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OMEGA DATA ENVIRONMENT (ODE)

ODE enables data analysts and consumers to rapidly and securely explore and exploit large data sets.

ODE users can:
- Create Data Products
- Merge Data from Multiple Sources
- Search Time Series Data
- Organize
- Correlate and Compare
- Collaborate

Using Object-Oriented Data Management (OODM) technology, ODE users can quickly navigate and interact with all of their data archives over existing networks without modifying the format of the original data archive. The result is an order of magnitude improvement in data access time and productivity. ODE grows with your organization by providing software interfaces to support development of new input and output format processors.

KEY FEATURES

DATA TYPE & FORMAT AGNOSTIC

Since ODE is built on OODM, it can be used for virtually any type of data regardless of format or origin. The included Input and Output Component APIs give the end user the flexibility they need to support new data formats for both input and output. Included input formats:

- ▶ IRIG 106 Chapter 10 / 11
- ▶ CSV
- ▶ OMEGA SERV Archive
- ▶ BufFile
- ▶ Third-party BIN, NPD (DARv3)
- ▶ Other inputs available upon request
- ▶ Parquet

ODE SECURITY IS ROBUST & LAYERED

ODE integrates with your existing Microsoft Active Directory® infrastructure to provide role-based user and data access. User and data interaction is extremely flexible and configurable down to the individual parameter level. All user and data interaction is logged to satisfy the most demanding commercial requirements, including ITAR. ODE also provides FIPS-compliant encryption of all ODE network traffic.
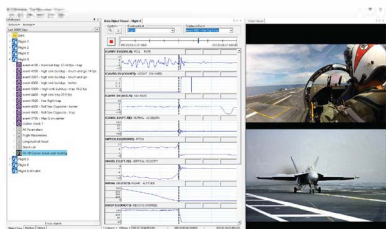
TDM & MESSAGE DATA CAPABILITIES

ODE's data processing engines provide the raw processing power to process time division multiplexed data at rates that eclipse real-time by orders of magnitude. ODE's scalable, multiprocessor/ core architecture rips through IRIG 106 Chapter 10 data files in multiples of real-time and gives users unparalleled access to the flow and content of message data intensive test platforms. Types of data supported include:
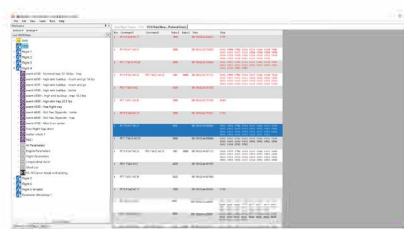
- ▶ PCM and other TDM data
- ▶ 1553, A429, and other Bus Data
- ▶ Voice
- ▶ Video
- ▶ TSPI
- ▶ Documents
- ▶ Imagery

Audio / Video / Data correlation and playback

Raw Bus Viewer

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ODE-XX-PF Rev 03

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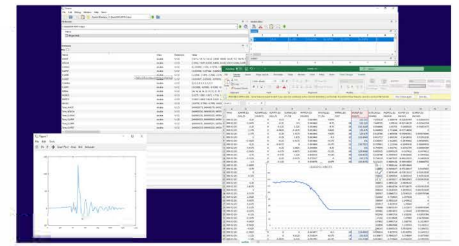## CREATE DATA PRODUCTS

Component-based architecture enables ODE users to output data of interest in an unlimited array of formats for further distribution and analysis. User-defined metadata also can be included in the output to produce self-describing output files. Included output formats:

- ▶ CSV
- ▶ Excel
- ▶ Matlab (HDF5)
- ▶ Other outputs available

The included ODE Output Component API ensures that ODE never becomes obsolete. New output components can be created at any time to support any new output format requirements.

Create Data Products

MERGE DATA FROM MULTIPLE SOURCES

ODE's OODM technology makes it easy for users to quickly merge data from multiple files into a single output file without regard for the original data format. Parameters from any number of files may be selected for output to quickly create a single file, time-aligned with all the relevant information a user may require for reporting or analysis. The task of properly incorporating data from multiple files of various formats with ODE takes minutes rather than days or weeks using other tools.
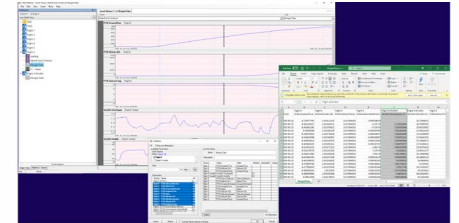

Quickly Merge, View, and Output Data from Multiple RAW Files

QUICKLY AND EASILY SEARCH PETABYTES OF DATA

Using web services and Internet-based search technology, ODE provides users with an unprecedented speed of access to data. ODE provides access to locally stored data or data stored on any network accessible location across a LAN or WAN.

Unique Statpack technology leverages metadata to render a graphically intuitive view of large data sets. Statpack visualization technology allows for viewing the RAW or EU converted values of individual parameters from the beginning through the end of the archive, instantly revealing any dropouts or anomalies within the archive.

Search queries ranging from simple Boolean expressions to complex C# algorithms can be applied against any number of data sets simultaneously. User-defined metadata also can be used within search expressions to fine tune search results.
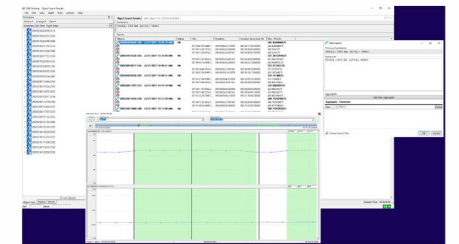
Search Single, Multiple, or All Data Sets with Measurement Value Expressions

ORGANIZE DATA FOR EASE OF ACCESS

ODE provides a robust set of built-in filters and a capability for user-defined filters allowing users to determine how their data is organized, aggregated, and presented within the workspace. ODE users also can leverage ODE's robust metadata capabilities to quickly find the data sets or events of interest.
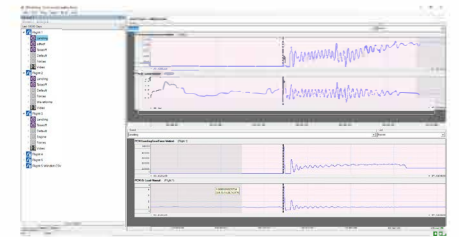

Compare measurements in separate data sets

CORRELATE AND COMPARE DATA

ODE allows users to correlate multiple independent data sets against events, time, or each other. Applications are unlimited and include:

- ▶ Simulation vs. actual data
- ▶ Video vs. time series data
- ▶ Multiple iterations of the same test scenario

ODE users also can create custom-derived parameters that receive inputs from multiple independent data files.
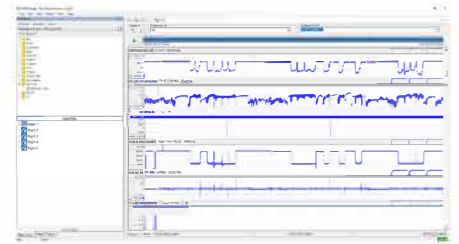
Metadata tagging makes relevant data easier to find

DISSEMINATE AND COLLABORATE

ODE allows users to include the results of their investigations (including inherited metadata) within the ODE workspace. This permits other users with appropriate permissions to leverage the work of others. Simply using ODE enables users to build "ad-hocracies" and increases the value of their data over time.

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DESIGN | BUILD | SUPPORT

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