## Commodity Trading and Risk Management Systems Overview

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2016 edition

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# **About this CTRM systems** overview

Commodity trading organizations are facing turbulent and challenging times. The global financial crisis and volatile commodities markets have led operators to focus on managing their risk exposure more closely than ever. Part of this focus revolves around the IT systems and applications they deploy to help them trade, survey and manage their inherent market, operational, credit and logistical risks.

The life cycle of a physical commodity transaction carries all manner of risk with it, and needs to be overseen and managed from its initial execution through to its final settlement. Commodity trading and risk management (CTRM) systems have been at the forefront of front- and middle-office desks. They assist and enable market participants to follow up and hedge against market price movements, monitor their credit risks and obtain an overall view of the numerous other factors that affect their trading portfolio. The choice of CTRM system should be an informed and practical one.

This brochure includes a section containing answers provided by CTRM system vendors to our questions about their company profile and their products' functional capabilities, as well as their technical aspects. Its purpose is to provide an objective overview of vendor capabilities, coverage (both functional and asset), integration and deployment.

The vendor information contained in this brochure is sourced directly from respondents who agreed to participate in the questionnaire prepared by EY's CTRM team. The brochure also includes our observations on the current CTRM system landscape and trends, our suggested approach to CTRM system selection and an overview of some of the CTRM-related services that EY can provide.

We hope that this brochure will give you a clear picture of the CTRM system landscape and the relevant challenges that your organization may be faced with when selecting and implementing a new CTRM system.

# **CTRM system** landscape and trends

## The benefits of using CTRM systems

Commodity trading firms have experienced significant changes over recent years. Increased volatility in commodity prices, extended regulatory and compliance measures and stunted economic growth have put additional pressure on firms to gain a better mastery of their inherent risks, while maintaining acceptable levels of financial performance. These pressures have more than often translated into a quest for cost and volatility reductions that are reliant on efficient technological solutions.

Commodity traders and risk managers have been using CTRM systems in their daily workflow, as they provide them with the basic capabilities to:

- Execute and track their actions and transactions
- Measure the risks they have taken (and help them decide on what to do next)
- Account and report on where they stand with whom
- Provide some form of monitoring dashboard for their senior management

In the emergence of a more digitalized age, and with easier access to technology overall, a wide variety of

## Complexity and simplification (a wider and more competitive landscape)

With an increase in the complexity and multiplicity of financial instruments and transactional choices, as well as a more stringent regulatory environment, commodity trading firms are expanding their skillsets to new horizons. We observe an overall tendency to require more out of a CTRM system, without necessarily burdening budgets significantly.

This trend has led CTRM system vendors to rethink their offering from both a functional and technological perspective. In many instances, they have sought to

CTRM system providers are offering a large range of different types of solution. Although it would be difficult to summarize the whole supply side of CTRM systems, we do observe different categories, each of which is trying to appeal to the needs and goals of an even more diverse base of prospective buyers. From an operational point of view, we can broadly put them into three categories:

- Off-the-shelf solutions that respond to targeted functional requirements and need minimal configuration, but can sometimes have limited extension possibilities
- Extendable solutions that have certain off-the-shelf properties, yet allow the user to build on the data model and functionalities, sometimes through a product-specific coding language
- Base framework solutions that are deemed to provide the essential technological structure for the creation of a customized solution

There are clearly overlaps between these categories among many vendors, and potential customers will seek out whichever one best meets their overall requirements.

expand not only their functional workflow coverage, but also their asset class coverage. On top of this, with the general increase of cloud solutions in the enterprise software space, more and more CTRM vendors are offering hosted variants in addition to their deployed solutions.

Moreover, this environment of increased competitiveness has been helped by the ease of access to technological development. Hence, the emergence of more traditional enterprise (and financial) solution providers in the CTRM space has not been uncommon.



In addition to this, newer and smaller CTRM system vendors have appeared on the market over the last decade, offering a variety of solutions that are more accessible to medium-sized and small companies. These solutions, which are for the most part hosted (implying reduced setup costs), aim to meet the needs of smaller firms faced with similar challenges to those of their larger equivalents.

It is also worth noting that more traditional industrial and manufacturing companies, whose primary focus is not on commodity trading, are now becoming potential buyers of CTRM systems, particularly those that have set up centralized trading and risk management entities (often called margin management functions).

As the overlaps between supply and demand in the CTRM system space extend, we have noticed a few trends when it comes to recent market and regulatory developments:

- A focus on efficiency and system performance be it for executing transactions, computing results or reporting
- A more blurred line between financial and physical trading - which implies price-cost optimization (under physical constraints), multiple modes of transport and a tendency to have access to some form of geospatial visualization
- Newly generated needs for automated workflows and embedding of controls into the CTRM system, versus offline spreadsheet-based controls
- Newly created regulatory compliance rules with extended reporting requirements

Overall, the landscape of CTRM systems has become both more competitive, and more complete. As traditional vendors are faced with the challenges of expanding their coverage and deployment methods, new (and often niche) vendors are filling the market gaps created by smaller buyers that are increasingly trading in their spreadsheets for more efficient screen solutions.

> The need to balance initial investment against a value proposition for CTRM has become ever more acute due to cyclical demand pressure and recent volatility in global markets. Clients are looking for pragmatic risk management solutions with an option to enhance as demand recovers.

of surveyed vendors reported capabilities on graphical configuration of workflows.

of surveyed vendors reported capabilities on European Market Infrastructure Regulation (EMIR) coverage for European markets.

of surveyed vendors reported logistics capabilities on freight and transport.









## Key success factors for selecting and implementing a CTRM system

Prior to any vendor system selection process, a firm should build a solid business case to support the decision to procure or replace a CTRM system.

At EY, we believe that justifying the business case of CTRM system selection must be supported by the prospective business growth related to the investment, meeting risk management and operational excellence standards, and achieving the required regulatory compliance through a scalable or extendable solution.

The following are some of the key elements to take into account before launching the selection process.

#### CTRM system selection road map

- Define the needs of the business for today and the future without taking into account vendor capabilities
- Prioritize requirements by business value and validate them with senior management
- Define system needs, taking into account the constraints of the existing IT system and compliance considerations
- Define the optimal state architecture for the future
- Evaluate CTRM vendor packages to meet systems needs through a structured, thorough and independent request for proposal (RFP) process
- Establish RFP process governance and ensure that the program structure and deliverables are clearly defined and monitored throughout execution

#### Technical aspects to take into consideration

- Performance levels that are acceptable and stable
- Scalability that corresponds to the firm's growth plans
- Data and platform security (ensuring confidentiality) and controlling access)
- Ability to add third-party modules (compatibility and connectivity)

#### Optimizing the cost-value dilemma

As all companies strive to have the best possible return on their investments, the cost of your future CTRM system will also play a role in the decision-making process. For this reason, at EY, we make comprehensive assessments of key values and key cost drivers in order to help our customers find the best possible solution within their budget.





### Typical phases of a system selection process

Selecting and implementing a "fit for purpose" CTRM system is a significant undertaking. From EY's experience, there are no two selection (or implementation) projects that are entirely comparable. Although client specifics will always drive the selection process, we can provide an illustrative approach.

#### Define requirements and architecture

- Agree on vision, functional scope and key non-functional requirements (NFRs) with major
- stakeholders, including relative priority
- Agree on key integration and technical expectations for the new system

#### Research and agree on vendors

- Identify potential vendors matching defined requirements (long-list approximately 8-10)
- Evaluate long list against prioritized functional scope and key NFRs
- Validate short list of approximately 4-5 vendors

#### Conduct RFP and select vendor

- Run RFP for short-listed vendors
- Agree on detailed evaluation criteria
- Evaluate vendor pitches against evaluation criteria, including total anticipated cost of ownership
- Make final choice of vendor

#### Plan system implementation

- Identify the risks and "lessons learned" related to CTRM system implementation
- Set up a plan and time line for the implementation project across technology and business

### Typical vendor research and selection approach

Before arriving at a short list of vendors, it is important to take into account a number of considerations that will be shaped by your requirements, budget and any specific limitations you may be facing. EY works with predefined templates, allowing our customers to narrow down their selection to the most relevant solutions.

- Integrated CTRM vendors greatest functionality for future, but at high cost of ownership and time or risk of implementation
- Specialist vendors dedicated functionality, but may limit long-term scope • CTRM Software-as-a-Service (SaaS) or cloud offering, providing a guicker initial rollout option

Effective methodology and set of templates to narrow the vendor list down to the most relevant solutions:

- Identify vendors with high-level capabilities that are relevant to your guidelines
- Evaluate in accordance with your strategic direction and overall fit
- Assess analysis of potential vendors within a decision framework
- Short-list for senior management or board approval and vendor presentations or proposals
- Recommend the preferred solution to the board

#### Vendor research

Based on your initial requirements, we recommend starting from a vendor list across multiple categories:

# How EY can help

## EY CTRM teams at a glance

EY's commodity professionals are dedicated to servicing commodity trading and risk management clients. We have the depth of industry and technology expertise to realize business visions through the incorporation of technology initiatives, and specifically:



EY CTRM Centers of Excellence





New York Chicago

San Francisco Houston

London Geneva Dusseldorf

## EY CTRM system-focused services

Our teams of commodity and technology professionals can help by advising on, and providing input into:

CTRM system s	selection	
Our services	Design and facilitate the vendor selection process, includin vendor background due diligence	
Sample credentials	Assisted a power producer in its selection of a CTRM softw Assisted a major financial entity with tools selection for its management needs, providing an independent review of th	

- A group of commodity industry and financial market professionals
- First-hand industry experience across a variety of systems - both as users and through system selection and implementation
- Deep expertise in IT infrastructure and system capabilities
- Independence from CTRM system providers
- Global presence and network



Paris Amsterdam Copenhagen

Sydney

ing RFP support, system selection scoring, infrastructure costing and

ware vendor

- s CTRM and International Organization for Standardization (ISO)
- the entity's requirements versus software package capabilities



CTRM technol	CTRM technology strategy and assessment		
Our services	Define business needs in terms of IT requirements and assess needs versus current system capabilities to identify improvement opportunities and define an IT road map Design new, or assess current, CTRM and supporting systems infrastructure, and data management strategy, to determine improvement opportunities (includes benchmarking, oversight and validation to complement ongoing work)		
Sample credentials	Developed a complete IT strategy for a refined oil products entity, dependent on the parent company for its IT systems and infrastructure, so that the entity could operate its IT functions, including CTRM, independently		

