RELEASE NOTES



Release Notes GVERSE Connect 2019.1

*Mark of Schlumberger





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Introduction

LMKR is pleased to announce the release of the GVERSE™ Connect 2019.1 Plug-in. This document provides an introduction to the Connect plug-in features and benefits. It also lists the system requirements necessary to install and run the plug-in.

What is GVERSE Connect?

The Connect plug-in enables well, seismic and surfaces to come together into an integrated interpretation environment. This plug-in facilitates the direct exchange of data between GeoGraphix® and Petrel* E&P software platform. It enables an efficient exchange between two industry-leading E&P technologies and provides users the ability to use the "best fit" technologies for their job without the concern of data migration issues and related delays. The Connect plug-in is part of the GVERSE application suite by LMKR (http://www.lmkr.com/gverse).

LMKR GVERSE consists of geoscience and engineering solutions focused on workflow optimization and enhancing productivity of teams working on diverse geological and geophysical projects. These applications help cut the processing time required for interpretations resulting in fast, easy to use scalable tools that are inter-operable with other known geoscience software suites; enabling a connected multi skilled workforce.

The Connect plug-in uses Ocean Software Development Framework to bridge between the applications.

Main Features

The main features of the plug-in are as follows:

- Data transfer in either direction for the following data types is supported:
 - Well data including headers, directional surveys, well tops, log curves, velocity surveys and faults.
 - Seismic interpretations including horizons and faults marked on 3D volumes.
 - XYZ surfaces generated in either application.
- Supports well filters (GeoGraphix) and saves searches (Petrel), which helps users limit the data transfers to the required wells only.
- A comprehensive logging mechanism captures the different types of logs to keep track and audit all data and data types transferred between the applications.
- The choice of overwrite or skip for each data type, is an efficient way of enabling the user to keep only the selected data synchronized between two applications.
- Allows users to effectively use Source lists and SCM lists to organize data while transferring to GeoGraphix. This makes it easy for users to identify and retrieve exactly the same data for transfer back to Petrel.

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Benefits

Using this plug-in, data can be transferred to an empty project (in either vendor's system) or to an existing project that the user would like to append or update. The transfer rules are configurable to allow necessary adjustments according to the data management policies of the organization.

- Increased User Productivity: For organizations that using both Petrel and GeoGraphix, the data transfer time will be exponentially faster than using manual data transfer methods.
- Optimized Reservoir Characterization: By combining the strengths of both software solutions into
 one interpretation, an optimized characterization of the reservoir can be produced.
- Reduced Costs: GeoGraphix provides an affordable, comprehensive and performant solution for daily interpretation needs and compliments the nature of Petrel's high science, higher cost solution for reservoir modeling. Rightsizing the software solution to the user's needs, while enabling full data interoperability, provides an opportunity to dramatically reduce licensing costs and associated annual maintenance and support fees.
- Quick Adoptability: Easy and fast transfer of well data into GeoGraphix enables the user to take
 advantage of GeoGraphix's geophysical, geological, petrophysical and map production capabilities,
 for faster, efficient and more accurate interpretation.

System Requirements

The following sections list the system requirements for the Connect 2019.1 plug-in.

Software

The software that must be installed on the system running the plug-in are as follows:

- GeoGraphix Discovery 2019.1 or 2017.3
- Petrel 2017.x, 2016.x or 2015.x
- LMKR License Management Tool 2016.1 for Connect license
 The LMKR License Management Tool (LMT) must be installed to configure the Connect license.
- Microsoft® Visual C++ Runtime 2013
- Adobe Reader for selected help files (optional)

Operating System

To run the plug-in, you need one of the following operating systems installed on your system:

- Windows® 7 Professional x64
- Windows® 10 Professional x64
- Windows® 7 Enterprise x64
- Windows® 10 Enterprise x64
- Windows® 7 Ultimate x64

Note: It is recommended that the latest Microsoft® service packs and security patches are used.

Hardware

The hardware requirements for the plug-in are the same as the Petrel hardware requirements.

Licenses

The following licenses are required to run the plug-in:

- GeoGraphix Discovery 2019.1 or 2017.1 license
- Petrel 2017.x, 2016.x or 2015.x license
- GVERSE Connect 2019.1 license

The following product/feature licenses are required to import/export the IsoMap surfaces, and horizons and faults:

- IsoMap license for surfaces
- SeisVision license for horizons and faults

Note: Refer to the LMKR Customer Support Portal (http://support.lmkr.com/) for up-to-date information on the requirements.

