APL2000 User Conference 2014
Fort Lauderdale, Florida
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Session Descriptions

Catching Up on APL+Win (John Walker)

This presentation will highlight the new enhancements in APL+Win version 12 and 13 since the 2012 APL2000 User Conference.

- Performance improvement for repetitive catenation
- Improved support for Windows visual styles in APL+Win
- APL+Win ActiveX engine Unicode execution methods
- Improved APL Session Logging
- ☐CSE – Interface to the APLNext C# Script Engine
- :FOREACH control structure

Multi-threading in APL+Win (Jairo Lopez, Joe Blaze, Pik Ng)

An overview of multi-threading topics (including operation grouping and independence, data marshalling, asynchronous execution and performance monitoring) will be presented.

- APLNext Application Server for multi-machine processing: Recent enhancements and examples
- APLNext Supervisor for multi-cpu processing: Recent enhancements and examples
- APLNext C# Script Engine, CUDA and CudaFy for multi-gpu processing: Examples

Windows Event Log and APL+Win (Brian Chizever)

What is the Windows Event Log? Why would you want to use it? Techniques and sample APL+Win code to use the Windows Event Log with be provided.

Using APL to Manage Google Earth (John Magill)

Google Earth is a readily available tool with many useful features and potential. However, the syntax is rather cumbersome and not particularly dynamic. APL+Win provides an easy way to produce Google Earth maps and use them dynamically for strategic decision making.

APL+Win ☐CSE System Function Interface to the APLNext C# Script Engine - Part 1 (Jairo Lopez, Frank Yang, Joe Blaze)

The □CSE system function empowers the APL+Win developer with direct access to 100% of the .Net Framework 4.5 without the need for Visual Studio. The CSE implementation rationale, features, object model and documentation will be presented.

APL+Win □CSE System Function Interface to the APLNext C# Script Engine - Part 2 (Jairo Lopez, Frank Yang, Joe Blaze)

Advanced CSE features (e.g. defining .Net classes, GUI tools in .Net, consuming .Net events) will be presented including detailed CSE examples for symmetric encryption, variable precision arithmetic, Linq queries, XML serialization, Windows event log and Windows Active Directory.

APL+Win as a Web Server (Jairo Lopez, Joe Blaze, Pik Ng)

APL+Win is a terrific tool to implement complex algorithms. Deploying an algorithm to browser- or mobile-based users is easy when APL+Win is exposed as a web service. Depending on the expected deployment scope, APL+Win functions in workspaces on a server can be exposed as a web service using Windows Communication Foundation (WCF) or APLNext Application Server technologies. The APLNext Application Server is now available in the traditional APL+Win web-server-based version and the new APL+Win module integrated with Microsoft IIS.

Thor - An APL Expert System to Assess Corporate Health (Eric Baelen)
Originally written in the 1980's for Touche Ross Audits, we were recently asked to update it, to help assess non-financial risk. What's it like to take an APL system written for the Intel 8086 processor and move it to Windows and the Internet.

Workspace Recovery (Brain Chizever)

Once you release your application to a user, what do you do when they say "it won't even start"! Learn how to use the Crash Recovery Mechanism to handle these problems.

Using .Net with □CSE Made Easy - Part 1 (Eric Lescasse)

How about if you could use the new □CSE feature (almost) without having to learn .Net, Visual Studio and C#?

The presentation will show you how to create Objects in APL+Win which support multi-level inheritance, visual inheritance and multi-cast events, etc. It will show how you can easily document these objects and use them with □wi. It will show how you can programmatically convert .Net Framework C# objects with all their properties, methods, events and documentation into such APL+Win Objects and start using them with the good old □wi that we all know how to use! This new APL+Win Object technology is called APL+Win zObjects.

Using .Net with ⌷CSE Made Easy - Part 2 (Eric Lescasse)

After the theory, the practice: This presentation will show practical applications using APL+Win zObjects. You will see various APL+Win examples and applications that would not be possible to write with just APL+Win. Among other things, you will see a number of very impressive .Net controls embedded in simple APL+Win forms and how easy it is to use them. There will be time to answer questions and discuss the benefits and limitations of this new APL+Win zObjects approach.

