

# Cloud Services Guide

(formerly Managed Services Guide)

JDA® Cloud Services

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## 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.

In the JDA Cloud Services solution delivery model, upgrades and patches are managed and facilitated by JDA Cloud Services, ensuring that your solution remains up to date and that you have access to the most recent and stable versions of the software. In addition to providing application and infrastructure maintenance, our deep product knowledge married with extensive customer interaction and experience across the wide-ranging JDA customer base ensures that you are implementing best practice solutions for your industry.

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 Guide contains the processes and procedures, responsibilities, and the means of interaction for both JDA Cloud Services and JDA Cloud Services customers. This guide 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.

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 Service and 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

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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.

Each customer will be assigned a JDA Cloud Services Cloud Delivery Manager (CDM). The [CDM](#) works closely with the customer to ensure continuing success with the JDA Cloud Services engagement.

### **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:

- Specific to SaaS offerings:
  - o the [Service Level Objectives](#) table for Security Management and the subsection for [Security Management](#) are updated to clarify management of security patches and timelines are jointly determined by JDA with Customers
  - o references to Service Request are changed to Incident to comply with ITIL standards in [Service Level Objectives](#) table
  - o the formula for uptime percentage for [Availability Management](#) is updated to be clearer. The calculation has not changed.
  - o the Change and Incident Management section is renamed to [Service Request and Incident Management](#) to comply with ITIL standards. There is no change in services.
  - o More details are added under [Software Updates](#) section to explain the technical upgrade policy.
- ISO17799 reference is updated to ISO 27001, which is the current standard.
- The **Standard Network Architecture** diagram is updated under [Network setup and management](#) section to be clearer. There is no change in services.

## 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. Your [CDM](#) can help you through this process to ensure that you are deriving the expected value by using the JDA solution.

### 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. This environment is also used to perform performance baseline and benchmarking exercises.

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.

JDA Cloud Services personnel will be responsible for performing database refreshes, taken from the customer's production environment, to facilitate testing and validation with the customer's own data. The customer should request a database refresh at least 48 hours in advance of testing requirements for data refresh. Unlimited database refreshes are permitted each month once a customer has moved into production mode.

These refresh activities may be performed during normal business hours to facilitate the availability of JDA operational resources. Activities scheduled during normal business hours will be coordinated with the customer to minimize the impact to ongoing testing and development activities.

#### Development environment

A Development environment is provided 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 generally smaller in size and support fewer users and less data. Development environments are not intended for use for benchmarking or performance testing.

#### Cloud Launch

A standard Cloud Launch (formerly Implementation Lab) consists of a single environment which can be used for different purposes such as QA, development, proof of concepts, etc. as required by

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customers requirements. This environment includes most third party licenses including Oracle or SQL server database licenses but does not normally include Oracle WebLogic licenses.

Cloud Launch environments are suitable for most uses, but due to the underlying infrastructure are not normally good environments for performance testing. Please work with your Cloud Services Account Manager or CDM if performance testing is required.

Cloud Launch environments are not suitable for production usage. Customers may not utilize them in a production mode.

All standard processes and procedures for non-production environments apply to Cloud Launch. Those areas which are different will be clearly identified in your Cloud Services Statement of Work (SOW).

### 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.

### Review current environment

JDA Cloud Services carries out a review of any current customer requirements and operating environments. This activity is undertaken to ensure a correct level of resource availability and accurate pricing of the cloud services solution is provided.

This review includes:

1. Sizing survey to be filled out by customer describing key metrics such as:
  - a. number of users
  - b. type of usage
  - c. functionality to be implemented
  - d. workload and transaction volume to be processed
  - e. integration requirements
  - f. test and development environment requirements
2. A customization survey to review any requested customizations
3. Interactive sessions to review the information provided and resolve any follow up questions
4. A sign-off process to verify that the customer's information and JDA's understanding of the information is correct

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## 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 (applicable only for Cloud Perform - Hardware and Software Administration service):**
  - o Dedicated or solution specific hardware
  - o Any third party software as required to run the JDA Solution
  - o Increase capacity for any shared services infrastructure including monitoring, backup, network bandwidth, and access/security management
  - o Server Operating System Licensing and Environments
- **Configure the servers:**
  - o Install and configure the environments on the servers
  - o Configure the server operating system
  - o Install and configure all other third party software components
  - o Set up servers on JDA hosted solutions network
- **Communications:**
  - o Assist customer in the establishment of communications between the servers on the JDA network and the customer network
  - o Prepare the servers for connection to the customer network
- **Daily system maintenance and archival:**
  - o Manage administration of data files
  - o Develop and schedule system archives of data files, software, and database as required to support the implementation team
- **Define and develop backup procedures:**
  - o Data extract files
  - o Output files
  - o Operating System
  - o Database
  - o File System
- **Prepare recovery plan:**
  - o Identify hardware support/maintenance
  - o Describe operating system recovery
  - o Describe application software recovery
  - o Define process for database recovery
  - o Establish MTTR (Mean Time To Resolution Metrics)

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- **Data:**
    - o Make available a shared secure [FTP](#) or [AS2](#) server for receipt and delivery of data files
    - o If appropriate, establish EDI processes and procedures to on-board any EDI partners.
  - **Documentation:**
    - o Creation of a Protocols and Procedures packet, which includes:
      - Daily operating schedule
      - Authorized points of contact
      - Data communication processes
      - File formats
      - Change authorization
      - Communication protocols
      - Exception management
      - Escalation procedures

**Note:** The final Protocols and Procedure document is made available before go-live of the project. The document is updated throughout the relationship between the Customer and Cloud Service to reflect any changes made to points of contact, infrastructure, or job processes.

## 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 a 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

Standard cloud services agreements provide three environments: Production, Test, and Development unless otherwise indicated. Development environment is typically setup early in the Design phase and can be used for project team unit testing and "test driving" design elements. The Test and

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Development environments may be smaller than production environments and may share hardware and software resources, but identical software will be available. Software access will be made available to named users in both the environments. Access to various systems may differ depending on user and role in the implementation.

Once the environments are available, the implementation team in coordination with JDA Cloud Services can configure the solution. For multi-tenant solutions 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 Test environment ready for the Validate phase primarily used for System Integration Testing (SIT) & User Acceptance Testing ([UAT](#)).

**Note:** For a Cloud Launch (formerly Implementation Lab), only one environment is provided for either test or development purposes.

## Systems integration testing (SIT)

System Integration Test (SIT) is a complex process that involves the Customer and 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.

The successful execution of the system test and integration test cases is an activity owned by implementation team. Performance and volume tests will be performed by implementation team to validate whether the developed solution delivers acceptable performance and scales to the requirements for a production environment. The results are tracked and logged. If the test fails, if the issue resolution is within the scope of the project, Implementation team will make repairs and the environment is re- tested. If fixing the defects is not in the project scope, the project change control process is followed. When satisfactory test results are achieved, the Technical Specifications are reviewed and updated as necessary. The test results are shared with the Customer, approved and signed-off.

In the Validate phase of project, during SIT it is expected that performance (UI and batch), batch testing, and benchmarking of the solution will be performed with the same volume and system load that will be present in the future production system. The objective of this testing is to evaluate system responsiveness, identify bottlenecks, opportunities for improvement, and ensure appropriate system tuning is conducted to promote the long-term stability and performance of the solution.

It is expected that performance and batch testing be executed primarily by 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 document.

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## 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 include 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 backup strategy as part of our standard Cloud Services offering to help keep 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 a data retention and purge policy that complies with legal and company reporting requirements. During the Design phase, implementation team and customer will define and agree to those requirements and document them in the solution and technical design. Implementation team will 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

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- Providing access to internal resources that can provide information about existing systems
  - 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 in the Cloud Services SOW. Examples may include database software, distance engines or rating engines.

