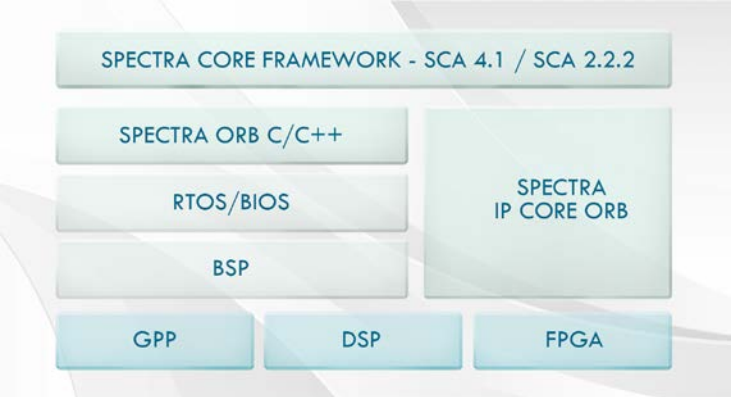
Spectra CF High Performance Low Footprint SCA Core Framework

The Spectra Core Framework (CF) is a high-performance, ultra low footprint, COTS implementation of the Software Communications Architecture (SCA) standard's Framework Control and Service Interfaces and is part of our rapidly growing family of advanced Software Defined Radio (SDR) technologies. Spectra CF is designed specifically to support the implementation and deployment of the next-generation of complex SCA-compliant networking waveforms required for military, homeland security and commercial SDRs. Spectra CF supports the deployment of waveform components on any mix of General Purpose Processor (GPP), Digital Signal Processor (DSP) and Field Programmable Gate Array (FPGA) processing elements.

The Smallest, Fastest, Most Advanced COTS Core Framework

Spectra CF is a fully integrated combination of SCA Framework Control and Service component implementations, Spectra Common Data Bus (CDB) embedded middleware and communication transports optimized for the leading Real-time Operating Systems (RTOS) and supplied by a single vendor.

We have a unique advantage in being the only company that develops both the CF and middleware components of an SCA Operating Environment (OE). This has enabled us to create a CF that has the highest performance and best Size, Weight, and Power (SWaP) characteristics available. The C language CF has a static footprint of under 2MB, which can be as much as 10x smaller than either in-house developed or other Commercial Off-The-Shelf (COTS) CFs.



The small memory footprint and optimized processing component translates directly into SWaP requirements, making it suitable for ultra small form factor SDRs. The combination of optimized parsing technology, low latency middleware and multithreaded CF architecture enables rapid radio startup and shutdown, waveform applications to be started, stopped and swapped more quickly, plus support for a broader range of waveforms, particularly where data path latency is critical.

Superior Multi-Standard Support

Spectra CF offers support for the leading SDR standards: the latest 4.1 version of the SCA and also SCA version 2.2.2. We are committed to supporting these standards as they evolve.

Superior Multi Language Support

Spectra CF's tool chain supports the development and deployment of both SCA platform and waveform components written in multiple programming languages, including:

- C++ (for GPPs)
- C (for GPPs and DSPs)
- VHDL (for FPGAs and ASICs)

Broad Platform Coverage

Spectra CF is highly portable and is supported on a wide range of platform combinations, including the latest version of all the leading RTOSs and processors:

- RTOS: Windows, Linux, VxWorks, Integrity, LynxOS, QNX, TI BIOS, others
- CPU: ARM, PowerPC, x86
- DSP: TI
- FPGA: Altera and Xilinx

Spectra CF is also available on a number of fully integrated COTS SDR development platforms, including:

- Spectra DTP4700

Flexible Development Configurations

Spectra CF provides support for multiple memory, processor and development configurations, including:

- Single or separate address spaces RTOSs
- Static or shared libraries
- Native and non-native exception support

Complementary SDR Products

Spectra CF is part of the most complete family of SDR products and technologies designed to support all of your SCA SDR development needs. The Spectra family of SDR products also includes:

- Spectra CX - a model-driven development tool that simplifies, accelerates, and validates a significant proportion of the SCA SDR development process
- Spectra DTP4700 - a complete wideband, high-performance baseband and RF SDR development and test platform

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Spectra CF Main Components

Spectra CF includes the following main components:

- SCA Components
  - Component Registry
  - Domain Manager
  - Device Manager
  - File System Service
  - Executable Device (example)
- Utilities
  - Boot Loader - used at runtime to activate the correct DomainManager or DeviceManager described in the domain profile
  - Target Loader - used to support automated compliance testing on the target SDR platform
  - CF Admin - a utility that provides the ability to easily install, create, start, stop, release and uninstall applications
- Spectra Common Data Bus Embedded Middleware (bundled)
  - Spectra ORB C and C++ Editions for GPP
  - Spectra ORB Naming Service
  - Spectra ORB Event Service
  - Spectra Log Service
- Spectra Common Data Bus Embedded Middleware (optional)
  - Spectra ORB C Edition for DSP
  - Spectra IP Core ORB for FPGA

Note: the CORBA Naming and Event Services are included as part of the Spectra CF Domain Manager.

We have also developed a number of platform specific implementations based on the SCA Radio Services and Devices APIs. For information on how these components can be supported on your SDR platform, please contact us for more details.

Summary of Spectra CF Benefits

- The first complete COTS CF available from a single vendor
- Very efficient SCA 4.1 CF implementation that can support both C++ and/or C and/or VHDL waveform components
- Supports deployment of SCA 4.1 and SCA 2.2.2 components.
- SCA 4.1 and 2.2.2 components can be used in the same application.
- Ultra lightweight embedded middleware (ORB and COS) implementation
- Optimized for overall RTOS/ORB/COS/CF performance as a single embedded system - not just a collection of parts!
- World-class SCA and embedded middleware experts ensure optimal design and implementation
- SCA Radio Services and Devices
- Supported on wide range of platforms
- No export restrictions - not subject to International Traffic in Arms Regulations (ITAR) or Joint Tactical Radio System (JTRS) export restrictions

For More Information

For further information regarding Spectra CF capabilities please e-mail: ist_info@adlinktech.com or visit: ist.adlinktech.com

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LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000