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OCTANE DATA INTEGRATION AND REPORTING FOR TRANSPORT

Service Definition

IB Boost is a specialist development consultancy whose focus is on delivering complex solutions to global organisations. Our experience has led to the development of a suite of innovative software frameworks for accelerating project delivery. Our combination of subject matter expertise and innovative software solutions paired with our passionate technology consultants allows us to provide a comprehensive range of cloud solutions for almost any target application technology.

SUMMARY

IB Boost's OCTANE platform is a customisable, secure, data integration, reporting and analytics platform allowing organisations to develop workflows, forms, reports and dashboards in a consolidated modern web-based platform. These are Transport community shared OCTANE managed-services run as "Community Cloud" with domain-specific modules for maritime and aviation.

SERVICE OVERVIEW

IB Boost offers a Software-as-a-Service data integration, management and analytics platform, OCTANE, which allows organisations and projects of all shapes and sizes to capture, transform, manage and report on data from any source using a modern web-based platform.

Community Cloud instances of OCTANE can be created on various cloud IaaS providers for a dedicated community with a common interest where it is advantageous for organisations to contract directly with IBB. Pricing for such instances above a certain threshold will follow a different model, allowing member organisations to manage and procure their own independent access and services without cross-organisation procurement and financial management overhead. Full pricing details for community cloud instances are in the attached service pricing document.

Business intelligence, data capture and integration, and reporting needs of all sorts are brought together in one integrated solution, allowing all your data to be managed in a single platform.

Our OCTANE suite is an extended platform, which offers organisations the full power of data integration, Robotic Process Automation (RPA) integration, leading-edge analytics, dashboarding and reporting and data manipulation, all in a tried and tested, enterprise-grade secure platform, available in either public or private cloud.

OCTANE integrates standard features and capabilities such as form-building, customised fields and data models, queries and reports, workflows, task management, reporting, analytics, dashboarding, and of course all the administrative functions you'd expect from a cloud-native, enterprise-grade platform.

The OCTANE cloud platform has already been implemented in several cloud-based applications, customised for the individual needs of our public-sector clients.

OCTANE

Portfolio of interoperative software stacks specifically designed to accelerate software project delivery and provide an integrated platform for all automation and data needs

Fully customisable components utilising open data standards and tools

Individual components are combined into one full-service package, tailored for bespoke web-based integration and reporting systems

OCTANE
Web

Framework for bespoke integration and reporting systems

OCTANE
RPA (ORQA)

Universal automation platform for robotic desktop and process automation and testing

OCTANE
Analytics

Dashboarding, monitoring, and business intelligence wizardry

OCTANE
Platform

Infrastructure platform and development lifecycle operational support

OCTANE
Cloud

Cloud-based Software-as-a-Service automation and testing platform

Built for the Transport Community

IB Boost's innovative Community Cloud operational model allows distinct organisations in the UK public sector with common interests to use and contribute to a flexible data management platform that is not constrained by typical integration, whilst remaining secure and agile in how the system can be configured and the data used.

By developing an OCTANE instance with Transport-specific business concepts and data modelling, IBB brings a customisable platform that provides a common platform for both private and shared datasets without building costly integrations or repeating data entry. OCTANE has already been built to be compliant with common international open-standards and reference data sets, including:

- ISO defined datasets (countries, currencies, etc.)
- UN/LOCODEs (UNECE Location codes)
- European maritime reporting
- THETIS integration
- ECCAIRS/ADREP taxonomy compatibility
- Support for AIS data
- Vessel/aircraft registration management
- And many others...

The OCTANE platform can serve as:

- a performance management reporting tool
- a case-management platform
- a quality-management platform
- a system of record for inter-organisation data
- a common integration/transport platform for cross-organisation information
- a questionnaire and scoring tool
- a document management hub
- a cross-organisation centralised workflow hub

- a document management hub including evidence management

Further details on how pricing for the Community Cloud instances operate are included in the G-Cloud service's pricing document, based on certain minimum uptakes.

Note that one organisation must be the designated Lead Organisation that will have ultimate authority from a buyer perspective on functional usage of the platform and organisations must bilaterally establish agreements with that Lead Organisation regarding data access and storage and expected usage of the instance.

Data Management and Reporting Capabilities

OCTANE was built from the ground-up over the past decade based on leading open source tools and frameworks with some added IB Boost magic to create a unified platform that meets the needs of modern, data-centric organisations.

OCTANE is an extensible one-stop-shop for data management and business intelligence with built-in modularity and extension points so that all customised business data needs can be met in a single application platform. The approach of providing a platform with all the tools needed to manage data of any size, whilst building in the flexibility to work with any custom business data processes, provides a unique value-for-money proposition.

OCTANE allows both utilisation of built-in analytics and dashboarding capabilities and exposing APIs to work with your existing processes and systems, making it flexible for any framework.

The extensive data integration tools, customised workflows and productivity-based tools in apps (including task management, alerts, and bespoke dynamic reporting) means every organisational need for data management can be met.



Exchange data with various systems – OCTANE has been designed for an advanced integrated tech stack with an emphasis on data management and structured bespoke business models.



