



Cloud Services Portfolio Manual

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Cloud Portfolio Foundation



Chapter 1. Introduction

JDA Cloud Services seeks to leverage the best of both our customer's business knowledge and JDA Software's proven skills in building and implementing software. As a JDA Cloud Services customer, you are freed from worrying about how the software functionality will be delivered, allowing you to focus on the true business value the solution provides.

As a JDA Cloud Services customer you can be sure that you are receiving the highest service levels available for support, maintenance, and operation of JDA's world class software products.

Purpose of this guide

The JDA Cloud Services Portfolio Manual contains the processes and procedures, responsibilities, and the means of interaction for both JDA Cloud Services and JDA Cloud Services customers. This manual is a living document which will change from time to time.

Note: Changes in this document are not intended to materially affect a customer's level of service.

This JDA Cloud Services Portfolio Manual contains specific features and specific limitations of multiple Cloud Services offerings. These offerings are detailed in chapters in this manual.

The manual is organized as following:

- JDA Cloud Portfolio Foundation – This section applies to all portfolio offerings
- Cloud Portfolio Service Definition – This section contains portfolio specific details for the following:
 - JDA Cloud Perform Essential – Hardware and Software Administration
 - JDA Stratus for Transportation
 - JDA Stratus for Forecast and Replenishment
 - JDA Stratus for Workforce Management
 - JDA Stratus for Category Management

In the event of a conflict between the JDA Cloud Portfolio Foundation and a Cloud Portfolio Service Definition, the details provided in the Cloud Portfolio Service Definition will take precedence.

The scope of this document is limited to JDA Cloud Services. Any reference to specific JDA software or solutions is not intended, and must not be interpreted as a statement or commitment that the software's properties will be maintained indefinitely. JDA Cloud Services will continue to evolve to best provide value to our customers. Therefore JDA reserves the right, at any time and without notice, to change these materials or any of the functions, features or specifications of any of the software described herein. JDA Cloud Services shall have no warranty obligation with respect to these materials or the software described herein, except as approved in JDA's Software License Agreement with an authorized licensee. However, JDA Cloud Services will not materially reduce the cloud services being provided during customer's cloud services agreement term.

JDA Customer Success participants

Every Customer Success engagement includes a Customer and their team, the JDA Cloud Services team, and the JDA Support Services team. During the implementation and major enhancement phases of an engagement, the Implementation team may also participate in activities related to the delivery of services. Other participants may also be included.

Customer

A customer is the company or group who establishes a contractual relationship with JDA Cloud Services for the purpose of gaining access to and management of a specific set of services. The same company may include more than one JDA Cloud Services customer depending on product, geography, or contractual arrangement. Customers have certain responsibilities including establishing points of contact, escalation, and may work with both Implementation team and other partners in implementing JDA solutions.

Once a contract is established, each customer will provide a team to work closely with the JDA Cloud Services team. A customer may have one or many implementations in process and each team involved will have its own group of business, technical, and implementation personnel. A customer's super users and application administrators are established and named as the official point of contact for each implementation and associated continuing maintenance and operation activities. These users become the channel through which joint decisions are coordinated. If the customer has contracted with implementation team or other external groups for consulting services, they are responsible for coordinating the implementation resources.

JDA Cloud Services team

The JDA Cloud Services team is the primary point of contact for all configuration, setup, day to day operations, and supported customization. This team works closely with each customer to establish the

environment and operational schedule and provides support for any customer requests on the maintenance and run time changes for JDA solutions.

During initialization and setup, customers and their implementation team work directly with JDA Cloud Service personnel making shared decisions on software configuration.

JDA approved third-party consulting services

When using third party consulting services, JDA approved third party consulting services must be used whenever possible. In order to facilitate an implementation, JDA Cloud Services will work with the customer, before any contract is signed, to verify that the third party consulting service provider has the skill sets, industry knowledge and JDA solution knowledge that is required to ensure a smooth and successful implementation. In all cases, the third party consulting service provider must follow the JDA Cloud Services policies and procedures, must turn over work products to JDA Cloud Services in a timely manner, must participate with JDA Cloud Services in the go-live process and must be available 24x7 to provide production support for at least 30 days after go-live with no charge to JDA Cloud Services. Work products not fully or adequately turned over to JDA Cloud Services or failing to meet the quality standards of JDA Cloud Services remain the sole responsibility of the customer.

Chapter 2. What's new?

A summary of the changes from the prior version of the guide is:

- A new chapter, [JDA Stratus for Category Management](#) is added under the Cloud Portfolio Service Definition.

Chapter 3. Cloud Services lifecycle

The most important part of any JDA Cloud Services offering is the implementation and go-live process. Well managed implementations easily transition to smooth running live systems. JDA Cloud Services brings the experience of many prior successful go-lives to each Cloud Services engagement.

Production, test, and development environments

Production environment

During the implementation lifecycle the Production environment will be prepared for the go- live process. The deployment on production will be carried out by the Cloud Services team using a clean copy from the Test environment. In order to keep the Production environment sanitized and free from any corruption, access to the environment is controlled. Any changes to the Production environment are carried out by the cloud services team and other teams are provided limited access that will enable them to run validations but not make any changes.

Test environment

This environment is used to test the software prior to promotion to the production environment, develop data models, scripts and integration workflows and to perform acceptance and verification testing. Different Cloud Services offerings include test environment of different sizes. Please refer to the respective Chapters specific to each Cloud offering for details.

Once the production environment goes live, the test environment will be used to support snapshots of the production environment for implementing new feature/functions, reproducing production incidents and testing production patches in a quality assurance and support mode.

JDA Cloud Services will manage each customer's test environments to ensure that operating systems and third-party software are kept up-to-date and compatible with the chosen JDA solutions. Test and development environments are supported on a commercially reasonable basis and are not subject to the production environment's services SLAs, metrics, and maintenance windows.

Development environment

If a development environment is provided, it is used to support development and unit testing new feature/function that requires significant changes to the system or that is considered an activity normally

performed in a sandbox environment. Development environments are smaller in size and support fewer users and less data. Development environments are not intended for use for benchmarking or performance testing.

Third-Party software

Customers requiring third-party software other than listed Middleware, Database, embedded software, and Infrastructure Solutions under the Cloud Services agreement are required to maintain valid support agreements compatible with JDA's usage of the software. JDA may request documentation of said license and maintenance agreements to validate its proper installation and rights of usage. Once it has been agreed to install or upgrade a customer licensed third party solution, JDA Cloud Services will notify customers when an upgrade or patch to a third-party solution is planned for installation in the test environment or is ready for testing. JDA Cloud Services will coordinate a timely, convenient schedule with the customer to test functionality, using the customer's own data.

Once all necessary testing is completed to the satisfaction of both the customer and JDA, JDA Cloud Services will perform the same upgrade in the customer's production environment. JDA Cloud Services will coordinate the production environment upgrade with the designated personnel at the customer site to ensure connectivity and expected operability, based on testing results.

Third Party software, other than those required to operate the JDA applications, require specific agreements by both customer and JDA Cloud Services to maintain.

Prepare for implementation

Once a contract is signed, the following steps are taken to prepare for the go-live of a production environment.

Cloud Services project initiation

JDA Cloud Services will work with each customer to initialize the cloud services process. In this early phase of the lifecycle, the Prepare phase in JEM, JDA Cloud Services ensures that all the pre-requisites are in place. This includes the procurement of the physical infrastructure as a whole as well as initialization and documentation of key procedures such as back-ups and recovery plans. This phase typically lasts two to four weeks and needs to be completed in order to proceed to the next phase.

Initialization Services include:

- Procurement of all system infrastructure components (if applicable):

- Dedicated or solution specific hardware
- Any third party software as required to run the JDA Solution
- Increase capacity for any shared services infrastructure including monitoring, backup, network bandwidth, and access/security management
- Server Operating System Licensing and Environments
- Configure the servers:
 - Install and configure the environments on the servers
 - Configure the server operating system
 - Install and configure all other third party software components
 - Set up servers on JDA hosted solutions network
- Communications:
 - Assist customer in the establishment of communications between the servers on the JDA network and the customer network
 - Prepare the servers for connection to the customer network
- Daily system maintenance and archival:
 - Manage administration of data files
 - Develop and schedule system archives of data files, software, and database as required to support the implementation team
- Define and develop backup procedures:
 - Data extract files
 - Output files
 - Operating System
 - Database
 - File System

- Prepare recovery plan:
 - Identify hardware support/maintenance
 - Describe operating system recovery
 - Describe application software recovery
 - Define process for database recovery
- Data:
 - Make available a shared secure FTP or AS2 server for receipt and delivery of data files
 - If appropriate, establish EDI processes and procedures to on-board any EDI partners.
- Documentation:
 - Creation of a Protocols and Procedures packet

Implementation lifecycle

A standard implementation lifecycle typically follows JDA Enterprise Methodology (JEM) and includes key activities in the various phases of JEM:

Project planning kickoff

As part of the Prepare phase, each JDA Cloud Services engagement will start with Sales to Services transition. This session is used to educate the implementation team on:

- details of the contracts
- identify key JDA and customer contacts
- discuss the overall project timeline
- establish and agree on JDA and customer responsibilities
- identify any interfaces and configurations required
- identify any risks to the project

This is reviewed and confirmed with the Customer team. The output of the Prepare phase is an agreed to project plan, which is reviewed and signed off by both JDA and the customer in a formal Customer Kickoff Meeting.

Confirm and update sizing and hardware requirements

During the Design phase of the project, it is important to consider the agreed business metrics in the Cloud Services SOW. These metrics may have a direct impact on pricing and system performance. Prior to finalizing the Design phase, JDA Cloud Services will review and compare the original SOW to ensure the original environment and architecture is sized appropriately. If there is a variance, a change order may be required or the design parameters may need to be adjusted.

Configure the environment

Once the environments are available, the implementation team in coordination with JDA Cloud Services can configure the solution. For some cloud offerings the configuration of the environment including hardware, software and software versions, is pre-defined. However, customer specific configuration activities are still required and an implementation partner is expected to be involved.

The output of this stage is a Test environment ready for the Validate phase primarily used for System Integration Testing (SIT) & User Acceptance Testing (UAT).

Systems integration testing (SIT)

System Integration Test (SIT) is a complex process that involves the Customer and the implementation team. Performance engineers may become engaged in the testing process. In a Cloud environment, the JDA Cloud Services team will be involved at the infrastructure level as required; however, JDA Cloud Services will not perform the actual SIT activities.

It is required that performance and batch testing be owned and executed by the implementation team, with support from the customer. Customer or JDA Cloud Services infrastructure teams may be required to monitor and capture system metrics during testing.

User acceptance testing (UAT)

JDA and the Customer will mutually perform user acceptance tests to validate if the system is ready for production. These tests generally include both formal and ad-hoc testing periods. The user acceptance testing will have a fixed time period, and both customer and JDA are responsible for completing the testing in this time period per the agreed to project plan.

The output of this stage is a signed system acceptance.

Production cutover

The immediate pre-production and production cutover stage is one of the most critical periods in any project implementation. Interfaces are officially switched to the new system; users begin accessing the system to do full time work, and batch jobs run on the assigned schedule.

This phase is described in detail below. The output of this stage is an agreement that production go-live is successful.

Acceptable environment criteria

During the Transition phase, it is important to adhere to the guideline on the exit criteria for the implementation team when transitioning the environment to JDA Cloud Services.

The criteria are as follows:

- Systems Integration Testing (SIT) and User Acceptance Testing (UAT) must be completed successfully including UI and batch performance and batch testing, benchmarking, and validating purging & archiving criteria. As per the approved test plan testing and benchmarking must be in alignment with the contractual SLAs (Service Level Agreements). For JDA Consulting - all required steps in JEM must be completed. For other implementation teams, equivalent testing and documentation of same must be provided prior to acceptance by Cloud Services.
- JDA Cloud Services will not accept an environment that has any open S1 (Severity 1) incidents at the time of transition unless mutually agreed by JDA Cloud Services team, implementation team and

Customer. These incidents must be resolved prior to transitioning the "steady state" environment to JDA Cloud Services.

- The implementation team must provide post go-live support during the Hypercare stage. This can include possible on-site post go-live and/or on-call support. Customers should ensure all implementation SOW's including this support as part of the standard SOW deliverables.
- After the transition and during the implementation team warranty period, issues that arise may require implementation team support. JDA Cloud Services will coordinate with JDA Consulting if resources are required. Customer acknowledges that non-JDA implementation team resources required are their responsibility to obtain.

If Customer is using a phased rollout, these steps must be performed prior to each go-live.

Purging and archiving

JDA application databases store substantial amounts of data. It is important for application databases to be kept in good health to maintain performance. JDA will implement database maintenance and a backup strategy as part of the Cloud Services offering to maintain application database performance.

A critical piece of database health and application performance is a strategy around data retention, data archiving and purging. The customer is expected to define data retention and purge policy that complies with legal and company reporting requirements. During the Design phase, the implementation team and customer will define and agree to those requirements and document them in the solution and technical design. The implementation team must develop an appropriate purge solution to meet those requirements and support implementation of the solution through Construct and Validate phases and into production. Once designed, tested and transitioned, JDA Cloud Services will execute the purging and archiving solution as designed.

Customer responsibilities

In order to ensure implementation project success, the customer is responsible for:

- Meeting agreed upon project milestones
- Providing access to systems or data used to facilitate integration

- Defining clear requirements for configuration
- Making timely decisions on configuration and setup options
- Establishing an internal approval process to approve change requests and milestones
- Providing resources to test and validate the system
- Providing feedback on process and progress items
- Follow agreed upon processes and procedures
- Promptly identify qualified Super Users/Administrators who will become the point of contact for JDA and project resources and be the initial point of escalation before escalating to JDA. This customer team will field and triage all questions and determine whether it is related to training, data, or enhancement. If this team identifies the incident to be a genuine solution issue, it is reported to JDA Cloud Services who will investigate the incident with the help of this team.
- Contacting and training external customer partners such as carriers, collaboration partners, and other third party organizations involved in the implementation.
- Obtaining and providing proof of third party licenses identified as Customer responsibilities.

JDA responsibilities

- Meeting agreed upon project milestones
- Configuring and providing customer and project team access to environments
- Defining management plans for configurations
- Clearly communicating options to enable timely decisions on configuration and setup options.
- Providing feedback on process and progress items
- Define, document and follow clear processes and procedures
- Setup and provide access to Customer contacts in Service Cloud

Incident and service request reporting process during implementation

During the implementation phase customers primarily work with the implementation team. The implementation team can create incidents/service request in Service Cloud for any implementation related issues. 3rd party implementation teams can use the customer account to create incidents in Service Cloud. The Customers can choose to contact JDA Cloud Services directly via the JDA Cloud Services phone number or by creating a Service Cloud incident per the Cloud Services process

documentation that will be provided. JDA Cloud Services, through the JDA Cloud Services Response Center, is available 24x7 for critical business issues in the production environment. However, testing and implementation activities are not considered business critical activities and are therefore supported on a commercially reasonable basis. During the implementation phase, it is important that the implementation and testing timeline consider this limitation and allocate sufficient time for testing and incident/service request resolution. Only those issues that will affect the go-live date will be considered critical and subject to resolution effort requiring extended coverage hours. If a critical business issue is opened in the implementation phase, customer contacts are required to be accessible 24x7 to resolve issue.

