SDR Tool Suite (STS)

General Description

DataSoft Corporation has created an SDR Tool Suite (STS) that measures both the complexity of the waveform elements as well as their portability.

DSWFAT (DataSoft Waveform Analysis Tool) is an SCA WF Analysis Tool that provides portability and complexity metrics enhancing and augmenting JTRS waveform development and porting efforts.

DSSP (DataSoft Software Probe) is an SCA WF Diagnostic Debug Tool that provides real-time access to critical debug information split across multiple processes and processors.

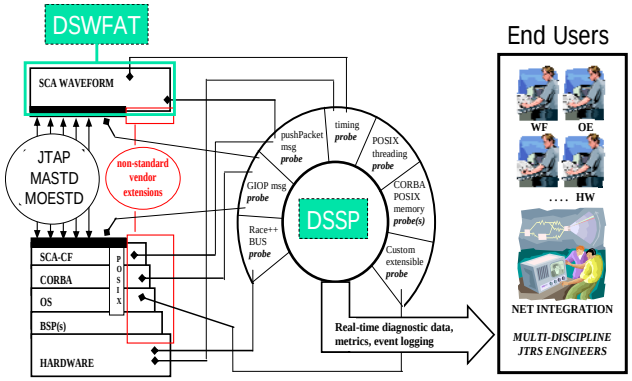
The STS capability is demonstrated in an iterative strategy for WF porting analysis. **DSWFAT** can analyze a WF to evaluate sources of latency in the WF structures while the **DSSP** can execute a WF on the platform to gather performance data. The **DSSP** data and **DSWFAT** source code will provide insight on how effective a WF can be hosted on a target platform.

Benefits

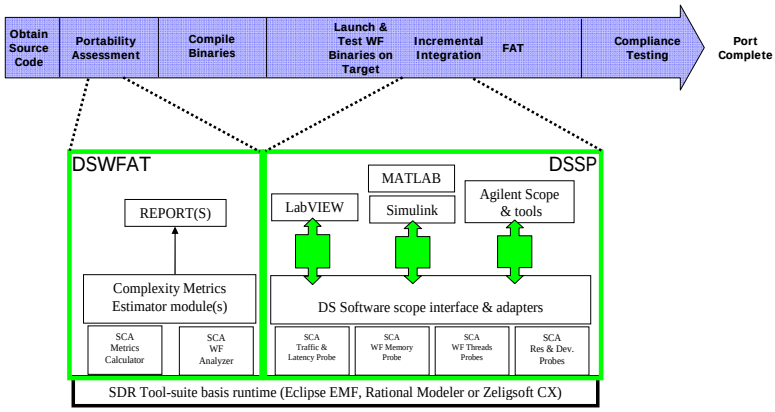
• **DSWFAT** can generate and display WF portability metrics from the application level down to the component level.

•**DSWFAT** enhances JTRS waveform development and porting efforts.

•**DSSP** allows porting engineer to study real-time data flows in any connected waveform with complete ease.



The *DataSoft* STS Methodology



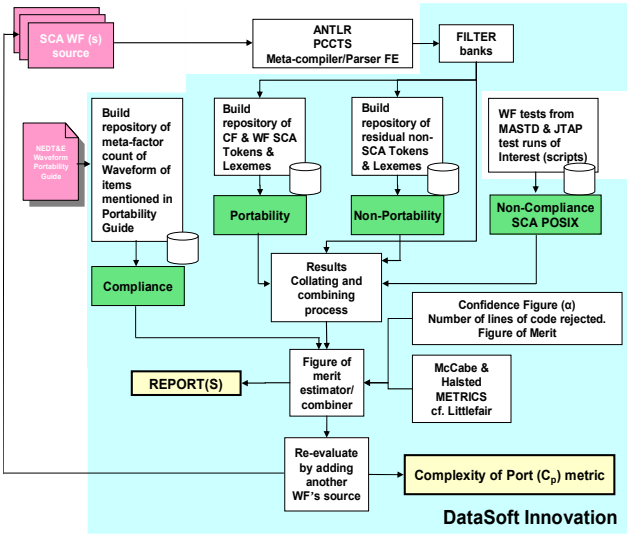
DataSoft SDR Tool-Suite Use in WF Lifecycle

Features

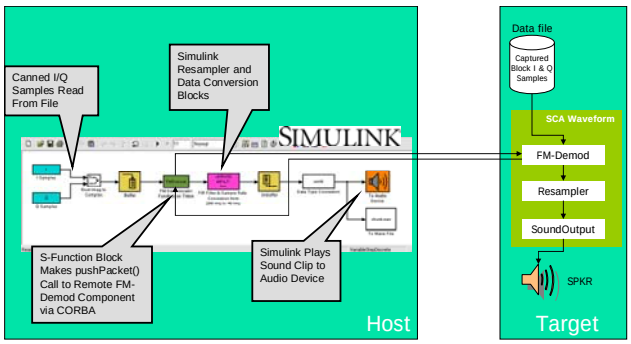
•With the **DSWFAT** approach integrated with Zeligsoft-CX waveform builder, the porter can realize a conceptual model of the WF and get metrics and estimates of complexity.

•With the **DSSP** approach, any tool adapter can be hooked up to any probe on any waveform to provide macro- and microscopic real time WF diagnostic debug.

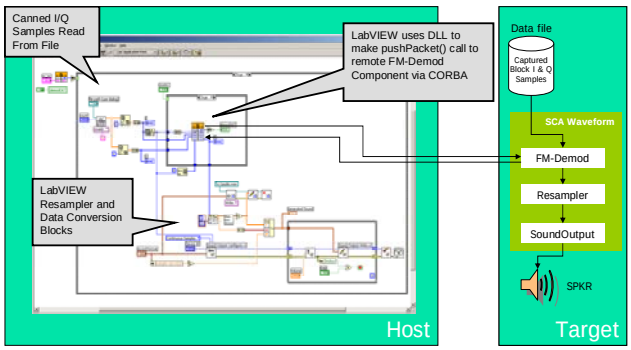
STS Simulation Diagrams



DSWFAT: Unified Approach to WF Porting Profiler



DSSP: Simulink Simulation Setup



DSSP: LabVIEW Simulation Setup

Applications

- Probe WF, SCA Devices, CF, ORB and Platform Data by applying **DSSP** at different places in OE
- Gather Data in heterogeneous multi-processor environment
- Research in Cognitive Radio Arena

About DataSoft

DataSoft specializes in software and hardware research, design, and engineering of customized components, products, middleware, and protocols for communication systems based on software-defined radio technologies.

As the recipient of multiple Department of Defense research grants (SBIR), DataSoft is actively working on projects for the Joint Tactical Radio System (JTRS) that enable superior wireless communications capabilities. Expertise includes SCA, MANET, tunable RF components, network protocols, advanced network management, modeling and simulation.