Scalable architecture for intensive data processing – Massively scalable and supporting grid processing, OCTANE has been used in the world's top banks and large UK public sector agencies for its impressive scalable data processing (thousands of complex trades per minute and GBs of new data per day is the norm) and customisation.



Modern web-based user interface – OCTANE brings beauty to the enterprise, providing a stack of custom components to maximise productivity with an intuitive “pick it up and go” feel to data management. It integrates design principles with the needs of the day-to-day business in workflows, validations, integrations, and visualisations.



Advanced user access controls – Ending the trade-off between specificity and usability, OCTANE provides an advanced, detailed permissioning system without the complexity. This dramatically reduces user error as a permission risk and increases auditability.

Data Integration and Analytics Offering

This cloud software offering comprises the following aspects:

1. **OCTANE platform:** a dedicated, isolated instance of the four-tier OCTANE web application, allowing control and execution of automation processes across a network and management of required infrastructure, and includes products like OCTANE Integration and ORQA to meet the most complex data integration needs
2. **Infrastructure cost management:** either IB Boost or third-party managed software-as-a-service (SaaS) operating models, utilisation of client's existing cloud services accounts or integration with hybrid or private cloud infrastructure are possible depending upon client requirements
3. **Configuration and customisation services:** initial setup of OCTANE, development of ORQA automation tasks, and integration into your organisation's network

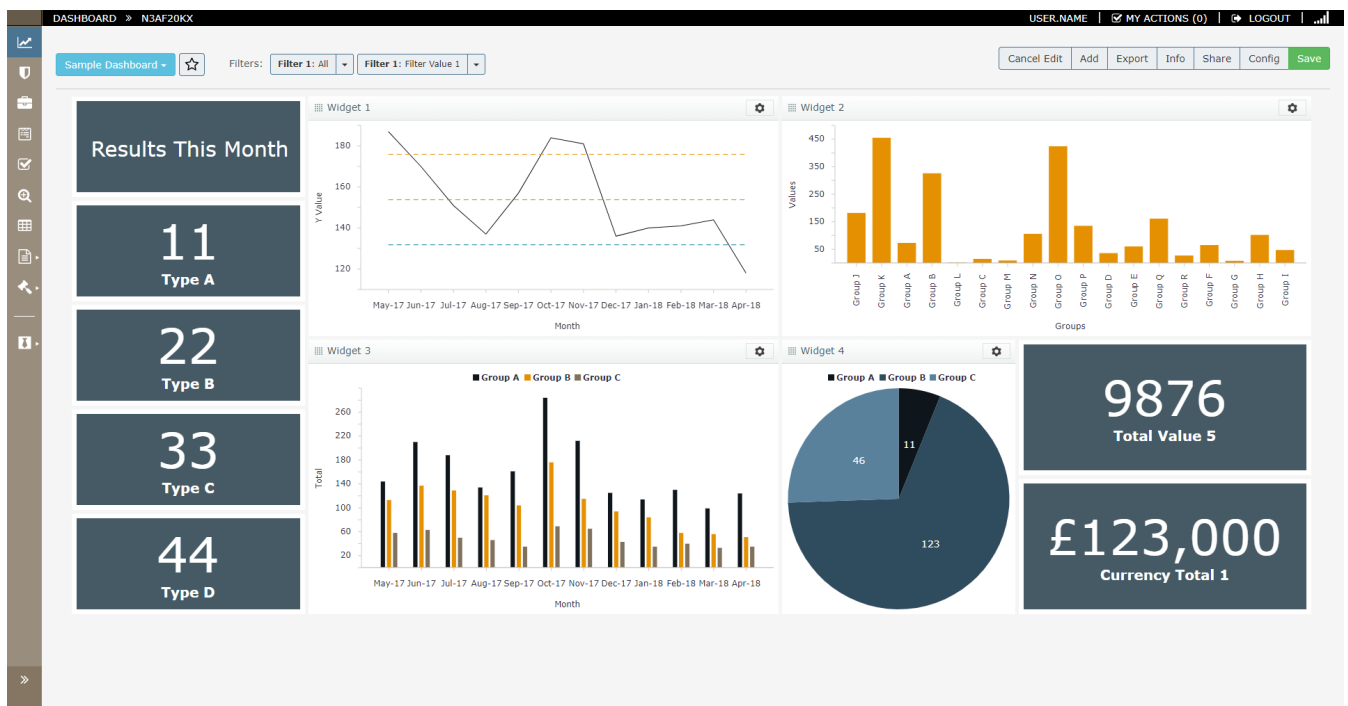


Figure 1 - Rich dashboards can be created by users for dynamic displays or printing