### **JDA responsibilities**

- Assigning Cloud Delivery Manager (CDM) to each customer
- 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 implementation team (either JDA Consulting Services or a 3rd party implementer). 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. Customer 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 by your CDM. 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 incidents/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. During go-lives or UAT,



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customers in the implementation phase can be placed on high alert so that JDA Cloud Services can prioritize incidents for such customers.

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 with 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:

1. User Acceptance Testing ([UAT](#)) is completed and signed off
2. Production environment is isolated, cleaned, software installed and prepared for go-live
3. Production interfaces are fully tested and verified
4. The Operations Schedule is documented and signed off
5. 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
6. Cutover day project plan is published and signed off by customer and JDA Cloud Services
7. Access to Cloud Services environment is verified for all users
8. Customer has been briefed on the use of the Service Cloud portal log-in credentials and the User Guide
9. 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

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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.

Customers qualified Super Users/Administrators manage and are responsible for the functional configuration of the solution and for the functional support to the Customer's end users. 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. Monthly metrics are tracked, recorded and presented, via the [CDM](#), to the customer. Regular contact with the [CDM](#) ensures that JDA solution is being used to its highest levels.

All operating processes are operating normally.

## 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

For those situations where customization is desired to support a customer's business process that is not part of the standard software, JDA is happy to provide the customization services needed. Customizations are a billable activity, and the CDM (or implementation team project manager if identified during the Implementation) will work with the Customer to scope and cost these activities. Customizations and modifications are always subject to the enhancement or Change Management processes. Customizations and/or modifications generally fall into the categories listed below.

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## Customizations under 8 hours

JDA Cloud Services generally includes customizations that are under 8 hours of effort (including research, design, development and testing) as part of the service. In prior versions of the Cloud Service there was no limit on the quantity of these services.

**Note:** JDA Cloud Services does not provide any customizations to the standard product code. Changes to the standard product code are always chargeable and JDA reserves the right to determine whether such modifications are allowed or not.

Effective from version 5.0 of the guide and forward for Customers who sign new agreements or renew existing agreements the free customizations will be limited to 40 hours per month. This time is not cumulative and resets each month.

## Extensions

Customers sometimes find that their specific business process requires additional data fields and/or additional business logic. JDA Cloud Services will create these extensions using appropriate tools, such as JDA's [ABPP](#) platform, and provide them in association with the standard product. Extensions require additional maintenance and, if using ABPP, an ABPP license fee to provide support and upgrade maintenance compatibility with future versions of the standard software.

## Modifications

JDA Cloud Services provides modifications in support of those few cases where existing logic does not model the exact business process for a customer. These modifications include PL/SQL, infrastructure scripts, and business logic. When code changes are required, the [CDM](#) will work with appropriate JDA teams to provide a quote on changing the licensed software.

**Note:** Changes to code are not always acceptable to JDA and each change request is considered individually.

## Integrations and integration workflows

Standard input/output interfaces and documented [API](#)'s provide flat files or [XML](#) documents which can be used to facilitate standard integrations. JDA Cloud Services can create custom integration workflows and data mapping in those cases where the standard format either lacks information or is incorrectly formatted for acceptance in customer's or third party legacy systems.

## Exit strategy

Within thirty days after the end of the Cloud Services Term, upon Customer's written request, and provided that Customer's account balance is current (including any termination fees due as a consequence of early termination), JDA will promptly return Customer's data to Customer on JDA standard media.

If the 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 include:

- Review configuration of the JDA application and database with Customer and provide information of same.
  - Participate in a transition meeting and agree upon schedule for transition activities.
  - Provide up to three (3) database exports for use by Customer in transition in a mutually agreed upon and JDA Supported format.
  - Provide copies of existing information used for operation of the Customer's solution at JDA.
- Examples of information shared with customer:

- 
- o Architecture diagram
  - o Solution stack component version inventory
  - o Configuration settings for the application and database
  - o Data movement
  - o Batch schedule
  - o Backup schedule
  - All data will be destroyed 30 days after the termination of services.

Additional services are available on a Time and Materials basis at then current JDA rates.

## 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

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

A customer's main point of contact for JDA Cloud Services is always their [CDM](#). The [CDM](#) can coordinate activities, help answer questions, and point the customer to the right resources within 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.

### JDA Cloud Services responsibilities

For a new installation agreed upon and licensed JDA software modules will be installed onto the server. This includes database software, JDA software, and any third party software required.

JDA Cloud Services will install software versions agreed upon with customer. Any non-certified versions will only be installed with approved customer management signoff and may reduce service levels. In multi-tenant environments, JDA exclusively determines the type and version of software which is installed.

JDA Cloud Services will perform initial verification and testing of the software release version to verify backwards compatibility with existing customer solution configuration and customizations. This may include limited regression testing of customer workflows. In all cases, customers are required to determine the amount of testing considered acceptable and to perform this testing before authorizing new software to be released to production.

### Customer's responsibilities

Customer is responsible for the following when testing a new version upgrade:

- Active participation in the upgrade planning process to help identify training and testing needs as well as scheduling and communication
- The customer designated contact creates a service request requesting a particular update to be applied

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- Any required modification of customer side data extracts or imports routines from or to the customer's or trading partner's data systems
  - Determining, documenting, and testing appropriate and best use of any new fields or functionality for customers business and business processes
  - Communication, training, documenting, and rollout to end users and trading partners
  - Testing and approval of all batch job or script changes
  - Full regression and user acceptance testing of all integration, performance, and functional workflows applicable to the business solution

JDA Cloud Services and Customer will jointly make the Go or No Go decision in relation to software version upgrades based on the outcome of the testing performed by both parties.

## 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.

JDA Cloud Services Processing Services are designed to operate and run your solution in best practice fashion so as to ensure optimum service levels and risk management. In addition to the operation and management of your solution your [CDM](#) is available to explain all protocols and expected time frames.

## System administration

Customer will be notified for any disruption in service by their assigned [CDM](#).

The following list describes the processes executed by JDA as required to support the maintenance and administration of the JDA system:

- Changes to the database schema (e.g., user defined fields)
- Physical and logical organization and structure of the database, application, and system files
- Monitoring of systems and servers
  - o Support Technician is alerted proactively if system related failures occur
  - o Designated client contact is notified of system failure

## 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:
  - o Alerted to JDA Cloud Services and Customer based on pre-determined contact lists
  - o Logged in on-line tracking tool
  - o 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:

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

### **Process for testing interfaces and jobs**

During the implementation phase, prior to go-live, JDA Cloud Services will work closely with the implementation team to determine that all interfaces have been unit tested and can be invoked and maintained via the cloud services batch framework.

Once the environment has been put into production, customer may schedule/request additional testing and modifications with Cloud Services. Any work to extend or modify the solution interfaces will be done on a Test or Development environment. All requests to add, extend, or modify the solution interfaces are subject to JDA Cloud Services change management and enhancement processes. JDA Cloud Services will await customer feedback before promoting the change to Production.

### **Standard processes for integration**

JDA Cloud Services recognizes that there are many different methods of integrations employed by our customers. These include but aren't limited to file exchange, business integration tools, scripted interfaces and direct database links.

JDA Cloud Services can generally support any type of standard integration method. VPN connections allow for direct access for integration tools or scripts. File transfer is handled via AS2 or SFTP.

