



Tip of the Week :

- Setting/Using data timestamps and other data stamps

[Data Stamps]

- All data transfers contain:
 - A data timestamp
 - UTC as a double -> seconds (+ fractional seconds since 1.1.1970)
 - Good to 100 msec.
 - A System data stamp
 - e.g. a 'run number' or 'cycle number'
 - A User data stamp
 - 'Some integer' the server wants to return with the data

[Data Stamps]

- The server developer does nothing and:
 - Data timestamp is the time of the request (at the server)
 - Sometimes not the best idea !
 - Timestamp should be when the data were taken !
 - System data stamp is 0
 - Not available prior to Release 4
 - Should some systematics set this ?
 - User data stamp is 0
 - Not available prior to Release 4

Setting the data timestamp

- Record the data time stamp when the data are taken:
 - C, C++:
 - `double ts = MakeDataTimeStamp();`
 - Java:
 - `double ts = TDataTime.getDataTimeStamp();`
 - VB:
 - `ts = .getDataTimeStamp` method of the Srv Control or
 - `ts = makeDataTimeStamp`
 - LabView:
 - N.A.

Setting the data timestamp

- Apply the data timestamp when the request is handled:
 - C, C++ (inside eqm dispatch handler):
 - SetDataTimeStamp(ts);
 - Java (inside property handler):
 - .setDataTimeStamp(ts) method of TDataType for the output data object (dout).
 - VB (inside _EqpFcn event handler)
 - .setDataTimeStamp(ts) of Srv Object.
 - LabView:
 - Applied automatically with the buffered server 'push' routines.

Getting the data timestamp (client-side)

- C, C++:
 - `double ts = GetDataTimeStamp();` or
 - `double ts = GetCurrentDataTimeStamp(id);`
- Java:
 - `double ts = dout.GetDataTimeStamp();`
 - where `dout` is the returned `TDataType` object.
- VB:
 - `double ts = acop.GetDataTimeStamp`
- Labview:
 - All Client VIs which use the `tputgetArray()` family of calls provide the data timestamp
- MatLab:
 - Data timestamp provided with `tineread()`.

Setting the user/system data stamp

- C, C++:
 - set the dStamp or sysStamp field of the DTYPE object in question.
- Java:
 - get/setUserDataStamp() methods of TDataType
 - get/setSystemDataStamp() methods of TDataType.
- VB, LabView:
 - Not yet available.
- Where do we want to use these ?