



Paradigm™ Academic Software Program



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Introduction

The Paradigm Academic Software Program provides institutions of higher learning with access to Paradigm state-of-the-art exploration and production (E&P) software. The program provides university researchers with the opportunity to advance the sciences of hydrocarbon detection and is designed to help prepare students for a future career in the energy industry. The program delivers access to innovative applications in seismic processing, imaging, interpretation, reservoir characterization, petrophysics, structural and reservoir modeling, reservoir engineering, well planning and drilling engineering.

Offering

The Paradigm Academic Software Program is available in two tracks:

For Academic Researchers

Paradigm University Research Program

The Paradigm University Research Program is open to Universities and non-profit organizations (NPO). This program provides universities and NPOs with software that can be used to conduct subsurface investigation and research with commercial software that has been used all over the world to better understand subsurface structure, properties, conditions, and petroleum systems. In addition to selected software products, Paradigm offers five academic bundles, each of which can be leased annually for a minimal administration fee, with the option to add products if desired.

For Classroom Usage

Paradigm University Grant Program

The Paradigm University Grant Program provides students with licenses for Paradigm software applications, to further expand their collective understanding of the subsurface. The software is supplied at no charge on the condition that it be used in the classroom, for educational purposes only. The RING-GOCAD Consortium fee for these universities is waived.

Additionally, all participants in the Paradigm Academic Software Program undertake to acknowledge Paradigm and its software in any published papers or professional presentations that used the software to support the results in the publication.

The table below lists the products that are available as part of the Paradigm Academic Software Program. Each row is a self-contained application (except where specified) which can be run independently or with other application-sharing data/events/ cursors. For current detailed system requirements please refer to the Paradigm Website. In the following table “Linux” refers to Red Hat® Enterprise Linux® and “Windows” refers to Microsoft® Windows®.

Per product, five (5) one-year licenses are available for US \$2000. The listed software is available in the Paradigm 17 release.

Paradigm Software

Seismic Processing & Imaging			
Solution	Paradigm Software Products (University Edition)	Part Number	Platform
<i>Seismic Processing</i>	Echos™ NexGen: 2D/3D seismic processing	UE-1	Linux
<i>Seismic Imaging</i>	GeoDepth™ Migrations and Velocity Modeling: 2D/3D velocity modeling and prestack time and depth migration on a 1 User/16 CPU configuration (includes 3D K. PSDM NexGen, 3D K. PSTM NexGen & 3D Tomo NexGen.)	UE-2	Linux
<i>Velocity Modeling & Time-to-Depth Conversion</i>	Explorer™ MV: Velocity modeling and ray-based time- depth conversion of maps and seismic volumes.	UE-3	Windows or Linux
	GOCAD™ Velocity Modeling and Time-Depth Conversion (see GOCAD Interpretation Modeling).	UE-4a	Windows or Linux
	SKUA™ Velocity Modeling and Time-Depth Conversion (see SKUA Interpretation Modeling).	UE-4b	Windows or Linux

Interpretation & Modeling			
Solution	Paradigm Software Products (University Edition)	Part Number	Platform
<i>Seismic Interpretation and Subsurface Modeling</i>	SeisEarth™ XV: Multi-survey, (2D/3D) interpretation), time- depth calibration.	UE-5	Windows or Linux
	Sysdrill™ Designer: Embedded well planning in SeisEarth.	UE-6	Windows or Linux
	VoxelGeo™ XV: Voxel-volume and multi-survey (2D/3D) volume interpretation with automatic horizon propagation and fault tracking.	UE-7	Windows or Linux

Interpretation & Modeling – cont.			
Solution	Paradigm Software Products (University Edition)	Part Number	Platform
<i>Seismic Interpretation and Subsurface Modeling</i>	GOCAD Interpretation Modeling: Structural and reservoir grid construction, geostatistical modeling, seismic interpretation, synthetics, well correlation, velocity modeling and time- depth conversion, seismic attribute computation. Multi-core support for: Foundation modeling, seismic attribute analysis and velocity modeling time-to-depth.	UE-4a	Windows or Linux
	SKUA Interpretation Modeling: Structural modeling, seismic interpretation, well correlation, synthetics, velocity modeling and time-depth conversion, seismic attribute computation, Multi – core support for: SKUA structure, foundation modeling, seismic attribute analysis and velocity modeling time-to-depth.	UE-4b	Windows or Linux
<i>Geologic Interpretation & Analysis</i>	StratEarth™: Well correlation module (requires SeisEarth UE-5).	UE-8	Windows or Linux
	GeoSec™: 2D structural restoration and balancing - forward modeling	UE-9	Linux

