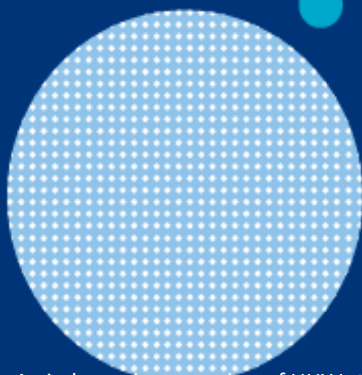


# SCHLUMBERGER TECHNOLOGY CORPORATION

DELFI Cognitive E&P Environment

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## **SECTION 1:**

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# **INDEPENDENT SERVICE AUDITOR'S REPORT**

To the Management of:  
Schlumberger Technology Corporation  
5599 San Felipe St.  
Houston, TX 77056

### **Scope**

We have examined Schlumberger Technology Corporation's ("Schlumberger") accompanying assertion titled "Schlumberger Technology Corporation Management's Assertion" (assertion) that the controls within the Schlumberger DELFI cognitive E&P environment (system) were effective throughout the period January 1, 2020 to December 31, 2020, to provide reasonable assurance that Schlumberger's service commitments and system requirements were achieved based on the trust services criteria relevant to security and availability (applicable trust services criteria) set forth in TSP section 100, 2017 Trust Services Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy (trust services criteria).

### **Service Organization's Responsibilities**

Schlumberger is responsible for its service commitments and system requirements and for designing, implementing, and operating effective controls within the DELFI environment to provide reasonable assurance that Schlumberger's service commitments and system requirements were achieved. Schlumberger has also provided the accompanying assertion about the effectiveness of controls within the DELFI environment. When preparing its assertion, Schlumberger is responsible for selecting, and identifying in its assertion, the applicable trust service criteria and for having a reasonable basis for its assertion by performing an assessment of the effectiveness of the controls within the DELFI environment.

### **Service Auditor's Responsibilities**

Our responsibility is to express an opinion, based on our examination, on whether management's assertion that controls within the DELFI environment were effective throughout the period to provide reasonable assurance that the service organization's service commitments and system requirements were achieved based on the applicable trust services criteria. Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform our examination to obtain reasonable assurance about whether management's assertion is fairly stated, in all material respects. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

Our examination included:

- Obtaining an understanding of the DELFI environment and the service organization's service commitments and system requirements.
- Assessing the risks that controls were not effective to achieve Schlumberger's service commitments and system requirements based on the applicable trust services criteria.
- Performing procedures to obtain evidence about whether controls within the DELFI environment were effective to achieve Schlumberger's service commitments and system requirements based on the applicable trust services criteria.

Our examination also included performing such other procedures as we considered necessary in the circumstances.

## Inherent Limitations

There are inherent limitations in the effectiveness of any system of internal control, including the possibility of human error and the circumvention of controls.

Because of their nature, controls may not always operate effectively to provide reasonable assurance that the service organization's service commitments and system requirements were achieved based on the applicable trust services criteria. Also, the projection to the future of any conclusions about the effectiveness of controls is subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

## Opinion

In our opinion, management's assertion that the controls within the Schlumberger DELFI cognitive E&P environment were effective throughout the period January 1, 2020 to December 31, 2020 to provide reasonable assurance that Schlumberger service commitments and system requirements were achieved based on the applicable trust services criteria is fairly stated, in all material respects.

*UHY LLP*

St. Louis, MO  
June 29, 2021

## **SECTION 2:**

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# **SCHLUMBERGER TECHNOLOGY CORPORATION MANAGEMENT'S ASSERTION**



We are responsible for designing, implementing, operating, and maintaining effective controls within the Schlumberger Technology Corporation's ("Schlumberger") DELFI cognitive E&P environment throughout the period January 1, 2020 to December 31, 2020, to provide reasonable assurance that Schlumberger's service commitments and system requirements relevant to security and availability were achieved. Our description of the boundaries of the DELFI environment is presented in Attachment A and identifies the aspects of the environment covered by our assertion.