When direct integrations are requested, JDA Cloud Services will require an agreed upon protocol for ensuring the direct access does not affect production SLA's. Where possible, staging schemas should be used to isolate external activity from the production schema. When that is not possible, very specific rules regarding timing and processing can help manage this process. In some cases, however, direct interfaces may limit what is considered in scope for inclusion in SLA's for performance and availability.

Regardless of method, integrations are common to every customer and we strive to ensure the process is easy, reliable and clearly managed.

### **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](#).

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## 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.

## 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.

## 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	
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.	<p>When a critical batch job fails, JDA Cloud Services will:</p> <ul style="list-style-type: none"> <li>• contact the customer at the contact information provided, including after hours as appropriate</li> <li>• contact appropriate JDA resources to troubleshoot the incident, as needed</li> <li>• develop a plan for resolving the incident including work-around processes until the actual incident is resolved</li> <li>• contact third party vendors if and as needed</li> <li>• provide regular customer status updates</li> </ul>
High	The customer is contacted at the start of normal business hours.	<p>When a high batch job fails, JDA Cloud Services will:</p> <ul style="list-style-type: none"> <li>• contact the customer at the contact information provided</li> <li>• contact appropriate JDA resources to troubleshoot the incident, as needed</li> <li>• develop a plan for resolving the incident including work-around processes until the actual incident is resolved</li> <li>• contact third party vendors if and as needed.</li> <li>• provide regular customer status updates</li> </ul>
Medium	The customer is contacted only during normal business hours using the normal contact information.	<p>When a medium batch job fails, Cloud Services will:</p> <ul style="list-style-type: none"> <li>• contact appropriate JDA resources to troubleshoot the incident, as needed</li> <li>• contact the customer at the contact information provided</li> <li>• develop a plan for resolving the incident including work-around processes until the actual incident is resolved</li> <li>• contact third party vendors if and as needed</li> <li>• provide regular customer status updates</li> </ul>

Level	Action	
Low	The customer is contacted via automatically generated notifications.	<p>When a low batch job fails, Cloud Services will:</p> <ul style="list-style-type: none"> <li>• contact appropriate JDA resources to troubleshoot the incident, as needed</li> <li>• 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</li> <li>• resolve the incident</li> <li>• 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</li> </ul>

## 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 extend service outage. By default JDA Cloud Services does not have a committed time for recovery from catastrophic events. 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 organizations 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:

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## Standard

- RTO - Commercially reasonable efforts to recover the production environment. Estimated RTO for most solutions is 7 days.
- RPO – Targeted to 48 hours
- Backups are stored off primary site and on tape in secure storage
- No dedicated hardware is waiting but:
  - o Test hardware will be re-used
  - o Spare hardware put into place
  - o 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

- RTO – 48 hours
- RPO – 48 hours (also available in 2 hours and 1 hour)
- 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

- RTO – 8 hours
- RPO – 8 hours (also available in 2 hours and 1 hour)
- 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 with the assigned [CDM](#)
- 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
- Pre-Agreed Schedule of outages for system maintenance, expansions, and modifications during hours that meets the operational needs of the customer and minimizes disruption
- Protection of the integrity of the customer's field customization and system configurations via sufficient control and archival
- 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 [Acceptable Use Policy](#).

## Incident and service request reporting and resolution process - post go-live

JDA Cloud Services Response Center provides access via phone, and the Service Cloud portal for opening incidents, service requests, requesting changes, and providing feedback. Each customer receives detailed instructions on how to interact with JDA Cloud Services for these requests.

### Incident resolution and service request fulfillment process

A standard resolution process is followed for all incidents and service requests. The general steps followed in the resolution workflow include:

1. Opening a ticket (phone, or Service Cloud portal application) and including all of the important information about the incident
2. A Cloud Services analyst investigates the incident and completes any research
3. All levels of support may be involved in the resolution depending upon the complexity of the incident or request
4. Final resolution and providing the information to a central repository

Each step in the workflow has status codes and assigned individuals to help indicate the current status. Resolution and timing is the focus for customer satisfaction.

If a system or application fix is required to resolve the request and a workaround is available, the customer will be contacted for their resolution preference. If the resolution achieves a steady state and is acceptable, the fix will be included in the next patch or release. It is possible the fix may require substantial resources and time, so it will be included in a major patch or release.

<b>Severity 1 – Critical Impact</b>	
Definition	Business standstill with no work-around or incidents which prevent a customer from proceeding with a major, mission-critical process that is vital to the daily operations of the business.

<b>Severity 1 – Critical Impact</b>	
Response Time	20 Minutes
Status Update Time	Every 1 Hour
Resolution/ Workaround/ Downgrade Time	4 Hours

<b>Severity 2 – High Impact</b>	
Definition	Business critical incident with no feasible work-around or incidents which cause a serious disruption but do not necessarily impede the business from running. Renders major functions unusable, key business operational functions cannot be performed.
Response Time	60 Minutes
Status Update Time	Every 2 Hours
Resolution/ Workaround/ Downgrade Time	14 Hours

<b>Severity 3 – Medium Impact</b>	
Definition	Non-business critical incident where a complex work-around exists. Individual system function unusable or renders minor system function unusable
Response Time	24 Hours
Status Update Time	As required
Resolution/ Workaround/ Downgrade Time	7 Days or Mutually agreed time interval

<b>Severity 4 - Low Impact</b>	
Definition	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.
Response Time	24 Hours
Status Update Time	As required
Resolution/ Workaround/ Downgrade Time	Next scheduled Release or mutually agreed time interval

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## Definitions

Category	Description
Severity	Severity is used to identify relative importance of incident, problem and change. It is based on impact and urgency. Severity 1 designates highest importance.
Response Time	The time between ticket creation and the acknowledgement of the incident by JDA Cloud Services.
Status Update Time	Interval of status updates and communications regarding the state of the work effort.
Resolution/ Workaround/ Downgrade Time	The time for an incident to be resolved or a suitable workaround provided to normalize functionality or sufficient to downgrade an incident to medium or low impact.

### Critical incident process

JDA Cloud Services has implemented automated, internal escalation procedures as needed for all severity 1 and 2 incidents.

If an incident is Severity 1 - Critical Impact, the following process will be followed:

1. The incident must be logged into the tracking system with a critical severity.
2. JDA Cloud Services is notified of the incident followed by triage.
3. A director or vice president is notified within 8 hours of the incident being reported.
4. The incident is worked 24 hours a day, seven days a week until it is resolved or downgraded.
5. The customer identifies a contact to remain available to assist in the troubleshooting and resolution process. This contact must be available 24 hours a day or resolution may be delayed.
6. Hourly/Detail communication is established to review the progress of the incident.
7. The support, engineering, and implementation teams are also notified as appropriate to assist in the resolution.

### Problem management process (root cause and permanent fix)

JDA Cloud Services thrives for continuous improvement of our 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.

### 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, 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

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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.

## Enhancement request process

Enhancements to the JDA Software or the JDA Cloud Services Solution typically involve the following process:

- Request for enhancement is made in context of required functionality and business reason
- Request is reviewed by the product or solution owners on the JDA side
  - For example,
    - o JDA Software will be addressed by the Product Management team
    - o Integration mapping will be addressed by JDA Cloud Services
- Enhancements are subject to being refused
- Enhancements are potentially billable

Enhancements delivery schedule may or may not coincide with customer timelines.

## Patches and upgrades

JDA Cloud Services keeps customer software updated with patching and upgrades. In order to support this process, JDA Cloud Services will coordinate updates for test and production environments with the customer.

JDA Cloud Services will review different types of patches and upgrades with the customer to define severity and priority during the implementation phase and at the start of the go-live process. These rules will be the guidelines used for both which patches are selected for testing and implementation and which maintenance window they are targeted for.