CTRM system	CTRM system implementation		
Our services	System implementation lead or support, including the definition of requirements, testing, deployment and project management Data analytics, reporting and other trade support systems (e.g., pricing, logistics, actualization and accounting) or custom builds		
Sample credentials	Assisted with the design and implementation of a suite of risk management reports to support a client's new CTRM implementation		

Commodities	Commodities data solutions		
Our services	Design efficient data strategy, architecture, tools and management processes to centralize and streamline the collection of trade, pricing and valuation data across the organization Enable real-time and on-the-go analytics to support automated or ad hoc reporting (for additional capabilities such as trade surveillance and compliance reporting)		
Sample credentials	Engaged by a power utility to design a consolidated profit and loss and position reporting platform, adaptable to the changing CTRM landscape Engaged by an oil producer to develop business intelligence and data analytics strategy and design		

#### Quantitative advisory, regulatory and compliance services

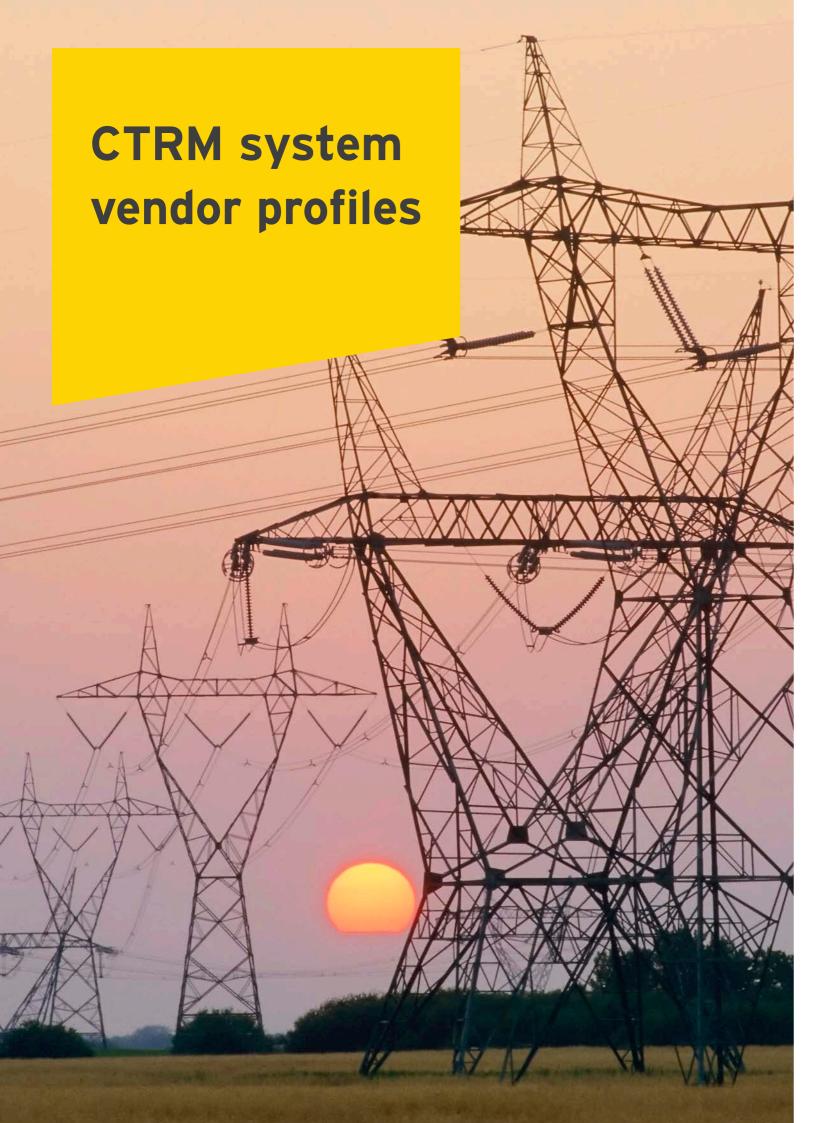
At EY, our commodities sector professionals can complement your technological requirements with a wide range of advisory services in the areas of trading and risk management, including:

- Risk modeling assisting you in managing market, liquidity, funding, credit and operational risks
- Valuation developing customized pricing models commensurate with your company's activities and risk profile, or reviewing existing models



- Business process analysis and internal controls providing gap analysis and recommendations for improving overall processes and controls
- Compliance and regulation assisting you in creating or enhancing tools and metrics required to respond to regulatory and compliance measures, and ensuring that your governance and controls are up-to-date with your regulatory framework





Please note that the information in this section has been directly sourced by EY from the participating CTRM system vendors between June and September 2015. This overview has been prepared and published to provide factual information on the functional and technical aspects of the various solutions included in the questionnaire. Please be advised that the list of participating system vendors is in no



way exhaustive and that they vary in size and scope (asset class and functional coverage), as well as geographical coverage. Interested firms can use the information provided, and their best judgment, to determine which vendor(s) would be most likely to meet their needs within their budget.

Invensoft <sup>®</sup>	Invensoft Technologies Pvt. Ltd2	29
OATI	Open Access Technology International, Inc.	31
<i>Openlink</i>	OpenLink	32
St. Panton Inc. where the world serves you	Panton Inc.	34
PIONEER	Pioneer Solutions, LLC	36
SUNGARD	SunGard Energy Systems Inc.	37
TRAYPORT contigo	Trayport Contigo Ltd.	39



#### Section I - Company information

#### a) Company history

Founding date	Headquarter location	Other representative offices (if applicable)	Number of employees world- wide as of 31 March 2015
2009	Almere, Netherlands	n/a	21

#### b) General corporate information

Ownership (private or public)	Majority shareholder	Annual revenue last year (2014)
Private investor and management	-	-

#### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest version release	Current version number	Customer base (all products included - no. of companies)
Agiblocks	2013	September 2015	3.12.1	11

#### Section II - Verbatim

EY questions	Vendor answers	
Could you please provide a brief description of your company and your solutions?	Agiboo is a provider of commodity trade and risk management solutions with a focus on agricultural and soft commodities. The flagship product Agiblocks has been adopted in the commodity trade and risk management industry since 2011. Agiblocks incorporates detailed understanding of the specific commodity business and latest information technology. At Agiboo, our ambition is to make complex matters simple, which ultimately finds its evidence in the Agiblocks intuitive and user-friendly user interface. Differentiators of Agiblocks are the functionality specifics for the different softs- and agricommodity industries (such as cocoa, coffee, sugar, dairy and grains) and the flexibility to configure the application to your needs.	
Which market development drives your platform development plan specifically over the next 6 to 24 months?	<ul> <li>Technology (mobile and app functionality)</li> <li>Supply chain integration</li> <li>Commodity and derivatives legislation</li> <li>Trends in trade finance</li> <li>SaaS, MULTI TENANT, PAY as you GO</li> </ul>	
In your opinion, what are the main advan- tages that your software applications offer compared with your competitors in the same category?	<ul> <li>Intuitive user interface</li> <li>Multidevice deployment (web and cloud)</li> <li>Configurability and modular setup</li> <li>Service-oriented architecture</li> <li>Quick deployment and implementation</li> <li>Low cost of ownership</li> </ul>	
Which client segment best represents the majority of your client base?	<ul> <li>Tier-one commodity firms (300+ staff)</li> <li>Middle-range commodity firms (30-300 staff)</li> <li>Smaller-scale commodity firms</li> </ul>	

Agiboo B.V.

Allegro Development

#### Section I - Company information

#### a) Company history

	-	-
Founding date	Headquarter location	Other repre
1984	Dallas (Americas) Zurich (GmbH)	Houston (US (UK), Singaj

#### b) General corporate information

Ownership (private or public)	Majority shareholder	Annual revenue last year (2014)
Vector Capital, Cerium Technology	Vector	US\$78.8m

#### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest version release	Current version number	Customer base (all products included - no. of companies)
Allegro 8	2008	March 2015	8	-

#### Section II - Verbatim

EY questions	Vendor answers
Could you please provide a brief description of your company and your solutions?	Allegro is a leading pro gas utilities, refiners, p 30 years of deep indus decision-making capal transportation, to the intelligence companies optimize their assets a Headquartered in Dall London, Singapore an
Which market development drives your platform development plan specifically over the next 6 to 24 months?	<ul> <li>Power - gas and pov</li> <li>Oil and gas - natural</li> </ul>
In your opinion, what are the main advan- tages that your software applications offer compared with your com- petitors in the same category?	Allegro's most compel ability to integrate sea Another key differenti customer experience a efficiencies throughou differentiated by our la E/CTRM space. Our fle differentiation, allowin some of the top exper
Which client segment best represents the majority of your client base?	I Tier-one commodity I Middle-range comm I Smaller-scale comm



esentative offices (if applicable)	Number of employees world- wide as of 31 March 2015
JS), Calgary (Canada), London apore, Dubai (UAE)	261

rovider of commodity risk management software for power and , producers, traders and commodity consumers. With more than ustry expertise, Allegro provides real-time intelligence and abilities, from the source of the commodity (ground), through e commodity consumer. Allegro's software provides the global es need to manage physical and financial positions, and to and portfolios using tools that quantify and mitigate risks. llas, Texas, Allegro has offices in Calgary, Dubai, Houston, nd Zurich, along with a global network of partners.

ower utilities

al gas, crude oil, refined products and natural gas liquids (NGLs)

elling differentiator is the breadth of the solution we offer and its amlessly with other systems.

tiator is our commitment to the customer. We are focused on the and the value we add by helping reduce costs and create but the commodity life cycle and value chain. Allegro is longevity in the market, with over 30 years of experience in the lexible software architecture is a major component of our ing customers scalability for growth, and our team consists of rts in the business.

y firms (300+ staff) nodity firms (30-300 staff) nodity firms



Aspect Enterprise Solutions Ltd.

