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# The Vector, Signal, and Image Processing Library (VSIP L): Emerging Implementations and Further Development

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# Acknowledgements

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# VSIP L Goals

Vector Signal  
Processing Application

Matrix Signal  
Processing Application

Image  
Processing Application

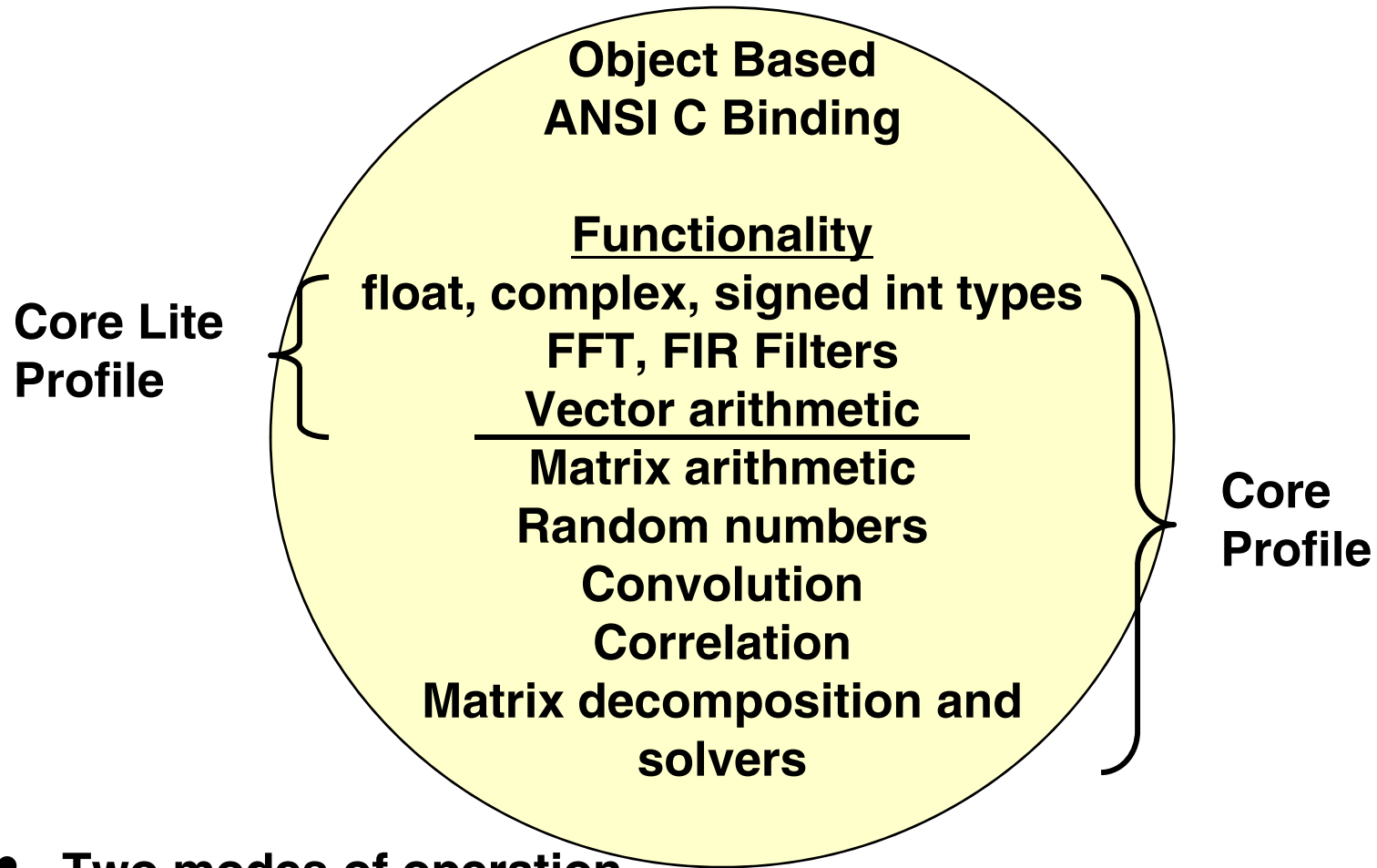
Vector, Signal, and Image Processing Library



- Portable to workstations, embedded systems, FPGAs
- Applicable to simple and complex applications
- Easier upgrade cycle
- Reduced development time and cost



# VSIP L API Properties



- **Two modes of operation**
  - **Development mode with extensive error checking**
  - **Performance mode with minimal error checking**



# VSIP L Forum Products

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- **Standard API for Vector/Signal Processing**
  - Version 1.0 issued April 2000
- **TASP VSIP L demonstration library**
  - ANSI C performance mode implementation
  - Developed by Randy Judd of SPAWAR
  - Core and Core Lite versions
  - “Core Plus” version including additional matrix functionality
- **Portable C Test Suite**
  - Tests compliance with Core Lite Profile of VSIP L 1.0 API
  - Does not test performance (speed or memory)

**All may be downloaded from VSIP L web site**  
**<<http://www.vsipl.org>>**



# Implementations

## Available Now

### Vendor

### Target Profile



CSPI

Core-lite



Mercury Computer Systems

Core-lite



MPI Software Technology

Core

Licensed by Ixthos, Ceta, DNAENT G3/G4 boards  
Version for Linux under development



SKY Computers

Core

## In Development

Annapolis MicroSystems' WildStar Boards

MCCI's Autocoding Toolset

The MathWorks' Simulink



# The Future of VSIP L

Near-term

Mid-term

Long-term

Get VSIP L 1.0  
Established

C++ Binding  
Image Processing Support

Parallel VSIP L



# Summary

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- **VSIP L 1.0 is complete and available**
- **Implementations are here**
- **The Forum is continuing to support and to enhance VSIP L**
- **Actively soliciting examples and “field reports”**
- **Next Meeting January 9-10 at Mercury in Chelmsford, MA**