Welcome to Dyalog Version 14.0!

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I am very pleased to welcome to you to what is probably the most significant update to Dyalog APL in recent times! The volume of the documentation of new tools and features is several times larger than the total set of documents that accompanied Dyalog APL v1.0 when it was released in 1983. But don't worry, your old code will still run unchanged in version 14.0 if it ran in v13.2 – except for the speed-ups, use of the new features is at your discretion.

You can expect the following from version 14.0:

Faster Development

- New core language features that will allow you to express calculations more easily, producing code that runs faster than ever before. Many of the new features allow the use of more functional forms of expression, paving the way for parallel execution and compilation.

Faster Execution

- It is now straightforward to take advantage of all the processor cores you have available using parallel versions of the each, rank, key and outer product operators as well as *isolates*, which are namespaces that execute code in parallel to the main process.
- An extension of dyadic iota (⍳)allows you to perform direct lookups between multi-dimensional tables, even if they are stored in an "inverted" (columnar) format.
- Enhanced performance for many widely used primitive functions, idioms and file system functions – several Beta testers have reported performance increases of between 10 and 30% on upgrading to version 14.0, and that is before taking advantage of any new language features.
- Version 14.0 contains the first version of an experimental compiler/optimiser, which makes simple functional code run 1.5-2x faster on small arguments by reducing interpreter overhead.

Less Storage Consumption and Network Traffic

- Support for compressed file components and built-in data compression tools for use in your application.

Good Looks with Less Effort

- State-of-the-art widget libraries for WPF and HTML5/JavaScript, developed by Syncfusion Inc, are available for use with applications written in APL.
- Support for direct data binding between APL arrays and Microsoft .NET components that support data binding (such as most Windows Presentation Foundation controls).

Enhanced Integration with External Tools

- An interface to the R statistical package, bundled with Dyalog under Windows and Linux.
- A version of the SQAPL ODBC interface, which supports unixODBC drivers, bundled with version 14.0 for Linux.

For in-depth discussions of the motivation for new features, and the promise that we think they hold for versions 14.1, 15.0 and beyond, please visit http://www.dyalog.com/dyalog-version-140.htm.