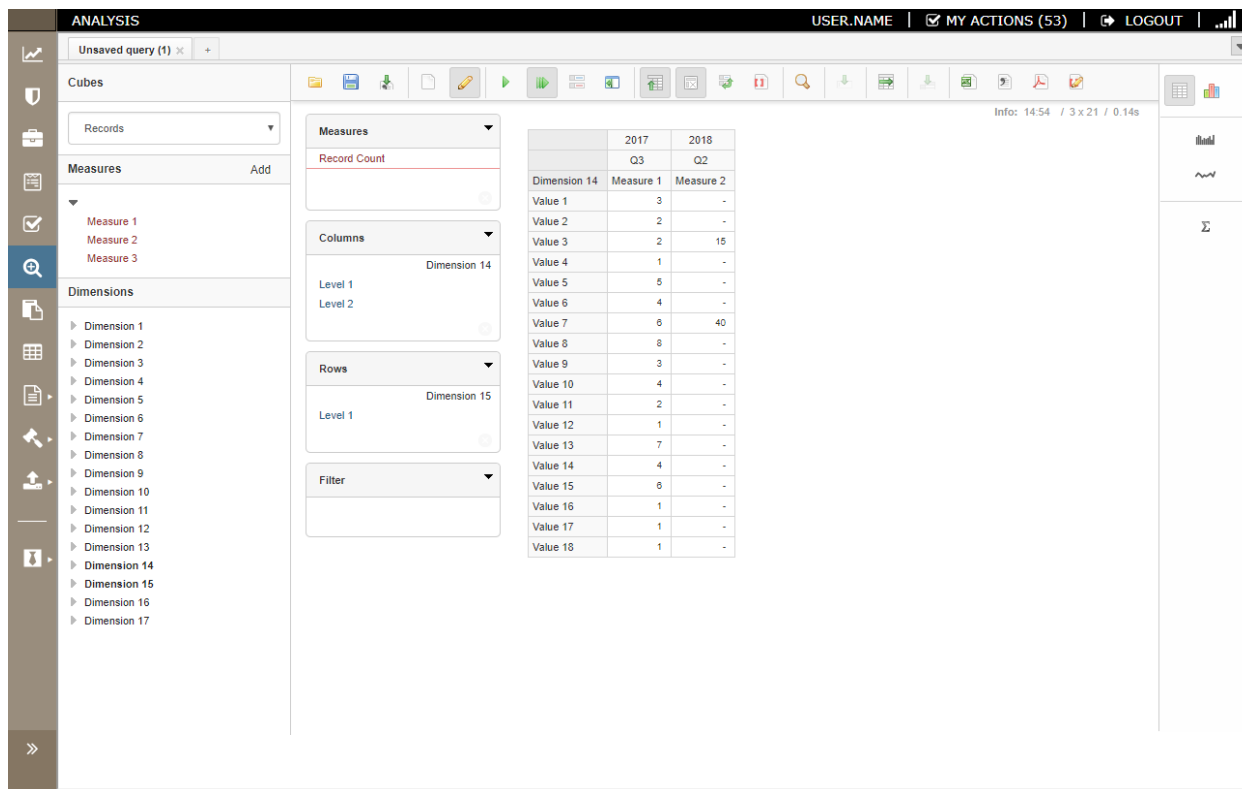


Figure 2 - Build complex PivotTable-like analytics on the fly from your own data model

Fully-Managed, Cloud-Native and Available

IB Boost's OCTANE platform offers cloud-deployed hosted data integration and management services that provide an 'always on' data capture, transformation and publication service. It is capable of handling massive volumes, complex event processing, and diverse data sources – all while complying to stringent delivery timelines.

All OCTANE deployment types are available as cloud-native, fully-managed services allowing clients to rapidly deploy complex systems through our implementation and configuration services at a fraction of the cost of traditional bespoke software development.

We offer support levels of any requirement and bring with us a self-contained, full development and operational stack for all project sizes and complexity including being able to deploy and manage:

- Source control
- Continuous Integration and Delivery systems
- Quality Assurance and Code Quality checking
- Automated testing frameworks
- Security testing tooling
- Issue and task management system
- Wiki
- Log centralisation, querying and analysis

- Real-time protective security monitoring systems
- Customisable resource utilisation alerting systems

Web-Based, Modern, Flexible and Powerful

OCTANE can easily handle the connection to any type of endpoint, the processing of hundreds of thousands of messages per day, complex routing, transformation and enrichment, and error handling for data integration purposes. GUI automation and API interfacing allows you to extract data from or put data into almost any source or destination.

Extensive investment in powerful search and grid capabilities allow any user to interact with the data in an intuitive yet powerful manner.

