



Proposal to Serve

The State of Maine – Department of Administrative and Financial Services in
Furtherance of the NASPO ValuePoint Cooperative Purchasing Program

Request for Proposal (RFP) # 202102021 – eProcurement Solutions and Services

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A. GUIDING PRINCIPLES AND REQUIREMENTS

Bidders are required to follow these guiding principles and requirements in responding to the work contained in this RFP and any resultant contract.

1. Key Solution Functionality Elements

The electronic procurement solution must not only address the functionalities and processes described in subsequent sections but also bring specific capabilities that provide the following high-level functions to Participating Entities:

- Single point of entry – a single initiation point for all procurement activity.
- Smart routing – a rules engine that electronically guides users down the appropriate procurement pathway.
- Compliance – a technology solution that has business rules and controls “baked in” (See APSPM).
- Portal – a solution that integrates access, collaboration, community, personalization, resources and information for both buying and supplier users.
- Open marketplace environment – an electronic environment of goods and services that provides a “catalog of catalogs” like shopping experience with access to content in Participating Entity issued contracts, external Cooperative Contracts and external internet retail marketplaces.
- Integration – batch and realtime with existing financial management and other core systems.
- Workflow – a configurable, rule/role-based approval automation.
- Document management – automated solution to create, transact and store documents.
- Reporting, dashboards and data visualization – a solution to provide detailed reports and interactive visual analytics.
- Configurable – to address the specific and varying needs/uses of organizations within a Participating Entity both as an enterprise and individually.
- Transparency – provide public and internal visibility into purchasing activity and outcomes.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a brief description of how the proposed solution addresses each of the high-level functions listed above.

The Ivalua solution supports the capabilities broken down below:

Single Point of Entry

Ivalua’s fully integrated system has a single landing page when a user logs in. At this point user/profile-specific content is displayed. The same look and feel exists throughout the system, and the user can search and access all objects (e.g., items, orders, invoices, contracts, suppliers) from a single place within the system wherever they go. As such, the user never has to login and logout to go from one module to another, and all the data stays within the complete ecosystem, which also makes reporting comprehensive and simple.

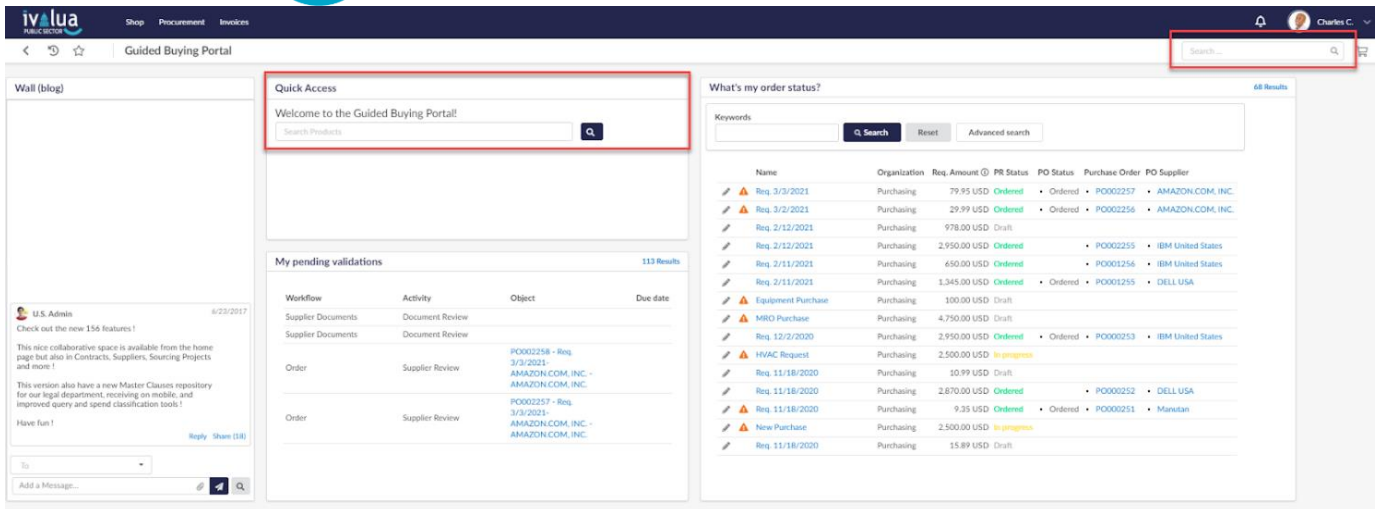


FIGURE 1 – SINGLE POINT OF ENTRY AND UNIVERSAL SEARCH

Smart Routing

Workflow routing is attached to any object in the system (supplier, purchase requisition, purchase order, receipt, invoice...) and is tailored to meet each organization's needs. Different workflows can also be triggered based on object type (ex. contract type), organization/agency, or commodity. Workflows will automatically route based upon criteria such as: organization, business unit, country, dollar threshold, procurement category, supplier, or any additional custom fields. During implementation, we work with each organization to determine the workflow routing based on business rules for each object. Our smart routing capability allows all required approvals to take place within the system, but without having users having to 'touch' objects that do not require their attention, making the approvals dynamic and saving procurement professionals' time.

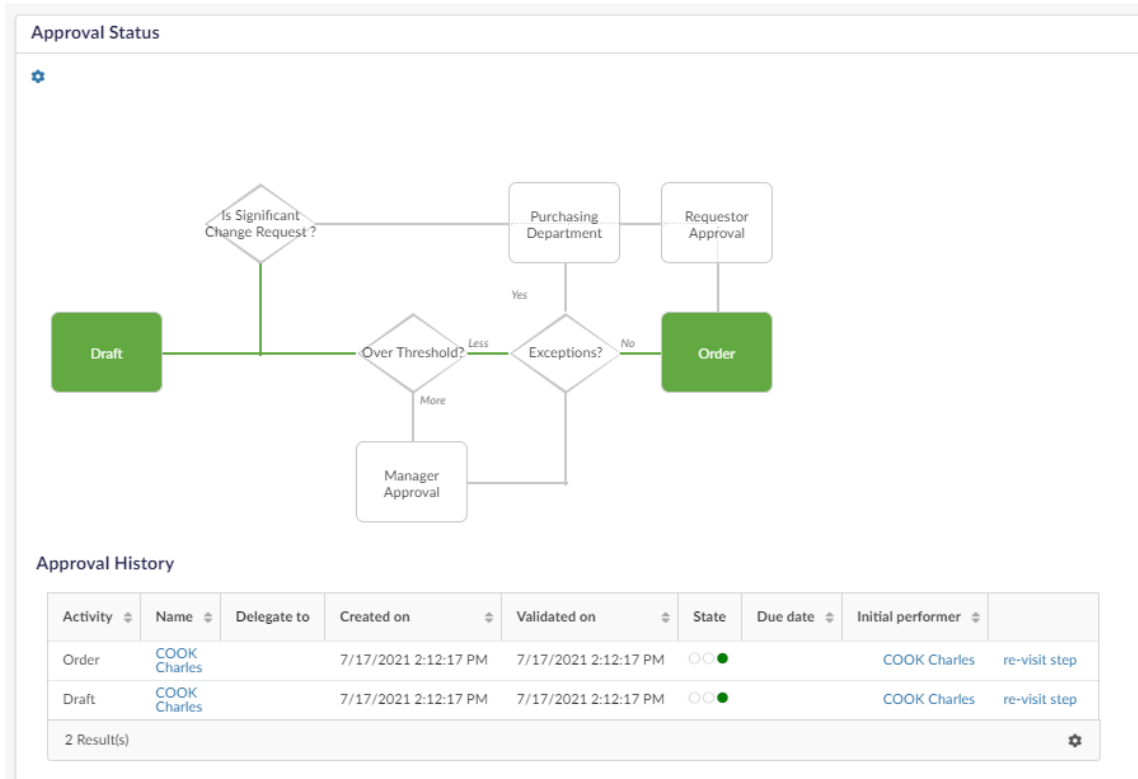


FIGURE 2 – SAMPLE WORKFLOW

Compliance

Ivalua has extensive experience in delivering procurement solutions for State & Local organizations. As we work with our customers, we have continued to build in public sector best practices throughout the solution. Some of these features include:

- Native public transparency portal
- Renaming throughout the solution to align to public procurement terminology
- M/WBE Management
- Sealed Bidding
- Subcontractor Reporting
- Cooperative Reporting

In addition, Ivalua understands that each organization has their own procurement code they must follow. Ivalua offers unprecedented flexibility to tailor the solution to meet the needs of individual public organizations. Ivalua has a robust configuration layer that allows organizations to add new fields, tailor business rules, add alerts, and manage workflow for your organization. These changes are easy to make, and do not require complex coding to do so. This allows Ivalua to have the flexibility to meet your needs today, as well as provide the ability to grow with you, as your procurement rules change over time.

Portal

Through the Ivalua portal, all users, both internal and external will have the ability to access their account through a consistent process. Once they enter the portal, they will have one place to manage all their activity and actions throughout the procurement lifecycle. Through configurable homepage dashboards, users will be able to quickly see and take action on pending tasks. They will also have the ability to personalize this page to meet their needs.

Throughout the solution, customers can embed documents and reference guides to help users along in their procurement journey. Ivalua also offers collaboration tools such as internal blogs, discussion forums, and comments through the process to capture notes or questions throughout each activity. For more detail, please see the supplier and buyer portal sections.

Open Marketplace Environment

The Ivalua buying experience is a modern digital and ecommerce experience that is driven by search and content. We want users to search just like they would on google for what they need, find it no matter if it is from an internal catalog or an external supplier catalog, they will be able to see the results of the search, compare items and checkout. Within 3 clicks, a user can order items they need. To support efficiency and simplicity, organizational, account allocation, delivery address and budgeting rules tied to the user profile and spend category can be pre-saved in the application as part of the user's profile. The shopping experience can easily be personalized based on the user and the items they can/should buy. Ivalua accommodates hosted catalogs (catalogs managed by the organization), punchout catalogs (catalogs managed by retail sites), as well as users can create off catalog requests if they cannot find what they are looking for. Ivalua's powerful search 360 functionality can also be enabled, which allows users to search hosted and punchout catalogs side by side directly within Ivalua, allowing an even further streamlined process of shopping.

Integration

Ivalua includes a robust integration toolbox capable of connecting with multiple ERP solutions, third-party data providers, suppliers' systems and so on. Likewise, Ivalua supports multiple format options (cXML, XML, SAP Idocs, XLS(x), DOC(x), CSV, AS2, etc.) and in multiple protocols (manual load, batch load, EDI, SFTP, HTTP, etc.). Our integrations toolkit and library connects to over 60+ ERPs and includes hundreds of data mapping formats and standard integration templates. Encompassing the entire source-to-pay process, our integrations allow you to load or deliver data from Ivalua, in real time or on schedule. Objects range from sourcing events and vendor master, P2P



ordering and invoicing, and contract management. Key to our integrations module is the flexibility to connect to any data source, including company homegrown systems.

Workflow

Ivalua's workflow is one of our crown jewels; a major factor in the decision of our clients to select Ivalua, and a big reason for our average 98% retention rate.

All Ivalua solution areas can feature Ivalua's workflow capability that enables collaboration with both internal and external stakeholders (if desired). Ivalua's workflow allows for easy work queue / process management and rule-based assignments. Workflows come out-of-the-box with structures that lend themselves to the best practices most clients will adhere to. Client administrators are given latitude within the tool to adjust approval thresholds and approval assignments without needing to configure. Furthermore, they can administer workflows to redirect mis-assigned flows or re-start certain processes.

To manage process complexity, the tool allows for workflow configuration at an unprecedented level, with over 50 different controls per workflow step including even the specific notification methods and addressees and "callback" support that can be used to invoke scripted actions like integration web services calls or cross-workflow signaling.

There are no limitations to the steps that can be added, nor is management of parallel workflows an issue.

Document Management

Our core platform is an integrated foundation that supports suite-wide functionality based on a common data model and a unified code base across all source-to-pay solutions. Every functionality and business process built on our platform has consistent access to every data element, workflow element, supplier record, document management, UI functionality, and automation component. Our platform foundation allows us to add new capabilities easily without compromising the integrity of existing customer solutions and processes. The user experience is consistent across all solution areas and due to the single data model, a single reporting and analytics capability spans across all solutions.

Reporting

Reporting and analytics is a powerful capability in Ivalua. We have an analytics layer across all our solution areas (source-to-pay) with numerous out of the box reports and dashboards as well as easy capabilities for users to create their own reports / dashboards. Reports can be generated on demand and data refreshes and availability are defined by the client to satisfy business needs and priorities.

Users can create any report they require based on any underlying combinations of data, and display this information using drill-down graphics and workbenches. This capability is highly pragmatic for procurement organizations that want to improve their overall efficiency by enabling teams and individuals to spend time driving savings, compliance, and other programs — not creating analyses and reports daily.

Ivalua offers a variety of graphic reports, including robust chart types (bar, line, pie, bubble, etc.) and detailed pivot charts to provide different types of users with the data and insights they require. For example, executives and managers can see high level dashboards with the ability to drill down to more specific data where and when needed. Category managers can slice and dice category-specific data in multiple ways that are specific to their job functions. End users can filter their views to easily show spend data related to their business unit, and/or location, for example. All users can save their personal reports within their own dashboard as well as share with others, as necessary.

Configurable

Ivalua's SaaS offering is the most configurable hosted solution on the market as extensively reported by industry analysts. Coding is not required to make changes to tailor the solution to meet the needs of each client. This includes:

- Creating new fields
- Changing field names
- Adding tooltips, watermarks, or regex

- Conditional logic on fields (ex. If answer yes to a question, the next question appears)
- Enforcing mandatory fields
- Tailoring workflows to meet each organizations needs
- Notifications templates
- Contract templates
- Standard documents

Transparency

The public portal solution allows for transparency through the source to pay process. The public portal allows for suppliers or concerned parties without an account to view all aspects of the procurement process within the solution. This creates a seamless transition between source to pay activities and public access to comply with transparency requirements.

Throughout the solution, authorized users will have oversight to all procurement activity throughout the solution as well as access to the audit trail to track user activity. This gives users a view of where all the spend is going throughout the organization.

2. User Experience

The Solution must provide a user experience that is simple, direct and effective. Characteristics of this experience at a minimum must include, but not be limited to:

- Capability that allows user personalization of their initial screen based on their needs or use of the Solution.
- Intuitive navigation that guides users to the appropriate Solution component with as few clicks as possible.
- Wizard-driven capabilities that can direct the user to the appropriate process or functionality of the Solution.
- Portal that informs users and supports user work management.
- Functionality optimized for mobile access and use.
- Workload management functionality that will allow the re-assignment of work to another user. This includes, at a minimum, purchase requests, solicitations and contracts.
- Role-based functionality for drafting, review and approval, evaluator and other processes.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a brief description of how the proposed solution addresses the user experience characteristics listed above.

The Ivalua solution is built upon human-centered design practices to provide an engaging and improved user experience through a variety of services and features. Ivalua has a consistent user interface throughout the solution, allowing all users to have a streamlined experience no matter what parts of the application they are working in.

As soon as a user logs in, they will be routed to their homepage. Homepages are unique per profile, but also can be configured by the individual user. Homepages are designed to give a user an answer to the question ‘what do I need to do today?’ and includes quick links and shortcuts to frequently used objects. Ivalua’s robust search capability is accessed directly from the home screen for users to be able to start searching the catalog, or to create new requests.

Users will be able to access their pending workflow tasks directly from their home screen for direct action to the object.

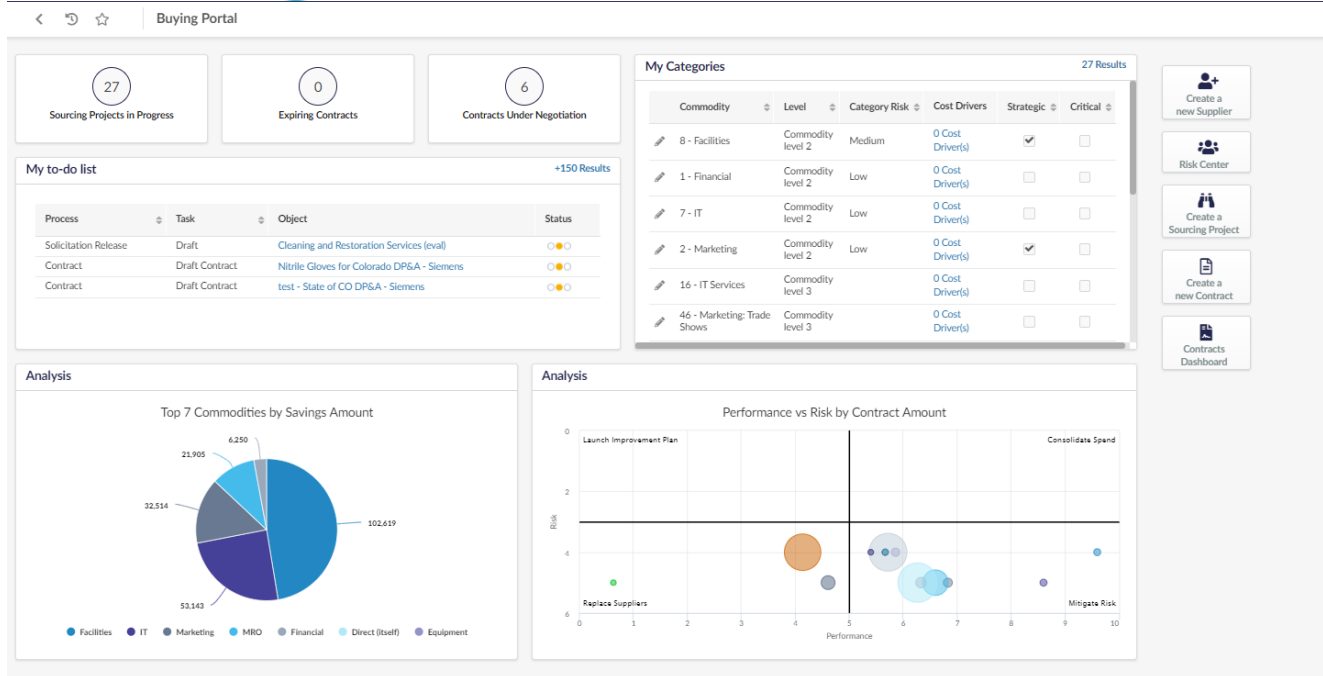


FIGURE 3 – SAMPLE HOMEPAGE

Throughout the solution, roles will guide the user's experience. Each user is given one or multiple roles in the system which is tied to a series of authorizations. These authorizations will dictate what the users can see and do within the solution. This includes the ability to view and/or edit objects, determines workflow steps, and tailors personalization throughout the solution.

When workflow tasks are assigned to users, they will be able to access all their pending workflow tasks directly from their home screen, as shown above. They can then follow the link directly to the object to approve, reject, or forward to another user. Users can also mass reassign their workflow tasks to other users using the delegate function.

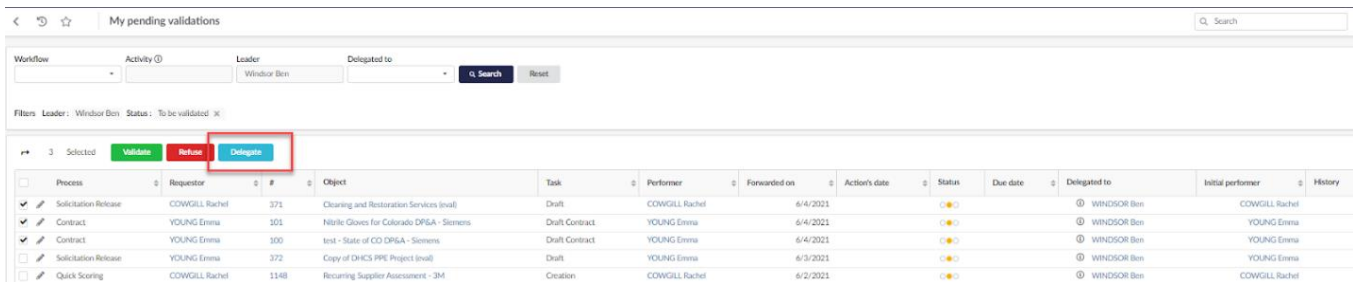


FIGURE 4 – DELEGATE FUNCTIONALITY

Users or administrators can also set-up out of office forwarding for users. This will delegate all workflow tasks assigned to that user within a defined time period to another user or group of users. This ensures that no transaction is left behind when personnel leave the office.

3. Bidder Best Practices and Roadmap

Participating Entities are seeking a best value opportunity and Bidders should consider best practices and alternatives including the cost benefits of alternative solutions. Proposed solutions must demonstrate creativity, innovation, benefits and the outcomes brought to Participating Entity. For any project initiated by a Participating Entity the Contractor will:

- Incorporate new Solution version releases or new features/tools when they are available.
- Ensure that the Solution is utilizing the latest technologies.
- Ensure that updates happen in a timely manner.

- Present alternative processing approaches, services, methodologies, business processes or any other best practices to the Participating Entity for consideration of adoption that demonstrates a commitment to continuous improvement.
- In addition, the Contractor must constantly assess and recommend opportunities to reduce costs associated with any aspect of the contract, including project implementation and other services. The Participating Entity is not obligated to accept and implement any recommendations.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a brief description of how the proposed solution addresses each of the bullet items above. Additionally, Bidders must include the current 3-year product roadmap and describe in detail how it demonstrates continuous improvement for the Participating Entity.

Incorporating New Releases

Major Software Product releases are delivered by the Ivalua R&D division twice a year. Because Ivalua deploys to clients as "Multi-instance SaaS" (as opposed to "multi-tenant" solutions), it is up to the client to decide which major version to choose and when to apply an upgrade to their environments. This gives a lot of flexibility for clients to finely tune the upgrades to not upset other projects (like integrations with ERP systems and their upgrade schedules) or to take care with the change management and opportunities that come with upgraded functionality. Ivalua's recommendation is to upgrade the client application every 18 months and at minimum every 24 months to have the best maintenance on the product.

We also have a concept of "Activable Features" which enables customers to take advantage of new innovations in their version without needing to upgrade (note: this only applies to a select set of capabilities).

Ensuring the Solution is Utilizing the Latest Technologies

Ivalua has grown tremendously over the last few years, we have done so by always keeping up-to-speed on market/technology trends, industry knowledge and overall innovation. We accomplish this in many ways. We are in constant communication with customers, partners and thought leaders regarding the challenges and pain points within various industries. We also look to our customers and various industry bodies to understand whether there are specific standards that our platform should adhere to for a specific industry, for example, we achieved the security status of being FedRAMP Ready due to our work in the US Public Sector. We also leverage advanced technologies such as machine learning, natural language processing (NLP) and more. We are also members of various industry and procurement or supply chain associations, which again contributes to our knowledge. Overall, we leverage this knowledge to help build solutions that will generate further value for our customers.

Ensuring Updates are Timely

Due to our architecture, which allows for a higher level of flexibility and configurability to meet unique needs, customers are in control of their own timing around upgrades. Once a customer decides to schedule an upgrade, together with a dedicated upgrade support team, the customer success manager, and our R&D team, we work to ensure that upgrades happen in the timeframe laid out.

Alternative Processing Approaches and Best Practices

Ivalua is extremely dedicated to Public Sector procurement and being a leading provider and partner to public sector organizations looking to transform and digitize their procurement activities. As such, we have built up significant in-house knowledge on best practices within the public sector, much of which comes directly from working closely with many state and local procurement agencies. A number of these best practices, business processes have been built into our Public Sector tailored solution. This continues to evolve with every release, adding new enhancements and innovations, many of which come from our public sector customers. During the implementation phase, Ivalua together with our partner community will always be there to guide customers towards better, more effective solutions, processes, and approaches, based on our experience. These will then be built into the design of the

solution. Upon go-live, customers themselves have a high degree of ownership over the solution, to be able to make changes and evolve as needed, without having to rely on us or our partners.

Product Roadmap

Ivalua's vision is to empower leaders to transform their organizations and the world by better orchestrating their spend and suppliers, as well as ensure they maintain transparent, compliant, and auditable processes to meet public sector procurement requirements. Our strategy is to be the core platform within an organization that connects Procurement and stakeholders to its suppliers and enables all the processes, analytics, and insights to effectively execute efficient and compliant spend management strategies. The depth and breadth of our unified source-to-pay platform continues to grow and evolve to meet the needs of organizations and we continue to be dedicated and focused on our investments to achieve this vision for our broad solution set and our industry specific solution sets.

Our Public Sector customer base is strong and growing, as such we continue to invest heavily in developing specific capabilities to meet Public Sector Procurement needs. We have a dedicated Public Sector team that interfaces with R&D to ensure necessary and innovative Public Sector requirements and functionality are prominently featured on the roadmap. Approximately 60% of the roadmap items come from our customers and this information is gathered through customer interaction and industry user groups where customers can share their feedback in an environment dedicated to their sector. There is certainly innovation within these allocations, however, there is an additional 20% that R&D reserves for pure Ivalua innovation and another 20% to cater to market trends and requirements.

At a high-level, some key areas of investment are focused on the following areas:

- **Enhancements in our mobile experience:** we introduced Progressive Web Apps (which work just like an app) in our latest version, providing the ability to workflow actions and get notifications / alerts and more capabilities. We will continue to invest over the next year to improve and enhance this around contracts, invoicing, supplier mobile capabilities.
- **Invoicing and payments:** this is another significant area of investment over the next two years. Enabling the ability to execute payments within Ivalua is an entirely new area of focus.
- **Enterprise-wide AI powered Contract Lifecycle Management (CLM):** another big focus is to ensure we are providing a best-in-class CLM experience for all types of contract, leveraging AI capabilities to bring a more guided, collaborative, and intelligent experience across the contract lifecycle.
- **Supplier Risk & Performance:** we introduced new products and features around supplier risk and performance and will be investing more to add new features to enhance these capabilities.
- **Highest Level of Security:** Ivalua has invested significant resources in maintaining the highest level of security for its solution and is currently FedRAMP ready, and we continue to evaluate additional threats and standards (like StateRAMP) to ensure we are pursuing the appropriate certifications to ensure our customer they are getting the right and most secure solution.

In 2021 and 2022, our roadmap at the highest level is focused on building a smarter, simpler and a more seamless platform. We will also maintain our focus on a best-in-class user experience, continue to offer unparalleled supplier collaboration capabilities and ensure intuitive yet deep capabilities to manage all spend categories, allowing customers to have one core platform for all things related to their suppliers.

- **Smarter:** We have and will continue to invest in various AI technologies into our platform including Machine Learning, Deep Learning, Natural Language Processing (NLP)/ Natural Language Understanding (NLU), stochastic analysis, and optimization. We will continue to enhance our solutions leveraging these technologies to improve the experience, drive more actionable insights for our customers, smarter data cleansing and deduplication, more user guidance, extraction of key data from contracts, AI powered classification and more. We will also be making enhancements relative to Invoicing and Payments to facilitate hold-back requirements that are routinely part of public contracts. Automating this process will increase accuracy, improve auditability, and reduce manual effort. This will also automate the release of the hold back improving supplier payments and cash-flow.

- **Simpler:** We will continue investing in a best-in-class user experience across our solution areas and ensure accessibility for all users. This also applies to the simplicity of finding information, accessing relevant insights, notifications for action, executing complex sourcing optimization scenarios in a simple way, mobile experience enhancements and more. We have already established ourselves as a leader in direct spend management and continue to invest in areas such as inventory visibility & collaboration, quality management, subcontractor management, etc. Further, we will extend our CLM capabilities to address Framework Agreements, enhanced clause libraries / engines and enterprise-wide contracts powered by AI with collaborative authoring and automated obligation tracking and management.
- **More seamless:** We continue to invest in building an ecosystem of value adding technology partners, be it risk and compliance data providers or government portals / databases, but we will focus on enabling seamless connectivity to this ecosystem. Also, making reporting and analytics transparent, directly actionable and improving we will enhance collaboration/communication both internally and externally, with a particular focus on enhancing our supplier diversity reporting capability. Lastly, we intend to enable our customers to address the payment portion of Source to Pay (S2P) to make the experience and visibility around payments more seamless for buyers and suppliers.

4. Innovations and Value-Added Features/Services

In addition to the stated requirements, the State seeks creative innovations, value-added features and value-added services not contemplated in the RFP.

Response requirement: OPTIONAL

- RTM: N/A
- Inline Narrative: If responding to this section, Bidders must provide a detailed description of any additional proposed innovations and value-added features/services as well as the benefits and outcomes Participating Entities and Suppliers would realize. Bidders must be prepared to demonstrate these benefits and outcomes. Bidders must indicate if any of the innovations or value-added services are at an additional cost and identify those in the cost workbook (reference "Innov, Value-Adds, Addl Svc" Tab).

These are all possible areas of innovation that are not contemplated in the RFP but are available to participating organizations, should they be of interest.

Help Desk

To fully support our customers, Ivalua offers a help desk to allow suppliers or internal users to get on-demand help from Ivalua if they run into difficulties using the system. This is a level 1 help desk, so will be the users first interaction when they need help, as opposed to a State/organization managed help desk. This service enables:

- Phone and email technical support level 1 for suppliers and/or end users for all modules
- One dedicated phone number and email address to streamline requests
- Ivalua's ticketing system ('extranet') for tracking and submitting requests
- 90% of tickets solved in 1 hour
- Ticket level 2 redirection to the client administrator depending on client procedure (e.g., data update, account creation, profile change)

The flow of tickets received by the help desk is below:

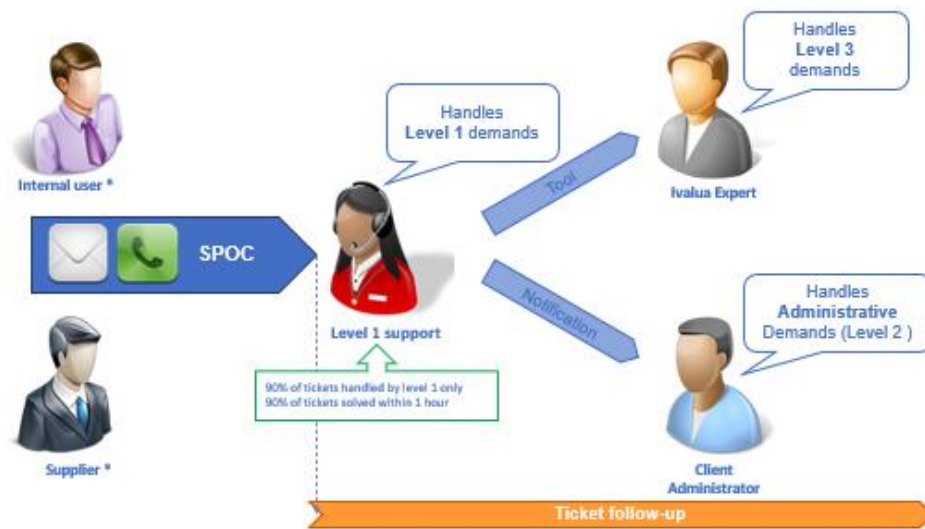


FIGURE 5 – HELP DESK FLOW

Advanced Services Procurement

Leverage all types of external labor with an efficient engagement and follow-up channel. Get visibility into the delivery and progress of services purchases and avoid unnecessary costs.

- Increase talent reach: Easily leverage all talent channels (contingent labor agencies, freelancers, consultancies, Managed Service Providers (MSPs)), accelerate selection process and ensure a perfect match between talent and need.
- Achieve end-to-end process excellence: Speed up talent on/offboarding, ensure compliance with policies and legislation (rate cards, master agreements) and secure the re-engagement process.
- Ensure quality service: Get full visibility of service quality with deep granularity (from supplier and project levels to the individual contributor level), assess against milestones, deliverables, KPIs, and whether working on a SOW or a time and material basis.
- Stay on-budget: Monitor cost and project cadence in real-time through consumption alerts, timesheet, and milestone approvals.

Ivalua Advanced Services Procurement includes the following features for contingent labor:

- Service profile RFx types
- Configurable profile seniority
- Configurable working duration (hours per day, days per week, extra time)
- Work assignment
- Time and Material purchase request
- Timesheet receiving (in hours, days, percentage)

Expenses

Today's workers are mobile and may not have an office location. Expenses can be submitted from anywhere. To this end, our Expense Stream handles the flow of claims and their images into the Payables team. With duplication and tax checks making light work of every claim, touchless expenses are possible. Ivalua's mobile-friendly interface makes expense submission quick and easy, regardless of the work location. Expenses is a way to capture p-card reconciliation if required by the customer before PCard transactions can be captured in the system.

Expenses in Ivalua enables:

- Embed expense management into the AP journey
- Automate the flow of expense reports into Accounts Payable
- Ensure policy compliance at submission time
- Link expenses to corporate p-card transactions

Vendor Master Management

Ivalua's vendor master management allows customers with complex ERP or supplier environments to better manage their supplier data. With Ivalua's Vendor Master Data Management (VMM), customers can have a "single source of truth" to capture, cleanse and maintain clean and accurate supplier master data across their business and improve the effectiveness of various processes. This includes feeding this clean data to ERP(s) systems throughout the business to minimize the costs associated with fraud, rework, and overall cost of poor quality. Our VMM solution can integrate with various ERPs to consume, aggregate and cleanse data using smart deduplication and merge capabilities before redeploying the pristine and accurate data back to those systems. With a powerful and configurable workflow engine, VMM establishes a controlled change request process to ensure continuous data accuracy and provides a detailed and robust audit trail to support compliance activities.

Ivalua Vendor Master Management enables:

- Supplier repository to act as the source of truth for all supplier master data
- Adoption of ERP specific source schema tables to support bidirectional master data integration
- Use of a supplier cleansing workbench for merging and deduplicating records from multiple source systems

5. Customizations/Extensions

Proposed electronic procurement solutions are expected to be out of the box, configurable solutions. However, it is understood that for any project initiated by a Participating Entity some of the expected innovations and functional requirements may necessitate customizations/extensions to an existing solution. Any such customizations/extensions provided must become part of the Bidder's base electronic procurement product(s), upgraded in all future versions, available to all other Participating Entities and adhere to the following:

- Bidders must advise the Participating Entity of any out of the box or configured functionality that could be used in lieu of customizations/extensions to meet requirements and identify any necessary changes to requirements, processes, policies and, if applicable, revised Participating Entity legal code.
- Customizations/extensions must not introduce a performance issue, bottleneck or processing delay in the implemented electronic procurement solution.
- Customizations/extensions must not invalidate, negate or minimize any warranty or maintenance requirement as agreed to between a Participating Entity and their current third-party providers that support the current Participating Entity systems.
- Customizations/extensions must not be constructed in such a manner as to confound, add complexity to, or introduce technical burdens that would impact the maintenance, upgrade or new releases of the electronic procurement Solution.
- Bidders must advise the Participating Entity of any organizational change management (OCM) impacts that will result from proposed customizations/extensions.
- While the State expects customizations/extensions to be completed during the project implementation period, release of any customizations/extensions that extend beyond the implementation period must be identified on the Bidder's product roadmap submitted with the proposal.

Response requirement:

- RTM: N/A

- Inline Narrative: Bidders must provide a brief description of how the proposed solution addresses the bullets above in regard to customizations/extensions that may be created in the execution of a project for a Participating Entity.

The Ivalua SaaS platform relies on configuration, not custom code, as the means for clients to modify and maintain a solution that meets their needs. As a result, the enhancements are not custom code but instead configuration & data and that configuration & data is carried forward with your instance as the Ivalua solution is updated. Ivalua does not make coding customizations specific to individual clients; all coding changes on the Ivalua platform are part of their release cycle and are by definition part of the baseline product. To ensure smooth product upgrades (and for incident research), Ivalua maintains a copy of the organization's Ivalua instance. This extra environment helps ensure higher quality and better incident research capabilities. All Ivalua upgrades are first applied to that solution, then will be tested, and released, and are subject to the entire cycle of testing, approvals, and quality assurance that is part of our Software Development Life Cycle (SDLC). Ivalua also allows customers to choose when they go through an upgrade cycle. This allows our customers to upgrade when they need functionality, but also not introduce risk but having upgrades automatically pushed to customers. This flexibility allows customers to stay on their schedule.

6. Alternative Funding Models

Although proposals will be evaluated based on offered price discounts, Bidders are encouraged to recommend alternative funding models that could be available to Participating Entities when they execute an agreement from a Contract resulting from this RFP. Recommended funding models must be documented in detail and be independent of all pricing proposed in the cost workbook. These funding models should reflect any ongoing funding and investment requirements necessary for all project implementation and other services costs. The recommended alternative funding models must:

- Be described in detail to fully;
- Explain how each model would work;
- Identify the benefits that Participating Entities and their suppliers would realize; and
- Identify any successes experienced by other clients implementing the model. Bidders must be prepared to demonstrate these benefits and successes.

Response requirement: OPTIONAL

- RTM: N/A
- Inline Narrative: If responding to this section, Bidders must provide a detailed description as outline above for each recommended funding model.

Although we are not proposing an alternative funding model at this time Ivalua is open to discussion about alternative funding options with each organization.

7. Contract Transition and Flexibility

Participating Entities are seeking flexibility in the contracting process and the ability to transition their current contracts to this newly established portfolio.

Response requirement:

- Inline Narrative: Please describe your ability to transition from a state's current contract to a new contract or amendment under the terms of a newly awarded Master Agreement and Participating Addendum. For the purpose of this response, assume that the state already has a separately solicited and awarded agreement in place with your firm – and now seeks to move that agreement to fall under the terms of the newly awarded Master Agreement (and Participating Addendum).

Ivalua is certainly willing to enter into good faith discussions with Participating Entities that wish to explore transitioning their current contract under the terms of the newly awarded Master Agreement.

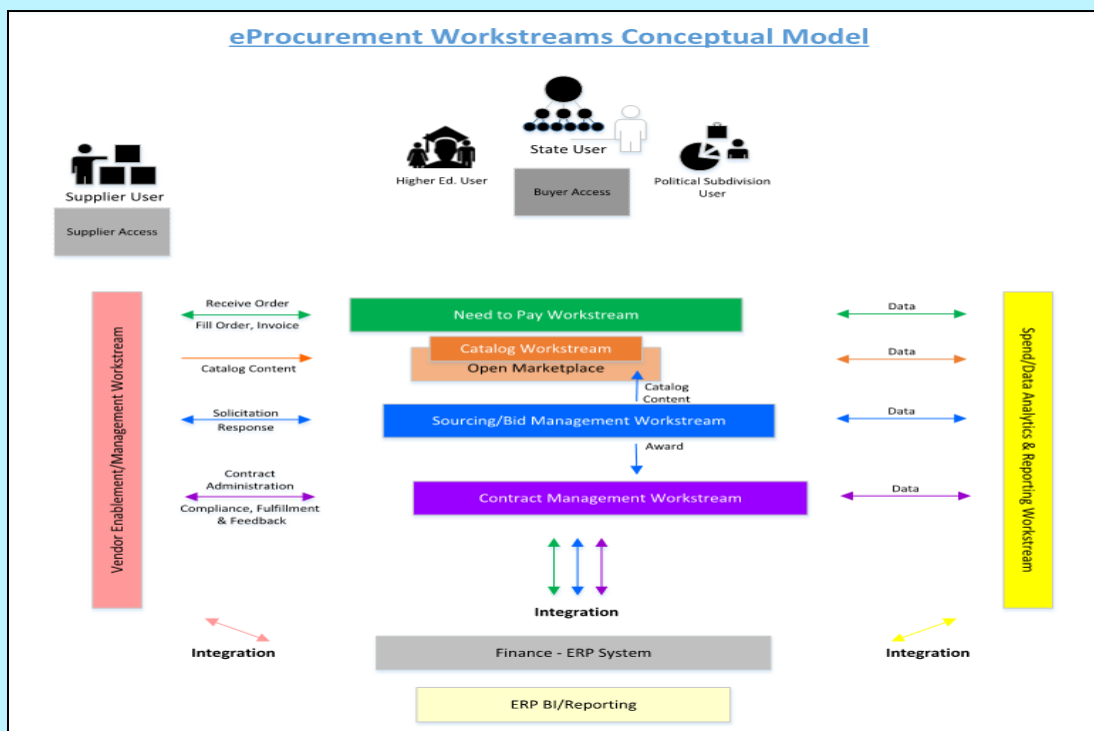
B. FUNCTIONAL REQUIREMENTS

The following functional requirements must be addressed by Bidders and are organized by the electronic procurement workstreams identified below. Each workstream has corresponding detailed requirements identified in the Requirements Traceability Matrix (RTM) document.

Bidders may submit proposals that address one or more workstream however Bidders must respond as directed in each workstream section and provide detailed responses to each individual requirement in the corresponding section of the RTM.

Proposed solutions may rely on third party software components or other partnerships to provide a complete solution. Bidders are encouraged to look for partnerships that will bring an innovative, integrated, and comprehensive Solution to Participating Entities.

The following figure is a conceptual model of the procurement workstreams.



