# LEIF

## ROGUE WAVE™ LIGHTWEIGHT ENTERPRISE INTEGRATION FRAMEWORK™ (LEIF™)

### THE INTEROPERABILITY CHALLENGE

Despite the growing adoption of Java/J2EE and Microsoft .NET, C/C++ is still the foundation for the majority of mainstream business applications. This poses a complex challenge: How can you quickly and cost-effectively leverage C/C++ business logic across the enterprise?

Rewriting the application in Java or .NET is always an option, but it's risky, resource-intensive, and time-consuming. Heavyweight middleware is another alternative. However, this usually requires significant changes to existing C/C++ applications, resulting in an expensive, complex, and brittle solution.

Offering flexibility and loose coupling, Web services is also a viable alternative for enterprise interoperability. But unlike enterprise architectures such as .NET, J2EE and some implementations of CORBA, the C/C++ language alone does not offer facilities for creating Web services.

### LEIF BRINGS WEB SERVICES TO C/C++

Rogue Wave's LEIF makes it as easy to work with Web services in C/C++ as it is in enterprise architectures like .NET and J2EE. With LEIF, you can quickly expose C/C++ business logic as Web services, enabling seamless interoperability with J2EE or .NET applications.

The scalable, cross-platform LEIF environment offers:

- ▶ **ROBUST CONTAINER FOR HOSTING WEB SERVICES AND SERVLET SERVERS**

- ▶ **AUTOMATIC GENERATION OF WEB SERVICE CLIENTS AND HOSTED SERVERS FROM WSDL**

- ▶ **XML-TO-C++ BINDING UTILITY AND FRAMEWORK**

- ▶ **EXTENSIVE C++ FOUNDATION AND CROSS-PLATFORM NETWORKING LIBRARIES**

- ▶ **INTUITIVE GUI WIZARD FOR EASY TASK MANAGEMENT**

**.NET APPLICATION**
**WEB SERVICES**

**J2EE APPLICATION**
**WEB SERVICES**

**WEB SERVICES**
**C++ APPLICATIONS**
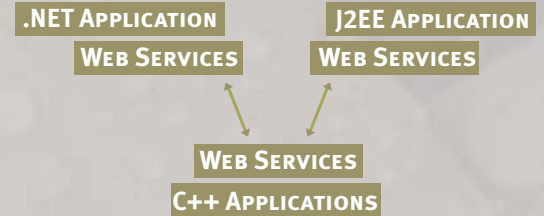
*LEIF brings Web services to C/C++, enabling seamless communication with modern architectures like J2EE and Microsoft .NET.*

### LEIF IS EASY TO USE

When you rely on LEIF to generate the underlying infrastructure code, you can turn your focus to business requirements rather than spending countless hours on the implementation details.

The LEIF approach is simple:

1. Obtain or create a standard WSDL (Web Service Definition Language) file.

2. LEIF uses this WSDL to generate comprehensive client or server C/C++ code and HTML documentation.

3. You inherit from the generated classes or extend the generated samples to connect the appropriate business logic into the fully functional client or server.

4. You compile and link the generated and custom business logic code and then begin testing.

As a result, you can directly connect your C/C++ application to applications based on architectures such as Microsoft .NET or J2EE. And, as standards and business needs change, you can simply regenerate and re-link the LEIF-produced client and server code, without having to change your custom C/C++ application logic.

# LEIF FEATURES

## THE EXTENSIBLE LEIF FRAMEWORK DELIVERS:

### LEIF PROJECT WIZARD
*Easy-to-Use GUI Wizard*

Creates cross-platform project files to represent most LEIF tasks

Projects support XML mapping, Web service clients, Web service providers, and C++ Servlet containers

Easily integrate code generation into an automated build process

### DATA TIER
*High-Performance C++ Development Platform for XML*

Easy-to-use XML data binding utility

- *Maps XML Schemas to fully documented C/C++ classes*
- *Validates XML documents*
- *Dramatically easier, faster parsing than DOM or SAX*
- *Customizable marshaling and unmarshaling behavior*

Complete threading, collections, i18n, and streaming libraries

### NETWORK TIER
*Complete Networking and Web Services Client Framework for C++*

Automatic generation of Web service clients from WSDL

- *Support for writing custom message transports*
- *Support for authorization and HTTPS/SSL clients*
- *Best interoperability with .NET and Java Web services available for C/C++*

Market-leading implementation of cross-platform sockets

Protocol libraries: HTTP, HTTPS, SSL, SMTP, POP3, and more



The LEIF Project Wizard makes it easy to create project files for most LEIF tasks.

### SERVICE TIER
*Robust C/C++ Web Services Hosting Platform*

Robust container hosts Web services and Servlet servers

- *Delivers the scalability enterprise applications require*
- *Load/unload server logic into the container at runtime*
- *Container handles threading and connection state*

Generation of Web service providers, hosted by the container

- *Avoid the complexities of handling XML, SOAP, Web services, threading, and event processing*
- *Create custom transports along with included HTTP*
- *Best interoperability with .NET and Java Web services available for C/C++*

Develop to the Servlet API using HTTP sessions in native C++

- *No interpretation layer; extremely high performance*
- *Lighter than Web services for simple communication*

## SUPPORTED PLATFORMS FOR LEIF

| OPERATING SYSTEM | COMPILER |
| --- | --- |
| Microsoft Windows | Visual C++ |
| Red Hat Linux | GNU gcc, Intel C++ |
| SuSE Linux | GNU gcc |
| Sun Solaris | Forte C++, GNU gcc |
| HP-UX | HP aCC |
| IBM AIX | Visual Age |

LEIF is certified with the Apache and IIS Web servers.

**FOR MORE INFORMATION VISIT WWW.ROGUEWAVE.COM/PRODUCTS/LEIF**

**ROGUE WAVE**
**S O F T W A R E**

**CORPORATE HEADQUARTERS**
BOULDER, CO USA
TOLL-FREE 1.800.487.3217
TEL 1.303.473.9118
EMAIL SALES@ROGUEWAVE.COM
WWW.ROGUEWAVE.COM

**EMEA HEADQUARTERS**
READING, BERKSHIRE, UNITED KINGDOM
TEL +44 118 9358600
EMAIL SALES@ROGUEWAVE.CO.UK

ROGUE WAVE MAINTAINS LOCAL OFFICES WORLD WIDE. FOR ADDITIONAL CONTACT INFORMATION, VISIT:
HTTP://WWW.ROGUEWAVE.COM/CONTACT/