VISOKIO

interactive data assembly, visualization, analysis and publication

Omniscope Multi-file Reference Architecture

Omniscope reporting data flows may be built up into 'chains' of self-refreshing IOK files. Full deployment of a Server-based multi-file solutions may involve up to 4 different IOK file configurations and 4 different automated refresh cycles, all nested:

Main Roles for IOK files

1. Central Timeslice IOK files connecting to each individual data source and accumulating over time, periodically saved and time-stamped in batch append folders with aggregation and column collapse applied. There should be one Timeslice IOK file per data source and these files should do all field/column re-naming and transformations involving data from a single source, including checking for duplicates and unexpected values that might affect subsequent data-typing and merge operations;

2. Central Source Datamart IOK file(s) performs multi-source data assembly and refresh from all sources, including the batch append folder(s) of archived Timeslice IOK files;

3. Central Master Report IOK(s) are fully configured for specific groups and saved in network accessible locations. These are periodically refreshed /auto-published from the server-based Source 'datamart' IOK file(s);

4. Distributed Report IOK(s) are copies of the central Master report file(s) that are automatically distributed and can be set for live refreshing directly from web/network accessible central Master Report IOK file. The DataManager tabs of Report IOK files typically show only a single IOK Source block pointing to the Master report IOK with static formula values and no formula details. Using a ServerPlus Edition the Master/Distributed Report IOK files can be enabled for live auto-refreshing from the free Viewer, even while the Distributed IOK files are open.

Multiple File Data Refresh cycles

Refresh cycles 1 (original sources refresh to Timeslice IOK files) and 2 (Datamart IOK files refresh from Timeslice files) are straight-forward Scheduler or event-driven watch-folder operations that can be manual, but are fully-automated in the Server Edition.

Refresh cycles 3 and 4 usually employ a trick that is also automated by the Scheduler.

For Users to be able to live-refresh their Distributed Report IOK files that have been either 1) e-mailed to them, 2) web-downloaded or 3) folder-synchronised, the Central Master Report IOK has to be saved with ITSELF as its own Source. This ensures that the distributed copies of Report IOK will all look back to the web/network-accessible Central Master Report IOK file for their live refresh updates.

But if you do this, how can the 3rd refresh cycle, whereby the Central Master Report IOK refreshes itself from the previously-refreshed Central Source Datamart IOK be accomplished given that the source of the Central Master Report IOK file has been set to itself?

The answer is that as part of refresh cycle 3, the automated Scheduler Task List is used to change the source of the Central Master Report IOK to the Source Datamart IOK, refresh and save the Master Report IOK file, then change the Source of the Master Report IOK BACK TO ITSELF, and save the file again in its distribution location ready for e-mailing or download/synchronisation with auto-refresh.

Populating Data Warehouses and Agile BI

Omniscope reporting data flows can also include 'by-product' write-back of output to SQL database tables, enabling population of new/existing databases/warehouses with scrubbed, transformed data from Omniscope. One reason to do this is to be able in future to write bespoke programs that access the accumulating (clean, transformed) 'warehoused' data sets, and/or to use other features of the BI stack available on the database e.g. OLAP cubes. Omniscope can connect to MDX-compatible multi-dimensional OLAP 'cubes' as well.