Feb 2018 and earlier ▾					
		Last Update < 01/03/2018		Add filter	
▼ Last Update	Status	In Status	In Msg Create Date	Ext	
i7171 28/02/2018 06:30	ACCEPTED	COMPLETE	28/02/2018 06:30	1316	
i7163 27/02/2018 16:44	ACCEPTED				
i7162 27/02/2018 19:55	ACCEPTED				
i7158 28/02/2018 06:46	ACCEPTED	COMPLETE	28/02/2018 06:46	1316	
i7150 28/02/2018 14:34	ACCEPTED	COMPLETE	28/02/2018 14:34	6365	
i7144 28/02/2018 04:57	RESOLVED	COMPLETE	28/02/2018 04:57	6365	
i7142 27/02/2018 18:58	ACCEPTED	COMPLETE	27/02/2018 18:58	3655	
i7140 27/02/2018 19:35	ACCEPTED	COMPLETE	27/02/2018 19:35	058c	
i7138 28/02/2018 16:13	ACCEPTED				
i7137 27/02/2018 20:35	ACCEPTED	COMPLETE	27/02/2018 20:35	3095	
i7134 27/02/2018 21:29	ACCEPTED	COMPLETE	27/02/2018 21:29	6553	
i7132 27/02/2018 19:24	ACCEPTED	COMPLETE	27/02/2018 19:24	7867	
i7131 27/02/2018 17:54	ACCEPTED	COMPLETE	27/02/2018 17:54	6365	
i7129 28/02/2018 04:09	ACCEPTED	COMPLETE	28/02/2018 04:09	d109	
i7117 28/02/2018 13:01	ACCEPTED	COMPLETE	28/02/2018 13:01	6554	
i7116 28/02/2018 18:20	ACCEPTED	UNPROCESSABLE	28/02/2018 18:13	6365	
i7115 27/02/2018 22:42	ACCEPTED	UNPROCESSABLE	27/02/2018 22:35	6365	
i7112 27/02/2018 14:10	ACCEPTED				

Advanced search

Status in ACCEPTED, VALID

ID > 1264197

Last Update >

ID

Last Update

Status

1264198

22/05/2018 11:15

ACCEPTED

1264199

22/05/2018 11:30

ACCEPTED

1264200

22/05/2018 11:30

ACCEPTED

1264201

22/05/2018 11:15

ACCEPTED

1264202

22/05/2018 22:20

ACCEPTED

1264203

22/05/2018 11:37

ACCEPTED

1264204

22/05/2018 11:23

ACCEPTED

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General - Coloured* - 0 rows selected

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May 2018

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Go to today

Done

Data Integration

OCTANE builds upon these powerful data integration capabilities by providing a way to quickly and easily build data repositories, reporting systems and task productivity systems of any nature. This includes customisations of the formats and delivery of your outputs to minimise the time spent in analysis and execution in a collaborative platform.



Built for Everybody – ORQA is built to allow non-technical users to get started quickly with easy recording tools and organising tools to help maintain large libraries tasks easily. At the same time ORQA gives advanced technical users the deep, powerful tools to automate even the most belligerent legacy system.



Data from and to anywhere – ORQA allows you to get data from, and send it to, virtually any endpoint. Windows and Java applications, Excel, PDF, XML, CSV, JSON, databases, APIs, RPC, web services, web pages... anything! Unrivalled performance for reconciliations and data processing – several GBs per minute even for complex tasks



Data transformation – Convert data from any format to any format, and cleanse, anonymise, transform, and validate data with the click of a button. ORQA lets you easily manage large or faulty datasets commonly found in data-intensive projects involving disparate systems. Perfect for onboarding and migration projects.



Portable and built for projects – Tests can be created and read by anyone, shared between users, included as part of a software build cycle or production system, run from server or local desktops. Git and SVN integration for team collaboration.



Automation of All Things – ORQA's ease of use and rich palette of tools means that RPA, RDA and test automation processes reach a new level of automation. Automate desktop and web applications, data sources, APIs & server side processes together. Complex tasks and automation plans can be assembled and run over large robot workforces using the ORQA Server solution.

Tools both built into the web platform and available for the customisation of endpoints permit the extraction and transformation for easy management of data across formats.

