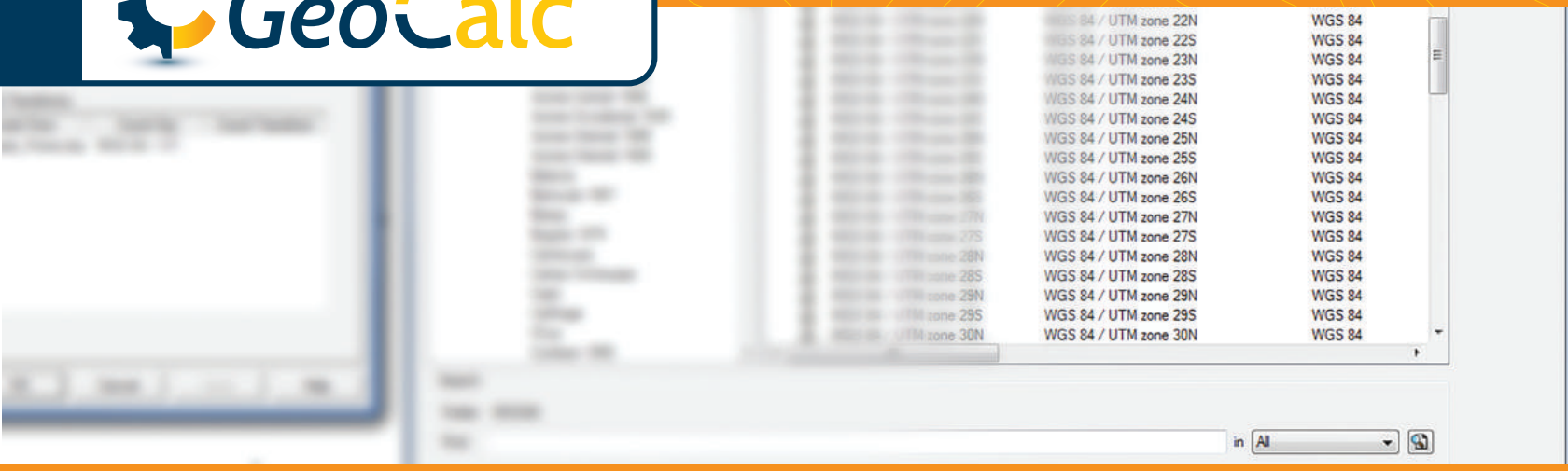
GeoCalc SDK



Leave coordinate conversion headaches behind

Industry-Leading Coordinate Conversion Library

GeoCalc is a coordinate transformation "engine" that converts data from one coordinate system to another and performs other geodetic calculations including HTDP time dependent shifts. Our flagship developer toolkit is an object-oriented class library that can be incorporated into applications written for multiple development platforms. GeoCalc can provide your GPS, surveying, engineering or mapping programs fast and accurate coordinate conversion capability. With new interoperability methods for Coordinate systems, Coordinate Transforms and the GeoCalc data source, a single instance data source object can be shared with GeoTranslate and GeoTransform applications.

HOW SIMPLE IS IT?

The GeoCalc library includes fifteen types of data objects – representing such things as ellipsoids, datum shifts and units of measure – all accessible by your code. Among these objects, GeoCalc supports four types of coordinate systems. This version was designed to make it easier to find what you need, when you need it. The data source that GeoCalc uses to access and store object definitions is provided in eXtensible Markup Language (XML) format.

STREAMLINED ORGANIZATION

Included in GeoCalc are pre-defined Windows Forms that provide a convenient and intuitive way for end users to select, edit and organize their object definitions.

Full GeoCalc functionality through a native Java interface. Standard class scheme, so you can quickly port your C++ code to Java for more machine independent development. Standard JAR file can be integrated into any Java development workflow.

SOFTWARE HIGHLIGHTS

USE DIFFERENT DATA SOURCES

- Largest Coordinate System Library available
- Supports direct match to EPSG, ESRI and others
- Optimized for speed. Extremely fast load of XML data source

MULTIPLE PLATFORM SUPPORT

- C++ class library, compatible with Linux, Solaris and Mac development environments
- Java development with a standard
- JAR file available for integration
- Also available as a COM object
- Drag-n-drop into your project
- .NET implementation available

BENEFITS OF AN XML FORMAT

- Hierarchical object organization — making them easier to find and associate
- Identifies objects by tags, assign multiple tags to one object
- Simple, flexible text format designed for large-scale publishing

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EASY CUSTOMIZATION

All object elements have common "child" elements that make customizations easy and consistent. Identifiers, tags, issuers and codes are all in place to give the developer a way to organize coordinate system parameters based on unique combinations assigned within the master data source file.