1. General Functionality

The General Functionality section includes requirements that apply to either the entire electronic procurement solution or multiple components of the solution. The electronic procurement solution must be cloud-based with a Software as a Service (SaaS) delivery model.

Response requirement:

- **RTM:** Tab 2, GEN-1 through GEN-40
- **Inline Narrative:** Bidders must provide a detailed narrative response that describes the cloud-based solution/component that will solve the key challenges and meet the objectives and requirements of the general functionality requirements.

Ivalua's single complete unified suite will provide participating organizations with a highly configurable, robust, and comprehensive e-Procurement Solution, purpose built for the public sector. Ivalua is a cloud based, SaaS solution

and offers the most comprehensive, natively built Source-to-Pay suite in the market which includes Public Portal, Supplier Risk & Performance Management, Sourcing, Contract Management and P2P processes, standard integrations and extensive system administration and reporting capabilities. In addition, participating organizations will be able to take advantage of Ivalua's standard platform tools – including configuration, workflow, reporting, integration, and document storage. Ivalua's full solution set is shown below. Through Ivalua's single code base and shared data model, all modules are seamlessly integrated, allowing data to flow throughout each object, as well as for reporting across all areas of the procurement process.

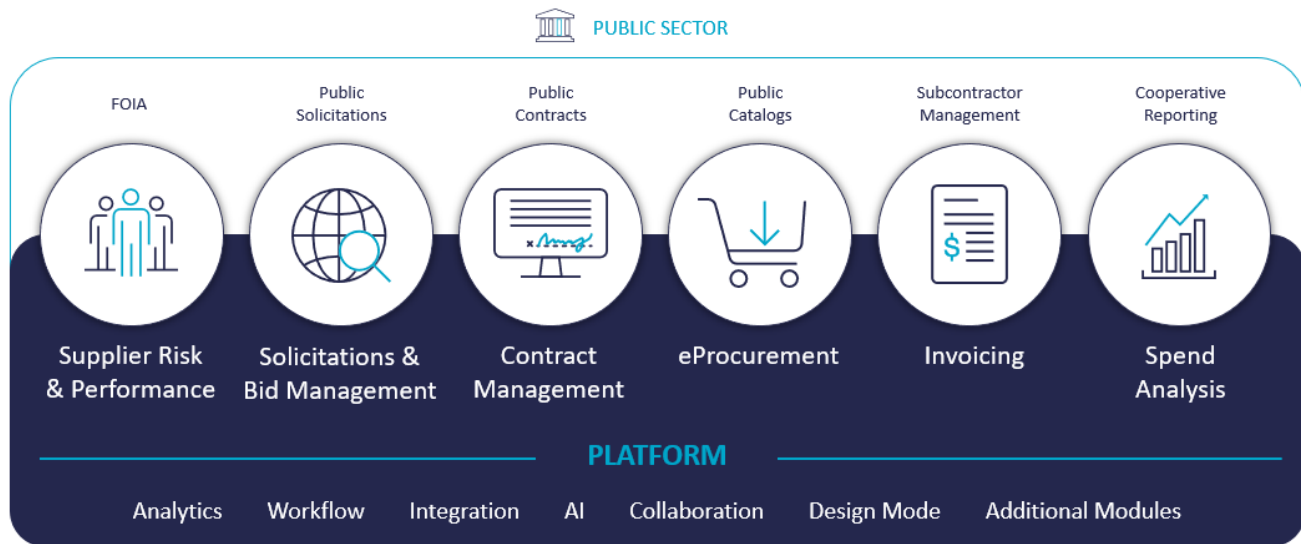


FIGURE 6 – IVALUA PLATFORM AND SOLUTIONS

Ivalua's solution set enable you to rapidly realize their target future state and achieve your procurement objectives including the following benefits:

- Reduced manual processes
- Automated notifications throughout the system
- Built in public portal for transparency and fair competition throughout the solicitation process
- Single platform manages the end-to-end solicitation and purchasing process for the organization, suppliers, and political subdivisions
- Master data throughout the solution for selection of organizations, commodity codes, units of measure, etc.
- Configurable solution to be aligned with procurement code and objectives
- Robust analytics for procurement insights

2. Supplier Portal

The Supplier Portal functionality must provide a single point of entry 'front door' that includes all supplier facing functions for the electronic procurement solution with the ability to also incorporate access to other applications or services such as certifications, invoicing and online interactions with the Participating Entity. The Supplier Portal functionality must deliver valuable content upon logging in and be personalized to the supplier and the supplier user logged into the system.

Response requirement:

- RTM: Tab 3, SPR-1 through SPR-23
- Inline Narrative: Bidders must provide a detailed narrative response that describes overall Solution component that will meet the objectives and requirements of the Supplier Portal.

Ivalua offers a free supplier portal where suppliers may perform self-registration and other activities with their customers. Ivalua supplier registration & information management capabilities allows to quickly and easily onboard suppliers for RFPs, orders and invoices, and push data to ERP or other relevant systems. Suppliers can easily register with basic information such as their tax identification number, email address, and company name to establish an account within the system. Note that in the Ivalua system, there is no charge for suppliers to use the solution, allowing organizations to have unlimited suppliers with unlimited users registered to do business with their organization. The supplier enrollment process is described in the supplier enablement section

Once the supplier has established an account within Ivalua, they will have access to their supplier portal. This provides suppliers with a one stop shop to manage all their activity with the organization from an integrated location. The supplier's homepage will give them the ability to have a quick view into their onboarding process, any workflow notifications assigned to them, and some quick links to frequent activities throughout the portal.

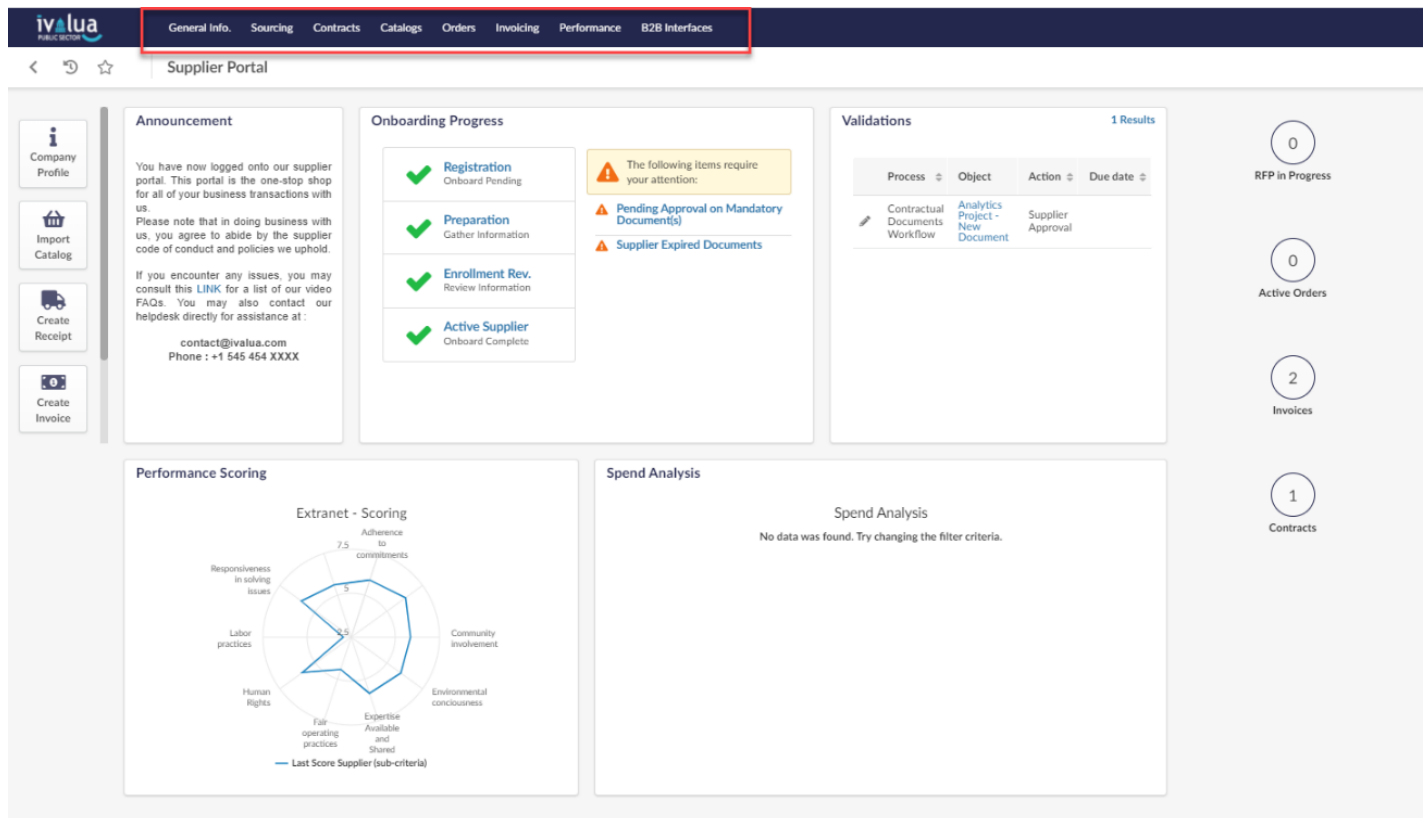


FIGURE 7 – SUPPLIER HOMEPAGE

Through the top navigation bar within the supplier portal the supplier will be able to access everything they will need to do business with the organization including:

- Managing their supplier information and users
- Submitting reports for cooperative contract usage
- Responding to sourcing events
- Managing/redlining contracts
- Uploading catalogs
- Viewing orders
- Creating advanced shipping notices

- Creating invoices
- Viewing their performance
- Collaborating on improvement plans

Supplier users can self-manage what roles their users receive when they set them up in the system. This will dictate what each supplier user can see and do within the system. For example, only a supplier admin can typically manage the supplier's account.

3. Supplier Enablement/Management

The Supplier Enablement/Management component, in conjunction with the Supplier Portal, must support all procurement activities and provide suppliers the ability to establish and maintain an account defining who they are and what they sell along with other key data elements required by the Participating Entity to procure from and pay the supplier. Suppliers will use this account to access all relevant electronic procurement and financial functionalities such as solicitations, solicitation response, order receipts, contract awards, load sales reports, and submit invoices.

This functionality should also provide capabilities to establish and maintain pre-qualified suppliers lists for bidding on specific categories of goods/services.

Integration may be required with the Participating Entity's finance system to establish and maintain Supplier payee records needed for accounts payable (A/P) processing.

Response requirement:

- RTM: Tab 3, VDR-1 through VDR-43
- Inline Narrative: Bidders must provide a detailed narrative response that describes overall Solution components that will meet the objectives and requirements of Supplier Enablement/Management.

Ivalua's supplier management capability allows for a one stop shop for supplier registration, enrollment, as well as ongoing supplier maintenance through performance and risk monitoring and change management. The public facing registration page allows new suppliers to have easy access to onboard via the system and establish an account by entering basic information and passing through automatic checks. Once logged into the supplier portal, users can manage all their activity in a single place, from responding to solicitations to creating invoices. Suppliers can also continually manage and update their profile and associated documents, including automated reminders when a document is nearing expiration. Required fields and alerts will drive new suppliers to include all required information and documentation required to do business with the organization.

Supplier Registration

Supplier activation within Ivalua takes place in two parts. The first is a public facing registration page that allows any new supplier to create an account within the system. The second is the 'full enrollment' process, where the supplier can login and collect additional information required to be fully onboarded with the organization and to do business. The registration page can be found by accessing the public facing homepage of Ivalua. Potential suppliers can access the portal 24 hours a day, 7 days a week, 365 days a year. The Ivalua supplier portal is 100% free for the suppliers, no setup and/ or transaction fees.

Within the registration page, suppliers will be prompted to enter information that is required to vet their account and establish their username and password within the system. Structured inputs such as dropdowns and regex on free text fields help drive the supplier to enter the correct information the first time. Additionally, conditional logic can be utilized to tailor the registration page to specific information required by type – such as US vs. non-US suppliers. At this time, the supplier can register for notifications for solicitations that are released within their scope, based on the commodity code(s) that they register for and/or the areas they serve across the organization. Fields captured through the registration process will be tailored to your needs but provides some of the following information by default:

- IRS official name and 'doing business as' name
- Tax identifier
- Headquarters' address – native integration with google maps for validation
- Phone number
- Email address
- Commodity codes
- Contact person

Registration Instructions

Please complete registration by filling out all mandatory fields marked in red. Field specific instructions are provided using the "i" symbol or watermark.

Company information
Registration Type *
Non-US US
Legal Name *
Commodity Code(s) * Doing Business As
Legal Form
Notify me when a solicitation is created within my scope

Contact Information
First Name * Last Name *
Title * Email *
Password * Confirm password *

- Password must contain at least 1 Uppercase letter(s)
- Password must contain at least 1 Lowercase letter(s)
- Password must contain at least 1 Number(s)
- Password must contain at least 1 Special character(s)
- Password must contain at least 8 characters

Address

Map Satellite

Address Label
Address Line 1
Address Complement
Zip Code City
Country * State/Province

First time registration ? Please tell us more
Counties Served

Procurement Programs
State Programs
For information state procurement programs, click here
State Procurement Programs
Federal Programs
For information regarding Federal procurement programs, click here
Federal Procurement Programs

Security Control


Retype Characters Here

FIGURE 8 – REGISTRATION PAGE

Supplier Full Enrollment

Once the supplier submits their registration it is processed through an automated workflow that will automatically accept or reject the registration based on system conditions, such as a duplicate check. The workflow process and acceptance/rejection criteria will be established by each client. If the supplier's registration is approved, they will receive an email notification informing them that their account has been created, and they can login using their username and password that were established on the registration page. Once logged in, they can access their account and finish collecting information required to do business with the organization. The onboarding progress tracker, shown in the center of the supplier's homepage, allow a quick view into the remaining items required to complete their activation.

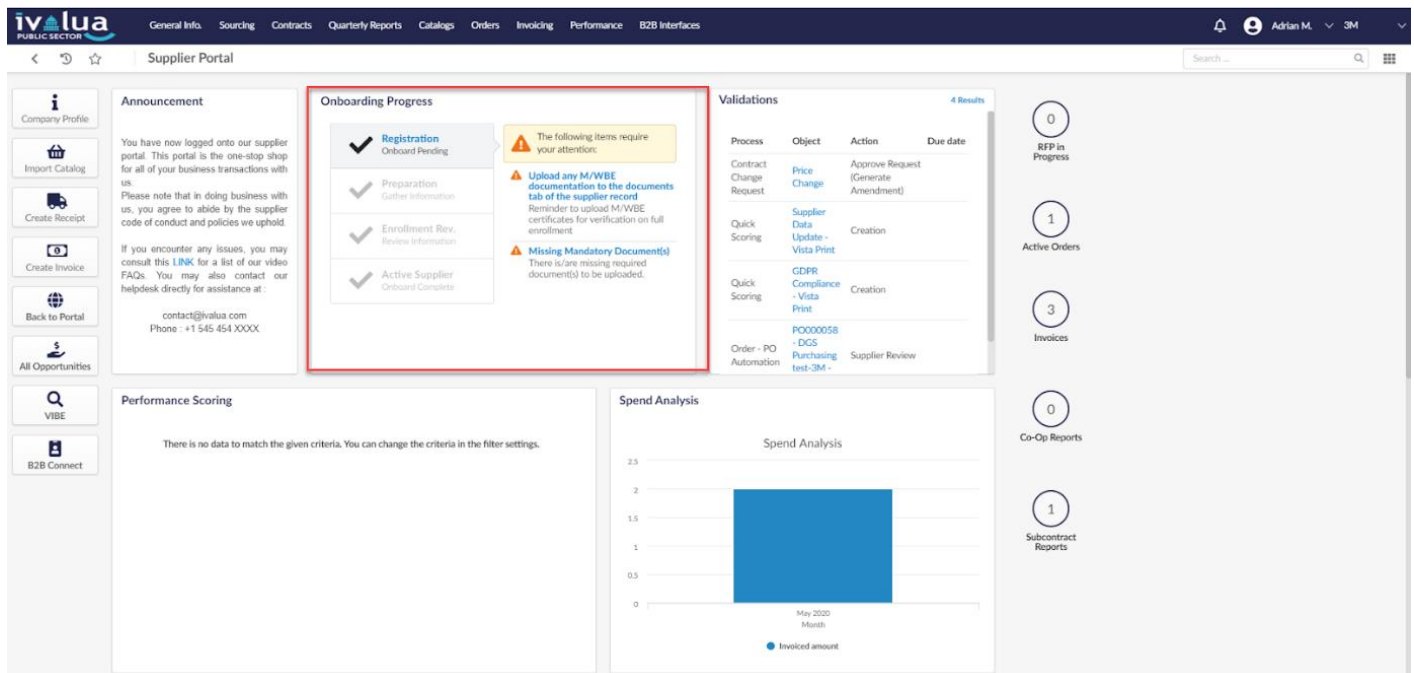


FIGURE 9 – ONBOARDING TRACKER

The supplier can then easily access their account and submit additional information required to do business with the organization. Details that can be included in the supplier record include:

- Supplier addresses
- Contact information- with the ability to establish new user accounts within the system
- Documents – including W-9 or M/WBE certification
- Qualifications, such as commodities or areas served
- Banking Information

The Ivalua system allows for supplier self-service by guiding them through the enrollment process and allowing them to manage their account by creating new user accounts for their colleagues, registering for commodities, and keeping up to date on their documents. Alerts, as shown at the top of the page, will help drive the suppliers through their full enrollment process by reminding them of what information is still outstanding. Additional integrations can

also be designed to external systems in batch processes or in real-time to verify profile information or bring in data from external sources.

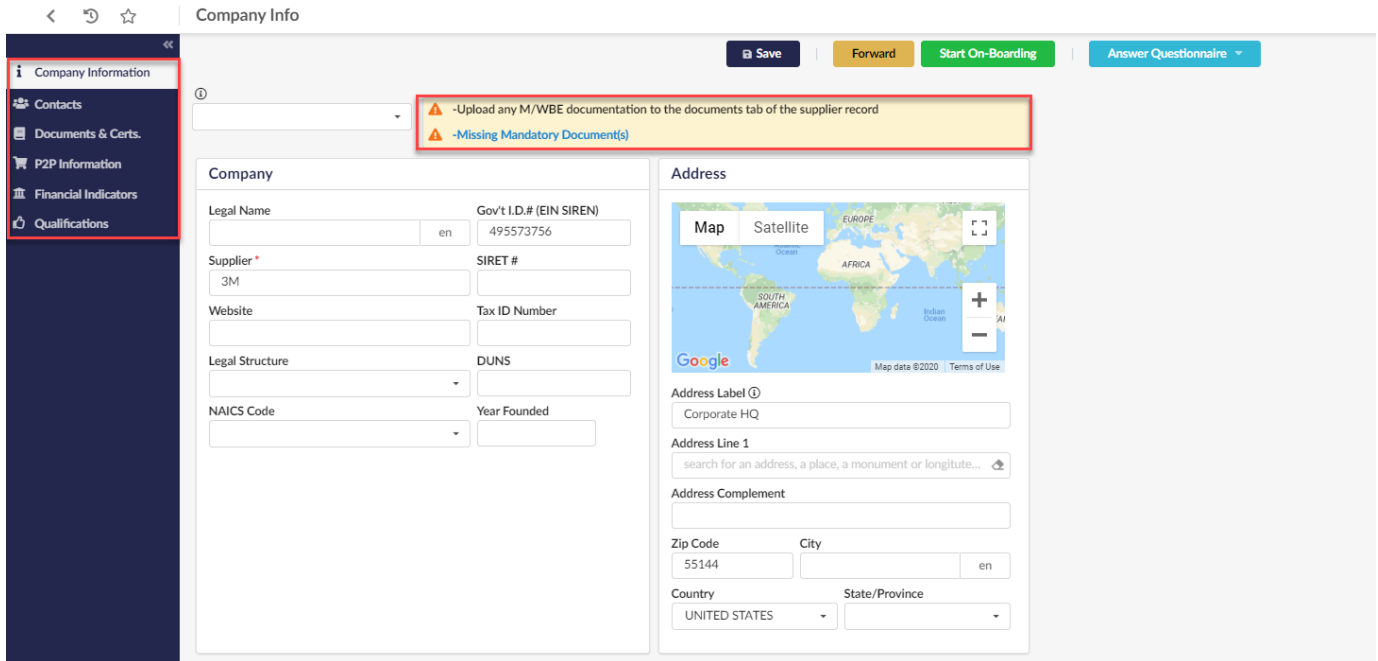


FIGURE 10 – SUPPLIER FULL ENROLLMENT

Contact Management

The supplier can create and manage the users from their company within the profile. The user can create a new contact from within their company and create an account for them within Ivalua. In addition, the user can also assign new users a 'role' which will determine what the user can view or edit within the system

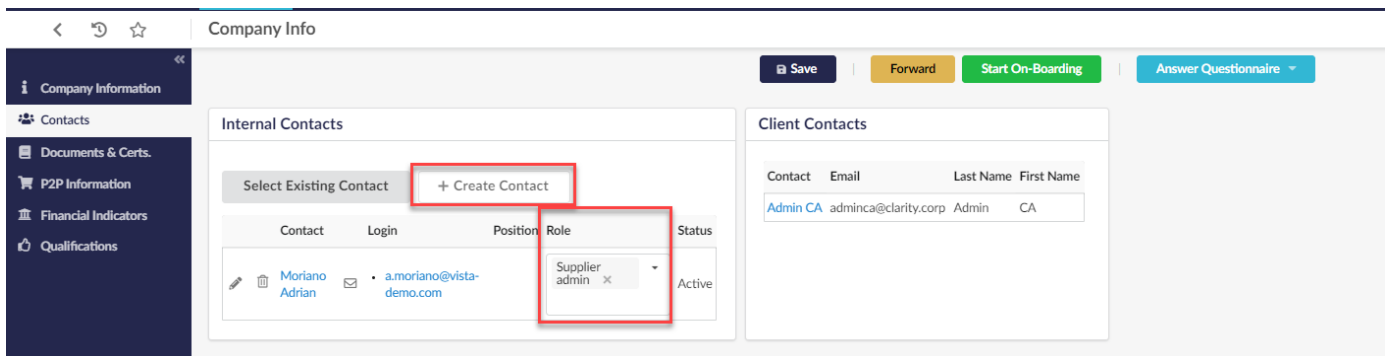
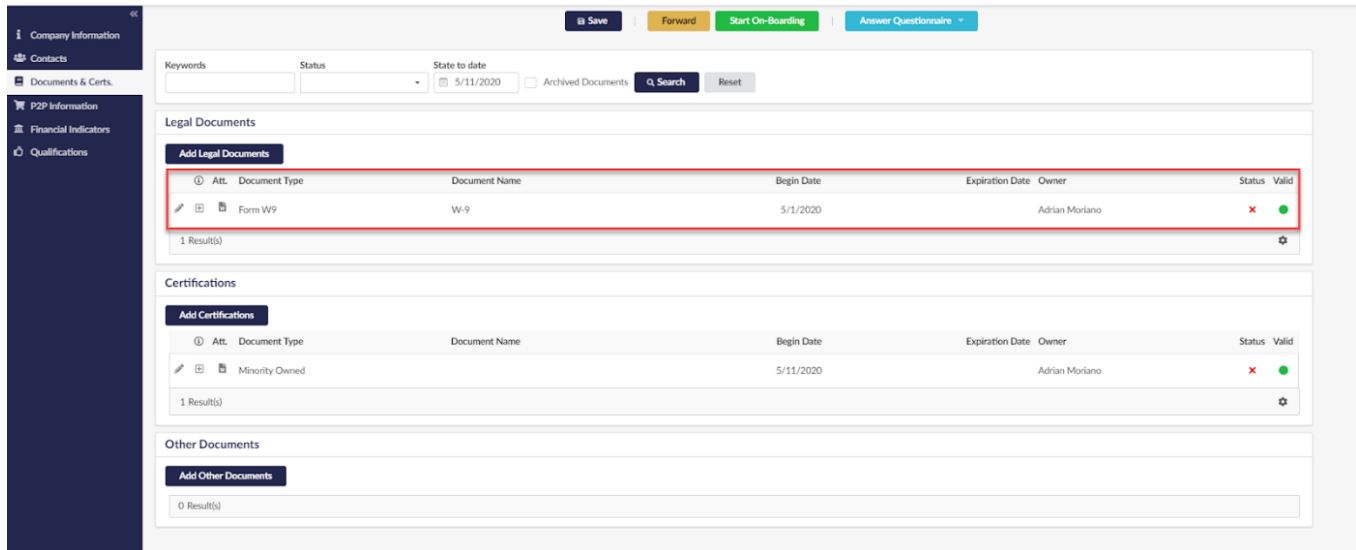


FIGURE 11 – SUPPLIER CONTACTS

Document Management

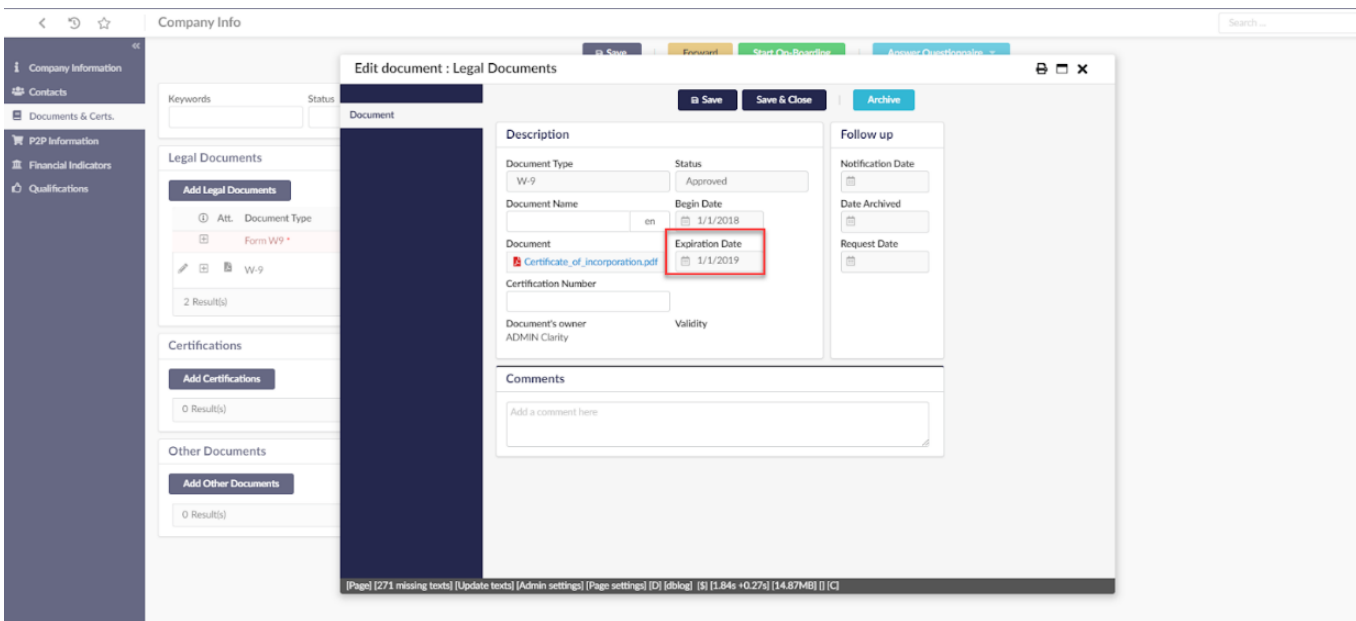
A key aspect of the supplier management capability is the ability to maintain and store documents within their profile. The organization can specify specific documents that are required by the supplier to complete their enrollment (ex. W-9). Different document types can be stored that can check for the existence of a specific category of document within the profile.



The screenshot shows the 'Document Management' interface. On the left is a sidebar with navigation links: Company Information, Contacts, Documents & Certs., P2P Information, Financial Indicators, and Qualifications. The main area has a top bar with 'Save', 'Forward', 'Start On-Boarding', and 'Answer Questionnaire' buttons. Below this is a search bar with 'Keywords', 'Status', 'State to date' (5/11/2020), and 'Archived Documents' checkboxes. The 'Legal Documents' section shows a table with columns: Att., Document Type, Document Name, Begin Date, Expiration Date, Owner, Status, and Valid. A red box highlights the first row: 'Form W9', 'W-9', '5/1/2020', 'Adrian Morlano', 'X', and a green dot. Below the table is a '1 Result(s)' summary. The 'Certifications' section shows a similar table with one row: 'Minority Owned', '5/11/2020', 'Adrian Morlano', 'X', and a green dot. The 'Other Documents' section shows '0 Result(s)'.

FIGURE 12 – DOCUMENT MANAGEMENT

In addition, the system can track expiration dates of the documents and trigger reminders to both internal and supplier users when those documents are nearing their expiration. This allows for a proactive approach in managing required documentation in both the full enrollment process and on an ongoing basis. Once a supplier uploads a document, the document can either be automatically approved or submitted through a workflow for validation from an internal user.



The screenshot shows the 'Edit document : Legal Documents' interface. The left sidebar is the same as in Figure 12. The main area has a top bar with 'Save', 'Save & Close', and 'Archive' buttons. Below this is a search bar. The 'Legal Documents' section shows a table with columns: Att., Document Type, Document Name, Begin Date, Expiration Date, Owner, Status, and Valid. A red box highlights the first row: 'Form W9', 'W-9', '5/1/2020', 'Adrian Morlano', 'X', and a green dot. Below the table is a '2 Result(s)' summary. The 'Certifications' section shows '0 Result(s)'. The 'Other Documents' section shows '0 Result(s)'. The 'Edit document : Legal Documents' modal is open, showing fields for 'Document Type' (W-9), 'Document Name' (en), 'Begin Date' (1/1/2018), 'Expiration Date' (1/1/2019), 'Document' (Certificate of Incorporation.pdf), 'Certification Number', 'Document's owner' (ADMIN Clarity), and 'Validity'. The 'Follow up' section shows 'Notification Date', 'Date Archived', and 'Request Date' fields. The 'Comments' section has a text area for 'Add a comment here'.

FIGURE 13 – DOCUMENT DETAILS AND EXPIRATION TRACKING

Supplier Workflow

Once the supplier has completed their full enrollment, they will be able to submit their record to the workflow to be reviewed and approved by internal users. The full enrollment workflow will be configured based on the organization's business process and will include both automated checks and user driven approvals. Once completed, the supplier will be fully onboarded into the Ivalua solution. The workflow capability includes a full audit trail of all approvals, rejections, and comments including their timestamps, as well as can trigger notifications to users letting them know a workflow task has been assigned to them.

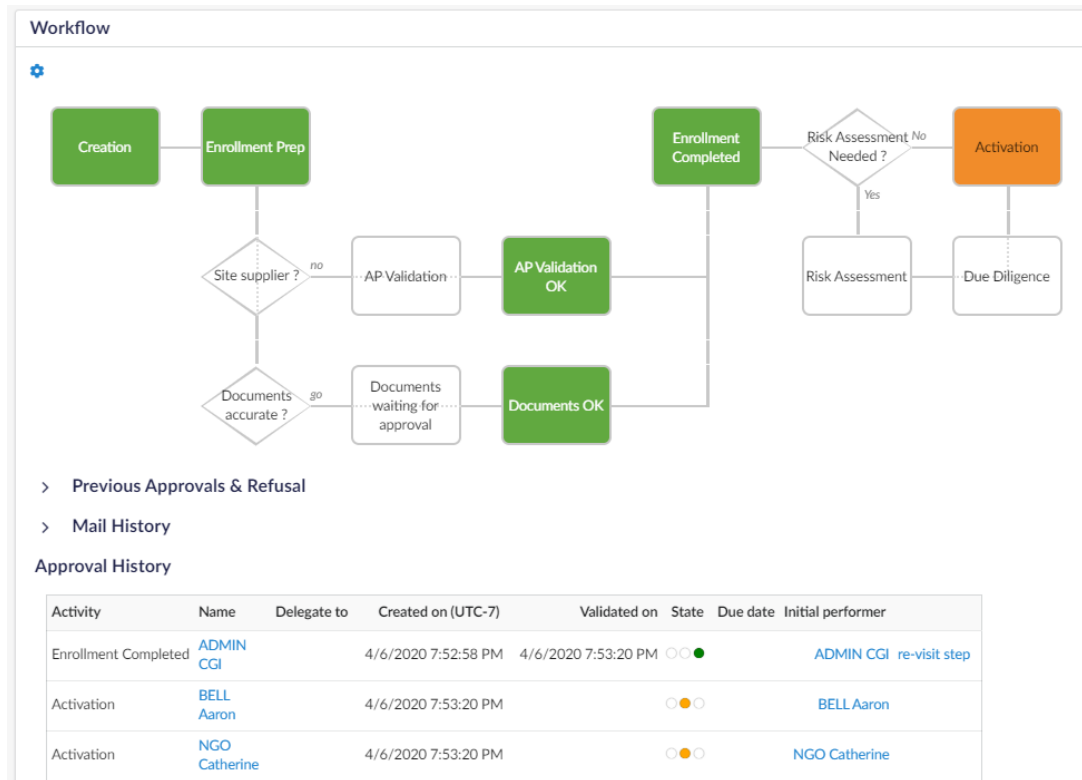


FIGURE 14 – SUPPLIER WORKFLOW

Supplier Database

Internal users will have access to the complete supplier database and all details associated with each supplier. From the supplier browse page, the user will be able to see all registered suppliers and some basic information about them. Ivalua has robust search and filter capabilities, giving users the chance to utilize keyword search or to filter on any data field in the system (including custom fields). By clicking the pencil next to the supplier, the user will be able to access the supplier's profile. In addition, authorized users can create new suppliers by clicking the 'create supplier' button at the top of the page.

Search Suppliers

Keywords: Alerts Commodity: My Commodities Favorite Suppliers Search Reset

Filters Level: Supplier Group X Supplier Head-office X Supplier Site X

Selected: Create RFI Merge Suppliers Create Supplier

	Code	Supplier	Reviews	Web site	Status	Qualification	Document Status	Document Validity	Performance Score	Risk Level
	SUP0003434	Blue Ridge Counseling Services	★★★★★		Active Supplier	Approved	×	✓		
	SUP000322	ABM	★★★★★	www.abm.com	Active Supplier	Approved	×	×	5.83	High
	SUP0003413	Ace Cleaners	★★★★★		Registration					
	SUP0003400	Ace Store Services & Hauling	★★★★★		Registration					
	SUP0000002	ACER AMERICA CORPORATION	★★★★★		Active Supplier	Approved	✓	×		
	SUP0003361	ACME Supply Company	★★★★★	www.acmesupply.com	Active Supplier	Approved	✓	×		
	SUP0003399	Adrice from Solicitation	★★★★★		Registration					
	SUP0000003	AEG	★★★★★	www.aeg.com	Active Supplier	Pending	✓	×		
	SUP0000004	AM Design	★★★★★		Active Supplier	Approved	✓	×		
	SUP0000005	AMAZON.COM, INC.	★★★★★	http://www.amazon.com	Active Supplier	Approved	✓	×		
	SUP0000006	American Mobile	★★★★★		Active Supplier	Forbidden	✓	×		
	SUP0000007	Anonima Petrol Italiana	★★★★★	www.supa.com	Active Supplier	Approved	✓	×		
	SUP0000009	Apple	★★★★★		Active Supplier	Approved	✓	×		
	SUP0003382	Approach Office Solutions	★★★★★		Registration					
	SUP0000030	ARAI	★★★★★	http://www.arai.com	Active Supplier	Approved	✓	×		

1 2 3 4 5 6 7 > More than 150 Results

FIGURE 15 – SUPPLIER BROWSE

Once accessing the supplier's profile, the user will be able to see all the details provided by the supplier, including documents uploaded and their contacts. Additionally, internal users will also be able to manage the supplier's information, activity, risk, as well as their performance all within their supplier record.

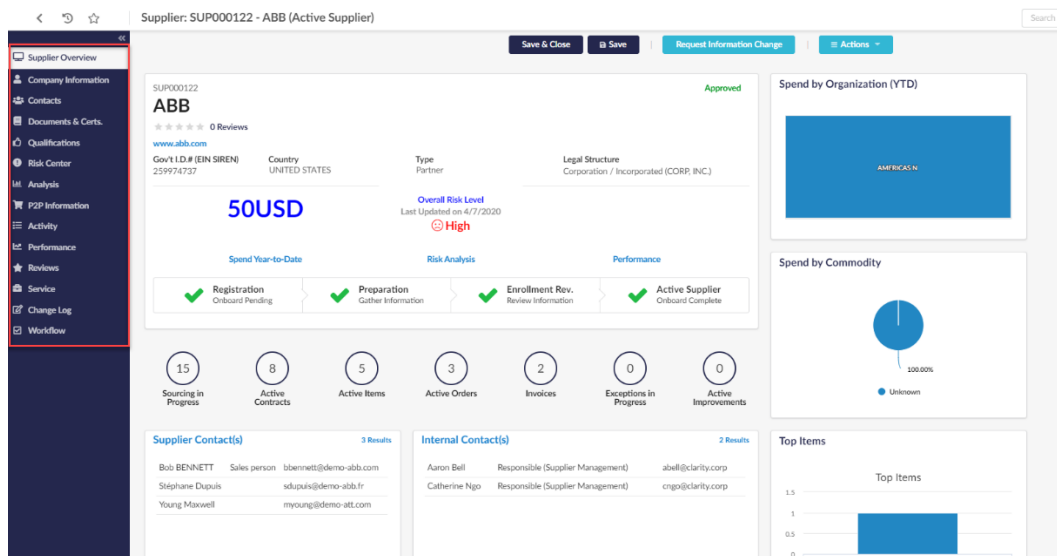


FIGURE 16 – INTERNAL VIEW OF SUPPLIER RECORD

Supplier Self-Service Maintenance

Suppliers will be able to maintain their user profiles through a self-service service model. Through their profile they can request an information change that will trigger the unlocking of their profile for them to make changes. All changes captured through the supplier change request process are auditable and tracked down to the field level. This can be used for legal name changes, as well as more minor changes to the record

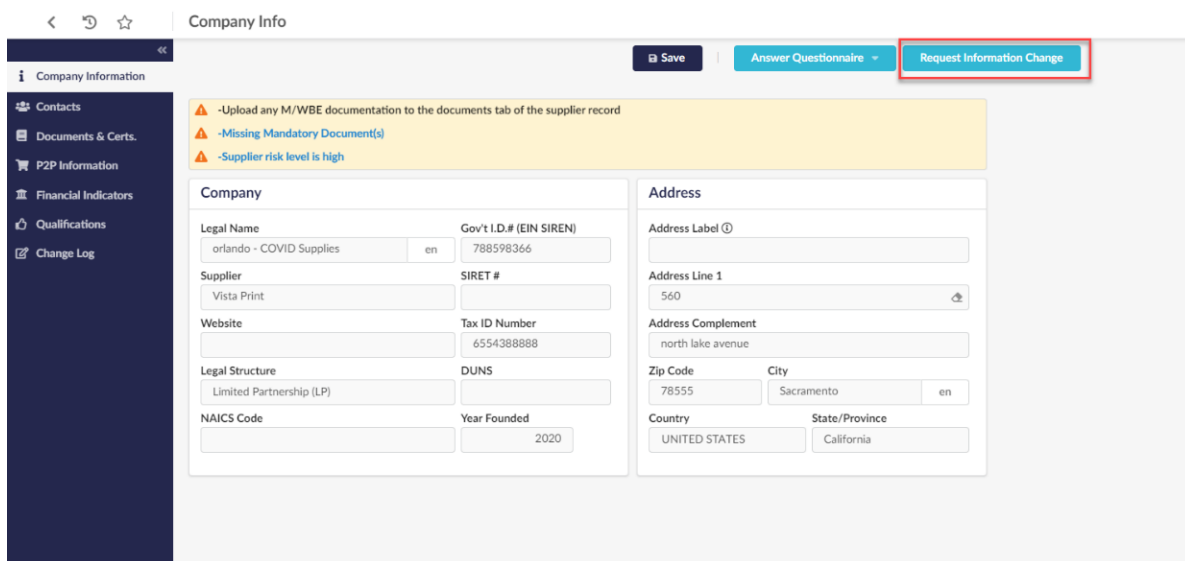


FIGURE 15 – REQUEST OF SUPPLIER CHANGE

Once a change request is completed it can be routed to the workflow for internal user approval, where needed. Additionally, completed changes can be pushed to update the supplier record within the ERP.

< ↺ ☆ | Company Change Request

Save Cancel Submit for Approval

✓ Data has been saved

Object label	Old Value	New Value
Main Address		
Zip Code	78555	33881
City	Sacramento	Winter Haven
Address Line 1	560	FL-544 5600
Address Complement	north lake avenue	
Region Level	California	Polk (FL)
Region Level	California	Polk (FL)
State/Province	California	
Suppliers		
Legal Name	orlando - COVID Supplies	Vista Print

FIGURE 16 – AUDITABLE HISTORY OF CHANGES

4. Buyer Portal

The Buyer Portal component of the system must provide functionality that acts as a personalized single point of entry ('front door') to initiate the full life cycle of procurement activities for Participating Entity users. The Buyer Portal must deliver valuable content unique to the user once logged in.

