DataSoft Corporation

Product R&D and Engineering Design Services
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Capabilities in
Wireless & Tactical Communications

DataSoft Overview

- Developer of technology and products for wireless & radio communications:
  - Software Defined Radio Platforms
  - Secure Bluetooth Modules
  - Android Apps
  - Real-time embedded software and SCA tools
  - Network security appliance
- Markets: defense, aerospace, telecom, industrial automation
- Customers: Navy, Army, Air Force, General Dynamics, Comtech EF Data, Thales, Lockheed Martin, Raytheon
- Major programs: ATIP (NMT), JTRS HMS & AMF, HDR RF Modem, MUOS
- 13 Phase II SBIR's on JTRS, Cyber defense, Network management
- Small business, located in Tempe, AZ
- DCAA approved accounting system; Secret FCL; COMSEC account

Overview of Products and Projects

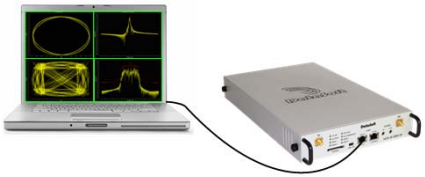
Microburst SDR

Thunder Development & Test Platform

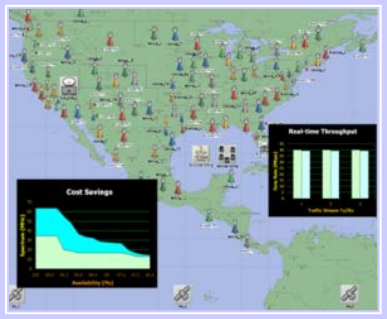
Test Automation

JTRS HMS & radio accessory

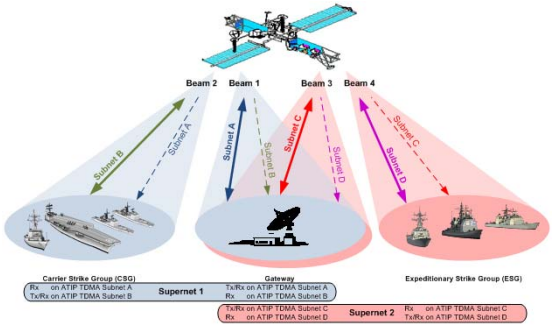
Software Probe Toolbox for SDRs



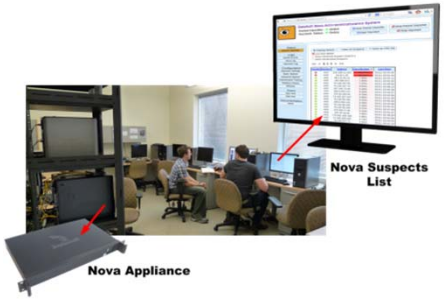
Satellite Network Simulator



MUOS & ATIP (NMT)



Network Security



Business Model

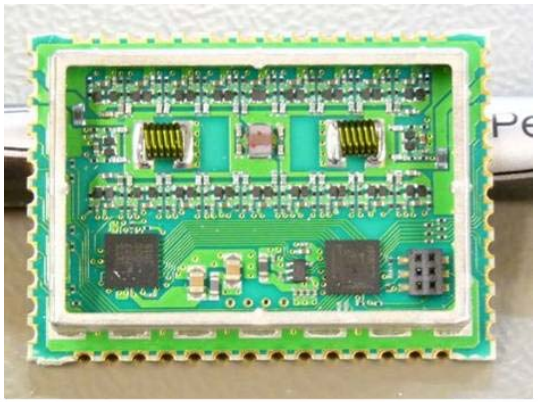
DataSoft Capability	Business Model
HW & SW Products	Direct Sales, OEM, Licensing, Overseas VAR
Custom Design Services	T&M, FFP, royalty
Govt. design & development RFPs	Cost-plus; T&M, FFP