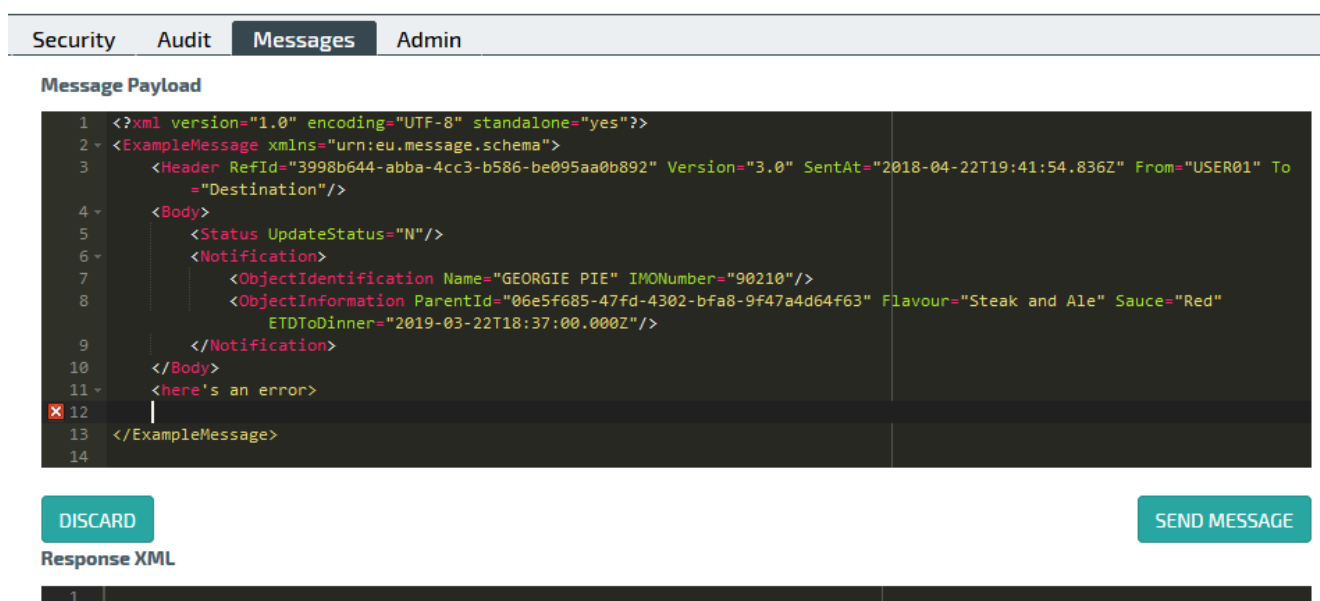


Figure 4 - Example of in-application inspection and analysis of XML messages

Reconciliations can be done using templates, allowing non-technical users to build reconciliations in seconds, and features such as mismatch tolerances, format constraints and file header and delimiting formats means that reconciliations can be personalised to suit even the most stringent requirements.

Artificial Intelligence and Machine Learning Capable

OCTANE has ready-made integration for AI models and ML frameworks irrespective of whether they are open-source/in-house or using service APIs. We can offer consultancy services to help integrate workloads into an AI-ready form and can assist technology selection choices.

OCTANE and ORQA can leverage AI models, whether locally-run or integrated via API with major vendors such as OpenAI, Anthropic, Meta and Perplexity to build AI-powered applications for any purpose using our enterprise-grade application wrapper to provide a modern, AI-capable bespoke business process system.

Extracts and Reports

As well as native Business Intelligence capabilities and the ability to export dashboards and analytics, table-based queries and results are available natively.

Searches and reports can be shared amongst users and groups, and reports can be reviewed, edited and tracked throughout the system. Real-time updates from a single-source-of-truth and a powerful task and alert workflow means that data quality issues can be immediately addressed.

Example Extract Configuration

SETTINGS

Table

Tasks

Filter

In Progress

Layout

Incomplete

⚙️

Configure layouts and filters

☒ **Distribute**
Email the extract to the nominated recipients, with configurable format and attachment options

Email(s)

testuser@ibboost.com

Separate multiple emails by comma.

Limit

300

rows

Leave blank for no limit

☒ **Attach**

Excel

⌵

☐ Zipped file

Attach the extract to the email using the specified format, and optionally zipped

☐ **Inline**
Embed the extract into the email in csv format

☐ Skip distribution if empty

☒ **Scheduled**
Execute the configured extract on a schedule

Frequency

Every

⌵

Period

Day

⌵

Start date

24/02/2017 08:00

💾

Save changes

Figure 5 - Configure extracts based on dynamic queries and rich formatting and deliver to users using intuitive configuration

A modern, simplified and interactive approach to reporting and analysis empowers users to access, discover and blend data of all types and sizes. Advanced analytics – from basic reports to predictive modelling – will allow users to analyse and visualise data across multiple dimensions, and reports can be shared and managed with a customised audience.

Distributed Execution and Self-Created 'Bots'

OCTANE allows ORQA robotic automation users to craft their own process automation tasks on their local desktop for testing and process automation and to upload these tasks into the cloud platform, allowing remote execution on the cloud and delivery of any produced outputs as required according to schedules or triggering events.

This permits unparalleled automation and data ingestion capabilities from various sources, such as the ability to scrape websites, automate legacy desktop applications and consume APIs, all managed through a single web application portal.

Compliance and Compatibility

OCTANE allows users to customise access to data of various sensitivity levels and includes a platform that permits connectivity to secure government networks with either our cloud-hosted SaaS or fully-managed hybrid / private cloud installations, regardless of whether they are run on Azure, AWS, or other platforms (subject to appropriate accreditation according to data classification level and user environment).

Intelligent Automation and Artificial Intelligence

OCTANE has Intelligent Automation capabilities by integrating Artificial Intelligence (AI) modules, including Machine Learning (ML) with technical automation features, also known as Cognitive Automation.

This allows OCTANE to provide an unrivalled set of features in deriving information of value from a centralised data hub through limitless ORQA integration points, whilst still maintaining enterprise-grade data security and customised, efficient user interfaces.

User Administration and Application Security

The OCTANE web application is a security solution that's been accredited for use in various public-sector projects for data up to OFFICIAL-SENSITIVE in public cloud installations. The four-tier structure follows a blueprint for segregation of data that satisfies the highest public cloud infrastructure requirements in the UK public sector today.

Intrusion detection, active monitoring, firewalls and web traffic filtering further protects the system and OCTANE offers a web interface utilising the latest web server security and encryption standards, achieving an A+ in the Qualys SSL Labs analysis.

OCTANE regularly goes through independent penetration tests in addition to our own automated security analysis.