Response requirement:

- RTM: Tab 3, BPRT-1 through BPRT-15
- Inline Narrative: Bidders must provide a detailed narrative response that describes overall Solution components that will meet the objectives and requirements of the Buyer Portal.

The Buyer Portal is the access point for procurement activities, and it will set the stage for the user experience. It must be easy to use and navigate and must provide information specific to each user while serving a broad user base with differing needs. The content must be relevant to the user and their work activities without the user having to know where to find their work.

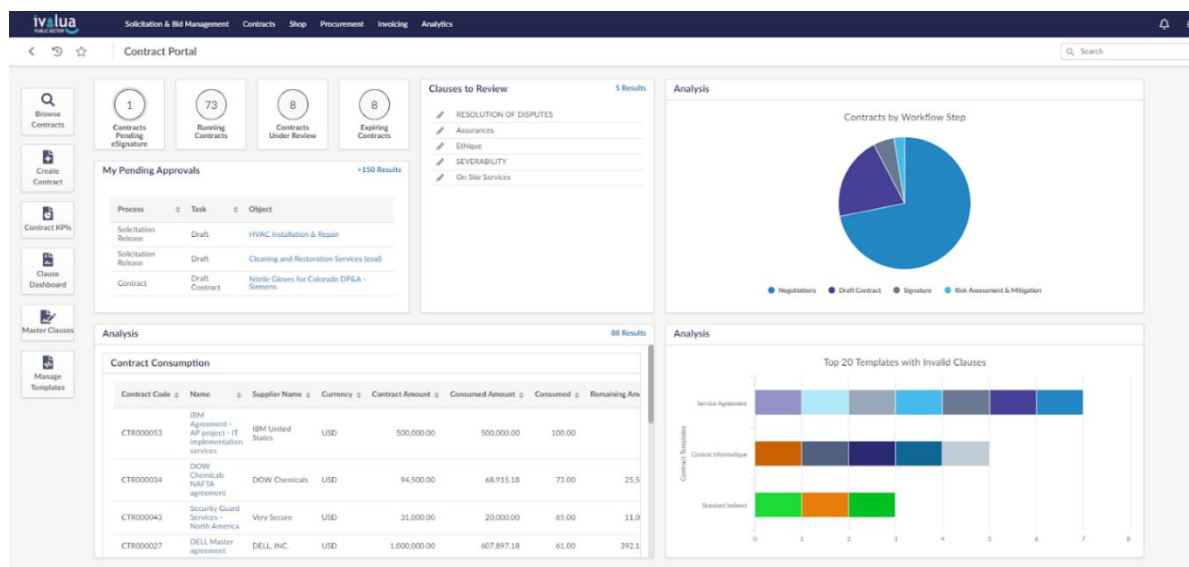


FIGURE 17 – HOMEPAGE DASHBOARD

Internal users can login to the system through their secure username/password, where password rules can be set-up by each organization. Alternatively, suppliers can login via SSO with their organization. Once the user login they will be directed to their homepage. Each homepage features a dashboard is unique to the user based on their user

role. In addition, authorized users can also add new aspects to their homepage or rearrange the webparts on the screen, to ensure that their portal caters to their unique needs.

From the user's homepage they will have access to all the actions throughout the solution that they support. In addition, the user's homepage will have a quick link to all their workflow tasks as well as shortcuts to their frequently created or in-progress objects.

User Roles

All activities within Ivalua are dictated by the users assigned role(s) within the system. When an account is assigned to users, they will be given one or multiple roles. These roles are tied to a series of authorizations in the system, which will dictate what the user can see and do. This ensures segregation of duties throughout the solution, as well as tailors each user's experience to the roles and tasks they support. All roles and associated authorizations are tailored to each customer's needs.

Additionally, each user is assigned a perimeter, which corresponds to the agencies/departments/division they support and/or the commodities they support. This will further limit the user's view into only seeing or editing objects (such as catalog items) that are part of their agency.

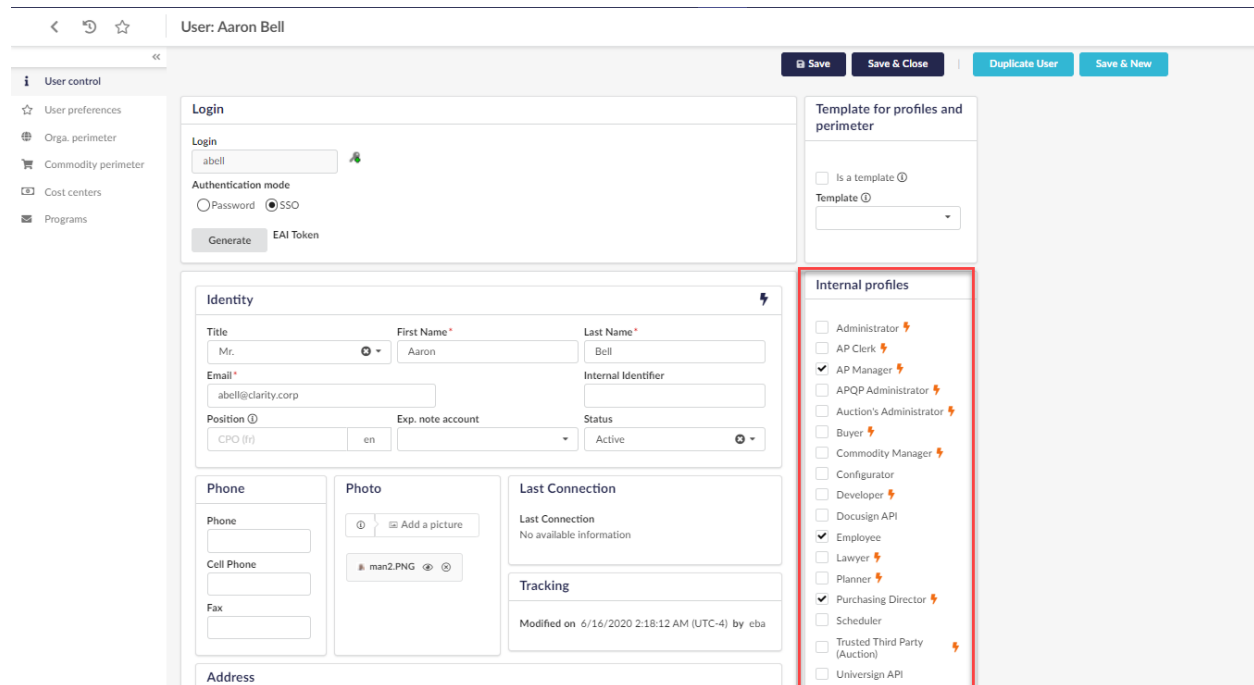


FIGURE 18 – USER PROFILES AND ROLES

5. Need Identification

The Need Identification component of the system provides functionality for a user to initiate any type of procurement action with configurable business rules to support Participating Entities custom business needs. The user interface must be user-friendly, intuitive, flexible and adaptable to support users.

Response requirement:

- RTM: Tab 3, NEED-1 through NEED-7
- Inline Narrative: Bidders must provide a detailed narrative response that describes overall Solution components that will meet the objectives and requirements of Need Identification.

Ivalua offers a suite of integrated procurement services, entity buying profiles, and entity data-driven dynamic workflow. Ivalua provides users the ability to initiate any procurement action from a single spot through the platform. Each action is driven by data setup (entity buying profile) and workflow setup specific to that user and

their organization. Ivalua also provides a powerful and flexible workflow engine that not only invokes approval flows, but also provides the ability to invoke processes. This ability to invoke business processes allows procurement policies and regulations to become part of workflow and not something the end-user needs to think about. Ivalua will guide the end user to begin any type of procurement activity by clearly identifying and outlining the process and steps that need to be taken. With a single point of entry into the system, the user can create and manage their request in a variety of ways. Based on where the user is in the purchasing process, they can:

- Create a Needs Request form
- Create a Purchase Request - contract, non-contract, punch-out, non-catalog products, or for the procurement of services
- Complete an Exemption Request
- Create a sourcing event
- Gather quotes
- Create a Contract

In addition to the procurement paths summarized above, Ivalua provides the ability to easily access the required business functions across Suppliers, Solicitations & Bids, Contracts, Shop, Procurement, Invoicing, Analytics, and Public Information Requests.

6. Request through Pay

The purchase Request through Pay components of the system provides functionality to automate the ordering process from the end-user purchase request through authorizing payment for the resulting order. Key components include:

- Purchase request;
- Catalog shopping to drive spend to existing contracts;
- Access to external retail marketplaces products;
- Intelligent workflow engine to apply entity and enterprise-wide business rules;
- On-line approvals;
- Electronic order dispatch;
- Receiving;
- Electronic and paper invoicing;
- Invoice matching for payment authorization;
- 3-way match for payment authorization; and
- Integration with Finance System.

The Solution must also provide the capability to support the procurement of services from pre-established services contracts (e.g. Professional Services, Contingent Labor, Healthcare Services) that may include characteristics such as deliverable-based fee services. This specialized type of purchasing would need functionality to address scope/need definition (e.g. SOW), contract supplier submission of quotes with attachments (e.g. resumes, specifications), quote evaluation/selection, order generation and receiving concepts such as recording of timesheets, deliverables acceptance, milestone completions and expenses.

Response requirement:

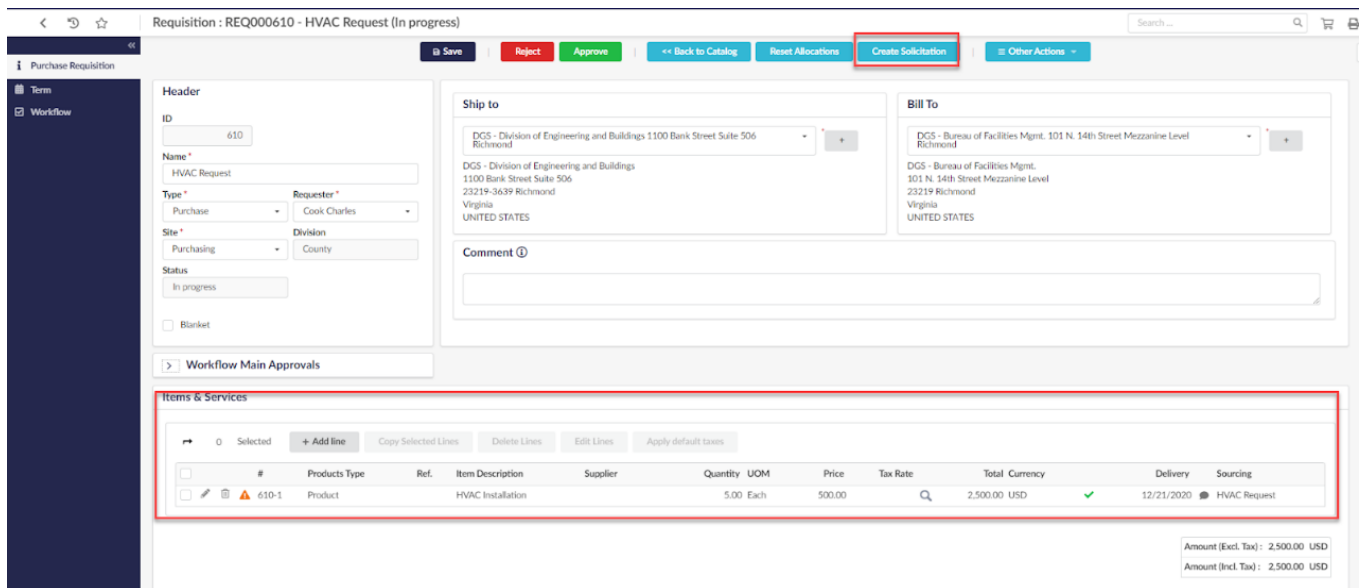
- RTM: Tab 3, PRD-1 through PRD-62; WRK-1 through WRK-28; PO-1 through PO-29; PC-1 through PC-21; RC-1 through RC-21; INV-1 through INV-11
- Inline Narrative: Bidders must provide a detailed narrative response that describes overall Solution components that will meet the objectives and requirements of purchase Request through Pay.

Requisition Creation

All purchases within the Ivalua solution will begin from a purchase request within the tool. These can be created from a catalog, automatically carrying over all item information, or from scratch. Requests can accommodate multiple types of requests ranging from goods and services, as well as deliverable-based purchases and subscriptions. Purchase requests provide a streamlined way for users to request goods/services to purchase in a user-friendly way.

When a user creates a new request, requisition details such as requestor, agency, and accounting strings will be defaulted as much as possible based on the user. If the request is created from a catalog or a contract, line item details will also be derived from the item(s) selected. Through alerts and field level business rules, users will be guided through filling out their request to completion and facilitating its approval through workflow. Additional requisition features include

- Line item entry (goods and services)
- Ship to/bill-to definition
- Comments and attachments to send to the supplier
- Internal blog to communicate with stakeholders
- Budget information
- Configurable workflow
- Ability to flip requisition to sourcing event to collect quotes



Requisition: REQ000610 - HVAC Request (In progress)

Buttons: Save, Reject, Approve, Back to Catalog, Reset Allocations, Create Solicitation, Other Actions

Header

ID: 610

Name: HVAC Request

Type: Purchase Requester: Cook Charles

Site: Purchasing Division: Country

Status: In progress

Blanket: ☐

Workflow Main Approvals: ☐

Ship to: DCS - Division of Engineering and Buildings 1100 Bank Street Suite 506 Richmond

Bill to: DCS - Bureau of Facilities Mgmt. 101 N. 14th Street Mezzanine Level Richmond

Comment

Items & Services

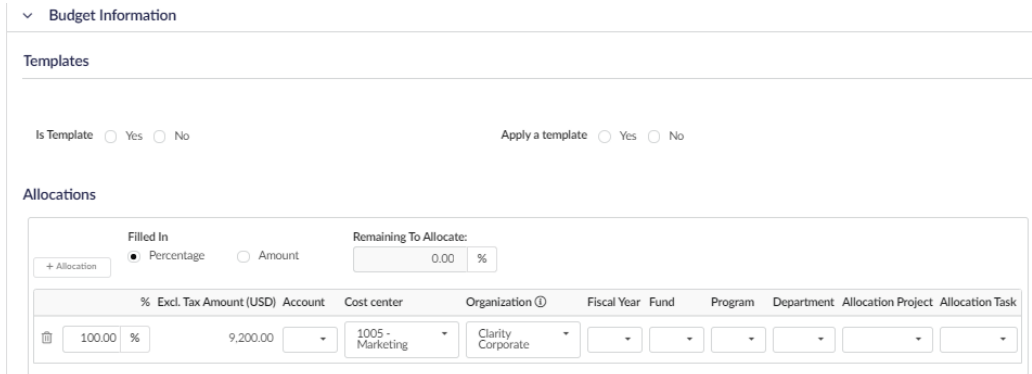
#	Products Type	Ref	Item Description	Supplier	Quantity	UOM	Price	Tax Rate	Total	Currency	Delivery	Sourcing
610-1	Product		HVAC Installation		5.00	Each	500.00		2,500.00	USD	12/21/2020	HVAC Request

Amount (Excl. Tax): 2,500.00 USD
Amount (Incl. Tax): 2,500.00 USD

FIGURE 19 – REQUISITION HEADER

Each requisition line has an allocations grid as part of the purchase. Chart of account elements will be imported on a nightly basis from the ERP, and the allocations grid in Ivalua will match the structure accepted in the ERP. Budgets can be checked upon requisition submission and will trigger alerts in the case of an overrun budget. Additionally,

spend limits per contract are stored within the system. When a requisition is created exceeding the contracted amount, an alert is automatically triggered informing the user that the contract has been fully consumed.



Budget Information

Templates

Is Template ☐ Yes ☐ No Apply a template ☐ Yes ☐ No

Allocations

Filled In: ☒ Percentage ☐ Amount Remaining To Allocate: 0.00 %

%	Excl. Tax Amount (USD)	Account	Cost center	Organization	Fiscal Year	Fund	Program	Department	Allocation Project	Allocation Task
100.00	%	9,200.00	1005 - Marketing	Clarity Corporate						

FIGURE 20 – ALLOCATIONS GRID

Requisition Approval

Once the requisition is submitted, it will route through organization users for approval, where needed. Ivalua uses a combination of algorithms and user approval to navigate through the approvals that are necessary, as well as performing automated checks to verify if there are any issues. The organizations/agencies and public bodies will have the ability to define conditional logic to determine when and who should be approving each requisition. This makes our workflow dynamic, so they are automatically routed to the appropriate approvers. Additionally, different organizations and commodities can also trigger different workflows to accommodate for varying business processes, as well as trigger different workflows on goods vs. services purchases.

Approvers will have a full audit trail of approval activity directly on their workflow screen, including any rejections and comments. They will also receive email notifications of workflow tasks pending their approval, as well as can receive reminders if they do not act. Ivalua workflows can also trigger real-time integrations to external systems, such as an ERP at a workflow step, such as checking if budget is available for the purchase.

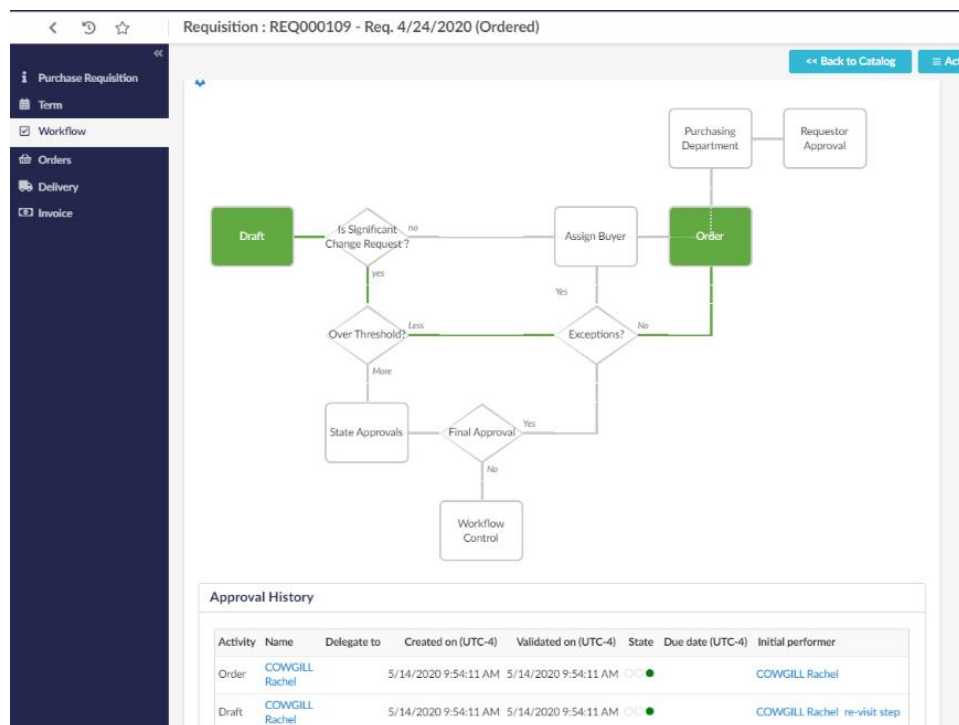


FIGURE 21 – REQUISITION WORKFLOW

Purchase Order

Once the requisition is fully approved, it will be automatically flipped to a purchase order. The purchase order will carry over all the fields from the purchase requisition, preventing any manual re-entry of common fields. The purchase order is automatically linked back to the requisition, creating traceability between objects. At the same time, the order is transmitted to the supplier through their email, including a PDF version of the order. It can also be extracted and printed, if needed.

PO: PO000053 - Req. 4/24/2020-IBM United States - IBM United States (Ordered)

Save Reject Confirm Create Receipt Change Order Cancel PO Actions

Purchase Order

Workflow Receipts Invoices Scoring

Header

Name: Req. 4/24/2020-IBM United States Organization: Shop Miami (Cosmetic)

Buyer Contact: Cowgill Rachel Legal Company: Clarity Cosmetic

Order Date: 5/14/2020 Initial P.R.: REQ000109-Req. 4/24/2020

PO Supplier: IBM United States Currency: USD

Supplier Contact: MAGNUS Louis Status: Ordered

Ship to
Central delivery
235 Biscayne Blvd Way
33131 Miami
UNITED STATES

Bill to
AP Address for USA
225 2nd Ave
10065 New York
UNITED STATES

Delivery & Payment

Incoterm: Payment Type:

Incoterm Location: Payment Terms:

☐ Free Budget

Items

#	Products Type	Ref.	Item Description	Supplier	QTY Ordered	UOM	Price	Tax Rate	Total	Currency	Delivery
109-1	Product	IBM 78978	IBM Server	(IBM United States) IBM United States	1.00	ea.	1,908.99		1,908.99	USD	5/24/2020

Amount (Excl. Tax): 1,908.99 USD
Amount (Incl. Tax): 1,908.99 USD

FIGURE 22 – ORDER SCREEN

Receipt Creation & Approval

Users can create and verify receipts directly within the solution to capture the receipt of goods and services within the solution. Receipts can be created in multiple ways, from a purchase order, from scratch, or from a supplier entered Advanced Shipping Notice. The user can create multiple receipts at once, which are automatically linked to the purchase order in which they originated.

The pending receipts page, as shown in figure 23, captures all the orders awaiting receipts. The user can easily flip multiple orders into receipts, either in full or in part if a partial delivery was received.

Pending Receipts

Keywords Supplier Requester Search Reset

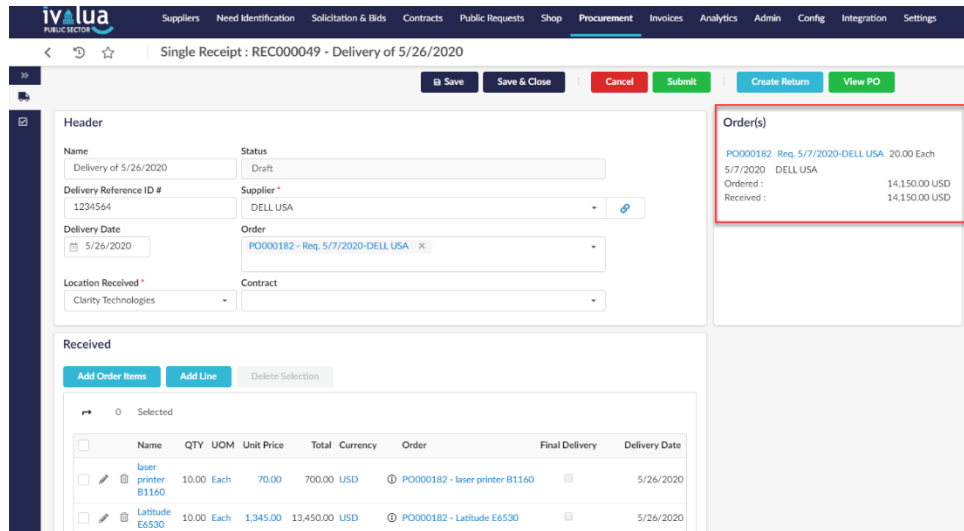
Filters Items without final delivery: X

2 Selected Create Deliveries

PO	Supplier	Purchase Requisition	Requester	Name	Term	Extended Price	Currency	Quantity	Delivered	QTY to Receive	Final delivery	Ordered Delivery Date
☐ PO000195	DELL USA	Pcard	BUYER BILL	Projector		95.00	USD	1.00	0.00	1.00 Each	☐	6/26/2020
☐ PO000182-1	DELL USA	Amendment request 5/7/2020 PO000182	BUYER BILL	Latitude E6530		13,450.00	USD	10.00	9.00	1.00 Each	☐	5/13/2020
☒ PO000182	DELL USA	Req. 5/7/2020	BUYER BILL	Latitude E6530		13,450.00	USD	10.00	0.00	10.00 Each	☐	5/13/2020
☒ PO000182	DELL USA	Req. 5/7/2020	BUYER BILL	laser printer B1160		700.00	USD	10.00	0.00	10.00 Each	☐	5/8/2020

FIGURE 23 – ORDERS AWAITING DELIVERY

The receipt page allows the user to adjust any received quantity or amount within the receipt page, as well as add any supporting documentation, if needed. You will also see the link between the order and the receipt is captured automatically within the page.



The screenshot shows the 'Single Receipt : REC000049 - Delivery of 5/26/2020' page. The 'Header' section includes fields for Name (Delivery of 5/26/2020), Status (Draft), Delivery Reference ID # (1234564), Supplier (DELL USA), Delivery Date (5/26/2020), Order (PO000182 - Reg. 5/7/2020-DELL USA), Location Received (Clarity Technologies), and Contract. The 'Received' section has buttons for 'Add Order Items', 'Add Line', and 'Delete Selection'. Below this is a table with columns: Name, QTY, UOM, Unit Price, Total, Currency, Order, Final Delivery, and Delivery Date. The table contains two rows: 'laser printer B1160' and 'Latitude E6530'. The 'Order(s)' section on the right shows a summary of the order: PO000182, Reg. 5/7/2020-DELL USA, 20.00 Each, 5/7/2020, DELL USA, Ordered: 14,150.00 USD, Received: 14,150.00 USD.

FIGURE 24 – RECEIPT PAGE

Receipt Workflow

Once the user has created the receipt, they will submit it to the workflow for review and approval. This allows users to review any exceptions, such as the order and receipt mismatch. The workflow will route the workflow to the correct users automatically by user logic. Notifications can be triggered to the users when workflow tasks are assigned to them, when a task is completed, or as an FYI. Receipt steps will be aligned to the organization's future state process.

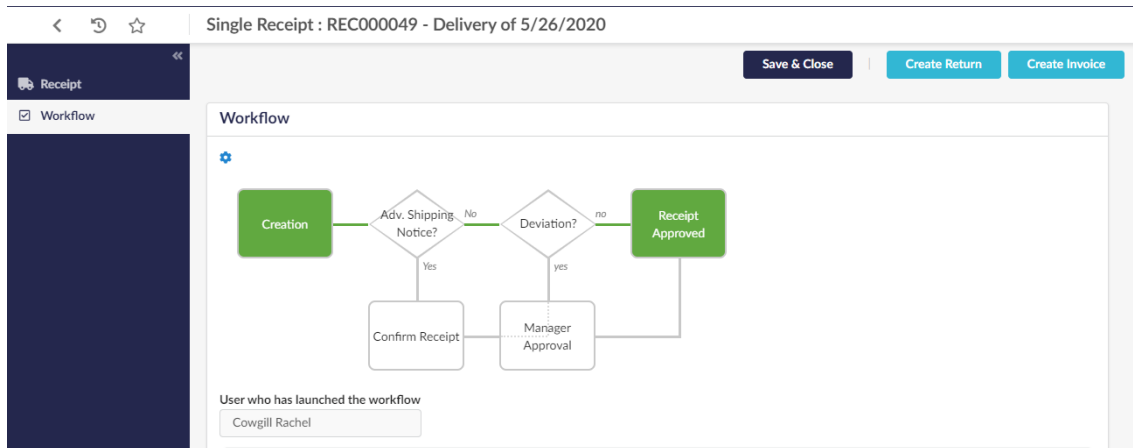


FIGURE 25 – SAMPLE RECEIPT WORKFLOW

Invoice Creation

Invoices can be created in multiple ways within the Ivalua solution

- PO flip
- From scratch
- EDI/cXML transmission (for enabled suppliers)
- OCR capability

Suppliers can easily flip their orders into invoices directly within their supplier portal. This option is also available to internal users if they receive paper invoices from suppliers. When an invoice is created, it is automatically linked to the order for traceability. The supplier will have the opportunity to adjust the pricing, add taxes (if applicable), or any shipping or freight changes, as well as upload their paper invoice to the record. They will then be able to submit the invoice to the workflow for review and approval.

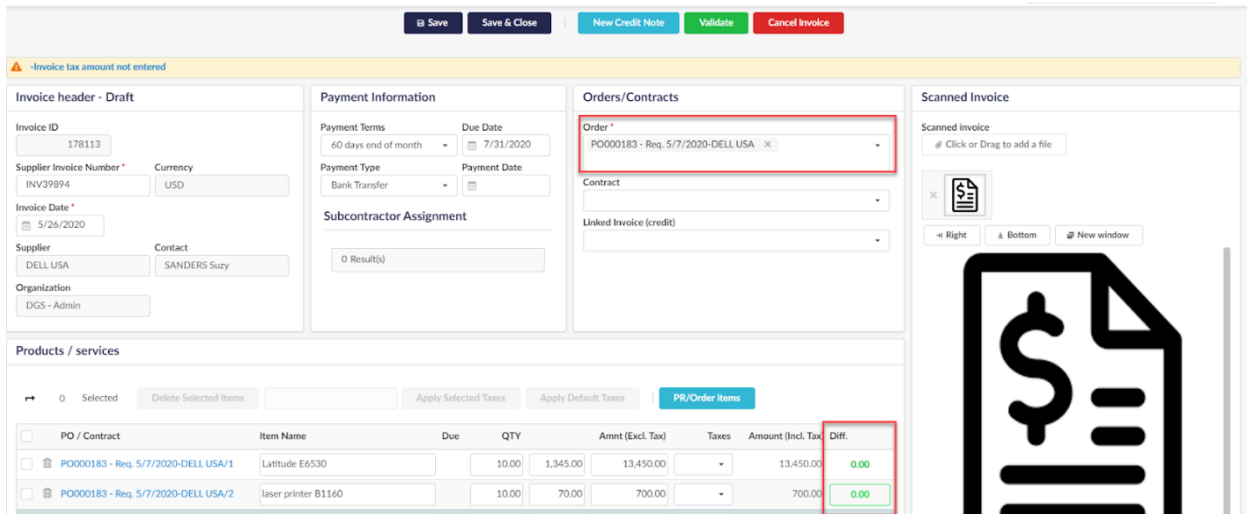


FIGURE 26 – INVOICE CREATION – ORDER LINKAGE

The system will automatically calculate the three-way match based on ordered, received, and invoiced amount, and will display alerts on the page if the three-way match has not been met, and will route the workflow to the appropriate users to rectify. Ivalua is also flexible to accommodate 2-way match if specific commodities do not require a receipt in order to be paid.

Gaps Detail

Received

Name	QTY	UOM	Unit Price	Total	Currency	Order	PO QTY	Price	Final Delivery	Original receipt	Delivery Date
REC000044	Latitude E6530	10.00	Each	1,345.00	13,450.00	USD	PO000183 - Latitude E6530	10.0000000000	1345.000000		5/7/2020

Products / services

PO / Contract	Item Name	Due	QTY	UOM	Amnt (Excl. Tax)	Taxes	Amount (Incl. Tax)	Commodity	Quantity	Quantity Received	Qty inv	Total Rec	Total PO	Total Inv	Diff.
PO000183 - Req. 5/7/2020-DELL USA/1	INV178113	Latitude E6530	10.00		1,345.00		13,450.00		10.00	10.00	10.00	13,450.00	13,450.00	13,450.00	

Total (Excl. Tax): 13,450.00 USD

Total (Incl. Tax): 13,450.00 USD

FIGURE 27 – 3-WAY-MATCH DETAILS

Payment

Once the invoice is fully reviewed and approved, it will trigger an integration to the ERP for payment. The system will push an ok-to-pay file to the ERP, and once the payment is made, will receive the payment information back from the ERP to capture the payment. The invoice status will be changed to 'paid' as well as payment information will be captured on the payment tab.

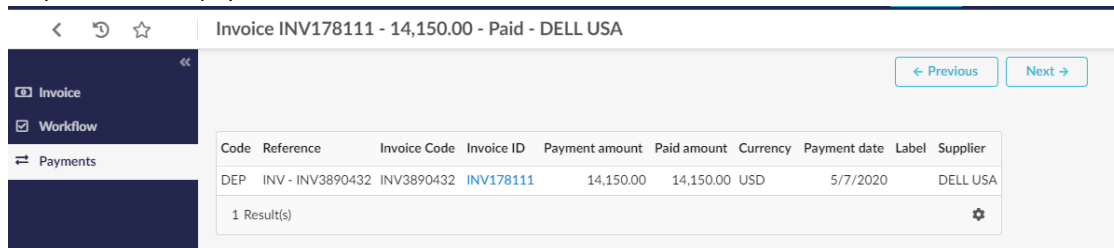


FIGURE 28 – PAYMENT INFORMATION ON THE INVOICE

Through the invoice approval and payment, the traceability from the invoice to the order remains intact to create an auditable history from the order through the final payment.

7. Catalog Capability

The Catalog components of the system provide the functionality to maintain contract/non-contract catalogs in the shopping component of the system as described in Section C., 6. Above (Request through Pay). Catalog content can be hosted within the system or made available by 'punching out' to the supplier's shopping website. Contract catalogs must be capable of being automatically generated as part of the award process through integration with the Sourcing and the Contract Management component of the system. Maintenance of contract catalog content throughout the life of the contract/agreement must be available through integration with the Contract Management component of the system.

Other key components include utilities for suppliers to setup, manage and maintain their catalogs. User access to these utilities should be controlled through definition and assignment of roles. Workflow functionality should also be available to automate authorized Participating Entity user review and approval of catalog content before it is made available.

The Solution must provide an open marketplace environment that provides access to the aforementioned catalog components and to other non-contract, external internet retail or commercial markets of goods/services, as authorized by the Participating Entity. This environment provides the buyer with a supported "catalog of catalogs" shopping experience with a single view of all sources as described in Section C., 6. Above (Request through Pay). The objective of this experience is to give the user options to make the best possible purchasing decision that optimizes price, quality, terms/conditions, and policies. A key aspect of the open marketplace environment is that it will allow the Participating Entity to effectively manage spend.

Support and maintenance of the open marketplace that supports the Participating Entity in the overall management of the open marketplace environment inclusive of: integrations with online suppliers; regular (or real time) synchronization of products, prices for items in the catalog; available products and services; establishment of contracted Suppliers within the marketplace as well as the overall management, maintenance and operations of the technical elements that comprise this "catalog of catalogs" environment as to comply with Participating Entity operating, service level and performance requirements.

Bidders must provide continuous support of both Suppliers with contracts and non-contract Suppliers offering goods and services in the open marketplace environment. Bidders should also provide on-going support functions to continuously and proactively expand the open marketplace environment ecosystem with additional non-contract and retail/commercial market products and services.

Response requirement:

- RTM: Tab 3, CAT-1 through CAT-40
- Inline Narrative: Bidders must provide a detailed narrative response that describes overall Solution component that will meet the objectives and requirements of Catalog Capability.

Ivalua has a robust catalog capability that gives the user the ability to find what they are looking for within both internal and external (punchout) catalogs. By default, the ability to view catalogs are limited to the user's organization scope, so users will only be able to see what items are relevant to their agency or organization. Additional features include comparing multiple items, adding an off-catalog item, and robust search capabilities, detailed below.

Items from multiple suppliers can be added to the same shopping cart to proceed to checkout. Requisition details will be filled out based on the user's profile (organization, GL account, shipping/billing address) but can be overwritten by an authorized user if needed.

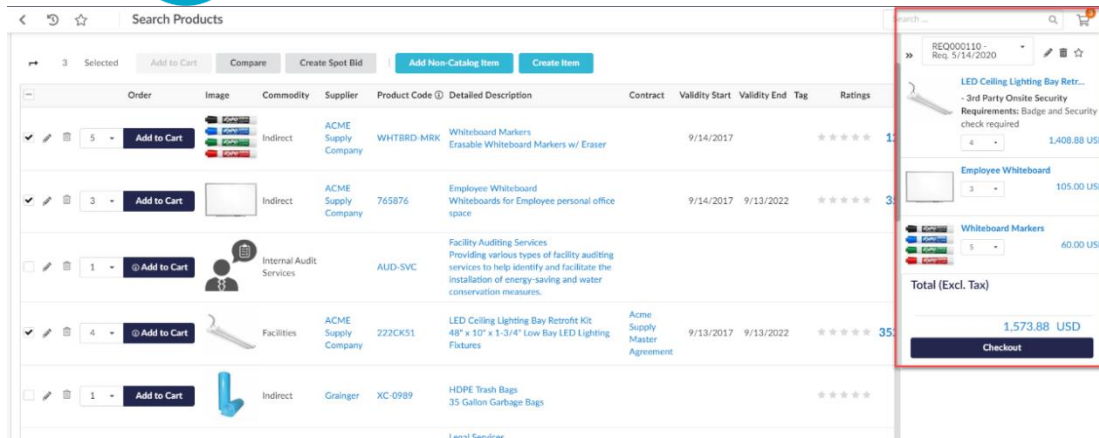


FIGURE 29 – INTUITIVE SHOPPING EXPERIENCE WITHIN IVALUA

Punch-out Catalogs

Users within the system can shop via hosted or punchout catalog. Those suppliers providing external catalogs will be enabled during the implementation process so these punchout catalogs will be available at the time of go-live. Users will be able to access the punchout catalog through the catalog, fill their carts, which will be brought back to Ivalua to checkout. This creates a seamless shopping experience for external catalogs.

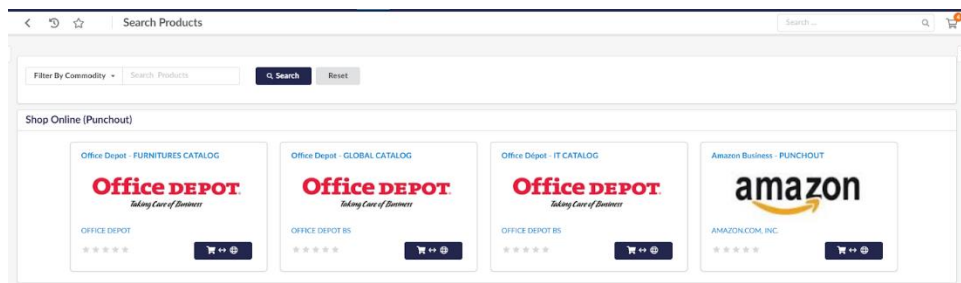


FIGURE 30 – PUNCHOUT CATALOGS

Catalog Upload

Suppliers without external catalogs will be able to manage catalogs in a self-service manner by uploading their own catalogs within the Ivalua solution. Suppliers will have the ability to download their existing catalogs, make modifications, and reupload or add a new upload from scratch. All uploads are done via excel and the templates are provided to the suppliers directly within the supplier portal. After upload, the system does an automated format check to make sure all lines were uploaded successfully. The completed catalog will then be routed through an approval process for an internal user to validate for accuracy and adherence to agree upon pricing. A side-by-side comparison of old vs. new pricing is visible to these users to give them historical context to any price changes. Additional workflow steps can be added based on the client's needs.

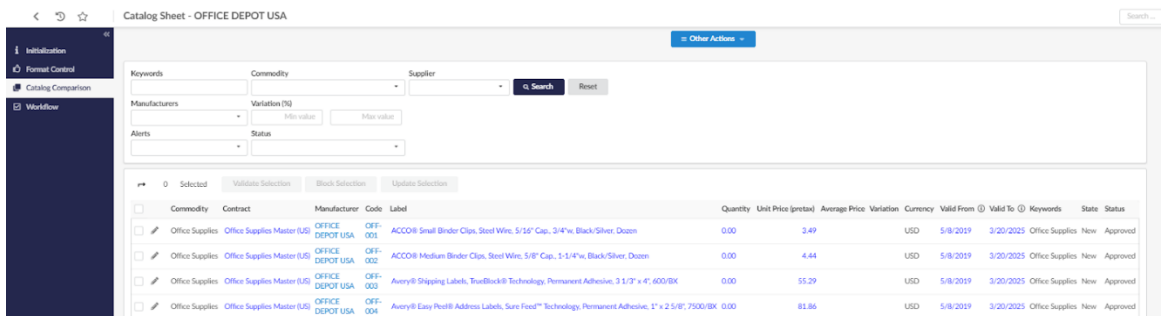


FIGURE 31 – CATALOG COMPARISON VIEW

If needed, internal users can also upload catalogs on a supplier's behalf through the same catalog upload process.

Search 360

Through Ivalua's search capability, users have an intuitive experience while shopping through the catalog capability. Users can use the keyword search to type in any search term to find the items they are looking for. The search capability includes predictive and fuzzy search capabilities, which will yield results even if words are misspelled as well as try to finish the users search term. In addition to keyword search, Ivalua can also search on any field within the item's record including manufacturer, part number, or any other attribute of the supplies profile. A unique feature of Ivalua, is that any field within the system can be added as a new parameter to search upon. Multiple search criteria can be applied at one time to easily find what they are looking for.