Reservoir Characterization			
Solution	Paradigm Software Products (University Edition)	Part Number	Platform
<i>Reservoir Modeling</i>	GOCAD Reservoir Modeling (see GOCAD Engineering Modeling).	UE-10a	Windows or Linux
	SKUA Reservoir Modeling (see SKUA Engineering Modeling).	UE-10b	Windows or Linux
<i>Seismic Reservoir Characterization</i>	Probe™: AVO inversion and analysis.	UE-11	Linux
	Vanguard™: Elastic inversion, background impedance model construction.	UE-12	Windows or Linux
	Stratimagic™: Multi-attribute seismic facies classification (neural network, Self-Organizing Maps). Includes SeisFacies™.	UE-13	Windows or Linux
<i>Formation Evaluation</i>	GeologGold: Petrophysical analysis and formation evaluation (includes GeologFE, Multimin and Synseis).	UE-14	Windows or Linux

Reservoir Engineering			
Solution	Paradigm Software Products (University Edition)	Part Number	Platform
<i>Dynamic Reservoir Modeling</i>	GOCAD Engineering Modeling: Structural and reservoir grid construction, geostatistical modeling, fine-scale reservoir grid upscaling. Direct connection to Eclipse of 3DSL, facies modeling and multi-core support for foundation modeling.	UE-10a	Windows or Linux
	SKUA Engineering Modeling: Structural, geologic and flow simulation grids construction, geostatistical modeling, fine- scale reservoir grid upscaling. Direct connection to Eclipse of 3DSL, facies modeling, multi-core support for: Foundation modeling, SKUA flow simulation grids, SKUA structure and SKUA stratigraphy and fault analysis. SKUA Hybrid Grids and SKUA Extruded Grids.	UE-10b	Windows or Linux
<i>Pressure Transient Analysis</i>	Interpret™: Transient well testing	UE-15	Windows

Well Planning & Drilling Engineering			
Solution	Paradigm Software Products (University Edition)	Part Number	Platform
<i>Well Planning</i>	Sysdrill DirectorGeo™: 3D directional well planning and survey management (VoxelGeo required).	UE-16	Windows
<i>Well Planning & Drilling Engineering</i>	Sysdrill Well Planning & Drilling Engineering: Includes Sysdrill Director (Office), Sysdrill Anti-Collision, Sysdrill Torque & Drag, Sysdrill Hydraulics, Sysdrill Fluid Temperature Modeling, Sysdrill Well Control, Sysdrill Casing Design, Sysdrill Casing Wear Analysis, Sysdrill Cementing	UE-17	Windows

Drilling Engineering			
Solution	Paradigm Software Products (University Edition)	Part Number	Platform
<i>Sysdrill Jar Placement</i>	Jar Placement Analysis	UE-18	Windows

Epos Data Management & Interoperability			
Solution	Paradigm Software Products (University Edition)	Part Number	Platform
<i>Epos Data Loading and QC</i>	Epos Data Loading and QC bundle for G&G Analysts. Includes: <ul style="list-style-type: none"> • Data import/export (ASCII files, ULA, SEG-Y loaders) and data QC tools. • 3D/2D Canvas, BaseMap, Section and Well Log windows for data QC, enabling display of prestack and poststack seismic, wells, interpretation and culture data. • QC tools, including spectrum analysis, merge seismic volumes, AVO plot, velocity volume creation, log conditioning, and interactive attribute extractions along surfaces. 	UE-19	Windows or Linux

Quantitative Seismic Interpretation			
Solution	Paradigm Software Products (University Edition)	Part Number	Platform
<i>QSI - RFP for Reservoir Geophysics</i>	Rock Fluid Properties Analysis for Reservoir Geophysics Includes: Basic gather preconditioning, FastVel™, AVO inversion, basic + advanced synthetics, amplitude inversions - post-stack, colored inversion, PMLI inversion, geostatistical volume creation, log curve prediction (neural network), rock physics, geostatistics and complex attributes, directional and illumination attributes (azimuth, dip, Lightscape) and user-defined attributes.	UE-20	Windows or Linux

Please note:

1. Membership in the RING-GOCAD Consortium is required to access Paradigm GOCAD and Paradigm SKUA products.
For more details about the RING-GOCAD Consortium, see [Appendix B](#).
2. In order to best utilize SKUA software, we ask that you take the free-of-charge SKUA course available in Paradigm Online University.
3. Additional product configurations are available and priced at \$2000 (see [Appendix A](#)).

