

The JFSP Software Tools and Systems Study

The Interagency Fuels Treatment Decision Support System (IFT-DSS)

Phase III: Developing the Proof of Concept Version

May 2009 – May 2010

Phase I of the STS study (April 2007 – March 2008) concentrated on problem analysis and identifying a solution pathway while reviewing the entire universe of fire and fuels software tools. Phase II (April 2008 – April 2009) continued with problem analysis but we narrowed the scope to fuels treatment analysis and planning. We thus moved from a broad strategic assessment to implementing the recommendations from Phase I within a specific and well-defined area. In Phase II, we identified and contacted fuels specialists to elicit their help and to understand their needs and we prepared the conceptual design, which spelled out the functionality – the WHAT, and the strategic architectural design, which laid out an implementation pathway – the HOW. After the JFSP Board approved the development of the Proof of Concept version of IFT-DSS, Mike Rauscher as project manager and the STI team lead by Tami Funk, proceeded with the implementation plan beginning in May 2009. The highlights of accomplishments in Phase III are best reviewed and understood by summarizing the month to month progress.

- May: Meetings in Seattle and Missoula with research model developers. This was the third year in a row we held these meetings and they have been crucial to gaining developer support and understanding of the project. This meeting resulted in Dave Peterson deciding to rewrite the FERA group of applications along the lines of our IFT-DSS design with the express purpose of integrating these tools into IFT-DSS. A second result was that Elizabeth Reinhardt became intrigued with the philosophy that we were explaining that IFT-DSS is at one level only an example of how a System of Systems approach could benefit the entire fire and fuels community. She subsequently published her review paper “First-Order Fire Effects Models for Land Management: Overview and Issues” Fire Ecology 6(1):2010. This review paper is significant because it serves as an independent research confirmation of the utility and validity of our computer science philosophy and approach.
- June: We reworked our description of the workflow scenarios that the fuels treatment specialists told us they wanted. The report “Refined Workflow Scenarios and Proposed Proof of Concept System Functionality for the Interagency Fuels Treatment Decision Support System” by Drury et al (July 2009) has been completed. It was crucial that we

clearly understood exactly the functionality that IFT-DSS should provide users. This was the third major clarification, review and feedback from the field user community that we initiated. At each cycle we significantly improved our understanding of what was needed and what we were expected to deliver.

- July: STI met its first major production target by producing the first version of the GUI Mockup. Sean Raffuse demonstrated it using the WEBEX webinar technology for the first time. WEBEX allows a presenter, in this case Sean Raffuse of STI, to control the computer screen of each attendee. This allowed Sean to demonstrate the features of the GUI Mockup so that we could see exactly what he was talking about. We subsequently used webinars to great advantage with several different stakeholder groups. A subgroup of the IFT-DSS Working Group and the STS study Advisory Board (Tim Swedberg, Paul Schlobohm, Erik Christiansen, Tami Funk, and Mike Rauscher) finished the “Communication Strategy for Community Development Surrounding the Interagency Fuels Treatment DSS”. This communications plan represented a pioneering departure from similar plans because it was much more specific and was designed as a true guiding blueprint on who we were going to contact and how we were going to do it. Our subsequent implementation of this plan raised the awareness and understanding level of IFT-DSS of numerous members of the user, developer, and governance stakeholder communities.
- August: John Cissel was instrumental in representing the project at the Aug 20 meeting of the NWCG Investment Review Board meeting. The NWCG provisionally accepted the IFT-DSS project as a sponsored project with the Forest Service as Managing Partner. The NWCG Fuels Management Group agreed to take over governance of IFT-DSS when the JFSP is ready to pass that responsibility along. The Forest Service agreed to be the managing partner for the NWCG. A contract writing team was assembled and given the task to write and put in place the contract vehicle to take IFT-DSS from Proof of Concept to full functionality (June 2010 – Sept 2012).
- September: Sean Raffuse and other members of STI met with Rob Seli and WFDSS software engineers in Boulder Sept. 8 & 9. We were excited about getting down to details about how IFT-DSS and WFDSS can share services. The WFDSS project team assigned Mitchell Burgard as the liaison between WFDSS and IFT-DSS. Discussions continued between the major web-based SOA systems (WFDSS, BlueSky, FFA, and IFT-DSS) on how to cooperate.
- October: We began implementation of the Communications Strategy Document with two presentations in Boise on Oct. 14. One was to the NWCG Directors with a focus on the IFT-DSS vision and one was to the Fuels Management Committee, the Long-Term