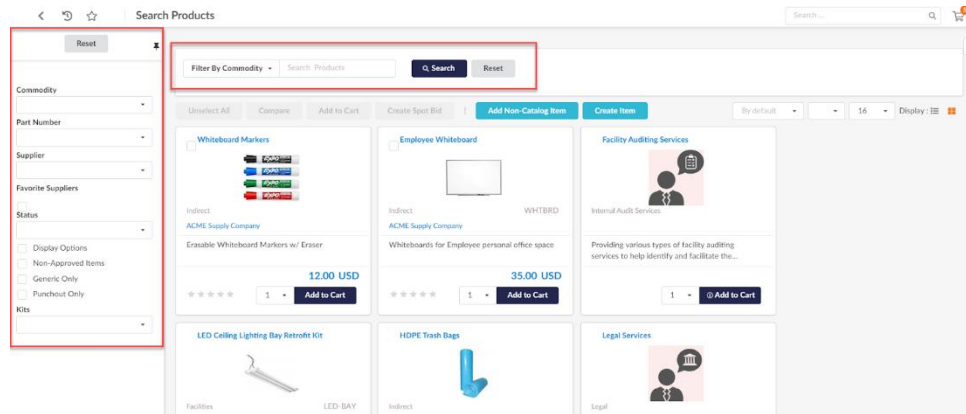


FIGURE 32 – SEARCH AND FILTER CAPABILITIES

Item tags, as shown below, provide visual indicators to help users identify preferred, discounted, or emergency items. Tags can help users find a specific category of goods, but also prioritize these items within the search. All item tags will be aligned to the organization's needs.

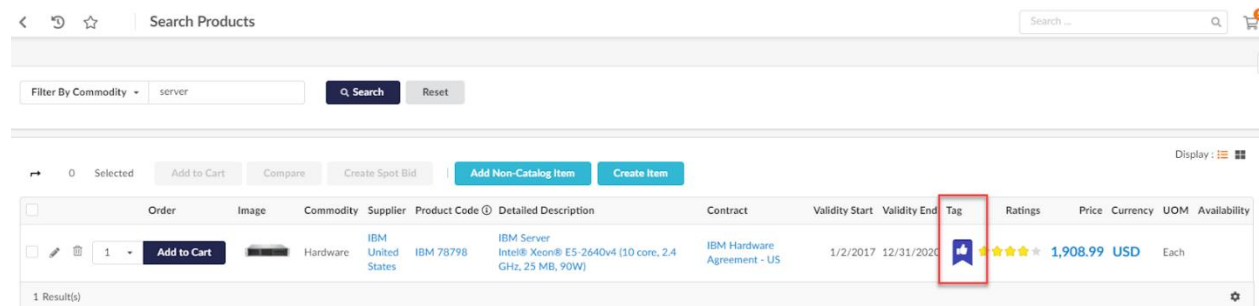


FIGURE 33 – ITEM TAGS

Ivalua also has the ability to search both punchout and hosted catalog in the same search. Through an API, external catalog results will be brought into the internal Ivalua catalog. This will provide the user with a single place to conduct a search, instead of having to punch out to the external catalog first. This is a powerful capability that gives users a true one-stop-shop approach to searching and shopping within the Ivalua solution. See below in figure 34 a side-by-side view of internal and external catalog results within the same search.

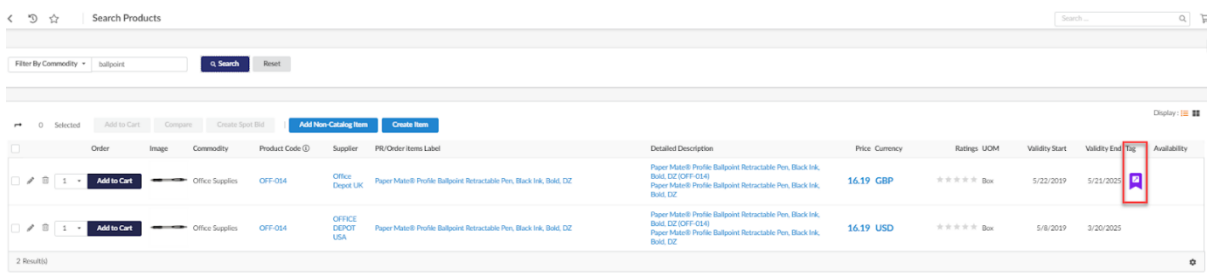


FIGURE 34 – CROSS-CATALOG SEARCH

8. Sourcing/Bid Management

The Sourcing components of the system provide functionality to automate the entire solicitation process for both the buyer and the supplier. All types of solicitations can be created leveraging standard templates and libraries. Formal or informal, sealed or un-sealed, complex or simple. Other key functionalities include initiating solicitations from a requisition, public posting, supplier notification, evaluation of bids/proposals, making the award and the Integration with other solution components to automate the creation of catalogs and contracts.

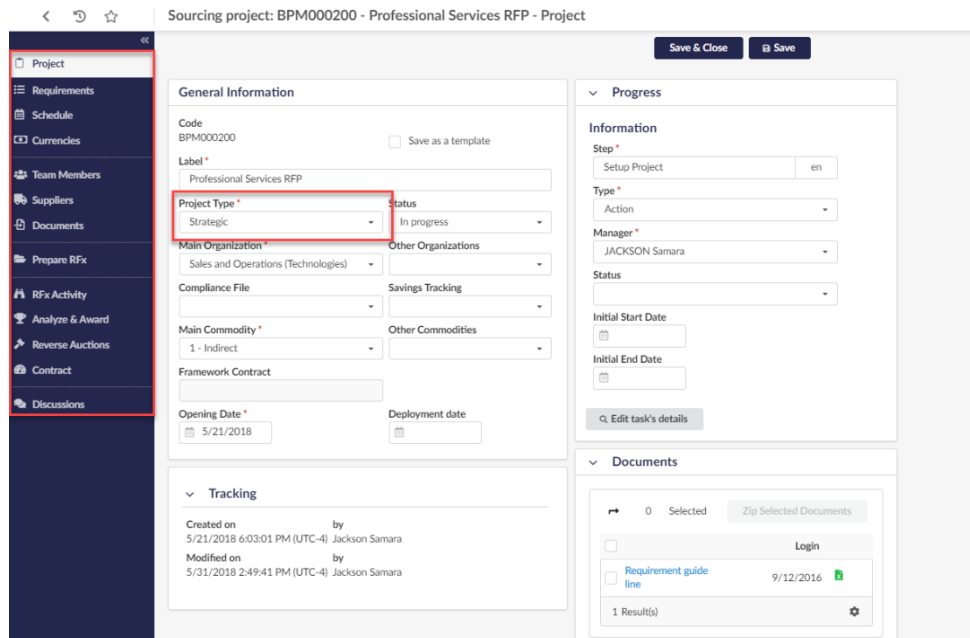
Response requirement:

- RTM: Tab 3, SRC-1 through SRC-151
- Inline Narrative: Bidders must provide a detailed narrative response that describes overall Solution component that will meet the objectives and requirements of Sourcing/Bid Management.

Within the Solicitation and Bid module, the end-to-end solicitation process is managed all the way to contract completion. At the project header the basic information can be defined including the solicitation method, title, description, and status. Multiple solicitations methods are supported in Ivalua to allow for the process and information required to be tailored for the applicable procurement method, ensuring a compliant procurement process. Procurement types are identified based on the solicitation (BPM) type which drives which tabs and parts of the solicitation process are required. Throughout the solicitation module, tools to ensure transparency and drive competition are included to meet the organization's goals of finding the best product at the best value.

Solicitation Set-up

Ivalua can accommodate a range of solicitation methods, from very simple quick quote events to multi-phase RFPs with multiple envelopes which will separate technical information from pricing information throughout the evaluation process. Through walking through the tabs on the left side of the page, the user can engage in pre-solicitation activities, build their solicitation, release, evaluate, and award all within a single solicitation record.



The screenshot shows the 'Sourcing project: BPM000200 - Professional Services RFP - Project' setup page. The left sidebar contains navigation tabs: Project, Requirements, Schedule, Currencies, Team Members, Suppliers, Documents, Prepare RFX, RFX Activity, Analyze & Award, Reverse Auctions, Contract, and Discussions. The main content area is divided into several sections:

- General Information:** Includes fields for Code (BPM000200), Label (Professional Services RFP), Project Type (Strategic), Status (In progress), Main Organization (Sales and Operations (Technologies)), Compliance File, Savings Tracking, Main Commodity (1 - Indirect), Other Commodities, Framework Contract, Opening Date (5/21/2018), and Deployment date.
- Progress:** Includes Information section with Step (Setup Project), Type (Action), Manager (JACKSON Samara), Status, Initial Start Date, and Initial End Date.
- Documents:** Includes a section for '0 Selected' documents with a 'Zip Selected Documents' button and a 'Login' button.
- Tracking:** Includes a section for 'Created on' (5/21/2018 6:03:01 PM (UTC-4) Jackson Samara) and 'Modified on' (5/31/2018 2:49:41 PM (UTC-4) Jackson Samara).

FIGURE 35 – SOURCING EVENT SET-UP

Supplier Identification

Suppliers to be invited to a solicitation can be captured by adding them through the suppliers' tab within the solicitation record. Suppliers can be automatically added to the invited suppliers list based on the commodity or commodities that were defined at solicitation set-up. Additionally, suppliers can be added by searching the supplier

database on any criteria. Additional suppliers will automatically be added to the list as they engage with the organization through the public portal.

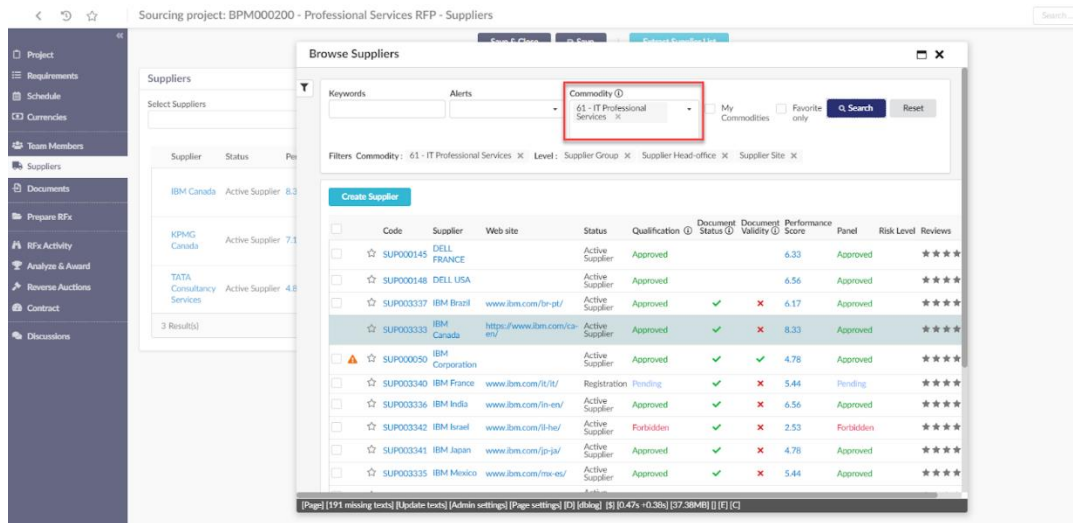


FIGURE 36 – SUPPLIER SELECTION

Adding a supplier to the list will automatically bring in their contact person from their supplier record, as well as additional documents and performance data can be brought into the solicitation process.

Solicitation Documents and Templates

Within the documents tab, standard organization documents can be stored such as standard terms and conditions. In addition, the solicitation owner can upload an unlimited number of attachments to be used internally or sent to the supplier as part of the pre-solicitation/solicitation process. Documents can have workflows associated with them and accommodate versioning. This allows for standardization of processes across the organization, giving easy to access, standardized documents for all organization users.

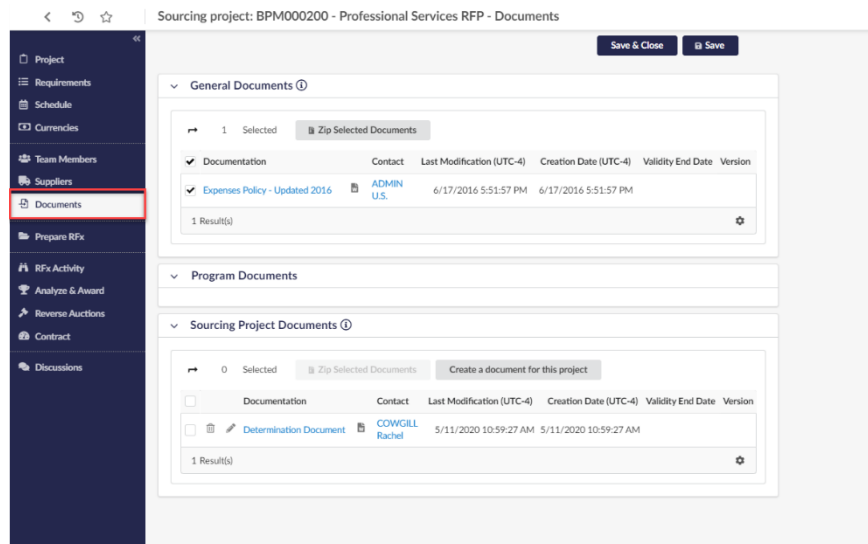


FIGURE 37 – SOLICITATION DOCUMENTS

Solicitation Creation and Release

The prepare RFX tab contains the areas within the solicitation that are going to be sent out to the supplier along with the solicitation package. The type of event will determine what is required from the suppliers as part of their

response (such as information only for an RFI) as well as the settings that are required for each type of event to adhere to procurement rules and to ensure consistency of processes.

Events with multiple addendums, shortlists and phases can all be handled through the prepare solicitation process. Templates can be used throughout the solicitation creation to minimize work from the procurement officer while creating the solicitation and to easily reuse standard forms, documents, and pricing formats.

Sealed Bids Management

Bids are protected through Ivalua's sealed bid functionality as part of the sourcing event. When sealed bids are used, internal users will not be able to access the suppliers submitted bids until after the bid due date and time has passed and an authorized user has unsealed the responses. When the envelopes are unsealed, there is a time stamp directly on the screen for auditability.

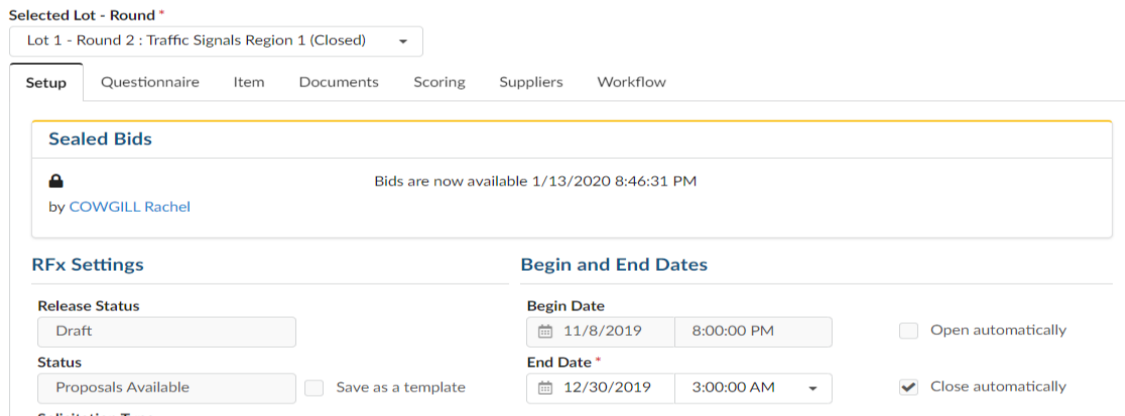


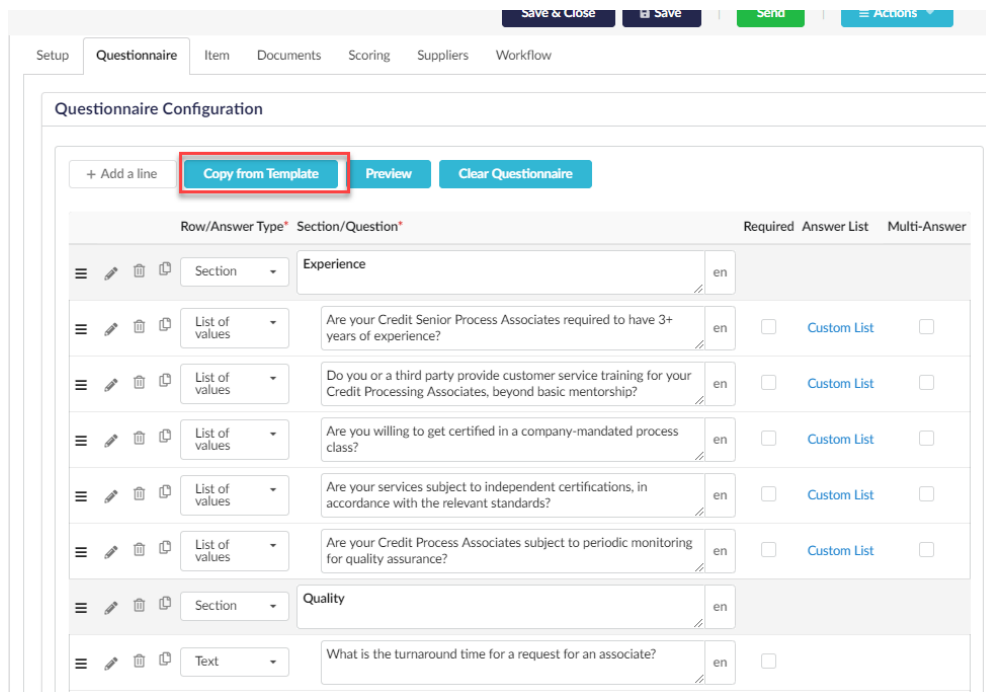
FIGURE 38 – SEALED BID MANAGEMENT

Questionnaire Capability – Capturing Qualitative Information

Through Ivalua's questionnaire capability, non-price components can be captured from the supplier in a structured format. Templates can be utilized to pull in the questions/forms that are required the supplier to respond to or can be built from scratch. Each question will allow for the definition of how the internal user requires the user to respond to ensure structured inputs from the supplier. The options for question types are:

- Label
- Long text
- Numeric
- Dropdown list
- Attachment (single)
- Attachment (multiple)
- Date

Additional attributes and settings can be applied to each question, including the ability to make a question required, the option to add a comment or attachment to clarify the answer, or to allows more than one response to a question. Conditional logic can also be added to questions to create if-then statements that will determine the visibility of questions based on previous responses.



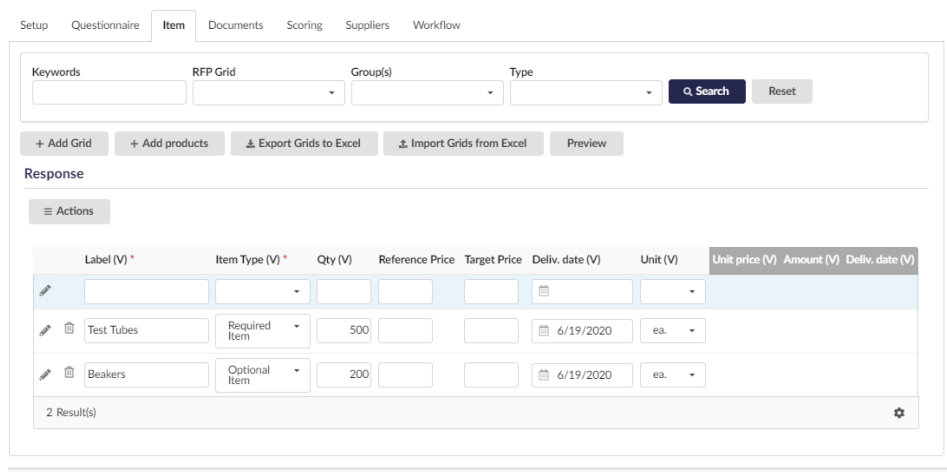
Row/Answer Type*	Section/Question*	Required	Answer List	Multi-Answer
Section	Experience			
List of values	Are your Credit Senior Process Associates required to have 3+ years of experience?	☐	Custom List	☐
List of values	Do you or a third party provide customer service training for your Credit Processing Associates, beyond basic mentorship?	☐	Custom List	☐
List of values	Are you willing to get certified in a company-mandated process class?	☐	Custom List	☐
List of values	Are your services subject to independent certifications, in accordance with the relevant standards?	☐	Custom List	☐
List of values	Are your Credit Process Associates subject to periodic monitoring for quality assurance?	☐	Custom List	☐
Section	Quality			
Text	What is the turnaround time for a request for an associate?	☐		

FIGURE 39 – QUESTIONNAIRE CAPABILITY

Pricing

Pricing for the solicitation can be collected directly in the system via the item grid. Multiple item grid templates can be accommodated and applied automatically to the event based on event type, organization, or commodity. This will allow suppliers to enter their pricing in a structure format via the method that the user has chosen (ex. Unit price vs.% discount). In addition to being able to store multiple item grid templates, users can also add or remove columns for individual events. This makes it each to structure the item grid to capture different pricing requirements. Each new column can be designated as internal or external and can be entered as a free text, dropdown, monetary, or even calculated field. Authorized users will be able to create new calculated fields on the fly and test them via the preview functionality.

If the 'reference price' or 'target price' columns are filled within the item grid, the system will automatically calculate savings during the award stage based on the award scenario. This will help the organization easily visualize the lowest price and greatest cost savings during the solicitation analysis.



Label (V) *	Item Type (V) *	Qty (V)	Reference Price	Target Price	Deliv. date (V)	Unit (V)	Unit price (V)	Amount (V)	Deliv. date (V)
Test Tubes	Required Item	500			6/19/2020	ea.			
Beakers	Optional Item	200			6/19/2020	ea.			

FIGURE 40 – ITEM GRID SAMPLE

Release

Once a solicitation is fully created, the user can launch it to a workflow to approve and release. Users within the workflow path will login and approve the solicitation. Once it is approved, the user can manually send out the solicitation or have it released automatically at the opening date and time.

At the time of release, an email notification is sent out to suppliers, inviting them to the event. They will be able to follow the link in the email or access their supplier portal directly to review and respond.

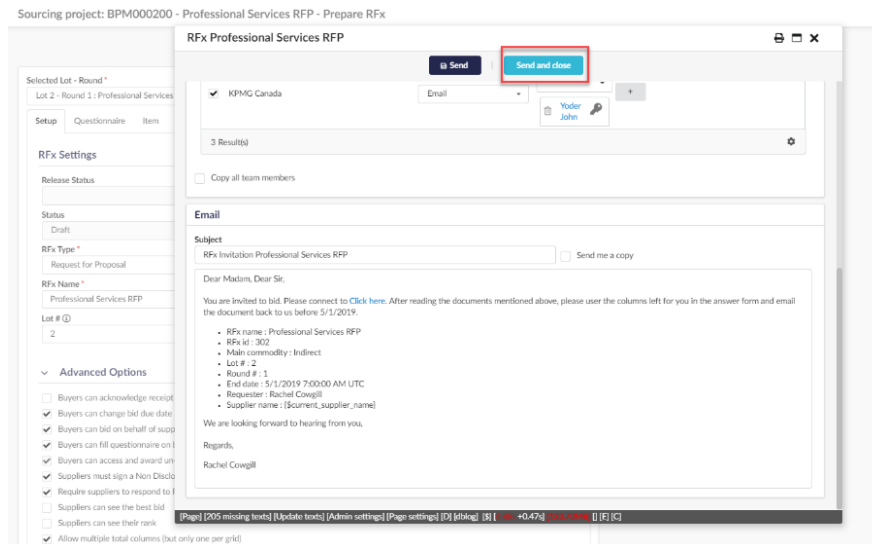


FIGURE 41 – EMAIL FOR SOLICITATION RELEASE

Public Portal

The Ivalua public portal fosters greater transparency into the procurement process throughout its lifecycle. The public portal allows users without an account to view open and close solicitation, active contracts and facilitate the submission of public facing forms if needed. The public portal is seamlessly integrated with the rest of the Ivalua solution to enable transparent procurement and greater competition among potential suppliers. Ivalua can also integrate to the organization's website for posting of events. Our recommended approach is to post basic information on the organization's website, such as solicitation description, dates, etc. and include a link to the Ivalua public portal for viewing full solicitation details and documents. This gives suppliers easy access to the event and to participate, while also minimizing integration effort.

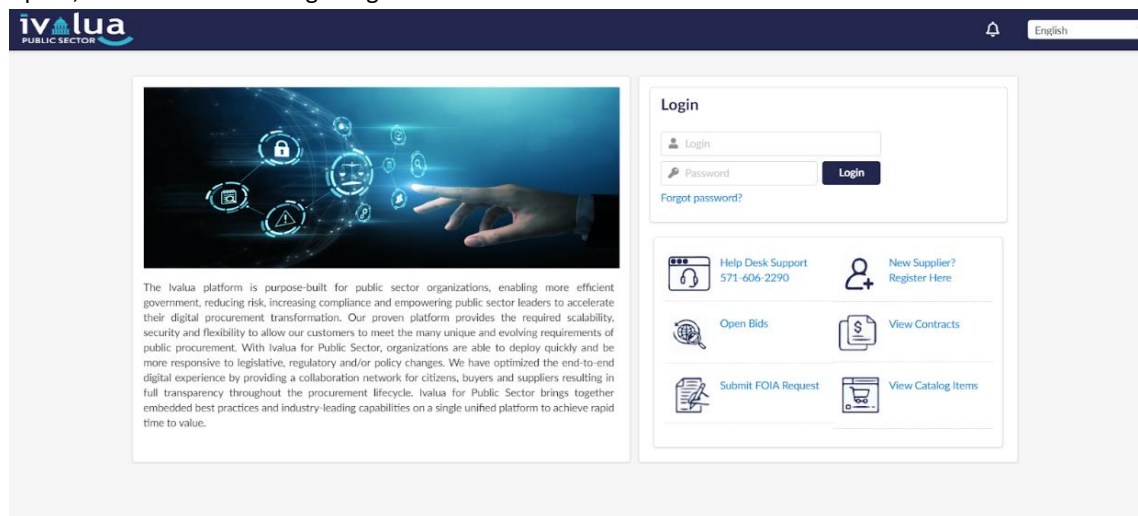
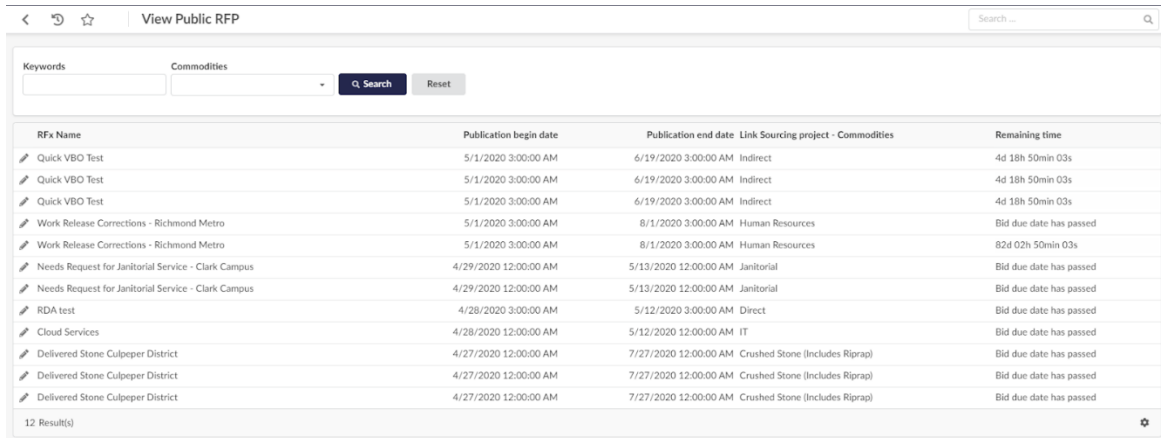


FIGURE 42 – PUBLIC LANDING PAGE

Public sourcing events allow any user without an account to view and respond to event within the Ivalua sourcing solution. From the Ivalua public landing page, a user can view active and historical solicitations across the organization, utilizing search and filter capabilities to easily find what is needed.



RFX Name	Publication begin date	Publication end date	Link Sourcing project - Commodities	Remaining time
Quick VBO Test	5/1/2020 3:00:00 AM	6/19/2020 3:00:00 AM	Indirect	4d 18h 50min 03s
Quick VBO Test	5/1/2020 3:00:00 AM	6/19/2020 3:00:00 AM	Indirect	4d 18h 50min 03s
Quick VBO Test	5/1/2020 3:00:00 AM	6/19/2020 3:00:00 AM	Indirect	4d 18h 50min 03s
Work Release Corrections - Richmond Metro	5/1/2020 3:00:00 AM	8/1/2020 3:00:00 AM	Human Resources	Bid due date has passed
Work Release Corrections - Richmond Metro	5/1/2020 3:00:00 AM	8/1/2020 3:00:00 AM	Human Resources	82d 02h 50min 03s
Needs Request for Janitorial Service - Clark Campus	4/29/2020 12:00:00 AM	5/13/2020 12:00:00 AM	Janitorial	Bid due date has passed
Needs Request for Janitorial Service - Clark Campus	4/29/2020 12:00:00 AM	5/13/2020 12:00:00 AM	Janitorial	Bid due date has passed
RDA test	4/28/2020 3:00:00 AM	5/12/2020 3:00:00 AM	Direct	Bid due date has passed
Cloud Services	4/28/2020 12:00:00 AM	5/12/2020 12:00:00 AM	IT	Bid due date has passed
Delivered Stone Culpeper District	4/27/2020 12:00:00 AM	7/27/2020 12:00:00 AM	Crushed Stone (Includes Riprap)	Bid due date has passed
Delivered Stone Culpeper District	4/27/2020 12:00:00 AM	7/27/2020 12:00:00 AM	Crushed Stone (Includes Riprap)	Bid due date has passed
Delivered Stone Culpeper District	4/27/2020 12:00:00 AM	7/27/2020 12:00:00 AM	Crushed Stone (Includes Riprap)	Bid due date has passed

FIGURE 43 – PUBLIC SOLICITATION BROWSE

If a supplier wants to participate, they can add any solicitation to their account to create a response or be prompted to create a new account within the system. This will automatically add the solicitation to their list of the responses to receive additional updates such as Q&A responses and addendums, as well as give the supplier a dedicated place to organize and submit their response. The public view of the solicitation includes all attributes of the solicitation including general information, documents, questionnaires, and price lists. In addition, the public solicitation page can also post bid tabulations and award posting once the bid due date and time has been reached and an award has been made.

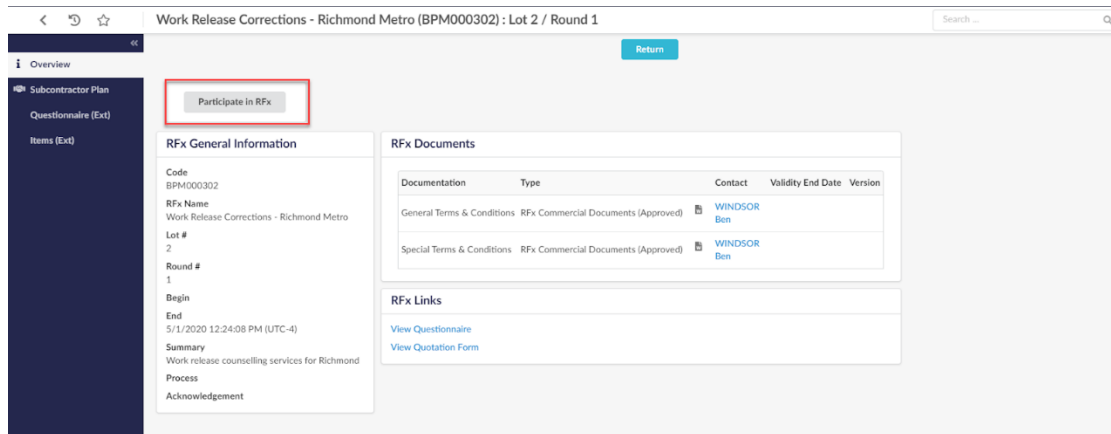


FIGURE 44 – PUBLIC SOLICITATION VIEW

Online Response Capabilities

The supplier will be able to create their solicitation from within the solution. The supplier will have access to all their solicitations via the supplier portal, whether they were invited or have joined the event via the public portal. They will be guided to craft their response within the system or can download the entire solicitation to a zip file to view and response offline if needed.

The supplier will have the following capabilities as they response:

- View all solicitation data within the UI
- Extract event into a file

- Acknowledge or submit an NDA (if required)
- Attach additional documents
- Respond to questionnaires
- Respond to pricing

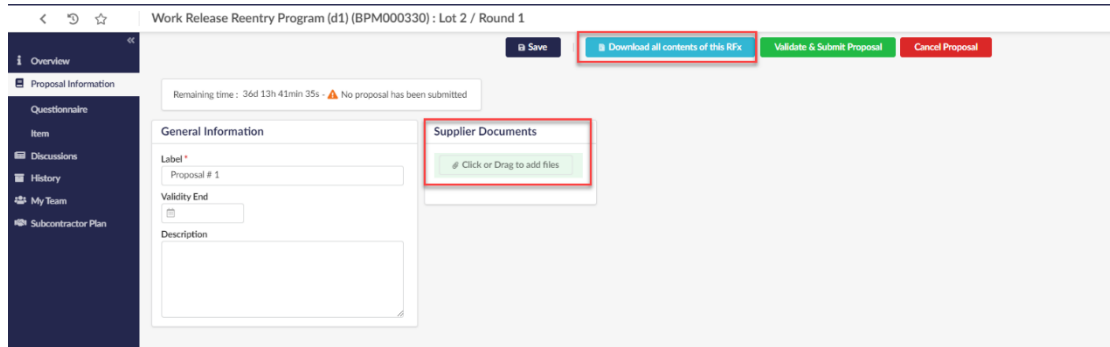
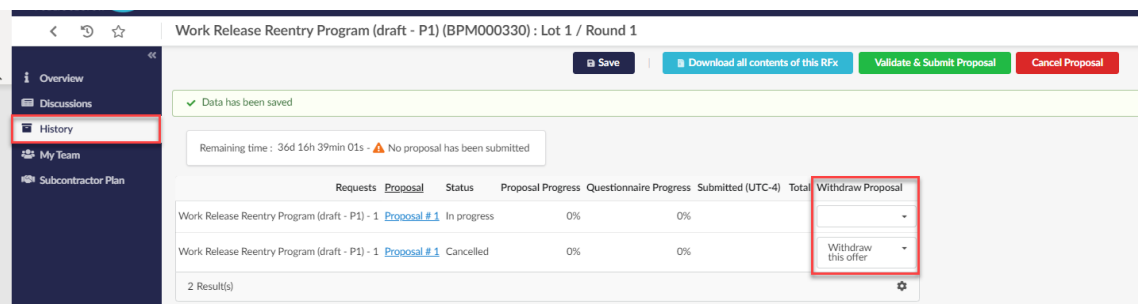


FIGURE 45 – SUPPLIER ONLINE RESPONSE

Management of Responses

After a supplier submits their response, they will have multiple options to manage their responses before the due date and time. All their previous solicitation activity and options are housed within the 'history' tab, to show a supplier all their solicitation activity for that event. The supplier's options are:

- Create a new proposal from scratch
- Copy forward a previously submitted proposal
- Cancel a proposal in progress
- Withdraw a proposal



Requests	Proposal	Status	Proposal Progress	Questionnaire Progress	Submitted (UTC-4)	Total	Withdraw Proposal
Work Release Reentry Program (draft - P1) - 1	Proposal # 1	In progress	0%	0%			Withdraw Proposal
Work Release Reentry Program (draft - P1) - 1	Proposal # 1	Cancelled	0%	0%			Withdraw this offer

FIGURE 46 – HISTORY TAB

Monitoring Activity

Throughout the solicitation lifecycle, the internal user will be able to view the activity of the suppliers at a high level, including who is participating in the event, as well as the email notifications they have received. If the bids are sealed, the user will only be able to have access to the bids after the bid due date and time has been reached and the bids have been unsealed.

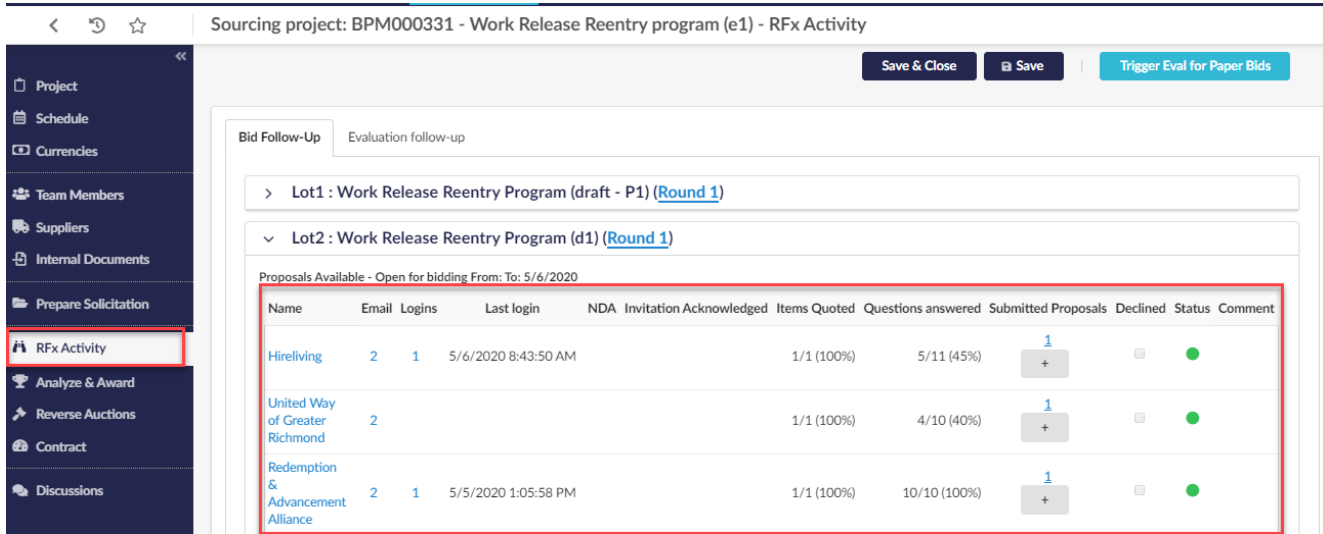


FIGURE 47 – MONITORING SUPPLIER ACTIVITY

Award

Through the analyze and award tab within the solicitation, users can analyze all supplier responses and are given numerous ways to compare and contract supplier proposals to make a decision that provides the best value to the organization.

Within the proposals tab, users will have a high-level view of supplier activity throughout the event and can easily take action on this page to shortlist or award a single supplier. They can also view side by side comparisons of items and qualitative information for two or more suppliers. The system also includes additional functionality to further slice and dice award data, by line item, quantity, amount, or percentage. The user can also select 'award strategies' which will apply a selected algorithm to create the award.

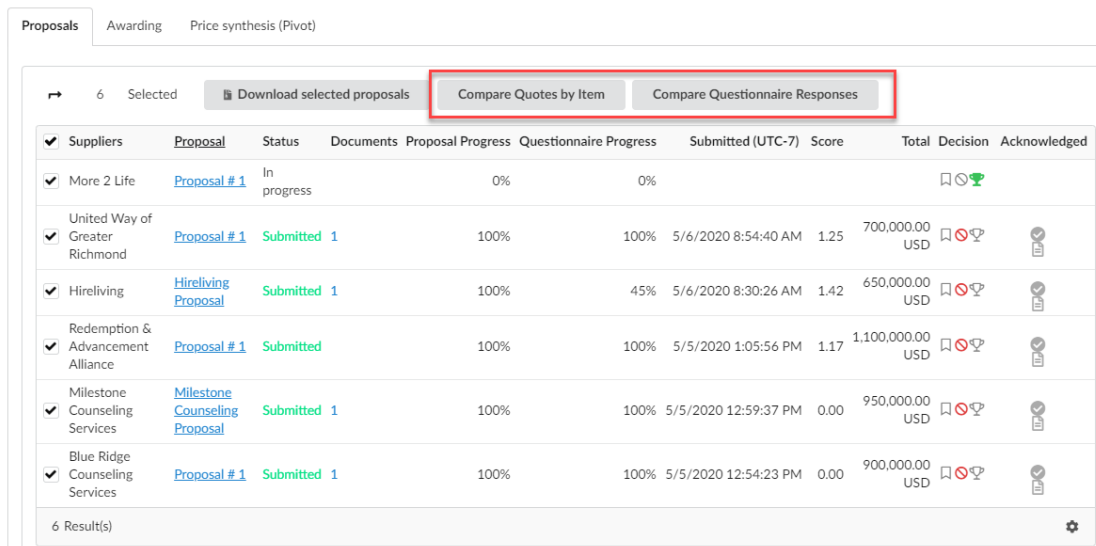


FIGURE 48 – SUPPLIER PROPOSALS AND COMPARE FUNCTIONALITY

Savings Tracking

Once the draft award has been created, the user will be able to review their savings tracking that is based on the target and reference price entered within the line items. This is also synthesized at the overall award level for comparison. These grids can be imported into excel if needed.

