IBM **Services**

**GEMINI**

Design Document

Boeing Application Modernization POC

Document Version: v0.1

RFP Title or Client Name

Document Version Control

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date** | **Author** | **Role** | **Version** | **Comments** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Document Control Table

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Author** | **Version** | **Comments** |
| 01/07/2020 | Steven Townsend | 0.1 | Populated ‘As Is’ sections with content from Discovery |

Approvals

|  |  |  |
| --- | --- | --- |
| **Technical Design Authority** | **Name** | **Date** |
| IBM Portfolio Lead |  |  |
| Lead Architect |  |  |
| Delivery Lead |  |  |

Signoff

|  |  |  |
| --- | --- | --- |
| **Technical Design Authority** | **Name** | **Date** |
| Application Owner |  |  |
| Boeing Lead Architect |  |  |
|  |  |  |

Table of Contents

[1. Application Information​ 1](#_Toc29280458)

[1.1. Application Contacts 1](#_Toc29280459)

[1.2. Application Details 1](#_Toc29280460)

[1.3. Context Diagram 2](#_Toc29280461)

[1.4. Zoomed in Context Diagram for THOR ‘As Is’ 3](#_Toc29280462)

[2. Solution Scope Definition 4](#_Toc29280463)

[3. Architecture Overview 5](#_Toc29280464)

[4. Component Design Specification 6](#_Toc29280465)

[4.1. User Interface (UI) Specification 6](#_Toc29280466)

[4.2. User Interface (UI) Interaction Diagrams and Mapping 6](#_Toc29280467)

[5. API Model Specification 7](#_Toc29280468)

[6. Risks, Assumptions, Issues and Dependencies 8](#_Toc29280469)

[6.1. Risks 8](#_Toc29280470)

[6.2. Assumptions 8](#_Toc29280471)

[6.3. Issues 8](#_Toc29280472)

[6.4. Dependencies 8](#_Toc29280473)

[7. Architecture Decisions 9](#_Toc29280474)

[7.1. SQL Server disposition 9](#_Toc29280475)

[7.2. Security solution / mechanism for THOR Batch application 9](#_Toc29280476)

[7.3. Integration architecture with CDG systems (ADATA, SSRS) 10](#_Toc29280477)

[8. Logical Diagram 11](#_Toc29280478)

[8.1. ‘As Is’ Logical Diagram 11](#_Toc29280479)

[8.2. ‘To Be’ Logical Diagram 11](#_Toc29280480)

[9. Technology Stack 12](#_Toc29280481)

[9.1. ‘As Is’ Technology Stack 12](#_Toc29280482)

[9.2. ‘To Be’ Technology Stack 12](#_Toc29280483)

[10. Infrastructure Stack 13](#_Toc29280484)

[10.1. ‘As Is’ Infrastructure 13](#_Toc29280485)

[10.2. ‘To Be’ Infrastructure 14](#_Toc29280486)

[11. Interfaces 15](#_Toc29280487)

[11.1. ‘As Is’ Interfaces 15](#_Toc29280488)

[11.2. ‘To Be’ Interfaces 15](#_Toc29280489)

[12. Middleware 16](#_Toc29280490)

[12.1. ‘As Is’ Middleware configuration 16](#_Toc29280491)

[12.2. ‘To Be’ Middleware configuration 16](#_Toc29280492)

[13. Databases 17](#_Toc29280493)

[13.1. Databases Instances 17](#_Toc29280494)

[13.2. ‘As Is’ SQL Configuration 17](#_Toc29280495)

[13.3. ‘To Be’ SQL Configuration 17](#_Toc29280496)

[14. DevOps 18](#_Toc29280497)

[14.1. ‘As Is’ DevOps Process 18](#_Toc29280498)

[14.1.1. Application Deployment 18](#_Toc29280499)

[14.1.2. Tool used for Source Control 18](#_Toc29280500)

[14.1.3. Tool used for code/vulnerability scanning 18](#_Toc29280501)

[14.1.4. Tool used to build the application for a continuous release and deployment 18](#_Toc29280502)

[14.1.5. Automated infrastructure deployment 18](#_Toc29280503)

[14.1.6. Application Compliant with security policies and ready for deployment in Production 18](#_Toc29280504)

[14.1.7. Tool used for a build repository 18](#_Toc29280505)

[14.1.8. Current process for updating the applications for all applications instances 18](#_Toc29280506)