Data Control and Security

OCTANE uses strong role-based access control (RBAC) woven throughout the entire framework at a foundational level and uses APIs to further segregate workloads and data permissions. In addition, a strong, permission-based object model can allow clients to further extend the data models to be customised precisely for their particular needs, allowing rich reports and real-time dashboarding.

Several logical organisations can also sit within the same distribution and operate entirely independently, allowing large-scale usage and sharing amongst teams and departments. Standard security principles like 'least-access' and 'deny-by-default' are built-in.

Access to the system can include restrictions across functions (horizontal) and within certain records inside data sets (vertical), limiting the rights and ability for different areas to affect each other.

Built-in sharing functionality permits views and dashboards to be managed and shared amongst users and groups of users in any combination (itself governed by customisable permissions). These are all made available for customisation by the client according to specific requirements.

Modern Technical Platform

OCTANE is based upon best-of-breed open source technologies and we embrace the cutting edge. Our solutions are containerised, operating system agnostic (based on Java), automated using Ansible and use the latest industry best DevOps practices.



One-click deployment automation and rollback



Configuration management



Faster development and test cycles



Centralised log management and analysis



Worry-free production deployments



Application performance monitoring and response



Abstraction from code



Performance optimisation and stress testing



Infrastructure orchestration



Manual or repetitive tasks are almost non-existent

Auditing and the Corporate Record

All data manipulation is indelible and audited. All designated business data objects are versioned and historised and can show exactly what data has changed and what it was at any given time in the past. All changes to data through the application are audited, whether through the user interfaces or APIs.

Case Management

OCTANE presents a flexible model for Case Management use cases, allowing a wide range of uses across industries and sectors, including Law Enforcement. Cases come with some out-of-the-box templates but can be extended without limit to fit your organisational needs.

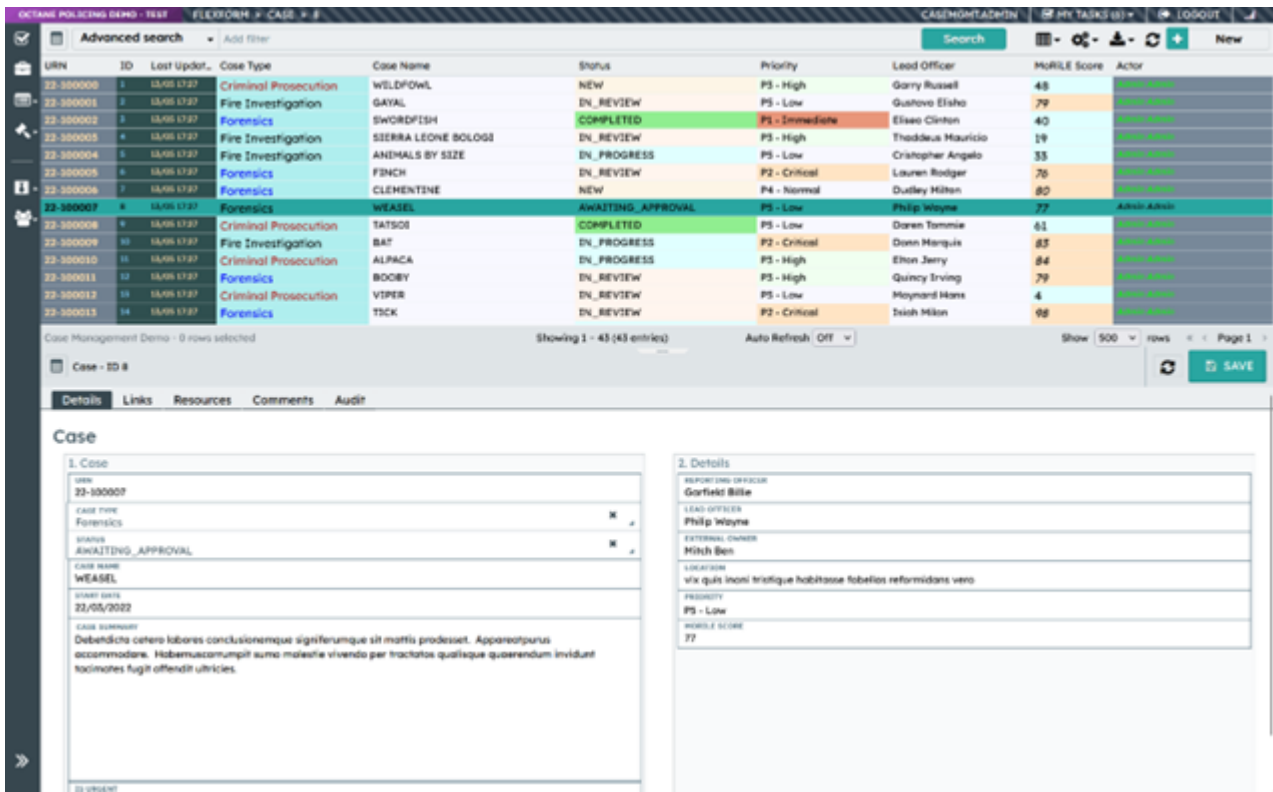


Figure 6 - Case Management modules are available and are quickly customizable for a range of sectors and use-cases