#### Section I - Company information

#### a) Company history

···· <b>·</b> ····	Headquarter location	Other representative offices (if applicable)	Number of employees world- wide as of 31 March 2015
1997	Houston (US)	Zug (Switzerland), Hyderabad (India)	110

#### b) General corporate information

Ownership (private or public)	Majority shareholder	Annual revenue last year (2014)
Private	-	-

#### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest version release	Current version number	Customer base (all products included - no. of companies)
Symphony Oil	1997	2015	2.4	-
Symphony Freight	2007	2015	3.5	-

#### Section II - Verbatim

EY questions	Vendor answers
Could you please provide a brief description of your company and your solutions?	Amphora, Inc., founded in 1997, is the premier software solution provider for commodity trading, logistics and risk management in the global crude, refined, coal, ore, metals, petrochemical, agricultural and freight marketplace. Our team includes some of the most experienced software designers, developers and business analysts in the commodities industry today. Since our inception, our main goal has been to provide the trading community with the most robust, user-friendly, enterprise-wide software package available. Amphora continues to launch new products that address customers' needs and adjust to dynamic market demands.
Which market development drives your platform development plan specifically over the next 6 to 24 months?	Customer-driven development.
In your opinion, what are the main advan- tages that your software applications offer compared with your competitors in the same category?	Single database; true end-to-end CTRM.
Which client segment best represents the majority of your client base?	<ul> <li>Tier-one commodity firms (300+ staff)</li> <li>Middle-range commodity firms (30-300 staff)</li> <li>Smaller-scale commodity firms</li> </ul>

#### Section I - Company information

#### a) Company history

-,			
Founding date	Headquarter location	Other representative offices (if applicable)	Number of employees world- wide as of 31 March 2015
2000	London, UK	Houston (US), Moscow (Russia), Chely- abinsk (Russia), Singapore, New York (US)	100+

#### b) General corporate information

Ownership (private or public)	Majority shareholder	Annual revenue last year (2014)
Private	Private	US\$14.4m

#### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest version release	Current version number	Customer base (all products included - no. of companies)
AspectDSC Market Data & Analytics	2000	May 2015	15.1.0	486
AspectCTRM	2003	May 2015	15.1.0	56

#### Section II - Verbatim

EY questions	Vendor answers
Could you please provide a brief description of your company and your solutions?	Aspect is the leading g management solutions 86 countries, it's one g affordable subscription trading organizations i supports front-, middle activity, available in the functionality for the ne market data and analy
Which market development drives your platform development plan specifically over the next 6 to 24 months?	What drives our marke affordable way to mov a professional trading following the recession through an automated down to meet client fe because it's cloud base back-office support for



#### global provider of multicommodity trade, risk and operations ns delivered SaaS in the cloud. With more than 487 customers in of the fastest-growing providers with rapid deployment, ons and immediate ROI for all sizes of company, from the largest s in the world to small and mid-size trading firms. Aspect CTRM lle- and back-office financial and physical trade hree editions - Lite, Standard and Enterprise - expanding in

needs and budgets of clients. It's the only E/CTRM solution with lytics delivered with its trade and risk tools on the same platform.

ket development plan continues to be the market's need for an we away from spreadsheets, and gain the tools necessary to run operation. Market conditions continue to be price-conscious on, and credit is tight from the banks, which require full visibility d system that reduces business risks. Aspect is able to scale up or eature and budget requirements in every country in the world, sed and multiple offices can share data with front-, middle- and or physical and financial trades.

EY questions	Vendor answers
In your opinion, what are the main advan- tages that your software applications offer compared with your competitors in the same category?	Our key differentiators, which no other provider has: no software and no hardware SaaS in the cloud solution; AESthetics technology architecture and advanced scripting tools allow users to configure their solution, rather than spend time and money on development; real-time profit and loss and positions reporting, and instant end of day, month and year reports; powerful level 4 OLAP (online analytical processing) reporting capabilities for complete visibility; swift two-week deployments; market data and analytics on the same platform as E/CTRM for quick price uploads and pre-trade analysis; fast processing speeds through in-memory database; affordable subscriptions for all sizes of company due to no fees for hardware, software or IT maintenance.
Which client segment best represents the majority of your client base?	<ul> <li>Tier-one commodity firms (300+ staff)</li> <li>Middle-range commodity firms (30-300 staff)</li> <li>Smaller-scale commodity firms</li> </ul>

#### Section I - Company information

#### a) Company history

Founding date	Headquarter location	Other repre
1985	Cambridge (UK)	London (Uk (Norway), G York (US), N (Scotland),

#### b) General corporate information

Ownership (private or public)	Majority shareholder	Annual revenue last year (2014)
Public	Listed on AIM (London Stock Exchange)	£31m

#### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest version release	Current version number	Customer base (all products included - no. of companies)
Fintrade	1990	2015	2015.2	37
Trinity	1991	2015	2015.1	25
Brady Energy	1998	2015	2015.1	109

#### Section II - Verbatim

EY questions	Vendor answers
Could you please provide a brief description of your company and your solutions?	Brady is the leading prooffer a choice of trading producers, consumers their commodity transt trade capture, risk margement, physical Solutions Fintrade: • Commodity trading • Tailored for compana • Physical goods • Raw materials proof • Hedging instrume
	-



resentative offices (if applicable)	Number of employees world- wide as of 31 March 2015
K), Halden (Norway), Oslo Geneva (Switzerland), New Maumee (US), Edinburgh , Paris (France), Singapore	240

provider of software solutions for global commodity trading. We ding and risk management applications designed to help ers, financial organizations and trading companies manage all of nsactions in an integrated solution - including pre-deal analysis, nanagement, foreign exchange, credit risk, logistics, cash cal operations, back-office financials and treasury settlement.

and risk management system nies trading:

roducers and traders, including concentrates ons ents

EY questions	Vendor answers
Could you please provide a brief description of your company and your solutions?	<ul> <li>Trinity:</li> <li>Commodity trading, risk management and inventory management</li> <li>Transaction life cycle management</li> <li>Flexible reporting</li> <li>Standard interfaces for import and export allowing STP (straight through processing)</li> <li>Energy:</li> <li>Brady Energy is a multicommodity, multicurrency ETRM system that currently supports a wide range of products for different commodity types.</li> </ul>
Which market development drives your platform development plan specifically over the next 6 to 24 months?	<ul> <li>In metals:</li> <li>Driver - EMIR</li> <li>Bilateral variation margin and margin phase-in</li> <li>Driver - MiFID II</li> <li>Position limits</li> <li>Exemptions to be lifted - more clients impacted by regulation</li> <li>Improved handling of costs and commissions</li> <li>Transparency of order management</li> <li>Drivers</li> <li>Price volatility - hedge manager for fabricators and scrap traders</li> <li>Capabilities for premium and ferrous risk management</li> <li>In energy:</li> <li>Regulatory changes</li> <li>Sizeable changes in terms of compliance, market rules, XML messaging formats and underlying logistical changes with the introduction of data hubs</li> <li>Big data</li> <li>New market trends and changes through smart metering (AMS) and increased data volumes</li> </ul>
In your opinion, what are the main advan- tages that your software applications offer compared with your com- petitors in the same category?	<ul> <li>Brady's core strengths:</li> <li>Unique solution coverage</li> <li>Metals, energy, recycling and soft commodity coverage</li> <li>Physical trading and inventory</li> <li>Listed and over-the-counter (OTC) derivatives</li> <li>Recognized market leadership and references</li> <li>300+ customers worldwide</li> <li>30 years' domain expertise</li> <li>Global referenceable client base</li> <li>Global #1 solution provider in metals and recycling</li> <li>Annual Brady Customer Advisory Board</li> <li>Sustainable and financial strengths</li> <li>Executing and delivering growth both organically and from successful acquisitions</li> <li>Public company (AIM: BRY) with very strong balance sheet</li> <li>Strong institutional shareholders supporting Brady</li> </ul>
Which client segment best represents the majority of your client base?	<ul> <li>Strong institutional shareholders supporting brady</li> <li>Tier-one commodity firms (300+ staff)</li> <li>Middle-range commodity firms (30-300 staff)</li> <li>Smaller-scale commodity firms</li> </ul>

#### Section I - Company information

#### a) Company history

Founding date	Headquarter location	Other repre
2004	-	US, India, U Singapore

#### b) General corporate information

Ownership (private or public)	Majority shareholder	Annual revenue last year (2014)
Private	-	-

#### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest version release	I Urrant Varsian numbar	Customer base (all products included - no. of companies)
InSight CM	-	May 2015	8	40
Commodity Analytics Cloud	May 2015	May 2015	-	-

#### Section II - Verbatim

Vendor answers
Eka is the global leade analytics-driven, end- complex and volatile r
The company's best-o compliance, procurem processing and decisio
Eka's InSight CM is a r range of commodities including biofuels, agr natural gas.
Commodity Analytics commodity-specific and
Volatility and complex generation CTRM soft decision-making.
Eka's Smart Commodi integrated system for value chain, and Com brings commodity-spe operational and analy today's complex and v



esentative offices (if applicable)	Number of employees world- wide as of 31 March 2015
UK, Australia, Canada,	315

- der in providing smart commodity management solutions. Eka's d-to-end platform enables companies to meet the challenges of markets efficiently and profitably.
- of-breed solutions manage commodity trading, enterprise risk, ment, supply chain, operations, logistics, bulk handling, sion support.
- next-generation E/CTRM software platform suitable for a wide es in the agricultural, manufacturing, metals and energy industries, griculture, power, fertilizers, oil, metals and mining, coal and
- s Cloud is Eka's advanced analytics solution that brings analytics to all business users.
- exity in the commodities markets is driving the need for nextftware solutions with advanced analytics and support for real-time
- dity Management includes InSight CM, a next-generation r managing commodity transactions end to end throughout the nmodity Analytics Cloud, an advanced analytics solution that pecific analytics to all business users. These provide the ytical solutions that commodities companies need to manage in volatile markets.