[14.2. ‘To Be’ DevOps Process 18](#_Toc29280507)

[15. Backups 19](#_Toc29280508)

[15.1. ‘As Is’ Backups 19](#_Toc29280509)

[15.1.1. Database Backups 19](#_Toc29280510)

[15.1.2. Application Code Backups 19](#_Toc29280511)

[15.2. ‘To Be’ Backups 19](#_Toc29280512)

[16. Monitoring and Logging 20](#_Toc29280513)

[16.1. ‘As Is’ Monitoring and Logging 20](#_Toc29280514)

[16.1.1. Infrastructure Monitoring 20](#_Toc29280515)

[16.1.2. Application Monitoring 20](#_Toc29280516)

[16.1.3. Security Logging (i.e. Splunk) 20](#_Toc29280517)

[16.1.4. Application Logging (i.e. ELK) 20](#_Toc29280518)

[16.1.5. Server Monitoring 20](#_Toc29280519)

[16.2. ‘To Be’ Monitoring and Logging 20](#_Toc29280520)

[17. Disaster Recovery 21](#_Toc29280521)

[17.1. ‘As Is’ Disaster Recovery 21](#_Toc29280522)

[17.2. ‘To Be’ Disaster Recovery 21](#_Toc29280523)

[18. Operation Information 22](#_Toc29280524)

[18.1. ‘As Is’ Operational Procedures 22](#_Toc29280525)

[18.1.1. Batch Process 22](#_Toc29280526)

[18.1.2. Scheduled Tasks 22](#_Toc29280527)

[18.1.3. Failover / DR Scripts 22](#_Toc29280528)

[18.1.4. Maintenance Windows 22](#_Toc29280529)

[18.1.5. Application Level Support 22](#_Toc29280530)

[18.2. ‘To Be’ Operational Procedures 22](#_Toc29280531)

[18.2.1. Batch Process 22](#_Toc29280532)

[18.2.2. Scheduled Tasks 22](#_Toc29280533)

[18.2.3. Failover / DR Scripts 22](#_Toc29280534)

[18.2.4. Maintenance Windows 22](#_Toc29280535)

[18.2.5. Application Level Support 22](#_Toc29280536)

[19. Testing 24](#_Toc29280537)

[19.1. ‘As Is’ Testing 24](#_Toc29280538)

[19.2. ‘To Be’ Testing 24](#_Toc29280539)

[20. Security 25](#_Toc29280540)

[20.1. ‘As Is’ Identity and Access Management Integration 25](#_Toc29280541)

[20.2. ‘To Be’ Identity and Access Management Integration 25](#_Toc29280542)

[20.3. ‘As Is’ Application Single-Sign-On (SSO) Integration 25](#_Toc29280543)

[20.4. ‘To Be’ Application Single-Sign-On (SSO) Integration 25](#_Toc29280544)

[20.5. ‘As Is’ Certificates 25](#_Toc29280545)

[20.6. ‘To Be’ Certificates 25](#_Toc29280546)

[20.7. ‘As Is’ Current State and Comments 25](#_Toc29280547)

[21. Performance 26](#_Toc29280548)

[22. Data Migration 27](#_Toc29280549)

[22.1. Provisioning 27](#_Toc29280550)

[22.2. Data Migration 27](#_Toc29280551)

[23. Appendixes 28](#_Toc29280552)

[24. Glossary 29](#_Toc29280553)

Table of Diagrams

[Diagram 1 - Context Diagram 2](#_Toc29280554)

[Diagram 2 - Zoomed in Context Diagram 3](#_Toc29280555)

[Diagram 3 - Architecture Overview Diagram 5](#_Toc29280556)

[Diagram 11 - 'As Is' Logical Diagram 11](#_Toc29280557)

[Diagram 12 - 'To Be' Logical Diagram 11](#_Toc29280558)

# Application Information​

Graphic Enterprise Management Illustration Navigation Interface (GEMINI) provides the management and workflow for Illustrated Part Catalog graphics. These graphics can be modified by On-Shore and Off-Shore CDG resources through Check-In / Check-Out method handled by GEMINI.