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## Patch process

JDA Cloud Services works with the Customer and the implementation team staff member to maintain the source check out and migration documentation to move new or modified code into the customer's production environment.

JDA Cloud Services will work with team members to maintain the migration document with the JDA associate assigned to the project, requester, and customer's tester contact information for the project.

Once the testing and verifying of data and functional specifications are verified by the customer, JDA Cloud Services will work with the customer to schedule the migration of the new or modified programs, physical or display files, menus and message files involved with the project into the production environment.

Special instructions for the code changes will be passed on to the operational staff to be include in the customer's operational check list.

JDA Cloud Services separates patches based on whether they are non-critical or pro-active, critical or security patches, or software upgrades. JDA will review these categories with the customer and establish agreed upon response plans.

## Non-critical patch process

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. Although there will be exceptions to the rule, the following describes the process and ideal time table for non-critical patches to the Production system.

### Test patches

The JDA Cloud Services team will apply non-critical patches to a test system environment to investigate the impact on these systems and database applications. If they do not adversely impact the system, these patches to the test environment will be applied to the Production system. If any patches adversely impact the test system, the JDA Cloud Services team will contact all pertinent parties to discuss how to proceed.

### Move to production

Before JDA Cloud Services applies patches to any Production system the JDA Cloud Services team will open up a ticket and create a change management form for the non-critical production patch. Notification of the patch will be announced to pertinent parties and approval requested. The typical process is:

- A plan on how to proceed will be developed with customer.
- A contingency plan will be put in place in case of any unexpected incident.
- JDA Cloud Services team will notify system users of these system outages and any changes affecting the use of system.
- The system will be taken down and a backup created of any critical installation or database data.
- Patches will then be applied to the Production system in accordance with the JDA Cloud Services team time line.
- The system will be brought back on line but not be available for users.



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- Testing will occur on the upgraded environment to ensure functional equivalence.
  - If all tests pass, the system will be brought back online for users.
  - If any test fail, the patch will be backed out and the system will be brought back online for users

Typically the time frame for non-critical patches is on a quarterly basis. Quarterly maintenance windows will be defined in your operations schedule and are generally the last Saturdays of a month. The Cloud Services team will notify all pertinent parties of the progress of the Service Request throughout the process. The Cloud Services team will maintain the Service Request and the Change Management record for later reference.

## **Critical and security patches process**

JDA Cloud Services will apply critical / security patches in a timely manner as they are agreed to be reliable, and fit within the standard Cloud Services environment. Although there will be exceptions to the rule, the following describes the process and ideal time table for critical / security patches to the Production system.

### **Test patches**

Cloud Services team will apply critical and security patches to a mirrored test system to investigate the impact on these systems and database applications. If they do not adversely impact the system, these patches to the test environment will be applied to the Production system. However, if the patches adversely impact the test system, the JDA Cloud Services team will contact all pertinent parties to discuss how to proceed.

### **Move to production**

Before JDA Cloud Services applies patches to any Production system the JDA Cloud Services team will open up a ticket and create a Change Management form for the critical production patch. Notification of the patch will be announced to pertinent parties and approval requested. The typical process is:

- A plan on how to proceed will be developed with customer.
- A contingency plan will be put in place in case of any unexpected incident.
- JDA Cloud Services team will notify system users of these system outages and any changes affecting the use of system.
- The system will be taken down and a backup created of any critical installation or database data.
- Patches will then be applied to the Production system in accordance with the Cloud Services team time line.
- The system will be brought back on line but not be available for users.
- Testing will occur on the upgraded environment to ensure functional equivalence.
- If all tests pass, the system will be brought back online for users.
- If any test fails, the patch will be backed out and the system will be brought back online for users.

Typically the time frame for critical patches is on a weekly or monthly basis. Weekly and monthly maintenance windows will be defined in your operations schedule and are generally Saturdays. Due to their critical nature, critical patches may require an immediate implementation to avoid data loss or a security breach. Customer will be notified immediately and the earliest time available will be used to apply the patch. The JDA Cloud Services team will notify all pertinent parties of the progress of the

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Service Request throughout the process. The JDA Cloud Services team will maintain the Service Request and the Change Management record for later reference.

## Solution patches

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 prevent possible incidents. These patches will be coordinated with the customer.

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

## Cloud Technical Upgrade Policy

As a component of Cloud Services, JDA will implement one software upgrade per year. 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. Your CDM will work with you in determining the cost involved.

It is recommended that customers opt for software upgrades at least once every 3 years. This will provide the latest capabilities of the software and also ensure underlying hardware version is in support by third party vendors. There will be a cost associated with upgrades of older versions of the software which will be as follows:

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

This will apply to contracts signed after release of version 4.0 of this guide. Cloud Services will provide the following services:

- Upgrade of hardware as required to support the new version
- Upgrade of operating system, database, 3rd party components as required to support the new version. Migration of database to new version
- Testing 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

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- Non-custom scripts including:
    - o JDA Reporting
    - o Integration scripts for loading IGP tables
    - o Integration scripts that extract data to return to customer
    - o 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.
    - o Agile Business Process Platform (ABPP) workflows
    - o 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 of JDA software that has undergone significant architectural changes. Your CDM will notify you if an upgrade requires significant architectural changes and hence additional fees. Examples include:
  - o Client server to thin client technology
  - o 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:
  - o Custom code using standard programming languages that extend a JDA application such as MMS, WMS, ESO, etc.
  - o 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

## Test new functionality

One significant advantage of using JDA Cloud Services is that the latest software will be available on a regular basis. As implementations continue beyond their initial scope, and as software upgrades are applied that provide new functionality, additional feature function may be rolled out to users.

The [CDM](#) can provide help and insight on how to get the most from your JDA solution and services. Implementation of the feature function is the responsibility of the customer. JDA Consulting Services will be happy to help provide implementation support and provides the most knowledgeable resources on JDA software.

JDA Cloud Services will provide the technical service changes needed to implement new feature function. Examples of this include adding batch jobs to the operational schedule, adding new imports or exports for interfaces and applying security changes for application access.

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## Changes in modeling or implementation choices

From time to time customers find they need to change the way they have implemented data, setup product switches or change their batch jobs. JDA Cloud Services will provide the service changes needed to implement these changes. Examples of this include adding additional batch jobs, or changing the order of batch jobs.

If changes in modeling or implementation create new requirements for customization they are considered separately billable activities.

## Availability

JDA Cloud Services provides high availability and high accessibility.

## Maintenance windows

During the initialization phase JDA Cloud Services and the customer will establish mutually agreed upon 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 without approval.

## Service level

JDA targets the achievement of an average monthly uptime of 99.5% or better. This uptime does not include any regularly scheduled maintenance windows or customer requested interruptions to service or interruption to service by factors that are beyond the control of JDA Cloud Services.

## Change control

The following guidelines are used to maintain system integrity and versioning of changes:

- Operating System Configuration
  - Documented procedures are followed to install and set up the operating system, security, and account information to secure the server
- All requests by customer are logged into the on-line tracking system as Service Requests and must be approved by a pre-determined customer contact and JDA contact
- Audit logs are maintained including versioning of changes, user ID, date, and time
- Only JDA technical staff can perform changes

## 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

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- 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
- All data and servers are housed in a JDA managed or directly subcontracted data center
- 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
  - o Valid badges are required for any external door during off-hours
  - o Valid badges are required for access to any floor
  - o Lost, stolen badges, or badges for employees leaving the company are immediately deactivated
  - o Access is limited based on an Access Control List
  - o Only a limited number of people have access to the data center
  - o Access to the data center must be approved by a Senior Manager or above
  - o All pass card access activity is logged
  - o 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.
  - o 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.
  - o Network Level: Separate network configurations with encryption and IP filtering.
  - o Software Level: All access to customers networks is limited to authorized users based on the rules listed below.

