

CLAIMS FRAUD DETECTION SYSTEMS

2018 IT VENDOR SPECTRUM

Nicolas Michellod
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This authorized reprint contains material excerpted from a recent Celent report profiling and evaluating 19 different claims fraud detection system vendors globally. The full report is more than 100 pages long. This report was not sponsored by Shift Technology in any way.

This reprint was prepared specifically for Shift Technology, but the analysis presented has not been changed from that presented in the full report. For more information on the full report, please contact Celent at info@celent.com.

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EXECUTIVE SUMMARY

KEY RESEARCH QUESTIONS

- 1** *Who are the main vendors active in the claims fraud detection area in insurance?*
- 2** *What are the key resources and capabilities of a claims fraud detection solution?*
- 3** *What are the fraud detection techniques offered as part of a claims fraud detection system?*

Celent defines a claims fraud detection system as a system that helps insurance companies identify frauds in claims and consequently plan actions to mitigate them. In the long run, a claims fraud detection system's purpose is to improve the overall claims ratio of an insurance company by reducing refunds in cases of fraudulent claims.

This report provides a detailed description of IT vendors and their offerings in the insurance claims fraud detection area. It profiles 19 IT vendors and is not restricted to a specific geography. Each vendor is profiled using the same structure, starting with a synoptic table presenting the company and its solution. Celent describes the solution's features and functions, the customer base, and technology as well as the initial installation and the licensing model.

Although this list is not exhaustive, we think it provides a valuable sample of vendors.

AN OVERVIEW OF THE IT VENDOR SPECTRUM

REPORT METHODOLOGY

To establish a broad initial list of claims fraud detection system vendors for inclusion in the report, Celent used its own knowledge of the market as well as an array of other sources. Insurers were also asked to make inclusion suggestions. Each vendor was asked to complete Celent's request for information (RFI). Based on these criteria, Celent received responses to our RFI from 19 vendors.

PROFILED VENDORS

This report profiles 19 vendors from around the world.

Key
Research
Question

1

Who are the main vendors active in the claims fraud detection area in insurance?

Celent profiled 19 vendors in this report including Shift Technology.

KEY RESOURCES AND CAPABILITIES OF A CLAIMS FRAUD DETECTION SOLUTION

In addition to consulting resources, claims fraud detection is a domain requiring specific capabilities around:

- **Data:** Vendors' systems need to be able to leverage various sorts of data to score, identify and prioritize cases requiring further investigations. The vendors profiled in this report are generally able to leverage various types of data sources being insurers' internal data but also external data sources
- **Claims fraud detection techniques:** On top of data, vendors have developed models and algorithms allowing for the identification of potential fraud cases. These models can use various techniques.

**Key
Research
Question**

2

What are the key resources and capabilities of a claims fraud detection solution?

A claims fraud detection solution vendor should be able to provide an optimal combination of three attributes: access to relevant data sources, sophisticated claims fraud detection techniques, and strong consulting capabilities.

Data

The following table summarizes the data sources claims fraud detection solution vendors profiled in this report can leverage.

Table 1: Data Sources

VENDOR	DATA SUPPORT		
	An insurer's internal data	Vendor's own proprietary data set	Third party data
SHIFT TECHNOLOGY	S	S	S

Legend: S = supported; - = Not an option

Source: Vendor RFIs

Claims Fraud Detection Techniques

The following table list the claims fraud detection techniques supported by the vendors profiled in this report and how they are supported.

Table 2: Claims Fraud Detection Techniques

VENDOR	CLAIMS FRAUD DETECTION TECHNIQUES									
	Claims fraud pattern identification	Anomaly detection	Text mining	Social network analysis	Image screening	Voice analysis	Machine learning	Claims severity modeling	Claims frequency modeling	Claims settlement optimization
SHIFT TECHNOLOGY	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	-	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■

Legend: ■ ■ ■ ■ = the vendor does it for the insurer; ■ ■ = configurable by nontechnical staff; ■ = need scripting; ● = programming required; □ = available through separate component; - = Not available

Source: Vendor RFIs

Key
Research
Question

3

What are the fraud detection techniques offered as part of a claims fraud detection system?

There are various techniques a claims fraud detection system uses including claims fraud pattern identification, anomaly detection, text mining, social network analysis, image screening, voice analysis, machine learning, claims severity and frequency modeling, and claims settlement optimization.

ABOUT THE PROFILES

To ease the comparison for readers, all profiles starting in the next sections of this report have the same structure.