## Application Contacts

|  |  |  |
| --- | --- | --- |
| **Role** | **Name** | **Contact Details (email, phone)** |
| **Application SME / Admin** |  |  |
| **Application Owner** | Brenda Dixon |  |
| **Lead CIO Architect** |  |  |
| **DevOps Team** |  |  |
| **Lead Technical Architect** |  |  |
| **Lead Security Architect** |  |  |
| **Architect** |  |  |
| **DBA** | Rob Smalt |  |
|  |  |  |

## Application Details

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | Gemini | | |
| **Modernization Method** | Replatform | **Complexity** | Medium |
| **AEC** |  | **Recovery Level** |  |
| **RTO (hrs.)** |  | **RPO (hrs.)** |  |
| **ETTR (hrs.)** |  | **ERP (hrs.)** |  |
| **Nº of Active Users** | 866 | **Nº of Total Users** | 1000 |

## Context Diagram

This diagram shows the context of all 22 applications in scope for the POC.

|  |
| --- |
| GEMINI |

Diagram - Context Diagram

## Zoomed in Context Diagram for GEMINI ‘As Is’

1. GEMINI pushes and pulls files to external CDG file servers every time a user checks-in / checks-out files
2. PICES pulls figures data from GEMINI
3. Tidal controls job execution on GEMINI
4. Thor Batch manually copy graphics from GEMINI for updates
5. GEMINI pulls updated data from AIRES once a day
6. GEMINI stores graphic binary to Tiff Repository
7. GEMINI updates graphic references and sends them IBM Legacy

|  |
| --- |
|  |

Diagram - Zoomed in Context Diagram

# Solution Scope Definition

Minimal Viable Product Scope includes:

# Architecture Overview

Diagram - Architecture Overview Diagram

# Component Design Specification

## User Interface (UI) Specification

## User Interface (UI) Interaction Diagrams and Mapping

# API Model Specification

As part of Boeing’s Application modernization, IBM proposes to build and use APIs that decouple systems from each other. This section provides a high-level information on how GEMINI API behaves and how the API links with other APIs.

This document is for architects and developers responsible for building APIs and provides base-level guidance on RESTful APIs and style for the contracts.

IBM proposes Restful APIs as part of the Event Sourcing Fabric Framework. REST (Representational State Transfer) is an architectural style for APIs that relies on the HTTP protocol and JSON data format to send and receive messages. REST utilizes CRUD (Create, Retrieve, Update, and Delete) to keep API calls as simple as possible to understand.

The advantages of REST include:

* **Flexibility**: Although REST is most commonly implemented with HTTP and JSON, developers are by no means obligated to use them. Websites can send back responses using data formats including JSON, XML, HTML, or even plaintext-whatever best suits their needs.
* **Speed**: Because it tends to use much less overhead, REST APIs are typically significantly faster than SOAP. While the differences might be imperceptible for a single request, the disparity grows larger and larger as you place more and more requests.
* **Popularity**: REST has reached critical mass on the Internet. Major websites such as Google, Twitter, and YouTube all use REST APIs for users to send and receive messages. Due to this familiarity, it’s typically easier for developers to get up and running with REST.
* **Scalability**: Thanks to their speed and simplicity, REST APIs usually perform very well at scale.

# Risks, Assumptions, Issues and Dependencies

## Risks

|  |  |  |
| --- | --- | --- |
|  | **Risk** | **Mitigation** |
| 1​ | GEMINI currently runs Windows 2008 which is prohibited in BEN. Unexpected error could be introduced following the migration to Windows 2016 (Technical Implementation impact) | Errors will be corrected accordingly but no issues are expected on Windows 2016 |
| 2​ | Dependency on MTF to keep interaction with AIRES and Tandem Legacy is contingent on data transfer performance, size and bandwidth (Business Process Interruption impact) | IBM will work with Boeing to coordinate/configure the data transfer to avoid impacting business |
| 3​ | GEMINI is using MS SQL 2008. Unexpected error could be introduced following the migration to MS SQL 2016. (Technical Implementation and Schedule impact) | Database will be exported and imported in MS SQL 2016. Errors will have to be remediated |
| 4​ | Go live of the entire ecosystem (PICES, DIPS, GEMINI, Tidal) will require extensive schedule and resource coordination for functional integration testing (Schedule impact) | A/C model data replication and respective supporting VM deployments will be done gradually, allowing progressive testing towards the cutover date |
| 5​ | Once on BEN, GEMINI users will have a latency added to their daily work due to geographic restrictions (Business Process impact) | IBM recommends Boeing to continue the evaluation and approval of GPU-accelerated VDI |