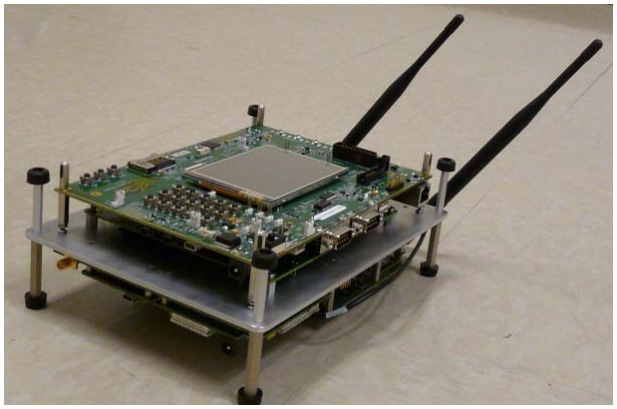
Export/ITAR Experience:

- Registered with Dept. of State as a Manufacturer & Exporter
- Exported ITAR-controlled HW & SW to France, UK, Brazil, India
- Partners in UK, India, Poland
- Interests from Argentina, South Africa, Australia, Poland
- Investing in export compliance training, monitoring ITAR reform for Category XI items

RF Design – mixed mode

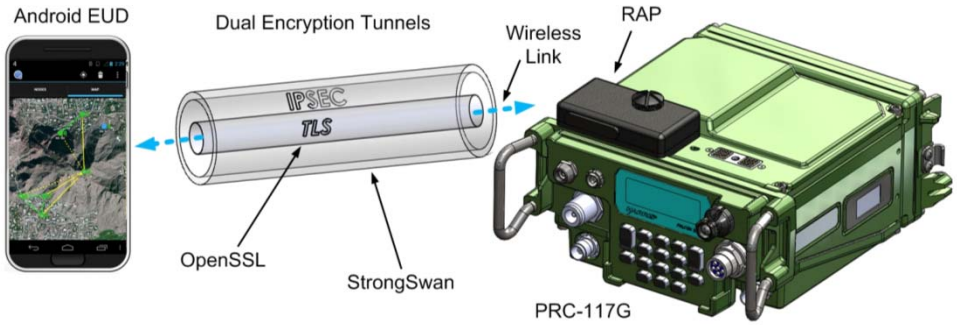
- Software Defined Radio – Thunder, Microburst
- RF Transceiver and FEM
- Baseband
- Tunable RF filters





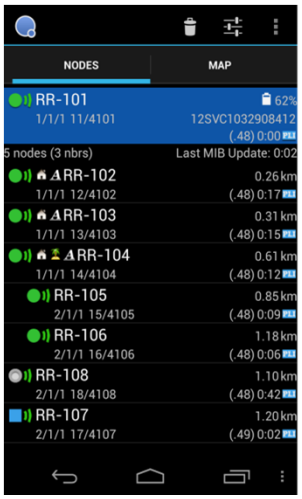
Bluetooth, ARM, Power

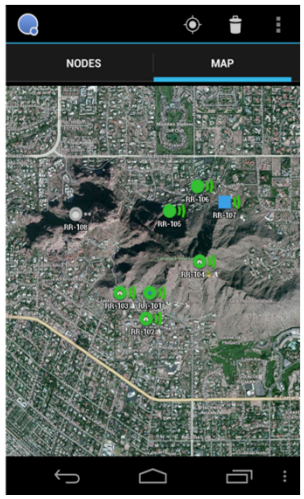
- Bluetooth v2.1+EDR, LE v4.0
- ARM Cortex A-5, OMAP A-8
- USB charging circuits, regulators
- Secure IP encryption

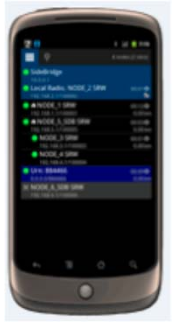


Android Apps

- BlueLink, SRW Contacts, PLI Cam
- Android kernel, VPN, multicast
- Various devices – Nexus, Atrix, Galaxy, Note, Zoom, Tab, etc.