It is normally expected that all critical incidents will be resolved before the go-live process. Any exceptions to this rule must be mutually agreed upon by JDA Cloud Services and the customer.

Incidents with customer's third party software or with areas handled by the customer's implementation team will be referred back to the customer to be resolved and such incidents will not be included in the SLA calculation.

Go-live process

The Cloud Services Go-Live process has four major steps: Go-Live Readiness, Production Environment Cutover, Post Production Hypercare, and Post Production Steady State.

Go-live readiness

The Go-Live Readiness process assesses the current status of the implementation project. The process generally occurs the two weeks prior to go-live. The following steps are required to exit the Go-Live Readiness process. All steps must pass successfully or the next steps cannot happen. The Go-Live checklist captures the major milestones and must be completed and signed off by customer and JDA Cloud Services at least 48 hours before the actual go-live date.

The high level steps in the Go-Live Readiness are:

- User Acceptance Testing (UAT) is completed and signed off
- Production environment is isolated, cleaned, software installed and prepared for go-live

- Production interfaces are fully tested and verified
- The Operations Schedule is documented and signed off
- Implementation team work products are turned over to JDA Cloud Services and signed off. All work products will undergo a quality review and training review before being accepted. JDA Cloud Services reserves the right to reject any work product it considers poor or low quality, poor maintainability or insufficiently justified or documented
- Cutover day project plan is published and signed off by customer and JDA Cloud Services
- Access to Cloud Services environment is verified for all users
- Customer has been briefed on the use of the Service Cloud portal log-in credentials and the User Guide
- All other necessary approvals are completed and signed off

Production environment cutover and stabilization

During the Production Environment Cutover the new JDA Cloud Services environment begins running as the production instance. It is suggested that this process will be scheduled for a two week period following completion of testing and acceptance of the final configuration and system revisions. At a minimum no less than 5 (five) days of clean batch and automated process should execute prior to go-live to ensure proper scheduling, completion of non-destructive testing and stabilization.

The high level steps in the Production Environment Cutover are:

1. Stop access to pre-go-live production system
2. Create and transfer a copy of the clean or tested existing database to new production environment
3. Import the database to the new production environment
4. Change all interfaces to point to new production environment
5. Start new production system and run non-destructive regression tests to ensure accurate operation
6. Get sign off from customer and JDA Cloud Services that system functions correctly
7. Take a complete backup of the new production system
8. Start all automated processes

9. Open access to new production system

Post production initial phase - Hypercare

Post Go-Live and for 30 days afterward is the Post Production Initial phase also referred to as Hypercare. In this phase, JDA provides additional support and closely monitors the production system to ensure there are no startup problems. During this phase, the JDA Cloud Services Response Center will be available to coordinate responses for production issues/service request.

If there are substantial concerns or issues, this phase may be extended beyond 30 days by customer request. If the phase is extended, the customer must require the implementation team to continue to provide the required support.

The high level steps in Hypercare are:

1. Closely monitor all batch jobs for error codes, warning messages, and correct functionality
2. JDA Cloud Services Response Center coordinates incidents/service request responses and contact information updates, as needed
3. User performance and accessibility incidents/service request are monitored and resolved
4. Post Production support contacts are established and the process for steady state support is explained
5. Final signoff of Production system occurs

Post production steady state

Once the initial 30 days are complete and the system is signed off, the system enters the standard production steady state. JDA Cloud Services is the main point of contact for the customer. Where necessary, JDA Cloud Services will coordinate with JDA Support Services to resolve product issues.

The Operations Schedule is driving the day to day running of the system. Metrics are tracked, recorded and presented to the customer on a regular basis.

All operating processes are operating normally.

Chapter 4. Day-to-day operations

Once an implementation has gone live and completed the post production initial phase, day to day operations start.

Points of contact

JDA Customer Success delivers end-to-end personalized customer service for Cloud customers. Customers can expect access to product information, a knowledge database of common resolutions, online community forums, and self-service case management. Visit Support.JDA.com, our Customer Support Website, to find the information and resources you need. For a list of regional support phone numbers see the “Contact Us” page of the website.

Customer will designate a minimum of one business and one technical contact for coordinating communication with JDA. These contacts are normally the Super Users of the JDA solution. As the main points of contact with JDA Cloud Services, these users will be expected to provide feedback to, and make decisions with, JDA Cloud Services and, if necessary JDA Support Services.

Contact process for Customer and JDA

The JDA Cloud Services Response Center provides access via phone, and the Service Cloud portal for creating incidents, requesting changes, and providing feedback. Customers are encouraged to use these channels to engage JDA, in order to ensure that all requests or feedback are formally tracked.

Depending on the nature of a customer request, JDA will assign to the appropriate resource within JDA Cloud Services or JDA Support Services for triage. Each customer receives detailed instructions on how to interact with JDA for these requests. Customers are required to provide contact information for normal business hours and after hours incidents.

Standard processes

There are many standard processes and procedures that are part of normal operations. These are defined in your Operations Schedule, your Cloud Services agreement, developed during the implementation, and included in this document.

Processing services

Processing Services describes the processes and procedures that are executed by JDA Cloud Services to deliver the results of the JDA solution.

These services are the heart of JDA Cloud Services as they include the routine maintenance and administration of all levels of the technical architecture. They are designed to ensure a predictive management of the infrastructure and are supported by state of the art hardware and software.

Operations administration

The following list describes the processes executed by JDA Cloud Services as required to deliver the daily, weekly, and monthly processes:

- Production schedules are developed as agreed upon by both parties and documented in the
- Protocols and Procedures and Operational documents
- Processes are monitored for status.
- Unsuccessful processes are:
 - Alerted to JDA Cloud Services and Customer based on pre-determined contact lists
 - Logged in on-line tracking tool
 - Problem Resolution procedures executed per Protocols and Procedures document.
- Compliance to the production schedule is documented

JDA Cloud Services provided solutions will execute daily, weekly, and monthly production schedules, as required by the specific solutions:

- Accept data files
- Manipulate data files based on pre-written scripts
- Import or load files into the database
- Run processing
- Run alerts

- Export data
- Notify designated contacts of completion, failure, or incidents

All of these schedules will be pre-defined, logged into the change control system, and automated. The definition of the proper schedules and data loads will be determined during implementation.

Standard process to send and receive files

JDA Cloud Services standard for file exchange is AS2. AS2 is an EDI specification designed to support security, verification, message integrity and privacy of data transmitted over the Internet. AS2 supports real-time, time, or interval based file transfers with synchronous or asynchronous message delivery notification (MDN) integration with our trading partners. If an error is detected during the transmission of data the AS2 process automatically manages the request for retransmission of the impacted files with the remote AS2 trading partner. JDA Cloud Services guarantees interoperability with Drummond certified platforms. A list of certified platforms is available on the Drummond Group site.

Optional process to send and receive files

JDA Cloud Services provides SFTP as an alternative data exchange service option for customers that cannot support AS2. Although SFTP is an encrypted transport it does not offer the same verification, message integrity, transmission and retransmission functionality provided by AS2.

Customers are provided with an SFTP account on the JDA Cloud Services SFTP platform. The folders available on this account are used as drop boxes for delivery and retrieval of integration data files. Customers connect to the Cloud Services environment using SFTP and send or pick up files as needed. This process is a passive file exchange process in that JDA Cloud Services does not connect to the customer's source system to pull or push files. Customers determine the time when files are transferred and received. Customers are therefore responsible for initiating the sending and pickup files once JDA has made them available in the appropriate drop box or outbound folder. If an incoming error is detected, JDA Cloud Services will manually notify the customer requesting retransmission of the data. SFTP integration is available for production, test, and development environments.

Process to add and delete users

For solutions where JDA Cloud Services administers the User access, an authorized customer representative will submit an account create, change or disable request via a Service Request. It is the customer's responsibility to ensure that the request has been properly reviewed and approved to comply with the customer's business process and access control guidelines including disabling of access for terminated employees and changes in role and access. An analyst will be assigned to the request and a ticket number will be assigned for tracking purposes. The analyst will process the request and submit notification to the customer representative upon completion. User account requests will be processed and completed within three business days. No requests will be accepted from anyone except authorized customer representatives.

For Cloud Services solutions where the customer directly administers user accounts the authorized customer representatives will have access to the user administration functions of the application and will maintain responsibility for proper review, approval and maintenance of user accounts as per the terms and limitations of the agreement.

Hardware maintenance process

JDA Cloud Services proactively monitors de-support and end of life schedules to ensure that all customers are running on supported technology. Due to the nature of JDA Cloud Services, most of the upgrades to the technology stack are invisible to JDA Cloud Services customers. However, there will be cases where JDA Cloud Services will need to coordinate regression testing and sign-off with its individual customers.

It is a customer's responsibility to provide adequate resource and testing support to verify the proper operation of previously implemented functionality prior to each technology and software upgrade.

Monitor and report batch job incidents

JDA Cloud Services works with each customer during the initial set-up to understand the importance of each component of the JDA solution being run. This is reflected in the Daily Check List and monitoring configuration. This understanding helps to develop a process for identifying when and how failures are to

be reported and to what level. Depending on the importance level of the batch job or process, the processes for handling failures will be as follows:

Level	Action	Details
Critical	The customer is contacted immediately regardless of time of day. After-hours contact information is required for all critical level batch jobs. This contact information can include, but is not limited to, customer Helpdesk, phone numbers, pagers, email addresses, etc.	When a critical batch job fails, JDA Cloud Services will: <ol style="list-style-type: none"> i. contact the customer at the contact information provided, including after hours as appropriate ii. contact appropriate JDA resources to troubleshoot the incident, as needed iii. develop a plan for resolving the incident including work-around processes until the actual incident is resolved iv. contact third party vendors if and as needed v. provide regular customer status updates
High	The customer is contacted at the start of normal business hours.	When a high batch job fails, JDA Cloud Services will: <ol style="list-style-type: none"> i. contact the customer at the contact information provided ii. contact appropriate JDA resources to troubleshoot the incident, as needed iii. develop a plan for resolving the incident including work-around processes until the actual incident is resolved iv. contact third party vendors if and as needed. v. provide regular customer status updates
Medium	The customer is contacted only during normal business hours using the normal contact information.	When a medium batch job fails, Cloud Services will: <ol style="list-style-type: none"> i. contact appropriate JDA resources to troubleshoot the incident, as needed i. contact the customer at the contact information provided ii. develop a plan for resolving the incident including work-around processes until the actual incident is resolved iii. contact third party vendors if and as needed iv. provide regular customer status updates
Low	The customer is contacted via automatically generated notifications.	When a low batch job fails, Cloud Services will: <ol style="list-style-type: none"> i. contact appropriate JDA resources to troubleshoot the incident, as needed ii. depending on customer direction, the batch job will either be rerun immediately or will be held to be rerun automatically as part of the next scheduled batch cycle iii. resolve the incident iv. after the batch job had been run successfully, the customer will be notified via automatically generated notifications informing the customer the batch was run successfully

Disaster recovery plan

The JDA Cloud Services data centers and solutions are configured to provide a high degree of redundancy and availability so as to minimize the risk of an extended service outage. By default, JDA provides a commercially reasonable recovery time for restoring full solution function and access.

Disaster recovery and planning options

JDA Cloud Services offers upgraded disaster recovery options tailored to individual Customer needs. A disaster is defined as a sudden, unplanned catastrophic event that renders an organization's ability to perform mission-critical and critical processes. A disaster could be the result of significant damage to a portion of the operations or a total loss of a facility.

Disaster Recovery (DR) is the process of returning a system to a state of normality after the occurrence of a disastrous event. DR consists of defining rules, processes, and disciplines to ensure that the critical business processes will continue to function if there is a failure of one or more of the information processing or telecommunications resources required for solution delivery.

Disaster recovery options are defined by RTO and RPO objectives as defined here:

- **Disaster Declaration** - is the process to activate the DR plan after a disaster or emergency has occurred
- **Recovery Time Objective (RTO)**: The time objective for an environment to be operational from the point of disaster declaration.
- **Recovery Point Objective (RPO)**: the maximum acceptable level of data loss following an unplanned "event", like a disaster (natural or man-made), act of crime or terrorism, or any other business or technical disruption that could cause such data loss. The RPO represents the point in time, prior to such an event or incident, to which lost data can be recovered.

Disaster recovery options are defined in each customer ordering document. If disaster recovery services are not listed in the customer ordering document, recovery time is based on commercially reasonable efforts by JDA to restore a production instance.

JDA provides following three DR options:

Standard

- Backups are stored off primary site and on tape in secure storage

- No dedicated hardware is waiting but:
 - Test hardware will be re-used
 - Spare hardware put into place
 - On-demand hardware from the JDA data center partner will be used
- One test a year to verify that environment can be recovered from backups

Enhanced

- Applies to the Production environment only
- Test hardware is located in separate data center and will be re-purposed for production use in a disaster situation
- Database backups/exports are moved to remote data center daily
- Restoration of database tested monthly
- “Production-DR” instance installed on the test system but not running
- “Production-DR” instance is kept up to date as production changes
- Checked quarterly to ensure operational functionality can be restored
- During the DR use or validation the test environment is unavailable

Extended

- Applies to the Production environment only
- “Hot Site” with duplicate production hardware allocated
- Replication technology used to keep near real time updates between production and the hot site
- “Production-DR” instance installed and active on the hot site capacity
- “Production-DR” instance is kept up to date as production changes
- Disaster recovery environment is checked monthly to validate failover capabilities
- Requires Oracle Enterprise Edition Database licenses with Active Data Guard option

Standard policies

The following are standard JDA Cloud Services policies:

- Customer and JDA Cloud Services will mutually agree to processes and procedures and document in the Protocols and Procedures guide
- JDA will implement changes only in a manner that ensures continuity when changes are initiated
- There is a requirement for a designated customer contact to approve and test all changes to production other than in the case of an emergency. An emergency is any event deemed system threatening and that may cause loss of data or introduce security risk
- JDA requires that any changes are tested by the customer in a test environment prior to being applied to the production environment. In multi-tenant environments patches may be applied without all customers having an opportunity to test.
- Project management services, if required will be performed by JDA on a time and materials basis.