Table 3: Profile Structure

SECTION	DESCRIPTION
COMPANY	Synoptic table presenting the company and introducing the system
DELIVERY AND DATA SOURCE	Solution delivery approach Data types and sources supported
CUSTOMER BASE	Customers in production worldwide New insurance clients since January 2016 Countries where the solution is used Marquee clients
FEATURES AND FUNCTIONS	Data preparation Model configuration Claims fraud techniques Special Investigation Unit (SIU)
TECHNOLOGY	Code base Integration methods APIs SaaS availability Upgrade
INITIAL INSTALLATION AND LICENSING MODEL	Average time from contract signing to get the system up and running Size and implementation team composition Collaboration with third parties (systems integrators, consultancies) Cost structure Licensing models

Source: Celent

Some IT vendors have refused to disclose certain types of information. Indeed, some of them consider details about customer base, implementation, pricing, and support to be highly confidential.

SHIFT TECHNOLOGY: FORCE

COMPANY AND PRODUCT BACKGROUND

Table 4: Vendor Snapshot

COMPANY INFORMATION	
GLOBAL HEADQUARTERS	Paris, France
YEAR FOUNDED	2014
COMPANY SIZE	Total corporate employees: 100+ Annual revenue derived from the solution: -
MERGERS & ACQUISITIONS	-
PARTNERSHIPS WITH ACTUARIAL OR OTHER CONSULTING FIRMS	Shift Technology has its own consulting capabilities that form part of its offering to insurers. Therefore, the vendor does not work with external consultants.
PARTNERSHIPS WITH CORE INSURANCE SYSTEM VENDORS	-
SOLUTION	
SYSTEM NAME	FORCE
LAUNCH DATE	2014
DESCRIPTION	FORCE is a pure SaaS fraud detection and SIU system that Shift Technology provides to insurers in addition to dedicated consulting services. With FORCE, Shift Technology targets P&C and healthcare insurance companies worldwide.
LAST MAJOR RELEASE	-

Source: Vendor RFI

SOLUTION DELIVERY AND DATA SOURCES

Table 5: Delivery and Data Sources Options

SOLUTION DELIVERY APPROACH	
INSTALL THE TOOL FOR THE INSURER'S EXCLUSIVE USE. THE INSURER IS THEN RESPONSIBLE FOR CONTINUING USE OF THE SYSTEM	Not an option
APPLY THEIR OWN ALGORITHMS TO AVAILABLE DATA WITHOUT A SPECIFIC INSTALLATION FOR THE INSURER AND GIVE THE INSURER THE RESULTS OF THE FINDINGS	Only option
DATA SOURCES SUPPORTED	
AN INSURER'S INTERNAL DATA	Supported
VENDOR'S OWN PROPRIETARY DATA SET	Supported
THIRD PARTY DATA	Supported

Source: Vendor RFI

CUSTOMER BASE

The following table lists the customer base of the vendor.

Table 6: Customer Base

	NORTH AMERICA	EUROPE MIDDLE EAST AND AFRICA	ASIA-PACIFIC	LATIN AMERICA
PRIVATE P&C INSURANCE	2	15	8	1
COMMERCIAL P&C INSURANCE	0	5	2	0
SPECIALTY INSURANCE	1	3	3	0
LIFE / ANNUITY INSURANCE	0	1	0	0
ACCIDENT INSURANCE	0	15	0	0
DISABILITY INSURANCE	0	0	0	0
HEALTH INSURANCE	0	6	3	0
NEW INSURANCE CLIENTS SINCE JANUARY 2016	3	30	16	1
COUNTRIES WHERE THE SYSTEM IS IMPLEMENTED	US, Canada	Belgium, France, Germany, Italy, Spain, Switzerland, UK, Ireland, Côte d'Ivoire, Senegal, Cameroun	Japan, Hong Kong, India, Indonesia, Malaysia, Singapore, Thailand, Australia	Mexico
MARQUEE CLIENTS	-	-	-	-

Source: Vendor RFI

FUNCTIONS AND FEATURES

The following tables list the features and functions the solution supports and how it is supported around:

- Data preparation
- Model configuration
- Claims fraud techniques
- Special Investigation Unit (SIU)

Table 7: Data

FEATURES	AVAILABILITY
ABILITY TO AGGREGATE HISTORICAL DATA FROM DIFFERENT INTERNAL DATABASES	■■■■
ABILITY TO INTEGRATE WITH EXTERNAL DATA CAPTURE TOOLS (IOT, WEARABLES, SENSORS, ETC.)	■■■■
ABILITY TO CONSOLIDATE DATA COMING FROM EXTERNAL DATABASES	■■■■
TOOL ALLOWING DATA QUALITY CHECK	■■■■
AUTOMATIC PROMPT TO DATA ADJUSTMENT (UNSTRUCTURED, INCONSISTENCY OR REDUNDANCY OF DATA)	■■■■