EY questions	Vendor answers
In your opinion, what are the main advan- tages that your software applications offer compared with your competitors in the same category?	Eka's Smart Commodity Management (InSight CM and Commodity Analytics Cloud) is a multicommodity solution supporting a wide range of commodities across the agricultural, manufacturing, metals and energy industries. It provides commodities companies with the most complete, end-to-end solution, offering the greatest depth and breadth of any solution on the market.
	InSight CM is an integrated solution that can be delivered on-premise, as a hosted solution, or in the cloud.
	Commodity Analytics Cloud provides commodity-specific intelligence in a data eco- system that provides access to all the data required from internal and external sources for real-time analysis. It can be deployed on-premise, in an internal company network, or externally on a public cloud.
Which client segment best represents the majority of your client base?	<ul> <li>☑ Tier-one commodity firms (300+ staff)</li> <li>☑ Middle-range commodity firms (30-300 staff)</li> <li>□ Smaller-scale commodity firms</li> </ul>

#### Section I - Company information

#### a) Company history

	Headquarter location	Other repre
2000	Liverpool (UK)	n/a

#### b) General corporate information

Ownership (private or public)	Majority shareholder	Annual revenue last year (2014)
Private	Richard Williamson	US\$1.2m

#### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest version release	Current version number	Customer base (all products included - no. of companies)
G10 Commodity Manager	March 2013	April 2015	3.18	12
D3 Analytics	March 2008	January 2015	4.04	
G10 Framework	June 2010	April 2015	3.18	

#### Section II - Verbatim

EY questions	Vendor answers
Could you please provide a brief description of your company and your solutions?	Generation 10 is a (ags), softs and me
	G10 provides a com browser-based, mo flexibility, business
	G10 Commodity Ma departments work as possible, therefo organizations to ex
	It provides busines: performance, mana across the whole bu
	G10 Commodity Ma are simple to perso commodities.



esentative offices (if applicable)	Number of employees world- wide as of 31 March 2015
	15

- a specialist CTRM technology partner that serves the agricultural etals industries, banking and insurance.
- mprehensive CTRM offering. G10 Commodity Manager is a modern odular and scalable commodity trading platform that is focused on s process and visual user experience.
- lanager is designed to help trading, quality, logistics and finance together in an informed way, as efficiently, simply and intuitively fore increasing productivity and profitability. It also enables xpand into new markets and regions with ease.
- ss intelligence to serve customers better, understand supplier nage operational and financial risk, and provide drill-down analytics ousiness in real time, anytime and anywhere.
- lanager is installed with standard trading process workflows that onalize for any trading company dealing with physical

Vendor answers
Its modern, lightweight technology stack and agile architecture offers a wide range of user preferences from dashboards to page layouts and grid options, personalized business processes and report formats. Integration with enterprise resource planning (ERP) and accounting systems is simplified and standardized via a comprehensive set of web services.
The G10 Commodity Manager platform includes end-to-end transaction processing and analytics, covering everything from fast trade capture, origination, sample management through export, trading, import, distribution, final settlement and risk management.
Ags, softs and metals suppliers, traders and procurers: sustainability, traceability, risk compliance and remote mobile applications are key areas of influence in our development road map.
Modern light technology with an agile architecture and an engaging, relevant, visual user experience. It combines integrated commodities risk management (CRM), embedded analytics and an interactive dashboard. Comprehensive, robust functionality is managed through a flexible business process engine.
Operational risk and adaptability to the day-to-day: G10 Commodity Manager has been developed forward from the perspective of the physical merchant through to back office and accounting, providing strong comprehensive operational risk throughout the business. This is in contrast to an accounting package retrofitted for the day-to-day work of a trading company.
The CM Connect module enables clients to connect with their preferred suppliers and customers, granting them secure controlled access to items such as the client's inventory, shipment and payment status.
<ul> <li>Tier-one commodity firms (300+ staff)</li> <li>Middle-range commodity firms (30-300 staff)</li> <li>Smaller-scale commodity firms</li> </ul>

#### Section I - Company information

#### a) Company history

Founding date	Headquarter location	Other repre
2000	Bangalore (India)	n/a

#### b) General corporate information

Ownership (private or public)	Majority shareholder
Private	Founder (all shares are ow founders)

#### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest versior
INVENSOFT-XBS©	28 December 2005	4 May 2015

#### Section II - Verbatim

EY questions	Vendor answers
Could you please provide a brief description of your company and your solutions?	Invensoft Technologie software solutions for Founded in 2000, we origin countries.
	Our solution Invensoft CM, CTRM and third-p features of commodit
	CM and CTRM provide quality management, hedging, risk managen provides innovative fe providers.
Which market development drives your platform development plan specifically over	Invensoft is focusing of Marketing is through o
the next 6 to 24 months?	<ul> <li>Direct marketing by lead development t</li> </ul>
	<ul> <li>Shows, events and exhibitions, and rel This activity general</li> </ul>
	<ul> <li>Global partners: Inv become the market</li> </ul>



esentative offices (if applicable)	Number of employees world- wide as of 31 March 2015
	25

	Annual revenue last year (2014)
wned by the	-

n release	Current version number	Customer base (all products included - no. of companies)
	7.0.3.2	Around 12 companies

ies is a global IT company providing commodity management (CM) r agricultural commodities, metals, minerals and concentrates. are supporting our global customers in over nine commodity

oft-XBS© is a Unified Commodity Management Platform catering to -party logistics (3PL) covering Fully Automated End-to-End ty business.

de extensive features for commodity origin business, procurement, , processing, warehousing, certification, traceability, trading, ement, positions, exposures, daily P&L and reporting. 3PL features for commodity third-party warehousing and logistics

on Asia, Africa, South America and European markets. n different channels:

by Invensoft: we have a sales and marketing team that focuses on t through e-marketing, pre-sales and sales conversion.

advertisements: Invensoft participates in shows, events and eleases regular advertisements in magazines and journals. rates leads and enquiries, which are handled by the sales team.

nvensoft is working to develop a global partner network, which will eting and sales representation for Invensoft in different countries.

EY questions	Vendor answers
In your opinion, what are the main advan- tages that your software applications offer compared with your competitors in the same category?	<ul> <li>Product strengths</li> <li>Latest Microsoft .NET technology with Oracle data store</li> <li>Web-enabled, cloud-enabled, device-independent, works with browser on desktops, laptops and tablets (iPad, Android, Windows)</li> <li>Multilingual, multicommodity support and multicommodity country-specific localization; user-configurable templates, parameters and business rules</li> <li>Innovative business rules to enable checks, validations and control of your business</li> </ul>
	<ul> <li>Invensoft strengths</li> <li>Focused and committed to commodity business for over 14 years</li> <li>Project success in nine commodity origins - India, Indonesia, Vietnam, Kenya, Tanzania, Uganda, Peru, Colombia and Honduras</li> <li>Dedicated product research and development</li> </ul>
Which client segment best represents the majority of your client base?	<ul> <li>Tier-one commodity firms (300+ staff)</li> <li>Middle-range commodity firms (30-300 staff)</li> <li>Smaller-scale commodity firms</li> </ul>

#### Section I - Company information

#### a) Company history

Founding date	Headquarter location	Other repre
1995	Minneapolis (US)	Redwood C

#### b) General corporate information

Ownership (private or public)	Majority shareholder
Private	-

#### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest version release	(furrent version number	Customer base (all products included - no. of companies)
webTrader Enterprise	1999	October 2014	8.1	Over 70 companies

#### Section II - Verbatim

EY questions	Vendor answers
Could you please provide a brief description of your company and your solutions?	OATI provides softwar energy. OATI product risk management, tra Enterprise solution is capturing physical an supporting operations all necessary front-, n solution provides the comprehensive OATI s more than 1,500 indu
Which market development drives your platform development plan specifically over the next 6 to 24 months?	Industry trend to link <ul> <li>Regulatory complia</li> <li>International marke</li> </ul>
n your opinion, what are the main advantages that your software applications offer compared with your competitors in the same category?	OATI is a leading prov that cover both the fir comprehensive front- integration. OATI systems do not i grown and supported
Which client segment best represents the majority of your client base?	□ Tier-one commodity ⊠ Middle-range comm □ Smaller-scale comm



esentative offices (if applicable)	Number of employees world- wide as of 31 March 2015
City (US)	881

Annual revenue last year (2014)
-

are solutions that are proactively transforming the business of cts range from wholesale to retail and include energy trading and ansmission and Smart Grid solutions. The OATI webTrader s designed for asset-centric and trading-focused companies, nd financial transactions, modeling and valuing assets, and ns and settlement processes. With real-time data management and mid-, and back-office functions, OATI's web-Trader Enterprise e customer with cutting-edge CTRM functionality. Every day, I solutions are enhancing efficiency and improving operations for Justry customers.

k wholesale to retail business needs: iance ket expansion

wider of SaaS solutions and a single vendor provider of solutions financial and physical aspects of the trading business, providing t- and back-office functionality and minimizing the need for system

t incorporate software acquired from others but are organically d primarily to serve the needs of the energy business.

ty firms (300+ staff) modity firms (30-300 staff) modity firms



#### Section I - Company information

#### a) Company history

Founding date	Headquarter location	Other representative offices (if applicable)	Number of employees world- wide as of 31 March 2015
1992	Long Island (US)	New York (US), Houston (US), Tulsa (US), Toronto (Canada), London (ON, Canada), Mexico City (Mexico), São Paulo (Brazil), London (UK), Berlin (Germany), Vienna (Austria), Bangalore (India), Sydney (Australia), Dubai (UAE), Singapore	1,200+

#### b) General corporate information

Ownership (private or public)	Majority shareholder	Annual revenue last year (2014)
Private	Hellman & Friedman	U\$\$311.5m

#### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest version release	Current version number	Customer base (all products included - no. of companies)
Endur	1992	December 2014	V14.1	155
RightAngle	1995	March 2015	S14.1	95
IRM	1999	April 2015	V8.0.2	58
CubeIntelligence	2010	July 2015	V5	22
dbcSMARTsoft	1998	July 2015	17.00.06	290

#### Section II - Verbatim

EY questions	Vendor answers
Could you please provide a brief description of your company and your solutions?	Founded in 1992, OpenLink is the global leader in Transaction Lifecycle Management (TLM) software for the commodity, energy and financial services industries. OpenLink's products address portfolio management, trading, risk management and operations processing for both financial and physical assets.
	OpenLink has received numerous industry awards and recognition, including citations as the industry leader in commodity and energy trading and risk management (C/ETRM) systems, and first-in-class ranking by Energy Risk magazine, with analyst firms Gartner and Chartis citing OpenLink as a leader in financial platforms.
Which market development drives your platform development plan specifically over the next 6 to 24 months?	<ul> <li>Main market drivers (focus on energy and commodities):</li> <li>Regulatory compliance needs:</li> <li>Dodd-Frank, EMIR, REMIT, MiFID II</li> <li>Trade surveillance (financial market like)</li> </ul>
	<ul> <li>Lower margins in energy markets due to lower commodity prices</li> </ul>