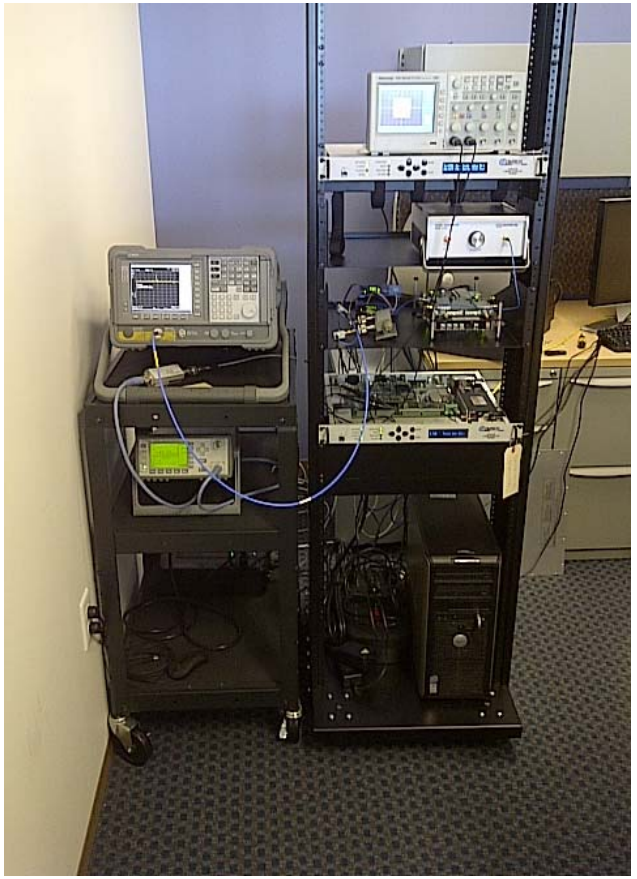


Industrial Design / Rapid Prototyping

- SideBridge designs for multiple radio models
- Custom 3D Printing with ABS
- Quick-turn metal shops
- Solidworks

Testing facilities

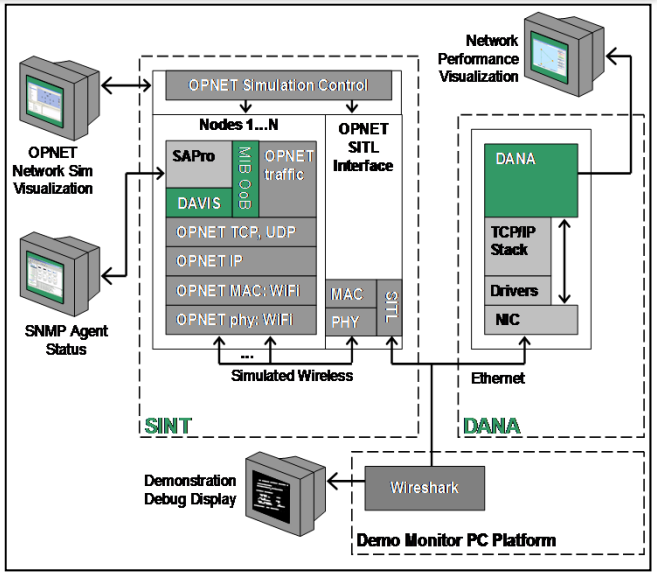
- Complete electronic labs
- Network analyzer, signal analyzer/generator, oscilloscopes, temperature chamber, etc.
- LabView, customized test software, ATE



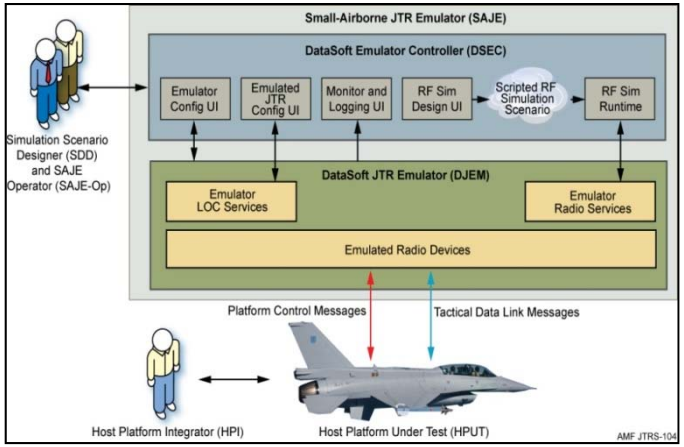
Automated Test Expertise

- **Simulation based Testing**
  - OPNET-based test bed
  - Data Collection & Analysis tools
  - HW-in-the-Loop (HWIL) testing
  - SW-in-the-Loop (SWIL) testing
- **ATE Design & Development**
  - STE design & fabrication
  - PC-based control via GPIB bus
  - Virtual RF Environment
  - LabView and Teststand
  - Data logging & analysis