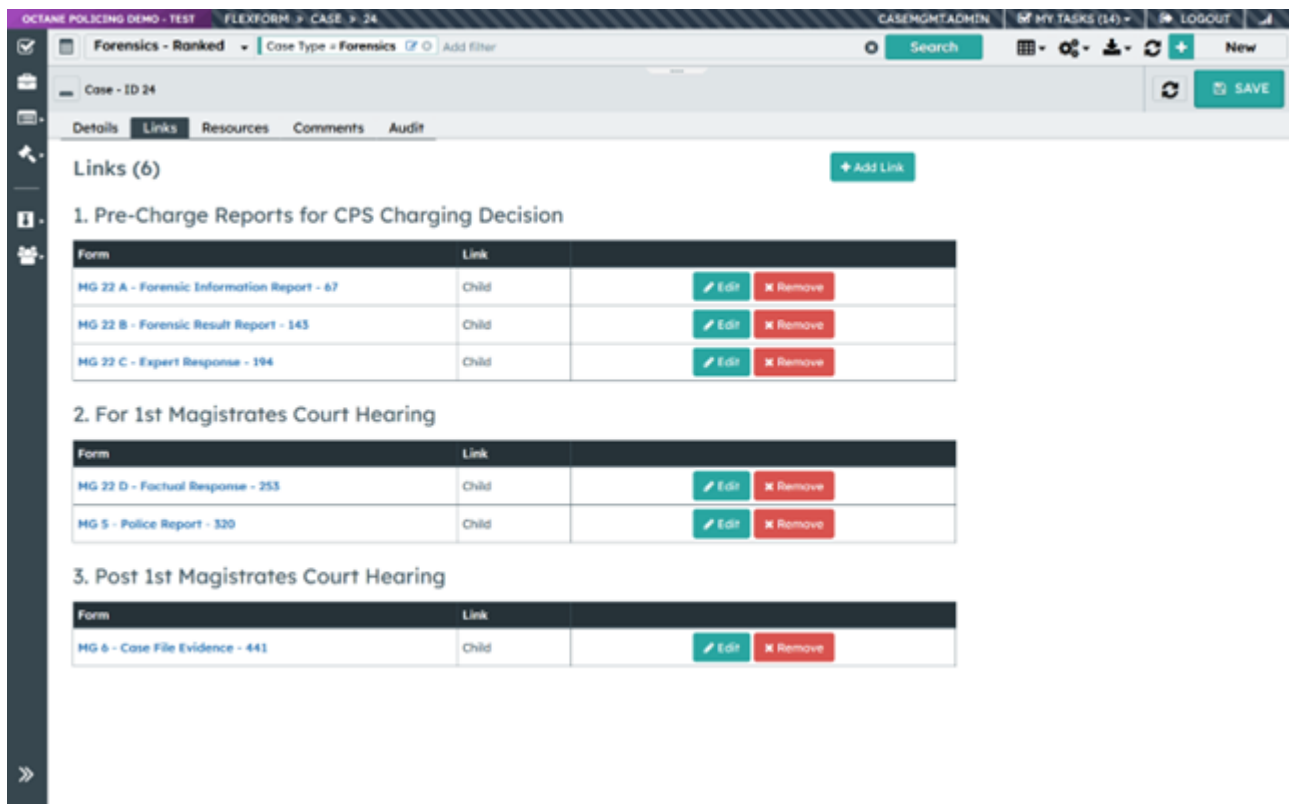


Figure 7 - All Data Structures in OCTANE are linkable allowing customised forms and reports to be organised as best fits your workflow

Document and Evidence Management

OCTANE brings a flexible model of file and document management suitable for ISO19475 certification allowing process requirements such as the evidential chain of custody to be recorded and enforced.

Files and documents can be signed, encrypted, have their own workflows, and integrity assured throughout their lifecycle (including for virtual records of physical assets).

Storage can be integrated into the platform, using databases, cloud object storage services (Azure Blob Storage, AWS S3, etc.), or file systems (NFS, Samba, local, etc.) depending on scale, performance requirements and cost parameters. Additionally, external services and links can be integrated without requiring duplication of data, or “soft” references to externally managed files.

Files and documents can have their own custom workflows allowing processes for review and approvals to be enforced. Integrity, security and efficiencies in storage are enforced with ability to generate and manage file signatures, archiving, compression and encryption.

Self-managed keys allow a zero-trust approach to data management, which is particularly important for centralisation of data management across teams and operating in an Software-as-a-Service approach.

Quality Management

OCTANE presents organisations with the ability to integrate Quality Management processes directly into their system of record or reporting layer, allowing tight integration between records and case management tasks with quality assurance practices.

Concepts such as audits, quality standards questionnaires, tracking of risks and findings, and scheduling of reminders and process-mandated tasks allow a holistic grip on data management and business processes to be established.

OCTANE provides a standardised interface and data structure that can be used to implement, monitor and report on quality management or other process standards of any nature, including ISO, BS and legislatively defined standards.

Checklists and document management for evidence, training and certification allow an organisation to manage all related information in a single portal.

Processes such as safety and maintenance inspections can be integrated into your workflows to ensure comprehensive quality management processes.