## Assumptions

|  |  |
| --- | --- |
|  | **Assumption** |
| 1​ | IBM will leverage existing transfer methods (AXWAY Products, Web Services, SFTP) to migrate data from CDG to BEN / Azure Gov (Internal) platform |
| 2​ | GEMINI service accounts and user accounts will port over to the Boeing domain with the same permissions |
| 3​ | Migration will be staged according to wave grouping |
| 4​ | Off-Shore resources will be able to continue remotely by connecting to BEN thru VPN |
| 5​ | Tidal execution will be completed in a timely manner to allow regression test on GEMINI |

## Issues

## Dependencies

# Architecture Decisions

## SQL Server disposition

|  |  |  |  |
| --- | --- | --- | --- |
| **Subject Area** |  | **Topic** |  |
| **Architectural Decision** | GEMINI SQL Server disposition | **ID** |  |
| **Issue or Problem Statement** |  | | |
| **Assumptions** |  | | |
| **Motivation** |  | | |
| **Alternatives** | * Option 1: * Option 2: * Option 3: | | |
| **Decision** |  | | |
| **Justification** |  | | |
| **Implications** |  | | |
| **Derived Requirements** |  | | |
| **Related Decisions** |  | | |

## Security solution / mechanism for GEMINI application

|  |  |  |  |
| --- | --- | --- | --- |
| **Subject Area** |  | **Topic** |  |
| **Architectural Decision** | Security solution / mechanism for GEMINI application | **ID** |  |
| **Issue or Problem Statement** |  | | |
| **Assumptions** |  | | |
| **Motivation** |  | | |
| **Alternatives** | * Option 1: * Option 2: * Option 3: | | |
| **Decision** |  | | |
| **Justification** |  | | |
| **Implications** |  | | |
| **Derived Requirements** |  | | |
| **Related Decisions** |  | | |

## Integration architecture with CDG systems (ADATA, SSRS)

|  |  |  |  |
| --- | --- | --- | --- |
| **Subject Area** |  | **Topic** |  |
| **Architectural Decision** | Integration architecture with CDG systems (ADATA, SSRS) | **ID** |  |
| **Issue or Problem Statement** |  | | |
| **Assumptions** |  | | |
| **Motivation** |  | | |
| **Alternatives** | * Option 1: * Option 2: * Option 3: | | |
| **Decision** |  | | |
| **Justification** |  | | |
| **Implications** |  | | |
| **Derived Requirements** |  | | |
| **Related Decisions** |  | | |

# Logical Diagram

## ‘As Is’ Logical Diagram

|  |
| --- |
|  |

Diagram - 'As Is' Logical Diagram

## ‘To Be’ Logical Diagram

|  |
| --- |
|  |

Diagram - 'To Be' Logical Diagram

# Technology Stack

This section details all technology and software used at CDG (As Is) and future state (To Be).

## ‘As Is’ Technology Stack

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Vendor** | **Version** | **Comments** |
| Image Converter Plus | Windows 2008 R2 | 8.0.5.91007 | Create PDF documents from code |
| AutoCAD | Windows 7 Enterprise | 14 |  |
| OBOUT Data Grid | Windows 7 | 3.5 |  |
| GEMINI Source Code |  |  | Source Code for GEMINI |
| .NET Framework |  | 2.0 | Framework for C# application |

## ‘To Be’ Technology Stack

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Vendor** | **Version** | **Comments** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Infrastructure Stack

## ‘As Is’ Infrastructure

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **OS** | **Domain** | **Location / Site** | **P or V\*** | **Environment**  **(Dev, Test, Prod)** | **CPUs** | **Mem (GB)** | **Storage (GB)** |
|  |  |  |  |  | | | |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

**\* P or V:** Physical or Virtual

## ‘To Be’ Infrastructure

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Server Name** | **Domain** | **Location / Site** | **P or V\*** | **Environment**  **(Dev, Test, Prod)** | **CPUs** | **Mem (GB)** | **Storage (GB)** |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