We have performed an evaluation of the effectiveness of the controls within the environment throughout the period January 1, 2020 to December 31, 2020, to provide reasonable assurance that Schlumberger's service commitments and system requirements were achieved based on the trust services criteria relevant to security and availability (applicable trust services criteria) set forth in TSP section 100, 2017 Trust Services Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy (AICPA, Trust Services Criteria).

Schlumberger's objectives for the DELFI environment in applying the applicable trust services criteria are embodied in its service commitments and system requirements relevant to the applicable trust services criteria. The principal service commitments and system requirements related to the applicable trust services criteria are presented in Attachment B.

There are inherent limitations in any system of internal control, including the possibility of human error and the circumvention of controls. Because of these inherent limitations, a service organization may achieve reasonable, but not absolute, assurance that its service commitments and system requirements are achieved.

We assert that the controls within the DELFI environment were effective throughout the period January 1, 2020 to December 31, 2020, to provide reasonable assurance that Schlumberger's service commitments and system requirements were achieved based on the applicable trust services criteria.

# **ATTACHMENT A:**

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## **SCHLUMBERGER TECHNOLOGY CORPORATION'S DESCRIPTION OF THE BOUNDARIES OF THE DELFI COGNITIVE E&P ENVIRONMENT**



## ORGANIZATION BACKGROUND

Schlumberger Technology Corporation, a company that is part of the Schlumberger group of companies, provides software, information management, information technology, and related services. Schlumberger collaborates closely with oil and gas companies and its objective is to provide those companies with technology solutions to improve performance and optimize operational effectiveness.

## SERVICES PROVIDED

### DELFI Cognitive E&P Environment - Introduction

The DELFI cognitive E&P environment is a collaborative technology that unites the exploration and production E&P life cycle in the cloud. It is an open and scalable system designed to seamlessly connect people, data and leading software applications across exploration, development, drilling, and production companies delivered through a flexible and personalized Software as a Service (“SaaS”) subscription model.

