*R*TIME & eDNA at DC Cook*

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R*TIME & the eDNA Historian

- Background
  - Many plants around the country have existing eDNA Historians.
  - Scientech and Instep developed a process to utilize the advantages of both systems.
  - In order to allow plants to keep their existing historians and continue to add new data, SCIENTECH implemented, in correlation with eDNA, a client-server set of applications to push data from R*TIME to the eDNA Historian.
  - Dec-2003, DC Cook requests an R*TIME user interface to retrieve data from the eDNA Historian.
  - Dec-2003, DC Cook requests that the R*TIME archive data hole feature be implemented along with the retrieval of the eDNA Historian data.

*R*TIME Archive*
vs
eDNA Historian

- Current R*TIME Architecture
  - R*TIME archive data is stored to fixed length files.
  - Storage space is pre-allocated for future data.

- Current eDNA Architecture
  - eDNA Historian archives data on an exception based rule.
  - Storage space is allocated as needed for new data.

*R*TIME Archive*
vs
eDNA Historian

- R*TIME Architecture advantage
  - Speed.
  - Missing data is flagged.
- R*TIME Architecture disadvantage
  - File Space.

- eDNA Architecture advantage
  - File Space.
- eDNA Architecture disadvantage
  - Speed.

*R*TIME & eDNA*
Client Server Applications

- PSI_CLIENT.exe
  - PSI_CLNT is the executable that runs on the R*TIME server to push data to the eDNA Historian.
  - PSI_CLNT is configurable via the PSI_CLNT.ini file located in the %RTIMEHOME%\data directory.
  - PSI_CLNT allows sub-second archiving.
  - PSI_CLNT allows multiple configurations for a single executable.
  - PSI_CLNT can serve multiple PSI_SRVR applications.

*R*TIME & eDNA*
Client Server Applications

- PSI_SRVR.exe
  - Each instance of PSI_SRVR serves only a single Historian database.
  - Provided and configured by eDNA.

PSI_CLNT Configuration

- PSI_CLNT.INI
  - [RTIME1]
  - parameters=Options1
  - groupset=Groups1
  - database=songs2
  - statuspoint=HTSTATUS

  - [Options1]
  - * The delay for a socket loss in milliseconds
  - socketdelay=1000
  - * The Maximum number of database records to send in one packet of info
  - * 300 * 110 + 23 = 33023 bytes where 300 is N
  - maxrecords=300
  - * The delay between database packets
  - dbp_delay=1000

PSI_CLNT Configuration(Cont.)

- PSI_CLNT.INI
  - * The next two should not be changed while the program is running
  - * The host address // 3261
  - host=d1k-dev-dc1
  - * The Socket for this transfer
  - hostport=3261

  - [Groups1]
  - NumberofGroups=1
  - *
  - * For Each Group following specify the
  - * frequency and group name
  - *
  - group001=g1
  - freguency001=1000

Retrieving eDNA Historian Data Modification to Archive Retrieval Program

- Garcdata.exe – (Get Archive Data) Program that retrieves and sends archive data to the R*TIME Data Viewer.
  - Added garcdata.ini to allow configuration of the archive retrieval program during run time.
  - Added code to use eDNA API calls to gather data from the eDNA Historian and merge the data with the data from the R*TIME archive.

Retrieving eDNA Historian Data Garcdata.ini file

- Garcdata.ini
  - * Use eDNA is just a flag to let garcdata know if eDNA is being used
  - Use eDNA = 1
  - * Use the Check SDZTIME flag to send a check to the eDNA database to see if it is
  - * current for the time frame requested.
  - Check SDZTIME = 1
  - * DaysBeforeEDNA is the number of days to process R*TIME data before we check for eDNA data.
  - DaysBeforeEDNA = 50

Retrieving eDNA Historian Data
Garcdata.ini file

- Garcdata.ini
  - * Point mapping Section
  - * example

  - ESOM_NUMBER_OF_EDNA_SERVICES=3
  - ESOM_EDNA_SERVICE1=ESOMS.U01_ES_T.
  - ESOM_PREFIX1=U01_ES_T
  - ESOM_EDNA_SERVICE2=ESOMS.U02_ES_T.
  - ESOM_PREFIX2=U02_ES_T
  - ESOM_EDNA_SERVICE3=ESOMS.U12_ES_T.
  - ESOM_PREFIX3=U12_ES_T