Items synthesis

Requests	Round #	Items	Supplier	Ref. amount	Target amount	Bid amount	Total target savings	Grand total:	Identified savings / Target
HVAC Installation & Repair (eval)	1	HVAC Installation	AirServ	16,000.00	15,000.00	14,000.00	1,000.00	2,000.00	200.00 %
HVAC Installation & Repair (eval)	1	HVAC Repair	AirServ	17,000.00	16,000.00	14,500.00	1,000.00	2,500.00	250.00 %
2 Result(s)									

Award overview

	Ref. amount USD	Target amount USD	Bid amount USD	Total target savings per unit	Identified savings USD	Identified savings / Target %
All items	33,000.00	31,000.00	28,500.00	2,000.00	4,500.00	225.00
Awarded items only (2 / 2)	33,000.00	31,000.00	28,500.00	2,000.00	4,500.00	225.00

FIGURE 49 – SAVINGS TRACKING

Award Notifications and Contract Creation

When an award has been created and approved, the user can then notify the suppliers of their decisions and create a new contract. The creation of a contract from a sourcing event will carry over all fields into the creation of the contract. This prevents duplicate re-entry of data fields within the newly created contract.

Sourcing project: BPM000331 - Work Release Reentry program (e1) - Contract

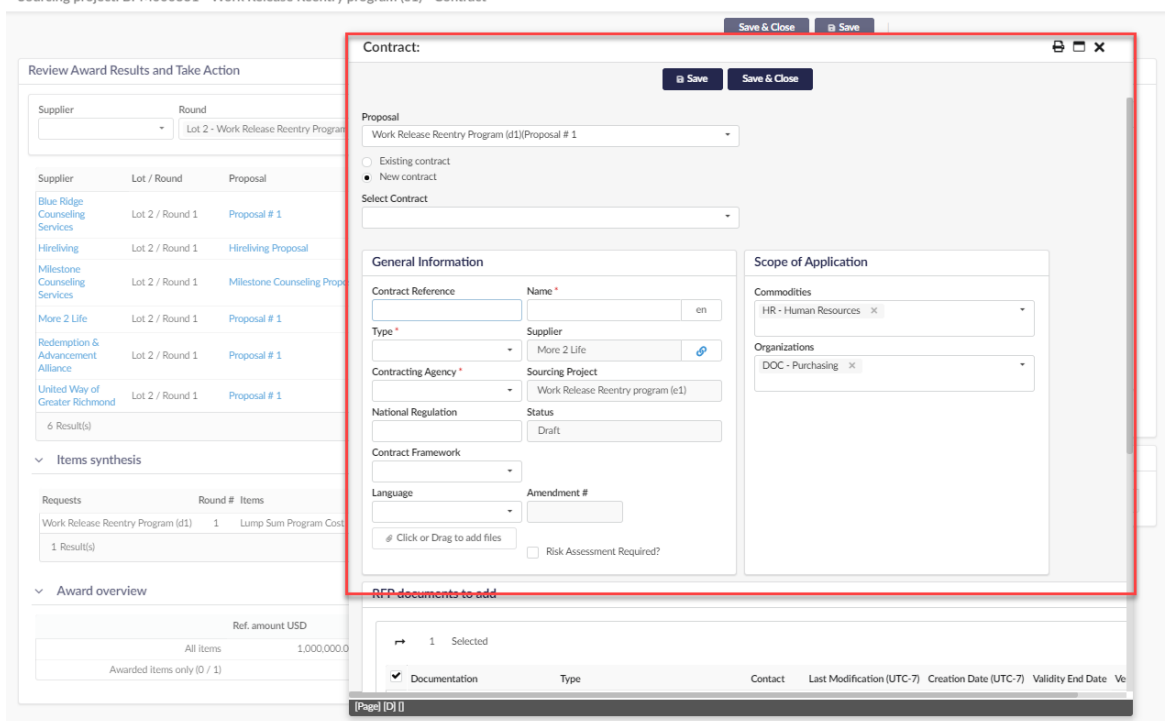


FIGURE 50 – CONTRACT CREATION FROM SOURCING EVENT

9. Contract Management

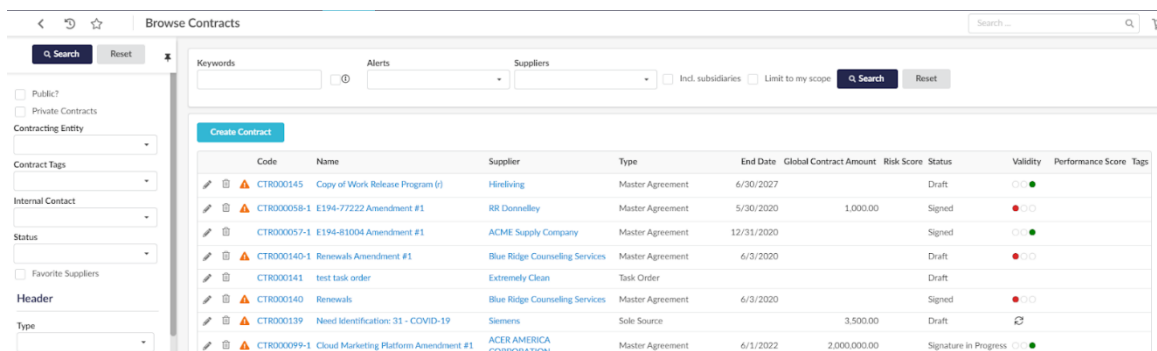
The Contract Management components of the Solution encompass all aspects of contract development, tracking, electronic signature, and administration. Contract document authoring is automated through templates and libraries to provide consistency across the Participating Entity. Workflow functionality provides oversight by automating the review and approval processes.

Key contract administration functions address management of subcontractors, identification of authorized resellers (dealers, distributors, etc.), tracking and managing Supplier sales reports, Contractor performance and compliance as well as amendments and renewals.

Response requirement:

- **RTM:** Tab 3, CNT-1 through CNT-88
- **Inline Narrative:** Bidders must provide a detailed narrative response that describes overall Solution component that will meet the objectives and requirements of Contract Management Capability.

Organization users will have access to the contracts within the contract repository, based on their user role and perimeter. From this screen, users can execute searches and filters on the contract to find the areas they are looking for across all forms within the contract record. The contract browse screen can be exported into an excel file, if needed for offline analysis.



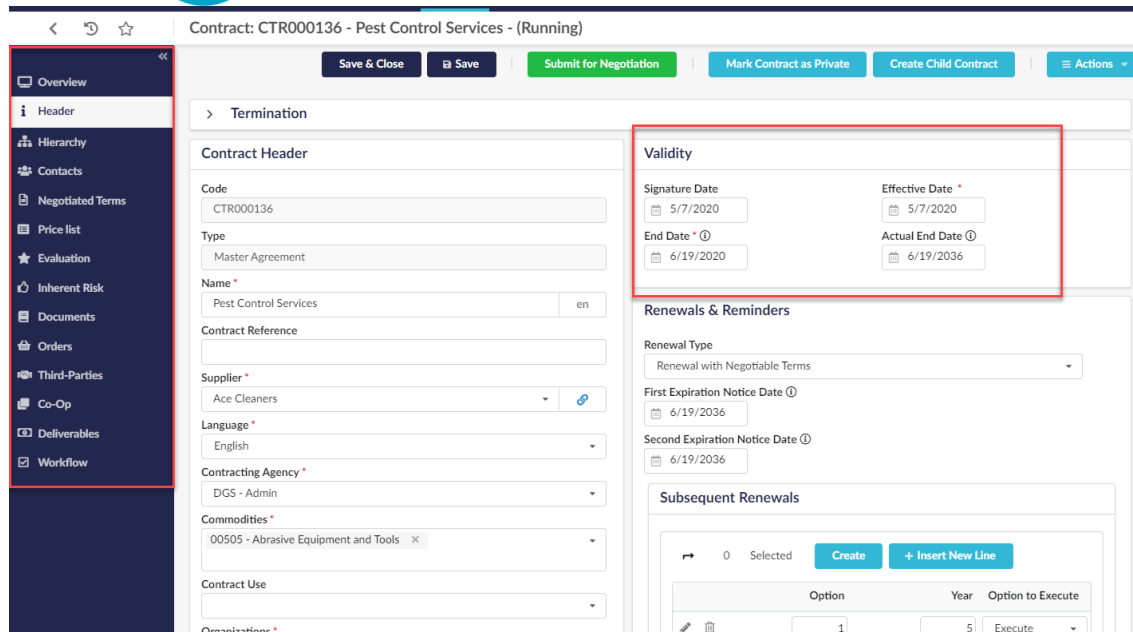
Code	Name	Supplier	Type	End Date	Global Contract Amount	Risk Score	Status	Validity	Performance Score	Tags
CTR000145	Copy of Work Release Program (s)	Hindling	Master Agreement	6/30/2027			Draft	○ ○ ●		
CTR000058-1	E194-7222 Amendment #1	RR Donnelly	Master Agreement	5/30/2020	1,000.00		Signed	● ○ ○		
CTR000057-1	E194-81004 Amendment #1	ACME Supply Company	Master Agreement	12/31/2020			Signed	○ ○ ●		
CTR000140-1	Renewals Amendment #1	Blue Ridge Counseling Services	Master Agreement	6/3/2020			Draft	● ○ ○		
CTR000141	test task order	Extremely Clean	Task Order				Draft			
CTR000140	Renewals	Blue Ridge Counseling Services	Master Agreement	6/3/2020			Signed	● ○ ○		
CTR000139	Need Identification: 31 - COVID-19	Siemens	Sole Source		3,500.00		Draft	○ ○ ●		
CTR000099-1	Cloud Marketing Platform Amendment #1	ACER AMERICA CORPORATION	Master Agreement	6/1/2022	2,000,000.00		Signature in Progress	○ ○ ●		

FIGURE 51— CONTRACT REPOSITORY

The contract record within Ivalua captures all aspects of contract information, documentation, activity, and performance within the single record. The tabs on the left, shown in figure 51 can capture the different areas that will consist of the contract record, including dates, items, documents, subcontractor information, among others. Through Ivalua's robust configurability, additional tabs can be added to capture required information. Contracts can be created from a complete solicitation or from scratch.

Contract Header and Dates

The header tab of the contract captures the basic information about the contract brought over from the solicitation as well as manages any dates associated with the contract. Based on the dates that are set-up in the header of the contract, the system will automatically trigger reminders when the contract is nearing expiration. From the page, the user can initiate multiple contract actions, including amendments and renewals of the contract record. Through the definition of a contract type, the tabs populated on the left side will be generated. Different contract types can determine what field requirements, workflow, and alerts are relevant to the contract being created.



Contract: CTR000136 - Pest Control Services - (Running)

Save & Close Save Submit for Negotiation Mark Contract as Private Create Child Contract Actions

Termination

Contract Header

Code: CTR000136

Type: Master Agreement

Name: Pest Control Services en

Contract Reference:

Supplier: Ace Cleaners

Language: English

Contracting Agency: DGS - Admin

Commodities: 00505 - Abrasive Equipment and Tools

Contract Use:

Validity

Signature Date: 5/7/2020

Effective Date: 5/7/2020

End Date: 6/19/2020

Actual End Date: 6/19/2036

Renewals & Reminders

Renewal Type: Renewal with Negotiable Terms

First Expiration Notice Date: 6/19/2036

Second Expiration Notice Date: 6/19/2036

Subsequent Renewals

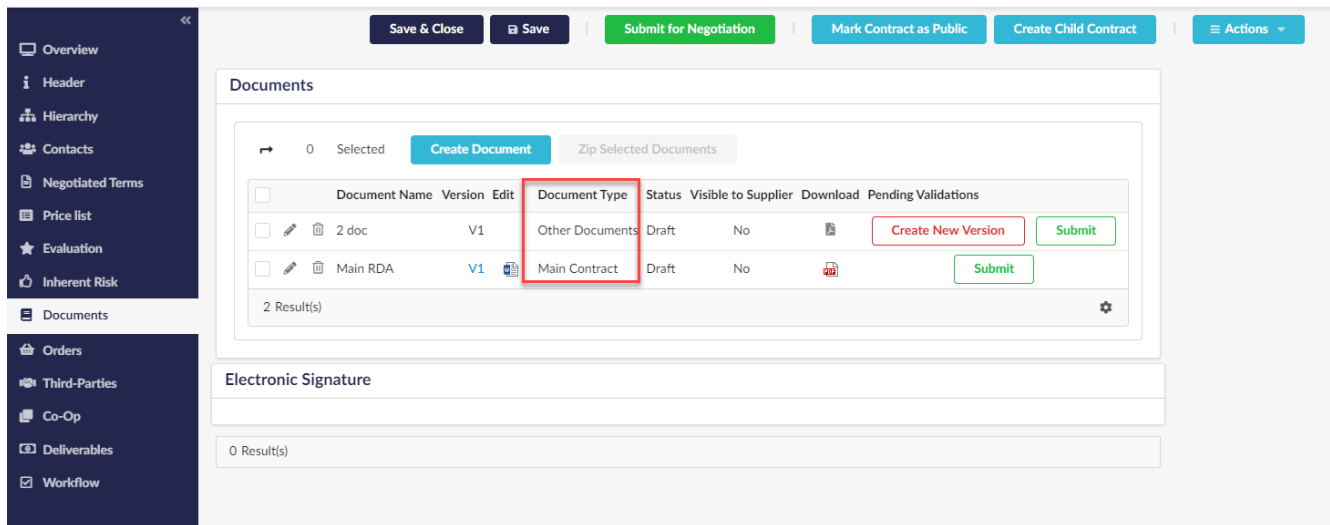
0 Selected Create + Insert New Line

Option	Year	Option to Execute
1	5	Execute

FIGURE 52 – CONTRACT HEADER

Contract Documents and Authoring

The documents tab captures all documentation associated with the contract through attachments. Each document has a 'type' associated with it that can categorize the documents by what is required, such as COIs, Licenses, etc. Based on what documents are required as well as their validity, alerts can be triggered to the user if documentation is missing from the contract record or is nearing expiration.



Save & Close Save Submit for Negotiation Mark Contract as Public Create Child Contract Actions

Documents

0 Selected Create Document Zip Selected Documents

	Document Name	Version	Edit	Document Type	Status	Visible to Supplier	Download	Pending Validations
☐	2 doc	V1		Other Documents	Draft	No		Create New Version Submit
☐	Main RDA	V1		Main Contract	Draft	No		Submit

2 Result(s)

Electronic Signature

0 Result(s)

FIGURE 53 – DOCUMENT MANAGEMENT

Within the document management capability, Ivalua has a built-in authoring tool that will allow users to write and redline contracts directly in the Ivalua solution. All organization contract templates and clauses will be stored within the system that can then be easily pulled into the contract document. Legal users will have the ability to import or edit templates and clauses, when needed. Redlines are tracked from user to user with the ability to compare previous versions of the contract side by side. Ivalua also offers a native integration to Microsoft Word, so users redline in the Word can sync their version back to Ivalua.

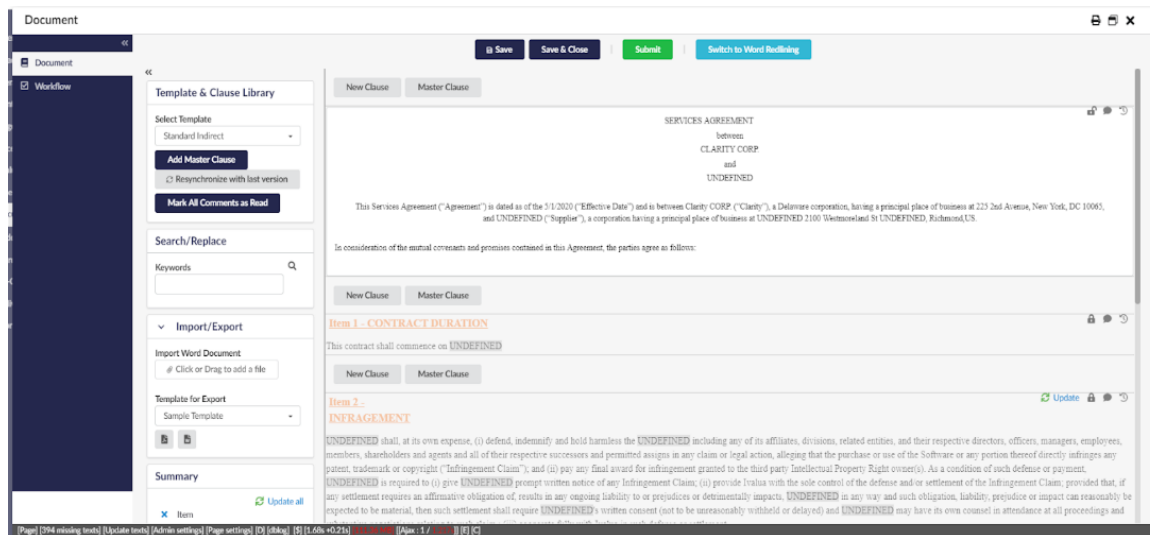


FIGURE 54 – NATIVE AUTHORING

Utilizing Ivalua's robust workflow capability, the authored document can be passed back and forth between users to facilitate redlines, versioning, and approvals. Suppliers will be able to access the document within their supplier portal to submit a new version or approve the document as it. Additional functionality of the contract authoring capability include:

- Capture a redline history of changes by clause
- Compare two versions side-by-side with redline
- Import a word document to start from third party paper
- Add comments
- Rearrange clauses
- Promote a new clause to master clause to be reused in the master library
- Revert a clause to its original language
- Extract completed document in word or PDF with organization specific styling

Third Parties

Through the third parties tab, Ivalua can capture any subcontractors and distributors that are being used by the prime supplier on the event. They can define who the subcontractor is, their M/WBE status, as well as the amount of percentage of the total contract value the supplier is responsible for.

Subcontractors					
+					
Subcontractor Name	Contact Name	Diversity Cert ID	Diversity Certification	Planned Amount	Percentage
 Mario Contractors	Mario Alonzo	213212	Small	5,000.00	10.00
 Surface Pros	Rachel Woods	1231890	Micro	15,000.00	15.00
2 Result(s)					

FIGURE 55 – SUBCONTRACTOR LIST

On a periodic basis, the system can also trigger a subcontractor report to prime suppliers. This allows them to report how much has been paid to their defined subcontractors in that period. The report is then routed through a workflow for approval. This provides the organization visibility into prime supplier's adherence to the supplier's defined subcontractor plan. The system will then track the overall utilization of the subcontractors according to the plan defined within the contract.

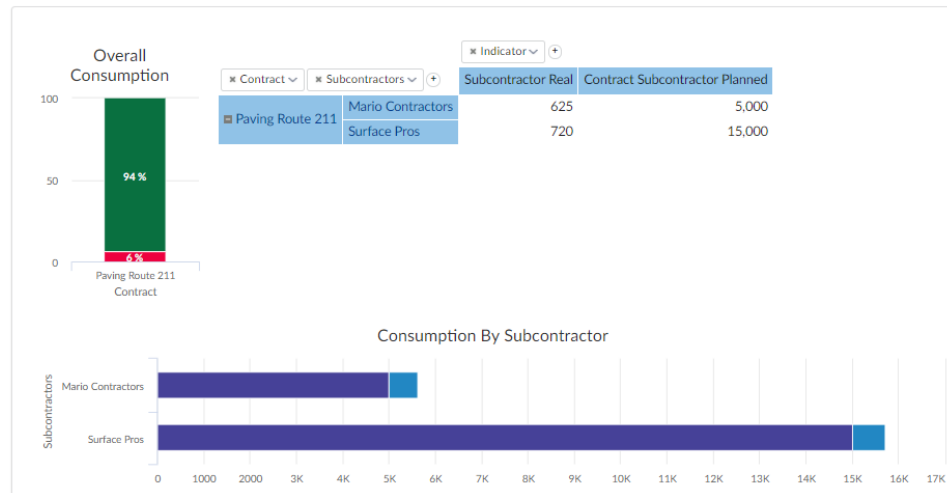


FIGURE 56 – TRACKING SUBCONTRACTOR CONSUMPTION

Contract Signature

Ivalua accommodates a standard integration with multiple eSignature tools, including DocuSign, Adobe Sign, and Universign. This will allow users to easily bring over their completed contract to the adobe sign tool as well as monitor the progress of the signatures as they take place. The signature transaction can be initiated from the documents tab and will bring over the completed document to the signature provider.

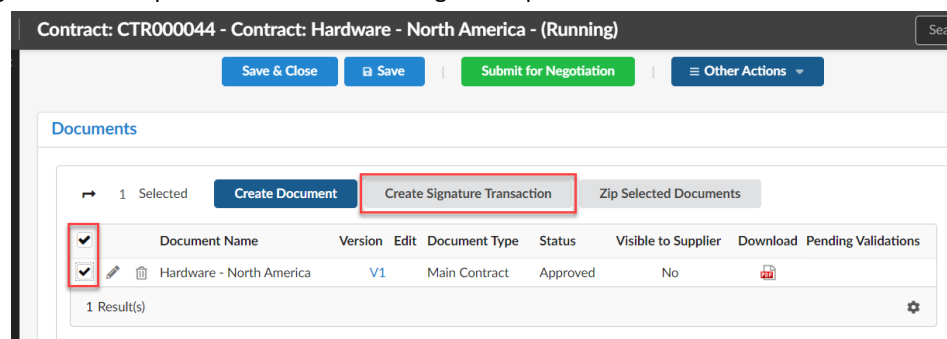


FIGURE 57 – CREATING A SIGNATURE TRANSACTION

The user will then set up their signatures as they typically would within the eSignature tool before sending the document out to users for signature. The users will receive email notifications and be able to access the eSignature tool. As the signatures are received, the signatures grid within the tool will be uploaded with the signees and their status.

Electronic Signature						
Created on (UTC-4)	Documents	Signers	Status	Submission Date (UTC-4)	Created by	Launched by
5/29/2020 10:32:38 AM		Ramos Andrew Cowgill Rachel	In progress	5/29/2020 10:32:38 AM	Cowgill Rachel	Cowgill Rachel

FIGURE 58 – STATUS TRACKING OF SIGNATURES

10. Vendor Performance

Vendor Performance management is a business practice that is used to measure, analyze, and manage the performance of a Supplier in an effort to cut costs, alleviate risks, and drive continuous improvement. The ultimate intent is to identify potential issues/risks and their root causes so that they can be resolved/managed to all parties benefit as early as possible. The electronic procurement Vendor Performance functionality must capture Vendor performance information and data including, but not limited to, delivery dates, receipt dates, pricing accuracy, cure letters, contract milestone completion, and customer surveys. The data must be collected in a manner that allows for reporting and analysis. The solution will provide the Participating Entity with a means to assess, track, manage and report Supplier performance across all procurement activities and include capabilities to capture and address performance complaints/issues.

Response requirement:

- RTM: Tab 3, VPE-1 through VPE-25
- Inline Narrative: Bidders must provide a detailed narrative response that describes overall Solution component that will meet the objectives and requirements of Vendor Performance Capability.

Performance Management

Over the life of the supplier, users can create performance assessments against their suppliers or contracts. All performance information is maintained within the supplier's profile for reporting, as well as can trigger alerts to users if a supplier is consistently performing poorly.

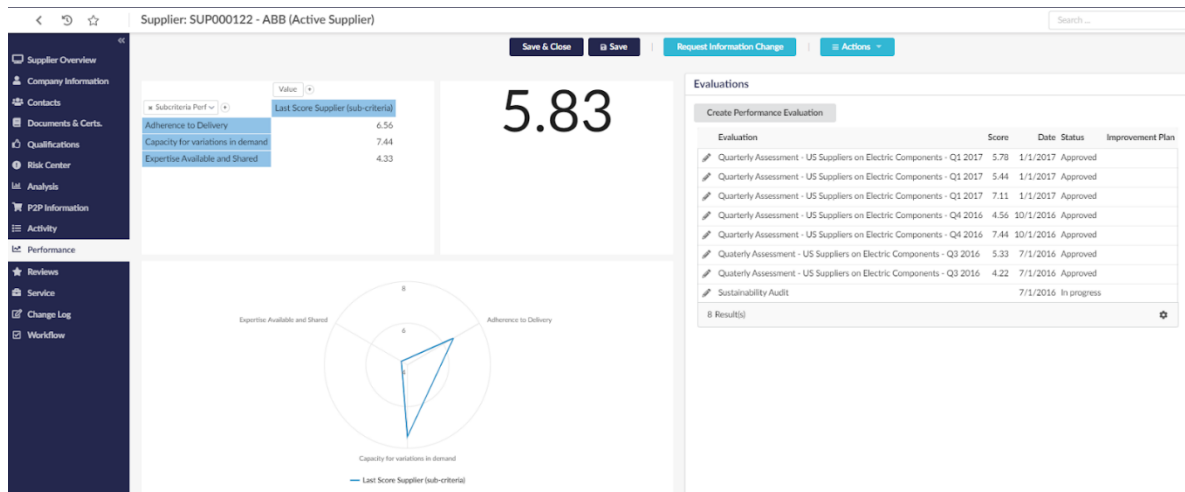
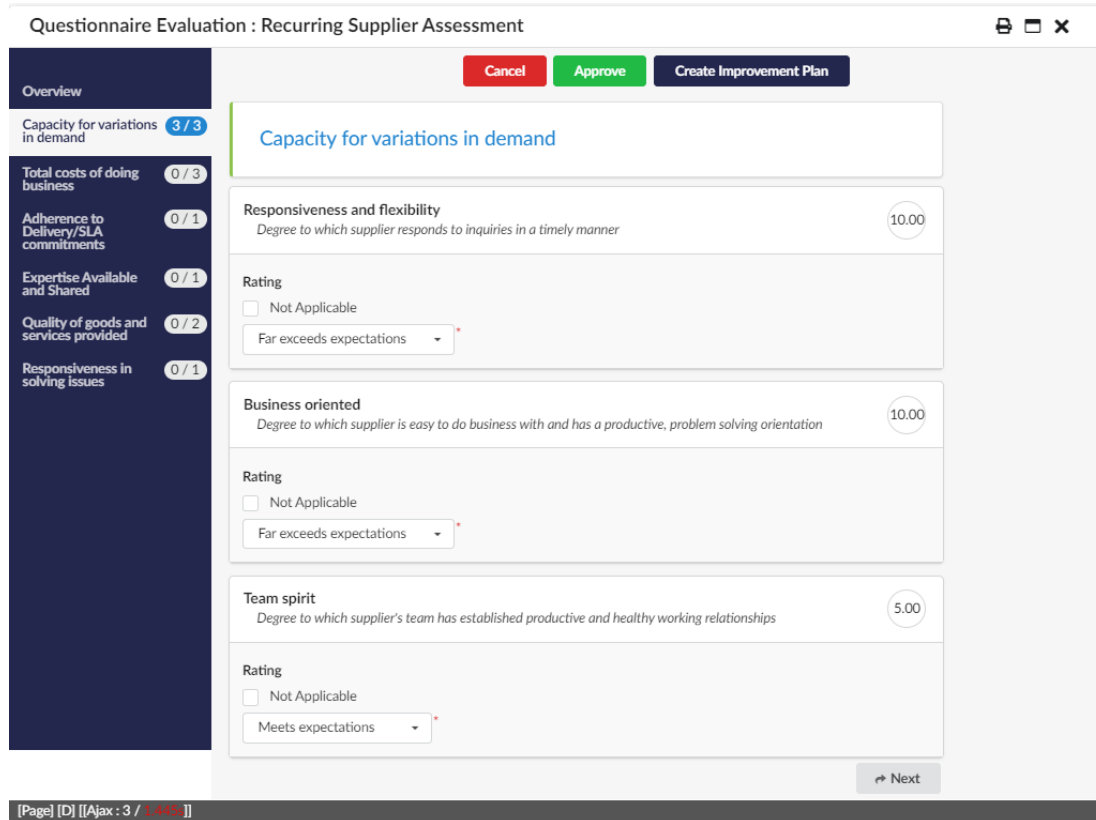


FIGURE 59 – SUPPLIER PERFORMANCE DASHBOARD

Performance assessments can be triggered manually or periodically. Templates for performance criteria are stored within Ivalua for users to respond to questions related to the supplier's performance and based on the weights of each question, will roll up a total score. As evaluators respond to the supplier assessments, they will be able to add comments and attachments, where needed.



Questionnaire Evaluation : Recurring Supplier Assessment

Cancel Approve Create Improvement Plan

Overview

Capacity for variations in demand 3 / 3

Total costs of doing business 0 / 3

Adherence to Delivery/SLA commitments 0 / 1

Expertise Available and Shared 0 / 1

Quality of goods and services provided 0 / 2

Responsiveness in solving issues 0 / 1

Capacity for variations in demand

Responsiveness and flexibility
Degree to which supplier responds to inquiries in a timely manner 10.00

Rating
☐ Not Applicable
Far exceeds expectations

Business oriented
Degree to which supplier is easy to do business with and has a productive, problem solving orientation 10.00

Rating
☐ Not Applicable
Far exceeds expectations

Team spirit
Degree to which supplier's team has established productive and healthy working relationships 5.00

Rating
☐ Not Applicable
Meets expectations

Next

[Page] [D] [[Ajax : 3 / 1,440]]

FIGURE 60 – PERFORMANCE EVALUATION RESPONSE

Authorized administrators will be able to modify and create new templates for measuring supplier performance, which can be stored organization wide or only for use within a specific commodity or entity. Completed performance evaluations can be routed through a workflow if additional review or approval is needed.

Exception Tracking

Ivalua provides the ability to track exceptions and collaborate with suppliers to address these exceptions. If a supplier scores poorly on a performance or risk assessment, exceptions can be created to inform the supplier of areas that need improvement. The exception documents the issue or non-conformance and the severity, tied to the triggering event (for example, contract, delivery, or invoice exception). The supplier is notified of the exception, allowing them to respond and actively manage any corrective action associated with the exception. Suppliers have access to their exceptions through the Ivalua portal.

Exception management does not end with setting up the exception; it also allows users to follow up using a (configurable) workflow to manage each step of the process. The workflow can guide end users to collect documents and collaborate with the supplier to mitigate the identified issue.

Improvement Plans

Improvement plans provide a collaboration tool to help improve supplier performance at a granular level by creating tasks that will lead to overall supplier improvement. Improvement plans are typically tied to an exception within Ivalua; they consist of a list of tasks that can be created from a template or individually. Each task is assigned to a user with assigned due dates for both internal tasks and supplier actions. Suppliers can access their improvement plans and update the status of their tasks through the Ivalua portal.

Once completed, the task status is updated to give a high-level view of the overall progress of the mitigating activities. The organization can monitor suppliers that are on improvement plans and remind or require them to update their progress at defined intervals.

11. Purchasing/Data Analytics

Purchasing/Data Analytic components of the system provide robust data analytics and reporting to allow the Participating Entity to strategically assess procurement transactions and records for more effective sourcing and contracting, to include spend. These functionalities also provide the means to assess across operation dimensions such as supplier classification, organizational elements and buying trends. Reporting is presented in the form of interactive charts and dashboards with the ability to 'drill down' to the transactional data for comprehensive analysis. Transparency is also a key feature to this component as reports, charts and dashboards can be designed for public access.

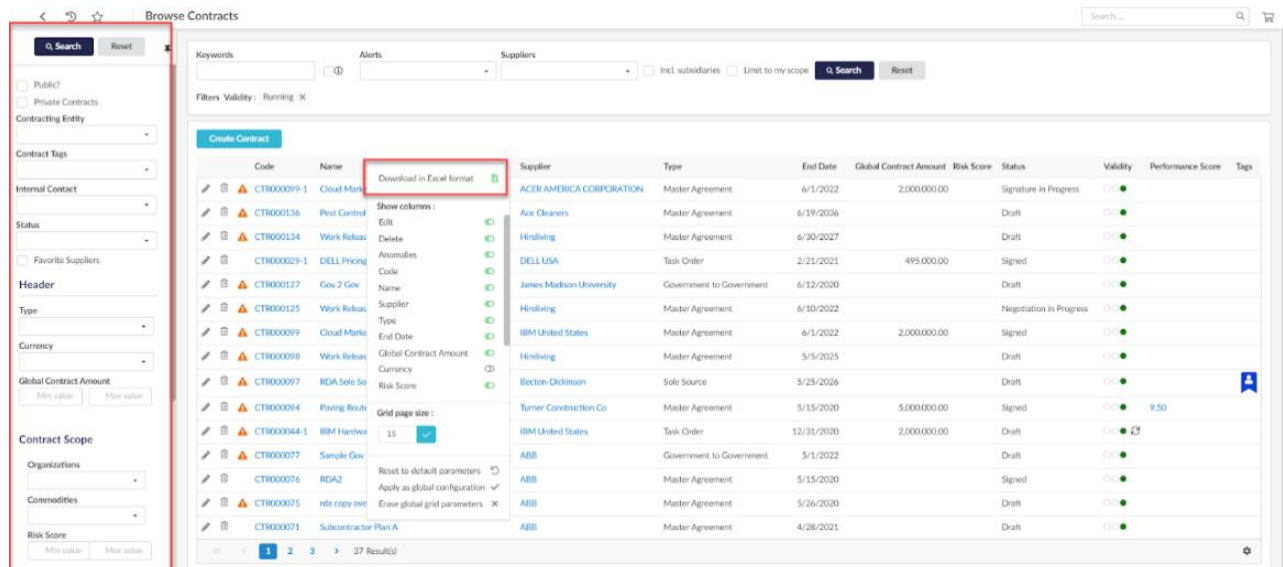
Response requirement:

- **RTM:** Tab 3, PDA-1 through PDA-37
- **Inline Narrative:** Bidders must provide a detailed narrative response that describes overall Solution component that will meet the objectives and requirements of Purchasing/Data Analytics Capability.

There are three different types of reporting with the Ivalua solution, ranging from simple excel extracts to data visualization dashboards. The system can, by default, report on all data stored within the system from across modules. Importing data from an external system can be accommodated. Ivalua has over 100 out of the box reports that are provided within our system, but additional reports can be configured during implementation or by super users. The different types are reports within Ivalua are detailed below.

Ad Hoc Reporting

Any browse page within Ivalua can become a report by utilizing powerful search and filter capabilities combined with the ability to extract pages into excel. Users can search and filter on any criteria to find what they are looking for and then export their results into excel for a quick report that does not require any technical skills to generate.



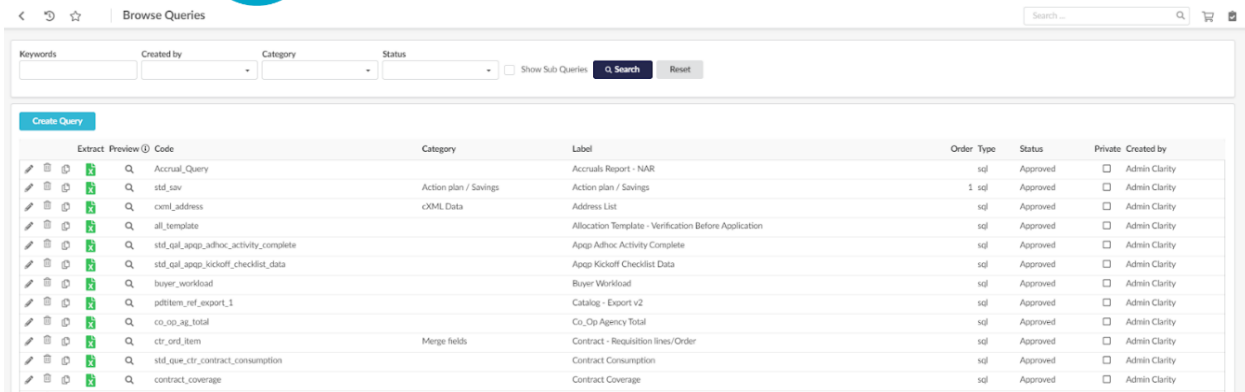
The screenshot shows the 'Browse Contracts' interface. On the left, there are various filters and search options. The main area displays a table of contracts with columns: Code, Name, Supplier, Type, End Date, Global Contract Amount, Risk Score, Status, Validity, Performance Score, and Tags. A red box highlights the 'Download in Excel format' button above the first contract entry. A context menu is visible over the first contract, showing options like 'Show columns', 'Edit', 'Delete', 'Anomalies', 'Code', 'Name', 'Supplier', 'Type', 'End Date', 'Global Contract Amount', 'Currency', 'Risk Score', and 'Grid page size'.

Code	Name	Supplier	Type	End Date	Global Contract Amount	Risk Score	Status	Validity	Performance Score	Tags
CT1000099-1	Cloud Mark	ACER AMERICA CORPORATION	Master Agreement	6/1/2022	2,000,000.00		Signature in Progress	On		
CT10000136	Post Control	Ace Cleaners	Master Agreement	6/19/2036			Draft	On		
CT10000134	Work Relias	Hindling	Master Agreement	6/30/2027			Draft	On		
CT1000029-1	DELL Pricing	DELL USA	Task Order	2/21/2021	495,000.00		Signed	On		
CT10000127	Gov 2 Gov	James Madison University	Government to Government	6/12/2020			Draft	On		
CT10000125	Work Relias	Hindling	Master Agreement	6/10/2022			Negotiation in Progress	On		
CT10000099	Cloud Mark	IBM United States	Master Agreement	6/1/2022	2,000,000.00		Signed	On		
CT10000098	Work Relias	Hindling	Master Agreement	5/5/2025			Draft	On		
CT10000097	RDA Sole So	Becton-Dickinson	Sole Source	5/25/2026			Draft	On		
CT10000094	Paving Road	Turner Construction Co	Master Agreement	5/15/2030	5,000,000.00		Signed	On	9.50	
CT10000344-1	IBM Hardware	IBM United States	Task Order	12/31/2030	2,000,000.00		Draft	On		
CT10000377	Sample Gov	ABB	Government to Government	5/1/2022			Draft	On		
CT10000076	RDA2	ABB	Master Agreement	5/15/2030			Signed	On		
CT10000375	ntb copy one	ABB	Master Agreement	5/26/2030			Draft	On		
CT10000371	Subcontractor Plan A	ABB	Master Agreement	4/28/2021			Draft	On		

FIGURE 61 – REPORTING FROM A BROWSE PAGE

Queries

Queries are Excel based reports that are run via SQL statements in Ivalua's reporting module. Queries can combine data from multiple modules within a single report as well as conduct calculations. Additionally, parameters can be set up so used can filter the view of the data before extraction (Ex. transactions between specific dates, by entity). Through the query wizard tool, authorized users can create new queries



Extract	Preview	Code	Category	Label	Order Type	Status	Private	Created by
		Accrual_Query		Accruals Report - NAR	sql	Approved	☐	Admin Clarity
		std_sav	Action plan / Savings	Action plan / Savings	1 sql	Approved	☐	Admin Clarity
		cxml_address	cXML Data	Address List	sql	Approved	☐	Admin Clarity
		all_template		Allocation Template - Verification Before Application	sql	Approved	☐	Admin Clarity
		std_qsl_app_adhoc_activity_complete		Appx Adhoc Activity Complete	sql	Approved	☐	Admin Clarity
		std_qsl_app_kickoff_checklist_data		Appx Kickoff Checklist Data	sql	Approved	☐	Admin Clarity
		buyer_workload		Buyer Workload	sql	Approved	☐	Admin Clarity
		pditem_ref_export_1		Catalog - Export v2	sql	Approved	☐	Admin Clarity
		co_op_ag_total		Co-Op Agency Total	sql	Approved	☐	Admin Clarity
		ctr_ord_item	Merge fields	Contract - Requisition lines/Order	sql	Approved	☐	Admin Clarity
		std_qse_ctr_contract_consumption		Contract Consumption	sql	Approved	☐	Admin Clarity
		contract_coverage		Contract Coverage	sql	Approved	☐	Admin Clarity

FIGURE 62 – QUERY MODULE

Analysis Reports

Analysis reports provide data visualization to users in the form of charts, graphs, and pivot tables that can then be combined to create a dashboard view for any users. Analysis reports within Ivalua provide robust capabilities to drill down on source data and apply filters to get a comprehensive view of data within the system. Authorized users can easily create their own dashboards or rearrange existing ones. These data visualization elements are embedded through the system, such as user homepages, dashboards per module, or to summarize the activity of a particular transaction. Ivalua offers ~100 standard reports ranging from suppliers to spend, that can be filtered and drilled down by the end user. These reports are available within the dashboards but can also be embedded through on the solution on user homepages, or within system screens.

Sample reports from Ivalua are shown below. In addition, new reports tailored for the organization will also be to meet statutory requirements and give greater insights to organization personnel and executives.