Paradigm Online University

[Paradigm Online University](#) is a Web-based eLearning tool, designed to enable users to create a personalized training portfolio of Paradigm courses. Our multimedia courses are ideal for those who prefer short, interactive training sessions, while videos in our Video Learning Library provide quick overviews of new functionality and workflows. With the Paradigm Online University and Video Learning Library, you can create a “learner-centric” training portfolio of online courses and videos that can be accessed multiple times. You can learn at your own pace—anytime, anywhere.

Our eLearning courses are now offered to all Universities and non-profit organizations that lease our licenses, free of charge. Once an institution joins the program, its users will have access to all the on-line courses in the library, which use a variety of instructional techniques adapted to the different ways in which adults learn. These include:

- Videos for those who learn by listening and watching
- Text for those who learn by reading
- Hands-on, workflow-driven exercises for those who learn by doing
- Quizzes that measure comprehension and retention

Paradigm Online University makes it possible for users to learn what they need, when they need it.

Students may also take courses in subjects related to products not leased (licensed) by the institution, in order to become familiar with our wide range of products. In addition to learning about different technologies, students will leave University with a good knowledge base of Paradigm software, giving them a head start as they begin their professional careers.



Paradigm Instructor-Led Courses

Paradigm instructors are highly competent, Paradigm-certified professionals. They have undergone extensive training on our applications and are proven and effective trainers.

Attend any regularly scheduled training course at one of our Paradigm Learning Centers, or schedule training for your team at your own facility. Be sure to browse our [Instructor-led course catalog](#) for a complete description of all our courses as well as class dates, locations, and registration information. Paradigm offers a 50% discount to academic and non-profit Institutions for public courses when a full fee-paying student has booked a course.

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Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Red Hat is a registered trademark of Red Hat, Inc. Linux is a registered trademark of Linus Torvalds.

Appendix A: Add-on Modules to the University Edition Products

Any combination of the Add-on modules listed with relevant University Edition Product can be added to that configuration for an additional US \$2,000. ****Exception: The GOCAD Kine3D™ products are each priced at \$2,000.**

For clarification, please see the examples at the end of the table.

University Edition Product	Name of Add-On	SKU	Description
UE-2 - GeoDepth Migrations and Velocity Modeling	FastVel (GeoDepth/Echos)	RCP-1865	Automatic high-resolution residual move-out analysis
	AFE (Automatic Fault Extraction)	VI-15888	Automated tool for identifying and extracting geologic discontinuities from seismic volumes
University Edition Product	Name of Add-On	SKU	Description
UE-5 - SeisEarth XV	ComprehensiveAttr	VI-1705	Includes complex trace attributes and seismic trace analysis attributes, directional and illumination attributes
	Coherence CubeAttr	VI-1849	Discontinuity enhancement
	Advanced Synthetics	VI-1153	Advanced synthetic seismogram generation, including multi-well synthetics, fluid substitution modeling, wavelet extraction, rock physics, etc.
	Pre-stack Data Interpretation	VI-11833	Prestack Seismic Data Visualization, Conditioning and Analysis in 3D Canvas and 2D Canvas
	SeisEarth XV - Single User	VI-11962	Multi-survey (2D/3D) basin-to-prospect scale interpretation. Includes all SeisEarth EL functionality plus 2D Propagator, FaultTrak, mis-tie analysis, basic synthetics, volume rendering (opacity), multi-horizon volume flattening, horizon and proportional

		slicing.
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University Edition Product	Name of Add-On	SKU	Description
UE-7 - VoxelGeo XV	CurvatureAttr	VI-1137	Volumetric curvature attribute for structural feature determination
	VXplot	VI-1530	Multi-disciplinary crossplotting