#### Section II - Verbatim

	-
EY questions	Vendor answers
Which market development drives your platform development plan specifically over the next 6 to 24 months?	<ul> <li>Focus on physical as:</li> <li>Cloud and mobile sol</li> <li>Deregulation and gro APAC LNG market)</li> <li>Renewable energy ex</li> </ul>
In your opinion, what are the main advanta- ges that your software applications offer compared with your competitors in the same category?	<ul> <li>OpenLink main advant</li> <li>Multicommodity and</li> <li>OpenLink is one of natural gas, crude other financial ass</li> </ul>
	<ul> <li>Functionality</li> <li>OpenLink is one of pre-trade to back of and decision tools</li> </ul>
	<ul> <li>Delivery</li> <li>We have the ability satisfy the needs of delivery that required</li> </ul>
	Additional ETRM produ
	<ul> <li>Endur and Findur:</li> <li>Integrated cross-compower, natural gas a strength around:</li> <li>Large financial and</li> <li>Trading and advan</li> </ul>
	<ul> <li>RightAngle:</li> <li>Best-of-breed TLM so strength around:</li> <li>Physical business of End-to-end covera</li> </ul>
	<ul> <li>IRM:</li> <li>Integrated gas and p front and back office</li> <li>Strengthen advantag management</li> <li>Globally applicable complexity</li> </ul>
Which client segment best represents the majority of your client base?	I Tier-one commodity I Middle-range commo I Smaller-scale commo

sset value maximization and related decision support olutions (usability and performance expectations) rowth in APAC (power markets in Japan and growth in the

expansion and related intraday trading and scheduling needs tages lie in our comprehensive solution offering:

d finance

of the very few solution providers that cover power, emission, e, refined products, NGLs and metals, as well as treasury and sets.

of the very few solution providers that cover functionality from office, especially the ability to integrate pre-trade optimizations as part of a comprehensive package.

ty to deliver to tier-one, two and three clients, with the ability to s of smaller players with a state-of-the-art packaged solution uires short implementation times.

luct-specific advantages:

mmodity and finance and cross-assets TLM solution, including and liquid and bulk commodity trading and scheduling with

nd physical asset class coverage nced risk management

solution for crude oil, refined products, NGLs and coal with

coverage and related scheduling and logistics age, including lease business

power ETRM solution with a focus on more efficient processes in e, as well as risk management support ages in physical asset management, sales trading and portfolio

cross-commodity optimization and forecasting solution

firms (300+ staff) odity firms (30-300 staff) nodity firms



#### Panton Inc.

#### Section I - Company information

#### a) Company history

Founding date	Headquarter location	Other representative offices (if applicable)	Number of employees world- wide as of 31 March 2015
2003 under prior name Spec- trum Prime, L.P.	Houston (US)	n/a	20+
October 2013 - under present name Panton Inc.			

#### b) General corporate information

Ownership (private or public)	Majority shareholder	Annual revenue last year (2014)
Private for-profit Texas corporation	-	-

#### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest version release	Current version number	Customer base (all products included - no. of companies)
Energy Commodity Market- ing, Logistics, Scheduling & Invoicing Platform	2013	Continual or rolling upgrades	n/a	15+ (all customers are on the platform to some degree)
General Purpose Reporting Platform	2013	Continual or rolling upgrades	n/a	15+ (all customers are on the platform to some degree)
Midstream Processing Plant Allocation & Settlement Busi- ness Process	2013	Continual or rolling upgrades	n/a	15+ (all customers are on the platform to some degree)
Daily Natural Gas Entitlement, Nomination & Imbalance Management	2013	Continual or rolling upgrades	n/a	2
Condensate Stabilization, NGL Fractionation & Blending Business Process	2015	Continual or rolling upgrades	n/a	2

#### Section II - Verbatim

EY questions	Vendor answers
Could you please provide a brief description of your company and your solutions?	Panton is a search-oriented information platform that connects all available data sources to provide a universal working environment. Panton effectively handles proprietary data and functions with streamlined, real-time, straight-through processing – including transaction management, contract administration, transportation, volume and value allocations, inventory tracking, supply chain management, accounting, forecasting and risk management – essentially, all aspects of business processes as well as personal activities.

#### Section II - Verbatim

EY questions	Vendor answers
Which market development drives your platform development plan specifically over the next 6 to 24 months?	Panton's platform equa market, Panton's syste downstream energy co significant hiring of wo companies to optimize man-hours for the daily the drop in oil prices, b up- or down-market, in
In your opinion, what are the main advanta- ges that your software applications offer compared with your competitors in the same category?	Panton's system makes (in seconds), transpare communicated (centere factor). Panton is trans trained personnel - inte
	<ul> <li>Cut manual work by 7</li> <li>Make 100% of proprie</li> <li>Run 500x faster com</li> <li>Condense monthly se</li> <li>Reduce reporting tur</li> <li>Facilitate 100x more</li> </ul>
Which client segment best represents the majority of your client base?	□ Tier-one commodity f ⊠ Middle-range commo ⊠ Smaller-scale comm

ually serves a robust or austere oil price market. In a robust em manages big data, allowing upstream, midstream and companies to expand where otherwise they could not without orkforce. In an austere market, Panton's system allows the workforce (cutting excess workforce if necessary), as the ily business process are cut significantly. So the present driver is but always with the optimization of business process, in either an n mind.

es business processes intuitive (no menu), simple (by search), fast rent (with every detail), automatic (minimal manual work), well red info exchange) and informative (turning data into a decision nslating the concept of "software" - sophisticated and only for to the concept of "information platform." The net effect of this is:

- 70%
- ietary information searchable
- mputations
- settlement work to hours
- Irnover time to seconds
- e real-time business communications with audit trail

firms (300+ staff) odity firms (30-300 staff) modity firms



SunGard Energy Systems Inc.

#### Section I - Company information

#### a) Company history

Headquarter location	()ther representative offices (if applicable)	Number of employees world- wide as of 31 March 2015
Denver (US)	Houston (US), Europe, Asia	85+
	location	location Other representative offices (if applicable)

#### b) General corporate information

Ownership (private or public)	Majority shareholder	Annual revenue last year (2014)
Private	Not disclosed	-

#### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest version release	Current version number	Customer base (all products included - no. of companies)
TRMTracker	2003	Not specified	3.9.001	Not specified

#### Section II - Verbatim

EY questions	Vendor answers
Could you please provide a brief description of your company and your solutions?	Pioneer Solutions offers next-generation ETRM, environmental and compliance solutions at a lower total cost. We offer a proven, flexible product with service tailored to meet unique business needs. Our innovative approach to straight-through processing (STP), from deal capture through to settlements of all commodities, ETRM, environmental products management and compliance, allows us to deliver your business how you want to view, manage and report on it without costly customization. Our software is user configurable and template and formula based, so it can be easily configured to meet business challenges, ensuring high-quality, on-time delivery. It easily interfaces with other applications and data sources, simultaneously automating workflow across the front, middle and back offices.
Which market development drives your platform development plan specifically over the next 6 to 24 months?	We are a growing company and, as such, we are always looking for opportunities to enhance our product based on customer's input, industry trends and regulations. Each release enhances the customer experience and functionality of the system itself. Customer input is one of our main drivers for our road map and future direction plans. It is our goal to address the needs of our clients, while improving our system, in order to equip them and potential clients for the future of the industry.
In your opinion, what are the main advanta- ges that your software applications offer compared with your competitors in the same category?	Highly user configurable, template based and formula driven to make it exceptionally malleable, flexible and scalable. Tailored to our clients' specific needs and built to evolve alongside their organization for years to come. Also, by eliminating all-too-common, costly customization efforts and the slow, faulty implementation approach of many of our competitors, Pioneer's clients enjoy a lower total cost of ownership.
Which client segment best represents the majority of your client base?	<ul> <li>Tier-one commodity firms (300+ staff)</li> <li>Middle-range commodity firms (30-300 staff)</li> <li>Smaller-scale commodity firms</li> </ul>

#### Section I - Company information

#### a) Company history

Founding date	Headquarter location	Other repre
1982	Wayne (US)	Offices in al www.sunga offices

#### b) General corporate information

Ownership (private or public)	Majority shareholder	Annual revenue last year (2014)
Private	-	US\$2.8b

#### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest version release	Current version number	Customer base (all products included - no. of companies)
Aligne	1998	2015	Aligne 5	500
XDM	2006	2015	XDM	
Kiodex	1999	2015	Kiodex Risk Workbench Kiodex Real Time Kiodex RGlobal Market Data	
MarketMap Energy	1982	2015	MarketMAP Energy 7	

#### Section II - Verbatim

EY questions	Vendor answers
Could you please provide a brief description of your company and your solutions?	SunGard is one of the with an annual revenu finance, SunGard is fo our customers adapt a
	SunGard Energy & Con trading, risk managen settlement, accountin and finance.
	Through real-time dat transparency and reg operational life cycles options.



esentative offices (if applicable)	Number of employees world- wide as of 31 March 2015
all major locations ard.com/company/contact-us/	13,000

e world's leading software and technology services companies, ue of about US\$2.8b. Sitting at the intersection of technology and focused on delivering fresh ideas and inventive solutions to help and thrive in an ever-changing environment.

ommodities offers a multicommodity solution that includes ement, scheduling and operations, regulatory compliance, ing and management information, as well as market data, treasury

ata, connectivity and analysis, SunGard helps customers achieve gulatory compliance, address end-to-end transaction and es, and meet time-to-market needs with flexible deployment

EY questions	Vendor answers
Which market development drives your platform development plan specifically over the next 6 to 24 months?	<ul> <li>Short-term trading - as one the most powerful market drivers, SunGard is developing solutions for continuous trading, including market bidding and algo- trading, real-time positioning and asset management, real-time market interfacing and integration of customer-specific logic in the trading process.</li> </ul>
	<ul> <li>Strong renewable production - SunGard is strengthening its capabilities in the field of renewable forecast and has industry-leading energy data management capabilities.</li> </ul>
	<ul> <li>Reduction of total cost of ownership for ETRM systems - SunGard supports this with its cloud offering, leveraging HTML5 technology. SunGard's long-term strategy is to transfer all products to the new technology to achieve an ergonomic, intuitive user experience.</li> </ul>
In your opinion, what are the main advanta- ges that your software applications offer compared with your competitors in the same category?	<ul> <li>Modern, adaptable technology - HTML5 allows us to create an intuitive user experience that expands beyond the desktop and on to mobile devices (tables, smartphones, etc.). In addition, some solutions are available in an SaaS environment with fully integrated market data.</li> </ul>
	<ul> <li>Footprint - the recent acquisition of XDM provides coverage not only to standard front-to-back functionalities, but also energy data management, forecasting and optimization.</li> </ul>
	<ul> <li>Real-time data - functionality and ability to work with very large data sets creates a competitive advantage.</li> </ul>
	<ul> <li>Quick response to market challenges - short-term trading is the most important market trend in European power markets. SunGard was early to provide functionality to support continuous trading.</li> </ul>
Which client segment best represents the majority of your client base?	<ul> <li>Tier-one commodity firms (300+ staff)</li> <li>Middle-range commodity firms (30-300 staff)</li> <li>Smaller-scale commodity firms</li> </ul>