The screenshot displays the OCTANE Quality Management interface. At the top, there is an 'Advanced search' bar with a 'Search' button and a 'New' button. Below this is a table of audit records with columns: ID, Last Updated, Audit Type, Title, Result, Lead Auditor, Auditee, and Actor. The table contains 10 rows of data, with the first row (ID 495) highlighted in blue. Below the table, there is a summary bar showing 'Showing 1 - 21 (21 entries)' and 'Auto Refresh Off'. To the right of the summary bar, there is a 'Show 500 rows' dropdown and a 'Page 1' indicator. Below the summary bar, there is a 'Details' tab and a 'Links' tab. The 'Details' tab is active, showing a detailed view of the audit for ID 497. The detailed view includes fields for Audit Type (GDPR / DPA 2018), Title (alterum primis propriae fames malorum iaculis aliquam sapien), Status (IN_REVIEW), Result (Unqualified Success), Lead Auditor (Eddy Graig), Auditee (Merle Mango), Start Date (07/04/2022), and End Date (07/05/2022).

ID	Last Updated	Audit Type	Title	Result	Lead Auditor	Auditee	Actor
495	13/05/2022 17:27	Maritime Safety Inspection	iudicabit lacinia detrahit dolor mediocritatem sem mazim venenatis	Failure	Louie Rudolph	Rudolf Vance	Admin Admin
496	13/05/2022 17:27	Maritime Safety Inspection	mutat quod his dicit mea neque ligula suspendisse	Unqualified Success	Cletus Irwin	Brooks Anthony	Admin Admin
497	13/05/2022 17:27	GDPR / DPA 2018	alterum primis propriae fames malorum iaculis aliquam sapien	Unqualified Success	Eddy Graig	Merle Mango	Admin Admin
498	13/05/2022 17:27	Air Safety Inspection	proin mentitum civibus dicunt comprehensam ridens mattis tortor	Qualified Success	Miles Langan	Rickey Dion	Admin Admin
499	13/05/2022 17:27	Maritime Safety Inspection	convenire ponderum quaque malorum mutat massa pharetra ubique	Qualified Success	Dylan Garrett	Kurt Ignacio	Admin Admin
500	13/05/2022 17:27	Air Safety Inspection	invenire verear maecenas solum accusata cum muclius explicari	Qualified Success	Frederick Linwood	Ira Lon	Admin Admin
501	13/05/2022 17:27	Office Safety Inspection	sagittis solet vocibus nullam falli dicunt tation etiam	Qualified Success	Rob Jackson	Joseph Andre	Admin Admin
502	13/05/2022 17:27	Office Safety Inspection	massa nonumes eius vim contentiones posse expetenda inani	Unqualified Success	Damian Prune	Preston Rodrigo	Admin Admin
503	13/05/2022 17:27	Maritime Safety Inspection	singulis dicunt postea accommodare ac expetenda tation platea	Failure	Joe Orval	Bryant Raphael	Admin Admin

GMS Demo - 0 rows selected

Showing 1 - 21 (21 entries)

Auto Refresh Off

Show 500 rows

Page 1

Audit - ID 497

Details Links Resources Comments Audit

Audit

1. Audit

AUDIT TYPE	GDPR / DPA 2018	✕
TITLE	alterum primis propriae fames malorum iaculis aliquam sapien	
STATUS	IN_REVIEW	✕
RESULT	Unqualified Success	
LEAD AUDITOR	Eddy Graig	
AUDITEE	Merle Mango	
START DATE	07/04/2022	
END DATE	07/05/2022	

Figure 8 - All Data Structures in OCTANE are linkable allowing customised forms and reports to be organised as best fits your workflow

FEATURES

- SaaS-style deployment for Transport sector multi-agency data sharing
- Advanced analytics and reporting capabilities including real-time dashboards for performance
- Data driven: Extensive data integration capabilities from any source
- Artificial Intelligence (AI) and Machine Learning integrated with standard connectors
- Unlimited range of APIs and external integration with ORQA robots
- Case management workflows for transport sectors (maritime, aviation, etc.)
- Customisable design with forms, reports, APIs, workflows and web UI
- Multi-agency access and partitioning of data with full permission granularity
- APIs for integration with PowerBI, Tableau, Excel, Azure and others
- Established connections and models for CERS, Thetis, SafeSeaNet, EDIFACT, IMO

BENEFITS

- Low-cost and flexible analytics, visualisations, business intelligence and reporting tools
- Fully extensible to utilise custom business domain data and workflows
- Custom workflows, task management and alerts for optimal productivity
- Fully managed SaaS or private service options with customisable SLAs
- Multi-organisation data sharing and coordination with secure and granular permissions
- Integrate and reconcile any data-source even API-less legacy systems
- Produce publication ready documents with analytics and self-service scheduled extracts
- Run hybrid/private network nodes for in-house integrations and use-specific portals
- Secure platform: HMG Security Policy Framework compliant OFFICIAL-SENSITIVE and higher
- Out-of-the-box maritime-specific modules for voyages, vessels, inspections and incident reporting