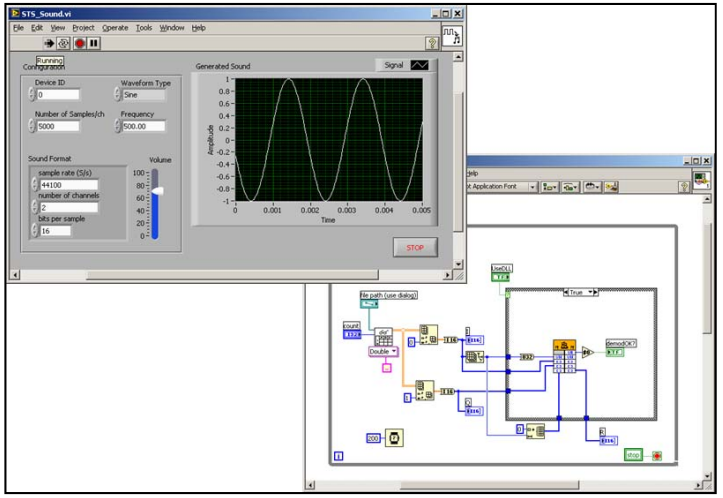
HWIL & SWIL test-bed



Radio Emulator design for JTRS AMF



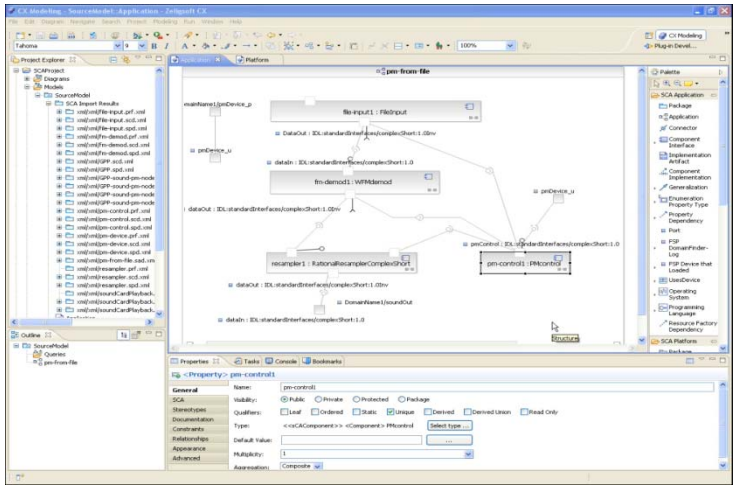
Test Automation using LabView



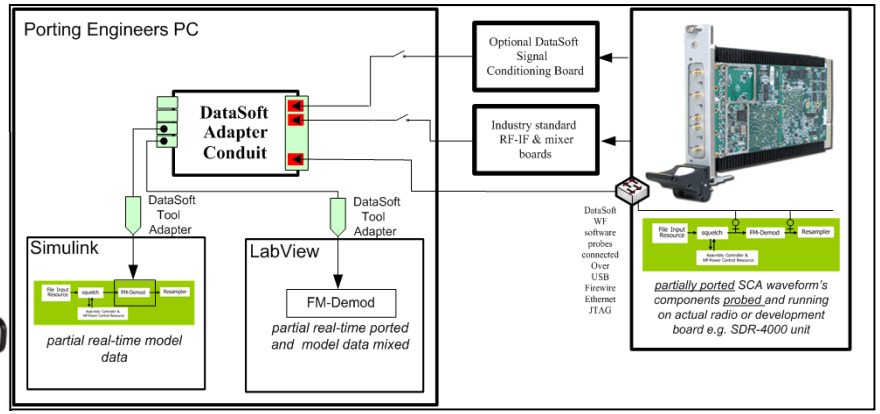
Waveform Porting/Analysis

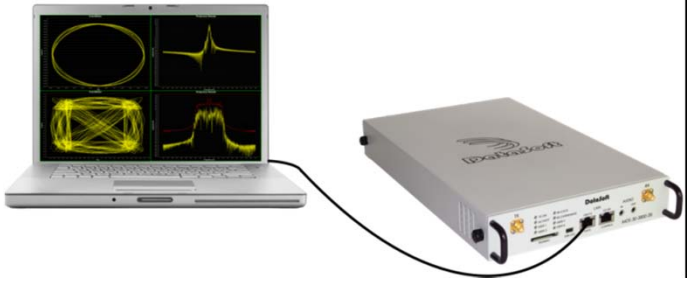
- Waveform Development Environment
  - SCA-compliant SDR
  - GPP, FPGA, DSP
  - Drivers, BSP, Loading tools
- SRW, WNW, MUOS
- Waveform Probe Toolbox
  - Data Probe
  - Resource Probe
  - Latency Probe
  - Traffic Probe
  - SCA Adapter Probe
- Portability/Complexity Analysis Tool
