

**Automated Account Opening**

**Performance Testing Approach**

**Version 1.0**

**21 March 2021**

Maveric Systems

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**Reference and Source Documentation**

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| **#** | **Document Name** | **Shared By** | **Version** |
| 1 | AAO Performance testing Strategy | BM IT | V1.0 |
| 2 | AAO Performance testing Strategy | BM IT | V1.1 |

**Revision History**

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| --- | --- | --- | --- |
| **Author** | **Date** | **Version** | **Comments** |
| Mohan Murugesan | 16-Sep-20 | V0.1 | Baseline version |
| Vimal Raj | 20-Mar-21 | V1.0 | Updated the scope and project timeline |
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**Reviewed By**

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| **Reviewers** | **Date** | **Version** | **Role** |
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## 1 Background

Bank Muscat has planned to implement Newgen’s IBPS application for Automated Account Opening. In this process, Bank Muscat has planned for Performance testing of the Automated Account Opening Application to report the performance bottlenecks and improve the operational efficiency. Maveric has extended the support to benchmark the Automated Account Opening Application in line to the expectations of BM IT. Please refer the below section for the list of Categories and the respective performance test details.

## 2 Performance Testing

|  |  |
| --- | --- |
| Categories | Performance Test Details |
| Application in Scope | BPS – Automated Account Opening |
| Testing Types | * Load/ Volume Test * Stress Test * Endurance Test * Branch PT |
| Test Objective | * To measure the end to end response time while handling 250 concurrent user load |
| * To measure the performance of the AAO application under stress condition with 200% of volume |
| * To measure the performance of the AAO application while handling 50% user load for a prolonged duration of 6 hours |
| * To monitor the relevant server metrics during execution and ensure the resources utilization are under threshold limits (< 60% utilization) |
| Test Execution  Approach | * User actions of the workflows under scope will be performed in browser and the network traffic for the same will be captured as scripts using IBM Rational Performance tester tool |
| Systems Involved | * IBPS * Omnidocs * ESB , T24 & Prime |
| Test Environment | * UAT Environment * Environment Hardware Sizing – 50% of Production * Test Execution Window – 5 Weeks |
| Execution Rounds | * **Round 1 - Sanity Test** (to ensure the stability of the performance test environment) * **Round 2 - Load Test – Individual Load Test**    + **30% load**     - Cycle 1 - (1 day), Defect fixing (2 day)     - Cycle 2 - Retest (1 day)   + **50% load**     - Cycle 1 - (1 day), Defect fixing (2 day)     - Cycle 2 - Retest (1 day)   + **100% load**     - Cycle 1 - (1 day), Defect fixing (2 day)     - Cycle 2 – Retest (1 day) * **Round 3 – Branch Test**    + **100% load (Salalah/ Sohar Office)**     - Cycle 1 – (1 day), Defect Fixing (2 days)     - Cycle 2 – Retest (1 day) * **Round 4 – Endurance Test**    + **50% Volume for 5 hours**     - Cycle 1 – (1 day), Defect Fixing (2 days)     - Cycle 2 – Retest (1 day) * **Round 5 – Stress Test**    + **200% Load**     - Cycle 1 – (1 day) * **Round 6 – Combined Test (CLOS, RLOS, and Remittance)**    + **100% load**     - Cycle 1 – (1 day), Defect Fixing (2 days)     - Cycle 2 – Retest (1 day)   Note:   * There will be 2 cycles for each round of testing to ensure the fixes quality & consistency in the results |
| SLA | |  |  | | --- | --- | | Phases | Performance Deliverables | | Creating new request for existing customer | 5 seconds | | Creating new request for new customer | 5 seconds | | Editing existing requests | 5 seconds |   Below mentioned are SLA for the transactions in scope, |
| Defect  Management | * Performance Defect life cycle to be tracked in TFS * The maximum TAT for fixing the performance issues would be 2 days * The Performance defects will be raised against the performance metrics (Response Time, Resource utilization & throughput) against the respective SLA |
| Monitoring Tool / Utility Tool | * Uptime Resource utilization tool – To be configured by BM IT |
| Schedule | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  | W1 | W2 | W3 | W4 | W5 | W6 | | Approach Finalisation and Design |  |  |  |  |  |  | | Individual Load Test | 2 |  | | | |  | | Load Test |  |  | | |  |  | | Branch Test |  |  |  |  | 3 |  | | Endurance Test |  |  |  |  |  | 3 | | Stress Test |  |  |  |  |  |  | | Combined Load Test |  |  |  |  |  |  | | Closure |  |  |  |  |  |  |     **Note:** The above schedule is derived based on the scope of work and also aligning to the shared input on PT timeline as 6 weeks. |
| Critical  Assumptions | * The basic performance parameters across the AAO server stack for the expected load would be configured by Newgen team prior to the Performance test execution * BM IT team to support extracting server logs in order to analyze the performance metrics * Uptime resource monitoring would be made available in the environment finalized for Performance testing * Benchmark and performance test results are subjected to the environment setup * Defect fix turnaround time is considered to be maximum 2 days * PT defect to be managed/ tracked in TFS * SPOC from application team would be made available for fixing performance issues * Performance Testing would be carried out in UAT environment * 300 User credentials and 400 legal ID’s for existing customers and 400 legal ID’s for new customers will be shared by BM Team. * The Documents to be uploaded in AAO through Omnidocs will be added inside and path will be shared by BM Team * Password encryption and Biometric scan will be disabled and OTP will be made static |
| Deliverables | |  |  | | --- | --- | | Phases | Performance Deliverables | | Planning | * Test Approach document * Work Load Model | | Execution | * Execution Summary Report at the end of each cycle of testing | | Closure Report | * Final Test Report |   . |
| Out of Scope | * Other applications & transactions apart from the agreed scope will not be performance tested * Other Non-Functional testing including Database testing, Disaster Recovery, Fail-over / Fail Back, High Availability, Usability testing, Security Testing, Network emulation, Data migration testing & Data Integrity Testing of migrated data along with base data volume creation in the database * Any form of functional testing including field level validations, systems testing & integration testing are not in scope * Performance testing in any other environment other than the finalized performance test environment will not be tested * Performance execution will not cover any testing types other than agreed scope (Load /Volume, Stress, Endurance, Branch PT). Also, any Browser UI response time of AAO application/ other applications integrated with AAO will not be tested as part of AAO Performance Testing * Test Data population will be out of scope |