### Section I - Company information

### a) Company history

Founding date	Headquarter location	Other repre
1992	London (UK)	Birminghan Singapore

#### b) General corporate information

Ownership (private or public)	Majority shareholder	Annual revenue last year (2014)
Private	Trayport Ltd. is a wholly owned subsidiary of BGC. Trayport Contigo Ltd. is a wholly owned subsidiary of Trayport Ltd.	£46.3m

### c) General system and solution information

Main solution name(s)	Date of initial launch	Date of latest version release	Current version number	Customer base (all products included - no. of companies)
enTrader	Dec 2009	April 2015	v4.0	16
enVoy	April 2008	March 2015	v1.3.2	4
enPrice	March 2011	June 2015	v3.1.4.1	2

#### Section II - Verbatim

EY questions	Vendor answers
Could you please provide a brief description of your company and your solutions?	Build and market software platforms that enable trading for cleared and OTC markets, mostly in energy commodities; build and market software platforms that enable the management of trading and risk processes from front to back office, straight-through processed from execution platforms.
Which market development drives your platform development plan specifically over the next 6 to 24 months?	Strong growth anticipated in central Europe, UK and Nordic regions. Predominately in financial and physical Power and Gas markets. Sectors include Generation, Wholesale, Retail, industrial, Commercial and SME.
In your opinion, what are the main advantages that your software applications offer compared with your competitors in the same category?	<ul> <li>Built specifically for European energy and serves all commodity markets</li> <li>True out-of-the-box instruments - no setup</li> <li>Modern application architecture</li> <li>Rapid deployment</li> <li>Cost-effective solutions for smaller market participants while fully featured for tier-one clients</li> <li>Chosen over all other ETRM vendors in head-to-head competitive tenders</li> <li>Full trade life cycle management for all parts of the value chain</li> <li>Scalable and extensible</li> <li>Native integration with Trayport Trading Gateway</li> <li>Full straight-through processing from execution to dispatch</li> <li>The most appropriate solution for all energy commodity trading</li> </ul>
Which client segment best represents the majority of your client base?	<ul> <li>Tier-one commodity firms (300+ staff)</li> <li>Middle-range commodity firms (30-300 staff)</li> <li>Smaller-scale commodity firms</li> </ul>



esentative offices (if applicable)	Number of employees world- wide as of 31 March 2015
m (UK), New York (US),	214

CTRM system vendor questionnaire results The following section contains specific product functionality questions prepared by EY's CTRM Teams and the relevant vendor answers. It allows the reader to verify areas of capability and asset class coverage quickly for the vendor solutions included.

#### Section III - Product features

Answer is applicable if cell is marked in yellow.

Name of product (company)		Agiblocks (Agiboo)	Allegro 8 (Allegro	Symphony (Amphora)	Aspect DSC (Aspect	Fintrade (Brady)	Trinity (Brady)	Brady Energy (Brady)	InSight CM (Eka)
			Development)		Enterprise Solutions)				
Please select the asset classes	Crude oil								
for which this product is relevant	Refined oil products								
	settlement Gas (natural gas, LNG,								
	LPG) Coal								
	Power								
	Emissions								
	Agricultural – grains and oilseeds, softs and dairy								
	Base metals								
	Precious metals								
	Freight Other - please specify	Species and nuts	Sand, water		Concentrates		Concentrates and		
			and fracking chemicals				iron ore		
For which asset class (from the above) is this product most advanced?		Agricultural: grains, oilseeds, softs and dairy	Gas	Oil, products, freight, metals, coal and emissions	Crude, products, LPG (LNG under development), base and precious metals	Base metals and agricultural, cotton, plastics, chemicals, concentrates and fertilizers	Base and precious metals, agricultural and concentrates	Power, gas	Agriculture, metals and energy
	A 6-1								
Have you already implemented your product in these locations?	Africa Asia								
	Australia and Oceania								
	Central and South America								
	Continental Europe (excluding Nordics)								
	UKI								
	Nordics North America								
Does the product offer	Financial trade capture	:							
capabilities for the following processes and functionalities	(OTC or exchange) Physical trade capture								
inherent to front-office activities (and its supporting	(OTC or exchange)	:				:			
operations)?	Exchange trade execution								
	Contract management Hedging execution								
	Deal structuring								
	Deal validation or confirmation								
	Asset portfolio optimization	2							
	Curves management								
Does the product offer capabilities for the following	Mark-to-market valuation								
processes and functionalities inherent to middle-office and	P&L computation								
risk management tasks?	Standard exposure management (Greeks)								
	Complex exposure management (VaR or								
	correlation) Trade control limit								
	management Pricing models for								
	standard products or options								
	Pricing models for complex options (swing options)								
	options) Pricing models for	:							
	physical assets (i.e., gas storage)								
	Pricing models for complex physical contracts								
	FX exposure calculation								
	Basic credit risk management (counterparty exposure, etc.)								
	Advanced credit risk (i.e., expected exposure								
	and CVA or DVA) Operational risk								
	management Stress testing and								
	"what if" scenario or optimization								
	Big data analytic Collateral and margin								
	other - please specify	Position	Delegation of			:		:	-
	other - please specify	Position management, FX hedging and	authorities and limit management						

Name of product (company)		G10 Commodity Manager (Generation 10)	INVENSOFT-XBS© (Invensoft Technologies)	webTrader Enterprise (OATI)
Please select the asset classes for which this product	Crude oil	-		
is relevant	Refined oil products settlement			
	Gas (natural gas, LNG, LPG)			
	Coal			
	Power Emissions	-	-	
	Agricultural - grains			
	and oilseeds, softs and dairy			
	Base metals Precious metals			
	Freight			
	Other - please specify			RECs
For which asset class (from the above) is this product most advanced?		Agricultural: grains, oilseed, cotton, coffee, cocoa, sugar, rubber and cattle	Agricultural - softs, metals, minerals and concentrates	Power, gas, I and emissior
Have you already implemented your product in	Africa Asia			
these locations?	Australia and Oceania			
	Central and South America			
	Continental Europe			
	(excluding Nordics)			
	Nordics			
Dava tha and dust affer	North America			
Does the product offer capabilities for the following	Financial trade capture (OTC or exchange)			
processes and functionalities inherent to front-office activities (and its supporting	Physical trade capture (OTC or exchange)			
operations)?	Exchange trade execution	-		
	Contract management			
	Hedging execution Deal structuring			
	Deal validation or			
	confirmation Asset portfolio			
	optimization			
Does the product offer	Curves management Mark-to-market			
capabilities for the following processes and functionalities	valuation P&L computation			
inherent to middle-office and risk management tasks?	Standard exposure			
	management (Greeks) Complex exposure			
	management (VaR or correlation)			
	Trade control limit			
	management Pricing models for			
	standard products or options			
	Pricing models for complex options (swing options)			
	Pricing models for physical assets (i.e., gas storage)			
	Pricing models for complex physical contracts			
	FX exposure calculation			
	Basic credit risk management (counterparty exposure,			
	etc.) Advanced credit risk	:		
	(i.e., expected exposure and CVA or DVA)			
	Operational risk management			
	Stress testing and			
	"what if" scenario or optimization			
	Big data analytic			
	Collateral and margin management			
	Other - please specify			
			<u>.</u>	

	*Endur, RightAngle, IRM, CubeIntelligence, DBCSMARTsoft (OpenLink)	Marketing, supply and invoicing scheduling platform (Panton)	TRMTracker (Pioneer)	*Aligne, XDM, Kiodex, MarketMap Energy (SunGard)	EnTrader (Trayport Contigo)
	NGL		RECs	FX	
DEC-	Fordure energy	N-4	Deven end ell		Devenue
ons	commodities IRM: power, natural gas, emissions and financial bulk	Natural gas, natural gas liquids (NGLs), crude and light products	Power, gas, oil, emissions and RECs	Power, gas, emissions and coal	Power, gas and emissions

#### Section III - Product features

Answer is applicable if cell is marked in yellow.

Name of product (company)		Agiblocks (Agiboo)	Allegro 8 (Allegro	Symphony (Amphora)	Aspect DSC (Aspect	Fintrade (Brady)	Trinity (Brady)	Brady Energy (Brady)	InSight CM (Eka)
		(191000)	Development)	() imprior dy	Enterprise Solutions)	(0.007)	(0.007)	(0.007)	(Lind)
Does the product cover the	Scheduling								
following processes and functionalities in terms of logistics management?	Storage and inventory management								
	Freight and transport								
	Balancing (optimization under constraints)*								
	Nomination*								
	Cross-border capacity								
	management* Other - please specify		Transmission						:
	other please speeny		or transport management,					-	
			processing, fractionation,					-	
*For gas, power and oil markets			liquefaction and regasification						
Does the product offer	Settlement preparation	:	regasilication						:
capabilities for the following processes and functionalities	(netting, statements, etc.)								
inherent to accounting and back-office activities?	Counterparty settlement								
	Confirmations								
	Reconciliation								
	SWIFT messaging								
	Currency and price management								
	Hedge accounting								
	Invoicing								
	Accounts receivable and accounts payable								
	Documentation management								
	Claim management								
	Month-end close								
	Other - please specify	Audit trail and document	Inventory accounting,					Exchange settlement	
		template management	netback calculation						
		management	and revenue distribution						
Does the product offer	Treasury management		distribution				:		
capabilities for the following processes and functionalities inherent to regulatory, compliance and governance?	Tax regulation								
	FERC rules and reporting								
	Dodd-Frank compliance reporting								
	EMIR position reporting								
	and clearing REMIT compliance					-			
	reporting								
	CFTC position limits								
	Repository reporting MiFID regulation								
	management and reporting								
	Other - please specify					Customer-	Customer-		
						built reporting activities. Brady	built reporting activities. Brady		
						can provide assistance for	can provide assistance for		
Please specify with which	ICE Futures (UK, US and					reports.	reports.		
exchanges and market data	Canada)								
providers you have already implemented an interface with this product?	СВОТ КСВ								
and product?	Nymex CME Group								
	Comex 🥊								
	LME					_			
	Euronext (excluding MATIF and LIFFE)								-
	Other - please specify	DTN, Reuters and Bloomberg				SGX, FastMarkets, LIM, Reuters and	FastMarkets, LIM, Reuters and	Prices: Montel	
		, i i i i i i i i i i i i i i i i i i i				Bloomberg	Bloomberg	<ul> <li>Reuters</li> <li>Trayport</li> </ul>	
								CASC Border     Prices	
								Exchanges:	
								<ul> <li>APX-Endex</li> <li>ICE</li> </ul>	
								<ul> <li>EEX</li> <li>IDEX</li> </ul>	
								<ul> <li>ARGUS FTP</li> <li>Belpex</li> </ul>	
What are the usual enterprise	General ledger							<ul> <li>Borsa Italiana</li> </ul>	
applications with which the product is interfaced?	application (e.g., SAP or Oracle)								
	Reporting engine (i.e., BusinessObjects or Crystal Report)								
	Other - please specify	Agiblocks has an embedded	Analytics tools and Tableau		Market data applications		DMA platforms for trade execution	API can interface with any	
								application	
		reporting engine that would make			(e.g., PVM and GlobalView)			application.	