Acceptable use policy

All customers accessing JDA Cloud Service must agree to the JDA Cloud Services Acceptable Use Policy. This policy communicates the guidelines for proper use of the services being provided and any limitation or restriction that must be adhered to for liability, legal, and government compliance.

For more information see [Chapter 6. Acceptable Use Policy.](#)

Change management process

JDA Cloud Services employs a change management process and tracking system to manage and track authorized operational changes and infrastructure changes being made to the production environment for application and only infrastructure changes for non-production environment.

Changes that are managed via this process can be the result of customer requests, incident resolution, and implementation of permanent fixes or corrective actions. The change management process is also used to track regular maintenance activities such as patches, system and network tuning, database maintenance and server, and network configuration changes. Once identified, change requests are submitted for review, approval and scheduling. The review and approval is managed during Change Control Board Meetings.

There may be instances where a change is requested for immediate implementation due to an emergency situation in a customer environment, and it may not be feasible to wait for a Change Control Board Meeting for that change to be approved. In such circumstances, an Emergency Change Request

can be initiated by JDA Cloud Services. Processing of an Emergency Change Request requires a valid business justification from the customer for the expedited change, as well as Vice President Approval within Cloud Services prior to consideration. If approved, an Emergency Change Request can be processed immediately.

JDA Cloud Services solution enhancement process

JDA Cloud Services assumes support and maintenance of a stable production environment and maintains a customer enhancement request process to capture requirements, and document customer approval. This process ensures proper testing and updates the methodology for all modification to the workflow and functionality as implemented. A customer may request changes to the workflow and functionality of the solution environment via the support incident tracking system.

Once such requests are received they will be promptly evaluated for solution impact, design, required effort and feasibility. The resulting proposal containing an estimate of effort and implementation schedule will be presented to the customer for approval. Customer approved enhancement will require a signed documented change requests and purchase order for invoicing. Alteration to the design, requirements and schedule after this point will require a re-evaluation of the project plan and proposed timeline and cost.

Security

JDA Cloud Services is dedicated to providing physical and logical security at the highest levels of standards. Security and Controls have been instituted to align with ISO27001 and are reviewed annually. JDA Cloud Services maintains designated staff with CISSP/CISA certifications. Security is provided through a layered approach which includes both technical and non-technical measures to ensure the integrity of our operations and the security of sensitive customer data.

High Levels of security and data protection are maintained by:

- Server baseline hardening as per CIS Guidelines
- Documented Change Management process
- Physical and logical security
- IP level access protection

- Periodic vulnerability reviews on physical and logical security configurations
- SSL protected transports
- Multiple levels of active monitoring and alerting
- Anti-virus protection
- Intrusion Prevention Systems
- Secure VPN B2B connections

Specific processes and procedures are outlined in the sections below.

Physical security

- 24 hours per day, 7 days per week security cameras with recording devices
- 24 hours per day, 7 days per week on site staff
- Central alarm on all emergency doors
- Central alarm for a forced door alert and a monitoring service is notified
- Tapes and Backup media are kept at the same level of controls as servers
- All obsolete media is either magnetically erased or physically destroyed
- Employee access is limited and restricted by job function
- No visitors are admitted without an escort
- All employees are issued badges that must be validated against a reader to obtain access
 - Valid badges are required for any external door during off-hours
 - Valid badges are required for access to any floor
 - Lost, stolen badges, or badges for employees leaving the company are immediately deactivated
 - Access is limited based on an Access Control List
 - Only a limited number of people have access to the data center
 - Access to the data center must be approved by a Senior Manager or above
 - All pass card access activity is logged
 - Activity logs are reviewed and regularly audited

Logical security

- Documented Change Management process ensures all activities are tracked and processes are in compliance with requirements. Active monitoring and alerting, along with audit logs and controls, allow for effective enforcement.
- Architectures utilize a three-tier security model in which the presentation/web, application, and data layers are logically separated and secured.
 - Database Level: Separate database instances are created per customer

Note: In JDA SaaS offerings a shared instance will be managed by role based permission lists.
 - Network Level: Separate network configurations with encryption and IP filtering.
 - Software Level: All access to customer's networks is limited to authorized users based on the rules listed below.
 - Administrative users are separated into four roles and access to each role is approved by a Senior Manager or above. A single user may have one or more of these roles.
 - Network Administrators: Only users allowed access to network configuration and setup
 - System Administrators: Only users allowed access to Operating System level configuration and setup. Only users allowed creating other operating system users.
 - Application Administrators: Only users allowed access to application configuration settings via the Application Admin tools
 - Database Administrators: Only users allowed access to database instances. Only users allowed creating other database users.
- Network Configuration
 - Access to network configuration tools and access points is limited to network administrators.
 - All changes to network configurations follow established change managed procedures require pre- approval and are logged.
 - JDA Cloud Services networks are separated from internal JDA networks and external networks with firewalls configured by the Cloud Services team.
 - All access to JDA Cloud Services networks is via Secure protocols via internet or VPN access.

- Access to backup images is accessible to system administrators only.

Data center environments

Each of the JDA data centers whether directly owned and maintained or vendor provided and configured, adhere to the following minimum standards:

Power environment

- Automated utility power to generator power switchover
- Onsite, permanently installed Backup generator capacity sufficient to maintain full operation
- Multiple public power grid feeds
- Power is protected and conditioned by an uninterruptible power source (UPS)

Cooling environment

- Primary cooling system sufficient to maintain all equipment at nominal vendor required temperature
- Backup cooling system
- Backup cooling system powered by generator, if power failure
- On site water supply

Fire and smoke

- Dual zone heat and smoke detection system tied into fire alarm with automatic remote notification
- Heat- and smoke-activated sprinklers
- Fire extinguishers visibly located within 25 feet

Leak detection and flooding

- Under-floor leak detection system with remote panel enunciation
- Site location not located within 100 year flood plain

Dedicated network circuits

Most JDA applications perform very well over the internet via secure connections. However, some applications, such as Warehouse Management, are very sensitive to latency and JDA Cloud Services recommends a dedicated circuit be established. This requirement will be discussed in the sales phase and clearly identified.

When a dedicated circuit is required, JDA Cloud Services expects the customer to work with the communications vendor and establish the contract for service. JDA Cloud Services will provide technical advice and information on setup and location to facilitate the process.

Firewall services

JDA Cloud Services will provide the hardware, software, and support for a dedicated or shared firewall service running currently supported firewall software located at the JDA data center. The firewall access rules will be maintained via a change managed process by trained firewall support staff only.

Backup and restore

Regular backups are a standard part of the JDA Cloud Services offering. The standard process is to provide daily backups of your database, application installation, and batch installations. Daily backups of changes to the database are used to capture regular changes. Backups are retained for 30 days, unless otherwise indicated.

Backups are not full insurance against data loss. In general, JDA Cloud Services limits your data loss exposure to one day (24 hours) of transactional information. However, loss of transactional data may require additional work to maintain operational consistency.

Chapter 5. Governance

JDA team

Every JDA Customer Success engagement benefits from the whole JDA organization. Cloud Services, Consulting Services, Support Services, Education Services, and JDA Product Development. Within the JDA Cloud Services team there are 8 major roles. Each role supports a number of customers, depending on complexity and size. These roles are:

- Cloud Delivery Manager (CDM)
- Customer Success Executive Sponsor

- Project Manager
- Customer Engagement Team

Cloud Delivery Manager

Note: Not every Cloud Services offering includes a CDM. Please refer to the Chapter specific to each Cloud offering for details.

The role of the CDM is to ensure the agreed service levels are adhered to and communications between JDA Software and the customer are effectively executed between the agreed governance channels.

The JDA CDM will focus on documenting and articulating the IT services provided between JDA Cloud Services and the customer. This will include the development of the necessary Service Level requirements that are detailed in a Service Level Agreement. The objective of the CDM is to translate the IT strategy into detailed Cloud services requirements and then manage the service levels via established communication channels. These services will be aligned with the customer's business requirements and the business strategy. The services will include having defined service level and operating level objectives and reported at agreed times. The CDM will be responsible for negotiating, monitoring, reporting, and controlling customer specific service levels within the pre-defined standard service parameters. The defined customer specific service delivery requirements will then be incorporated into the service level agreement (SLA).

The CDM also provides advice and support, both during the implementation and afterwards, to help the customer maximize the use of JDA software. The CDM and customer will define schedules at the beginning of the implementation. During implementation, customer can contact the CDM at any time for guidance. Once an implementation is complete, the CDM and the customer will establish a schedule for regular meetings, reviews, and feedback.

After go-live, the CDM involvement will vary based on customer's needs and desires including incidents/service request resolution, upgrade planning and rollout of new functionality to resolve issues, discuss upgrades and to roll out new functionality.

JDA Cloud Services will jointly work with the customer any time a CDM is changed. JDA Cloud Services reserves the right to change a CDM at any time and will be jointly agreed upon with the customer.

Customer Success Executive

A Customer Success Executive is responsible for ensuring customer success by providing the highest standards of reliability, performance and customer service.

The general responsibilities include:

- Approves departmental policies, procedures, and quality standards to ensure highest levels of Availability, Performance, Security, Incident, Management, and Change Management
- Leads collaborative efforts with appropriate groups on the rollout of JDA Cloud Services and strategic corporate initiatives and system changes.
- Sets the standard, acts as role model, and provides leadership for all interactions with associates and executives within JDA.
- Interacts with customers to resolve issues with the goal of improving and maintaining positive relationships with JDA Cloud Services.

Project Manager

The Project Manager provides direct management and oversight for the delivery of service(s).

The general responsibilities include:

- Leads the team to achieve a high level of customer satisfaction, team morale and operational results.
- Acts as a focal escalation point within JDA Cloud Services delivery.
- Conducts strategic planning, including use of metrics and interaction with Team Leaders and other groups to help identify opportunities for improving processes and procedures.
- Plans for succession and development of team by mentoring Team Leaders and analysts to provide guidance for development and improvement.
- Acts as key resource and liaison to all other JDA Software departments
- Ensures best practices are employed, and that direct reports adhere to the Cloud Services standards.
- Gathers and disseminates information on department and company operational guidelines.

Customer Engagement Team

There are some situations where a direct Customer to Cloud Services contact is required outside of providing technical or functional services and a CDM is not assigned to a customer. In those situations, the Customer Engagement Team will engage with customers to ensure that requests are acknowledged and fulfilled in a timely manner. Examples of this include but are not limited to:

- Adding additional capacity
- Explaining Cloud Delivery Report details if necessary
- Planning for upgrades or significant changes in service
- Services provided for an additional fee

The Customer Engagement Team will automatically respond as needed based on requests opened through the standard Customer communication channels.

Chapter 6. Acceptable Use Policy

At JDA Software Group, Inc. ("JDA"), we value our customers and wish to provide them with a positive experience. Our goal is to offer you the ability to use and enjoy the network, applications and services provided by JDA in a safe and secure manner. To help JDA offer you the best service possible, all customers are required to follow the same rules and guidelines. These policies are intended to make JDA Cloud Services available to all our customers as consistently and efficiently as possible.

This policy may be modified from time to time as broader regulations and laws are defined for public and private information processing systems and voice and data transmission facilities. The intent of the JDA Cloud Service Acceptable Use Policy is to specify and define acceptable use of the JDA network and computer systems and to clearly communicate JDA's requirements for all users of JDA network and computer systems to comply.

Whether JDA monitors your usage or not, you are obligated to adhere to these policies. These policies are used in conjunction with the JDA Cloud Services Schedule as agreed between you and JDA and the JDA Cloud Services Guide. Violating any of these policies grants JDA the authority to take the appropriate action to restrict or terminate your access to the JDA systems and services.

Introduction

This document sets forth the principles, guidelines and requirements of the Acceptable Use Policy of JDA Incorporated governing the use by the customer of JDA's services and products ("Services and Products"). The Acceptable Use Policy has been created to promote the integrity, security, reliability, and privacy of JDA Cloud Service's facility, network, and customer data contained within. JDA retains the right to modify the Acceptable Use Policy at any time and any such modification shall be automatically effective as to all customers when adopted by JDA.

Legal compliance

Customer shall not post, transmit, re-transmit or store material on or through any of Services or Products which, in the sole judgment of JDA:

- Is in violation of any local, state, federal, or non-United States law or regulation.
- Threatening, obscene, indecent, defamatory or that otherwise could adversely affect any individual, group or entity (collectively, "Persons").
- Violates the rights of any person, including rights protected by copyright, trade secret, patent or other intellectual property or similar laws or regulations including, but not limited to, the installation

or distribution of "pirated" or other software products that are not appropriately licensed for use by a customer.

- Customers shall be responsible for determining what laws or regulations are applicable to its use of the Services and Products.

Enforcement

JDA may immediately suspend and terminate a customer's service for violation of any provision of the Acceptable Use Policy upon verbal or written notice, which notice may be provided by voice mail or E-mail. However, JDA will make good-faith attempts to work with a customer to cure violations of this Acceptable Use Policy, and to ensure that there is no re-occurrence of violations prior to suspension and termination.

Prohibited uses of services and products

In addition to the other requirements of this Acceptable Use Policy, a customer may only use the Services and Products in a manner that, in JDA's sole judgment, is consistent with the purposes of such Services and Products. If a customer is unsure of whether any contemplated use or action is permitted, please contact JDA as provided above. The list set forth below, without limitation describes various uses of the Services and Products that are expressly prohibited.

General

- Resale of Services and Products, without the prior written consent of JDA.
- Violations of the rights of any Person protected by copyright, trade secret, patent or other intellectual property or similar laws or regulations, including, but not limited to, the installation or distribution of "pirated" or other software products that are not appropriately licensed for use by Customer.
- Actions that restrict or inhibit any Person, whether a customer of JDA or otherwise, in its use or enjoyment of any of JDA's Services or Products.
- Falsification of any information, including sharing passwords or other methods of access with others previously not agreed upon by JDA.

System and network

- Introduction of malicious programs into the network or server (For example, viruses, trojan, and worms).
- Circumventing user authentication or security of any host, network or account.

- Executing any form of network monitoring which will intercept data not intended for the Customer's server.
- Effecting security breaches or disruptions of internet communication. Security breaches include, but are not limited to, accessing data of which the Customer is not an intended recipient or logging into a server or account that the Customer is not expressly authorized to access. For purposes of this "disruption" includes, but is not limited to, port scans, flood pings, packet spoofing and forged routing information.
- Interfering with or denying service to any user other than those users managed by the Customer
- (For example, denial of service attack).
- Using any program/script/command, or sending messages of any kind, designed to interfere with, or to disable, a user's access or current session, via any means, locally or via the Internet.
- Failing to comply with JDA's procedure relating to the activities of customers on JDA's premises.

