

Overall status and progress of SPIS project development

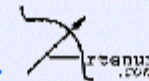
J.-F. Roussel *ONERA / DESP*

and the project team:

F. Rogier, D. Volpert, M. Lemoine *ONERA / DTIM-DPRS*

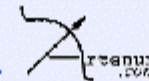
**J. Forest, G. Sookahet, P. Sèng, Y. Lerumeur, M. Biais, M.
Penzi** *ARTENUM*

G. Rousseau *U. PARIS 7*



From a Concept to a Birth

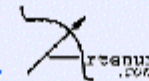
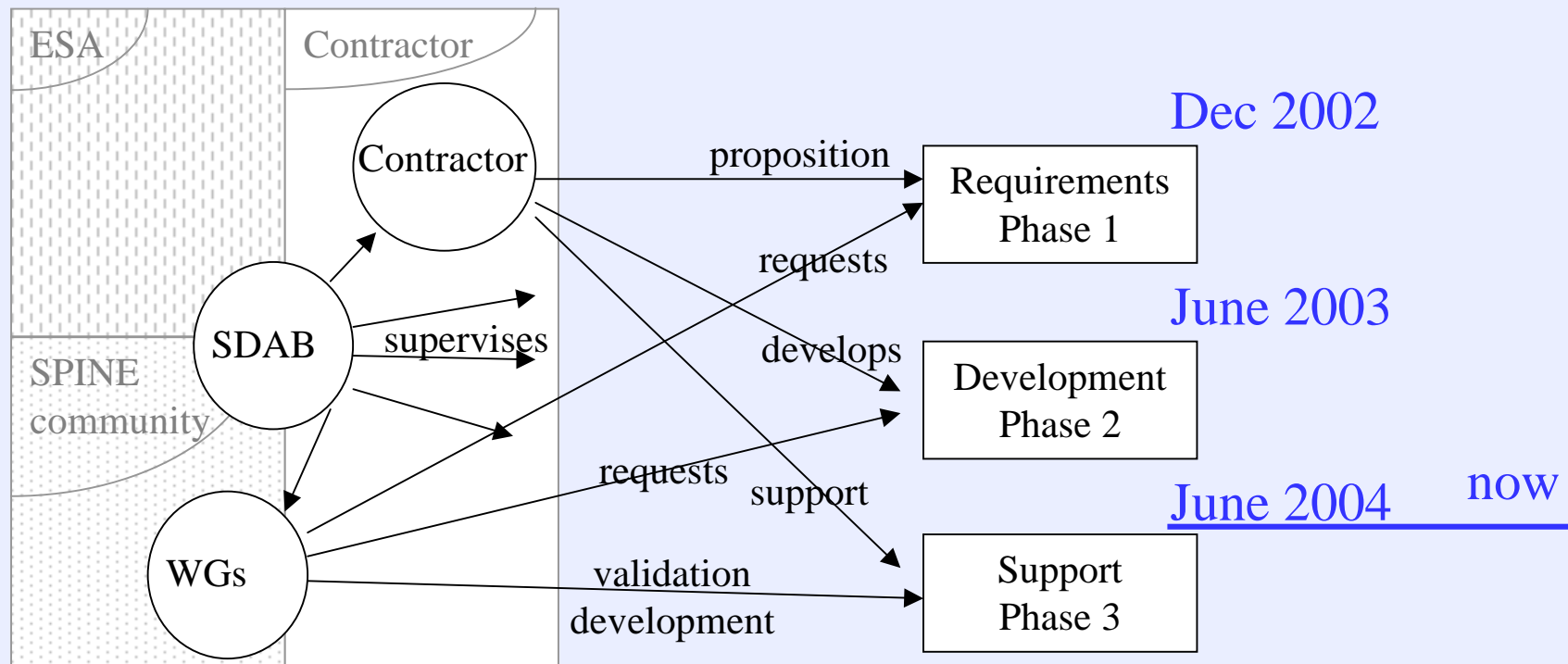
- 15 months ago: 4th SPINE meeting –
Community Requirements
- 12 months ago: PDR
- 9 months ago: 5th SPINE meeting –
Development Status
- 3 months ago (IRF, Kiruna): a new code was born, SPIS:
it was only a new born...
expecting to be grown by his:
 - *parents*
 - *uncles, aunts and relatives...*
- Today (CNES, Toulouse, thank you!) : SPIS is 3 months old:
it learned to crawl, not yet to walk
it still needs a lot of learning and training