Further information is available on: <https://www.software.slb.com/delfi>

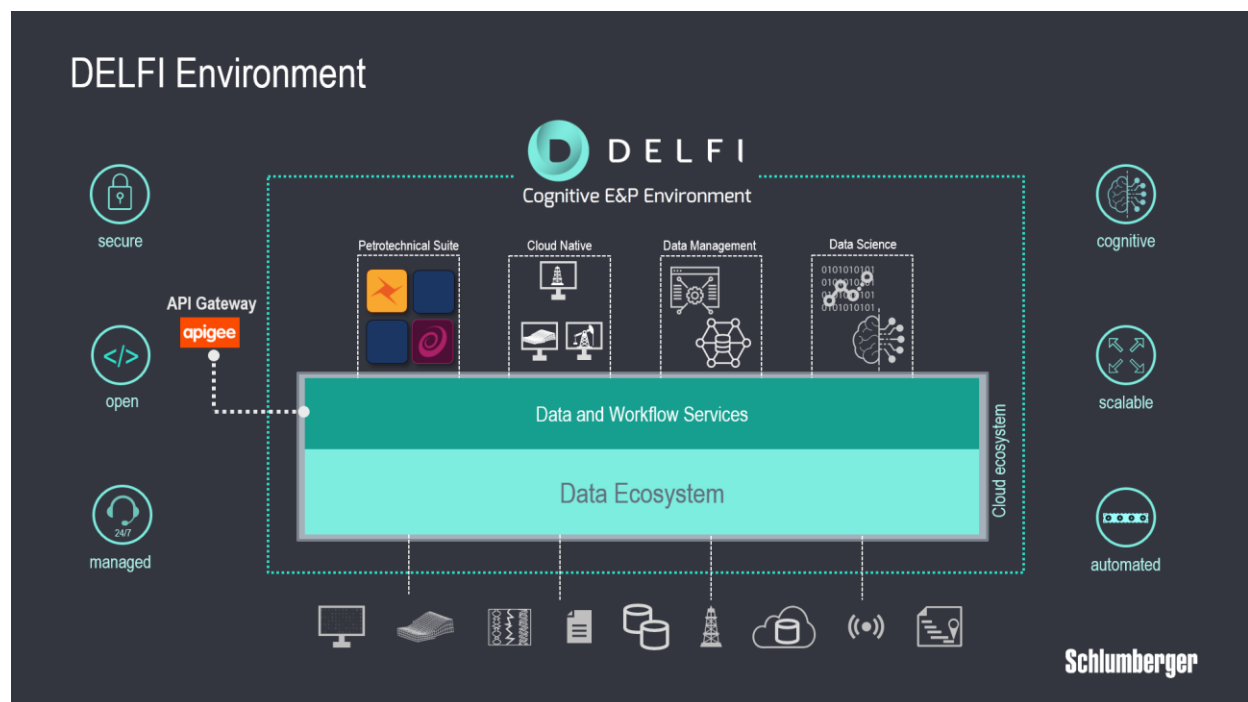


Figure 1: High level architecture of DELFI

### DELFI Portal

The DELFI Portal is the home of all Schlumberger online applications. From the DELFI Portal customers can launch applications, manage data, and browse through the online services offered by Schlumberger.

The DELFI Portal is a fully integrated environment that allows customers to manage data, projects, and workflows online. The portal is a cloud-based solution, allowing customers to eliminate the maintenance of a desktop environment.

The DELFI Portal and associated core services (also referred to as Cloud Foundation Services–CFS) comprise several backend microservices developed by Schlumberger using cloud services.

## **DELFI Petrotechnical Suite**

The DELFI Petrotechnical Suite helps customers access data and workflows on market-leading petrotechnical technology.

Once connected, local, global, and third-party sources can access analytical and domain workflows. Users can search and utilize structured and unstructured data within the DELFI Petrotechnical Suite.

## **DrillPlan**

The DrillPlan coherent well construction planning solution enables customers to access data and science in a single, common software system. The automation of repetitive tasks and validation workflows enables better quality drilling programs to be produced quickly, to ensure your entire plan is coherent. It includes circular workflows to improve plans as new data is added, and future programs can learn from prior experience.

Designed for the cloud, and also accessible within the DELFI environment, the DrillPlan solution provides customers access to all of their well construction projects.

## **DELFI Developer Portal**

The DELFI Developer Portal enables customers to develop new or enhanced E&P software applications. Development tools and APIs are made available to customers to create targeted software. The DELFI Developer Portal provides scalable software development services in a REST-based API developer environment.

## **DELFI Data Ecosystem**

The DELFI Data Ecosystem facilitates collaboration across organizations enabling customers to discover and consume multiple data sources of global E&P information in one place, in the context of their operations. Data is liberated from previously siloed repositories and sources to enrich the context and depth of data-driven insights.

The data ecosystem is optimized to integrate data types and upstream data sources, providing access to data records to manage and prepare information to be consumed in domain workflows across the DELFI environment.

## **ExplorePlan**

Within the Schlumberger integrated E&P suite of planning solutions, ExplorePlan accelerated exploration planning solution is a DELFI-native experience enabling exploration teams to cover the complete exploration user journey from basin evaluation, license acquisition strategy, to prospect opportunity assessment and maturation.

The ExplorePlan solution provides collaborative exploration planning and management, knowledge capturing, prospect evaluation and ranking, auditing, and decision-making.

## **FDPlan**

The FDPlan agile field development planning solution enables a shortening of planning cycles for development projects at all stages of the asset life cycle. The solution provides a common, shared environment in which multi-disciplinary teams can work as one unified operation to deliver an integrated, high quality field development plan. The FDPlan solution changes the field development planning workflow from a sequential process to a collaborative agile experience.

## **GAIA**

The GAIA data discovery and marketplace platform integrates both structured and unstructured data and provides users with cross-domain collective intelligence, providing access to public, vendor, and proprietary data. The GAIA platform is provided within the DELFI environment.

