

# TAO-DSI

## Executing Automated Procedures Using Data Source Independent Software



Notify user that system is checking S...		alertUser("...
		alertUser("Starting error checks")
Check Battery 1 Point 1 Voltage	POINT_1: 12.3525	tlmchk("BAT1_VOLT_POINT_1", ">0...
Check Battery 1 Point 2 Voltage	POINT_2: 24.735	tlmchk("BAT1_VOLT_POINT_2", ">0...
Check Battery 1 Cell 15 Pressure	CELL_1: 826.121449	tlmchk("BAT1_CELL_PRESS_1", ">0...
Check Battery 1 Cell 29 Pressure	CELL_2: 818.309863	tlmchk("BAT1_CELL_PRESS_2", ">0...
Check Battery 2 Cell 15 Pressure	CELL_1: 841.633609	tlmchk("BAT2_CELL_PRESS_1", ">0...
Check Battery 2 Cell 29 Pressure	CELL_2: 826.792151	tlmchk("BAT2_CELL_PRESS_2", ">0...
Battery 1 Average Battery Voltage	BAT_AVG_VOLT: 29.5512	tlmchk("BAT1_AVG_BAT_VOLT", ">...

### Overview

TAO Data Source Independent (DSI) is a distributed automation platform that executes procedures and scripts using data source independent components. TAO supports telemetry and instrument value checking, command and directive transmission, user prompts, master/shadow functionality, and extension functions. TAO-DSI allows users to securely access their procedures and scripts via any browser networked to the back end TAO server, allowing for flexible operations. As data source independent software, TAO-DSI provides users with the ability to write automated procedures to connect to any kind of data (including both Kratos and third-party sources). As an integrated automation platform, TAO-DSI can monitor and control any data source presented to Webic. This level of automation helps to reduce operational error and cost, allowing typical functions to be performed on a consistent basis.

TAO-DSI executes procedures and supports a service provider interface to allow it to communicate with external data sources, including the EPOCH Server. Integrated with Kratos' Cactus security software, TAO's capabilities are protected against unauthorized access. TAO-DSI is available across multiple platforms, including Windows, Linux, and Solaris.

The client component is composed of several applications that provide the full lifecycle of a procedure – creation, modification, review, approval, execution, response verification, and analysis. Available on both Windows and through a Webic-integrated web capability, users are able to control procedures from any network-enabled location. Hands-on, lights-out, or somewhere in between, TAO-DSI provides the tools to automate your mission.

### Features

- Real-time intelligence for situational awareness
- Create and edit procedures consisting of directives, measurement points, expressions, control structures, or any other data source available on the system
- Rich scripting language allows all functions to be automated
- User Guides provides syntax and examples for building procedures using the scripting language
- Receive measurements, transmit directives, and review executing procedures
- Control a procedure in Master mode or observe the live actions of another with Shadow mode
- Set checkpoints, pause, and resume procedures
- Restrict capabilities per user access privileges with the Cactus security software
- Define frequently used procedures for all spacecraft, a spacecraft family, or a single spacecraft
- Play back procedures off-line for further operations analysis
- Create custom functions and dialogs to extend TAO's capabilities and user interface beyond the built-in capabilities
- Define custom variables within procedures that can be substituted by external applications, such as a mission planning system