SPIS Development Organisation (*reminder*)

➤ Three major entities:

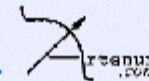
- ★ The contractor: proposes requirements and design, develops software, supports WGs
- ★ Software Development Advisory Board (SDAB): supervises and orients development
- ★ Working Groups (and whole SPINE community): expresses requirements, participates to the development, tests the software



Project Development Logics

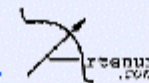
- SPIS is not a one-button-click software
 - ★ Initially rather thought as a research code than as an engineering code
 - ★ Priority on its modularity
 - ★ More packaged, two-button-click versions can perhaps be developed later
 - ★ Yet, following the users' demands, we tried since last time to improve the capability to operate the code from the Graphical User Interface (GUI), reserving the pleasure to enter the source code to some happy few (even though it is affordable thanks to the object oriented approach)

- Importance of the community
 - ★ You are going to be the central actor of next testing and validation phase:
 - ★ Run the code and test it
 - ★ Enhance it!



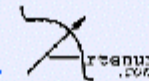
Current SPIS status

- Most of the planned developments have been done
- Demonstration today (CDs of the candidate release available today)
- Still to be done:
 - Some robustness still needs to be gained (testing...)
 - Documentation needs to be completed
 - A few minor points
 - Last important point: 1D and 2D elements (wires and plates)



Future

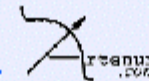
- WG activities with contractor support:
 - ★ 3rd quarter 2004: full support for WG1 (sheaths):
 - ★ starts now
 - ★ “kick off” meeting for WG1 activities tomorrow, here
 - ★ 4th quarter 2004: full support for WG2 (EP, etc.)
 - ★ 1st quarter 2005: full support for WG3 (material properties)
- A SPINE meeting every 3 months from now on
- next meeting: maybe next one shifted of 1 or 2 months to take into account the summer vacation break
=> SPINE Workshop 8 in November 2004 (ESTEC)



Related activities

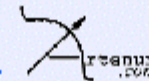
Two other projects in the same ESA mini-project:

- Material properties (experimental):
 - ★ Presented by L. Levy (ONERA)
 - ★ Need of strong interfacing with SPINE community and SPIS development team:
 - ★ community needs => material characterisation
 - ★ material characterisation => SPIS code material model
- Charging Handbook and Guidelines:
 - ★ Presented by D. Rodgers (QinetiQ) and D. Heynderickx (BIRA) this afternoon
- Importance of communicating between the three (micro) projects



Objectives of this meeting

- Present new SPIS developments by the contractor
- Feed back to contractors: usage difficulties, lacking functionalities...
- Enhance Working Groups dynamics, fundamental now for next support phase
- Start WG1 activity (tomorrow)



Today agenda

- 9H00-9H30: welcome
- 9h30-10H30: SPIS framework presentation (Artenum-UP7):
Quick start, demonstration, bsuiness plan discussion...
- 10H30-11H00: coffee break
- 11H00-12H00: SPIS framework presentation (cont'd)
- 12H00-13H30: lunch break
- 13H30-15H30: SPIS solvers presentation (ONERA)
implemented solvers, control from UI, some results, future...
- 15H30-16H00: coffee break
- 16H00-16H30: Material electrical properties characterisation project status (L. Levy - ONERA)
- 16H30-17H00: Spacecraft Plasma Interaction Guidelines and Handbook:
Results from the Requirements Phase (D. Rodgers - QinetiQ, D. Heynderickx - BIRA)
- 17H00-18H00: Round table about SPIS software: feed back from users and discussion of next testing and support phase