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- 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.
    - o Network Administrators: Only users allowed access to network configuration and setup
    - o System Administrators: Only users allowed access to Operating System level configuration and setup. Only users allowed to create other operating system users.
    - o Application Administrators: Only users allowed access to application configuration settings via the Application Admin tools
    - o Database Administrators: Only users allowed access to the Oracle Database. Only users allowed to create other Oracle users.
    - o Network Configuration
    - o Access to network configuration tools and access points is limited to network administrators.
    - o All changes to network configurations follow established change managed procedures require pre-approval and are logged.
    - o JDA Cloud Services networks are separated from internal JDA networks and external networks with firewalls configured by the Cloud Services team.
    - o 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 hosting facilities 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 uninterrupted 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.

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## 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.

## Database exports

Upon request JDA Cloud Services will provide a copy of the production database as an export file accessed via secure [FTP](#). Two exports per year are provided free. Additional exports can be arranged through your [CDM](#).

Database exports for incident resolution or to move to test or development environments are done as needed with no additional fee.

## Network setup and management

JDA Cloud Services provides a high availability, secure network connection. The standard configuration is listed in figure 1 below.

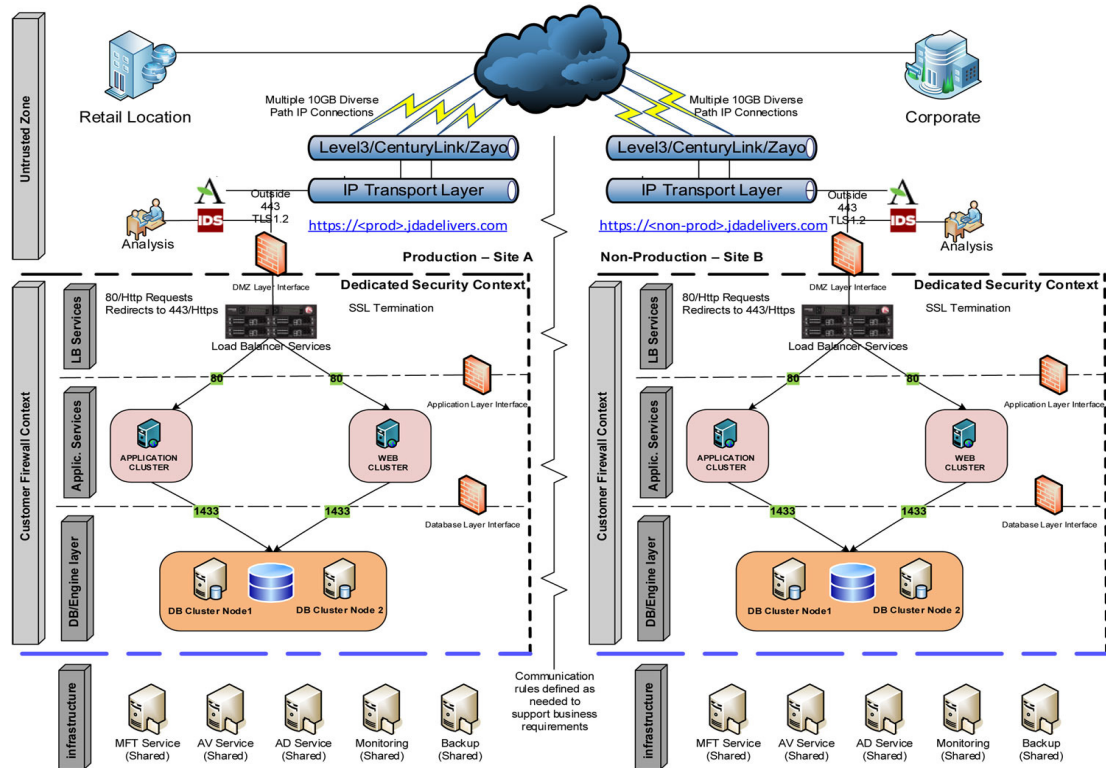


Figure 1: Standard Network Architecture

## 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 production 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.

Regular refreshes of the test environment are a normal part of the backup/restore process. If you require a test environment not to be updated for periods longer than a week then contact your JDA Cloud Services Cloud Delivery Manager. Requests to preserve the test environment must be balanced against any current open Critical or High Cases and the need to reproduce/test these cases in a test environment.

Requests for data restores outside of operational data loss may be requested at an additional cost. Please contact your Cloud Delivery Manager for more details.



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## Operations schedule

JDA Cloud Services works with each customer to generate a Roles and Responsibilities document that outlines all information related to every batch job or scheduled task being supported for the customer. This Roles and Responsibilities document lists the following information for each job or process:

1. **Time:** Details of the time of day the batch job is run. Is the batch job run once a day, twice a day, cyclic, etc.
2. **Duration:** Length of time of the allowable batch window
3. **Criticality Level:** Each job is assigned a level that defines its impact on the business, and users and which helps identify how failure procedures may be implemented. JDA Cloud Services always works to develop interim solutions to allow an incident to be bypassed or downgraded in severity. If an incident is determined to be a JDA or third party application defect, the incident is handed over to the appropriate support service to troubleshoot and implement the fix.

The levels are normally defined as:

- o **Critical** - Requires immediate customer contact even outside of normal business hours. These batch jobs must have a direct user impact or result in system downtime. These can include batch failures, batch delays that affect user access, application connectivity incidents, etc. The customer is informed the batch failed, provided an estimated time for bringing the jobs back up, and provided any available information as to why the jobs did not complete successfully.
  - o **High** - Customer is contacted once preliminary analysis of the problem is completed usually via electronic means. These batch jobs are important but do not result in direct user impact or system downtime. These can include batch failures, batch delays (processing time slower than normal or critical files needed to run the batch came in late), application connectivity incidents, etc. The customer is informed of the batch problems, provided an estimated time for resolution, and provided information as to why the jobs did not complete successfully.
  - o **Medium** - Customer is contacted once preliminary analysis of the problem is completed if the incident cannot be resolved directly, otherwise Customer is not directly contacted. Depending on the customer's business structure and customer direction, these batch failures can either be re-run immediately upon customer request or be ignored with the assumption that the next run of the batch job will correct the incident itself.
  - o **Low** - No customer contact is initiated. Typically these are batch jobs that are repeatedly run throughout the day or are completely discretionary such as a report generation batch job. Depending on the customer's business structure and customer direction, these batch failures can either be re-run immediately upon customer request or be ignored with the assumption that the next run of the batch job will correct the incidents itself.
4. **Pre-requisites:** Details of what is needed before the batch job can be run successfully. This will include information such as whether the users need to be logged out and a list of required files from the customer.
  5. **Details:** Steps included in the batch job which detail the processes the batch job will be executing
  6. **Outputs:** Details of the list of files generated for the customer after each batch job is run.

## Automatic and manual notifications

JDA Cloud Services provides both automated and manual notifications, depending on the type of incident. Additional notifications of events can be generated, either automatically or manually, if pre-agreed. The [CDM](#) will work with each customer to ensure any additional notification incidents are captured.

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## Automated notifications

JDA Cloud Services provides an automated e-mail notification system for all operational schedule items. In addition, [JDA Support Services](#) provides automated updates on changes for incidents, questions, and cases. Automated notifications generally do not require any response or feedback.