- SCA API Compliance verification tool, used by JTEL

WF Development & SCA Compliance tools



SW Probes & custom board



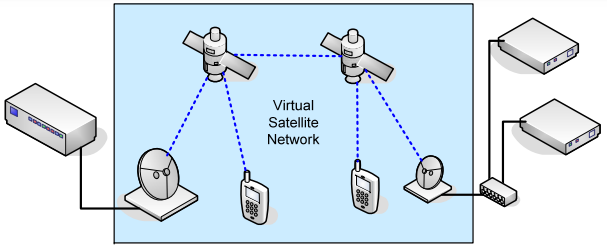


Satellite Network Simulator

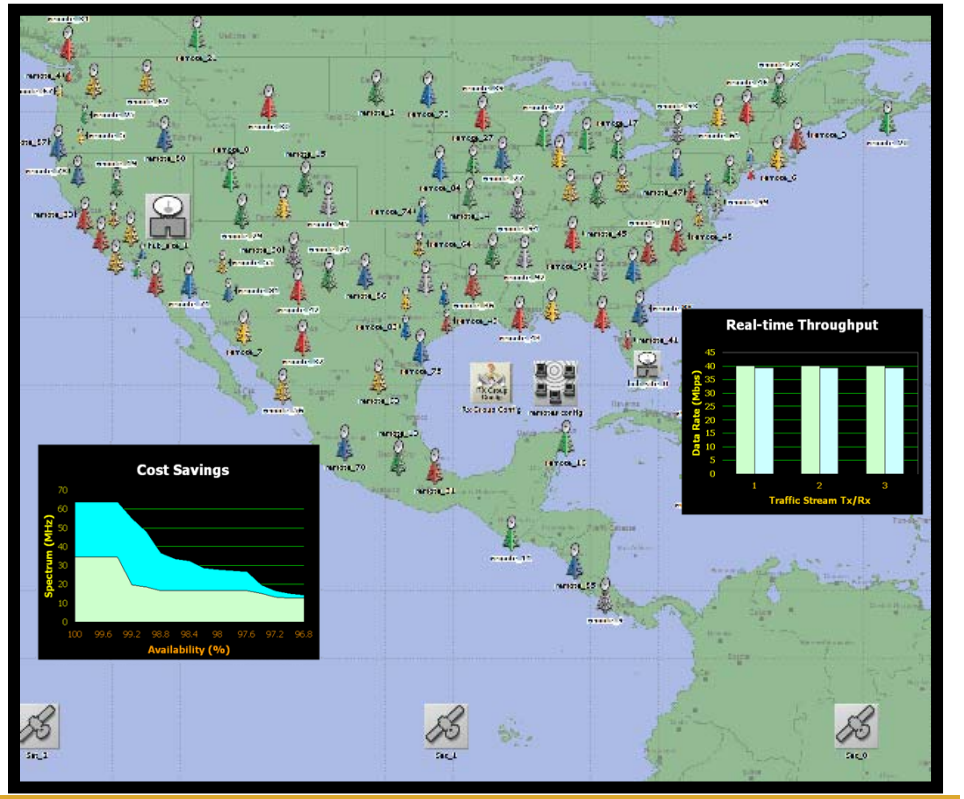
Modes & Uses

- Hardware-in-the-Loop Mode:
  - Layer-2 Verification and Validation of real hardware
  - Performance, Reliability, and Scalability metrics derived from realistic scenarios
- Offline Mode:
  - Estimate bandwidth and power requirements reliably by simulating years of operation in minutes
  - Accurately predict Capacity and Availability for planned deployments