APL+Win Interfaces: R statistical package, Hadoop 'big data' SDK

APL+Win and the R Statistical/Graphics Package (Ajay Askoolum, Joe Blaze)
APL+Win and the R.Net SDK provide easy access to the R statistical and graphics package. Adding R functionality to APL+Win, such as R-based calculations and charts, will be illustrated and a sample workspace will be provided.

APL+Win and 'big data' (Joe Blaze)
Accessing and processing 'big data' using APL+Win and the Hadoop C# SDK will be illustrated and a sample workspace will be provided.

APL+Win Development Roadmap (APL2000 Team**)**

This session will be a discussion of APL2000 priorities and development possibilities. It will include an audience Q&A session with APL2000 developers.

Accessing a Remote APL+Win COM Server from Excel (Joe Blaze, Pik Ng, Tesa Carlson**)**

Using 'service moniker' support in Excel 2003+, an Excel workbook can transmit requests to and receive responses from a remote APL+Win COM server via a simple WCF web service which exposes a 'metadata exchange' endpoint.

APL+Win Implementation and Comparison of Error Correcting Algorithm Performance (Olga Shukina)

In this project we perform data transmission across noisy channels and recover the message first by using the Golay code, and then by using the first-order Reed-Muller code. The main objective of this thesis is to determine which code among the above two is more efficient for text message transmission by applying the two codes to exactly the same data with the same channel error bit probabilities. We use the comparison of the error-correcting capability and the practical speed of the Golay code and the first-order Reed-Muller code to meet our goal.

Tags: APL and .NET Access to Your Personal Metadata Cloud (Jeremy Main)

Use the APL+Win □CSE system function and other utilities to access ALL the metadata in ALL your files including documents, pictures, music and video. Using Microsoft Powershell via the APL C# script engine and other .NET assemblies will be discussed as they pertain to metadata.

APL2000 – A Full-Service Software Development Company (Sonia Beekman)

APL2000 is committed to developing high-quality, feature-rich APL software. You can also rely on us for a wide range of customized services to meet your individual business needs. An overview of APL2000 Products and Services will be presented.

Driving MS Office (Eric Baelen)

APL+Win does a great job driving Microsoft Office (Word, Powerpoint and Excel). This presentation will be an overview of previously distributed workspaces that help an APL developer do that.   Submit questions you may have about APL+Win and Office to sales@apl2000.com and the answers will be incorporated into the presentation.

APL+Win Interfaces: Unicode-encoded Files, XMLA Server, Column-oriented Databases, Editing Heterogeneous Data

APL+Win □NFE System Function: Accessing Encoded Text Files (Frank Yang, Joe Blaze)
A character encoding is a '1 to 1' mapping of abstract glyphs (characters) to values that represent those glyphs. The values resulting from the encoding of glyphs can be persisted and transmitted without ambiguity. The new □NFE system function supports reading and writing of files encoded as ASCII, UTF-8, UTF-16 and UTF-32.

APL+Win Array as an XMLA Server **(**Joe Blaze**)**
XML for Analysis (XMLA) is a SOAP-based protocol, designed specifically for universal data access to any standard multidimensional data source residing on a web server. XMLA is optimized for the Internet, when round trips to the server are expensive in terms of time and resources or when 'stateful' connections to a data source can limit user connections on the server.

APL+Win and Column-oriented Databases **(**Joe Blaze**)**
APL+Win can interface efficiently with column-oriented databases. An APL+Win interface to 'ColumnStore Indexes' of Microsoft SQL Server 2012 will be illustrated.

APL+Win □EDITEX System Function: Editor for Heterogeneous Data (Frank Yang, Melissa Farmer, Joe Blaze)
A prototype of a new APL+Win editor for heterogeneous data will be illustrated.

Computing Automorphism Groups of Projective Planes (Jessie Adamski)

We utilized APL+Win to generate the full automorphism group of finite Desarguesian projective planes. This was done using homologies and the Frobenius automorphism, which was found by using the planar ternary ring derived from a coordinatization of the plane.

Note: All sessions subject to change.