Monitoring

Attempting to circumvent or alter the processes or procedures to measure time, bandwidth utilization, user count, system metrics, or any other methods used to document "use" of JDA's Services and Products.

Electronic mail

- Sending unsolicited mail messages, including the sending of "junk mail" or other advertising material to individuals who did not specifically request such material or with whom a customer does not have an existing business relationship ("E-mail spam").
- Harassment, whether through language, frequency or size of messages.
- Unauthorized use, or forging, of mail header information.
- Creating or forwarding "chain letters" or other "pyramid schemes" of any type.
- Use of unsolicited E-mail originating from within JDA's network or networks of other Internet Service Providers on behalf of, or to advertise, any service hosted by JDA, or connected via JDA's network.

Rules regarding Cloud Services environments

Note: The following apply if the Customer has direct access to JDA Cloud Services systems.

- Customer may not create/update/delete accounts created and maintained by JDA.
- Specifically, JDA's account(s) may not be altered in any manner.
- Customer may not change the partitioning or mount points of any drive.
- Customer may not create .rhosts or other host routing files.

- Customer may not implement any procedure or process that would allow one to login as Administrator (Windows) or root (UNIX) without being authorized and using the appropriate access method and password. Customer may not create scripts or programs that obtain Administrator or root access.
- Customer may not alter the operating system directly.
- Customer may not modify the network and system settings of the server.
- Customer may not apply operating system and application patches to software not installed and solely maintained by the Customer, unless notification is given to JDA.
- Customer may not change the "identity" of the system. This includes modifying /etc/hosts, /etc/hostname.*, /etc/defaultrouter, /etc/networks and /etc/ethers.
- Customer may not modify the system in any manner that restricts or alters access to the system by JDA's employees.
- Customer may install software on the server provided the installation meets all of the criteria detailed above, and JDA is notified and approves of such installation.

Cloud Portfolio Service Definition

CONFIDENTIAL



Chapter 7. JDA Cloud Perform Essential –Hardware and Software Administration

The following chart illustrates the service level agreement, on average, for the JDA Cloud Services customer base.

Standard Type	Description of Standard	Standard
Availability Management	Unplanned Outages (0.5%)	99.5% uptime
	Planned Outages (3%)	97% uptime
Security Management	No identified vulnerabilities from vulnerability detection scans.	All critical vulnerability alerts investigated and resolved under emergency patch procedures
Performance Management	Monitor Performance of baseline of key transactions	Performance of baseline of key transactions that are jointly identified by Customer and JDA Minimum 6 hour batch window is required
Change Management	Change of configuration and or application	Requests will be acknowledged by JDA within 24 hours of receipt
Incident Management	Resolution time for Severity 1 Incidents	Response Time: 20 Minutes Status Update Time: Every 1 Hour Workaround/Downgrade/Resolution Time: 4 Hours
	Resolution time for Severity 2 Incidents	Response Time: 60 Minutes Status Update Time: Every 2 Hours Workaround/Downgrade/Resolution Time: 14 Hours
	Resolution time for Severity 3 Incidents	Response Time: 24 Hours Status Update Time: As Required Workaround/Downgrade/Resolution Time: 7 Days or mutually agreed time period
	Resolution time for Severity 4 Incidents	Response Time: 24 Hours Status Update Time: As Required Workaround/Downgrade/Resolution Time: Next scheduled release or mutually agreed time period

General

The Availability, Security and Performance Management Service Level Standards apply to customers who are using JDA's applications in a Production Environment. The Change and Incident Management Service Level Standard applies to customers who are using JDA's applications in both a production and non-Production Environment.

Each customer's experience with Cloud Services may vary due to customizations, extensions, modifications, localizations, and/or integrations in the customer environment (CEMLI).

Availability Management

The Availability Management Standards indicate the amount of time that the JDA Applications are available to end users to perform business functions.

The uptime percentage for Availability Management is calculated quarterly as follows:

(Total minutes system was actually available for the quarter)

(Total minutes in the quarter – planned outage minutes)

The telecommunications network outside of JDA is not included as part of the Production Environment for the measurement of Availability Management. Provisioning of the Customer's network is the responsibility of the Customer and the network operation is not under JDA's control.

An unplanned outage is defined as the period of time that all or a subset of the JDA Programs in the Production Environment are unavailable due to an immediate maintenance requirement such as reactive patches or infrastructure repair. Unplanned Outages are not planned by JDA or the Customer.

A planned outage is defined as the period of time that all or a subset of the JDA Programs in the Production Environment are unavailable due to system maintenance requirements. Planned Outages may affect customers individually or as a group. Planned outages may include:

- a) Proactive software maintenance
- b) Customer specific infrastructure upgrade
- c) Relocation or reconfiguration of the Customer's JDA Production Environment

Maintenance Window

During the initialization phase, JDA Cloud Services and will document the windows for maintenance activities. These windows will include short weekly times, normally 1 to 2 hours, for simple maintenance tasks, monthly 4 hour windows for extended maintenance, and quarterly 24 hour windows for significant

system maintenance and application upgrades. These windows will only be utilized if needed. Maintenance windows will normally only be used with at least 24 hour prior Customer notification. JDA reserves the right, in rare instances, for maintenance windows to be used for emergency maintenance with less than 24 hours' notice and/or without approval.

Security Management

- a) All critical vulnerability alerts investigated and resolved under emergency patch procedures.
- b) High priority security patches to correct threats deemed to be significant are targeted to be applied within 1 week.
- c) High priority security patches to correct threats deemed to be less significant are targeted to be applied within 1 month of release.
- d) The designation of "Critical" or "High" is defined by the software application vendor based on their classification of a patch.
- e) Security patches may require Customer input and participation to fully remediate. In these cases time frames vary depending upon Customer input.

Performance Management

There are significant variations in configurations, extensions, modifications, localizations, and patterns of use of the JDA Applications across the Production Applications Environments of Cloud Services customers. Accordingly, JDA will use tools to measure the Baseline performance for each customer. Baseline is defined as the performance of key transactions (as jointly identified by Customer and JDA) on a copy of Customer's Production Application environment during User Acceptance Testing ("UAT"); measurement of the Baseline performance is undertaken when there is no other testing activity ongoing in the copy of Customer's Production Application environment. Following establishment of the Baseline, JDA can monitor performance of the key transactions against the Baseline.

Service Request and Incident Management

Customers initiate Service Requests when requesting changes to, or Incidents when reporting issues with, the JDA Cloud Services environments.

The 24x7 JDA Cloud Services Response Center is included in this SOW. Customers may contact JDA Cloud Services directly via the Cloud Services phone number or the web interface as per the support process documentation that will be provided at the initial setup time.

Severity Level is defined as the classification of a Cloud Services Incident that causes a loss of service. Incidents are categorized and prioritized by four Severity Levels that are based on the impact on the

Customer’s business operations. Severity 1 is the highest/most severe and Severity 4 is the lowest/least severe.

The Severity Levels for Cloud Services are defined as follows:

a) Severity 1 – Critical Impact

Business standstill with no work-around or issues which prevent a customer from proceeding with a major, mission-critical process that is vital to the daily operations of the business.

b) Severity 2 – High Impact

Business critical issue with no feasible work-around or issues which cause a serious disruption to but do not necessarily impede the business from running. Renders major functions unusable, key business operational functions cannot be performed.

c) Severity 3 – Medium Impact

Non-business critical issue where a complex work-around exists. Individual system function unusable or renders minor system function unusable.

d) Severity 4 – Low Impact

Non-business critical where a simple work-around or fix exists. Minor system nuisance which does not limit the functionality of system. System usage question or documentation request.

The Incident Management standard is calculated as follows:

Severity Level	SLA Applies	Calculation of elapsed time
Severity 1 – Critical - Production Environment only	24x7x365	Date/time Incident is opened until Date/time a Workaround/Downgrade/Resolution identified
All other Incidents	24 hours a day, Monday – Friday (24x5) – GMT time zone	Date/time Incident is opened until Date/time a Workaround/Downgrade/Resolution identified minus any time on Saturday or Sunday

For Change Management, the following applies:

- a) Requests will be acknowledged by JDA within 24 hours of receipt
- b) All approved change requests targeted to complete within 72 hours.

- c) For all requests that are asked to be scheduled into a specific time window, JDA requires 48 hours advanced notice.

Problem management process (root cause and permanent fix)

JDA Cloud Services strives for continuous improvement in service. JDA Cloud Services uses a problem management process to determine the root cause of repetitive and critical Incidents in the production environment. This process is used to implement corrective and preventive measures to reduce impact and repetitive occurrence of such incidents.

Cloud Delivery Manager (CDM)

As part of the provision of Cloud Services, JDA will provide a Cloud Delivery Manager (“CDM”) to Customer for the duration of the implementation phase and for up to 3 months after the first go-live milestone (the “CDM Term”). After the expiration of the CDM Term, Customer may contract with JDA Cloud Services to retain the CDM, in yearly increments, for an additional fee.

During the CDM Term the Cloud Delivery Manager may:

- Facilitate coordination of pre go-live environment roll out as per the project plan
- Coordinate quarterly meetings with Customer post go-live
- Serve as an escalation point for change and Incident management or for issues related to service level agreement

Once the CDM Term and any extension are complete, Customer will use the standard contact processes through the JDA portal for all Incidents or Service Requests.

Disaster recovery

The CDM will create a Disaster Recovery (“DR”) plan with the Customer. The DR plan will include detailed steps for the following:

- a) Review of Cloud Services service(s) and identification of critical technical DR dependencies.
- b) Details of Customer’s responsibilities in case of a disaster.
- c) Discussion of DR capabilities with Customer—critical applications, phased recovery, service levels after recovery, testing, and key contacts.
- d) Documenting of a DR Plan: declaration process, key contact, recovery process, transition to Cloud Services, and a return to normal operations.
- e) Review of DR Plan with Customer and JDA

Disaster recovery only applies to customers who are using JDA's applications in a Production Environment.

Additional information on Disaster recovery can be found in the agreement and the main sections of the JDA Cloud Portfolio Manual.

Software updates

As a component of Cloud Services, JDA will implement up to one software upgrade per 3 years. This upgrade will be executed based on a mutually agreed upon plan with the customer. This will be a technical upgrade using the Generally Available software release only and will maintain existing functional equivalence.

Any additional upgrades within the same year can be done for additional fees.

Customers are required to have at least 2 years of time remaining on their agreement term or sign an extension to achieve 2 years to be eligible for updates without charge.

If software age from start of cloud services or last upgrade is less than 4 years, then there will be no cost to customer to upgrade, assuming no significant architectural changes in the application.

If software age from start of cloud services is greater than 4 years, then:

- Age is 4-5 years, cost to customer: 20% of the cost to upgrade
- Age is 5-6 years, cost to customer: 50% cost to upgrade
- Age is >6 years, cost to customer: 100% cost to upgrade

Cloud Services will provide the following services:

- Upgrade of hardware as required to support the new version
- Upgrade of operating system, database, and 3rd party components as required to support the new version.
- Migration of database to new version
- Testing to confirm installation and migration of database and application
- Infrastructure level performance tuning
- Upgrade and unit testing of technical scripts and integration scripts to ensure technical equivalence
- Support for user acceptance testing by customer
- Go live process

- Platform changes as determined solely by JDA to be required
- Non-custom scripts including:
 - JDA Reporting
 - Integration scripts for loading IGP tables
 - Integration scripts that extract data to return to customer
 - Scripts, triggers or PL/SQL to populate UDC's or UDT's from other tables
- Enhancements that were created by the cloud team as part of a cloud perform engagement:
 - Agile Business Process Platform (ABPP) workflows
 - Scripts that automate/sequence or report on the batch process

The following activities are not included in the scope of upgrade and would require a separate Statement of Work or Change Request:

- Free upgrades for JDA software that has undergone significant architectural changes. You will be notified if an upgrade requires significant architectural changes and hence additional fees. Examples include:
 - Client server to thin client technology
 - Change of underlying platform
- Training on new features, reconfiguring the UI or other settings to maintain functional equivalency, except as required in the technical scripts:
- Full user acceptance testing of all integration, performance, and functional workflows applicable to the business solution
- Enablement of new feature/functions
- Integration updates required to support new feature/function
- Customization - This includes any piece of code not covered under a JDA modification agreement that has been built either separate from or by extending JDA components. It does not include configuration items that can setup through the UI. Examples of customization include:

- Custom code using standard programming languages that extend a JDA application such as
- MMS, WMS, ESO, etc.
- Custom code using standard programming languages that are separate from a JDA application.
- PL/SQL procedures which execute some custom logic, e.g. managing data in staging schemas
- Custom staging schemas used in batch

Process to add, delete, and modify batch jobs

A formal change management process is followed to add, delete or modify any batch jobs in the Operations Schedule. An authorized customer representative must submit the request via a Service Request. In the event that the customer Agreement includes an SLA related to committed batch run times, the impact of the change upon performance will be assessed. Where appropriate, a change request will be issued to adjust the SLA in accordance with the revised timing. Once proper approvals are obtained, the change is scheduled. If the change requires system down time, it is scheduled into the regular system maintenance window. If the change does not require down time, then the change is scheduled at a mutually agreeable time with the customer. No requests will be accepted from anyone except authorized customer representatives.

Patch process for Infrastructure and non-JDA Applications

It is the policy of JDA Cloud Services to maintain the operating system, database, and applications supporting the Cloud Services environment at the most current levels feasible. JDA Cloud Services will apply non-critical patches in a timely manner as they are agreed to be reliable, and fit within the standard JDA Cloud Services environment.

Patch process for JDA Applications

When a customer has an Incident that requires a patch for a code change, JDA Cloud Services will work with JDA Support Services and customer to acquire, test, and then apply these patches to both test and production environments. Customers are expected to test and sign off on patches before they are placed in a Production Environment. An emergency patch may be placed directly into production with customer's prior approval. In multi-tenant environments, not all customers will have an opportunity to test a patch before it is applied.

JDA Cloud Services will also schedule patches in regular maintenance windows to minimize disruptions. These patches will be coordinated with the customer.

Note: During patch application, the system will be unavailable for use.

Database refreshes and copies of the database

Customers may request a copy of the production database be copied to either test or development once per month as part of the service (a database refresh). These database refreshes are a complete refresh of the database, partial refreshes are not supported. Additional or partial refreshes may be arranged for an additional fee.

To the extent data can be exported from the UI such data can be obtained by the Customer at any time. A copy of the full database may be requested and provided to Customer for an additional fee. This full copy may request special media depending on the size of the database.

Cloud delivery review

The Cloud Delivery Report (“Report”) is developed by JDA and reviewed by JDA and provided to the Customer quarterly via email to the identified contact in the protocols and procedures document. The Report provides information, subject to the terms of the SOW, about the delivery of the Cloud Services provided by JDA. The format of the Report (types of information included, layout of the form, etc.) may be updated periodically.

