The Upcoming PI-DataLink 3.x

By Jason King and Ling Mok

PI-DataLink Basics

- ## What is PI-DataLink?
  - PI-DataLink is a PI client used to transfer data for PI tags between PI servers and your spreadsheet.
  - Spreadsheets supported: Excel and Lotus 1-2-3
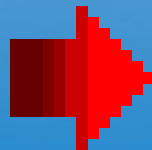
New Features for Datalink 3.x

- SDK Based
  - Time Zone
  - Advanced Event Information (Quality Bits)
    - Questionable
    - Substituted
    - Annotated
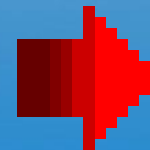
- Enhanced Calculation Features

The Old PI-DataLink

- Calculations accepts one tag as a data source

- All Calculations are Time Weighted
  - Except for Mean

PI
Tag ➤ Calculation
Type ➤ Output

# Enhanced Calculation Features

- Advanced Data Source Specifications

- Event Weighted Calculations

- CountTrue

- Naturally Sampled Expression Calculations

Advanced Data Source Specifications

- PI expressions (i.e. TagA + TagB)
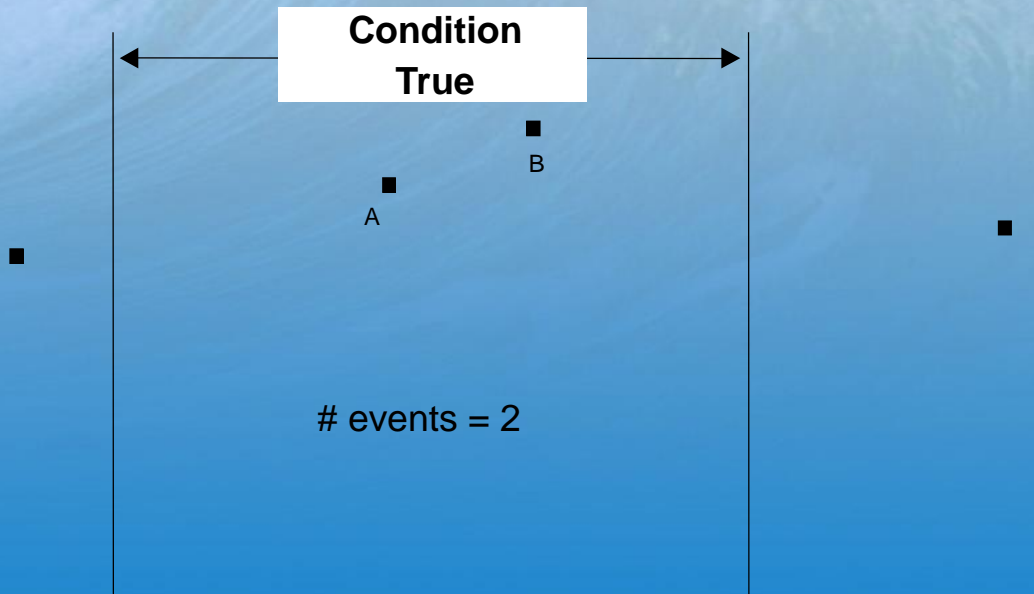- Data Source can be data directly from spreadsheet
- Filter Expressions

Event Weighted

- Total
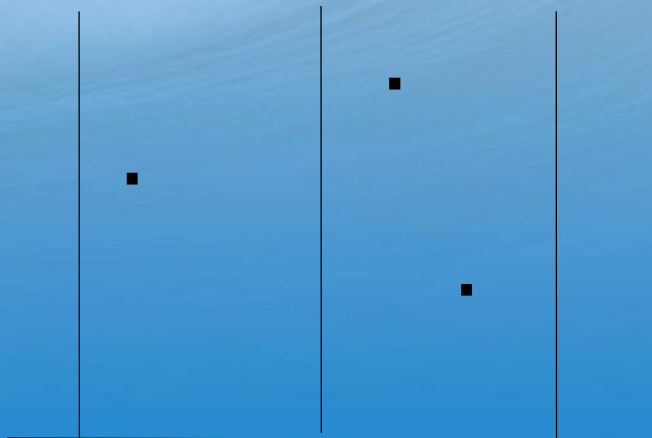 - Sum of compressed values on curve during time period