ABILITY TO IMPROVE THE PERFORMANCE OF THE SYSTEM USING ADDITIONAL HARDWARE INFRASTRUCTURE IN THE CLOUD TO RUN MODELS ON LARGE AMOUNT OF DATA ■■■

Legend: ■■■= the vendor does it for the insurer; ■■ = configurable by nontechnical staff; ■ = need scripting; ● = programming required; □ = available through separate component; - = not available

Source: Vendor RFI

Table 8: Model Configuration

FEATURES	AVAILABILITY
REUSABLE, SHARABLE RULES, VARIABLES, AND MODELS	■■■
RULES, VARIABLES, AND MODELS REPOSITORY (SEARCHABLE, VERSION CONTROLLED)	■■■
ABILITY TO COMPARE MULTIPLE SCENARIO MODELS	■■■
REAL-TIME SCORING SERVICE	■■■
ABILITY TO CREATE MULTIVARIABLE BASED ALGORITHMS	■■■
ABILITY TO SCHEDULE MODEL RUN TIME	■■■
ABILITY TO PRIORITIZE MODEL UPDATES AND MODEL RESULTS (FOR INSTANCE: WHEN MULTIPLE RESULTS ARE DISPLAYED ON A SHAREABLE DASHBOARD)	■■■

Legend: ■■■= the vendor does it for the insurer; ■■ = configurable by nontechnical staff; ■ = need scripting; ● = programming required; □ = available through separate component; - = not available

Source: Vendor RFI

Table 9: Claims Fraud Detection Techniques and Claims-Related Models

FEATURES	AVAILABILITY
CLAIMS FRAUD PATTERN IDENTIFICATION	■■■
ANOMALY DETECTION	■■■
TEXT MINING	■■■
SOCIAL NETWORK ANALYSIS	■■■
IMAGE SCREENING	■■■
VOICE ANALYSIS	-
MACHINE LEARNING CAPABILITIES (ALGORITHMS THAT LEARN HOW TO IMPROVE A MODEL THROUGH EXPERIENCES IN PERFORMING DATA OBSERVATIONS WITHOUT HUMAN INTERVENTION)	■■■
CLAIMS SEVERITY MODELING	■■■
CLAIMS FREQUENCY MODELING	■■■
CLAIMS SETTLEMENT OPTIMIZATION	■■■

Legend: ■■■= the vendor does it for the insurer; ■■ = configurable by nontechnical staff; ■ = need scripting; ● = programming required; □ = available through separate component; - = not available

Source: Vendor RFI

Table 10: Special Investigations Unit (SIU)

FEATURES	AVAILABILITY
ABILITY TO DESIGN AND UPDATE MONITORING DASHBOARDS	■■■
ABILITY TO ASSIGN / SHARE FRAUD CASES WITH OTHER INVESTIGATORS	■
ABILITY TO CHECK FRAUD CASE LOGS (STATUS CHANGES, AUDIT TRAILS, ETC.)	●
ABILITY TO PRIORITIZE FRAUD CASES (FOR INSTANCE BY SEVERITY OR OTHER CRITERIA)	■■■

Legend: ■■■= the vendor does it for the insurer; ■■ = configurable by nontechnical staff; ■ = need scripting; ● = programming required; □ = available through separate component; - = not available

Source: Vendor RFI

TECHNOLOGY

An overview of the technology options is provided in the following table:

Table 11: Technology Options

CODE BASE	
PROGRAMMING LANGUAGE	75% .NET, 25% JavaScript
INTEGRATION METHODS	
PREFERRED OPTIONS	ACORD Standard XML, other XML, flat files
ADDITIONAL OPTIONS	Web services, RESTful HTTP style services, JSON format, MQSeries, JMS or similar queue technology, custom API
API	
API DESCRIPTION	The API is documented and the vendor provides API sample codes.
APPROACH TO COMMUNICATE CHANGES TO THE API AND SERVICES	Changes to the solution or services is communicated to clients by the dedicated account or project manager.
AVAILABILITY OF TOOLS TO HELP IDENTIFY USE OF DEPRECATED OR OLD SERVICES / APIS TO ASSIST WITH UPGRADES	No
SAAS	
AVAILABILITY	Yes
PERCENTAGE OF CLIENTS USING THE SYSTEM ON AN SAAS BASIS	All
MULTITENANT ARCHITECTURE	Yes
UPGRADE	

AVAILABILITY OF SCRIPTS THAT DO THE MAJORITY OF THE UPGRADE TASK	No
AVAILABILITY OF TEST TOOLING TO ASSIST WITH VALIDATING UPGRADES	Yes

Source: Vendor RFI

INITIAL INSTALLATION AND LICENSING MODEL

A typical project team consists of a project manager, a business analyst, a technical staff, and a trainer, almost all from Shift Technology. The average time to get the solution up and running is typically 4 months.

