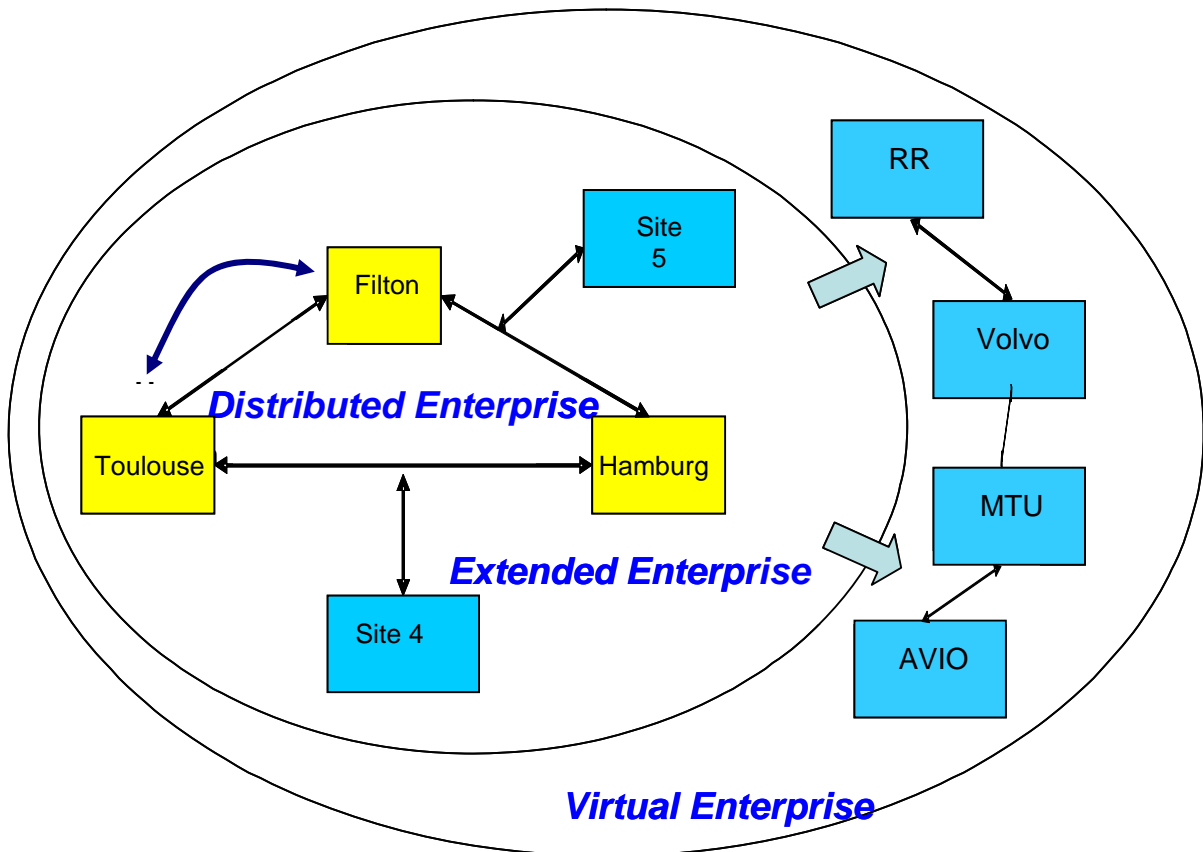


Figure 5: DISI third release

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The objective of the third release is to offer VIVACE partners an Infrastructure enabling the simulation of the “Virtual Product within the Virtual Enterprise”.

4.2. DESCRIPTION

The setting of the first DISI release has been based on Hardware and Middleware needs of the users. Its main characteristic is to propose resources distributed among the different DISI satellites which will be used on site or remotely to test and validate the A&T developed mainly by SP3 work packages.

The resource needs will not be the only driving force of the second and third releases. They will also take into account the content of the Use Case scenarios. One of the key elements will be the way each partner is contributing to the scenario.

