

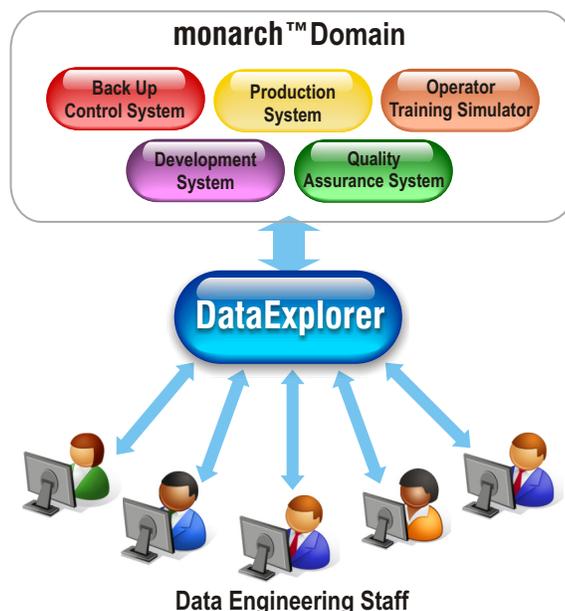
DataExplorer

Data Engineering and Maintenance Subsystem

The ability to efficiently, systematically and collaboratively address the management of database changes is an imperative requirement for any mission control environment. **OSI DataExplorer™** provides a comprehensive environment for your maintenance team to manage database modifications for your production systems.

The **DataExplorer** platform provides the ability to:

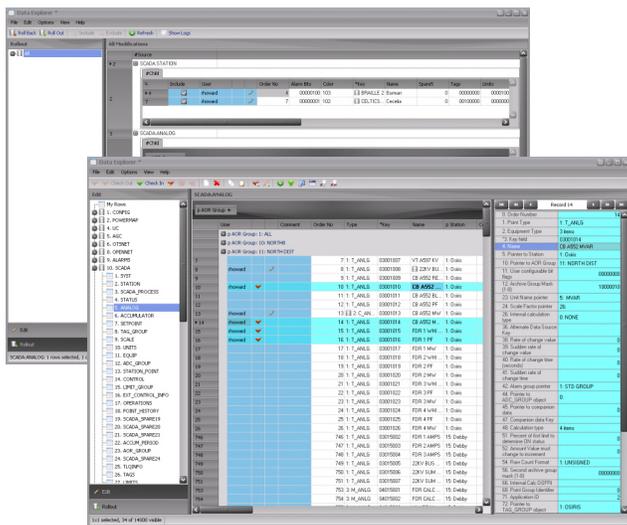
- Allow a team of users to collaboratively perform data maintenance in their areas of responsibility
- Modify system data tables in a sandbox/safe work area environment
- Coordinate changes between multiple users and multiple geographical sites
- Commit changes in an orderly fashion
- Rollback undesired changes
- Simplify validation and application of changes to the production system
- Audit all associated maintenance activity for regulatory needs
- Define granular views of data to abstract underlying table structures



DataExplorer allows the coordination of modifications to the **monarch™** system through a modern User Interface. This interface provides browsing and filtering capability, which allows the user to quickly find the appropriate data records (e.g., RTUs, analog points, generators, transmission lines, etc.). Once selected, the records are checked out; locking the records to prevent conflicts with other users. Data is then modified in a spreadsheet style User Interface (Data Form) or exported to a file for use with third party tools. Once modifications are complete, the changes are validated and checked in to the off-line Development/Test environment where they await rollout to the online production system.

Users with the appropriate permissions have the ability to select a group of modifications to rollout onto the online system. A system-wide validation is performed before applying the changes. All database modifications are tracked and logged, providing a complete audit trail of database maintenance activities for regulatory purposes.

DataExplorer supports custom views or Data Skins (also referred to as Data Palettes) which can be activated to abstract the underlying data table structure into a logical structure representing the user's business model.



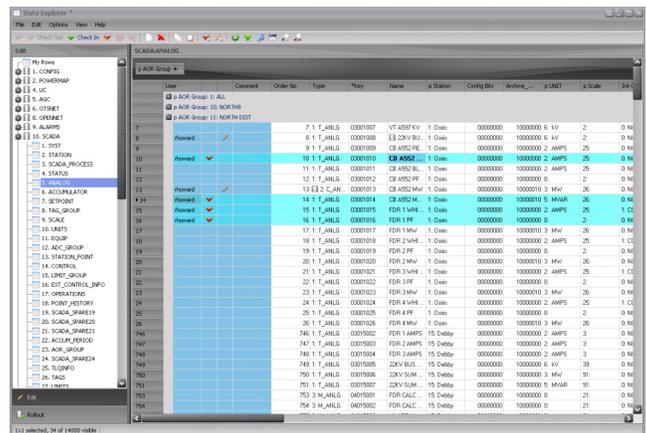
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For example, a Transmission operator can activate a Common Information Model (CIM) view of the data, while a Distribution Operator may activate a Distribution view of the data. Furthermore, a view or Data Palette can be constructed exclusively for a particular purpose to abstract all other data from the user. For example, a view of Fuel Costs for certain Generators can be built for an accounting user responsible for maintenance of Fuel Costs. Users can be given permissions to access these Data Palettes while protecting the underlying tables and data that may be deemed confidential based on the regulatory requirements for separation of Transmission, Generation, Distribution and Marketing functions within a vertically integrated company.

DataExplorer is a complementary product to the **monarch** system and can be added incrementally on an existing system without changing or modifying any of the existing functionality. It is a supplemental tool to the existing array of flexible Database Management tools and can co-exist with other **monarch** Database Management tools.

To help manage changes across all of the user's **monarch** domains, **DataExplorer** provides a rollout feature. Users with the appropriate permissions may select any number of current modifications and roll them out to the online production system, the emergency backup system, the test and development system, training simulator, or any of the other existing **monarch** system domains. The rollout process includes a system-wide validation, ensuring that invalid data is not applied to a production system. In the event that errors are detected, **DataExplorer** supports a quick rollback feature allowing a database administrator to revert to a previous stable database version. All database versions are catalogued and saved for future reference.

User access to **DataExplorer** is subject to system-wide permissions, including logins. Users are limited by assigned Areas of Responsibility and database permissions. Users can be given permissions to view data, modify data and/or rollout data individually.



In an industry where system database tools can be extremely inefficient and complex, OSI is able to offer its users an efficient and convenient solution to deal with database maintenance tasks. With OSI's **DataExplorer** product, database editing by multiple users are thoroughly managed while maintaining the ease and speed of maintenance that **monarch** users have been accustomed to. Efficiently managing database changes is an imperative part of your control system operation and maintenance, and **DataExplorer** provides you a next-generation Data Management environment to meet your operational needs.

Product specifications in this document are subject to change without notice.