WHAT'S NEW

- New Java version — full GeoCalc functionality through a native Java interface
- HTDP time dependent shifts are now available through the GeoCalc data source.
- Support for Canadian ATS Land Grids, British National Grid, and GARS
- Updated change log for easy visualization of the Audit Trail tool
- Interoperability methods for Coordinate systems, Coordinate Transforms and the GeoCalc data source
- Now GeoTranslate and GeoTransform applications can share a single instance
- Data Source object
- Improved handling for NULL string using the GeoCalc point formatting code base
- Import Datum Transformations from ESRI native GTF files
- New tools for improving data quality
- New Datum Shift Methods
- New and Enhanced Projection Types
- New Height Models
- New GUI Dialogs
- Enhanced AngularValue Formatting
- Updated EPSG support for version 7.5 of the EPSG database
- Ability to import a coordinate system from a GML file using GML 3.1
- Enhanced Data Source Management

Features

Object-oriented control

- Drag-and-drop into your application
- Multiple platforms supported
- Access features of existing GeoCalc DLL
- .MAP and .PRJ support
- WKT (well-Known Text) support
- Common elements
- Object identifiers

XML Data Source with Fifteen Object Types

- Angular units
- Linear units
- Prime Meridians
- Ellipsoids
- Horizontal datums
- Cartesian point styles
- Geodetic point styles
- Projected point styles
- Envelopes
- Datum shifts
- Geocentric coordinate systems
- Geodetic coordinate systems
- Fitted coordinate systems
- Projected coordinate systems
- Coordinate transformations

EPSG 7.5 Support

- Over 5,000 EPSG objects
- 5.5 MB XML data file
- Nearly 3,000 coordinate systems
- Over 700 datum transformations

Raster Formats

- Canadian National Transformation V2 (NTv2)
- Custom MRE
- ED50 to ED87 North Sea
- Four Parameter
- Geocentric Translation
- General Second Order Polynomial
- General Third Order Polynomial
- General Fourth Order Polynomial
- General Fifth Order Polynomial
- General Sixth Order Polynomial
- Longitude Rotation
- Madrid to ED50 Polynomial
- Molodensky
- Molodensky-Badekas
- DMA Multiple Regression Equations
- NADCON/HARN
- NTF to RGF93 Grid
- OSTN02 Grids
- Seven Parameter CFR
- Seven Parameter PVR
- Tokyo Grid shift

Platforms

- Windows C++
- Java
- Microsoft .NET
- COM (component object model)
- LINUX
- Solaris
- MacIntosh

Map Projections

- Aitoff
- Alaska State Plane 27
- Albers Equal-Area Conic
- Azimuthal Equal Area
- Azimuthal Equidistant
- Behrmann
- Belgium 72
- Bipolar Oblique Conic Conformal
- Bonne
- Bipolar Oblique Conic Conformal
- Bonne
- Cassini
- Craster Parabolic
- Danish System 34
- Double Stereographic
- Eckert I, II, III, IV, V & VI
- Equal-Area Cylindrical
- Equidistant Conic
- Equidistant Cylindrical
- European Stereographic
- Fuller (Dymaxion)
- Gall-Peters
- Gall Stereographic
- Gnomic
- Goode Homolosine
- Guam
- Guam State Plane 27
- Hammer Aitoff
- Hotine Oblique Mercator (Rectified Skew)
- Hungarian National System (EOV)
- Hyperbolic Cassini-Soldner
- IMW Polyconic
- Krovak
- Laborde
- Lambert Conformal Conic
- (1 parallel, 2 parallel & Extended)
- Lambert State Plane 27
- Loximuthal
- McBryde-Thomas Flat-Polar Quartic
- Mercator
- MGRS (Military Grid Reference System)
- Miller Cylindrical
- Mollweide
- New Zealand Map Grid
- Oblique Mercator Azimuth
- Oblique Mercator Two Point
- Orthographic
- Polar Stereographic
- Polyconic
- Quartic Authalic
- Robinson
- Sinusoidal
- Space Oblique Mercator (SOM)
- Stereographic
- Swiss Oblique Mercator
- Tilted Perspective
- Times
- Transverse Mercator
- Transverse Mercator Extended
- Transverse Mercator Snyder
- Transverse Mercator South-Oriented
- Transverse Mercator State Plane 27
- Two-Point Fit (polynomial)
- Universal Transverse Mercator
- V and H
- Van der Grinten
- Van der Grinten IV
- Vertical Perspective
- Winkel I
- Winkel II
- Winkel Tripel