University Edition Product	Name of Add-On	SKU	Description
UE-10a/b and UE-4a/b - GOCAD/ SKUA	GOCAD Structural Uncertainty (Alea™)	ED-1022 Must have: UE-4 or UE-10	Rock volume uncertainties from interpretation uncertainties, structural scenarios and OWC uncertainties (in cooperation with Total)
	Reservoir Uncertainty (Jacta™)	ED-1020 Must have: UE-10	Reservoir volume uncertainty from geological uncertainty. Sensitivity analysis on modeling parameters (in cooperation with Total).
	Finite Element Mesh Constructor	ED-1038	Construct tetrahedral meshes in structurally complex environments.
	Basic Well Planning	ED-1009 Must have: UE-4 or UE-10	Create and edit targets, construct optimum well paths from picked targets, optimize platform position, estimate cost.
	Side Track & Collision Risk	ED-1981 Must have Basic Well Planning	Construct and optimize side-tracks, compute well path uncertainty and anti-collision.
	Fracture Modeling (FracMV™)	ED-1999 Must have: UE-10	Create discrete fracture network (DFN), upscale to create fracture permeability, fracture porosity, sigma properties (in cooperation with Midland Valley).

3D Magellan Mouse	ED-1984	Replace many 2D mouse movements by an intuitive, ergonomic 3D mouse control.
Advanced Structural Analysis (Kine3D-1)	ED-1004** Must have: UE-4 or UE-10	Quantitative exploration of structures, isopach surface construction, enhanced dip constraint for horizon construction, DEM manipulation (in cooperation with IFP).
2D Restoration (Kine3D-2)	ED-1005** Must have: ED-1004	Cross-section restoration, balanced cross-section, map unfolding, multi-map restoration. Flexural slip, simple shear, flow, rigid rotation of blocks, compaction/ decompaction (in cooperation with IFP).
3D Restoration (Kine3D-3)	ED-1006** Must have: ED-1004	Volumetric restoration, elastic relaxation, slip of faults and horizons, stress ellipsoid prediction, strain stress/strain direction/ values, strain minimization (in cooperation with IFP).

University Edition Product	Name of Add-On	SKU	Description
UE-11 - Probe			
	Probe Velocity Navigator	DPI-1682	Task-oriented residual moveout analysis [includes time and time-migrated operations performed on CRP (time migrated) or CMP (offset or angle) gathers].
	FastVEL (Probe)	RCP-1851	Automatic high-resolution residual velocity analysis

University Edition Product	Name of Add-On	SKU	Description
UE-12 - Vanguard			
	IFP Inversion	RCP-1869	Simultaneous inversion
	Rock Physics	RCP-1596	Rock physics modeling and fluid substitution

University Edition Product	Name of Add-On	SKU	Description
UE-13 - Stratimagic			

	NexModel	RCP-1240	Seismic facies well log calibration
	Stratimagic 2D	RCP-11834	2D seismic classification
	Seismic-Driven Log Property Propagation	RCP-1411	Neural network-based log property volume creation
University Edition Product			
UE-14 - GeologGold	Name of Add-On	SKU	Description
	Geolog Core Analysis & Saturation Height Modeling	RCP-0138	Advanced core analysis
	Geolog NMR	RCP-1241	NMR processing, inversion, interpretation
	Geolog Image Log Processing & Interpretation	RCP-1392	Borehole image log processing, including dip meter calculations
	Geolog Facimage	RCP-1391	Electrofacies analysis and core data modeling
	Geolog Full Waveform Sonic	RCP-1700	Full waveform sonic calculation
	Geolog Correlator	RCP-1511	Multi-well correlation
	Geolog Pore Pressure Prediction and Geomechanics	RCP-15504	Geolog pore pressure prediction
	Geolog Well Integrity	RCP-15696	Cement evaluation and pipe inspection tools to visualize and quantify condition of completed wells
	Geolog Production Logging	RCP-15984	Geolog Production Logging

Example 1:

If you need access to GOCAD Reservoir Uncertainty, you will need to obtain the Reservoir Modeling Solution (UE-10a) for \$2,000. This gives you one-year access to 5 licenses. Then add both Reservoir Uncertainty and Fracture Modeling, one-year access for 5 users, for only \$2,000 from Appendix A. The total price will be \$4,000 (plus an annual RING-GOCAD Consortium fee of €1,500).