Accumulation Interval

X_B
X_A

B

A

Total $= X_A + X_B$
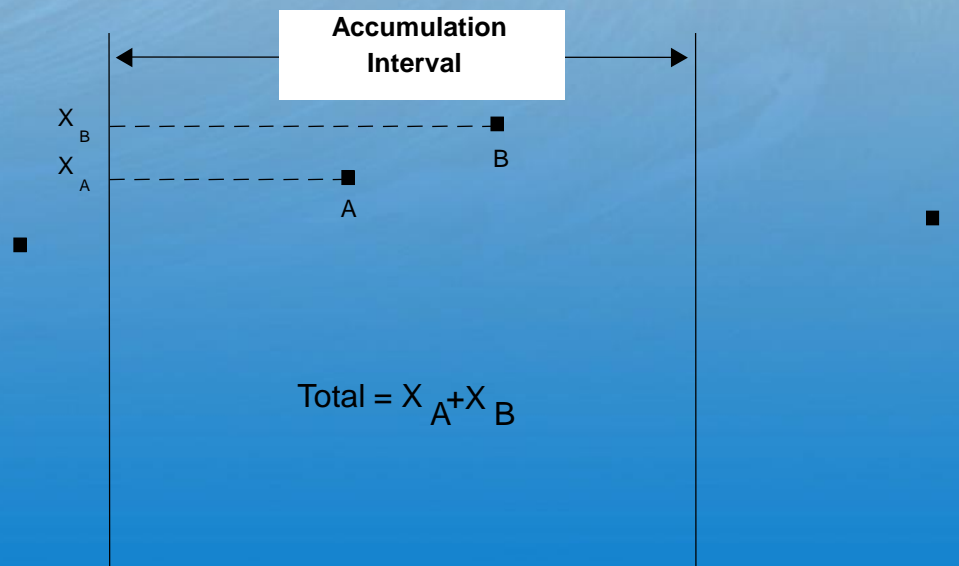
CountTrue

- Calculates number of events in condition
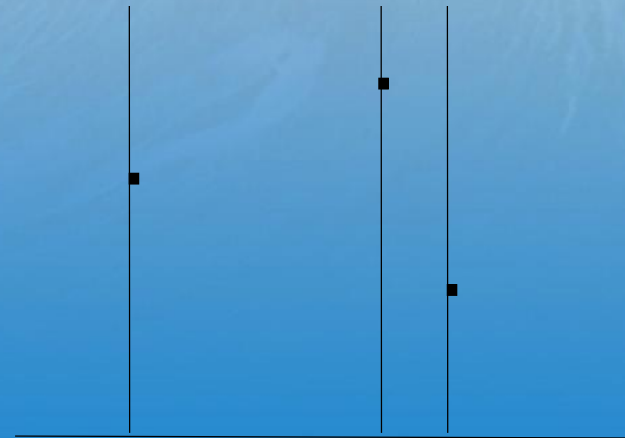

Condition True

B

A

events = 2

Naturally Sampled Expression Calculations

- ## Natural Sampling
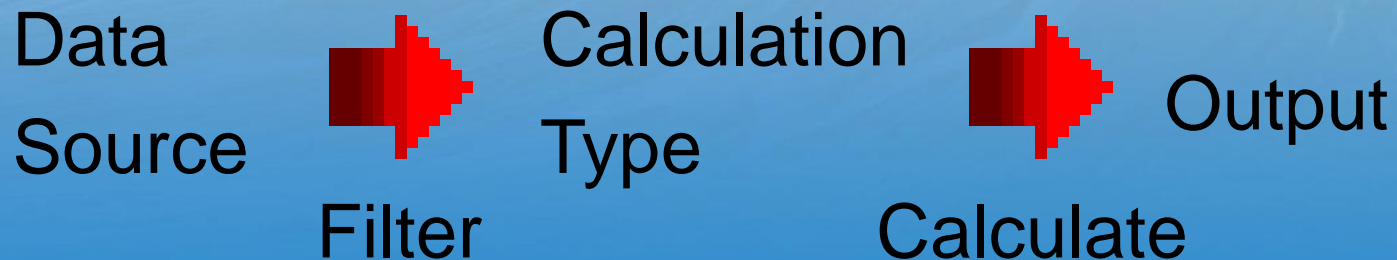 - Evaluate expression at archived values as opposed at evenly spaced intervals

Evenly Sampled   Naturally Sampled
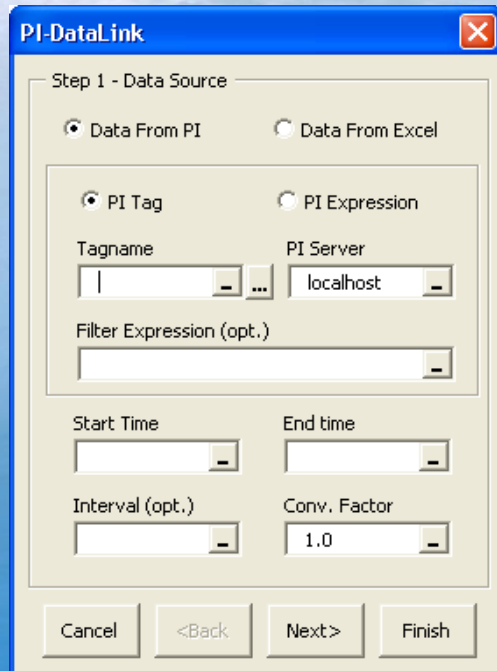
New Calculated Data Flow Diagram

- Data flow is as follows:

Data Source $\rightarrow$ Calculation Type $\rightarrow$ Output

Filter   Calculate

Examples of New Complex Queries

- What is the average flow rate of flow1 while pumpA in "Auto" state?

- What is the time weighted total of the sum of flow 1 and flow 2?

- How many times was flow1 below 100 gal/min?

The New Advanced Calculated Data
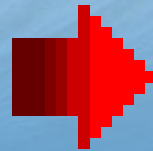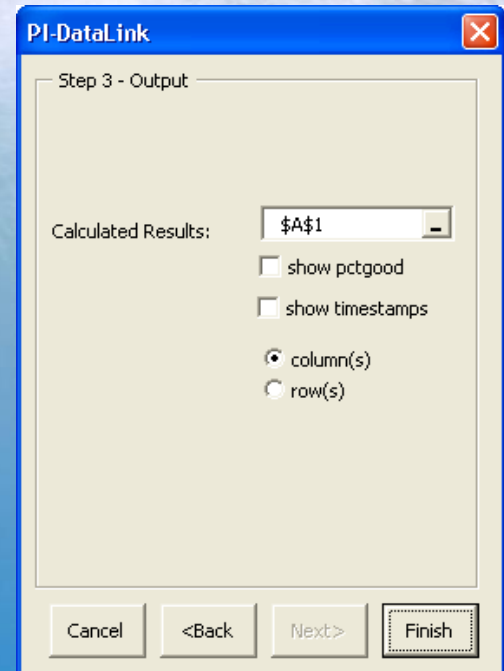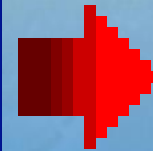
Data Source

Calculation Type

Output

Demo Time

- Time for the FUN Part!