## **DELFI On Demand Reservoir Simulation**

DELFI On Demand Reservoir Simulation enables reservoir engineers to access numerical simulators combined with elastic cloud compute technologies.

Users can undertake a whole spectrum of field studies, such as building high fidelity models for heterogeneous reservoirs, investigating complex recovery mechanisms, and optimizing advanced field development strategies.

## **DELFI Reservoir Engineering Workspace**

The DELFI Reservoir Engineering Workspace is the portal to all the reservoir simulation models hosted within the DELFI environment. Simulations are organized into workspaces, where asset teams can find, compare, and analyze models in insightful ways.

The DELFI Reservoir Engineering Workspace provides stakeholders with a high-level overview of the asset's historical and forecasted behavior. In addition, teams can interrogate the data ecosystem using key model inputs and results to find cases of interest for further investigation.

Optimized for efficient discovery, the workspace empowers users to filter, examine, organize, compare multiple cases, visualize results, and generate reports. Seamless synchronization provides up-to-date information on recent simulation activity, enabling automatic model tagging, and version control.

## **Infrastructure and Software**

The DELFI environment primarily uses cloud technology. DELFI is made up of microservices, web applications, and traditional infrastructure.

## **Internal Departments**

- Technology and product centers (Schlumberger Digital Organization): Responsible for the cloud development, maintenance, and issue resolution of the source code as well as commercialization testing and release of products, new product code, and maintenance releases.
- Service operations: Provide software-problem troubleshooting via the Customer Care Center with documentation of the initial issue or event in the company's ticketing system. They are responsible for user support, problem resolution, maintenance of cloud and service components, network infrastructure, monitoring and expanding service capacity, backup and recovery of data and business recovery planning. Additionally, site reliability engineers test the release of all software services.
- Security and compliance: Responsible for maintaining security controls, periodic audits of software and infrastructure, incident response, and compliance activities.
- Human Resources: Responsible for on-boarding and off-boarding Schlumberger employees.

### **Processes, policies, and procedures**

Schlumberger has implemented policies and procedures to address critical operational processes. The information security policies define responsibility and accountability for ownership and approval of security policies as well as the frequency of policy reviews. The information security policies are maintained and reviewed annually by the security team. The information security policies are available to employees on the company's intranet.

### **Data**

Schlumberger has a defined information classification scheme for the labeling and handling of data. Encryption is used to protect all system and customer data at rest, based on the data classification.

## **ATTACHMENT B:**

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# **DELFI COGNITIVE E&P ENVIRONMENT PRINCIPAL SERVICE COMMITMENTS AND SYSTEM REQUIREMENTS**

## OVERVIEW

Schlumberger designs its processes and procedures to meet the objectives for the DELFI environment. Those objectives are based on the service commitments that Schlumberger makes to user entities, the laws and regulations that govern the DELFI cognitive E&P environment, and the financial, operational, and compliance requirements that Schlumberger has established for the services.

Schlumberger establishes operational requirements that support the achievement of security and availability commitments, relevant laws and regulations, and other system requirements. Such requirements are communicated in Schlumberger's system policies and procedures and contracts with customers. Information security policies define an organization-wide approach to how systems and data are protected and made available.

### **Security**

Security commitments to user entities are documented and communicated in customer agreements, as well as in the description of the service offering provided online. Security commitments include:

- Security principles within the fundamental design of the DELFI cognitive E&P environment that are designed to permit users to access the information they need based on their role in the DELFI cognitive E&P environment while restricting them from accessing information not needed for their role.
- Use of encryption technologies to protect customer data both at rest and in transit.

### **Availability**

Availability commitments to user entities are documented and communicated in customer agreements, as well as in the description of the service offering provided online. Availability commitments include:

- Availability principles within the fundamental design of the DELFI cognitive E&P environment that are designed to replicate critical system components across geographically diverse regions, complete backups that are monitored for failure and tested for integrity, and demand forecasting.