

Power Control Management Service

General Description

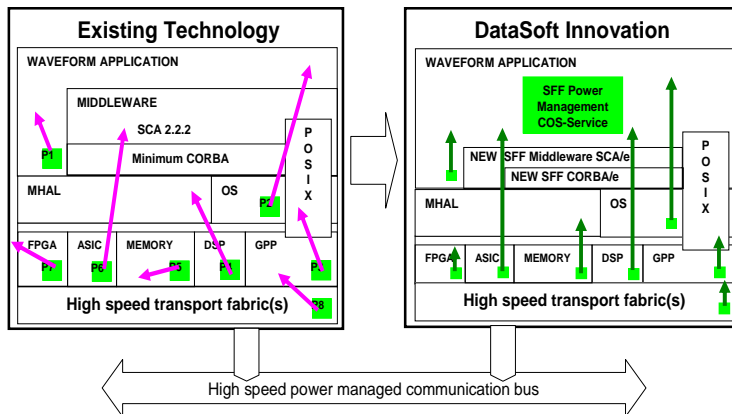
The **DataSoft Power Management Service (DSPM)** is a practical, feasible, accurate and efficient way to monitor power regulation and improve performance. **DSPM** uses a set of novel techniques which allow any conventional SDR platform and waveform to negotiate waveform demands while minimizing the power usage.

DSPM will specify a power regulation model in language independent IDL to ensure platform independence. The approach uses UML and CORBA IDL from the OMG for a more global power savings service specification.

The **small form factor, power-aware DSPM model** will maximize the system performance of software defined radios at reduced energy levels.

Benefits

- Enables SDR Designer to stipulate constant minimal power execution strategy across disparate processors and software stacks.
- Practical, Feasible, Accurate and Efficient method of monitoring and improving power regulation and performance

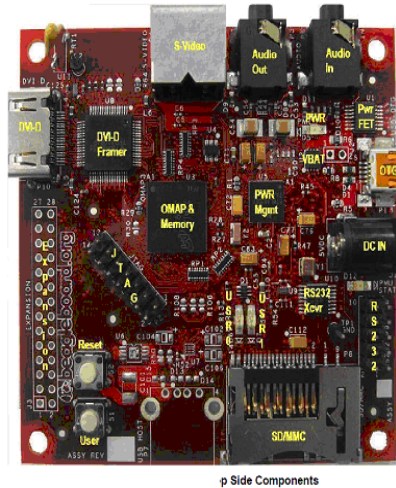


Middleware Approach to Centralized Power Management

Features

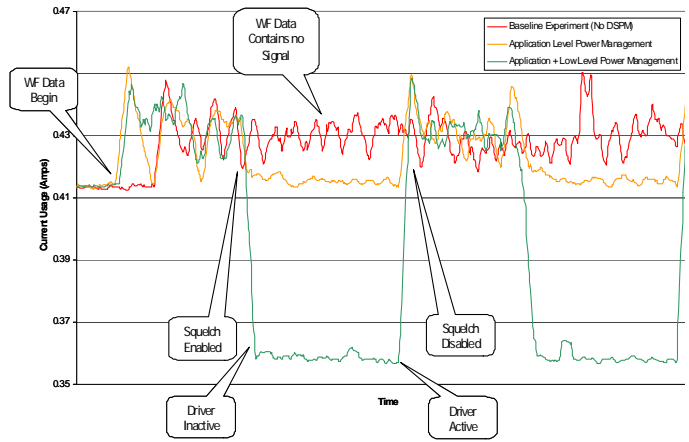
- Supports Low Power Awareness States and Control
- Functions for Runtime Idle Detection
- Can implement the runtime of new keywords for Power Cognizance to regular IDL grammars
- Supports setup, handshake and negotiation of data path SCA pushPacket calls making them more cycle and memory efficient with Adaptive GOIP
- Language independent IDL to ensure platform independence

Experiment Results

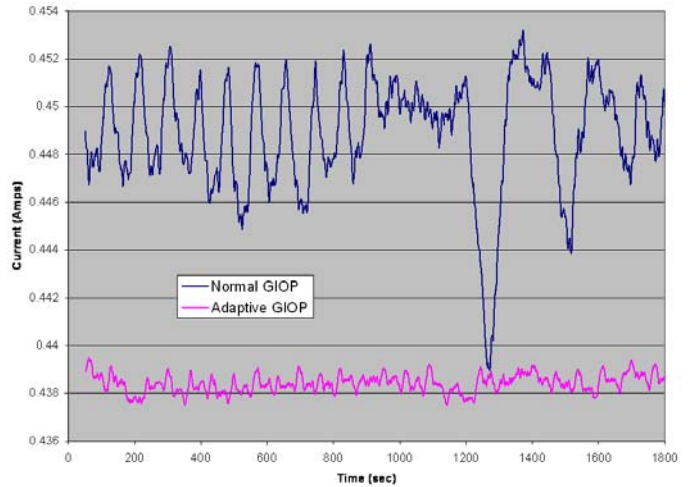


- DSPM
- ORB
- CORBA
- OE
- POSIX
- OS

Beagle Board used with embedded Linux, hosting Spectra OE running a SCA-compliant FM-Demod waveform that outputs sound to a speaker



DSPM Experiment Comparison



Normal and Adaptive GIOP current usage

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.

Applications

- H/W and H/W Drivers
- ORB software
- WF Applications
- Adaptive GOIP