



Eresia Network Injection Portal Version 2: New Functionality

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1 Network Injection Portal (NIP) for XP Version 2

1.1 Query Processing

New in version 2 of the Network Injection Portal for XP is an integrated generic symbolic query function for expressing arbitrary queries over the contents of logs. This query functionality uses Object Types[2] bound meta data to select data by applying types to distinct records and field elements within individual record types.

The Object Types library now uses 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 and keeping intermediate results in a machine optimal manner.

The query facility allows the user to write expressions and then choose the elements over which those expressions are executed. In addition to the (include/exclude) pattern matching queries and filtering on type in Version 1, Version 2 includes a full query engine that allows arbitrary predicate expressions (where clauses) over fields and literals with arithmetic and relational operators, nested sub-clauses, logical conjunctions and disjunctions. In each case the expressions are evaluated over records matching a specific (record) type, consequently the fields in the expression are required to be only those fields made available by that type.

The query facility includes an assistant where the user can select a (record) type from a list of all available record types and when constructing a query expression will allow the user to select the fields required from the list of available fields for that (record) type.

1.2 Recio Record Stream I/O

Eresia NIP for XP version 2 has the Code Magus Limited Record Stream I/O Library[1] integrated into it for the purposes of reading logs, processing files and generating scripts that use the Recio 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 the Eresia NIP 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 the Eresia NIP by the implementation of a Remote Data Server allowing any Access Method request to be served remotely.

1.3 Usage Log

Available with Eresia NIP for XP Version 2 is the ability to log invocations of the tool and components to a usage server for audit (and control) purposes.

1.4 General Improvements

New in Version 2 of the Network Injection Portal for XP 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.
- Improved memory management when editing a workspace.
- Messages can now be sent and received directly from the workspace.
- The record collection now shows a finite set of records with the option to show more or show all.
- GUI has been enhanced to show the current line being edited or selected.
- The “Open File” dialogue now defaults first to the folder currently being viewed and then to “c : \”.
- Improved viewing and scrolling performance when scaling up to many nodes in the workspace.
- A new font type face in the GUI for better readability.

References

- [1] `recio`: Record Stream I/O Library Version 1.
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<http://www.codemagus.com/documents/recio.pdf>.
- [2] `objtypes`: Configuring for Object Recognition, Generation and Manipulation.
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- [3] `RECIO`: Thistle Type A Interface to the Code Magus Record Stream I/O Library.
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