Typical automatic messages include batch job start, completion and success/failure, notifications of upcoming maintenance windows, and monthly summary metrics.

## Manual notifications

JDA also provides some manual notifications, specifically those around change requests and maintenance requests. Manual notifications generally require a response or feedback. These notifications will be sent via email to the listed customer contacts, unless the severity is high in which case both an email and phone notification will be created.

Typical manual notifications include test environment ready for testing, feedback on questions or incidents, and requests for authorization for changes.

## Management of test environments

During day-to-day operations a test environment is used for testing JDA software patches, testing third party, and operating system patches and testing new functionality. JDA Cloud Services will maintain the test environment with regular refreshes of the production database.

Occasionally customers require a consistent database for longer periods of time, especially when testing new functionality. In these instances, customer must request that the regular refresh be temporarily stopped. Both a stop and restart time must be provided. Alternatively, customer may request, through their [CDM](#), access to an additional test/development environment. The advantage of this is the customer will have complete control over the software and data in this environment.

# 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
- Technical Architect
- System Administrator
- Network Administrator
- Database Administrator
- Project Manager

### Cloud Delivery Manager

As part of the provision of JDA Cloud Services, JDA will provide a Cloud Delivery Manager (CDM) assigned to each customer account. 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 [CDM](#) is the prime point of contact for all matters relating to the Cloud Services operations.

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 Sponsor

The Customer Success Executive Sponsor is responsible for ensuring customer success by providing the highest standards of reliability, performance and customer service. The Customer Success Executive Sponsor oversees, all of the operations groups, which include the delivery teams that provide all the day to day interaction a customer has with JDA Cloud Services. The Sponsor also monitors all key metrics and acts as a point of escalation for any issues beyond the [CDM](#).

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The general responsibilities include:

- Develops and implements 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.
- Manages teams to maintain a high level of customer satisfaction.
- Interacts with customers to resolve issues with the goal of improving and maintaining positive relationships with JDA Cloud Services.
- Ensures supporting project documentation is maintained to the Cloud Services Standard.
- Manages interdepartmental relationships within JDA Software to include relationships between JDA Cloud Services and JDA Support Services, Sales, JDA Consulting Services, Product Management, and Product Development.

## Technical Architect

The Technical Architect is assigned to customers in the initial preparation and initiation phases, and provides the overall recommendations for hardware, software and network configuration. The Technical Architects have a wide range of hands on experience with JDA implementation across multiple products and business lines. The Technical Architect will also provide feedback and advice on expansion and upgrade plans as requested.

The general responsibilities include:

- Work with project team to understand and help to define project technical requirements
- Communicate system architecture and JDA policies for architectural designs ensuring product compatibilities
- Communicate solution and database interaction as it relates to the system architecture specific to the projects needs
- Diagnose business and technical expectations on a project
- Collaborate with project technical team focused on achieving project deliverable dates
- Provide guidance to JDA Support Services in responding to base technical issues
- Assess project performance, communicating appropriately to Technical Manager and Project Manager
- Provide product expertise to address technical issues at customer site
- Convert customer business requirements into conceptual and functional models from an architectural perspective
- Provide customer direction during implementation as it pertains to the portfolio/product performance, support, and maintenance
- Support, as appropriate, solution integration points

## System Administrator

The System Administrator provides day to day support for customers on system issues and the operations schedule. The System Administrator is the first line of support for all of the system related issues a customer will normally look to an internal IT department to perform.

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The general responsibilities include:

- Provides management and standards for all aspects of production systems.
- Architects solutions and sets configuration standards for servers to ensure the reliability and data integrity of each server based on business requirements
- Establishes backup schedule, identifies backup requirements and monitors daily backup to ensure system recoverability.
- Establishes implements and maintains security model for system.
- Ensures the availability and production readiness of all systems
- Works with external vendor and customer teams to resolve application, hardware and software related issues to maintain acceptable service and customer satisfaction levels.
- Maintains application and system availability to acceptable service levels.
- Sets up and manages all system related steps on a customer operations schedule.

## Network Administrator

The Network Administrator handles all aspects of the network design, setup and monitoring. The Network Administrator pro-actively configures equipment to ensure all network and network performance [SLAs](#) within JDA Cloud Services are met.

The general responsibilities include:

- Monitor networks for utilization, performance, and capacity
- Audit network design and limitations
- Perform standard Security administration tasks.
- Develop a network security strategy that will integrate with an individual customer's security strategy.
- Works with external vendor support teams to resolve [LAN](#), [WAN](#) and [SAN](#) infrastructure related issues to maintain acceptable service levels and customer satisfaction levels.
- Works with appropriate parties to define functional/technical requirements and implement LAN, WAN and SAN infrastructure solutions that meet JDA's business and project requirements.

## Database Administrator

The Database Administrator provides all direct database support including installation, configuration and tuning. The Database Administrator pro-actively monitors the database and adds or adjusts resources to ensure database performance.

The general responsibilities include:

- Perform standard database administration tasks:
- Use and implement SQL programs
- Configure database parameters
- Monitor database performance and capacity
- Perform database tuning
- Perform security administration
- Migrate databases
- Perform Database backups
- Create shell scripts to manage database

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- Contribute to systems documentation

## **Project Manager**

The Project Manager provides direct management and oversight for our Center Of Excellence operations. He is the main point of contact for all remote operations teams, and works closely with the CDM.

The general responsibilities include:

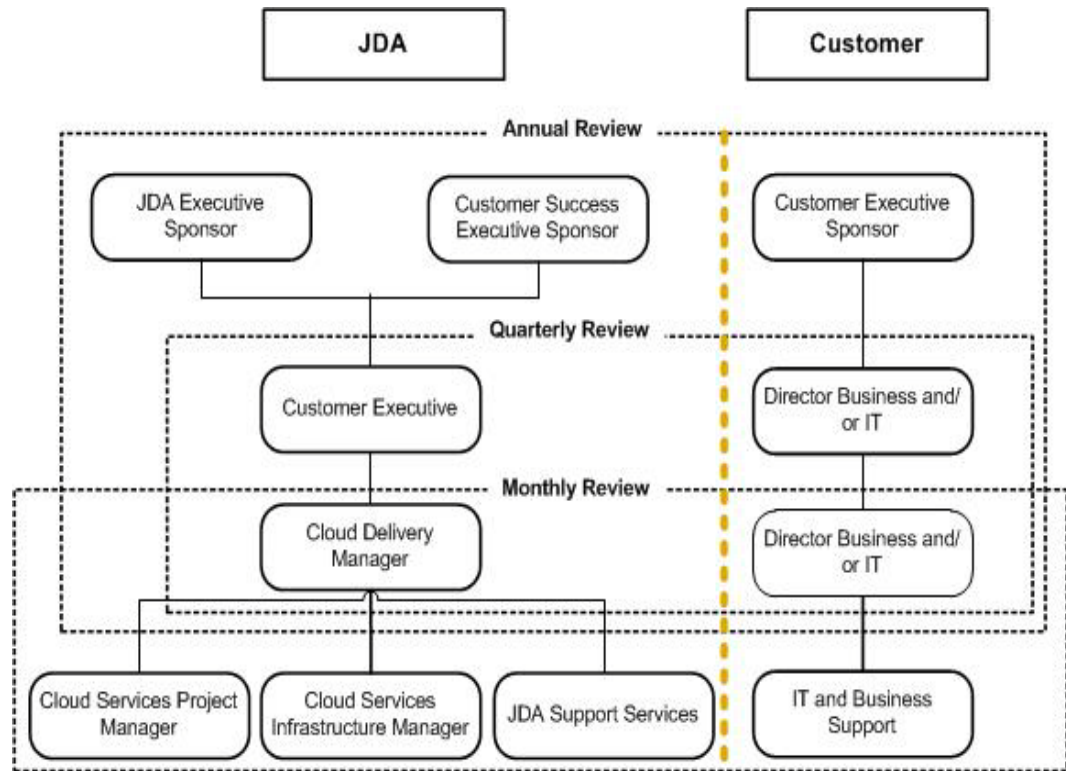
- Leads the team to achieve a high level of customer satisfaction, team morale and operational results.
- Acts as a focal escalation point within JDA Cloud Services.
- Conducts strategic planning, including use of metrics and interaction with Team Leaders and other groups to help identify opportunities 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.