## 3 Automated Account Opening - Technical Architecture



iBPS App

lication

S

erver



Only Office

server



Web Services



Business User



Database

server



Newgen storage

Management server



Storage

Server



Load Balancer

HTTP / HTTPS

WSDL

JDBC

TCP IP

## 4 Environment Details – Production

|  |  |  |  |
| --- | --- | --- | --- |
| **Hardware** | **App Server 1** | **App Server 2** | **App Server 3** |
| Processor | 4 VCPU + 2 VCPU | 4 VCPU + 2 CPU | 2VCPU |
| Hostnames | HODCNGIBPSAPP1 | HODCNGIBPSAPP2 | HODCNGIBPSAPP3 |
| RAM | 48 GB + 16 GB+ 8 GB | 48 GB + 16 GB+ 8 GB | 32GB |
| HDD | - | - | - |
| Drives | - | - | - |
| NIC | - | - | - |
| Power supply/ Fans | - | - | - |
| SAN utilization | XP/EVA | XP/EVA | XP/EVA |
| SAN  connectivity method | iSCSI/FC | iSCSI/FC | iSCSI/FC |
| SAN disks allocated space | 69.8 GB | 69.8 GB | 69.8 GB |
| Network IP Address | 10.6.223.75 | 10.6.223.98 | 10.6.223.231 |
| OS - Microsoft Windows  Server 2012 R2, EE (64-bit) | OS - Microsoft Windows  Server 2012 R2, EE (64-bit) | OS - Microsoft Windows Server 2012 R2, EE (64bit) |
| WAS – Web sphere - Version 8.5.5.11 | WAS – Web sphere - Version 8.5.5.11 | WAS – Web sphere - Version 8.5.5.11 |
| Omnidocs 7 | Omnidocs 7 | Omnidocs 7 |
| Omniflow – version 9 Patch 7 | Omniflow – version 9 Patch 7 | BAM |

## 5 Environment Details – UAT

|  |  |  |  |
| --- | --- | --- | --- |
| Hardware | **App Server 1** | **App Server 2** | **App Server 3** |
| Processor | 4 VCPU | 4 VCPU | 2VCPU |
| Hostnames | TESTOMFLIBPS1 | TESTOMFLIBPS2 | TESTOMFLIBPS3 |
| RAM | 32GB | 32GB | 16GB |
| HDD | - | - | - |
| Drives | - | - | - |
| NIC | - | - | - |
| Power supply/ Fans | - | - | - |
| SAN utilization | XP/EVA | XP/EVA | XP/EVA |
| SAN  connectivity method | iSCSI/FC | iSCSI/FC | iSCSI/FC |
| SAN disks allocated space | 69.6 GB | 69.6 GB | 69.8 GB |
| Software | OS - Microsoft Windows  Server 2012 R2, EE (64-bit) | OS - Microsoft Windows  Server 2012 R2, EE (64-bit) | OS - Microsoft Windows Server 2012 R2, EE (64bit) |
| WAS – Websphere - Version 8.5.5.11 | WAS – Websphere - Version 8.5.5.11 | WAS – Web sphere - Version 8.5.5.11 |
| Omniflow – version 9 Patch 7 | Omniflow – version 9 Patch 7 | Omnidocs 7 |
| OmniDocs – Version 7 SP41 | OmniDocs – Version 7 SP41 | BAM |
| iBPS – 3.0 SP1 | iBPS – 3.0 SP1 |  |
| Java 1.8 | Java 1.8 |  |
| Network IP Address: | 192.168.10.xxx | 192.168.10.xxx | 192.168.10.xxx |