Customizations and modifications

JDA solutions are very flexible and allows for many different configurations and data models with no special customization needed. Standard interfaces provide access to and from system data. We find that this level of configurability meets most customer needs with no specific customization.

Customizations and modifications are always subject to the enhancement and Change Management processes and are always an additional fee.

JDA Cloud Services requires all customizations and modifications to be fully documented, meet minimum quality standards, meet minimum testing standards and are signed off by the Customer. The customizations and modifications and all associated reference material must be provided to JDA Cloud Services to promote to the Production Environment. JDA Cloud Services reserves the right to not promote such changes to the Production Environment if the potential risk or impact is considered significant to any of the SLA’s.

Once in production, JDA Cloud Services will monitor and triage the system. If it is determined there is a problem with a customization or modification the problem will be referred to the party providing modification support for the Customer. If the Customer does not have modification support then the Customer will be responsible for determining how the modification will be investigated and corrected.

Short Summary of Key Features

JDA Cloud Perform - Essential
Planned outages determined by JDA using pre agreed upon maintenance windows
CDM assigned until 3 months after initial go-live. After that standard contact through portal or phone.
Software upgrade included once per three years – requires at least 2 years future contract commitment
Customer audits are billable
Refresh of database from Production Environment to either Development or Test Environment once per month – additional are chargeable if customer requested
Test Environment is one half the size of the Production Environment and Development is a maximum of one quarter the size of Production. Test and Development may share same database server.
Enhancements are chargeable
No end user direct database access allowed
Minimum of 6 hour batch window
Annual DR testing

Chapter 8. Cloud Portfolio Service Definition - JDA Stratus for Transportation

The following chart illustrates the service level agreement, on average, for the JDA Cloud Services customer base.

Standard Type	Description of Standard	Standard
Availability Management	Unplanned Outages (1%)	99% uptime
	Planned Outages (3%)	97% uptime
Security Management	No identified vulnerabilities from vulnerability detection scans.	All critical vulnerability alerts investigated and resolved under emergency patch procedures
Performance Management	Monitor Performance of baseline of key transactions	Performance of baseline of key transactions that are jointly identified by Customer and JDA Minimum 8 hour batch window is required
Change Management	Change of configuration and or application	Requests will be acknowledged by JDA within 24 hours of receipt (Certain type of changes are limited in number)
Incident Management	Resolution time for Severity 1 Incidents	Response Time: 20 Minutes Status Update Time: Every 1 Hour Workaround/Downgrade/Resolution Time: 4 Hours
	Resolution time for Severity 2 Incidents	Response Time: 60 Minutes Status Update Time: Every 2 Hours Workaround/Downgrade/Resolution Time: 14 Hours
	Resolution time for Severity 3 Incidents	Response Time: 24 Hours Status Update Time: As Required Workaround/Downgrade/Resolution Time: 7 Days or mutually agreed time period
	Resolution time for Severity 4 Incidents	No time commitment

General

The Availability and Security Management Service Level Standards apply to customers who are using JDA's applications in a Production Environment. The Change and Incident Management Service Level Standard applies to customers who are using JDA's applications in both a production and non-Production Environment.

Each customer's experience with Cloud Services may vary due to customizations, extensions, modifications, localizations, and/or integrations in the customer environment (CEMLI).

Availability Management

The Availability Management Standards indicate the amount of time that the JDA Applications are available to end users to perform business functions.

The uptime percentage for Availability Management is calculated quarterly as follows:

(Total minutes system was actually available for the quarter)

(Total minutes in the quarter – planned outage minutes)

The telecommunications network outside of JDA is not included as part of the Production Environment for the measurement of Availability Management. Provisioning of the Customer's network is the responsibility of the Customer and the network operation is not under JDA's control.

An unplanned outage is defined as the period of time that all or a subset of the JDA Programs in the Production Environment are unavailable due to an immediate maintenance requirement such as reactive patches or infrastructure repair. Unplanned Outages are not planned by JDA or the Customer.

A planned outage is defined as the period of time that all or a subset of the JDA Programs in the Production Environment are unavailable due to system maintenance requirements. Planned Outages may affect customers individually or as a group. Planned outages may include:

- a) Proactive software maintenance
- b) Customer specific infrastructure upgrade
- c) Relocation or reconfiguration of the Customer's JDA Production Environment

Maintenance Window

Maintenance windows are defined by JDA Cloud Services and applied to all Customers. These windows will include short weekly times, normally 1 to 2 hours, for simple maintenance tasks, monthly 4 hour windows for extended maintenance, and quarterly 24 hour windows for significant system maintenance

and application upgrades. These windows will only be utilized if needed. Maintenance windows will normally only be used with at least 24 hour prior Customer notification. JDA reserves the right, in rare instances, for maintenance windows to be used for emergency maintenance with less than 24 hours' notice and/or without approval.

Security Management

- All critical vulnerability alerts investigated and resolved under emergency patch procedures.
- High priority security patches to correct threats deemed to be significant are targeted to be applied within 1 week.
- High priority security patches to correct threats deemed to be less significant are targeted to be applied within 1 month of release.
- The designation of "Critical" or "High" is defined by the software application vendor based on their classification of a patch.
- Security patches may require Customer input and participation to fully remediate. In these cases time frames vary depending upon Customer input.

Performance Management

JDA will use tools to measure the Baseline performance for each customer. Baseline is defined as the performance of key transactions (as jointly identified by Customer and JDA) on a copy of Customer's production application environment during User Acceptance Testing ("UAT"); measurement of the Baseline performance is undertaken when there is no other testing activity ongoing in the copy of Customer's production application environment. Following establishment of the Baseline, JDA can monitor performance of the key transactions against the Baseline.

Environments

The following Environments will be provided:

Type of Environment	No. of Environments
Test	1
Production	1

The Test Environment will be one half of the resources of the Production Environment. The database disk size for Test will be sufficient to contain a copy of the Production Environment database.

JDA reserves the right to (a) to determine the type and quantity of hardware provided, and (b) to change the type and quantity of hardware at any time without notice as long as such change does not affect availability or performance.

Service Request and Incident Management

Customers initiate Service Requests when requesting changes to, or Incidents when reporting issues with, the JDA Cloud Services environments.

The 24x7 JDA Cloud Services Response Center is included in this SOW. Customers may contact JDA Cloud Services directly via the Cloud Services phone number or the web interface as per the support process documentation that will be provided at the initial setup time.

Severity Level is defined as the classification of a Cloud Services Incident that causes a loss of service. Incidents are categorized and prioritized by four Severity Levels that are based on the impact on the Customer's business operations. Severity 1 is the highest/most severe and Severity 4 is the lowest/least severe.

The Severity Levels for Cloud Services are defined as follows:

a) Severity 1 – Critical Impact

Business standstill with no work-around or issues which prevent a customer from proceeding with a major, mission-critical process that is vital to the daily operations of the business.

b) Severity 2 – High Impact

Business critical issue with no feasible work-around or issues which cause a serious disruption to but do not necessarily impede the business from running. Renders major functions unusable, key business operational functions cannot be performed.

c) Severity 3 – Medium Impact

Non-business critical issue where a complex work-around exists. Individual system function unusable or renders minor system function unusable.

d) Severity 4 – Low Impact

Non-business critical where a simple work-around or fix exists. Minor system nuisance which does not limit the functionality of system. System usage question or documentation request.

The Incident Management standard is calculated as follows:

Severity Level	SLA Applies	Calculation of elapsed time
Severity 1 – Critical - Production Environment only	24x7x365	Date/time Incident is opened until Date/time a Workaround/Downgrade/Resolution identified
All other Incidents	24 hours a day, Monday – Friday (24x5) – GMT time zone	Date/time Incident is opened until Date/time a Workaround/Downgrade/Resolution identified minus any time on Saturday or Sunday

Change Management

Change Management is a normal part of any Cloud Services Environment. Change Management is both an advantage and a risk and as such is strictly controlled by the JDA Cloud Services team.

In order to ensure risk is minimized, up to 10 significant changes are included per month. Additional significant changes require an additional fee.

Examples of significant changes include but are not limited to:

- a) Data extracts directly from the Database
- b) Requests to provide historical EDI files, xml files or other types of log file
- c) Rate Route service reset requests
- d) EDI carrier onboarding

For Change Management, the following Service Request timelines apply:

- a) Requests will be acknowledged by JDA within 24 hours of receipt

- b) All approved change requests targeted to complete within 72 hours
- c) For all requests that are asked to be scheduled into a specific time window, JDA requires 48 hours advanced notice

Problem management process (root cause and permanent fix)

JDA Cloud Services strives for continuous improvement in service. JDA Cloud Services uses a problem management process to determine the root cause of repetitive and critical Incidents in the production environment. This process is used to implement corrective and preventive measures to reduce impact and repetitive occurrence of such incidents.

Software updates

As a component of Cloud Services, JDA will implement periodic software upgrades. These upgrades will be communicated at least 120 days in advance. This will be a technical upgrade using the Generally Available software release only and will maintain existing functional equivalence.

Customer responsibilities include:

- Acknowledge receipt of the upgrade schedule
- Notify users and third parties as appropriate
- User acceptance tests
- Functional validation
- Provide functional and technical points of contact during upgrade go-live
- User acceptance confirmation within 3 business days. Customer acknowledges that no communication during this period will be deemed acceptance.

Cloud Services will provide the following services:

- Upgrade of hardware as required to support the new version
- Upgrade of operating system, database, and 3rd party components as required to support the new version.
- Migration of database to new version
- Test to confirm installation & proper migration of database and application
- Infrastructure level performance tuning
- Upgrade and unit testing of technical scripts and integration scripts to ensure technical equivalence

- Support for user acceptance testing by customer
- Go live process
- Platform changes as determined solely by JDA to be required

The following activities are not included in the scope of upgrade and would require a separate Statement of Work or Change Request:

- Training on new features
- Reconfiguring the UI
- Full user acceptance testing of all integration, performance, and functional workflows applicable to the business solution
- Enablement of new feature/functions
- Integration updates required to support new feature/function

Disaster Recovery

Unless otherwise indicated, Disaster Recovery (“DR”) recovery time is based on commercially reasonable efforts by JDA to restore a production instance using the Standard Disaster Recovery option as defined in the Cloud Services Portfolio Manual. These commercially reasonable efforts include a target Recovery Time Objective (“RTO”) of 10 days and a target Recovery Point Objective (“RPO”) of 72 hours.

Disaster recovery only applies to customers who are using JDA’s applications in a Production Environment.

Exit Strategy

If Customer terminates Cloud Services pursuant to the Agreement or SOW, JDA will participate in the Customer’s planning to facilitate Customer’s transition from the Cloud Services. These services will be limited to the following:

- a) Participate in a transition meeting and agree upon schedule for transition activities
- b) Validate the removal of all Customer data from the JDA environment

All other services are outside the scope of this agreement and require a separate change request or SOW.

Data Transfer Services

JDA will make SFTP services available for transfer of data between Customer and JDA. Unless otherwise indicated, Customer will initiate the pushing of input data from Customer to JDA and the pulling of data

from JDA to Customer. JDA and Customer will define mutually agreed upon windows to transfer data in and out. In order to ensure successful transfers take place Customer must:

- a) Ensure the Customer's server used to pull/push data is available and accepting connections during the defined transfer windows.
- b) Ensure the data is complete, not in use and ready to be transferred before the defined transfer windows start.
- c) Ensure the Customer's server used to pull/push data has adequate disk space and resources to complete the transfer.
- d) Provide a contact person that is available 24x7 for notification and resolution of failures.
- e) A single connection to each environment is included in the standard service. Additional connections are available and may require an additional fee.

Standard processes for integration

The following integration methods are supported:

- Standard JDA CIS formatted XML file integration
- Option to use Webservices (Customer inbound to JDA Cloud only)
- FTP – for carrier integration
- SFTP – for file based integration
- EDI
 - Standard EDI interfaces offered for Domestic and Ocean
 - EDI carriers (on-boarding restricted to 40 carriers)
 - Message types offered are:
 - Domestic - 204, 214, 990, 210
 - Ocean - 310, 315 , 300,301,323

Patch process for Infrastructure and non-JDA Applications

It is the policy of JDA Cloud Services to maintain the operating system, database, and applications supporting the Cloud Services environment at the most current levels feasible. JDA Cloud Services will apply non-critical patches in a timely manner as they are agreed to be reliable, and fit within the standard JDA Cloud Services environment.

Patch process for JDA Applications

When a customer has an Incident that requires a patch for a code change, JDA Cloud Services will work with JDA Support Services and selected customers to acquire, test, and then apply these patches to both

test and production environments. An emergency patch may be placed directly into production without customer's prior approval. Not all customers will have an opportunity to test a patch before it is applied.

JDA Cloud Services will notify customers and schedule patches in regular maintenance windows to minimize disruptions.

Note: During patch application, the system will be unavailable for use.

Database refreshes and copies of the database

Customers may request a copy of the production database be copied to either test or development once per month as part of the service (a database refresh). These database refreshes are a complete refresh of the database, partial refreshes are not supported. Additional or partial refreshes may be arranged for an additional fee.

To the extent data can be exported from the UI such data can be obtained by the Customer at any time. A copy of the full database may be requested and provided to Customer for an additional fee. This full copy may request special media depending on the size of the database.

Cloud delivery review

The Cloud Delivery Report ("Report") is developed by JDA and reviewed by JDA and provided to the Customer during quarterly via email to the identified contact in the protocols and procedures document. The Report provides information, subject to the terms of the SOW, about the delivery of the Cloud Services provided by JDA. JDA, working with the Customer's management team, maintains and distributes the Report. The format of the Report (types of information included, layout of the form, etc.) may be updated periodically.

Customizations and modifications

JDA solutions are very flexible and allows for many different configurations and data models with no special customization needed. Standard interfaces provide access to and from system data. We find that this level of configurability meets most customer needs with no specific customization.

JDA Cloud Services reserves the right to determine whether any customization or modification is allowed or not. If a customization or modification is allowed it is always subject to the enhancement and Change Management processes and always requires an additional fee.