System View



OPNET model

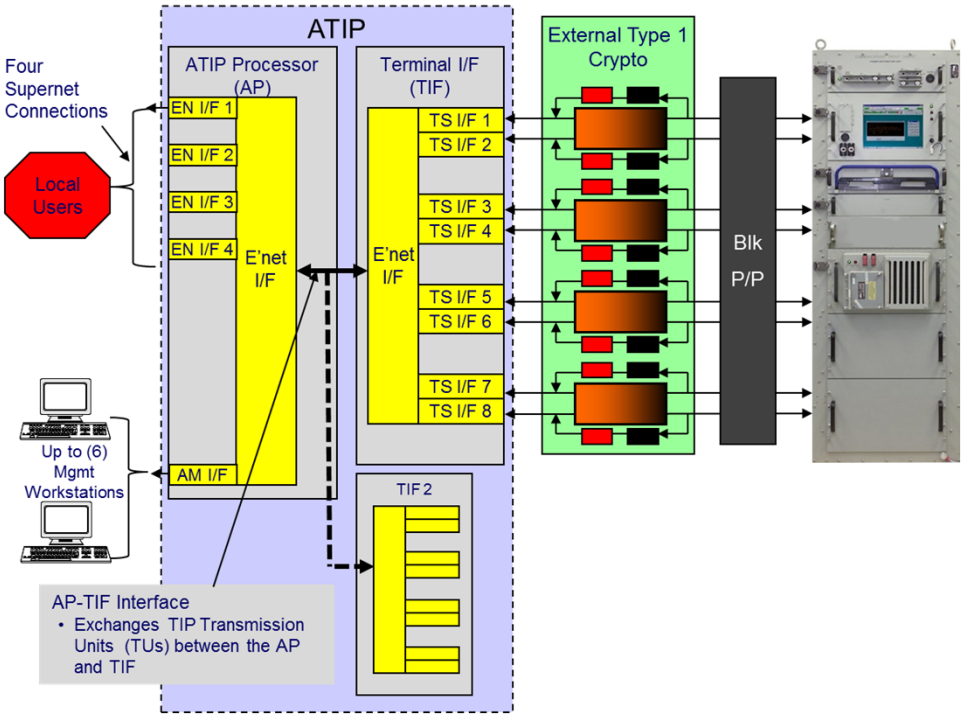


Features

- Real-time simulation of 100's of links, including satellite-to-ground, ground-to-satellite, and satellite-to-satellite communication
- Support for dynamic modulation (VCM and ACM; DVB-S2)
- Simulates location-based fade and weather effects
- Dynamic, multi-user link power budget analysis
- Windows or Linux Software solution -- runs on commodity hardware

Real-time Embedded Software

ATIP supports Navy NMT



Advanced TDMA Interface Processor (ATIP)

- IP Layer-2 Ethernet bridging device
- Element of Navy Multiband Terminal (NMT)
- Supports ADNS and BMDS Networks
- Features:
  - Rack mounted COTS servers based on RT-Linux
  - Open, modular, scalable architecture
  - IPv4/IPv6 networking & QoS enhancements
  - Information Assurance & Security
  - Prioritization and Dynamic Bandwidth Allocation
  - Framing for multiple data streams
  - Adaptive Coding enhancements
  - Web based control & configuration system
  - CMMI 3 development process

Other experience

- Linux, VxWorks, GHS Integrity
- BSP, PSP, Boot loader, Radio control library
- Device Drivers – Ethernet, audio, USB, UART
- Radio Devices, Radio Control, RF Control,
- DSP modules device drivers and sample apps

NOVA Cyber Security System

- Distributed anti-reconnaissance software for IP-based networks
- Gives network admin time to pinpoint, isolate, and remove threats
- Autonomous agents combine lightweight virtualization, attacker classification, dynamic rerouting for asset protection
- Pre-configured appliance with web-based interface
- Complements Intrusion Detection & Anti-Virus systems