governance group for IFT-DSS, on what will be involved with this new role. After many briefings by John Cissel and this presentation, the NWCG Directors achieved understanding of the System of Systems vision that IFT-DSS, in cooperation with WFDSS, BlueSky and FFA, represents. This was a major step forward to gain acceptance and support by a significant subgroup of the governance stakeholder community. Tim Swedberg went on to present IFT-DSS to over 30 different NWCG and other agency meetings from Oct. 2009 to April 2010. This directly resulted in increasing the membership in our test user group from the initial 13 to close to 50 at the current time.

- November: The focus in November was on presenting two posters and a live demonstration of the POC version 0.0.2 at the Fire Ecology Congress in Savannah, GA. The JFSP Digest on the IFT-DSS project, fresh off the press, was handed out to all interested parties. Almost every talk that had a future or long term management perspective mentioned IFT-DSS project. A surprisingly large number of attendees were familiar with IFT-DSS which we attribute to the growing informational penetration achieved by our communication plan efforts. The wide distribution of the Digest, c. 10,000 copies, will bring the IFT-DSS project to the attention of the early and late majority members of our stakeholder groups as well as to many interested people outside our current stakeholder communities. Side discussions resulted in a proposal to the JFSP Board to improve the FVS executive for operations inside IFT-DSS and a decision to hold a System of Systems meeting in Seattle in March 2010 with Dave Peterson as host.
- December: Most of the IFT-DSS team collapsed due to sheer exhaustion. Tim Swedberg kept talking to managers and the STI programmers continued work in the rapid prototyping mode on IFT-DSS.
- January: ITS'S LIVE! The bulk of project activity this month was focused on the release of the multi-user IFT-DSS proof of concept version 0.1.0 which became available to the Test User Group at "iftdss.sonomatech.com". This initial release of the proof of concept system included the functionality for users to set up user profiles, define projects, and run FlamMap fire behavior model for a point location. This was the first implementation of the Prescribed Burn workflow scenario.
- February: The highlight this month was the good reception by the test user group of release 0.1.0 and the great work Stacy Drury of STI is doing working with that group to obtain feedback. The test user group is well above 40 members right now and we received 10 very detailed and well thought out reviews from member of that group.

- March: Brad Harwood, Michele Tae, and Mike Rauscher met with STI in Petaluma to finalize requirements for contract satisfaction for the current contract and define alternative ways to proceed for the new contract. The System of Systems meeting was held in Seattle resulting in a desire to further define and refine the vision that the group is striving to achieve. John Cissel subsequently talked about the IFT-DSS vision at several briefings for members of the WO Staffs and found good reception for this vision which is beginning to make leadership people think. John concluded that it was important for the IFT-DSS project to continue work along these lines because it helps IFT-DSS gain acceptance and support among senior leaders of the agencies.
- April: The installation of IFT-DSS version 0.2.0 was completed and running on the web. Version 0.2.0 offers advances in the database structure and in further elaboration of the Prescribed Burn workflow scenario. Many of the new changes came from suggestions submitted by the test user group.
- May: IFT-DSS version 0.3.0 was finished May 20 and is undergoing testing and review. The contract ending deliverables were produced and delivered to John Cissel and a presentation to the JFSP Board was given reviewing the progress made over the contract year.