Name of product (company)		G10 Commodity	INVENSOFT-XBS©	webTrader	*Endur,	Marketing, supply	TRMTracker	*Aligne,	EnTrader
Name of product (company)		Manager (Generation 10)	(Invensoft Technologies)	Enterprise (OATI)	RightAngle, IRM, CubeIntelligence, DBCSMARTsoft (OpenLink)	and invoicing scheduling platform (Panton)	(Pioneer)	XDM, Kiodex, MarketMap Energy (SunGard)	(Trayport Contigo
Does the product cover the following processes and functionalities in terms of logistics management?	Scheduling								
	Storage and inventory management								
	Freight and transport								
	Balancing (optimization under constraints)*								
	Nomination* Cross-border capacity	- - - - -				-	:		
	management*								
	Other - please specify	Weight and quality management, sample	Comprehensive two-directional traceability						
*For gas, power and oil markets		management and assays							
Does the product offer capabilities for the following processes and functionalities inherent to accounting and	Settlement preparation (netting, statements, etc.)				-				
back-office activities?	Counterparty settlement								
	Confirmations								
	Reconciliation SWIFT messaging								
	Currency and price								
	management Hedge accounting								
	Invoicing								
	Accounts receivable and accounts payable								
	Documentation								
	management Claim management								
	Month-end close						,	,	ļ
	Other - please specify	Actual vs. budget analysis and accrual management							
Describe and web offer	T								
Does the product offer capabilities for the following	Treasury management Tax regulation	- 	-						
processes and functionalities inherent to regulatory, compliance and governance?	FERC rules and reporting	- - - - - - -							
	Dodd-Frank compliance								
	EMIR position reporting	- - - -							
	and clearing			- - - - -					
	REMIT compliance reporting	-							
	CFTC position limits Repository reporting	-							
	MiFID regulation management and reporting								
	Other - please specify	Compliance ready but not (as yet) required by client base	1						
Please specify with which exchanges and market data	ICE Futures (UK, US and Canada)				:	:		:	:
providers you have already implemented an interface with	СВОТ								
this product?	KCB CME Group								
	Comex								
	LME Euronext (excluding							:	
	MATIF and LIFFE)								
	Other - please specify		We don't have specific market data interfaces; they are developed based on client-specific needs.	Π	Bloomberg (market BTC gateway), Trayport, SWIFT messaging, Thomson Reuters (market data), FIX, 360T and eCMS		GlobalView and ZEMA	Trayport, EEX, EPEX, Nord Pool and Griffin	Trayport - Tradi Gateway APX; others available via the Trayport interface
What are the usual enterprise applications with which the product is interfaced?	application (e.g., SAP or Oracle)								
	Reporting engine (i.e., BusinessObjects or Crystal Report)								
	Other - please specify		Interface with Microsoft Dynamics, AX						Legacy applications and

#### Section III - Product features

Answer is applicable if cell is marked in yellow.

Name of product (company)		Agiblocks (Agiboo)	Allegro 8 (Allegro Development)	Symphony (Amphora)	Aspect DSC (Aspect Enterprise Solutions)	Fintrade (Brady)	Trinity (Brady)	Brady Energy (Brady)	InSight CM (Eka)
With which frequency does	Live - real time								
the product offer connectivity to a market data feed?	Delayed (via batches, etc.)								
	On demand (user initiated)								
	End of day								
	Other - please specify								
capabilities, with which frequency does trade execution and confirmation occur?	Live - as soon as the trade is matched or executed								
	Delayed (via batches, etc.)								
	On demand (user initiated)								
	End of day								
	Not applicable								
	Other - please specify						Connectivity is provided via LME Select and banks' proprietary OMS systems.		
If the product offers reporting capabilities, with which frequency do the relevant	Live - as soon as the trade is matched or executed								
calculations (that depend on external prices) occur?	Delayed (via batches, etc.)								
	On demand (user initiated)								
	End of day								
	Other - please specify								
What deployment method does the product support?	Deployed installation (local servers)								
	Hosted cloud application								
	Other - please specify				Client-controlled SaaS within customer firewall				

Name of product (company)		G10 Commodity Manager (Generation 10)	INVENSOFT-XBS© (Invensoft Technologies)	webTrader Enterprise (OATI)	*Endur, RightAngle, IRM, CubeIntelligence, DBCSMARTsoft (OpenLink)	Marketing, supply and invoicing scheduling platform (Panton)	TRMTracker (Pioneer)	*Aligne, XDM, Kiodex, MarketMap Energy (SunGard)	EnTrader (Trayport Contigo
With which frequency does	Live - real time								
the product offer connectivity to a market data feed?	Delayed (via batches, etc.)								
	On demand (user initiated)								
	End of day								
	Other - please specify		Any specific interface						
If the product offers trading capabilities, with which frequency does trade	Live - as soon as the trade is matched or executed								
execution and confirmation occur?	Delayed (via batches, etc.)								
	On demand (user initiated)								
	End of day								
	Not applicable								
	Other – please specify								
If the product offers reporting capabilities, with which frequency do the relevant	Live - as soon as the trade is matched or executed								
calculations (that depend on external prices) occur?	Delayed (via batches, etc.)								
	On demand (user initiated)								
	End of day								
	Other - please specify								
What deployment method does the product support?	Deployed installation (local servers)								
	Hosted cloud application								
	Other - please specify	Hybrid (on premise or hosted)							

#### Section IV - Fee model

Answer is applicable if cell is marked in yellow.

Name of product (company)		Agiblocks	Allegro 8	Symphony	Aspect DSC	Finetrade	Trinity	Brady Energy	InSight CM
nume of product (company)		(Agiboo)	(Allegro Development)	(Amphora)	(Aspect Enterprise Solutions)	(Brady)	(Brady)	(Brady)	(Eka)
	· · · · ·					,		·	
Please indicate which license fee model applies to the product.	Perpetual license (one- time fee)								
product.	License rental (yearly or monthly recurring)			ļ	ļ				
	Company-wide license fees (multiple sites)								
	License fees on a site- by-site basis								
Please indicate which user fee	Other - please specify								
model applies to the product.	for named users				-				
	for concurrent users Other - please specify	Como		:			5 *		:
	Other - please specify	Some functionality is licensed by functionality only (non-user							
Which implementation model does the company most	Implementation carried out exclusively by the	dependent).	* • •				- - - - - - -		
requently apply?	vendor only		- 				5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		
	outsourced externally (i.e., SI)								
	Implementation carried out by the client								
	A combination of all of the above								
	Other - please specify				Implementation is done either by the vendor or by certified partners of the vendor.				
In terms of implementation, which statement best describes the majority of those undertaken for this product?	Implementation completed off-site and								
	configured package installed to the client						-		
	Product installed or implemented on-site			ļ					ļ
	Other - please specify	We support classic and hosted environments and offer hosting services.			Most of the implementation is done off-site, but initial design UAT, etc., is done on-site.		We use a combination of the two, with a majority of which are cloud based.		
Please indicate a link to a relevant product website, brochure, description or demo.		www.agiboo.com/ wp-content/up- loads/2015/05/ Agiblocks_Prod- uctsheets_Online. pdf www.agiboo.com/ media/videos/	www.allegrodev. com Please contact m.hinton@ allegrodev.com to arrange a demonstration of Allegro 8.	www.amphorainc. com	www.aspectenter prise.com/ resources/ brochures/ All information on products and services on: www. aspectenterprise. com	www.bradypic.com	www.bradypic. com/media/k2/ attachments/ brady_metals mining.pdf www.bradypic. com/media/k2/ attachments/ Commodity Trading_and_Risk. pdf	www.bradypic. com/media/k2/ attachments/ Solutions_ for_Physical_ Commodity_ Trading_and_Risk_ Management.pdf www.bradypic. com/media/k2/ attachments/ Cloud_Services. pdf	www.ekaplus. com/smart- commodity- management- solutions.aspx
On a scale with the rest of he market, and to your best	Higher range (for large- scale deployments)								
knowledge, which cost range would best describe this product license?	Medium range (limited site or department deployments)								
	Lower range (smaller desk or department deployments)								
Please indicate which of the following additional services	Telephone support								:
are included in your license (at no additional cost).	Online support (messenger, mail, etc.)							JIRA and WIKI	
	On-site training								
	Virtual training					Dolivorust	Deliversof		
	Maintenance (upgrades, patches, etc.)					Delivery of binaries, technical documentation and scripts for updates within the same version.	Delivery of binaries, technical documentation and scripts for updates within the same version.		
	On-site technical troubleshooting		7 						
	Other - please specify		All of these elements are included in the annual maintenance fees.			JIRA and WIKI	JIRA and WIKI		Maintenance i priced separal and includes telephone support, onlin support, softw upgrades and patches, and