Specific Scope for JDA Stratus for Transportation

Category	Feature	Included	Key Notes
Environments	Number of Environments	2	Production and Test
	Concurrent users	20	
TM/TP core			
	Routing and Rating engine	Y	2 Routing and Rating engines will be provided
	Optimization engine	Y	One engine only
	Distance engine (licensing provided by customer)	Y	Options are Telogis, PC* Miler, or Rand McNally MileMaker. License must be provided by Customer
	Financial Server	Y	
	Monitoring Server	Y	
	AutoTender Server	Y	
	API Batch Server	Y	
	TM CIS Server	Y	2 instances
	TM OptRequest Server	Y	
	Distributed report server	Y	
	Report server	Y	
	Notification Agent	Y	
	TM Weblogic UI	Y	
	Smartbench UI	Y	
	Tariff Smartbench	Y	
	TP UI	N	
Reports (TM crystal reports Not BA)	Core TM reports	Y	
Optimization	Performance SLA	N	
	Strategy and Parameter file editing	N	

User authentication (SSO via SAML)	SSO (single sign on) via SAML authentication	N	TMS single sign on is not available
ABPP Add on Modules			
	Freight Auction	N	
	Approval Chain	N	
	Carrier Equipment Availability(CEA)	N	
	TM Mobile	N	
	ABPP UI extensions	N	
	ABPP integrations	N	
Integration			
	Customized Integration	N	
	Standard CIS API	Y	
	SFTP or TM UI using Excel upload	Y	Training on UI not included
	Master data and tariff maintenance	Y	Supported methods are standard API or Excel upload via TM UI
	Web services	Y	Only Customer inbound to JDA (JDA to Customer not supported)
EDI			
EDI	Message types: 204, 990, 214, 210 310, 315 300,301,323	Y	Using current mapping
	Number of carriers included (Additional carriers will be added at an additional fee)	40	
Operational			
Archive	No archive feature is available	N	
Purge	Purge	Y	All data older than 13 months will be purged

Business Analysis (Available for an additional charge)			
	Standard out of the box reports no customization or modifications	Y	<p>The following reports are provided:</p> <ul style="list-style-type: none"> a) Carrier Report Card <ul style="list-style-type: none"> i. On Time Delivery ii. On Time Pick-up by Carrier b) Operational Analysis <ul style="list-style-type: none"> i. Load Distribution by Day of week ii. On Time Delivery Monthly Trend iii. Pickup performance c) Optimization Plan Analysis <ul style="list-style-type: none"> i. Load Distribution by Day ii. Out of Route Report iii. Vehicle Capacity Utilization by Carrier d) Tender Analysis <ul style="list-style-type: none"> i. Tender Acceptance ii. Details by Carriers Tender Response Ratio
	ETL based Analytics	N	
	Direct TM DB reporting Only	Y	No use of Informatica ETL

Chapter 9. Cloud Portfolio Service Definition - JDA Stratus for Forecast and Replenishment

The following chart illustrates the service level agreement, on average, for the JDA Cloud Services customer base.

Standard Type	Description of Standard	Standard
Availability Management	Unplanned Outages (1%)	99% uptime
	Planned Outages (3%)	97% uptime
Security Management	No identified vulnerabilities from vulnerability detection scans.	All critical vulnerability alerts investigated and resolved under emergency patch procedures
Performance Management	Monitor Performance of baseline of key transactions	Performance of baseline of key transactions that are jointly identified by Customer and JDA Minimum 8 hour batch window is required
Change Management	Change of configuration and or application	Requests will be acknowledged by JDA within 24 hours of receipt (Certain type of changes are limited in number)
Incident Management	Resolution time for Severity 1 Incidents	Response Time: 20 Minutes Status Update Time: Every 1 Hour Workaround/Downgrade/Resolution Time: 4 Hours
	Resolution time for Severity 2 Incidents	Response Time: 60 Minutes Status Update Time: Every 2 Hours Workaround/Downgrade/Resolution Time: 14 Hours
	Resolution time for Severity 3 Incidents	Response Time: 24 Hours Status Update Time: As Required Workaround/Downgrade/Resolution Time: 7 Days or mutually agreed time period
	Resolution time for Severity 4 Incidents	No time commitment

General

The Availability and Security Management Service Level Standards apply to customers who are using JDA's applications in a Production Environment. The Change and Incident Management Service Level Standard applies to customers who are using JDA's applications in both a production and non-Production Environment.

Each customer's experience with Cloud Services may vary due to customizations, extensions, modifications, localizations, and/or integrations in the customer environment (CEMLI).

Availability Management

The Availability Management Standards indicate the amount of time that the JDA Applications are available to end users to perform business functions.

The uptime percentage for Availability Management is calculated quarterly as follows:

(Total minutes system was actually available for the quarter)

(Total minutes in the quarter – planned outage minutes)

The telecommunications network outside of JDA is not included as part of the Production Environment for the measurement of Availability Management. Provisioning of the Customer's network is the responsibility of the Customer and the network operation is not under JDA's control.

An unplanned outage is defined as the period of time that all or a subset of the JDA Programs in the Production Environment are unavailable due to an immediate maintenance requirement such as reactive patches or infrastructure repair. Unplanned Outages are not planned by JDA or the Customer.

A planned outage is defined as the period of time that all or a subset of the JDA Programs in the Production Environment are unavailable due to system maintenance requirements. Planned Outages may affect customers individually or as a group. Planned outages may include:

- a) Proactive software maintenance
- b) Customer specific infrastructure upgrade
- c) Relocation or reconfiguration of the Customer's JDA Production Environment

Maintenance Window

Maintenance windows are defined by JDA Cloud Services and applied to all Customers. These windows will include short weekly times, normally 1 to 2 hours, for simple maintenance tasks, monthly 4 hour windows for extended maintenance, and quarterly 24 hour windows for significant system maintenance

and application upgrades. These windows will only be utilized if needed. Maintenance windows will normally only be used with at least 24 hour prior Customer notification. JDA reserves the right, in rare instances, for maintenance windows to be used for emergency maintenance with less than 24 hours' notice and/or without approval.

Security Management

- a) All critical vulnerability alerts investigated and resolved under emergency patch procedures.
- b) High priority security patches to correct threats deemed to be significant are targeted to be applied within 1 week.
- c) High priority security patches to correct threats deemed to be less significant are targeted to be applied within 1 month of release.
- d) The designation of "Critical" or "High" is defined by the software application vendor based on their classification of a patch.
- a) Security patches may require Customer input and participation to fully remediate. In these cases time frames vary depending upon Customer input.

Performance Management

JDA will use tools to measure the Baseline performance for each customer. Baseline is defined as the performance of key transactions (as jointly identified by Customer and JDA) on a copy of Customer's production application environment during User Acceptance Testing ("UAT"); measurement of the Baseline performance is undertaken when there is no other testing activity ongoing in the copy of Customer's production application environment. Following establishment of the Baseline, JDA can monitor performance of the key transactions against the Baseline.

Environments

The following Environments will be provided:

Type of Environment	No. of Environments
Test	1
Production	1

The Test Environment will be one half of the resources of the Production Environment. The database disk size for Test will be sufficient to contain a copy of the Production Environment database.

JDA reserves the right to (a) to determine the type and quantity of hardware provided, and (b) to change the type and quantity of hardware at any time without notice as long as such change does not affect availability or performance.

Service Request and Incident Management

Customers initiate Service Requests when requesting changes to, or Incidents when reporting issues with, the JDA Cloud Services environments.

The 24x7 JDA Cloud Services Response Center is included in this SOW. Customers may contact JDA Cloud Services directly via the Cloud Services phone number or the web interface as per the support process documentation that will be provided at the initial setup time.

Severity Level is defined as the classification of a Cloud Services Incident that causes a loss of service. Incidents are categorized and prioritized by four Severity Levels that are based on the impact on the Customer's business operations. Severity 1 is the highest/most severe and Severity 4 is the lowest/least severe.

The Severity Levels for Cloud Services are defined as follows:

a) Severity 1 – Critical Impact

Business standstill with no work-around or issues which prevent a customer from proceeding with a major, mission-critical process that is vital to the daily operations of the business.

b) Severity 2 – High Impact

Business critical issue with no feasible work-around or issues which cause a serious disruption to but do not necessarily impede the business from running. Renders major functions unusable, key business operational functions cannot be performed.

c) Severity 3 – Medium Impact

Non-business critical issue where a complex work-around exists. Individual system function unusable or renders minor system function unusable.

d) Severity 4 – Low Impact

Non-business critical where a simple work-around or fix exists. Minor system nuisance which does not limit the functionality of system. System usage question or documentation request.

The Incident Management standard is calculated as follows:

Severity Level	SLA Applies	Calculation of elapsed time
Severity 1 – Critical - Production Environment only	24x7x365	Date/time Incident is opened until Date/time a Workaround/Downgrade/Resolution identified
All other Incidents	24 hours a day, Monday – Friday (24x5) – GMT time zone	Date/time Incident is opened until Date/time a Workaround/Downgrade/Resolution identified minus any time on Saturday or Sunday

Change Management

Change Management is a normal part of any Cloud Services Environment. Change Management is both an advantage and a risk and as such is strictly controlled by the JDA Cloud Services team.

In order to ensure risk is minimized, up to 10 significant changes are included per month. Additional significant changes require an additional fee.

Examples of significant changes include but are not limited to:

- a) Data maintenance tasks requiring JDA Cloud Services manual intervention
- b) Data extracts requiring JDA Cloud Services manual intervention
- c) Request for ad hoc batch changes
- d) Additions or Subtractions from the batch process
- e) Request to provide log files or archive data files

For Change Management, the following Service Request timelines apply:

- a) Requests will be acknowledged by JDA within 24 hours of receipt
- b) All approved change requests targeted to complete within 72 hours
- c) For all requests that are asked to be scheduled into a specific time window, JDA requires 48 hours advanced notice

Problem management process (root cause and permanent fix)

JDA Cloud Services strives for continuous improvement in service. JDA Cloud Services uses a problem management process to determine the root cause of repetitive and critical Incidents in the production environment. This process is used to implement corrective and preventive measures to reduce impact and repetitive occurrence of such incidents.

Software updates

As a component of Cloud Services, JDA will implement periodic software upgrades. These upgrades will be communicated at least 120 days in advance. This will be a technical upgrade using the Generally Available software release only and will maintain existing functional equivalence.

Customer responsibilities include:

- Acknowledge receipt of the upgrade schedule
- Notify users and third parties as appropriate
- User acceptance tests
- Functional validation
- Provide functional and technical points of contact during upgrade go-live
- User acceptance confirmation within 3 business days. Customer acknowledges that no communication during this period will be deemed acceptance.

Cloud Services will provide the following services:

- Upgrade of hardware as required to support the new version
- Upgrade of operating system, database, and 3rd party components as required to support the new version.
- Migration of database to new version
- Test to confirm installation & proper migration of database and application
- Infrastructure level performance tuning

- Upgrade and unit testing of technical scripts and integration scripts to ensure technical equivalence
- Support for user acceptance testing by customer
- Go live process
- Platform changes as determined solely by JDA to be required

The following activities are not included in the scope of upgrade and would require a separate Statement of Work or Change Request:

- Training on new features
- Reconfiguring the UI
- Full user acceptance testing of all integration, performance, and functional workflows applicable to the business solution
- Enablement of new feature/functions
- Integration updates required to support new feature/function

Disaster Recovery

Unless otherwise indicated, Disaster Recovery (“DR”) recovery time is based on commercially reasonable efforts by JDA to restore a production instance using the Standard Disaster Recovery option as defined in the Cloud Services Portfolio Manual. These commercially reasonable efforts include a target Recovery Time Objective (“RTO”) of 10 days and a target Recovery Point Objective (“RPO”) of 72 hours.

Disaster recovery only applies to customers who are using JDA’s applications in a Production Environment.

Exit Strategy

If Customer terminates Cloud Services pursuant to the Agreement or SOW, JDA will participate in the Customer’s planning to facilitate Customer’s transition from the Cloud Services. These services will be limited to the following:

- a) Participate in a transition meeting and agree upon schedule for transition activities
- b) Validate the removal of all Customer data from the JDA environment

All other services are outside the scope of this agreement and require a separate change request or SOW.

Data Transfer Services

JDA will make either AS2 or SFTP services available for transfer of data between Customer and JDA. Unless otherwise indicated, Customer will initiate the pushing of input data from Customer to JDA and the pulling of data from JDA to Customer. JDA and Customer will define mutually agreed upon windows to transfer data in and out. In order to ensure successful transfers take place Customer must:

- a) Ensure the Customer's server used to pull/push data is available and accepting connections during the defined transfer windows.
- b) Ensure the data is complete, not in use and ready to be transferred before the defined transfer windows start.
- c) Ensure the Customer's server used to pull/push data has adequate disk space and resources to complete the transfer.
- d) Provide a contact person that is available 24x7 for notification and resolution of failures.
- e) A single connection to each environment is included in the standard service. Additional connections are available and may require an additional fee.

Standard processes for integration

The following integration methods are supported:

- File based integration only
- Interface Generation Program (IGP) format

Interfaces requiring VPN are not supported.

Patch process for Infrastructure and non-JDA Applications

It is the policy of JDA Cloud Services to maintain the operating system, database, and applications supporting the Cloud Services environment at the most current levels feasible. JDA Cloud Services will apply non-critical patches in a timely manner as they are agreed to be reliable, and fit within the standard JDA Cloud Services environment.

Patch process for JDA Applications

When a customer has an Incident that requires a patch for a code change, JDA Cloud Services will work with JDA Support Services and selected customers to acquire, test, and then apply these patches to both test and production environments. An emergency patch may be placed directly into production without customer's prior approval. Not all customers will have an opportunity to test a patch before it is applied.

JDA Cloud Services will notify customers and schedule patches in regular maintenance windows to minimize disruptions.

Note: During patch application, the system will be unavailable for use.

Database refreshes and copies of the database

Customers may request a copy of the production database be copied to either test or development once per month as part of the service (a database refresh). These database refreshes are a complete refresh of the database, partial refreshes are not supported. Additional or partial refreshes may be arranged for an additional fee.

To the extent data can be exported from the UI such data can be obtained by the Customer at any time. A copy of the full database may be requested and provided to Customer for an additional fee. This full copy may request special media depending on the size of the database.

Cloud delivery review

The Cloud Delivery Report ("Report") is developed by JDA and reviewed by JDA and provided to the Customer during quarterly via email to the identified contact in the protocols and procedures document. The Report provides information, subject to the terms of the SOW, about the delivery of the Cloud Services provided by JDA. JDA, working with the Customer's management team, maintains and distributes the Report. The format of the Report (types of information included, layout of the form, etc.) may be updated periodically.

Customizations and modifications

JDA solutions are very flexible and allows for many different configurations and data models with no special customization needed. Standard interfaces provide access to and from system data. We find that this level of configurability meets most customer needs with no specific customization.

JDA Cloud Services reserves the right to determine whether any customization or modification is allowed or not. If a customization or modification is allowed it is always subject to the enhancement and Change Management processes and always requires an additional fee.