It can be a-synchronous : I do my part of the work and when accepted sent to be integrated in the whole.

It can be synchronous : I am member of a team and contribute directly to the result.

The second release will take into account how relationships take place between all partners of a group working for one Customer. The third release will treat about the same but with groups working for different customers.

The requirement capture strategy will be based on one hand on the resource needs and on the other hand on how the scenarios will be run within the Extended or Virtual Enterprise and how each partner is contributing. The WP3.5 key contribution to VIVACE project will be at the end? the delivery of a methodology to define the most appropriate IT infrastructure for running scenarios within the Extended or the Virtual Enterprise.

4.3. CONCLUSION

The setting of the different DISI releases is the best way for WP3.5 to analyse in “real life” the value of its methodology to capture requirements for proposing the most appropriated IT infrastructure.

Consequently, it requests a real and significant usage of the IT infrastructure. This important issue will be achieved if WP3.5 disseminates on a continuous basis to all VIVACE partners how to make known their IT needs and their scenario contents and how to take advantage of the available resources.

The final deliverable which will report on the lessons learnt and propose a methodology should be the basis of the main WP3.5 contribution to the last VIVACE forum.

5. WP3.5 DISSEMINATION PLAN

5.1. INTRODUCTION

The main WP3.5 concern is to make DISI appropriated and really used by SP1 and SP3 Use Cases. It requests regular information actions on how WP3.5 is capturing requirements, on what resources are accessible and how they can be used.

The WP3.5 dissemination plan address only this concern knowing that the final report about the methodology will be presented at the last VIVACE Forum.

In the following, the emphasis will be put on the coming period. For the last 18 months, the programme should be similar. The possible changes will concern its contents which are driven by the needs.

5.2. PROGRAMME FOR M13 TO M30

5.2.1. Requirement capture

The best way to make know the methodology to capture user requirement is to organize regular training. Two subjects will be treated :

- how to describe resource needs. The content of this training will explain how an IT infrastructure should be set up, which kind of information is needed and how they must be delivered.
- how to define the way partners will collaborate when running the scenarios. The content of this training will define what mean "collaborative" and how the process must be analysed to identify when it is implemented and what it requests.

For both subjects, at least two training sessions will be organized by Month 30.

As success indicator, the number of appointments being taken with SP1 and SP3 work package leaders to fulfill the requirement capture document.

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A DISI room will be created on Mayetic village server accessible to all VIVACE partners. It will describe the infrastructure presently available.

5.2.3. How to use DISI

It will be based on the organization of on the demand training. Their content will be fully driven by the user needs to port their applications and tools on DISI and to run their scenarios.

5.3. DISSEMINATION ACTIONS ALREADY PERFORMED

Since the beginning of VIVACE project, the following dissemination actions have been organized:

5.3.1. Training actions

- 2004 : A training on “Methodology for Requirements Engineering” has been organized at HP premises in Stuttgart (Germany). The attendance was composed of all WP3.5 Use Cases representatives.
- 2005 : A training on “Methodology to capture and set up an IT infrastructure” has been organized at CRC-F premises in Toulouse (France). The attendance was composed of WP3.5 Use Cases representatives and from WP3.4 and WP3.3.
- 2005 : A training on “Collaborative Methods and Tools” has been organized at Warwick University in the framework of the first VIVACE Forum. The attendance was composed of the Forum participants.

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To capture requirements, the WP3.5 leader:

- 2004 :
 - October : has participated to WP3.2 and WP3.3 and WP3.4 management meetings and has met System Simulation and Impact Analysis leaders,
 - November : has organized a common meeting between WP3.4 and WP3.6 to capture their requirements,
 - December : has met PRELUDE leader.

- 2005:
 - March: has participated to WP3.6 management meeting
 - October : has met WP3.6 leader to finalize the installation of their developments on DISI.

5.3.3. State of the Art

Two state of the art are accessible on Mayetic village :

- Existing technologies and methods which can be used to identify candidate solutions that are available to DISI,

- Computer Support Collaborative Work (CSCW) available tools.