lame of product (company)		G10 Commodity Manager (Generation 10)	INVENSOFT-XBS© (Invensoft Technologies)	webTrader Enterprise (OATI)	*Endur, RightAngle, IRM, CubeIntelligence, DBCSMARTsoft (OpenLink)	Marketing, supply and invoicing scheduling platform (Panton)	TRMTracker (Pioneer)	*Aligne, XDM, Kiodex, MarketMap Energy (SunGard)	EnTrader (Trayport Contigo)
	Described lisses (see								
Please indicate which license fee model applies to the product.	Perpetual license (one- time fee)								
	License rental (yearly or monthly recurring)				ļ				
	Company-wide license fees (multiple sites)								
	License fees on a site- by-site basis								
	Other - please specify								
Please indicate which user fee model applies to the product.	License fees required for named users								
	License fees available for concurrent users								
	Other - please specify	-							
Which implementation model does the company most frequently apply?	Implementation carried out exclusively by the vendor only								
nequentiy appiy:	Implementation outsourced externally (i.e., SI)				•				
	Implementation carried	- 							
	out by the client A combination of all of the above								:
	Other - please specify		System						
			integrator-based implementation is possible - Invensoft is moving toward this model with partners.						
In terms of implementation, which statement best	Implementation completed off-site and								
describes the majority of those undertaken for this product?	configured package installed to the client	,							
	Product installed or implemented on-site	2 2 2 2 2 2 2 2							
	Other – please specify					We use a combination of the two.		We use a combination of the two.	
Please indicate a link to a relevant product website, brochure, description or demo.		www. generation10.net	www.invensoft. co.in/Products. asp	www.oati.com	www.openlink. com	www.pantoninc. com/data- process/		www.sungard.com	www.contigo. co.uk/products/ entrader www.contigo. co.uk/products/ enVoy www.contigo. co.uk/products/ enPrice
On a scale with the rest of	Higher range (for large-								
the market, and to your best knowledge, which cost range would best describe this product license?	scale deployments) Medium range (limited site or department deployments)								
	Lower range (smaller desk or department deployments)								
Please indicate which of the	Telephone support								
following additional services are included in your license (at	Online support								
following additional services are included in your license (at									
following additional services are included in your license (at	Online support (messenger, mail, etc.) On-site training Virtual training								
following additional services are included in your license (at	Online support (messenger, mail, etc.) On-site training								
following additional services	Online support (messenger, mail, etc.) On-site training Virtual training Maintenance (upgrades,								
following additional services are included in your license (at	Online support (messenger, mail, etc.) On-site training Virtual training Maintenance (upgrades, patches, etc.) On-site technical								

#### Section V - Technical aspects

Does the user interface run in a web browser, thin or thick client application?	Which programming languages does the product support?	Which of the following options are available for the product and its workflows? 1 - Programmable automated processes 2 - Graphical configuration of workflows 3 - Straight-through processing 4 - Calendar management 5 - Security settings (control of viewer or editor rights within roles, geographies and departments)
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Agiblocks (Agiboo)	Agiblocks runs in any web browser on any device.	C# and .NET	1, 3, 5
Allegro 8 (Allegro Development)	Allegro is implemented as a thin (aka smart) client that updates from the customer's Allegro app server, combining the ease of update of a web client with the responsiveness and rich user interface (UI) of a fat client.	Customer add-on code (Class Events) are implemented in Microsoft's C#. The use of T-SQL or PL-SQL (depending on your database platform) is also supported.	1, 2, 3, 4, 5
Symphony (Amphora)	Thin client	.NET and Java	1, 2, 3, 4, 5
Aspect DSC (Aspect Enterprise Solutions)	AspectCTRM and AspectDSC are both web browser only clients with full graphical user interface functionality like any application.	The product has its own scripting language but is developed using HTML and Java.	1, 3, 4, 5
Fintrade (Brady)	The system is a Windows application, delivered as a rich client application. For cloud deployments, we use remote desktop. Installation on a PC can be made from a central deployment point with no administration rights being required.	C#, C++ (Visual Studio) and HTML5	2, 3, 4, 5
Trinity (Brady)	The system is a Windows application, delivered as a rich client application. For cloud deployments, we use remote desktop. Installation on a PC can be made from a central deployment point with no administration rights being required. Some screens within the system are browser based.	C#, VB.NET, HTML5 andVB6	1, 3, 4, 5
Brady Energy (Brady)	The core system is a Windows application, delivered as a rich client application. For cloud deployments, we use remote desktop. Installation on a PC can be made from a central deployment point with no administration rights being required. Reporting and several add-on modules (EMIR or REMIT, Sales Manager, Clearing Report Viewer) are all web- based applications.	An API is provided that is adaptable to almost any programming language. The majority of clients choose Microsoft .NET, and some choose Java.	1, 3, 4, 5
InSight CM (Eka)	Both InSight CM and Commodity Analytics Cloud are available as a browser-based application.	Java or J2EE and .NET	1, 3, 5
G10 Commodity Manager (Generation 10)	Web browser	PHP, Javascript and HTML5	1, 2, 3, 4, 5
INVENSOFT-XBS© (Invensoft Technologies)	Web browser and thin client - works on desktop, laptop and tablets (Apple iPad, Android and Windows).	Microsoft .Net, C# and Oracle Database	3, 5
webTrader Enterprise (OATI)	Thin-client application	HTML, Java, C++ and C#	1, 3, 4, 5
*Endur, RightAngle, IRM, CubeIntelligence, DBCSMARTsoft (OpenLink)	Thin client - most clients use Citrix environment	Java and .NET	1, 2, 3, 4, 5
Marketing, supply and invoicing scheduling platform (Panton)	Yes, it runs in all major browsers (PC and mobile devices) supporting HTML5.	N/A	1, 2, 3, 5
TRMTracker (Pioneer)	TRMTracker is a web-based application that runs in IE. It runs on thin-client architecture.	A combination of Java and PHP programming languages.	1, 2, 3, 4, 5
Aligne (SunGard)	Yes, we are migrating to an HTML5 interface for our latest Aligne5 release.		1, 2, 3, 4, 5
XDM, Kiodex, MarketMap Energy (SunGard)			1, 2, 3, 4, 5
EnTrader (Trayport Contigo)	Web browser	C#, .NET and SQL Server	1, 3, 4, 5

Can the standard solution be extended? If so, please indicate whether the client can intervene in its own development (or must it go through the vendor)?	Please indicate, in would take?
Agiblocks offers a number of non-standard extentions. Non-Agiboo extensions can easily be connected through web services.	< 24 hours
Yes - collaborative, where clients can intervene in development. The database scheme and many components of the UI are stored in the database and can be changed or extended during implementation. The ability to alter the UI adding data capture, calculated columns, etc., combined with Allegro's Class Event architecture, which allows client-customized custom code to be inserted into the application, opens up the ability for clients to customize the app in advanced ways.	Six months (this i commodities and
Customizable dashboard reporting and extendable fields	Quarterly minor r
The Aspect standard solution can be extended in two ways: 1. Through scripting framework that exposes most of the core functionality so that Aspect or a client can extend and customize the solution 2. Development via Aspect as a product feature that will form part of Aspect's	As Aspect provide and are provided Customer-specific one to six months
product road map or paid for by the customer Additional modules may be purchased and existing views modified or configured by the user. Depending on the user's experience levels, this can be done either by the	Three upgrades a to remain within t
user or with assistance from the vendor. Scalability is mainly done on the database level; therefore, we can use any functionality provided by the database.	
In general, customers are responsible for business requirements, and Brady takes over functional and technical specifications. Brady can also assist with business requirements gathering phases.	
Additional modules may be purchased and existing views modified or configured by the user. Depending on the user's experience levels, this can be done either by the user or with assistance from the vendor.	Three upgrades a to remain within t
Customers are provided with a database schema for their own objects, over which they have full control; the system has APIs that external applications can use to add or retrieve data, or execute functions, and a number of parts of the system allow for customer or third-party built plugins (e.g., Trade Export Service).	
Additional modules may be purchased and existing views modified or configured by the user. Change requests can be added to the core release, or an extension can be carried out by the clients based on our data warehouse reporting functionality. Complex development extensions are carried out by Brady PLC.	Three upgrades a to remain within t
Solutions can be extended only through Eka.	Two to three mon
Yes. The client can extend much functionality through the front-end and, theoretically, can extend the code.	Hour(s)
Yes, the standard solution can be extended. For now, the client must go through Invensoft. However, based on case-to-case, client-specific needs can be addressed.	Invensoft release
Yes. All product extensions must go through the vendor.	Once a year
Yes, OpenLink offers a very flexible framework to expand or customize the standard market solutions. However, based on case-to-case, client-specific needs can be addressed.	Between 3 and 13 customization.
Yes. Clients can do self-service customization.	We are constantly executing multiple
We offer our clients a proven, flexible product with customized service tailored to meet their unique business needs. Our software is user-configurable and template and formula based, so it can be easily adapted and configured to meet clients' business challenges - a factor that ensures a high-quality, on-time delivery.	Major new release Minor upgrades a Quarterly patches "Hotfixes" are rel
Yes. The product is able to be extended to add new data elements for any trade,	Depending on the months and 9 to
contract or data item, add new models for valuation, or configured to calculate custom-specific calculations or reports. This is done mostly by configuration, or with some programming by either the client or vendor.	
custom-specific calculations or reports. This is done mostly by configuration, or	Depending on the months and 9 to

\* Please note that unless otherwise stated, the answers provided or ticked would be covered by one or more of the multiple products listed below.

cate, in terms of time frame, how long the typical product upgrade cycle

Who usually performs these upgrades (vendor, client or can be either)?

	Vendor
(this is based on number of es and business processes supported)	Can be either
ninor releases; annual major release	Can be either
provides SaaS, the upgrades happen during weekend maintenance work	Can be either
wided to customers at no additional cost. specific functionality (customizations) usually takes anywhere between nonths depending on the complexity, risk and impact of the change.	
ades are issued each year. Clients must remain at the current version -1 within the terms of the standard service level agreement (SLA).	Can be either
ades are issued each year. Clients must remain at the current version -1 within the terms of the standard SLA.	Can be either
ades are issued each year. Clients must remain at the current version -1 within the terms of the standard SLA.	Can be either
e months	Vendor
	Can be either
eleases version upgrades to products twice in a year.	Can be either
r	Vendor
and 12 months, depending on the size of the footprint and the level of ion.	Can be either
stantly and continuously rolling out the latest code. It is capable of multiple releases in a single day.	Vendor
releases are scheduled every 24 months. ades are scheduled every 12 months. batches are released as needed. are released as needed to assist customers with critical technical issues.	Can be either
on the customer and processes, an upgrade could take between 3 d 9 to 12 months.	Can be either
on the customer and processes, an upgrade could take between 3 d 9 to 12 months.	Can be either
ake a couple of hours and are usually included in the license fee.	Can be either

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