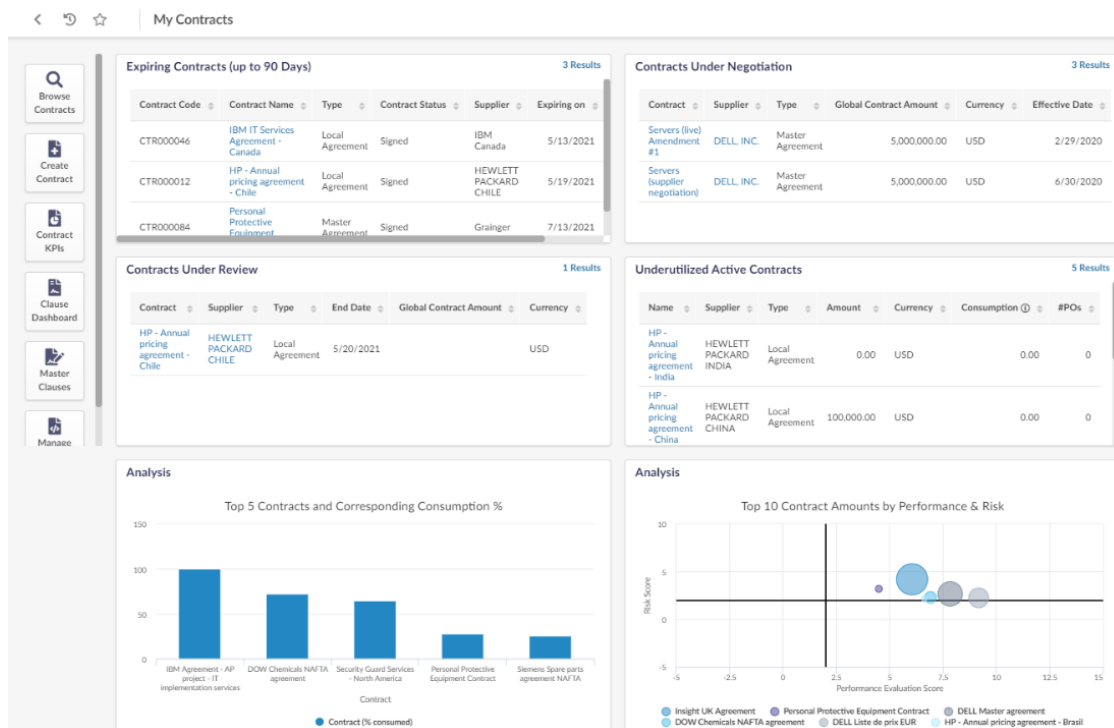


FIGURE 63 – SAMPLE DASHBOARD



FIGURE 64 – SAMPLE DASHBOARDS

Overall, analytics with Ivalua is a powerful tool. Users can access a dashboard that can be tailored by them easily to suit their needs. Analysis can be filtered e.g., most viewed, favorite, last viewed, etc. The full list of reports can be easily browsed or searched for. Additionally, a key differentiator is the performance of our reporting, which can handle even massive data sets of hundreds of millions of lines of data.

New analysis can be built by using a template or by using an analysis builder. The builder includes various visual tools to make the process easier. For example, this includes the following elements:

- Toolbar: for creating an analysis, inserting items, displaying successive states of the analysis, saving, exporting, etc.
- Filters (period and perimeter) common to all the items of the analysis
- Existing analyses to use as a starting point for edits
- Type of Analysis (graph, pie chart, pivot table, etc.)

Ivalua also support Actionable analytics (for example: trigger an assessment of the supplier based on poor performance).



FIGURE 65 – SAMPLE DASHBOARDS

C. TECHNICAL REQUIREMENTS

Bidders proposing a Solution in response to the Functional requirements must respond to all Technical Requirements sections in this RFP.

1. Availability

The solution should be architected to ensure 100% availability between peak use hours of any of the associated Participating Entity that has an agreement resulting from this RFP (i.e., 7am – 6pm local time, Monday –Friday). Availability is defined as the ability to process transactions according to service level agreement (SLA) performance levels specified in the Participating Entity agreement.

Sufficient redundancy must be maintained so that the system appears to be available 24-hours-a-day 7-days-a week. Redundant servers, mirrored servers or fail-over devices should be architected so failure of a single component does not affect overall system availability. Multiple points of presence to multiple internet service provider's (ISP's) should also be in place.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Availability objectives and requirements.

Ivalua is accessible 24 hours a day, 7 days a week. We guarantee by Hosting SLA an uptime of 99.8% outside of scheduled maintenance, which will never occur during Peak hours. Scheduled maintenance occurs once a month on a weekend around midnight and the system is down for a maximum of 30 minutes if required. Scheduled downtime for a software update is planned between Ivalua and the Client for the best, least-disruptive time. Ivalua co-locates its production and DR system in state-of-the-art data centers or IaaS providers designed to host most-critical computer systems with fully redundant subsystems and compartmentalized security zones. The data centers have: Uninterruptible Power Supply (UPS, Diesel Generator); Redundant heating ventilation air conditioning and all components are fully fault-tolerant including uplinks, storage, chillers, HVAC systems, etc. Everything is dual powered.

2. Accessibility Requirements

The Solution should provide capabilities to support users with disabilities that are in compliance with Section 508 of the Federal Rehabilitation Act and W3C Web Accessibility Initiative standards/guidelines. Proposals must describe existing accessibility capabilities, compliance with these standards/guidelines and identify any existing associated certifications. This discussion must address both publicly available and login-secured components of the Solution.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Accessibility Requirements objectives and requirement.

Ivalua is implementing accessibility of the system in accordance with the Web Content Accessibility Guidelines (WCAG 2.1) standard with the objective of level AA (mid-range) compliance. Ivalua is committed to being Section 508-compliant (against WCAG 2.0 Level AA requirements) as soon as possible across all application pages. Ivalua is working with a very reputable 3rd party company to audit the Ivalua platform and provide systematic audit of all major releases and continuous validation throughout the resolution process. Due to the very large scope of the Ivalua platform, the accessibility audit and compliance are broken into 3 manageable areas, corresponding to very distinct user typologies (internal, external, and anonymous), allowing Ivalua to deliver fixes more continuously and with the right prioritization. Ivalua has completed VPATs which can be provided upon request.

3. Audit Trail and History

The Solution must track user and Supplier activity throughout the Solution. The Solution must also track transaction activity to provide a history that includes, but is not limited to, creation, changes, approvals or rejections of the transaction. The data captured should include at a minimum date, time, user, action taken, status changes, content changes and approval or rejection history. The tracked information should be accessible to users by reports, a history page or other option that is accessible without support from an Administrator. All tracked data must be retained in a manner that is consistent with other data retention practices within the Solution.

Response requirement:

- RTM: Tab 4, TECH-1 through TECH-5
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Audit Trail and History objectives and requirements.

Ivalua provides robust audit and logging capabilities. While a user is logged on, all actions and activities are registered, logged and time stamped. Every transaction created, every status change, every movement through to the next step in a workflow, every addition or deletion of a data item of any kind is part of this logging effort. If the audit trail must be activated on a specific field, the “auditable” checkbox can be marked corresponding to the field on the Ivalua table. As a result, the system can produce a detailed audit trail of exactly who did what, where and when and this audit trail can be produced in reports on a real-time basis.

In addition to standard detailed audit trails, Ivalua Solution also provides a sophisticated yet easy to use workflow functionality. The workflow frame in Ivalua consists of three key sections: Activity/Approval History, Mail History, Previous Approvals & Refusals. The approval history shows who validated/ actioned the previous steps and who will validate the current step. The mail history frame shows the history of notifications/ emails sent during the approval process and recipients. All past activities are moved to the frame Previous Approvals & Refusals. The approval history captured on the user interface contains username and time stamps for each step including steps that were revisited. This provides a thorough and easy to view audit trail.

4. Browsers Supported

The Solution must only require internet browser software for user access to the Solution. No site or application component will utilize features available only when using a specific brand of Web browser. At a minimum but not limited to, the solution should support current versions of the Microsoft browser, Chrome, Firefox, and Safari and should ensure continuous support of future industry leading browsers, new versions, and older versions. Additionally:

- Any browser that is ranked as more than 10% of the Web traffic must be supported.
- Popularity of browsers used to access the Solution must be tracked to identify browser and platform trends.
- The Solution must be tested for multiple browsers, operating systems, and versions (including backward compatibility) based on intended audience. This includes upgrades, new releases, enhancements and fixes.
- If a page will be rendered inoperable on an older browser the page must contain a notice to that effect that is viewable in non-compliant browsers.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Browsers Supported objectives and requirements.

Ivalua is web based and does not require the installation of any OS-specific software beyond the client's web-browser. Ivalua works with Internet Explorer, Edge, Firefox, Chrome, and Safari. The certified browsers on desktop include:

- Internet Explorer: all versions still supported by Microsoft
- Microsoft Edge: Last 3 major releases

- Chrome: last 3 major releases
- Firefox: last 3 major releases

5. User Accounts and Administration

The Solution should provide a variety of user account types from full access for system administrators to a tiered structure of limited access depending on the user's role. Bidders must provide a list of standard user roles and describe all capabilities for the definition of additional roles.

User accounts must be associated to a specific organization (e.g. Agency, Department, Non-State Entities) and have the capability to be authorized to buy on-behalf of multiple other organizations.

Administration of the Solution, including user setup/maintenance, should allow delegation assignment to authorized users to allow the option to distribute some administration responsibilities. This delegation capability must allow definition of the specific functions and organization(s) (e.g. Agencies, Departments, Non-State Entities) that the delegated Administrator will have access to manage.

Response requirement:

- RTM: Tab 4, TECH-6 through TECH-20
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the User Accounts and Administration objectives and requirements.

The access to the application is controlled by an authentication method. The application pages and functions are controlled by profiles, authorization, and perimeters. A perimeter can be geographic (a user has access to data and can transact across a certain region or other logical portion of the enterprise), functional (a user has access to certain features and functionality), or a combination of both. User roles and user access to Ivalua Solution are defined in the application through the administration components of the application and can only be modified by the application administrator(s). Only users with the appropriate profile can load a page or execute a function. It is also possible to limit the data access of business objects on a per user basis. For example, a user with a limited access to Organization will be able to access only the PO of the organization.

The organization hierarchy maps out the parts of the organization that will be using the different modules in Ivalua. The organization hierarchy gives value when used in the Ivalua platform by:

- Browse pages across the application can be defaulted to show transactions for only that user's organization
- Identify actors for workflows and provides the ability to set up system logic to route to different paths based on organization
- Drives default bill to and ship to location for a user
- Provides filters and segmentation for data reporting
- Constrains users' visibility and accessibility of objects like requisitions, contracts, sourcing events, reports, and data within the reports

6. User Authentication

The Solution must provide secure user authentication capabilities that are consistent with current security industry standards. The Solution should have the capability that can address individual Participating Entity standards including:

- User Provisioning;
- 2-Factor Authentication (2FA);
- Single Sign-on;
- Federation;
- Identity Proofing;
- Logging and Monitoring; and
- Password policies.

Response requirement:

- RTM: Tab 4, TECH-21 through TECH-25
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the User Authentication objectives and requirements.

Ivalua supports multiple authentication schemes including:

- Login / password authentication
- Single Sign On (SSO) SAML 2 Web based authentication standard
- Two-factor authentication
- Reverse Proxy / IIS Agent based authentication (CA Single Sign On, formerly CA Site Minder)

Ivalua can produce a detailed audit trail of exactly who did what, where and when and this audit trail. This is applicable for fields on which the audit trail is turned on. If the audit trail must be activated on a specific field, the “auditable” checkbox must be marked on the Ivalua table.

In the Ivalua solution, password rules are fully customizable:

- Minimum number of characters
- New password must be different from the previous ones
- Number of previous passwords archived
- Regular expression to type a password
- Password change frequency
- Blocked user account after a number of unsuccessful logins
- Duration in minutes for a blocked account before being active again
- Minimum number of uppercase characters
- Minimum number of lowercase characters
- Minimum number of digits
- Minimum number of special characters

7. Federated Identity Management

The Solution should provide user login capabilities that can be integrated with the Participating Entity's existing Federated Identity Management system and allow that system centralized administration and synchronization of user identities to enable user provisioning and de-provisioning of identity and access across the Participating Entity's systems. Additionally, the solution must not require multiple user-ids and passwords between Solution components.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Federated Identity Management objectives and requirements.

SAML allows for a seamless SSO experience between the customer's internal identity and access management (IAM) solution and Ivalua. Ivalua Solution supports SAML 2.0 protocols for Single Sign On. The Ivalua Solution has been integrated with the most popular Identity providers. In addition, Ivalua offers a single unified platform across the entire Source-to-pay process. Users will only require one ID and password to access the full solution, with support for auto-provisioning of roles and permissions.

8. Data Conversion

Implementation of the Solution may replace existing systems and may require data conversion of existing transactions/data. Proposals must provide complete details on Solution data conversion capabilities including describing data preparation requirements and responsibilities. Proposals must also describe available services that could be leveraged to support data conversion activities.

Response requirement:

- RTM: Tab 4, TECH-26 through TECH-34
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Data Conversion objectives and requirements.

Ivalua offers its services and expertise you need to transform and load data into Ivalua. As part of the implementation, we will conduct a data assessment to determine the data requirements for the project and the Participating Entity. Based on this, a data strategy will be established identifying the data conversion scope for the project. Once the data strategy is completed, Ivalua and Participating Entity resources will leverage Ivalua's tools which are an open part of our User Interface to perform data transfers. Data transfers will fall into several categories including whether they are ongoing master data transactions or one-time historical transactional data conversions. For historical transactional data conversions, a further assessment will be performed to determine the requirements, project scope, effort, and cost required to perform these conversions. Once the Participating Entity has reviewed the approach and impact to the project scope, effort, timeline, and cost and signed off on the scope, a combination of Ivalua and Participating Entity resources will perform the data conversions which will include a methodology to perform several iterations of conversion in small batches to test and validate the data, along with monitoring of performance and quality before the actual production conversion takes place.

9. Interface and Integration

Proposed Solutions must provide both interface and real-time integration capabilities. Proposals must provide complete technical details on these capabilities including, at a minimum, standards supported, restrictions, and identify all Finance systems/ERPs where the Solution has existing interface/integration capabilities available.

Response requirement:

- RTM: Tab 4, TECH-35 through TECH-59
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Interface and Integration objectives and requirements.

The Ivalua Solution has strong integration capabilities with major ERP systems and provides standard integration with suppliers and third-party business services. We offer a number of standard interface templates out-of-the-box. Integration strategies include unidirectional or bidirectional data flows using batch, asynchronous or synchronous interfaces.

Ivalua Solution supports synchronous and asynchronous connections with other systems using a multitude of communication protocols. Ivalua integration module includes comprehensive format definitions, rules-based transformations, and validated loading of data.

Communication Protocols:

- HTTPS: secure hypertext transfers
- FTP: secure file transfer protocol
- REST: stateless web services
- SOAP: verbose web services
- AS2: secure message transport over HTTP/S

Communication Modes:

- Synchronous: real-time, triggered by workflow or user action
- Asynchronous: batched data and on a configurable schedule

Data formats:

- CSV: configurable flat text file
- Excel: native spreadsheet support
- Word, PDF: attachment and content files
- XML: structured document standard
- JSON: web service messaging standard
- IDOC: SAP format
- EDI: standardized document message exchange
- cXML: eCommerce xml standard
- xCBL: alternative eCommerce xml standard
- OCI: PunchOut and external catalog protocol

*Integration files can be compressed with ZIP and/or encrypted using GPG.

10. Office Automation Integration

Proposals must describe Solution compatibility and any integration with Office Automation products. At a minimum, Bidders must address Microsoft Office suite products (Word, Excel, PowerPoint, etc.) and Adobe. The response must describe these capabilities to support, at a minimum, documents as attachments, automated generation of documents (e.g. purchase orders, solicitations, contracts), import/export of transaction data (e.g. requisition line items, solicitation line items, bid tabulations, evaluation scores, contract line items), and cut/paste of text into Solution text fields.

Response requirement:

- RTM: Tab 4, TECH-60
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Office Automation Integration objectives and requirements.

Ivalua supports all file types as attachments throughout the system.

Ivalua offers great Excel support across the sourcing process making it easier for both buyers and suppliers:

- ability to define questionnaire, etc.
- ability to define RFx cost breakdowns
- ability to import items/BOM into an RFx, item / component repository and BOM repository
- ability to define RFx What If post bid analysis and supporting calculations
- ability to analyze What If, and provide buyer entered feedback and upload back into the platform
- ability to define award template
- ability to analyze award templates and upload back into platform

Ivalua's reporting tools natively export to MS Word, MS Excel, and PDF. Ivalua also supports batch data extracts in multiple formats as well. In Ivalua's contract tool we can import MS Word documents and break them into clauses.

Likewise, contract data can be exported into Word or PDF formats. Throughout the suite Ivalua offers an ad-hoc reporting capability that permits users the ability to refine searches and then export the results to Excel.

11. Mobile Device Support

The Solution functionality should be accessible from mobile devices including cell phones and tablets.

Response requirement:

- RTM: Tab 4, TECH-61
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Mobile Device Support objectives and requirements.

Ivalua is a fully responsive HTML application; screens adjust to devices, e.g., on when using Ivalua on a mobile device the screen menus change for PC layout to Mobile-friendly layout.

12. Mobile Applications

The Solution should include Mobile Application capabilities that leverage mobile device specific functionalities. These Solution Apps must meet all of the relevant technical, audit and security controls as required of the full Solution.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Mobile Applications objectives and requirements.

Currently Ivalua's mobile solution is not based on a mobile app, but a mobile web solution. By virtue of our frontend design all Ivalua's modules, features, and functionalities are accessible on mobile, tablets, and any PC device which can run a WebKit-enabled browser.

13. Data Ownership and Access

Participating Entity data in the Solution is owned by the Participating Entity. Participating Entity must be able to access and obtain/extract a copy of their data upon demand, including the associated data dictionary, and at no cost/charge.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Data Ownership and Access objectives and requirements.

Ivalua applies a single data classification to all customer data it hosts. Ivalua does not inspect or monitor its customers' data and has no ability to understand how any data may have been classified by individual customers. Ivalua treats and handles all customer data the same way and in accordance with its policies for customer data management.

Customers remain the data owner and data controller of all data they place into their Ivalua instance and should apply access controls to restrict access to data within their instances based on their own requirements and needs, in accordance with their access control, data retention and data classification policies.

Internally, Ivalua has its own data classification policy. All customer data is classified as Confidential and access to the environment where customer data is stored is limited to a small number of individuals on a need-to-know basis.

Through the term of the contract, customers can also directly export data using features available in the Ivalua system. This can be done via the Query extraction tool. Customers can also request Ivalua to assist with the data extraction.

14. Data Retention, Archive, and Purge Considerations

The Solution must provide Archive and Purge capabilities which can conform to relevant Participating Entity document retention schedules.

Response requirement:

- RTM: Tab 4, TECH-62
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Data Retention, Archive and Purge objectives and requirements.

Customers decide what information is to be stored, how it is to be used, and how long it is retained. Ivalua does not delete or modify customer data, unless requested by the customer to do so, and only processes data in accordance with its contractual obligations and the customer's configuration of their instance(s). Different clients have different needs for archiving and Ivalua deployment allows the implementation project teams to configure when and what frequency to run the offline archiving functionality. Retention and archive schedules should be discussed with your implementation team during the contracting process.

15. Disaster Recovery Plan

Bidders must have a Disaster Recovery Plan for the Solution. The Plan will document the sequence of events and sequence of communications to follow in the circumstance that an internal or external interruption of service or infrastructure failure or natural disaster (act of nature).

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Disaster Recovery Plan objectives and requirements.

Ivalua has established a Business Continuity (BC) and Disaster Recovery (DR) Program, supported by its management, and designed to ensure that critical business processes and systems can be maintained and recovered in the event of a major internal or external incident. The plan is reviewed and approved by the management annually and communicated to all relevant stakeholders annually or as they assume a response/recovery role. Ivalua BC and DR Program is based on ISO/IEC 22301 standard framework and incorporates:

- Documented procedures to back up and recover critical systems and data
- Documented strategies to sustain critical functions using a variety of applicable business strategies including relocation to alternate workplace locations, datacenters
- RTO and RPO requirements based on the results of the BIA and implementation of recovery strategies
- Crisis/Incident Response Management procedures to direct recovery activities during any significant business disruption
- Processes to communicate with key stakeholders, including employees and customers

Our Disaster Recovery Plan is based on a fully duplicated and hot-standby infrastructure comprised of:

- Replicated Web server(s) and Application server(s)
- Replicated Database backups
- Redundant Support service (mail server(s), VPNs and Firewalls, monitoring, ...)

Ivalua's contingency plan includes the following elements:

- Geographically separated sites
- Different hosting and internet service providers
- The service level on the recovery site is equivalent to the service on the primary site (no degradation of service after the switch to the recovery site)

The secondary servers are located in geographically separated data centers. Maximum recovery time can be as low as 4 hours with the Platinum package. The DRP plan is tested at least once a year and includes key verifications (ex. data size, file counts, last file, last modification, ...) to ensure that all components of the secondary application are exhaustive.

Ivalua's Incident Response program includes a defined plan, policy, and procedures that provide guidance for analyzing, responding to, and reporting security and privacy incidents. The program is reviewed and approved by the management annually. Ivalua shares the program documents and information with all stakeholders that are involved in responding to security incidents. All employees also receive annual security awareness training which covers the process of reporting system weakness, incident, or event.

Ivalua notifies impacted customers of data breaches which Ivalua becomes aware of without undue delay, but within seventy-two (72) hours - unless a shorter time is specified in the contract. All such notifications will be subject to what is permitted by law.

16. Solution Environments

The Solution must include the following system environments at a minimum:

- Development Environment – this environment should have the capability to be integrated with the Participating Entity's finance system development environment to facilitate development and unit/system testing of integration functionality.
- User Acceptance Test Environment – this environment will be used by the Participating Entity to validate functionality and system performance prior to release to Production. This environment should have the capability to be integrated with the Participating Entity's finance system test environment to facilitate testing of all procurement processes.
- Training Environment – this environment will have the same components, software, functionality as the Production environment and new releases/upgrades/changes made to Production will also be applied to the Training Environment at the same time as Production or at a schedule mutually agreed with the Participating Entity. This environment should have the capability to be integrated with the Participating Entity's finance system training environment to facilitate training on all procurement processes.
- Production Environment – this environment will provide user access to all components, software and functionality as required by the Contract.

Response requirement:

- RTM: Tab 4, TECH-63 through TECH-67
- Inline Narrative: Bidders must provide a detailed narrative response that describes overall solution components that will meet the Solution Environments objectives and requirements.

Each client will be provided at least 3 environments (development, acceptance, production). All new development (configuration, upgrades) are pushed from the development environment to acceptance to be tested and approved by the client. The acceptance environment can be integrated with the client acceptance/test systems to perform an end-to-end testing of the solution. Upon approval by the client, the updates are deployed to the production environment.

Ivalua can also support the need for a training or other additional environments. All of these "extra" environments may come with additional maintenance fees as they will be maintained by Ivalua Maintenance in the Ivalua Factory.

17. Solution Technical Architecture

Bidders are to provide technical architecture diagrams that provide a pictorial view of application modules/functions and the platform on which they reside, data architecture including common data exchange points with entity legacy applications, vendor's catalogs, and vendor order processing and data integration among Solution modules. Describe the development tools and languages used in developing application modules. Describe the techniques used in developing application modules. Describe the techniques used to exchange data. Identify network architecture components that are shared among customers and components dedicated to the proposed solution.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Solution Technical Architecture objectives and requirements.

The Ivalua cloud features a “multi-instance” architecture that delivers logical single tenancy by isolating all customers’ data from each other. This is achieved by utilizing an enterprise grade cloud architecture and a dedicated database and application set per customer instance. The logical architecture of Ivalua’s platform is described below: Customers and web services connect to the Ivalua cloud over HTTPS, using TLS for communication to and from an Ivalua instance. All interactive end user activities are performed using a standard Microsoft, Firefox, or Chrome web browser. There is no requirement for customers to install any client software on any desktop, laptop, tablet, or smart phone to access their Ivalua instances.

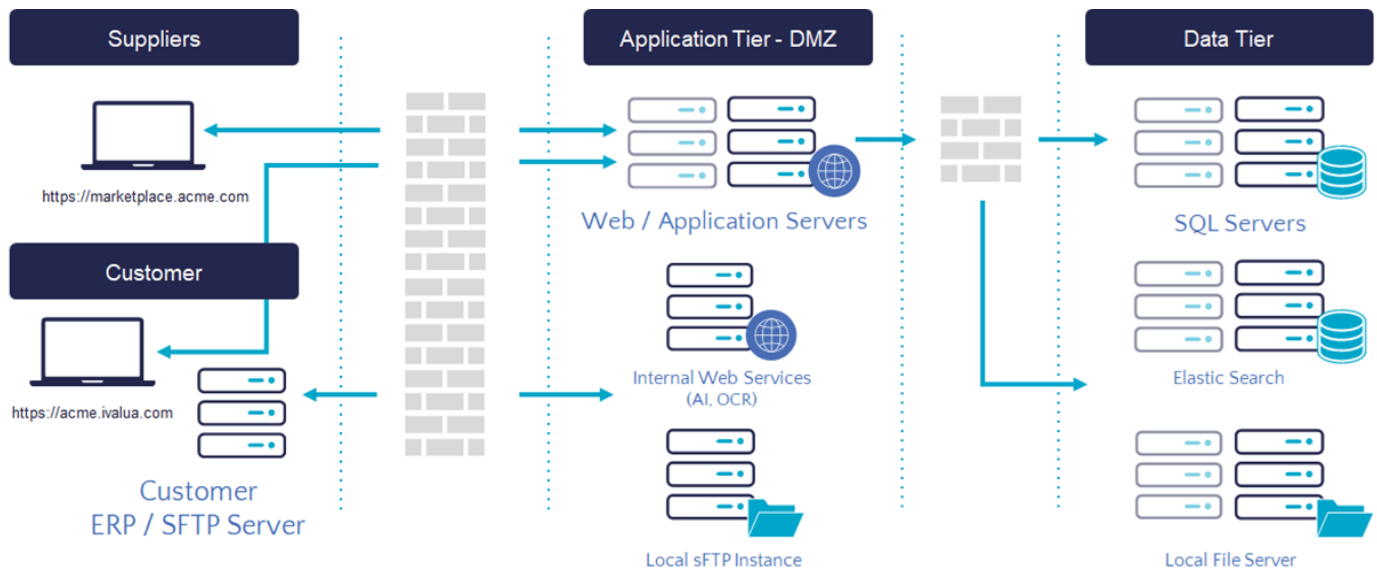


FIGURE 66 – IVALUA APPLICATION AND ENVIRONMENT ARCHITECTURE

Application Architecture

Application servers are in a discrete network segment. These servers host application nodes for each customer’s Ivalua instance and are the termination point for all inbound requests made by end-users of those instances. Requests are received by the relevant application nodes and processed by them, including being appropriately escaped or encoded as required, before passing to the relevant database service in the database server tier.

Ivalua application is built on Microsoft 64-bit technology stack, including .NET, C#, ASP.NET SQL Server and SQL Server Analysis and open standards such as REST Web Services, JavaScript, HTML, XML, and JSON.

Ivalua also provides an EDI tool as part of the products supporting SFTP interface, AS2 and REST APIs, Ivalua Solution also integrates off-the-shelf packages (COTS and Open Source).

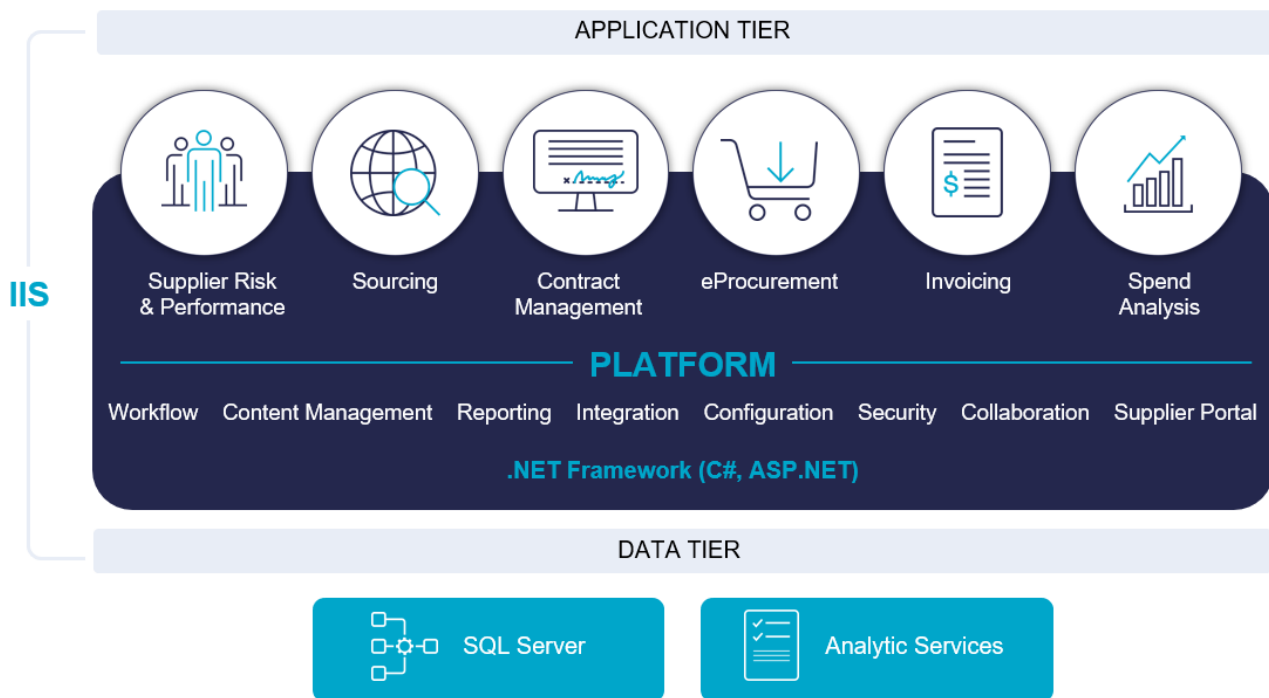


FIGURE 67 – IVALUA APPLICATION INFRASTRUCTURE

Database Architecture

The database layer consists of database servers, installed in a discrete, non-internet routable network segment. Requests from end-users or integrations cannot be made directly to the database tier and are only issued from a customer's Ivalua instance.

Each application instance has a single database present on a database server running multiple discrete databases. There is no commingling of any customer data between application instances and databases, nor shared multi-tenant databases with data from multiple customers stored therein. Ivalua's customers benefit from multiple layers of robust separation, rather than a single logical control.

18. Solution Network Architecture

Diagram the network architecture including network configuration, network access point(s) to the Internet, note Internet access bandwidth, internal data center network components, monitoring tools, backup hardware and software, and security hardware and software. Describe the web-hosting center including geographic locations, power, HVAC, floor space, user accessibility, physical security, and level of redundancy. Note that many States will not allow data to be stored outside of the United States. Describe platforms supported (hardware, operating systems, database management) and range of services available (including application management, system integration, benchmarking, high-availability configurations and disaster recovery).

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Solution Network Architecture objectives and requirements.

Ivalua has implemented proactive security procedures, such as perimeter defense and network intrusion prevention systems to secure its perimeter. Dedicated DMZ, network segmentation, dedicated URLs, and Site-to-Site VPN (note:

a paid service) are some of the other measures implemented to protect customer instances from cyber-attacks. Some of the network security controls in place are listed below:

- Intrusion Detection System and Intrusion Prevention system (IDS/IPS), monitors and blocks malicious traffic or attack on network traffic traversing the device.
- All sites have firewalls for filtering inbound and outbound connections to the internet as well as between intra sites VLAN zones.
- Ivalua uses virtual networks VLAN (Virtual Local Area Network) to partition its various networks.
- Ivalua configures all network infrastructure to enforce the “principle of least access,” including filters that allow only the minimum required traffic.
- Ivalua Monitoring systems log unexpected network activity (volume of traffic, protocol anomaly, signature-based attack) and notify Ivalua IT staff in real time via emails and text messages.

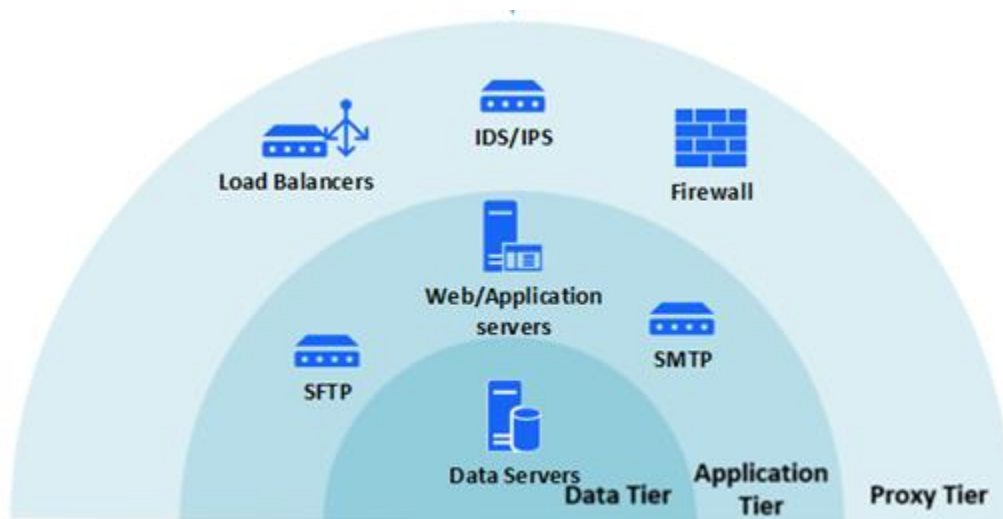


FIGURE 68 – IVALUA NETWORK ARCHITECTURE

Ivalua co-locates its production and DR system in state-of-the-art data centers or IaaS providers designed to host most-critical computer systems with fully redundant subsystems and compartmentalized security zones. Currently nine (9) data center/IaaS providers exist across four (4) geographic regions. Ivalua data centers/IaaS providers adhere to the strictest physical security and environmental control measures. All our data center/IaaS partners adhere to stringent data center certifications such as: ISO 9001/14001/ISO 27001/SOC I and II.

The physical security measures in place at the datacenter includes:

- Physical access control (identity control, badge access, interior, and exterior video surveillance)
- Security guards on-site 24/7/365
- Dedicated locked racks
- Uninterruptible Power Supply (UPS, Diesel Generator)
- Redundant heating ventilation air conditioning
- Fire safety (inert gas)
- All components are fully fault-tolerant including uplinks, storage, chillers, HVAC systems, servers, etc. Everything is dual powered

Data center US locations

- Equinix DC3 Data Center - Ashburn, VA (Primary, DR)
- Equinix CH3 Data Center - Elk Grove, IL (Primary, DR)

Monitoring

Ivalua proactively monitors all its infrastructure, including customer application servers and can react very quickly in case of unexpected workload. Applications can be moved from one server to another without any downtime. A monitoring tool is used to check any issue. Some of the specific parameters that are monitored for performance tuning includes:

- Page response time
- Application logs
- SQL query performance, caching efficiency
- CPU load
- Memory and swapping
- Disk IO latency and load
- Network latency and load

Maintenance

Ivalua IT team also does proactive maintenance on the environment to ensure the best performance possible.

SLA

Ivalua also guarantees a Hosting SLA (hit response time, uptime) and can share a monthly report with the client upon request. Application layer KPIs are shared with customers in regular steering committees and compared with SLAs (availability and response time viewed from application server).

19. System Development Methodology

Bidders must describe the system development including:

- How the development methodology ensures quality, long-term flexibility and reuse.
- Solution testing processes, tools and methods and how they:
 - Verify that the Solution meets the business requirements.
 - Ensure operational reliability.
 - Ensure quality.
- Application, network, and web-host server stress testing to ensure response time and reliability guarantees are met.
- Quality assurance program.
- Configuration/change management methodologies.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the System Development Methodology objectives and requirements.

Ivalua has established secure-SDLC policy and procedures that ensure security-related functions are covered during the development life cycle from design to implementation to testing. New features are evaluated for their security impact during the design phase, regular code reviews (peers and SAST tools) are conducted internally during the implementation phase and tested for effectiveness during the QA process.

Ivalua's development process is based on the Agile methodology with its iterative approach to software development and assessment. This embeds Quality Assurance directly into the ongoing development process sooner

than with a more traditional approach. Penetration testing is conducted prior to major software release by an independent security firm.

During the Build phase of a project, each configuration change (driven by the requirements collected during the design phase) is unit tested by the configurator. Once the Build phase is over, and before User Acceptance Testing starts, our Quality Assurance team reviews and tests the entire application build to make sure that all the pieces come along together without defects, and as per the approved design. Code changes are extremely limited (and restricted to Ivalua certified engineers only), submitted to validation internally, and if approved, will have to go through a peer code-review process before being delivered on a client's environment. The Ivalua development environment is based on OWASP best practices. Ivalua developers are trained on these practices. Regular code reviews are conducted internally, and security code review is conducted by an external security auditor.

Cloud Infrastructure

Ivalua has established a Configuration Management Program for its Cloud services in accordance with NIST Security-Focused Configuration Management of Information Systems guidelines. Ivalua applies Security-focused Configuration Management for establishing baselines and for tracking, controlling, and managing many aspects of the secure lifecycle of all information system resources, configurations, and processes. Configuration Changes requests are tracked in Ivalua ticketing system (Extranet) to ensure that configuration changes are formally requested, evaluated for their security impact, tested for effectiveness, and approved before they are implemented.

Application

All application changes/updates are at the customer request and control, and they will be performed either behind the scenes (for minor updates) or through scheduled downtime (for major updates). Customers typically enforce their own change management process. Once the change has been approved via the customer change management process, the customer logs a ticket in Ivalua Extranet to request the change. The requests that are posted to the Maintenance team are closely monitored by all the maintenance team staff to ensure compliance with the terms of the support SLA.

20. Service Level Agreement

Bidders must review and indicate compliance to the attached Service Level Agreement standard. Bidders must also provide a copy of their current standard Service Level Agreement and describe flexibility to adjust to any specific requirements that a Participating Entity may have.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the objectives and requirements of Data Access.

For hosting and maintenance SLA, Ivalua offers its own standards and choices between service levels. RTO/RPO and other infrastructure add-on services can be flexibly added. Ivalua guarantees by Hosting SLA an uptime of 99.8% outside of scheduled maintenance. Please refer to the attached Ivalua SLA for a copy of our current standard Service Level Agreement.

D. SECURITY REQUIREMENTS

Bidders proposing a Solution in response to the Functional requirements must respond to all Security Requirements sections in this RFP.

1. Cloud Security Alliance (CSA) Compliance

Bidders must, at a minimum, complete, provide, and maintain a completed CSA STAR Registry Self-Assessment. Bidders must either submit:

- A completed The Consensus Assessments Initiative Questionnaire (CAIQ)
<https://cloudsecurityalliance.org/artifacts/consensus-assessments-initiative-questionnaire-v3-1/>
- OR
- Submit a report documenting compliance with Cloud Controls Matrix (CCM)
<https://cloudsecurityalliance.org/artifacts/cloud-controls-matrix-v3-0-1/>

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Cloud Security Alliance Compliance objectives and requirements.

Ivalua has completed the Consensus Assessments Initiative Questionnaire (CAIQ). Please find the file attached with the response.

2. Security and Privacy Controls

Bidders must indicate their level of compliance with NIST (SP) 800-53 and identify the actual or equivalent baseline level (low, moderate or high) as defined in Attachment D of the NIST 800-53 publication.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Security and Privacy Controls objectives and requirements.

Ivalua is currently in the process of validating controls and safeguards against NIST SP 800-53 Revision 4 "Moderate" risk controls for FISMA compliance with our Commercial Cloud. Our platform is architected end-to-end to support maximum security for cloud software.

3. Security Certifications

Bidders must list all government, standards organization or third-party security attestations, certifications and credentials it currently holds that apply specifically to the Bidder's proposal, as well as those in process at time of response. Specifically include HIPAA, FERPA, CJIS Security Policy, PCI Data Security Standards (DSS), IRS Publication 1075, FISMA, NIST 800-53, NIST SP 800-171, and FIPS 200 if they apply.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Security Certifications objectives and requirements.

Ivalua has a dedicated InfoSec department, led by a CISO that closely works with other departments to define and enforce security controls and standards across the organization. Many of these individuals come with extensive architecture, security, and compliance backgrounds. Some of the commonly known Security & Privacy specific certifications that the team maintains are: CISSP, CIPP, CISA, FAIR, ITIL, Security +, CEH, GCIA, CCSK and CBCP.

Ivalua has implemented an Information Security Management System (ISMS) in accordance with ISO/IEC 27001. Ivalua is annually audited SSAE-18 SOC1 and SOC2 (US) and ISAE-3402 (Europe). Ivalua is also annually audited HIPAA and complies with business associates' requirements of the Privacy, Security, and Breach Notification Rules.

Customers must not provide Ivalua with access to Customer Cardholder Data without Ivalua's advance written consent, to enable Ivalua to achieve compliance with the Payment Card Industry Data Security Standard published at: <https://www.pcisecuritystandards.org>. For clarity, Ivalua is not currently audited for PCI-DSS compliance. However, Ivalua has safeguards and security controls in place to protect cardholder data in accordance with the PCI-DSS standards and is leveraging its Hardware Security Module (HSM) infrastructure to manage cryptographic keys used to secure cardholder data.