**\* P or V:** Physical or Virtual

# Interfaces

## ‘As Is’ Interfaces

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Type** | **Source** | **Target** | **Artifact** | **Automated / Manual** | **Frequency** | **Direction** | **Protocol** | **Port** | **File Size** |
| Upstream | HP NSK | GEMINI | Graphical Figures | Manual | On Demand | Pull | ODBC | 1443 | < 10 MB |
| Upstream | CDG – India | GEMINI | Graphics / Reports | Manual | On Demand | Pull | CIFS | 137, 138, 139, 445 | < 10 MB |
| Downstream | GEMINI | CDG – India | Graphics / Reports | Manual | On Demand | Push | CIFS | 137, 138, 139, 445 | < 10 MB |
| Upstream | CDG – UK | GEMINI | Graphics / Reports | Manual | On Demand | Pull | CIFS | 137, 138, 139, 445 | < 10 MB |
| Downstream | GEMINI | CDG – UK | Graphics / Reports | Manual | On Demand | Push | CIFS | 137, 138, 139, 445 | < 10 MB |
| Upstream | CDG – US | GEMINI | Graphics / Reports | Manual | On Demand | Pull | CIFS | 137, 138, 139, 445 | < 10 MB |
| Downstream | GEMINI | CDG – US | Graphics / Reports | Manual | On Demand | Push | CIFS | 137, 138, 139, 445 | < 10 MB |
| Downstream | GEMINI | Tiff Repository | Figures | Manual | On Demand | Push | CIFS | 137, 138, 139, 445 | < 10 MB |
| Upstream | TES | GEMINI | Commands | Manual | On Demand | Push | TCP | 5912 | < 1 MB |
| Downstream | GEMINI | TES | Commands | Automated | On Demand | Push | TCP | 5912 | < 1 MB |
| Upstream​ | GEMINI Shared Folder​ | THOR / Batch​ | Input​ | Manual​ | On Demand​ | Pull​ | SFTP​ | 22​ | ~ 1 MB |
| Upstream​ | ADATA DB server​ | THOR / Batch​ | Input​ | Manual​ | On Demand​ | Pull​ | ODBC​ | 1433​ | 1-10 MB |
| Downstream | Tiff Repository | PICES | Figures | Manual | On Demand | Pull | TCP | 137, 138, 139, 445 | < 10 MB |
| Downstream | GEMINI | IBM Legacy | Text | Automated | On Demand | Push | SFTP | 22 | < 5 MB |
| Downstream | GEMINI | PICES | Art Coord Sheets | Manual | On Demand | Pull | ODBC | 1443 | < 5 MB |
| Downstream | GEMINI | THOR / Batch | Graph file | Manual | On Demand | Pull | SFTP | 22 | ~1 MB |

## ‘To Be’ Interfaces

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Type** | **Source** | **Target** | **Input / Output** | **Automated / Manual** | **Frequency** | **Direction** | **Protocol** | **Port** | **File Size** |
|  |  |  |  |  |  |  |  |  |  |

# Middleware

## ‘As Is’ Middleware configuration

|  |  |  |  |
| --- | --- | --- | --- |
| **Software** | **Version** | **OS** | **Comments** |
|  |  |  |  |
| ​ |  |  |  |

## ‘To Be’ Middleware configuration

|  |  |  |  |
| --- | --- | --- | --- |
| **Software** | **Version** | **OS** | **Comments** |
|  |  |  |  |

# Databases

## Databases Instances

|  |  |  |  |
| --- | --- | --- | --- |
| **Component** | **Vendor** | **Version** | **Service Pack** |
| **Database** | Windows SQL Server | 2008 | R2 |

## ‘As Is’ SQL Configuration

## ‘To Be’ SQL Configuration

# DevOps

## ‘As Is’ DevOps Process

### Application Deployment

0

### Tool used for Source Control

0

### Tool used for code/vulnerability scanning

0

### Tool used to build the application for a continuous release and deployment

0

### Automated infrastructure deployment

(Yes/No)