## **Organization**

JDA Software, Inc. will support the JDA Cloud Services program using resources from the [Implementation team](#) group within JDA Software.

The JDA Cloud Services program is supported by two divisions from within the JDA Services group, JDA Consulting Services group and the JDA Cloud Services group.

Governance instances will meet at regular intervals to be agreed to in the Protocols and Procedures document to review operations and resolve any on-going challenges. An example of such instances is described in the diagram below:



## Monthly reports

Reports will be provided monthly to all JDA Cloud Services customers and reviewed with their assigned CDM.

The report follows a standardized SLA reporting template that contains:

- incident and problem tracking summaries
- change management summaries
- availability and performance metrics
- [SLA](#) metrics

The [CDM](#), working with customer, will ensure the monthly reporting provides the information required to measure all metrics.

## Chapter 6. Cloud Perform

### Hardware and Software Administration vs. Software Administration - @Customer or @Partner

The Cloud Services Guide describes the full range of services available under our Hardware and Software Administration offering. For customers who chose only Software Administration this section describes the differences.

#### Software Administration

Software Administration is the JDA service where the customer, either internally (@customer) or through a partner (@partner), manages the infrastructure and JDA manages the software. With this service, the customer maintains the network, servers and operating system. JDA manages the database and JDA application. As a general rule of thumb, if any part of the service requires actually touching the machine it must be managed by the customer. This is an SLA driven service, where JDA guarantees performance at the DB and application level, change management, application management and uptime.

The features included in Software Administration are generally those listed in this guide that do not cover infrastructure. Specifically these include the following:

- Support for technical upgrades as described in the upgrades section. All infrastructure and Operating System updates needed to support this are the customer's responsibility.
- DBA services.
- Patch and change management of the DB and JDA applications. OS level is customers responsibility.
- Performance tuning - once turned over to JDA in production, JDA will tune the DB and application as needed. All physical resources, such as I/O, Network and hardware issues are the customer's responsibility including monitoring, investigation and tuning. However, a performance SLA is not part of the provided service since too many variables are outside the control of JDA.
- Batch job monitoring and maintenance - including first level triage of interface and batch issues.
- Operating system alerts may be forwarded to the Cloud Services team for dispatch to the Customers internal administration team.
- Provide the information required for Customer to develop a Disaster Recovery (DR) plan.
- 24x7 Cloud Service Response Center for all issues and change requests
- Standard Management of Service Requests including severity definitions listed herein and in the SOW.
- Monthly SLA reporting.
- Cloud Delivery Manager.

Services which JDA must have full access to in order to provide the commitments listed are shown here. Any restriction on access to these items will result in reduction of the service provided.

- Full DBA Access.
- Full Access to the job scheduling tool.
- An automated monitoring framework provided by customer including automated notifications to JDA and access to the underlying definitions of that monitoring framework.
- Full and direct access to log files, output and input locations, scripts and other items used in the batch framework.



- 
- Full access to all documentation describing the design, setup, and configuration of the system.
  - A full knowledge transfer process, as defined by JDA and mutually agreed upon with customer.

Services not included in Software Administration are:

- [CEMLI](#) Management unless defined as a separate service in the SOW.
- Any form Disaster Recovery commitment or specific support other than providing the information needed to develop a plan.
- All physical resources, such as I/O, Network and hardware issues are the customer's responsibility including monitoring, investigation and tuning.
- Backup and Restore including software, hardware, process or monitoring.
- Provisioning, setup or monitoring of additional environments including those required for patch testing and upgrades.
- Management, monitoring, tuning or configuration of any software outside the JDA application.
- Extending the monitoring framework beyond what is implemented by the customer
- Monitoring any item manually unless explicitly defined as such in the SOW.

## Appendix A. 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

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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 Section 2.4. "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.

## Appendix B. JDA Subscription/SaaS Cloud Customers

### Cloud Services Guide Supplement for SaaS

#### General

- Location of Cloud Services. JDA reserves the right to provide Cloud Services from any JDA location, or through use of subcontractors located anywhere in the world. JDA shall ensure that its subcontractors so appointed shall comply with the terms of this Agreement as if it were a party to this Agreement.
- The Cloud Services as described in this Appendix B will be provided 24X7

#### Cloud Delivery Manager

As part of the provision of Cloud Services, JDA will provide a Cloud Delivery Manager (“CDM”) to Customer. The role of the CDM is to ensure the agreed service levels are adhered to and communications between JDA and Customer are effectively executed within the agreed governance channels. The CDM is the prime point of contact for all matters relating to the Cloud Services operations. Customer can contact the CDM at any time for guidance regarding JDA Cloud Services

JDA’s policy is to maintain the same CDM throughout the lifecycle of a Customer’s engagement. However, JDA reserves the right to change the CDM for Customer based on business or other urgent needs. If a CDM changes due to circumstances under JDA’s control, Customer will be provided with 30 days advance notice of the change. If a CDM change is required due to circumstance outside of JDA’s control, notification will be provided as soon as a replacement CDM is identified.

The Cloud Delivery Manager may:

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

#### Project Plan

If a high level project plan is provided it is indicative of the path required to meet key objectives. Following signature of this SOW; JDA and Customer will review and amend a detailed project plan confirming key requirements and develop mutually agreed upon delivery dates.

#### Disaster Recovery

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

- a. Review of JDA 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

Unless otherwise indicated, DR recovery time is based on commercially reasonable efforts by JDA to restore a production instance. These commercially reasonable efforts include a target Recovery Time Objective (“RTO”) of 7 days and a target Recovery Point Objective (“RPO”) of 48 hours.

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

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## 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.

## Web Deployment, AS400 and Citrix

When JDA Cloud Services is providing services for applications that are fully web enabled or support web based protocols then they will be deployed over Secure Sockets Layer ("SSL") or secure Virtual Private Network ("VPN") using standard browser technology. During the project implementation phase, JDA will test, with Customer, the performance of common operations and record the response times. Any issues that can be addressed through tuning, configuration, or setup will be adjusted. If performance is not acceptable and cannot be adjusted, JDA will, with Customer assistance, provide a Citrix access model for the applications.

JDA's AS400 based products are normally deployed via a VPN tunnel between JDA's network and the Customer's network. If performance is not satisfactory and the issue is found to be outside of the control of JDA then additional charges apply to Customer for JDA to deploy via Citrix or other remote access technology.

## Data Transfer Services

JDA will either make a Secure FTP or an AS2 Communications Channel 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.

## Service Level Objectives

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

Standard Type	Description of Standard	Standard
Availability Management	Unplanned Outages (0.5%) Planned Outages (3%)	99.5% uptime 97% uptime

Standard Type	Description of Standard	Standard
Security Management	Identified vulnerabilities	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
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 Problem 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 integrations in the customer environment.