What's New in 2019.1

GeoGraphix and Petrel Compatibility

The architecture of the plug-in is enhanced to allow for successful transfer of wells data, surfaces (grids), and horizon & faults (seismic data) between:

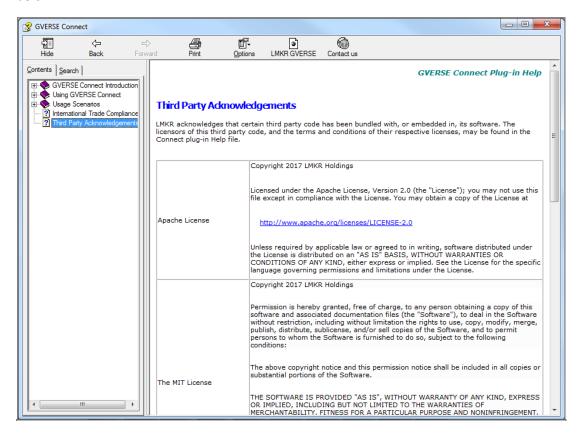
- GeoGraphix Discovery 2019.1 and Petrel 2017.x/2016.x/2015.x
- GeoGraphix Discovery 2017.3 and Petrel 2017.x/2016.x/2015.x

Third Party Applications

LMKR acknowledges that certain third party code has been bundled with, or embedded in, its software. The licensors of this third party code, and the terms and conditions of their respective licenses, may be found in the Connect plug-in Help file.

To access the third party license agreements:

- In the Connect plug-in dialog, click
 The Help window displays.
- 2. In the **Contents** pane, locate the **Third Party Acknowledgements** help topic as shown in the image below.



International Trade Compliance

This application is manufactured or designed using U.S. origin technology and is therefore subject to the export control laws of the United States. Any use or further disposition of such items is subject to U.S. law. Exports from the United States and any re-export thereafter may require a formal export license authorization from the government. If there are doubts about the requirements of the applicable law, it is recommended that the buyer obtain qualified legal advice. These items cannot be used in the design, production, use, or storage of chemical, biological, or nuclear weapons, or missiles of any kind.

The ECCNs provided here (if applicable) represent LMKR's opinion of the correct classification for the product today (based on the original software and/or original hardware). Classifications are subject to change. If you have any questions or need assistance please contact us at support@lmkr.com.

Under the U.S. Export Administration Regulations (EAR), the U.S. Government assigns your organization or client, as exporter/importer of record, responsibility for determining the correct authorization for the item at the time of export/import. Restrictions may apply to shipments based on the products, the customer, or the country of destination, and an export license may be required by the Department of Commerce prior to shipment. The U.S. Bureau of Industry and Security provides a website to assist you with determining the need for a license and with information regarding where to obtain help.

The URL is: http://www.bis.doc.gov.

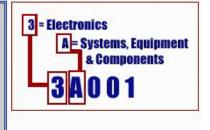
Definitions

ECCN - Export Control Classification Number - The ECCN is an alpha-numeric code, e.g., 3A001, that describes a particular item or type of item, and shows the controls placed on that item. The CCL (Commerce Control List) is divided into ten broad categories, and each category is further subdivided into five product groups. The CCL is available on the <u>EAR Website</u>.

The following illustration is a sample:

Five Product Groups

- A. Systems, Equipment and Components
- B. Test, Inspection and Production Equipment
- C. Material
- D. Software
- E. Technology



The ECCN number (if applicable) and License Type for this product are included in the table below. Also included is the date the table was last updated.

Product/Component/R5000	EAR Number	License	Last Updated On
GVERSE Connect	EAR99	EAR	11/23/2015

Contacting LMKR Support

LMKR is committed to providing the highest level of technical customer support in the industry. With an average tenure of more than thirteen years, our highly trained and experienced staff of technical analysts is comprised of geoscientists, engineers, land professionals, petrophysicists, and system specialists.

Please refer to our Customer Support timings mentioned below to ensure that you have access to our support analysts assigned to your region. When getting in touch with LMKR support, please remember that real-time support will not be available during bank holidays or after office hours. If you do get in touch with LMKR Support outside of work hours, please leave a voice message with a brief description of the issue that you are facing. Your voice message will be used to automatically create a support case for you. This will enable our analysts to attend to your issue and provide you with a resolution as soon as possible

North & South America	Europe, Middle East & Africa
Monday – Friday	UK:
8 am – 6 pm CST*	Monday – Friday
Toll Free (US/Canada):	8 am – 5 pm*
+1 855 GGX LMKR (449 5657)	+44 20 3608 8042
Calambia	HAE.
Colombia:	UAE:
+57 1381 4908	Sunday – Thursday
Haitad Chatas	(Dubai GMT+4)
United States: +1 303 295 0020	8 am – 5 pm* +971 4 3727 999
+1 303 293 0020	+9/1 4 3/2/ 999
Canada:	
+1 587 233 4004	
*Excluding bank holidays	*Excluding bank holidays
Asia Pacific & Australian Continent	Southwest Asian Countries
Malaysia:	Pakistan:
Monday – Friday	Monday – Friday
(Kuala Lumpur GMT+8)	(Islamabad GMT+5)
9 am – 6 pm*	9 am – 6 pm*
+60 32 300 8777	+92 51 209 7400
*Excluding bank holidays	*Excluding bank holidays

Helpful Links

Name	Website Address
LMKR Homepage	http://www.lmkr.com
LMKR GVERSE	http://www.lmkr.com/gverse
LMKR Support Portal	http://support.lmkr.com
Petrel - Schlumberger Information Solutions	http://www.software.slb.com/products/platform/Pages/petrel.aspx