### Application Compliant with security policies and ready for deployment in Production

0

### Tool used for a build repository

0

### Current process for updating the applications for all applications instances

0

## ‘To Be’ DevOps Process

# Backups

## ‘As Is’ Backups

### Database Backups

### Backups created full on a daily basis with 2 days retention. No encryption at rest

### Application Code Backups

### Application code is stored in SubVersion and is backed up based on SubVersion backup schedule

## ‘To Be’ Backups

# Monitoring and Logging

## ‘As Is’ Monitoring and Logging

### Infrastructure Monitoring

<Place Holder>

### Application Monitoring

<Place Holder>

### Security Logging (i.e. Splunk)

<Place Holder>

### Application Logging (i.e. ELK)

<Place Holder>

### Server Monitoring

SolarWinds

## ‘To Be’ Monitoring and Logging

# Disaster Recovery

## ‘As Is’ Disaster Recovery

Restoration is performed using backups

## ‘To Be’ Disaster Recovery

# Operation Information

## ‘As Is’ Operational Procedures

### Batch Process

<Place Holder>

### Scheduled Tasks

<Place Holder>

### Failover / DR Scripts

<Place Holder>

### Maintenance Windows

Saturday 7PM - Sunday 7PM PT

### Application Level Support

<Place Holder>

## ‘To Be’ Operational Procedures

### Batch Process

### Scheduled Tasks

### Failover / DR Scripts

### Maintenance Windows

### Application Level Support

# Testing

## ‘As Is’ Testing

|  |  |
| --- | --- |
| **Type** | **#C and DB SP** |
| Functional Testing | Manual |
| Integrated Testing | Manual |
| Performance Testing | Manual |
| Stress Testing | Manual |
| Regression Testing | Manual |
| User Acceptance Testing | Manual |
| Test Tools | SmartBear |
| Number of Test Cases | 200 |
| Testing Skills | CDG Application SME |
| Assessment/Recommendation | CDG currently performs a high degree of undocumented manual testing procedures. In preparation for merging with Boeing; IBM recommends automating all testing procedures using the Boeing standards for each test case | |

## ‘To Be’ Testing

# Security

## ‘As Is’ Identity and Access Management Integration

<PlaceHolder>

## ‘To Be’ Identity and Access Management Integration

## ‘As Is’ Application Single-Sign-On (SSO) Integration

<PlaceHolder>

## ‘To Be’ Application Single-Sign-On (SSO) Integration

## ‘As Is’ Certificates

<PlaceHolder>

## ‘To Be’ Certificates

## ‘As Is’ Current State and Comments

|  |  |  |
| --- | --- | --- |
| **​** | **Current State​** | **Recommendation / Comments​** |
| 1​ | GEMINI data is manipulated Off-Shore | Boeing’s policy will not allow UK and India users to check-out the files locally |
| 2​ | Application is secured by enforcing CDG domain based user authentication | User Authentication will need to be converted to Boeing’s Authentication method |
| 3​ | CDG Network is extended to UK and India sites | Boeing does not allow BEN extension beyond US territory |

# Performance

Performance metrics not available for ATEAM applications.

# Data Migration

## Provisioning

* Provision GEMINI servers running on Windows 2016 Server VM
* Provision a managed SQL Server 2016 database instances on Windows 2016 Server corresponding to GEMINI DB instances

## Data Migration

* Establish a connection between CDG Bitbucket and Boeing GitLab source code repositories for moving the application source code and GEMINI source code
* Export GEMINI DB to target platform using Managed File Transfer (MFT) and import the DB to the provisioned managed SQL server instances

# Appendixes

# Glossary

|  |  |
| --- | --- |
| **Acronym** | **Definition** |
| AEC | Availability Environment Classification |
| AMFT | Amplified Managed File Transfer |
| ‘As Is’ | Current state of application |
| BEN | Boeing Enterprise Network |
| BoM | Bill of Materials |
| BPI | Boeing Proprietary Information |
| CDG | Continental Data Graphics |
| EAR-LR | Export Administration Regulations – License Required |
| EAR-NLR | Export Administration Regulations – No License Required |
| IPC | Illustrated Parts Catalog |
| ITAR | International Traffic and Arms Regulation |
| MFT | Managed File Transfer |
| MFTS | Managed File Transfer Services |
| PII | Personally Identifiable Information |
| SFTP | Secure File Transfer Protocol |
| ‘To Be’ | Future state of application |

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

© Copyright IBM Corporation 2019

IBM Corporation

1 New Orchard Road

Armonk, NY 10504

Produced in the United States of America

December 2019

IBM, the IBM logo, and ibm.com are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at “Copyright and trademark information” at [www.ibm.com/legal/copytrade.](http://www.ibm.com/legal/copytrade) shtml.

This document is current as of the initial date of publication and may be changed by IBM at any time. Not all offerings are available in every country in which IBM operates.

THE INFORMATION IN THIS DOCUMENT IS PROVIDED “AS IS” WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY OR CONDITION OF

NONINFRINGEMENT. IBM products are warranted according to the terms and conditions of the agreements under which they are provided.

Please Recycle