Eresia Version 2: New Functionality

CML01003-01

Code Magus Limited (England reg. no. 4024745)
Number 6, 69 Woodstock Road
Oxford, OX2 6EY, United Kingdom
www.codemagus.com

November 28, 2009

1 Eresia for XP Version 2

1.1 Job Processing

Eresia for XP Version 2 now supports the concept of a job which collects information from the execution of a single package. This augments the output previously collected during the execution of a package referred to as the instance, as well as the contents of the Eresia Output window and the Eresia Log window. These outputs have been expanded to include the package and usecase traces; the output of any embedded components such as Object Types, symbols parsing, and buffer edit configurations; copies of spreadsheets processed; and general script output. Eresia for XP Version 2 allows the collected outputs to be kept and associated as audit information regarding the tests that were performed. This job output is also intended to assist in development testing solutions and to provide documentation which can be shared when soliciting support for script development and execution.

1.2 Improved Object Types

Eresia for XP Version 2 now has an improved Object Types[2] library integrated into the ObjTypes and Types integrated interfaces. This improved Object Types library has an enhanced version of the expression evaluation library integrated into it. The enhancements to this library include optimised performance in addition to an extensible set of function nodes which can be defined to the library. The performance improvement in this new library is gained by caching shared loaded artefacts; and removing unnecessary translations during expression evaluation.

1.3 Usage Log

Eresia for XP Version 2 now has the ability to log invocations of the tools and components and the execution of packages and usecases to a usage server for audit (and control) purposes.

1.4 Recio Record Stream I/O

Eresia for XP Version 2 now has the Code Magus Record Stream I/O Library[1] integrated as a Type A Interface[3].

The Code Magus Limited Record Stream I/O (recio) Library provides a generic interface for programs to access file systems and other data access mechanisms. This generalised interface, in turn, refers to the specialisations that deal with the various file systems and data access mechanisms to satisfy the requirements of various situations and environments. Thus neither Eresia nor the Type A interface are directly bound to the constraints of these various situations and environments.

The Record Stream I/O Library further extends Eresia by the implementation of a Remote Data Server allowing any Access Method request to be served remotely.

1.5 Automated Test Environment

New in Version 2 of the Automated Testing Environment are numerous items which enhance the usability of the tool in the following ways:

- Increased robustness and performance due to a restructuring of the internal architecture.
- The "Open File" dialogue now defaults first to the folder currently being viewed and then to "`c:\`".

1.6 Eresia Thistle

New in Eresia for XP Version 2 of the Thistle language, runtime and debugger are numerous changes which enhance the usability of the language in the following ways:

- Increased robustness and performance due to a restructuring of the internal architecture.
- TreeCopy is now a First Class implementation of CopyTree. CopyTree to be deprecated (and removed from documentation). Semantics for this have been defined and implemented.
- New construct: `if <variable> in <array>` evaluates as true if variable is a direct member of array.

  For example: `if 'c' in b`
  evaluates as true if b.c exists (I.e. when c is an immediate child of b.
- New construct: `for each <variable> in <array> do command;`

  For each direct member `<variable>` in a parent variable `<array>` command will be executed.

  For example if c, d and e are members of V then:
  `for each x in V do System.WriteLn("true");`
  Will print "true" 3 times.

  Also based on the previous point the following will also print "true" 3 times:
  `for each x in V do if x in V then System.WriteLn("true");`
- Any defined method should be callable when in scope.
- Package globals are now supported.

- Implementation of correlation variables:
  `with <variable>[.<variable> ...] as <variable> do command;`
  Allows one variable to be substituted for another within the context of the command. For example:

```
p := 'some text';
with a.b.c as p do begin
   p.x := 10;
   p.y := 11;
   p.z := 12;
end
System.WriteLn(p);
System.WriteLn(a.b.c.x);
```

  Will produce the following output:
  some text
  10

- Scopes are private by default.
- Improvements to the debugger, making it more robust, with specific attention to uncontrolled looping and exceptions within the debugger.
- Exception handling is now controlled by setting an environment variable. The default behaviour is to catch all exceptions, but can be changed easily to produce a operating system crash dump.
- Environment variables can now be used in the thistle configuration files and will be fully expanded before the configuration is loaded.

References

[1] `recio`: Record Stream I/O Library Version 1.
CML Document CML00001-01, Code Magus Limited, July 2008.
http://www.codemagus.com/documents/recio.pdf.

[2] `objtypes`: Configuring for Object Recognition, Generation and Manipulation.
CML Document CML00018-01, Code Magus Limited, July 2008.
http://www.codemagus.com/documents/objtpuref.pdf.

[3] `RECIO`: Thistle Type A Interface to the Code Magus Record Stream I/O Library.
CML Document CML00021-01, Code Magus Limited, July 2008.
http://www.codemagus.com/documents/reciotai.pdf.