As a "Data processor" in the sense of the GDPR, Ivalua complies with the associated legal obligations. Ivalua is currently in the process of validating controls and safeguards against NIST SP 800-53 Revision 4 "Moderate" risk controls for FISMA compliance with our Commercial Cloud. Ivalua is FedRAMP Ready with our GovCloud and listed on the FedRAMP Marketplace:

<https://marketplace.fedramp.gov/#!/product/ivalua-govcloud?sort=productName&productNameSearch=ivalua>

4. Annual Security Plan

Upon award Contractors must develop, implement and thereafter maintain annually a Security Plan that is in alignment with the National Institute of Standards and Technology ("NIST") Special Publication (SP) 800-53 (current, published version). Proposals must describe the Security Plan that will be provided and must include/address the following items related to the system and services:

- Security policies;
- Logical security controls (privacy, user access and authentication, user permissions, etc.);
- Technical security controls and security architecture (communications, hardware, data, physical access, software, operating system, encryption, etc.);
- Security processes (security assessments, risk assessments, incident response, etc.);
- Detail the technical specifics to satisfy the following;
- Network segmentation;
- Perimeter security;
- Application security and data sensitivity classification;
- PHI and PII data elements;
- Intrusion management;
- Monitoring and reporting;
- Host hardening;
- Remote access;
- Encryption;
- Participating Entity-wide active directory services for authentication;
- Interface security;
- Security test procedures;
- Managing network security devices;
- Security patch management;
- Detailed diagrams depicting all security-related devices and subsystems and their relationships with other systems for which they provide controls; and
- Secure communications over the Internet.

The Security Plan must detail how security will be controlled during the implementation of the Solution and Services and describe the following:

- High-level description of the program and projects;

- Security risks and concerns;
- Security roles and responsibilities;
- Program and project security policies and guidelines;
- Security-specific project deliverables and processes;
- Security team review and approval process;
- Security-Identity management and Access Control for Bidder and Participating Entity joiners, movers, and leavers;
- Data Protection Plan for personal/sensitive data within the projects;
- Business continuity and disaster recovery plan for the projects;
- Infrastructure architecture and security processes;
- Application security and industry best practices for the projects; and
- Vulnerability and threat management plan (cyber security)

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Annual Security Plan objectives and requirements.

Ivalua has built its security program and implemented an Information Security Management System (ISMS) in accordance with ISO-27001. The security controls deployed are in alignment with ISO/IEC 27001 and NIST SP 800-53 "Moderate" baseline requirements to address the information security risks. We are certified SSAE-18 (US) and ISAE-3402 (Europe).

Ivalua already has a multitude of security policies, plans/programs, procedures, guidelines, and standards.

Some of the critical InfoSec policies and plans that have been built and adopted at Ivalua are listed below:

- Information Security Policy
- Acceptable Use Policy
- Data Classification Policy
- Data Encryption Guidelines/Standards
- Data Retention Policy
- Information Security Standards
- InfoSec Training Plan
- Disaster Recovery Plan
- Business Continuity Plan
- InfoSec Risk Management Program
- Security Assessment & Continuous Monitoring Plan
- Secure SDLC Policy
- Security Incident Response Plan
- Third Party Risk Assessment (TPRA) Program

Program Note: besides these policies there are many other operational procedures that are used to execute the InfoSec program.

Ivalua Access Control

In Ivalua infrastructure, Ivalua enforces the principle of least privilege across the entire organization. Role-based access control at directory and application levels and firewall rules are used to manage access. Ivalua explicitly

authorizes access to admin and security functions. IT personnel use different accounts credentials for different functions in different network zones. Only IT personnel have privileged access to hosted infrastructure. Privileged user accounts and access logs are reviewed periodically by the IT team. Only privileged users can execute privilege functions.

Role Based Access Control

The access to the application is controlled by an authentication method. The application pages and functions are controlled by profiles, authorization, and perimeters. A perimeter can be geographic (a user has access to data and can transact across a certain region or other logical portion of the enterprise), functional (a user has access to certain features and functionality), or a combination of both. User roles and user access to Ivalua Solution are defined in the application through the administration components of the application and can only be modified by the application administrator(s).

Only users with the appropriate profile can load a page or execute a function. It is also possible to limit the data access of business objects on a per user basis. For example, a user with a limited access to Organization will be able to access only the PO of the organization.

Secure Customer Data

Ivalua Solution architecture leverages a multi-instance tenancy model on shared servers. Our model creates a very distinct boundary between the data of each client. Each client application instance runs under a dedicated application pool process with a client dedicated identity. This model also facilitates the ability to perform upgrades and maintenance on an individual basis without impacting other clients' instances. This model enables higher instance availability.

Customer data is isolated / segregated from one-another in the following ways:

- Dedicated URLs (Bring your Own URL)
- Dedicated public and private IP (can apply source IP filtering)
- Dedicated application (folder, version)
- Dedicated runtime process under dedicated identity
- Dedicated database with dedicated access credentials

Physical Security

Ivalua co-locates its production and DR system in state-of-the-art data centers or IaaS providers designed to host most-critical computer systems with fully redundant subsystems and compartmentalized security zones. Currently nine (9) data center/IaaS providers exist across four (4) geographic regions. Ivalua data centers/IaaS providers adhere to the strictest physical security and environmental control measures. All our data center/IaaS partners adhere to stringent data center certifications such as: ISO 9001/14001/ISO 27001/SOC I and II.

The physical security measures in place at the datacenter includes:

- Physical access control (identity control, badge access, interior, and exterior video surveillance)
- Security guards on-site 24/7/365
- Dedicated locked racks
- Uninterruptible Power Supply (UPS, Diesel Generator)
- Redundant heating ventilation air conditioning
- Fire safety (inert gas)
- All components are fully fault-tolerant including uplinks, storage, chillers, HVAC systems, servers, etc. Everything is dual powered.

Operating System

Ivalua runs on the Microsoft platform:
Windows Server 2016 Standard Edition x64
IIS 10
Database: SQL Server 2017

Encryption

Data at-rest and in-transit is encrypted using the industry-standard AES 256-bit encryption. Ivalua Cloud infrastructure where client data are stored, processed, and transmitted:

- The web traffic between the end-users and the servers is encrypted using TLS (HTTPS). Ivalua SSL X.509 CA certificates are generated with RSA 2048 key size and SHA-256.
- All hard drives and laptops are low-level encrypted with pre-boot authentication using AES-256 encryption.
- All client backups are encrypted at the source before being replicated to the DR site and to the archiving site.

*In addition, as a value-added service (paying option), Ivalua offers HSM-based encryption for data at rest which adds another level of encryption at the database and file level:

- Client database files are fully and transparently encrypted using Microsoft SQL TDE (AES-256) with the encryption key managed by the HSM.
- All files uploaded from the application are encrypted (AES-256) with the encryption key managed by the HSM.

Security Assessment

Ivalua invests a large number of resources to get itself audited by a 3rd party auditor against the SOC and HIPAA security frameworks. Every year it produces a report that is shared with its customers, upon request.

Risk Assessment

We have documented a risk management program in line with NIST 800-30 and ISO 27005 risk assessment standards. The overall approach consists of the three following steps:

- Risk assessment where the context is established and the security risks identified, evaluated in terms of likelihood and impact, and approved by the risk committee
- Risk treatment where risk treatment options are chosen to treat the risk and a risk treatment plan is formalized and approved by the risk committee and risk owners
- Risk monitoring and review where the risks are reviewed on an annual basis or upon defined triggers

Incident Response

The Security Incident Response Plan includes the following activities:

- Preparation - Ivalua implements preventative measures and strategies including but not limited to, regular patching, strong access controls, industry standard AES 256 encryption, etc. to prevent incidents.
- Detection and analysis - this step includes the human and technological detection and reporting channels, the initial response and preliminary analysis to determine the nature and scope of the incident and the recording and categorization of incident type and severity based on impact.
- Containment, eradication, and recovery - this step includes the evaluation of analysis results, the containment strategy to eliminate further impact/spread of the incident, recovery from the incident and return to normal operations.

- Post-incident activity - this step includes the forensic investigation (if required) and root cause analysis as required, documenting an after-action report, including lessons learned and remediating gaps to roll into the preparation phase.
- Communication - at the time of an incident, based on its criticality, Ivalua security team activate the Security Incident Response Team and other roles/groups if needed. Internal and customer communication are activated, if needed, based on the nature and criticality of the incident.

Network Security Measures

Ivalua has implemented proactive security procedures, such as perimeter defense and network intrusion prevention systems to secure its perimeter. Dedicated DMZ, network segmentation, dedicated URLs, and Site-to-Site VPN (note: a paid service) are some of the other measures implemented to protect customer instances from cyber-attacks. Some of the network security controls in place are listed below:

- Intrusion Detection System and Intrusion Prevention system (IDS/IPS), monitors and blocks malicious traffic or attack on network traffic traversing the device.
- All sites have firewalls for filtering inbound and outbound connections to the internet as well as between intra sites VLAN zones.
- Ivalua uses virtual networks VLAN (Virtual Local Area Network) to partition its various networks.
- Ivalua configures all network infrastructure to enforce the “principle of least access,” including filters that allow only the minimum required traffic.
- Ivalua Monitoring systems log unexpected network activity (volume of traffic, protocol anomaly, signature-based attack) and notify Ivalua IT staff in real time via emails and text messages.

Treatment of Customer Data

Ivalua applies a single data classification to all customer data it hosts. Ivalua does not inspect or monitor its customers’ data and has no ability to understand how any data may have been classified by individual customers. Ivalua treats and handles all customer data the same way and in accordance with its policies for customer data management. Customers remain the data owner and data controller of all data they place into their Ivalua instance and should apply access controls to restrict access to data within their instances based on their own requirements and needs, in accordance with their access control, data retention and data classification policies.

Internally, Ivalua has its own data classification policy. All customer data is classified as Confidential and access to the environment where customer data is stored is limited to a small number of individuals on a need-to-know basis.

Privacy

Ivalua fulfills the role of the data processor under GDPR and complies with its obligations. Ivalua has implemented numerous privacy and security practices to ensure Ivalua compliance with the GDPR. Some of these practices include:

- Training personnel on privacy and security practices;
- Conducting privacy impact assessments;
- Providing highly configurable features to our customers to also enable them to manage their obligations (access controls, anonymization methods, etc.);
- Maintaining records of processing activities;
- Data at-rest and in-transit is encrypted using industry-standard AES 256-bit encryption.

Customers may configure access to PII such that customer-defined roles have access to PII within the Ivalua platform. When providing customer support, Ivalua may have access to PII data.

Ivalua is also annually audited for HIPAA and complies with business associates' requirements of the Privacy, Security, and Breach Notification Rules.

Monitoring

Ivalua proactively monitors all its infrastructure, including customer application servers and can react very quickly in case of unexpected workload. Applications can be moved from one server to another without any downtime. A monitoring tool is used to check any issue. Some of the specific parameters that are monitored for performance tuning includes:

- Page response time
- Application logs
- SQL query performance, caching efficiency
- CPU load
- Memory and swapping
- Disk IO latency and load
- Network latency and load

Hardening

All equipment (devices, servers, VMs, etc.) are built using a rigorous hardening process using industry standard baselines and system configurations are managed under a configuration management and control system.

Remote Access

- Corporate Network: all Remote access to the network requires Two Factor Authentication (2FA).
- E-mails: the 2FA on email is enabled through group policies. All personnel are required to set up their phone number and/or install on smartphone a 2FA App, before to access to his/her emails.
- Admin Access: for IT administrators' remote access is through a bastion host through a VPN tunnel, 2FA requires Hardware Security Keys (keys needing to be connected to the computer to connect). Remote access to servers are available exclusively via Ivalua internal IPSec VPNs; never via an open connection on the internet. In addition to the VPN, only computers from IT Staff have network and credential access to production servers and multifactor authentication is required.

Authentication

Ivalua Solution supports SAML 2.0 protocols for Single Sign On. The Ivalua Solution has been integrated with the most popular Identity providers (OKTA, PingIdentity, ADFS, OpenAM, etc.).

Interface Security

Ivalua Solution supports synchronous and asynchronous connections with other systems using a multitude of communication protocols:

- FTP: secure file transfer protocol
- REST: stateless web services
- SOAP: verbose web services
- AS2: secure message transport over HTTP/S

Solution Technical & Network Architecture

Please refer to section C. Technical Requirements, 17. Solution Technical Architecture & 18. Solution Network Architecture above for diagrams depicting the architecture of the application.

Security & Implementation

As part of the implementation, Ivalua will leverage a risk-based approach to design and implement application security and internal controls (automated and manual) related to the security, application configuration, and business processes involving the Ivalua solution. This activity will be performed in collaboration with the Participating Entity. In addition, Ivalua will work with the Participating Entity by providing input into a Business Continuity and Disaster Recovery plan for the project.

5. Secure Application and Network Environment

Bidders must provide a robust boundary security capacity that incorporates generally recognized system hardening techniques. This includes determining which ports and services are required to support access to systems that hold Participating Entity Data, limiting access to only these points, and disable all others.

Proposals must provide, at a minimum, the following details:

- Use of assets and techniques such as properly configured firewalls, a demilitarized zone for handling public traffic, host-to-host management, Internet protocol specification for source and destination, strong authentication, encryption, packet filtering, activity logging, and implementation of system security fixes and patches as they become available.
- Use of two-factor authentication to limit access to systems that contain particularly sensitive Participating Entity Data, such as personally identifiable information.
- Assume all Participating Entity Data is both confidential and critical for Participating Entity operations. Confirm that Bidders security policies, plans, and procedure for the handling, storage, backup, access, and, if appropriate, destruction of Participating Entity Data will be commensurate to this level of sensitivity unless the Participating Entity instructs the Bidders otherwise in writing.
- Appropriate intrusion and attack prevention and detection capabilities. These capabilities must track unauthorized access and attempts to access Participating Entity Data, as well as attacks on the Bidder's infrastructure associated with the Participating Entity Data. Further, Bidders must monitor and appropriately address information from its system tools used to prevent and detect unauthorized access to and attacks on the infrastructure associated with the Participating Entity Data.
- Use of appropriate measures to ensure that Participating Entity Data is secure before transferring control of any systems or media on which Participating Entity Data is stored. The method of securing the Participating Entity Data must be appropriate to the situation and may include secure overwriting, destruction, or encryption of the Participating Entity Data before transfer of control. The transfer of any such system or media must be reasonably necessary for the performance of the Bidder's obligations under this Contract.
- Security controls, both physical and virtual Zones of Control Architectures (ZOCA), used to isolate hosted servers.
- A business continuity plan in place that the Bidder tests and updates at least annually. The plan must address procedures for response to emergencies and other business interruptions. Part of the plan must address backing up and storing data at a location sufficiently remote from the facilities at which the Bidder maintains Participating Entity Data in case of loss of Participating Entity Data at the primary site. Bidders backup solution must include plans to recover from an intentional deletion attempt by a remote attacker with compromised administrator credentials (e.g., keeping periodic copies offline, or in write-only format).

The plan also must address the rapid restoration, relocation, or replacement of resources associated with the Participating Entity Data in the case of a disaster or other business interruption. Bidders business continuity plan must address short- and long-term restoration, relocation, or replacement of resources that will ensure the smooth continuation of operations related to the Participating Entity's Data. Such resources may include, among others, communications, supplies, transportation, space, power and environmental controls, documentation, people, data, software, and hardware. Bidders also must provide for reviewing, testing, and adjusting the plan on an annual basis.

- Prohibit Participating Entity Data to be loaded onto portable computing devices or portable storage components or media unless necessary to perform its obligations under an associated Participating Entity agreement. If necessary, for such performance, the Bidder may permit Participating Entity Data to be loaded onto portable computing devices or portable storage components or media only if adequate security measures are in place to ensure the integrity and security of the Participating Entity Data. Those measures must include a policy on physical security for such devices to minimize the risks of theft and unauthorized access that includes a prohibition against viewing sensitive or confidential data in public or common areas. In addition, all Participating Entity data on portable media shall be encrypted.
- Ensure that portable computing devices utilized by the Contractor have anti-virus software, personal firewalls, and system password protection. In addition, describe the encryption of Participating Entity Data when stored on any portable computing or storage device or media or when transmitted from them across any data network.
- Maintain an accurate inventory of all portable computing devices and the individuals to whom they are assigned.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Secure Application and Network Environment compliance objectives and requirements.

Hardening

All equipment (devices, servers, VMs, etc.) are built using a rigorous hardening process using industry standard baselines and system configurations are managed under a configuration management and control system.

Network Security Measures

As mentioned above, Ivalua has implemented proactive security procedures, such as perimeter defense and network intrusion prevention systems to secure its perimeter. Dedicated DMZ, network segmentation, dedicated URLs, and Site-to-Site VPN (note: a paid service) are some of the other measures implemented to protect customer instances from cyber-attacks. Some of the network security controls in place are listed below:

- Intrusion Detection System and Intrusion Prevention system (IDS/IPS), monitors and blocks malicious traffic or attack on network traffic traversing the device.
- All sites have firewalls for filtering inbound and outbound connections to the internet as well as between intra sites VLAN zones.
- Ivalua uses virtual networks VLAN (Virtual Local Area Network) to partition its various networks.
- Ivalua configures all network infrastructure to enforce the “principle of least access,” including filters that allow only the minimum required traffic.
- Ivalua Monitoring systems log unexpected network activity (volume of traffic, protocol anomaly, signature-based attack) and notify Ivalua IT staff in real time via emails and text messages.

Encryption

Data at-rest and in-transit is encrypted using the industry-standard AES 256-bit encryption. Ivalua Cloud infrastructure where client data are stored, processed, and transmitted:

- The web traffic between the end-users and the servers is encrypted using TLS (HTTPS). Ivalua SSL X.509 CA certificates are generated with RSA 2048 key size and SHA-256.
- All hard drives and laptops are low-level encrypted with pre-boot authentication using AES-256 encryption.
- All client backups are encrypted at the source before being replicated to the DR site and to the archiving site.

*In addition, as a value-added service (paying option), Ivalua offers HSM-based encryption for data at rest which adds another level of encryption at the database and file level:

- Client database files are fully and transparently encrypted using Microsoft SQL TDE (AES-256) with the encryption key managed by the HSM.
- All files uploaded from the application are encrypted (AES-256) with the encryption key managed by the HSM.

Audit Trail and Logging

In Ivalua's infrastructure, managed devices (switches, routers, firewalls) and services communicate their activity logs to two different servers, located in two geographically distant data centers. Traces generated by these devices are thus kept redundantly. On each Syslog server the activity logs are kept on-line for 90 days (in the plain text format) before being encrypted and archived for at least one year. For the Syslog database logs are kept for 90 days with rotating log files.

In the Ivalua Solution, while a user is logged on, all actions and activities are registered, logged and time stamped. Every transaction created, every status change, every movement through to the next step in a workflow, every addition or deletion of a data item of any kind is part of this logging effort. As a result, the system can produce a detailed audit trail of exactly who did what, where and when. This audit trail can be produced in reports on a real-time basis.

Application logs and audit trail are stored in the application and are directly accessible from the application for consultation and reporting. Logs generated by applications can be exported to the customer's SIEM via API.

Updates and Patches

Ivalua deploys at least monthly software and hardware updates and upgrades as well as security patches to the information systems during our regular scheduled maintenance. Ivalua fully tests secure configurations prior to global deployment in production information systems. Tests are conducted on non-production information systems whenever possible or on a subset of assets of the information system. When unscheduled (emergency) changes must be made and time does not allow for following the established configuration change control process, unscheduled changes are still managed and controlled. Unscheduled changes are reviewed/resolved by a Change Control Authorized Approver as soon as is practical after unscheduled changes are made.

Two Factor Authentication (Remote Access)

- Corporate Network: all Remote access to the network requires Two Factor Authentication (2FA).
- E-mails: the 2FA on email is enabled through group policies. All personnel are required to set up their phone number and/or install on smartphone a 2FA App, before to access to his/her emails.
- Admin Access: for IT administrators' remote access is through a bastion host through a VPN tunnel, 2FA requires Hardware Security Keys (keys needing to be connected to the computer to connect). Remote access to servers are available exclusively via Ivalua internal IPSec VPNs; never via an open connection on the internet. In addition to the VPN, only computers from IT Staff have network and credential access to production servers and multifactor authentication is required.

Treatment of Customer Data

Ivalua applies a single data classification to all customer data it hosts. Ivalua does not inspect or monitor its customers' data and has no ability to understand how any data may have been classified by individual customers. Ivalua treats and handles all customer data the same way and in accordance with its policies for customer data management. Customers remain the data owner and data controller of all data they place into their Ivalua instance and should apply access controls to restrict access to data within their instances based on their own requirements and needs, in accordance with their access control, data retention and data classification policies.

Internally, Ivalua has its own data classification policy. All customer data is classified as Confidential and access to the environment where customer data is stored is limited to a small number of individuals on a need-to-know basis.

Ivalua Access Control

In Ivalua infrastructure, Ivalua enforces the principle of least privilege across the entire organization. Role-based access control at directory and application levels and firewall rules are used to manage access. Ivalua explicitly authorizes access to admin and security functions. IT personnel use different accounts credentials for different functions in different network zones. Only IT personnel have privileged access to hosted infrastructure. Privileged user accounts and access logs are reviewed periodically by the IT team. Only privileged users can execute privilege functions.

Business Continuity and Disaster Recovery

Ivalua has established a Business Continuity (BC) and Disaster Recovery (DR) Program, supported by its management, and designed to ensure that critical business processes and systems can be maintained and recovered in the event of a major internal or external incident. The plan is reviewed and approved by the management annually and communicated to all relevant stakeholders annually or as they assume a response/recovery role. Ivalua BC and DR Program is based on ISO/IEC 22301 standard framework and incorporates:

- Documented procedures to back up and recover critical systems and data
- Documented strategies to sustain critical functions using a variety of applicable business strategies including relocation to alternate workplace locations, data centers
- RTO and RPO requirements based on the results of the BIA and implementation of recovery strategies
- Crisis/Incident Response Management procedures to direct recovery activities during any significant business disruption
- Processes to communicate with key stakeholders, including employees and customers

Data Loss Prevention

Ivalua has a DLP strategy in place which includes an administrative policy around removable media and data loss prevention. Some of the controls include:

- Removable media/devices are encrypted (AES 256) and automatically scanned when plugged in.
- Clients can control access to the application, including Ivalua's access.
- Clients can request specific anonymization or request to obfuscate data in the pre-production environment.
- Dedicated and isolated admin networks exist to access the production servers where customer data resides.
- Only a handful of IT personnel have access to the production servers for administration.
- The principle of least privilege access is enforced across the entire organization.
- Ivalua's Acceptable Use Policy outlines requirements for handling sensitive/confidential information, violations can lead to disciplinary actions.

Currently Ivalua is looking into enhancing its DLP control set through deployment of either a network level, cloud application (e.g., email) and/or end point level DLP solution to prevent/detect data leakage from users/devices that may have access to customer data.

6. Secure Application and Network Access

Access to the Solution, Solution infrastructure and Participating Entity systems/networks must employ secure data transmission protocols, including the secure sockets layer (SSL) protocol and public key authentication, signing and encryption. Bidders must identify the encryption and non-repudiation services that will be in place for any remote solution access, such as Secure Multipurpose Internet Mail Extensions (S/MIME) and digital certificates with the provided PKI.

Bidders must identify the secure (e.g., non-clear text and authenticated) standardized network protocols used for the import and export of data and to manage the service, and proposals shall also document the relevant interoperability and portability standards that are involved.

Bidders must identify custom changes made to any hypervisor in use and all solution-specific virtualization hooks available for customer review.

Bidders must describe the security practices in place to secure applications, including threats from outside the service center as well as other customers co-located within the same service center.

Bidders must describe security audit logging in place on information systems, including computers and network devices. Details must include, but are not limited to:

- Logging process including the types of services and devices (e.g. computers, network devices) logged;
- The event types logged; and
- The information fields logged.

Bidders must describe security procedures (background checks, foot printing logging, etc.) which are in place regarding Bidder's employees who have access to sensitive data.

Response requirement:

- RTM: Tab 5, SEC-1 through SEC-6
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Security Application and Network Access objectives and requirements.

Encryption and Protocols

Ivalua uses a variety of strong encryption and key management protocols, cyphers, and processes from encrypting data/files in transit and at rest.

Encryption protocols and ciphers used during transmission:

- Data in transit uses AES 128 or AES 256 algorithm
- File (including SFTP) in transit uses PGP or AS2
- For external web traffic (browser to server connection) - HTTPS/TLS 1.2 or above
- For internal server to server traffic - TLS 1.2 or above
- For internal file sharing - SMB2 or above
- For external file transfers - GPG or PGP or AS2 over TLS
- For backups and file storage - WINRAR GPG or PGP or AS2 over TLS
- For wireless - WPA2
- For e-mail exchange - SMTP over TLS 1.2 or above
- For Virtual Private Network - IPsec
- For sftp - ftp over ssh

Encryption ciphers and protocols used for data at rest:

- Data at rest in databases is encrypted using AES 256 algorithm
- File at rest uses AES 256 algorithm

- Drives are encrypted using AES 256 algorithm
- Passwords are hashed using salted SHA 2 or above algorithm
- For file signing GPG or PGP is used

Secure Customer Data

Ivalua Solution architecture leverages a multi-instance tenancy model on shared servers. Our model creates a very distinct boundary between the data of each client. Each client application instance runs under a dedicated application pool process with a client dedicated identity. This model also facilitates the ability to perform upgrades and maintenance on an individual basis without impacting other clients' instances. This model enables higher instance availability.

Customer data is isolated / segregated from one-another in the following ways:

- Dedicated URLs (Bring your Own URL)
- Dedicated public and private IP (can apply source IP filtering)
- Dedicated application (folder, version)
- Dedicated runtime process under dedicated identity
- Dedicated database with dedicated access credentials

Network Security Measures

Ivalua has implemented proactive security procedures, such as perimeter defense and network intrusion prevention systems to secure its perimeter. Dedicated DMZ, network segmentation, dedicated URLs, and Site-to-Site VPN (note: a paid service) are some of the other measures implemented to protect customer instances from cyber-attacks. Some of the network security controls in place are listed below:

- Intrusion Detection System and Intrusion Prevention system (IDS/IPS), monitors and blocks malicious traffic or attack on network traffic traversing the device.
- All sites have firewalls for filtering inbound and outbound connections to the internet as well as between intra sites VLAN zones.
- Ivalua uses virtual networks VLAN (Virtual Local Area Network) to partition its various networks.
- Ivalua configures all network infrastructure to enforce the "principle of least access," including filters that allow only the minimum required traffic.
- Ivalua Monitoring systems log unexpected network activity (volume of traffic, protocol anomaly, signature-based attack) and notify Ivalua IT staff in real time via emails and text messages.

Physical Security

Ivalua co-locates its production and DR system in state-of-the-art data centers or IaaS providers designed to host most-critical computer systems with fully redundant subsystems and compartmentalized security zones. Currently nine (9) data center/IaaS providers exist across four (4) geographic regions. Ivalua data centers/IaaS providers adhere to the strictest physical security and environmental control measures. All our data center/IaaS partners adhere to stringent data center certifications such as: ISO 9001/14001/ISO 27001/SOC I and II.

The physical security measures in place at the datacenter includes:

- Physical access control (identity control, badge access, interior, and exterior video surveillance)
- Security guards on-site 24/7/365
- Dedicated locked racks
- Uninterruptible Power Supply (UPS, Diesel Generator)

- Redundant heating ventilation air conditioning
- Fire safety (inert gas)
- All components are fully fault-tolerant including uplinks, storage, chillers, HVAC systems, servers, etc. Everything is dual powered.

Ivalua Access Control

In Ivalua infrastructure, Ivalua enforces the principle of least privilege across the entire organization. Role-based access control at directory and application levels and firewall rules are used to manage access. Ivalua explicitly authorizes access to admin and security functions. IT personnel use different accounts credentials for different functions in different network zones. Only IT personnel have privileged access to hosted infrastructure. Privileged user accounts and access logs are reviewed periodically by the IT team. Only privileged users can execute privilege functions.

Background Checks

Human Resources coordinates the performance of background checks subject to local laws and practices with third-party specialists prior to authorizing access to the information system. Background checks can include, but are not limited to, the following:

- Education verification
- Search for prior criminal convictions - subject to local laws
- Employment history
- Reference checks - conducted in house
- Social Security number

Background checks are conducted on all AMER/APAC employees, subject to local laws.

7. Data Security

Bidders must demonstrate due diligence to ensure computer and telecommunications systems and services involved in storing, using, or transmitting Participating Entity Data are secure and protect Participating Entity data from unauthorized disclosure, modification, use or destruction.

Bidders must provide details that address the following:

- Describe security practices in place to secure/protect data and applications, including threats from outside the service center as well as other customers co-located within the same service center.
- Describe risk management techniques that balance the need for security measures against the sensitivity of Participating Entity data.
- Describe how it intends to comply with all applicable laws and related to data privacy and security.
- Describe how user accounts or data will not be accessed, except in the course of data center operations, response to service or technical issues, as required by the express terms of the Master Agreement, the applicable Participating Addendum, and/or the applicable Service Level Agreement.
- Describe data confidentiality standards and practices that are in place to ensure data confidentiality. This must include not only prevention of exposure to unauthorized personnel, but also managing and reviewing access that administrators have to stored data. Include information on your hardware policies (laptops, mobile etc).
- Describe the security measures and standards (e.g. NIST) which the Bidder has in place to secure the confidentiality of data at rest and in transit.
- Describe how it will only use data for purposes defined in the Master Agreement, participating addendum, or related service level agreement. Contractors shall not use the government data or government related data for any other purpose including but not limited to data mining. Bidders,

or their subcontractors, shall not resell nor otherwise redistribute information gained from its access to the data received as a result of this RFP.

- Describe the method by which you dispose of data following completion of any contract services.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Data Security objectives and requirements.

Secure Customer Data

Ivalua Solution architecture leverages a multi-instance tenancy model on shared servers. Our model creates a very distinct boundary between the data of each client. Each client application instance runs under a dedicated application pool process with a client dedicated identity. This model also facilitates the ability to perform upgrades and maintenance on an individual basis without impacting other clients' instances. This model enables higher instance availability.

Customer data is isolated / segregated from one-another in the following ways:

- Dedicated URLs (Bring your Own URL)
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- Dedicated application (folder, version)
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Network Security Measures

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- Intrusion Detection System and Intrusion Prevention system (IDS/IPS), monitors and blocks malicious traffic or attack on network traffic traversing the device.
- All sites have firewalls for filtering inbound and outbound connections to the internet as well as between intra sites VLAN zones.
- Ivalua uses virtual networks VLAN (Virtual Local Area Network) to partition its various networks.
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Physical Security

Ivalua co-locates its production and DR system in state-of-the-art data centers or IaaS providers designed to host most-critical computer systems with fully redundant subsystems and compartmentalized security zones. Currently nine (9) data center/IaaS providers exist across four (4) geographic regions. Ivalua data centers/IaaS providers adhere to the strictest physical security and environmental control measures. All our data center/IaaS partners adhere to stringent data center certifications such as: ISO 9001/14001/ISO 27001/SOC I and II.

The physical security measures in place at the datacenter includes:

- Physical access control (identity control, badge access, interior, and exterior video surveillance)

- Security guards on-site 24/7/365
- Dedicated locked racks
- Uninterruptible Power Supply (UPS, Diesel Generator)
- Redundant heating ventilation air conditioning
- Fire safety (inert gas)
- All components are fully fault-tolerant including uplinks, storage, chillers, HVAC systems, servers, etc. Everything is dual powered.

Treatment of Customer Data

Ivalua applies a single data classification to all customer data it hosts. Ivalua does not inspect or monitor its customers' data and has no ability to understand how any data may have been classified by individual customers. Ivalua treats and handles all customer data the same way and in accordance with its policies for customer data management. Customers remain the data owner and data controller of all data they place into their Ivalua instance and should apply access controls to restrict access to data within their instances based on their own requirements and needs, in accordance with their access control, data retention and data classification policies.

Internally, Ivalua has its own data classification policy. All customer data is classified as Confidential and access to the environment where customer data is stored is limited to a small number of individuals on a need-to-know basis.

Ivalua Access Control

In Ivalua infrastructure, Ivalua enforces the principle of least privilege across the entire organization. Role-based access control at directory and application levels and firewall rules are used to manage access. Ivalua explicitly authorizes access to admin and security functions. IT personnel use different accounts credentials for different functions in different network zones. Only IT personnel have privileged access to hosted infrastructure. Privileged user accounts and access logs are reviewed periodically by the IT team. Only privileged users can execute privilege functions.

Applicable Laws

Ivalua complies with privacy regulations (such as a "Data Processor" as defined by GDPR, or "Business Associate" pursuant to HIPAA) and can review options with the client to comply with data residency requirements. Data residency requirements will depend on the privacy laws a customer must comply with (e.g., data or storage requirements, etc.). As part of the project implementation, we can help gather such requirements and provide options and suggestions to support customer compliance efforts.

Encryption

Data at-rest and in-transit is encrypted using the industry-standard AES 256-bit encryption. Ivalua Cloud infrastructure where client data are stored, processed, and transmitted:

- The web traffic between the end-users and the servers is encrypted using TLS (HTTPS). Ivalua SSL X.509 CA certificates are generated with RSA 2048 key size and SHA-256.
- All hard drives and laptops are low-level encrypted with pre-boot authentication using AES-256 encryption.
- All client backups are encrypted at the source before being replicated to the DR site and to the archiving site.

*In addition, as a value-added service (paying option), Ivalua offers HSM-based encryption for data at rest which adds another level of encryption at the database and file level:

- Client database files are fully and transparently encrypted using Microsoft SQL TDE (AES-256) with the encryption key managed by the HSM.

- All files uploaded from the application are encrypted (AES-256) with the encryption key managed by the HSM.

Contract Termination

Upon termination of the contract, client data in the database and backups is securely destroyed. Data in the archives is deleted/destroyed using secure wipe protocol commensurate with US Department of Defense standards when Ivalua decommissions or reuse disk storage (solid-state or mechanical disks) within its colocation spaces.

8. Personally Identifiable Information Protection

The Solution must protect Personally Identifiable Information (PII). Proposals must provide details on how PII is protected and compliance with Federal PII, HIPAA and European General Data Protection Regulation (GDPR) requirements including, but not limited to:

- United States Code 42 USC 1320d through 1320d-8 (HIPAA);
- Code of Federal Regulations, 42 CFR 431.300, 431.302, 431.305, 431.306, 435.945, 45 CFR 164.502 (e) and 164.504 (e); and
- IRS Publication 1075, Tax Information Security Guidelines for Federal, Participating Entity and Local Agencies.

Bidders must

- Maintain in confidence any personally identifiable information ("PII") it may obtain, maintain, process, or otherwise receive from or through the Participating Entity;
- Not sell, rent, lease or disclose, or permit its employees, officers, agents, and independent Bidders to sell, rent, lease, or disclose, any such PII to any third party, except as permitted under this Contract or required by applicable law, regulation, or court order;
- Take all commercially reasonable steps to (a) protect the confidentiality of PII received from the Participating Entity and (b) establish and maintain physical, technical and administrative safeguards to prevent unauthorized access by third parties to PII received by Bidders from the Participating Entity;
- Give access to and use of PII only to those individual employees, officers, agents, and independent Bidders who reasonably require access to such information in connection with the performance of Bidder's obligations under an associated Participating Entity agreement;
- Upon request by the Participating Entity, promptly destroy or return to the Participating Entity in a format designated by the Participating Entity all PII received from the Participating Entity;
- Cooperate with any attempt by the Participating Entity to monitor Bidder's compliance with the foregoing obligations as reasonably requested by the Participating Entity from time to time;
- Establish and maintain data security policies and procedures designed to ensure the following:
 - o Security and confidentiality of PII;
 - o Protection against anticipated threats or hazards to the security or integrity of PII; and
 - o Protection against the unauthorized access to, disclosure of or use of PII.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the PII Protection objectives and requirements.

Ivalua fulfills the role of the data processor under GDPR and complies with its obligations. Ivalua has implemented numerous privacy and security practices to ensure Ivalua compliance with the GDPR. Some of these practices include:

- Training personnel on privacy and security practices;
- Conducting privacy impact assessments;
- Providing highly configurable features to our customers to also enable them to manage their obligations (access controls, anonymization methods, etc.);

- Maintaining records of processing activities;
- Data at-rest and in-transit is encrypted using industry-standard AES 256-bit encryption.

Customers may configure access to PII such that customer-defined roles have access to PII within the Ivalua platform. When providing customer support, Ivalua may have access to PII data.

Ivalua is also annually audited for HIPAA and complies with business associates' requirements of the Privacy, Security, and Breach Notification Rules.

9. Security/Privacy Issue Occurrence

In the occurrence of any security or privacy issue with the provided Solution and/or Services, whether detected by the Participating Entity, a Participating Entity auditor or the Contractor, the Contractor must:

- Notify the Participating Entity of the issue or acknowledge receipt of the issue within two (2) hours;
- Within forty-eight (48) hours from the initial detection or communication of the issue from the Participating Entity, present a potential exposure or issue assessment document to the Participating Entity Account Representative and the Participating Entity Chief Information Security Officer with a high-level assessment as to resolution actions and a plan;
- within four (4) calendar days, and upon direction from the Participating Entity, implement to the extent commercially reasonable measures to minimize the Participating Entity's exposure to security or privacy until such time as the issue is resolved; and
- upon approval from the Participating Entity implement a permanent repair to the identified issue at the Bidder's cost.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Security/Privacy Issue Occurrence objectives and requirements.

Ivalua has a Security Incident Response Plan and Procedure; reporting obligations are set forth in Ivalua's customer contract. In the absence of a contractual requirement, in the event of any breach of PII, the customer will be notified without undue delay but no later than 72 hours. Details, special cases, and additional terms can be discussed during discovery.

10. PII Data Actual/Attempted Access or Disclosure

If the security or privacy issue is determined to be an actual, attempted or suspected theft of, accidental disclosure of, loss of, or inability to account for any PII by Contractor or any of its sub-contractors (collectively "Disclosure") and/or any unauthorized intrusions into Contractor's or any of its sub-contractor's facilities or secure systems (collectively "Intrusion"), Contractor must additionally:

- Notify the Participating Entity within two (2) hours of the Bidder becoming aware that the issue was of the unauthorized Disclosure or Intrusion;
- Investigate and determine if an Intrusion and/or Disclosure has occurred;
- Fully cooperate with the Participating Entity in estimating the effect of the Disclosure and/or Intrusion's effect on the Participating Entity and fully cooperate to mitigate the consequences of the Disclosure or Intrusion;
- Make a report to the Participating Entity including details of the Disclosure and/or Intrusion and specify the corrective action to be taken;
- Take corrective action to prevent further Disclosure and/or Intrusion; and
- In the case of a Disclosure, cooperate fully with the Participating Entity to notify the effected persons as to the fact of and the circumstances of the Disclosure of the PII. Additionally, Bidder must cooperate fully with all government regulatory agencies and/or law enforcement agencies having jurisdiction to investigate a Disclosure and/or any known or suspected criminal activity.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the PII Data Actual/Attempted Access or Disclosure objectives and requirements.

Ivalua has a Security Incident Response Plan and Procedure; reporting obligations are set forth in Ivalua's customer contract. In the absence of a contractual requirement, in the event of any breach of PII, the customer will be notified without undue delay but no later than 72 hours.

11. Security Breach Reporting

If the security issue is determined to be an actual security breach that may have compromised Participating Entity Data that is not PII, the Contractor must additionally:

- Notify the Participating Entity within two (2) hours of the Contractor becoming aware of the breach. In the case of a suspected breach, the Contractor must notify the Participating Entity in writing of the suspected breach within twenty-four (24) hours of the Bidder becoming aware of the suspected breach.
- Fully cooperate with the Participating Entity to mitigate the consequences of such a breach/suspected breach. This includes any use or disclosure of the Participating Entity Data that is inconsistent with the terms of this Contract and of which the Contractor becomes aware, including but not limited to, any discovery of a use or disclosure that is not consistent with this Contract by an employee, agent, or sub-contractor of the Contractor.
- Give the Participating Entity full access to the details of the breach/suspected breach and assist the Participating Entity in making any notifications to potentially affected people and organizations that the Participating Entity deems are necessary or appropriate. Bidders must document all such incidents/suspected incidents, including its response to them, and make that documentation available to the Participating Entity on request.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Security Breach Reporting objectives and requirements.

Ivalua has a Security Incident Response Plan and Procedure; reporting obligations are set forth in Ivalua's customer contract. In the absence of a contractual requirement, in the event of any breach of PII, the customer will be notified without undue delay but no later than 72 hours.