## Availability Management

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

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

**(Total minutes system was actually available for the month)**

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**(Total minutes in the month – 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

## 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, the Implementation team 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 Cloud) on a copy of Customer's Production Application environment; 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 Cloud can monitor performance of the key transactions against the Baseline.

## Service Request and Incident Management

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

The 24 x 7 JDA Cloud Services Response Center is included in this SOW. Customers may contact JDA Cloud Services directly via the Cloud Services phone number, the web interface or via e-mail as per the support process documentation that will be provided at the initial setup time.



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Severity Level is defined as the classification of a Cloud Services problem 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.

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.

## Software Updates

As a component of Cloud Services, JDA will implement software updates within a mutually-agreed time after the releases are made generally available. The Cloud Services Guide provides additional details to JDA's upgrade and update policies.

Unless otherwise indicated in any SOW or Agreement, Customer and JDA agree that in order to ensure stability the first Customer upgrade should be no earlier than 6 months from the go-live date.

## Cloud Delivery Report

The Cloud Delivery Report ("Report") is developed by JDA and reviewed by Customer and JDA during a monthly cloud delivery review. 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 Report format may be updated periodically.

## Maintenance window

During the initialization phase JDA Cloud Services and the Customer will establish mutually agreed upon 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 without approval.

# Glossary

## @Customer

Another name for Cloud Perform - Software Administration Services only. In this model all the hardware, operating system software, and infrastructure is the responsibility of the customer. JDA Application Software as well as the database software is administered by JDA.

## @JDA

Another name for Cloud Perform - Hardware and Software Administration. In this model all the hardware, operating system software, infrastructure, database administration, and application administration are the responsibility of JDA.

## ABPP

The Agile Business Process Platform (ABPP) is a JDA product built to enable flexible business process management in a highly scalable transaction environment with a robust integration framework. This framework allows you to quickly develop new products and services, while adopting new business models through its rapid development, configuration capability, and extensibility. The ABPP allows you to simultaneously build data models and design workflows that incorporate complex business logic. The transaction processing capabilities of ABPP are designed to provide flawless execution that will scale with volume. It supports the design paradigms around horizontal and vertical scaling as well as smart caching policies in order to achieve high levels of performance. ABPP is also built to work in a heterogeneous IT environment and provides interoperability via standards-based integration (XML, web services, etc.).

## API

Acronym for Application Program Interface.

## AS2

AS2 (Applicability Statement 2) is a specification for Electronic Data Interchange (EDI) between businesses using the Internet's Web page protocol, the Hypertext Transfer Protocol (HTTP).

## CEMLI

Conversion, Extension, Modification, Localization, and Integration.

## Change Management

The Change Management process is used to manage and track the authorized operational changes being made in the all environments. This process is used to avoid unintended impact of changes, ensure proper visibility and communication of changes, and to enable traceability and audit of changes.

Change Requests can be raised for an enhancement, a functionality change or a configuration change. For more information contact your CDM.

## CIS Guidelines

The Center for Internet Security Guidelines. For more information see [www.cisecurity.org](http://www.cisecurity.org).

## CDM

Acronym for Cloud Delivery Manager, the JDA Cloud Services primary point of contact for help, advice, and strategy. The CDM provides real time support in resolving issues, and works closely with you to ensure continuing success with your JDA Cloud Services engagement.

## CoE

Acronym for JDA Centre of Excellence.

## 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.

## Cutover

Series of activities performed when moving from one environment to another mainly from an old production environment to a new production environment.

## FTP

Acronym for File Transfer Protocol. The protocol that allows users to copy files between their local system and any system they can reach on the network.

## Implementation team

Provides technical, functional and Project Management support for implementation and go-live.

## JDA Education Services

JDA Education Services will help ensure your employees know how to achieve maximum results through the technology and business process improvements that your company has made with JDA solutions.

## JDALearn.com

JDALearn.com is a full service website and launch pad for our back-end LMS (Learning Management System). Maintained in-house by our staff of website developers, administrators, content managers and instructional designers, JDALearn.com hosts online classes, e-learning content, scheduling, self-service payment and registration features.

## JDA Support Services

JDA Support Services provides standard and extended software support for JDA applications.

## JDAUser.com

JDAUser.com is the main web portal for all JDA Support Services interaction.

## JEM

JDA uses a global uniform approach to manage the implementation of all JDA software products. This delivery model, referred to as the JDA Enterprise Methodology (JEM), is used as the accepted best-practice services methodology in all JDA-managed software projects.

The JEM implementation processes are integrated to all JDA services teams. Representatives from Cloud Services, Support Services, Performance Engineering, Education Services, and Strategic Services contributed to the development of an entirely integrated approach. The combined process demonstrates the inputs and outputs of each team and the critical hand-off points between teams within the JEM framework.

JEM consists of seven phases: Prepare, Design, Construct, Validate, Deploy, Transition, and Evolve. The first six are implementation phases and the last one is the post-implementation phase.

- **Prepare:** The primary goal of the Prepare phase is to set up Project teams, execute the pre-design training, validate the project scope, and develop a mutually agreed upon Project Plan as the roadmap for the JDA team and the Customer team to follow. The Project Management Plan (Governance plan) is developed during this phases.
- **Design:** The primary goal of the Design phase is to determine the Customer's desired go-forward business processes, resolve any gaps between that process and the standard solution, and to reach an agreement on how to support the processes with the Functional and Technical Design specifications.
- **Construct:** The primary purpose of the Construct phase is to install the software, build the solution based on the approved Functional and Technical Design, and create a Test Scenarios document to support the Customer's acceptance criteria.
- **Validate:** The primary purpose of the Validate phase is to execute the system and business process Test Scenarios on the constructed solution to determine whether the Functional and Technical Design meets the signed-off acceptance and test criteria.
- **Deploy:** The primary purpose of the Deploy phase is to execute the deployment plan to train end users, move the validated test environment into production, and provide a sustainable foundation for self-support through change management and Go-Live assistance.
- **Transition:** The primary purpose of the Transition phase is to ensure that the production system is working smoothly with all critical incidents resolved and to execute the turnover to JDA Cloud Services and JDA Support Services. This is a business transition phase from the project environment to an operational environment.
- **Evolve:** The primary purpose of the Evolve phase is to continuously support the Customer to build a relationship of trust. This relationship will continue to provide JDA with a source of software sales revenue, services revenue, and reliable references.

## LAN

Acronym for Local Area Network.

## Middleware

Middleware is software that connects JDA Applications to each other or to other applications.

## Post Go-Live

In this stage the Production environment is ready, the implementation phase is complete and the current state moves from implementation phase to Run and Maintain phase.

## QA

The quality assurance production phase.

## SaaS

Acronym for Software as a Service.

## SAN

Acronym for Storage Area Network.

## Second and Third Digit Change

Refers to the numbering process used to uniquely identify a JDA application release. For example, moving from 7.1 to 7.2 is a second digit change and 7.2.1 to 7.2.2 is a third digit change.

## SLA

Acronym for Service Level Agreement.

## Third Party Implementation Partners

Implementation organizations other than the JDA Consulting Services team.

## Third Party Softwares

Non-JDA software required by JDA Applications.

## UAT

Acronym for User Acceptance Testing. "Real world testing" conducted in collaboration with the internal business users, IT, and other users as defined in the test scenarios.

## URL

Acronym for Uniform Resource Locator. It denotes the address of a web page, FTP site, audio stream or other Internet resource; for example, [www.jda.com](http://www.jda.com).

## VPN

Acronym for Virtual Private Network.

## WAN

Acronym for Wide Area Network.

## XML

Acronym for extensible markup language. XML describes Web content by what the content is as opposed to HTML which describes Web content as how it appears.

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