Specific Scope for JDA Stratus for Forecast and Replenishment

Category	Feature	Included	Key Notes
Environments	Number of Environments	2	Production and Test
	Concurrent users	10	
Operational			
	Forecast Buckets	Weekly	
	Forecast Horizon	52 weeks	
	Re-Forecast frequency	Weekly	
	Years of History	3	
	Planning Horizon	26 weeks	
	Re-Planning frequency	Daily	
	Daily batch window	8 hrs.	
	Weekly batch window	12 hrs.	
	Integrations other than IGP	N	
	Citrix	N	Some UIs may not be available.
Modules			
	JDA Demand	Y	
	JDA Fulfillment	Y	
	JDA Demand Classification	Y	
	JDA Monitor	N	
	JDA Demand 360	N	
	JDA Collaborate	N	
	JDA Enterprise Supply Planning	N	
	JDA Inventory Optimization	N	
	JDA Reporting	N	
	JDA Sequencing	N	
	JDA Sales and Operations Planning	N	
Customizations			
	JDA provided User Defined Tables (UDT)	Y	

	JDA provided User Defined Columns (UDC)	Y	
	Customer specific User Defined Tables (UDT)	N	
	Customer specific User Defined Columns (UDC)	N	
	Custom schemas	N	

Chapter 10. Cloud Portfolio Service Definition - JDA Stratus for Workforce Management

The following chart illustrates the service level agreement, on average, for the JDA Cloud Services customer base.

Standard Type	Description of Standard	Standard
Availability Management	Unplanned Outages (1%)	99% uptime
	Planned Outages (3%)	97% uptime
Security Management	No identified vulnerabilities from vulnerability detection scans.	All critical vulnerability alerts investigated and resolved under emergency patch procedures
Performance Management	Monitor Performance of baseline of key transactions	Performance of baseline of key transactions that are jointly identified by Customer and JDA Minimum 8 hour batch window is required
Change Management	Change of configuration and or application	Requests will be acknowledged by JDA within 24 hours of receipt (Certain type of changes are limited in number)
Incident Management	Resolution time for Severity 1 Incidents	Response Time: 20 Minutes Status Update Time: Every 1 Hour Workaround/Downgrade/Resolution Time: 4 Hours
	Resolution time for Severity 2 Incidents	Response Time: 60 Minutes Status Update Time: Every 2 Hours Workaround/Downgrade/Resolution Time: 14 Hours
	Resolution time for Severity 3 Incidents	Response Time: 24 Hours Status Update Time: As Required Workaround/Downgrade/Resolution Time: 7 Days or mutually agreed time period
	Resolution time for Severity 4 Incidents	No time commitment

General

The Availability and Security Management Service Level Standards apply to customers who are using JDA's applications in a Production Environment. The Change and Incident Management Service Level Standard applies to customers who are using JDA's applications in both a production and non-Production Environment.

Each customer's experience with Cloud Services may vary due to customizations, extensions, modifications, localizations, and/or integrations in the customer environment (CEMLI).

Availability Management

The Availability Management Standards indicate the amount of time that the JDA Applications are available to end users to perform business functions.

The uptime percentage for Availability Management is calculated quarterly as follows:

(Total minutes system was actually available for the quarter)

(Total minutes in the quarter – planned outage minutes)

The telecommunications network outside of JDA is not included as part of the Production Environment for the measurement of Availability Management. Provisioning of the Customer's network is the responsibility of the Customer and the network operation is not under JDA's control.

An unplanned outage is defined as the period of time that all or a subset of the JDA Programs in the Production Environment are unavailable due to an immediate maintenance requirement such as reactive patches or infrastructure repair. Unplanned Outages are not planned by JDA or the Customer.

A planned outage is defined as the period of time that all or a subset of the JDA Programs in the Production Environment are unavailable due to system maintenance requirements. Planned Outages may affect customers individually or as a group. Planned outages may include:

- a) Proactive software maintenance
- b) Customer specific infrastructure upgrade
- c) Relocation or reconfiguration of the Customer's JDA Production Environment

Maintenance Window

Maintenance windows are defined by JDA Cloud Services and applied to all Customers. These windows will include short weekly times, normally 1 to 2 hours, for simple maintenance tasks, monthly 4 hour windows for extended maintenance, and quarterly 24 hour windows for significant system maintenance

and application upgrades. These windows will only be utilized if needed. Maintenance windows will normally only be used with at least 24 hour prior Customer notification. JDA reserves the right, in rare instances, for maintenance windows to be used for emergency maintenance with less than 24 hours' notice and/or without approval.

Security Management

- a) All critical vulnerability alerts investigated and resolved under emergency patch procedures.
- b) High priority security patches to correct threats deemed to be significant are targeted to be applied within 1 week.
- c) High priority security patches to correct threats deemed to be less significant are targeted to be applied within 1 month of release.
- d) The designation of "Critical" or "High" is defined by the software application vendor based on their classification of a patch.
- b) Security patches may require Customer input and participation to fully remediate. In these cases time frames vary depending upon Customer input.

Performance Management

JDA will use tools to measure the Baseline performance for each customer. Baseline is defined as the performance of key transactions (as jointly identified by Customer and JDA) on a copy of Customer's production application environment during User Acceptance Testing ("UAT"); measurement of the Baseline performance is undertaken when there is no other testing activity ongoing in the copy of Customer's production application environment. Following establishment of the Baseline, JDA can monitor performance of the key transactions against the Baseline.

Environments

The following Environments will be provided:

Type of Environment	No. of Environments
Test	1
Production	1

The Test Environment will be one half of the resources of the Production Environment. The database disk size for Test will be sufficient to contain a copy of the Production Environment database.

JDA reserves the right to (a) to determine the type and quantity of hardware provided, and (b) to change the type and quantity of hardware at any time without notice as long as such change does not affect availability or performance.

Service Request and Incident Management

Customers initiate Service Requests when requesting changes to, or Incidents when reporting issues with, the JDA Cloud Services environments.

The 24x7 JDA Cloud Services Response Center is included in this SOW. Customers may contact JDA Cloud Services directly via the Cloud Services phone number or the web interface as per the support process documentation that will be provided at the initial setup time.

Severity Level is defined as the classification of a Cloud Services Incident that causes a loss of service. Incidents are categorized and prioritized by four Severity Levels that are based on the impact on the Customer's business operations. Severity 1 is the highest/most severe and Severity 4 is the lowest/least severe.

The Severity Levels for Cloud Services are defined as follows:

a) Severity 1 – Critical Impact

Business standstill with no work-around or issues which prevent a customer from proceeding with a major, mission-critical process that is vital to the daily operations of the business.

b) Severity 2 – High Impact

Business critical issue with no feasible work-around or issues which cause a serious disruption to but do not necessarily impede the business from running. Renders major functions unusable, key business operational functions cannot be performed.

c) Severity 3 – Medium Impact

Non-business critical issue where a complex work-around exists. Individual system function unusable or renders minor system function unusable.

d) Severity 4 – Low Impact

Non-business critical where a simple work-around or fix exists. Minor system nuisance which does not limit the functionality of system. System usage question or documentation request.

The Incident Management standard is calculated as follows:

Severity Level	SLA Applies	Calculation of elapsed time
Severity 1 – Critical - Production Environment only	24x7x365	Date/time Incident is opened until Date/time a Workaround/Downgrade/Resolution identified
All other Incidents	24 hours a day, Monday – Friday (24x5) – GMT time zone	Date/time Incident is opened until Date/time a Workaround/Downgrade/Resolution identified minus any time on Saturday or Sunday

Change Management

Change Management is a normal part of any Cloud Services Environment. Change Management is both an advantage and a risk and as such is strictly controlled by the JDA Cloud Services team.

In order to ensure risk is minimized, up to 10 significant changes are included per month. Additional significant changes require an additional fee.

Examples of significant changes include but are not limited to:

- a) Data maintenance tasks requiring JDA Cloud Services manual intervention
- b) Data extracts requiring JDA Cloud Services manual intervention
- c) Additions or Subtractions from the batch process
- d) Request to provide log files or archive data files

For Change Management, the following Service Request timelines apply:

- a) Requests will be acknowledged by JDA within 24 hours of receipt

- b) All approved change requests targeted to complete within 72 hours
- c) For all requests that are asked to be scheduled into a specific time window, JDA requires 48 hours advanced notice

Problem management process (root cause and permanent fix)

JDA Cloud Services strives for continuous improvement in service. JDA Cloud Services uses a problem management process to determine the root cause of repetitive and critical Incidents in the production environment. This process is used to implement corrective and preventive measures to reduce impact and repetitive occurrence of such incidents.

Software updates

As a component of Cloud Services, JDA will implement periodic software upgrades. These upgrades will be communicated at least 120 days in advance. This will be a technical upgrade using the Generally Available software release only and will maintain existing functional equivalence.

Customer responsibilities include:

- Acknowledge receipt of the upgrade schedule
- Notify users and third parties as appropriate
- User acceptance tests
- Functional validation
- Provide functional and technical points of contact during upgrade go-live
- User acceptance confirmation within 3 business days. Customer acknowledges that no communication during this period will be deemed acceptance.

Cloud Services will provide the following services:

- Upgrade of hardware as required to support the new version
- Upgrade of operating system, database, and 3rd party components as required to support the new version.
- Migration of database to new version
- Test to confirm installation & proper migration of database and application
- Infrastructure level performance tuning
- Upgrade and unit testing of technical scripts and integration scripts to ensure technical equivalence

- Support for user acceptance testing by customer
- Go live process
- Platform changes as determined solely by JDA to be required

The following activities are not included in the scope of upgrade and would require a separate Statement of Work or Change Request:

- Training on new features
- Reconfiguring the UI
- Full user acceptance testing of all integration, performance, and functional workflows applicable to the business solution
- Enablement of new feature/functions
- Integration updates required to support new feature/function

Disaster Recovery

Unless otherwise indicated, Disaster Recovery (“DR”) recovery time is based on commercially reasonable efforts by JDA to restore a production instance using the Standard Disaster Recovery option as defined in the Cloud Services Portfolio Manual. These commercially reasonable efforts include a target Recovery Time Objective (“RTO”) of 10 days and a target Recovery Point Objective (“RPO”) of 72 hours.

Disaster recovery only applies to customers who are using JDA’s applications in a Production Environment.

Exit Strategy

If Customer terminates Cloud Services pursuant to the Agreement or SOW, JDA will participate in the Customer’s planning to facilitate Customer’s transition from the Cloud Services. These services will be limited to the following:

- a) Participate in a transition meeting and agree upon schedule for transition activities
- b) Validate the removal of all Customer data from the JDA environment

All other services are outside the scope of this agreement and require a separate change request or SOW.

Data Transfer Services

JDA will make a SFTP service available for transfer of data between Customer and JDA. Unless otherwise indicated, Customer will initiate the pushing of input data from Customer to JDA and the pulling of data

from JDA to Customer. JDA and Customer will define mutually agreed upon windows to transfer data in and out. In order to ensure successful transfers take place Customer must:

- a) Ensure the Customer's server used to pull/push data is available and accepting connections during the defined transfer windows.
- b) Ensure the data is complete, not in use and ready to be transferred before the defined transfer windows start.
- c) Ensure the Customer's server used to pull/push data has adequate disk space and resources to complete the transfer.
- d) Provide a contact person that is available 24x7 for notification and resolution of failures.
- e) A single connection to each environment is included in the standard service. Additional connections are available and may require an additional fee.

Standard processes for integration

The following integration methods are supported:

- File based integration using SFTP

Patch process for Infrastructure and non-JDA Applications

It is the policy of JDA Cloud Services to maintain the operating system, database, and applications supporting the Cloud Services environment at the most current levels feasible. JDA Cloud Services will apply non-critical patches in a timely manner as they are agreed to be reliable, and fit within the standard JDA Cloud Services environment.

Patch process for JDA Applications

When a customer has an Incident that requires a patch for a code change, JDA Cloud Services will work with JDA Support Services and selected customers to acquire, test, and then apply these patches to both test and production environments. An emergency patch may be placed directly into production without customer's prior approval. Not all customers will have an opportunity to test a patch before it is applied.

JDA Cloud Services will notify customers and schedule patches in regular maintenance windows to minimize disruptions.

Note: During patch application, the system will be unavailable for use.

Database refreshes and copies of the database

Customers may request a copy of the production database be copied to either test or development once per month as part of the service (a database refresh). These database refreshes are a complete refresh

of the database, partial refreshes are not supported. Additional or partial refreshes may be arranged for an additional fee.

To the extent data can be exported from the UI such data can be obtained by the Customer at any time. A copy of the full database may be requested and provided to Customer for an additional fee. This full copy may request special media depending on the size of the database.

Cloud delivery review

The Cloud Delivery Report (“Report”) is developed by JDA and reviewed by JDA and provided to the Customer during quarterly via email to the identified contact in the protocols and procedures document. The Report provides information, subject to the terms of the SOW, about the delivery of the Cloud Services provided by JDA. JDA, working with the Customer's management team, maintains and distributes the Report. The format of the Report (types of information included, layout of the form, etc.) may be updated periodically.

Customizations and modifications

JDA solutions are very flexible and allows for many different configurations and data models with no special customization needed. Standard interfaces provide access to and from system data. We find that this level of configurability meets most customer needs with no specific customization.

JDA Cloud Services reserves the right to determine whether any customization or modification is allowed or not. If a customization or modification is allowed it is always subject to the enhancement and Change Management processes and always requires an additional fee.

Specific Scope for JDA Stratus for Workforce Management

Category	Feature	Included	Key Notes
Environments	Number of Environments	2	Production and Test
Operational			
	PC Clock	Y	
	Web Clock	Y	
	Physical Clock	N	
	Application Enabled User Security	Y	Only method allowed
	Maximum number of Stores	600	
	Maximum number of concurrent Users	1500	Limit is 10% of actual contracted employees
Modules			
	JDA Workforce	Y	
	JDA Employee Self Service	Y	
	JDA Store Manager	Y	
	JDA District Manager	N	
	Labor Scheduling	Y	
	Forecasting	Y	
	JDA Advanced Scheduling	Y	
	Budgeting	N	
	Time and Attendance	Y	
	Shift Connect	Y	
	Mobility	Y	
	Reporting (CRP)	N	
Configurations			
	Number of Jobs	6	
	Number of roles	6	
	Number of tasks per role	25	
	Shift Strategy	Single Full Time, Part Time Shift, Part time no benefits	

	Pay Rules	Standard - Full Time and Part Time	
	Punch rule category	Standard – Full Time and Part time	
	Number of punch rules for each category	3	
	Minor Rule (rule for a minor employee)	1	
	No. of scheduling prioritization rules	1	
	Number of Generic forecasting metrics	12	
	Labor model for labor demand forecast	Simplified model based on transactions	
	Scheduling Batch window	Minimum 8 hours	
	Forecasting Batch window	Minimum 8 hours	
	Clockings – Full update frequency	Minimum 12 hours	
	Clockings – Quick update frequency	Minimum 1 hour	
	Number of ODS data aggregation jobs per day	Maximum 1	
	Number of daily metrics	Maximum 2	
	Number of quarter hour metrics	Maximum 46	
	Number of 15 minute segments per day	Maximum 46	
	Raw punches retention (weeks)	52*	
	Punch detail retention (weeks)	104*	
	Default retention (days)	180*	
	Labour demand results retention (weeks)	104*	

	Scheduling results retention (weeks)	104*	
	Pay detail retention (days)	365*	
	Forecasting results retention (days)	180*	
	Forecasting Data (metrics - 15min) retention (days)	180*	
Integration			
Defined Import Interfaces	Business Units	Y	
	Org/Org Hierarchy	Y	
	Generic Metrics	Y	
	Employee Data (w/ accruals)	Y	
	Employee Transfers	Y	
	Store Drivers	Y	
Defined Export Interfaces	Payroll	Y	

*Any changes in any retention metric must be documented in the appropriate agreement and requires an additional fee.