E. IMPLEMENTATION REQUIREMENTS

1. Project Management

Bidders must describe their project management methodology and approach including, but not limited to, key tasks, status reporting, implementation plan development, deliverable management, status reporting, risk assessment/mitigation, issue management, and staff management. Proposals must also address:

- Providing a dedicated Project Manager and identify the skills, qualifications, certifications and responsibilities of an individual that would be assigned to a Solution implementation project.
- Include an example Implementation Plan that includes project phases, tasks, major milestones and timeline.
- Typical Project Deliverables
- Bidder's staffing plan including key positions, roles and responsibilities
- Participating Entity required staff, roles, skills required and responsibilities.
- Project Governance model/approach depicting both Bidder's and Participating Entity roles.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Project Management objectives and requirements.

Ivalua's project methodology is a semi-agile based design that is typically composed of the following phases.

1. MOBILIZE
2. EXPLORE/DESIGN
3. BUILD/CONFIGURATION
4. TEST
5. DEPLOY/GO-LIVE
6. RUN

Within this framework, we have designed a flexible methodology approach that is tailored to specific Customer requirements. By using agile methods, the end-users are involved in both mockup and configuration of their system. This tends to accelerate their understanding of what is possible and refine their requirements to what is most needed. Because this can be a dynamic environment, good up-front scoping and ongoing prioritization are key structural constraints that keep the project on track. This "hybrid" approach, putting agile components into a structured project plan, is the unique aspect of Ivalua's Implementation Methodology.

Ivalua typically appoints a Project Director and Project Manager/Implementation Lead as part of the PMO workstream to lead its implementation effort.

Ivalua will support project management activities for Project Planning, Tracking and Reporting. Key activities include:

- Review project tasks, schedules, and resources and make changes or additions, as appropriate
- Measure and evaluate progress against the Project plan with Customer Project Manager
- Work with Customer Project Manager to address and resolve deviations from the Project plan
- Participate to weekly scheduled project status meetings
- Report time spent on the Project to Customer Project Manager on a weekly basis
- Oversee the Project Change Control Procedure with Customer Project Manager
- Coordinate and manage the project activities of Ivalua employees or subcontractors ("Ivalua Personnel")

The following is a recommended project team structure:

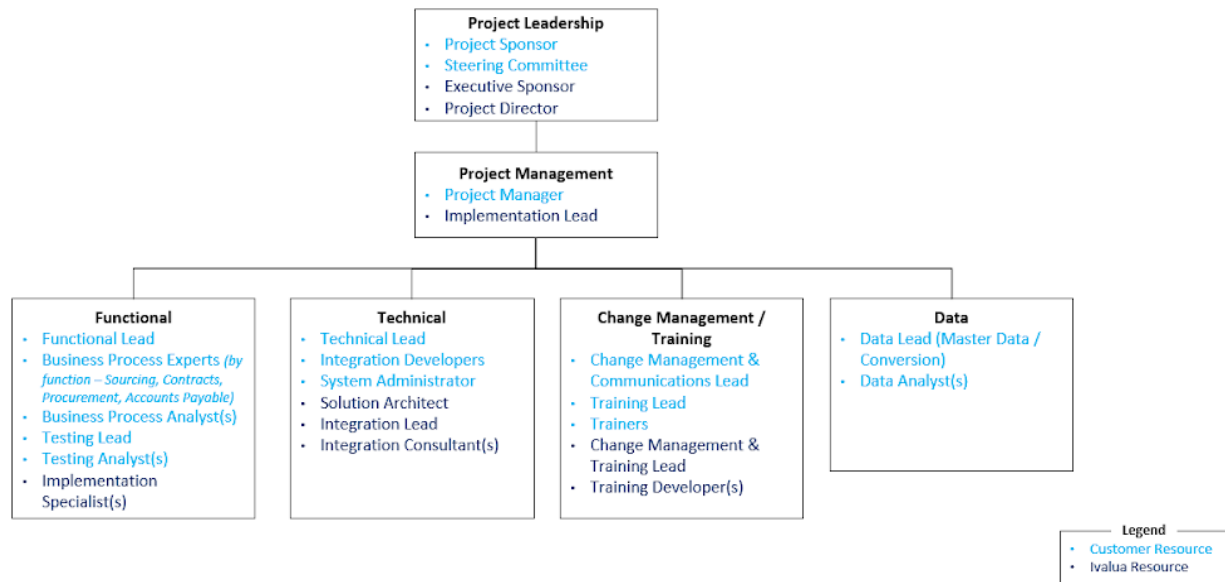


FIGURE 69 – RECOMMENDED PROJECT TEAM STRUCTURE

Ivalua typically recommend the following customer resources to support similar project:

- **Project Sponsor - 10-15%**
 - Provide overall project vision, guidance for high-level issue resolution, senior leadership communication in support of the project, help to drive change management for higher adoption
 - Active participation in the deployment steering committee
- **Project Manager - 50%-75%**
 - Primary point of contact for overall deployment
 - Partners with Ivalua Project Manager to manage project timeline, manages all customer resource activities throughout the project, drive resolution of any escalated issues, as well as other key project management items
- **Business Leads (1 per solution, Supplier Mgmt., Sourcing, Contract Management, Procurement, Accounts Payable (as applicable)) - 50% to 100%**
 - Participate in configuration workshops, issue resolution
 - Responsible for all customer testing
 - Develop cutover plan and manage cutover execution
- **Technical Lead - 20%-100% (100% during integration, less than 20% for remainder of project)**
 - Technical contact for all Ivalua interaction/coordination
 - Responsible for all data extracts and loads, interface/integration development, and technical testing
 - Conduct cutover activities
- **3rd Party System and Middleware SMEs - 20%-100% (100% during integration, less than 20% for remainder of project)**

- Technical SMEs for design and configuration of 3rd party system(s) to be integrated with Ivalua (ERP, HR, Authentication, etc.)
- Develop and test middleware transmission and mapping functionality (*if middleware is required)
- Define scheduling scripts for automatic data integrations and email notifications
- Administrator - 10-50% partial duration
 - Customer technical expert on Ivalua platform
 - Administer users, groups, approval workflow, templates, etc.
- Process Experts / Pilot Users - 10%-25% partial duration
 - Provide input to Configuration decisions, participate in testing, support supplier and catalog enablement activities, and support/conduct cutover activities

Typical project deliverables include:

- Kick-off Presentation
- Implementation Project Plan
- Status Report template
- Design Document
- Test Plans / Scripts
- Cutover Plan
- Configured environment and integrations



FIGURE 70 – TYPICAL PROJECT STEPS

2. Project Implementation Methodology

Bidders must describe their implementation methodology and approach including, but not limited to:

- Standard implementation including, but not limited to, approach, strategy, methodology, and change control;
- Design/Configure/Build work required to set up the Solution
- System development methodology;

- Testing methodology including, but not limited to, Test Plans, Development Testing, Unit Testing, Performance Testing, Integration Testing, User Acceptance Testing, and Test Scenario/Script development;
- Configuration/change control methodology;
- Risk Management practices and identify common project risks; and
- Issue Tracking/Management.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Project Implementation objectives and requirements.

The Ivalua Implementation Methodology is based on the principles of rapid deployment and prototyping that reflect the same agile development principles we use to build our software. This agile approach operates within a structured framework based on more traditional Project Management and Testing and Documentation standards. By using agile methods, the end-users are involved in both mockup and configuration of their system. This accelerates their understanding of what is possible and allows them to refine their requirements to what is most needed. Because this can be a dynamic environment, good up-front scoping and ongoing prioritization are key structural constraints that keep the project on track. This “hybrid” approach, putting agile components into a structured project plan, is the unique aspect of Ivalua’s Implementation Methodology.

Ivalua's development process is based on the Agile methodology with its interactive approach to software development and assessment. This embeds Quality Assurance directly into the ongoing development process sooner than with a more traditional approach. During the Build phase of a project, each configuration change (driven by the requirements collected during the design phase) is unit tested by the configurator. Once the Build phase is over, and before User Acceptance Testing starts, our Quality Assurance team reviews and tests the entire application build to make sure that all the pieces come together without defects, and as per the approved design. Code changes are extremely limited (and restricted to Ivalua certified engineers only), submitted to validation internally, and if approved, will have to go through a peer code-review process before being delivered on a client's environment. The Ivalua development environment is based on OWASP best practices. Ivalua developers are trained on these practices. Regular code reviews are conducted internally, and security code review is conducted by an external security auditor.

3. Catalog Support Services

Bidders must provide services to support the creation, loading, management, and maintenance of hosted catalogs and punchout sites. Proposals must describe in detail the available services, including but not limited to, the following:

- Provide assessment to identify and prioritize contracts as potential for hosted catalog or punchout;
- Creation of hosted catalogs;
- Setup/configuration of punchout sites;
- Identify and setup commercial retail online marketplaces;
- On/off-boarding of Suppliers to prepare them to manage catalog content; and
- Train Participating Entity staff to assume catalog/punchout management roles.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Catalog Support Services objectives and requirements.

Ivalua has a powerful product information management tool that is used to manage catalog items.

Catalog Import - The import process includes 2 main stages:

- Creating the import and loading the file: The import process can be initiated, and the import file can be loaded into the application either by buyers themselves or by suppliers.

- Controlling and approving imported data: This step is carried out by buyers

Supplier Created Catalog - Ivalua has a built-in catalog import console that enables a supplier to create and edit item sheets (validity date range, price, shipping terms, etc.) and to submit this data to buyers for approval. Various features facilitate communication between supplier and buyer and track progress of each import (comments, statuses, workflow, and notifications).

Ivalua excels at "flipping" a contract or sourcing event into an e-catalog, a traditional catalog loading process that leverages either excel, CSV file formats, EDI, email or a template that suppliers filled and load it by themselves. We support catalog onboarding with multiple different data structures and different granular level of detail (e.g., pictures, "how to" instructions, attachments, detail descriptions, UNSPSC codes, manufacturing numbers, etc.). Suppliers or buyers can add or edit (using approval workflows) an existing catalog anytime or schedule changes. Ivalua Integration Toolbox can directly integrate with suppliers to create/maintain catalogs in real-time using ETL and EAI that is native. There are no supplier costs to maintain catalog content.

Ivalua has a rich and deep network of partners across the globe. In the event that our customer requires additional catalog support services, Ivalua can leverage our partner ecosystem to provide these services including:

- Providing assessments to identify and prioritize contracts as potential for hosted catalog or punchout;
- Creation of hosted catalogs;
- Setup/configuration of punchout sites;
- Identification and setup of commercial retail online marketplaces;
- On/off-boarding of Suppliers to prepare them to manage catalog content; and
- Training customer staff to assume catalog/punchout management roles.

For an updated list and information on Ivalua partners, please visit: <https://www.ivalua.com/company/partners>

4. Data Conversion Services *(separate from the Data Services response in the Functional Requirements section)*

Bidders must provide data conversion services to transition from existing, legacy systems to the new eProcurement Solution. Proposals must describe in detail the available services including, but not limited to, the following:

- Conversion needs assessment;
- Conversion approach/methodology for Supplier data, Users, and active transactions including, but not limited to, open Purchase Orders, active Solicitations, and active Contracts;
- Data cleansing; and
- Tools/accelerators available to support data conversion.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Data Conversion Services objectives and requirements.

Ivalua has a rich and deep network of partners across the globe. Ivalua leverages our extensive partner ecosystem to provide data conversion services to our customers including:

- Conversion needs assessment;
- Conversion approach/methodology for Supplier data, Users, and active transactions including, but not limited to, open Purchase Orders, active Solicitations, and active Contracts;
- Data cleansing; and
- Tools/accelerators available to support data conversion.

For an updated list and information on Ivalua partners, please visit: <https://www.ivalua.com/company/partners>

5. Interface/Integration Development Services *(separate from the Interface and Integration response in the Functional Requirements section)*

Bidders must provide services to develop and implement interfaces and/or integrations with Participating Entity legacy systems. Proposals must describe in detail the available services, including but not limited to, the following:

- Provide technical assessment to identify all required interface and integrations to systems outside of the eProcurement Solution.
- Design, development, testing and implementation of all identified interfaces and integrations.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Interface/Integration Development Services objectives and requirements.

Ivalua's approach to integration is to integrate by configuration. The approach is to map Participating Entity's data to Ivalua data. Specific interfaces are configured (no coding), the configuration of interfaces is part of the integration toolbox resulting in micro integration workflows supporting open protocols and data formats.

The approach is to select one of the predefined integration templates appropriate for the business object, map the data items, configure the protocols and data format.

Our connectors include REST API (json/xml), AS2/EDI, HTTPS, sFTP, OCI, IDOCs and more.

Ivalua includes an ETL engine to provide a toolset that defines an integration package, data checks, transformations, and schedules interactions, and monitors each transaction. This approach allows us to support almost all API and file formats.

As part of the project, Ivalua will assign an Integration Lead to work with Participating Entity's team to perform a technical assessment to identify all required interfaces and integrations required to support the eProcurement solution. The integration strategy will identify the source and target systems, data types, protocols required, data synchronization frequency, typical data sizing, requirements for integration, dependencies and other attributes required to validate the success of the integration. Ivalua personnel will be responsible for the Ivalua-side of the integration whereas the Participating Entity personnel will be responsible for the Participating Entity-side of the integration. Ivalua may be able to provide additional support services to support the Participating Entity-side of the integration. As part of the project and in adherence to Ivalua project methodology, design, configuration, testing, and implementation of the interfaces and integrations will be performed.

6. Organizational Change Management (OCM) Services

Bidders must provide OCM services that include, at a minimum:

- OCM Strategy development;
- Stakeholder Analysis/Assessment;
- Readiness Assessments, Organizational and Staff;
- Impact Assessment;
- Communications Plan development;
- Coaching Plan development;
- Resistance Assessment and Management Plan development; and
- Proposals must include a description of Bidders OCM Methodology and detailed descriptions of each of the above items.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the OCM Services objectives and requirements.

Ivalua provides an array of change management and custom training services, including Change Management and Custom Training development (Instructor led training, Train-the-trainer, Web-based recording, and Quick Reference Guides (QRGs)). Our Organizational Change Management (OCM) approach and methodology includes:

Leadership / Stakeholder Engagement

- Gain agreement on the timing and priority of activities to enhance business outcomes and increase user adoption throughout the life of the project
- Assess and facilitate leadership alignment and action planning
- Prepare and engage Participating Entity stakeholders
- Conduct shared vision, goals, and alignment workshop

Change Impact Assessment

- Capture change impacts to enhance the understanding of project leaders and team members
- Identify organizational related risks of transformation early in the process to provide input to training and communications

Change Readiness

- Assess readiness and monitor progress of change and user acceptance
- Design relevant readiness and engagement activities to increase ownership and adoption of the to-be business model

Training

- Develop a consistent, tailored, and scalable training program to provide Participating Entity with the ability to adopt the system and processes
- The training approach is designed to provide each type of resource with the right level of role-based training, using a variety of training delivery methods, including Instructor-Led Training, Web Based, Job Aids, Simulations, and Quick Reference Guides.
- We deliver a variety of training materials based on audience group, location of audience, and the amount of change required for the end user to do his/her job differently in the future. Below are our recommended types of training materials and descriptions of those materials:
 - Web-Based Training (WBT): WBT provides process overviews, terms and concepts, transaction demonstrations and assessments via online learning. WBT allows for efficient, accessible training delivery.
 - Instructor Led Training (ILT): ILT allows end users to practice executing transactions in a classroom setting with a facilitator present to guide learning and answer questions. ILT is useful for training associates in an efficient, undistracted way so associates perform their core role.
 - Instructor Guides: Instructor guides outline course content and facilitator notes for trainers.
 - Training Exercises: Training exercises include business scenarios and data so end users can practice system transactions in a simulated environment.
 - Quick Reference Guides (QRGs): QRGs are reference documents that provide tips for frequently used processes and techniques for performing transactions in the new system. They provide on-the-spot guidance so employees can effectively navigate the system, reducing trouble-shooting time.
 - Simulations: Simulations show step-by-step work instructions, allowing users to view how transactions occur in the system.

Communications

- Execute a streamlined communications strategy through several media types
- Align communications with Participating Entity's procurement vision and goals

7. Training Services

Bidders must provide user training on the use the eProcurement Solution. Proposals must include:

- A comprehensive training needs assessment.
- Development and implementation of a Training Plan which must be:
 - Approved by the Participating Entity;
 - Identify the method of training recommended for End Users, Train-the-Trainers, Suppliers, System Administrators and Participating Entity Help Desk staff;
 - Identify Bidder's staffing and skills levels that demonstrates the proposed training approach;
 - Staffing that would conduct the training and describe skills/experience;
 - Required Participating Entity staff and resources; and
 - Post-implementation transition plan to move training responsibilities to Participating Entity staff.
- Include an example Training Plan
- The following delivery methods:
 - On-site Instructor Lead, computer-based classroom training;
 - Web-based Instructor Lead training (e.g. Webinar session); and
 - Web-based self-service/on-demand training (e.g. web posted video).
- Training materials that
 - Include step-by-step procedures and directions.
 - Become property of the Participating Entity for use in future training and the state may download/copy/distribute these materials without restriction.
 - Include the right for the Participating Entity to publish/post the contractor's training materials on publicly accessible websites.
 - Include links to examples of training materials.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Training Services objectives and requirements.

Ivalua provides a robust e-learning program for customers, partners, and our own staff to learn at their own pace using documentation, video instruction and study guides. This is provided through Ivalua Academy. Customers can gain official "Ivalua Certification" for various levels of expertise in the solution through the Ivalua Academy which leverages the e-Learning resources and adds virtual webinar instruction and testing.

Training programs offered include:

- Key-user Training - no prerequisites
 - Learn how to use the main modules of the platform
 - Source-to-Contract
 - Sourcing Template Manager
 - Procure-to-Pay
 - Conducted by Ivalua
- Administrator Training
 - Functional administrators - no prerequisites

- Approx. 2-3 days
- Ivalua overview basics
- Design basics
- EAI & ETL basics
- Admin intermediate
- Workflow & environments basics
- BI & queries basics
- Technical administrator - prerequisites: knowledge of Ivalua application & technical background
 - Approx. 3 days
 - Admin advanced
 - Workflow intermediate
 - ETL/ EAI intermediate
 - Design intermediate
 - BI/ queries intermediate
 - Environments & Extranet intermediate

Ivalua runs these training on the standard Ivalua platform only.

In addition to Ivalua Academy, Ivalua offers custom training services to cover customer-specific training needs. The training approach is designed to provide each type of resource with the right level of role-based training, using a variety of training delivery methods, including Instructor-Led Training, Web Based, Job Aids, Simulations, and Quick Reference Guides.

- We deliver a variety of training materials based on audience group, location of audience, and the amount of change required for the end user to do his/her job differently in the future. Below are our recommended types of training materials and descriptions of those materials:
 - Web-Based Training (WBT): WBT provides process overviews, terms and concepts, transaction demonstrations and assessments via online learning. WBT allows for efficient, accessible training delivery.
 - Instructor Led Training (ILT): ILT allows end users to practice executing transactions in a classroom setting with a facilitator present to guide learning and answer questions. ILT is useful for training associates in an efficient, undistracted way so associates perform their core role.
 - Instructor Guides: Instructor guides outline course content and facilitator notes for trainers.
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 - Simulations: Simulations show step-by-step work instructions, allowing users to view how transactions occur in the system.

8. Help Desk Services

Bidders must provide services to support users and Suppliers in the use of the eProcurement solution. Proposals must describe in detail the available services, including but not limited to, the following:

- Approach/methodology;
- Experience supporting eProcurement solutions;
- Support/Management Plan that addresses:
 - Help Desk location and staffing
 - Participating Entity responsibilities and staffing recommendations
 - Operating procedures
- Systems and tools utilized to provide services including phone, chat and ticketing systems;
- Performance metrics tracking and reporting;
- Issue analysis, tracking, and reporting;
- Customer satisfaction tracking and reporting; and
- Option/approach to transition to a Participating Entity Help Desk operation including training of Participating Entities Help Desk resources.

Response requirement:

- RTM: Tab 6, IMPL-1 through IMPL-5
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Help Desk Services objectives and requirements.

As part of the SaaS Subscription the following services are included:

Technical Support (level 3) for standard product and specific customer application in Production. This covers items for Customer Administrator of the application such as:

- Defect requests and corrective maintenance
- Maintenance releases and proactive maintenance (new major release upgrade for innovation)
- Questions on Product
- Specific enhancement analysis (and through partners when applicable)

In addition to the Application Maintenance included in the SaaS, Ivalua provides three optional types of support:

- End-users Help-desk;
- Suppliers Help-desk;
- Administrators Configuration Support.

These are optional and recurring for the duration of the contract. Help-desk support communication is done through dedicated phone, email, and tickets. Each Help-desk support contains multiple options in terms of Regions (AMER/ EMEA/ APAC) and Languages spoken per regional hub. Configuration Support is provided to trained Administrator through dedicated phone and Extranet tickets for AMER or EMEA region.

Help Desk

To fully support our customers, Ivalua offers a help desk to allow suppliers or internal users to get on demand help from Ivalua if they run into difficulties using the system. This is a level 1 help desk, so will be the users first interaction when they need help, as opposed to a State/organization managed help desk. This service enables:

- Phone and email technical support level 1 for suppliers and/or end users for all modules
 - One dedicated phone number and email address to streamline requests
- Uses Ivalua's ticketing system ('extranet') for tracking and submitting requests
- 90% of tickets solved in 1 hour
- Ticket level 2 redirection to the client administrator depending on client procedure (e.g., data update, account creation, profile change)

The flow of tickets received by the help desk is below:

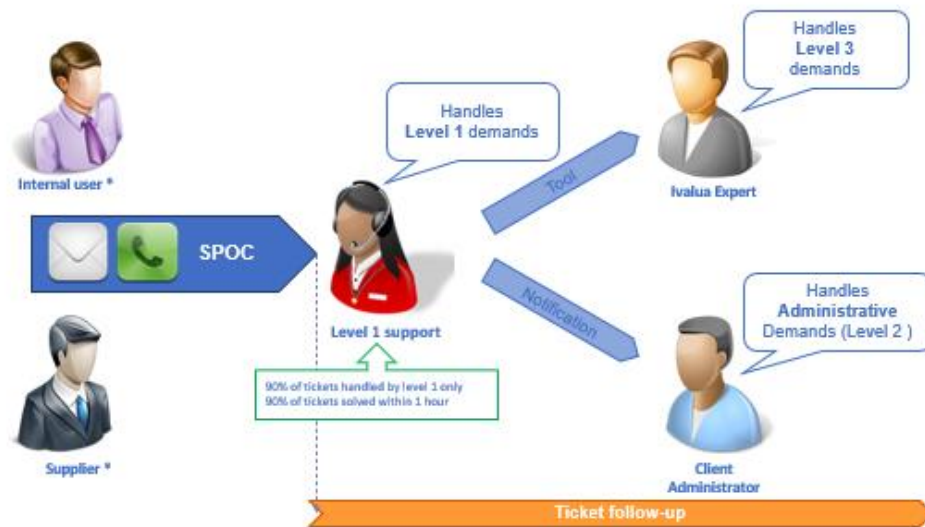


FIGURE 71 – HELP DESK FLOW

Ivalua will provide access to its tracking system that allows tracking of all the project activities and the maintenance activities as well ('the Extranet'). The extranet access is managed through user profiles. The customer has access to the tracking system with different possible profiles (view or edit) and can export all the data to Excel after applying the appropriate filters. The extranet provides several functionalities including managing acceptance, testing campaigns, help desk activities and more.

9. On-Site System Stabilization Support

Bidders must provide personnel to support a stabilization period of 3 months after the 'go live' of the full Solution Implementation. Participating Entities may require this support to be on-site. These personnel will address, at a minimum, system setup/configuration changes, issue assessment/resolution, system performance and stability monitoring/adjustment, system use assessment, mentoring of State operations staff, coordination of Contractor off-site tasks and support resources, coordinate documentation.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the On-Site System Stabilization Support objectives and requirements.

Ivalua provides On-Site System stabilization support after the 'go-live' of the full Solution Implementation. We refer to this support as hypercare and it is part of our project methodology. Ivalua will provide this support for a period of 3 months for the Participating Entity. During this support period, Ivalua will:

- Monitor roll-out and usage of the Solution
- Triage and support high-priority tickets
- Adjust configurations / integrations where necessary
- Prioritize any defects, fixes, or patches
- Support with month end activity as needed
- Focus on seamless adoption to the end-users
- Transition to steady state support team – Participating Entity & Ivalua Run Team

F. MANAGED SERVICES REQUIREMENTS

Bidders may propose to provide any of the following services separate from services proposed in the Implementation section of this RFP.

1. Solution Support

Bidders must provide post-implementation operational support services including, at a minimum, the following:

- Maintain the performance, availability and stability of the Solution. The Contractor must schedule its implementation of changes so as not to unreasonably interrupt State business operations.
- Make no changes that would materially alter the functionality of the systems used to provide the Services or materially degrade the performance or SLAs as established of the Services, without first obtaining State approval. In the case of an emergency, and in keeping with State security policies in effect, the Contractor may make temporary changes at any time and without State approval, to the extent such changes are necessary, in the Contractor's judgment, (i) to maintain the continuity of the Services, (ii) to correct an event or occurrence that would substantially prevent, hinder or delay the operation of State critical business functions; and (iii) to prevent damage to the Contractor's network. The Contractor will promptly notify the State of all such temporary changes. At the conclusion of the emergency the Contractor will restore any changes to the pre-emergency state, and if the change is deemed necessary for normal operation of the system, a corresponding change request must be initiated for State review and approval. The Contractor must review and perform a root-cause analysis of any deviation from any scheduled or failed changes.
- Prior to using any software or equipment to provide the Services perform all necessary testing to verify that the item has been properly installed, is operating substantially in conformance to its specifications, and is performing its intended functions in a reliable manner in keeping with the defined Service Levels in effect at the time of the change.
- Reasonably accommodate the Participating Entity testing, review and approval processes prior to promoting these Solution components in the production environment.
- For all Production and Non-Production environments (including environments that support systems development, testing, training, demo, QA and otherwise) monitor those environments, apply patches, and administer the system logs.
- Upon the creation of any environment for Participating Entity use, (unless excused in writing by the State) include these environments in regularly scheduled backup, maintenance, update/upgrade, patching, monitoring/reporting functions prior to productive use by the Participating Entity and until the use of this environment is no longer required by the Participating Entity.
- Identify to the Participating Entity any issues that may adversely impact the Participating Entity in-scope environment and operational requirements and that require analysis of the technical components of the system, including the applications, databases, ancillary and systems software and hardware.
- Conduct reviews with the Participating Entity for corrections to performance, functional, integration or technical issues with in-scope environments or operations and incorporate resulting changes into ongoing continuous improvement initiatives.
- Provide reviews of Participating Entity use of the Solution to make recommendations/suggestions on how the Entity could make more effective use of the Solution.
- Perform technical activities including but not limited to: system code/object migrations, patch implementations, testing, performance tuning, log administration, data copies and exports, integrations and scheduled reporting/ETLs, and responsibility for issue resolution such that migrations into production will be executed at agreed periodic intervals and other production

changes will be scheduled during the maintenance window. The Contractor must follow a mutually agreed, formalized and published methodology for migrations into production.

- Application and system software/hardware upgrades for in-scope services must not impair the Contractor's ability to meet the Service Levels.
- Maintain an e-mail listing for each business and service owner of the eProcurement solution including third party Solution components. When there is an unscheduled outage or reduction in required performance of the eProcurement solution, the Contractor must promptly notify the appropriate business and service owner contacts of an outage and restoration of service in accordance with the Run Book or other supporting documents.
- Monitor system use/capacity, forecast capacity and review the Participating Entity growth plans during quarterly service review meetings, and if requested due to an unforeseen requirement, participate in the required number of ad-hoc reviews coinciding with these new requirements and infrastructure needs to correctly plan for capacity – periodic capacity increases as well as burst requirements.
- Monitor all third-party software vendors and vendor services for proactive notification of all applicable patches and updates. When new eProcurement impacting items are released, they must be tested by the Contractor in its protected test environments, and jointly scheduled with the Participating Entity for installation during the next scheduled maintenance window. A priority update window may be required in advance of schedule if a patch or fix is deemed to be critical or security related.
- Manage the security functions related to the solution including administrative access and passwords and the related security controls to maintain the integrity of the solution, based on the Contractor's standard security processes.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Solution Support objectives and requirements.

Over the past twenty plus years, Ivalua has developed its own highly automated SaaS platform to deploy the Ivalua application based on modern design principles of source control, automated deployment, automated updates, and custom application containerization, designed to support its single tenanted environment. The platform is deployed in 3 regions and across 7 data centers.

The platform allows Ivalua to manage resources in real-time, to manage customer processing peaks. All equipment used to run this platform is owned and managed by Ivalua.

The environment allows Ivalua to offer a highly resilient and performant platform, the platform is designed to offer the contractual SLA of 99.8% availability and SLA response time of 2-3 seconds (depending on the level of hosting).

Ivalua is a SaaS solution. The infrastructure is administered and monitored by Ivalua IT staff. All updates of Ivalua Solution application are at the customer request and control, and they will be performed automatically with no downtime (for minor updates) or through scheduled downtime (for major updates). Ivalua manages environments and their lifecycle using Ivalua's 'Factory'. Release packages are automatically created and deployed using the Factory. Each client project has its own versioning managed by the Ivalua source code control server.

System upgrades of Ivalua Cloud infrastructure are fully controlled by Ivalua IT and are performed during regular scheduled maintenance. Ivalua has a change control policy in place. No, the changes are not limited to necessary changes only. Ivalua has established a security-focused change management program in accordance with NIST information system configuration management guidelines. Changes to the infrastructure are following an approved process and tracked into the Ivalua ticketing system (Extranet).

Each client will be provided at least 3 environments (development, acceptance, production). All new development (configuration, upgrades) are pushed from the development environment to acceptance to be tested and approved by the client. The acceptance environment can be integrated with the client acceptance/test systems to perform an

end-to-end testing of the solution. Upon approval by the client, the updates are deployed to the production environment.

Ivalua follows a standardized process when developing its software. There is a defined SDLC policy that exists and communicated to all relevant stakeholders. The process is based on industry best practices and ensures that good quality software is delivered to the customer.

The development process goes through the following phases:

- requirements gathering (includes feedback from its customers),
- architecture and design,
- development,
- testing and
- deployment phases.

The software is tested prior to it being made available to the customers. On top of the testing that is performed by the developers, Ivalua has a dedicated team of QA professionals that perform testing. The following types of tests are performed, before release:

- Manual tests and code reviews
- Load and performance testing
- Functional testing
- Regression and automated testing

Software bugs identified through testing are tracked and worked upon based on their level of severity. Ivalua constantly improves its software development and service delivery processes to ensure we continue to deliver good quality service to its customers.

Ivalua has established auditing and accountability policies and standard operating procedures. Ivalua aggregates and stores and archives the logs of all critical production network components, servers, applications, databases, and authentication mechanisms to ensure each layer has sufficient coverage to support organizational security functions. Ivalua logs the full scope of events which is the most effective method to support after-the-fact investigations of security incidents. Near real-time event monitoring, reporting, and audit generation in the SIEM system facilitates security event investigation, both during remediation and post-mortem.

Planning

Evaluation of the infrastructure and networking capacity of the datacenters is done annually or as necessary. IT works directly with Sales and other departments to anticipate the capacity requirements based on sales forecasts. Once the networking and infrastructure are in place, monitoring systems are used to identify potential issues with capacity.

Architecture

At the onset of the project, Ivalua recommends the appropriate architecture to support the client needs based on project scope (modules deployed, volume of transactions, volume of active users, peaks of activity, RPO/RTO, etc.) and regularly reviews the client needs during the application deployment lifecycle (deployment of new modules, usage growth, etc.). IT determines the placement of the production environment based on those requirements.

Monitoring

Ivalua proactively monitors all its infrastructure, including customer application servers and can react very quickly in case of unexpected workload. Applications can be moved from one server to another without any downtime. A

monitoring tool is used to check any issue. Some of the specific parameters that are monitored for performance tuning includes:

- Page response time
- Application logs
- SQL query performance, caching efficiency
- CPU load
- Memory and swapping
- Disk IO latency and load
- Network latency and load

Maintenance and Security

The Ivalua IT team also does proactive maintenance on the environment to ensure the best performance possible. In addition, the Ivalua Information Security team does proactive monitoring to ensure the best security possible.

SLA

As mentioned briefly above, Ivalua also guarantees a Hosting SLA (hit response time, uptime) and can share a monthly report with the client upon request. Application layer KPIs are shared with customers in regular steering committees and compared with SLAs (availability and response time viewed from the application server).

Support

As part of the SaaS Subscription the following services are included:

Technical Support (level 3) for standard product and specific customer application in Production.

Covers items for Customer Administrator of the application such as:

- Defect requests and corrective maintenance
- Maintenance releases and proactive maintenance (new major release upgrade for innovation)
- Questions on Product
- Specific enhancement analysis (and through partners when applicable)

In addition to the Application Maintenance included in the SaaS, Ivalua provides three optional types of support:

- End-users Help-desk;
- Suppliers Help-desk;
- Administrators Configuration Support.

These are optional and recurring for the duration of the contract. Help-desk support communication is done through dedicated phone, email, and tickets. Each Help-desk support contains multiple options in terms of Regions and Languages spoken per regional hub. Configuration Support is provided to trained administrators through dedicated phone and Extranet tickets.

2. Organizational Change Management (OCM) Services

Proposals must identify the specific eProcurement solutions that are supported for the OCM services. Proposals must meet the same requirements identified in the Implementation OCM Services in Section E., 6. above.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the OCM Services objectives and requirements.

Ivalua has included OCM services as part of our implementation proposal section of this RFP. As part of the implementation, Ivalua will provide project artifacts / deliverables to the Participating Entity and enable the Participating Entity to support OCM requirements beyond the implementation. Therefore, as part of ongoing / managed services, Ivalua does not foresee providing additional OCM services.

3. Training Services

Proposals must identify the specific eProcurement solutions that are supported for the training services. Proposals must meet the same requirements identified in the Implementation Training Services in Section E., 7. above.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Training Services objectives and requirements.

Ivalua has included Training services as part of our implementation proposal section of this RFP. As part of the implementation, Ivalua will provide project artifacts / deliverables to the Participating Entity and enable the Participating Entity to support Training requirements beyond the implementation. Therefore, as part of ongoing / managed services, Ivalua does not foresee providing additional Training services.

4. Catalog Support Services

Proposals must identify the specific eProcurement solutions that are supported for the Catalog Support services. Proposals must meet the same requirements identified in the Implementation Catalog Support Services in Section E., 3. above.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Catalog Support Services objectives and requirements.

Ivalua has included Catalog Support services as part of our implementation proposal section of this RFP. As part of the implementation, Ivalua will provide project artifacts / deliverables to the Participating Entity and enable the Participating Entity to support Catalog requirements beyond the implementation. Therefore, as part of ongoing / managed services, Ivalua does not foresee providing additional Catalog support services.

5. Help Desk Services

Proposals must identify the specific eProcurement solutions that are supported for the Help Desk services. Proposals must meet the same requirements identified in the Implementation Help Desk Services in Section E., 7. above.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Help Desk Services objectives and requirements.

Help Desk

To fully support our customers, Ivalua offers a help desk to allow suppliers or internal users to get on demand help from Ivalua if they run into difficulties using the system. This is a level 1 help desk, so will be the users first interaction when they need help, as opposed to a State/organization managed help desk. This service enables:

- Phone and email technical support level 1 for suppliers and/or end users for all modules

- One dedicated phone number and email address to streamline requests
- Uses Ivalua's ticketing system ('extranet') for tracking and submitting requests
- 90% of tickets solved in 1 hour
- Ticket level 2 redirection to the client administrator depending on client procedure (e.g., data update, account creation, profile change)

The flow of tickets received by the help desk is below:

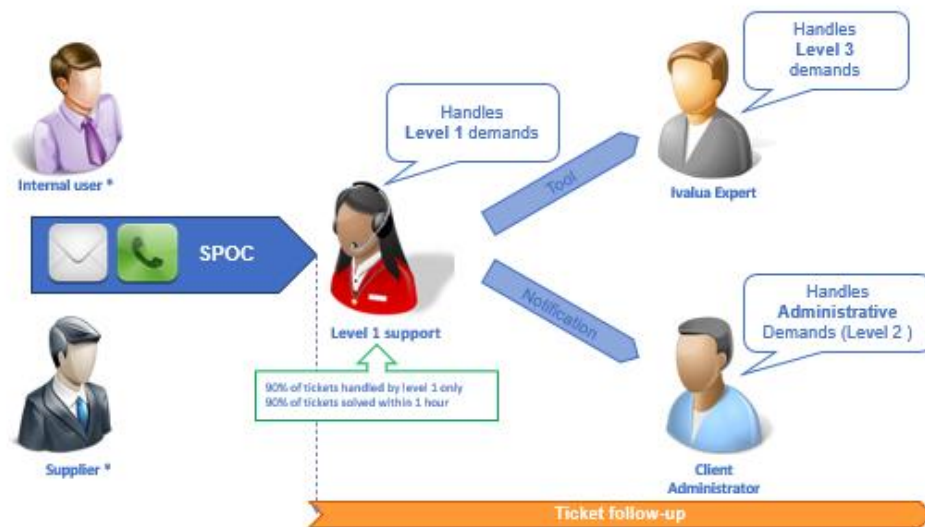


FIGURE 72 – HELP DESK FLOW

Ivalua will provide access to its tracking system that allows tracking of all the project activities and the maintenance activities as well ('the Extranet'). The extranet access is managed through user profiles. The customer has access to the tracking system with different possible profiles (view or edit) and can export all the data to Excel after applying the appropriate filters. The extranet provides several functionalities including managing acceptance, testing campaigns, help desk activities and more.

6. Transition Out Assistance Services

Bidders must, at the Participating Entity' request, provide services to facilitate the orderly transition to a new service provider. Transition Out Assistance services would commence as follows:

- No less than one (1) year prior to expiration of this Participating Entity agreement or on such earlier date as the Participating Entity may request; or
- Upon notice of Participating Entity agreement termination/partial termination; or
- Upon notice of non-renewal of the Participating Entity agreement.
- Upon commencement, Transition Out Assistance services will continue for a period of up to six (6) months.

Proposals must include the following:

- Provide assistance, cooperation and information as is reasonably necessary to help enable a smooth transition of the applicable services to the Participating Entity or its designated service provider.
- Provide information as the Participating Entity may reasonably request relating to the number and function of each of the Contractor personnel performing the services.
- Transfer Participating Entity-owned data, information, deliverables, work products (WP), documentation, etc.

- Identify any dependencies on the new service provider necessary for the Contractor to perform the transition out assistance services.
- Assist the Participating Entity in the identification of significant potential risk factors relating to the transition.
- Assist the Participating Entity in designing plans and contingencies to help mitigate identified risks.
- Submit a transition plan, for approval by the Participating Entity, which includes a timeline for successfully completing the transition out assistance services.
- Provide a schedule and plan for Contractor's return to the Participating Entity of (i) the Participating Entity service locations then occupied by Contractor (if any), and (ii) the Participating Entity confidential information, the Participating Entity data, documents, records, files, tapes and disks in Contractor's possession.

Response requirement:

- RTM: N/A
- Inline Narrative: Bidders must provide a detailed narrative response that describes meeting the Transition Out Assistance Services objectives and requirements.

Upon termination of the contract, Ivalua retains processed data and files for a limited period of time in accordance with the contract. We then delete the client online files (skipping the file trash). When the physical servers are terminated, media is destroyed, except for encrypted data in archived storage (which is destroyed in accordance with Ivalua's data retention schedule). Ivalua follows NIST 800-88 Media Sanitization guidelines. Media is destroyed by repeatedly zeroing out prior to secure disposal by crushing. Prior to the deletion, a copy of the most recent backup can be provided to the client, upon request, in a usable format (.txt or .csv).

Through the term of the contract, customers can also directly export data using features available in the Ivalua system. This can be done via the Query extraction tool. Customers can also request Ivalua to assist with the data extraction. Ivalua will work with the Participating Entity to understand their requirements and tailor a plan and scope to support the Transition Out activities needed.

G. OTHER AVAILABLE SERVICES

Bidders are to identify and provide details on any additional services that will be available to Participating Entities.

Response requirement: OPTIONAL

- RTM: Tab 7, MNGD-1
- Inline Narrative: If responding to this section, Bidders must provide a detailed narrative response that describes any other available Services. Bidders must indicate if any of the additional services are at an additional cost and identify those in the cost workbook (reference "Innov, Value-Adds, Addl Svc" Tab).

As mentioned in Ivalua's RTM response file, for monitoring we use our in-house developed tool called Aware. This tool tracks all the activities of the production instance and generates statistics like simultaneous users, hit rate, response times across various pages of the application, overall response time, errors etc. With all the reported statistics, calculation of average response time is one of the key features of the application. These monthly response times are reported along with the monthly SLA report. This report reflects whether the application is meeting the agreed upon SLA thresholds.