Example 2:

Along with the Seismic Reservoir Characterization Solutions (UE-11, UE-12 and UE-13) for a total of \$6,000, you can add a special package of 5 one-year-licenses of Stratimagic NexModel (RCP-1240), FastVel (RCP-1851), and Vanguard Rock Physics (RCP 1596) for \$2,000, for a total of \$8,000.

Example 3:

If you want access to one (1) Interpret, two (2) Explorer and six (6) Geolog Facimage, you would gain access to 5 Interpret (UE-15), 5 Explorer MV (UE-3) and 5 Geolog Gold (UE-14) one-year licenses for \$2,000 per bundle. For an additional \$2,000, you will receive 5 one-year-licenses of Geolog Facimage (RCP-1391) (from Appendix A). This will bring the total for this transaction to \$8,000.

University Edition Product	Name of Add-On	SKU	Description
General add-on (all University Edition Products)	Epos GeoFrame Link	EP-0191	GeoFrame 4.5 interoperability wells). (Included with all Epos products except Geolog and Stratimagic.)
	Epos OpenWorks Link	EP-1618	OpenWorks 2003.12 and OpenWorks R5000 interoperability (wells). (Included with all Epos products except Geolog and Stratimagic.)
	Epos RESQML/Petrel Link	EP-15328	Enables Epos data exchange with RESQML/Petrel.
	Geolog Petrel Link	EP-15344	Enables Geolog data exchange with RESQML/Petrel.
	SKUA_GOCAD RESQML/Petrel Link	ED-15712	Enables SKUA-GOCAD data exchange with RESQML/Petrel.
	Stratimagic RESQML/Petrel Link	RCP-15713	Provides RESQML connectivity for Stratimagic
	VoxelGeo RESQML/Petrel Link	VI-15714	Provides RESQML connectivity for VoxelGeo

Basic GOCAD Developer Package Add-on (Shared)	ED-1089 Must have UE-4	Foundation Modeling, Velocity Modeling Time-to-Depth development kit (includes files, documentation, examples) for developing GOCAD plug-ins or independent batch program.
Basic SKUA Developer Package (Shared)	ED-1105 Must have UE-10b	API access to construction of fault network, horizons, geological grid, and flow simulation grids. API Access to geologic grid and flow simulation grid data structures.
OpenGeo Development Kit	EP-1876	Epos Embedded Application Programming. Facilitates direct access to Epos well, interpretation and seismic data and enables GUI programming.
LGR and Upscaler Developer Package	ED-16033 Must have UE-10b	API for upscaling/downscaling, and easy construction, management and export of local grid refinements (LGR). Advanced permeability upscaling including finite difference and finite element pressure solvers (diagonal and symmetric tensors).

Appendix B: How to join the RING-GOCAD Academic Consortium

The Association Scientifique pour la Géologie et ses Applications (ASGA) manages the RING-GOCAD Academic Consortium. Please contact ASGA at the following address:

ASGA / Computer Science Department
2 rue du Doyen Marcel Roubault
BP 10162
F-54505 Vandoeuvre-lès-Nancy Cedex

Tel/ +33-(0)3 83 55 35 23
Fax/ +33-(0)3 83 51 05 99
Email/ ensg-asga-ringconsortium@univ-lorraine.fr

- Sign the Academic Membership Agreement with ASGA
- Pay ASGA a €1,500 annual membership fee.

What are the benefits for Universities joining the RING-GOCAD Consortium?

Membership in the RING-GOCAD Consortium provides early access to new technology in numerical reservoir and subsurface modeling. This technology is made available to RING-GOCAD Consortium Members through:

- Original research papers, presentations and training courses, presented yearly at the September RING meeting held in Nancy.
- Computer codes (sources + binaries), mostly consisting of plugins to the GOCAD geomodeling software.
- Binary codes may be applied to proprietary or public data by all Consortium members with a valid GOCAD License.
- Possible internships and collaborations with RING Researchers on selected topics.

The RING-GOCAD Consortium fee/membership for non-profit organizations has been waived for organizations using GOCAD/SKUA products through a Paradigm donation/grant. However, to benefit from the interaction with a wide community of researchers and users, Paradigm encourages members to maintain active participation in the RING-GOCAD Consortium.

For further details please follow the link: <http://www.ring-team.org/consortium>