FORCE is a pure SaaS system (system hosting and maintenance and usage-based license) with a pay-per-claim model with no engagement.

Was this report useful to you? Please send any comments, questions, or suggestions for upcoming research topics to info@celent.com.

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Business practice evaluations. We spend time evaluating your business processes, particularly in claims. Based on our knowledge of the market, we identify potential process or technology constraints and provide clear insights that will help you implement industry best practices.

IT and business strategy creation. We collect perspectives from your executive team, your front line business and IT staff, and your customers. We then analyze your current position, institutional capabilities, and technology against your goals. If necessary, we help you reformulate your technology and business plans to address short-term and long-term needs.

SUPPORT FOR VENDORS

We provide services that help you refine your product and service offerings. Examples include:

Product and service strategy evaluation. We help you assess your market position in terms of functionality, technology, and services. Our strategy workshops will help you target the right customers and map your offerings to their needs.

Market messaging and collateral review. Based on our extensive experience with your potential clients, we assess your marketing and sales materials — including your website and any collateral.

RELATED CELENT RESEARCH

The General Data Protection Regulation (GDPR): Impact for Insurers
June 2017

Data Vendors in Insurance: A Snapshot
February 2017

A Heat Map for Insurers' Use of Consumer Data: Perspectives on Current and Future
Data
October 2016

Predictive Analytics in Insurance: 2016 IT Vendor Spectrum
June 2016

Health Insurance Claims Fraud Detection Systems: 2015 IT Vendor Spectrum
March 2015

Celina Insurance's Predictive Analytics Initiative: The Machine Learning Factor
September 2014

Predictive Analytics in Insurance: 2014 IT Vendor Spectrum
February 2014

Claims Fraud Detection Systems: 2012 IT Vendor Spectrum
November 2012

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For more information please contact info@celent.com or:

Nicolas Michellod

nmichellod@celent.com

AMERICAS

USA

200 Clarendon Street, 12th Floor
Boston, MA 02116

Tel.: +1.617.262.3120
Fax: +1.617.262.3121

USA

1166 Avenue of the Americas
New York, NY 10036

Tel.: +1.212.541.8100
Fax: +1.212.541.8957

USA

Four Embarcadero Center, Suite
1100
San Francisco, CA 94111

Tel.: +1.415.743.7900
Fax: +1.415.743.7950

Brazil

Av. Doutor Chucri Zaidan, 920 –
4º andar
Market Place Tower I
São Paulo SP 04578-903

Tel.: +55.11.5501.1100
Fax: +55.11.5501.1110

Canada

1981 McGill College Avenue
Montréal, Québec H3A 3T5

Tel.: +1.514.499.0461

EUROPE

France

28, avenue Victor Hugo
Paris Cedex 16
75783

Tel.: +33.1.73.04.46.20
Fax: +33.1.45.02.30.01

United Kingdom

55 Baker Street
London W1U 8EW

Tel.: +44.20.7333.8333
Fax: +44.20.7333.8334

Italy

Galleria San Babila 4B
Milan 20122

Tel.: +39.02.305.771
Fax: +39.02.303.040.44

Spain

Paseo de la Castellana 216
Pl. 13
Madrid 28046

Tel.: +34.91.531.79.00
Fax: +34.91.531.79.09

Switzerland

Tessinerplatz 5
Zurich 8027

Tel.: +41.44.5533.333

ASIA

Japan

The Imperial Hotel Tower, 13th Floor
1-1-1 Uchisaiwai-cho
Chiyoda-ku, Tokyo 100-0011

Tel: +81.3.3500.3023
Fax: +81.3.3500.3059

China

Beijing Kerry Centre
South Tower, 15th Floor
1 Guanghua Road
Chaoyang, Beijing 100022

Tel: +86.10.8520.0350
Fax: +86.10.8520.0349

Singapore

8 Marina View #09-07
Asia Square Tower 1
Singapore 018960

Tel.: +65.9168.3998
Fax: +65.6327.5406

South Korea

Youngpoong Building, 22nd Floor
33 Seorin-dong, Jongno-gu
Seoul 110-752

Tel.: +82.10.3019.1417
Fax: +82.2.399.5534