Chapter 11. Cloud Portfolio Service Definition - JDA Stratus for Category Management

The following chart illustrates the service level agreement, on average, for the JDA Cloud Services customer base.

Standard Type	Description of Standard	Standard
Availability Management	Unplanned Outages (1%)	99% uptime
	Planned Outages (3%)	97% uptime
Security Management	No identified vulnerabilities from vulnerability detection scans.	All critical vulnerability alerts investigated and resolved under emergency patch procedures
Performance Management	Monitor Performance of baseline of key transactions	Performance of baseline of key transactions that are jointly identified by Customer and JDA Minimum 8-hour daily batch window is required; minimum 12-hour weekly batch window is required
Change Management	Change of configuration and or application	Requests will be acknowledged by JDA within 24 hours of receipt (Certain type of changes are limited in number)
Incident Management	Resolution time for Severity 1 Incidents	Response Time: 20 Minutes Status Update Time: Every 1 Hour Workaround/Downgrade/Resolution Time: 4 Hours
	Resolution time for Severity 2 Incidents	Response Time: 60 Minutes Status Update Time: Every 2 Hours Workaround/Downgrade/Resolution Time: 14 Hours
	Resolution time for Severity 3 Incidents	Response Time: 24 Hours Status Update Time: As Required Workaround/Downgrade/Resolution Time: 7 Days or mutually agreed time period
	Resolution time for Severity 4 Incidents	No time commitment

General

The Availability and Security Management Service Level Standards apply to customers who are using JDA's applications in a Production Environment. The Change and Incident Management Service Level Standard applies to customers who are using JDA's applications in both a production and non-Production Environment.

Each customer's experience with Cloud Services may vary due to customizations, extensions, modifications, localizations, and/or integrations in the customer environment (CEMLI).

Availability Management

The Availability Management Standards indicate the amount of time that the JDA Applications are available to end users to perform business functions.

The uptime percentage for Availability Management is calculated quarterly as follows:

(Total minutes system was actually available for the quarter)

(Total minutes in the quarter – planned outage minutes)

The telecommunications network outside of JDA is not included as part of the Production Environment for the measurement of Availability Management. Provisioning of the Customer's network is the responsibility of the Customer and the network operation is not under JDA's control.

An unplanned outage is defined as the period of time that all or a subset of the JDA Programs in the Production Environment are unavailable due to an immediate maintenance requirement such as reactive patches or infrastructure repair. Unplanned Outages are not planned by JDA or the Customer.

A planned outage is defined as the period of time that all or a subset of the JDA Programs in the Production Environment are unavailable due to system maintenance requirements. Planned Outages may affect customers individually or as a group. Planned outages may include:

- d) Proactive software maintenance
- e) Customer specific infrastructure upgrade
- f) Relocation or reconfiguration of the Customer's JDA Production Environment

Maintenance Window

Maintenance windows are defined by JDA Cloud Services and applied to all Customers. These windows will include short weekly times, normally 1 to 2 hours, for simple maintenance tasks, monthly 4 hour windows for extended maintenance, and quarterly 24 hour windows for significant system maintenance

and application upgrades. These windows will only be utilized if needed. Maintenance windows will normally only be used with at least 24-hour prior Customer notification. JDA reserves the right, in rare instances, for maintenance windows to be used for emergency maintenance with less than 24 hours' notice and/or without approval.

Security Management

- e) All critical vulnerability alerts investigated and resolved under emergency patch procedures.
- f) High priority security patches to correct threats deemed to be significant are targeted to be applied within 1 week.
- g) High priority security patches to correct threats deemed to be less significant are targeted to be applied within 1 month of release.
- h) The designation of "Critical" or "High" is defined by the software application vendor based on their classification of a patch.
- c) Security patches may require Customer input and participation to fully remediate. In these cases, time frames vary depending upon Customer input.

Performance Management

JDA will use tools to measure the Baseline performance for each customer. Baseline is defined as the performance of key transactions (as jointly identified by Customer and JDA) on a copy of Customer's production application environment during User Acceptance Testing ("UAT"); measurement of the Baseline performance is undertaken when there is no other testing activity ongoing in the copy of Customer's production application environment. Following establishment of the Baseline, JDA can monitor performance of the key transactions against the Baseline.

Environments

The following Environments will be provided:

Type of Environment	No. of Environments
Test	1
Production	1

The Test Environment will be one half of the resources of the Production Environment. The database disk size for Test will be sufficient to contain a copy of the Production Environment database.

JDA reserves the right to (a) to determine the type and quantity of hardware provided, and (b) to change the type and quantity of hardware at any time without notice as long as such change does not affect availability or performance.

Service Request and Incident Management

Customers initiate Service Requests when requesting changes to, or Incidents when reporting issues with, the JDA Cloud Services environments.

The 24x7 JDA Cloud Services Response Center is included in this SOW. Customers may contact JDA Cloud Services directly via the Cloud Services phone number or the web interface as per the support process documentation that will be provided at the initial setup time.

Severity Level is defined as the classification of a Cloud Services Incident that causes a loss of service. Incidents are categorized and prioritized by four Severity Levels that are based on the impact on the Customer’s business operations. Severity 1 is the highest/most severe and Severity 4 is the lowest/least severe.

The Severity Levels for Cloud Services are defined as follows:

a) Severity 1 – Critical Impact

Business standstill with no work-around or issues which prevent a customer from proceeding with a major, mission-critical process that is vital to the daily operations of the business.

b) Severity 2 – High Impact

Business critical issue with no feasible work-around or issues which cause a serious disruption to but do not necessarily impede the business from running. Renders major functions unusable, key business operational functions cannot be performed.

c) Severity 3 – Medium Impact

Non-business critical issue where a complex work-around exists. Individual system function unusable or renders minor system function unusable.

d) Severity 4 – Low Impact

Non-business critical where a simple work-around or fix exists. Minor system nuisance which does not limit the functionality of system. System usage question or documentation request.

The Incident Management standard is calculated as follows:

Severity Level	SLA Applies	Calculation of elapsed time
Severity 1 – Critical - Production Environment only	24x7x365	Date/time Incident is opened until Date/time a Workaround/Downgrade/Resolution identified
All other Incidents	24 hours a day, Monday – Friday (24x5) – GMT time zone	Date/time Incident is opened until Date/time a Workaround/Downgrade/Resolution identified minus any time on Saturday or Sunday

Change Management

Change Management is a normal part of any Cloud Services Environment. Change Management is both an advantage and a risk and as such is strictly controlled by the JDA Cloud Services team.

In order to ensure risk is minimized, up to 10 significant changes are included per month. Additional significant changes require an additional fee.

Examples of significant changes include but are not limited to:

- a) Data maintenance tasks requiring JDA Cloud Services manual intervention
- b) Data extracts requiring JDA Cloud Services manual intervention
- c) Request for ad hoc batch changes
- d) Additions or Subtractions from the batch process
- e) Request to provide log files or archive data files

For Change Management, the following Service Request timelines apply:

- d) Requests will be acknowledged by JDA within 24 hours of receipt
- e) All approved change requests targeted to complete within 72 hours
- f) For all requests that are asked to be scheduled into a specific time window, JDA requires 48 hours advanced notice

Problem management process (root cause and permanent fix)

JDA Cloud Services strives for continuous improvement in service. JDA Cloud Services uses a problem management process to determine the root cause of repetitive and critical Incidents in the production environment. This process is used to implement corrective and preventive measures to reduce impact and repetitive occurrence of such incidents.

Software updates

As a component of Cloud Services, JDA will implement periodic software upgrades. These upgrades will be communicated at least 120 days in advance. This will be a technical upgrade using the Generally Available software release only and will maintain existing functional equivalence.

Customer responsibilities include:

- Acknowledge receipt of the upgrade schedule
- Notify users and third parties as appropriate
- User acceptance tests
- Functional validation
- Provide functional and technical points of contact during upgrade go-live
- User acceptance confirmation within 3 business days. Customer acknowledges that no communication during this period will be deemed acceptance.

Cloud Services will provide the following services:

- Upgrade of hardware as required to support the new version
- Upgrade of operating system, database, and 3rd party components as required to support the new version.
- Migration of database to new version
- Test to confirm installation & proper migration of database and application
- Infrastructure level performance tuning

- Upgrade and unit testing of technical scripts and integration scripts to ensure technical equivalence
- Support for user acceptance testing by customer
- Go live process
- Platform changes as determined solely by JDA to be required

The following activities are not included in the scope of upgrade and would require a separate Statement of Work or Change Request:

- Training on new features
- Reconfiguring the UI
- Full user acceptance testing of all integration, performance, and functional workflows applicable to the business solution
- Enablement of new feature/functions
- Integration updates required to support new feature/function

Disaster Recovery

Unless otherwise indicated, Disaster Recovery (“DR”) recovery time is based on commercially reasonable efforts by JDA to restore a production instance using the Standard Disaster Recovery option as defined in the Cloud Services Portfolio Manual. These commercially reasonable efforts include a target Recovery Time Objective (“RTO”) of 10 days and a target Recovery Point Objective (“RPO”) of 72 hours.

Disaster recovery only applies to customers who are using JDA’s applications in a Production Environment.

Exit Strategy

If Customer terminates Cloud Services pursuant to the Agreement or SOW, JDA will participate in the Customer’s planning to facilitate Customer’s transition from the Cloud Services. These services will be limited to the following:

- a) Participate in a transition meeting and agree upon schedule for transition activities
- b) Validate the removal of all Customer data from the JDA environment

All other services are outside the scope of this agreement and require a separate change request or SOW.

Data Transfer Services

JDA will make either AS2 or SFTP services available for transfer of data between Customer and JDA. Unless otherwise indicated, Customer will initiate the pushing of input data from Customer to JDA and the pulling of data from JDA to Customer. JDA and Customer will define mutually agreed upon windows to transfer data in and out. In order to ensure successful transfers, take place Customer must:

- f) Ensure the Customer's server used to pull/push data is available and accepting connections during the defined transfer windows.
- g) Ensure the data is complete, not in use and ready to be transferred before the defined transfer windows start.
- h) Ensure the Customer's server used to pull/push data has adequate disk space and resources to complete the transfer.
- i) Provide a contact person that is available 24x7 for notification and resolution of failures.
- j) A single connection to each environment is included in the standard service. Additional connections are available and may require an additional fee.

Standard processes for integration

The following integration methods are supported:

- File based integration only

Interfaces requiring VPN are not supported.

Patch process for Infrastructure and non-JDA Applications

It is the policy of JDA Cloud Services to maintain the operating system, database, and applications supporting the Cloud Services environment at the most current levels feasible. JDA Cloud Services will apply non-critical patches in a timely manner as they are agreed to be reliable, and fit within the standard JDA Cloud Services environment.

Patch process for JDA Applications

When a customer has an Incident that requires a patch for a code change, JDA Cloud Services will work with JDA Support Services and selected customers to acquire, test, and then apply these patches to both test and production environments. An emergency patch may be placed directly into production without customer's prior approval. Not all customers will have an opportunity to test a patch before it is applied.

JDA Cloud Services will notify customers and schedule patches in regular maintenance windows to minimize disruptions.

Note: During patch application, the system will be unavailable for use.

Database refreshes and copies of the database

Customers may request a copy of the production database be copied to either test or development once per month as part of the service (a database refresh). These database refreshes are a complete refresh of the database, partial refreshes are not supported. Additional or partial refreshes may be arranged for an additional fee.

To the extent data can be exported from the UI such data can be obtained by the Customer at any time. A copy of the full database may be requested and provided to Customer for an additional fee. This full copy may request special media depending on the size of the database. The data export will be provided, provided there are no restrictions placed upon it by Customer, JDA or any affected 3rd party.

Cloud delivery review

The Cloud Delivery Report (“Report”) is developed by JDA and reviewed by JDA and provided to the Customer during quarterly via email to the identified contact in the protocols and procedures document. The Report provides information, subject to the terms of the SOW, about the delivery of the Cloud Services provided by JDA. JDA, working with the Customer's management team, maintains and distributes the Report. The format of the Report (types of information included, layout of the form, etc.) may be updated periodically.

Customizations and modifications

JDA solutions are very flexible and allows for many different configurations and data models with no special customization needed. Standard interfaces provide access to and from system data. We find that this level of configurability meets most customer needs with no specific customization.

JDA Cloud Services reserves the right to determine whether any customization or modification is allowed or not. If a customization or modification is allowed, it is always subject to the enhancement and Change Management processes and always requires an additional fee.

Specific Scope for JDA Stratus for Category Management

Category	Feature	Included	Key Notes
Environments			
	Number of Environments	2	Production and Test
	Concurrent users	10	
Operational			
	Planogram volume/year	80,000	
	Planograms generated per run	15,000	
	# of categories	5	These categories are decided at the start of the program and will not change frequently
	# of years of history	3	
	# of images	10,000	
	MS Visual Studio licensed users	2	
	# of products	10,000	Including all categories
	# of stores	4800	
	# of interfaces	3	Stores, Product, Aggregated sales
	Oracle Standard Edition	Y	
	MS Excel	Y	
	Citrix	Y	
Modules			
	JDA Category Knowledge Base	Y	
	JDA Planogram generator	Y	
	JDA Space Planning	Y	
	JDA Space Automation Professional	Y	
	JDA Floor Planning	N	
	JDA Category Advisor	N	
	JDA Assortment Optimization	N	
	JDA Web Publisher	N	

	JDA Planogram Exchange Management	N	
	JDA Products and Images (PIIX)	N	
	JDA Planogram Convertor	N	
	JDA Open Access	N	
	JDA Category Knowledge Server	N	
	JDA Image Server	N	
Other Scope variables			
	Sales data in aggregated format	Y	UPC, stores, sales
	Development, Testing, Defect Fixing of custom scripts	N	
	Sales/Performance Import	N	
	Aggregation of sales data	N	