



REPUBLIC OF THE PHILIPPINES  
**DEPARTMENT OF BUDGET AND MANAGEMENT**  
 GENERAL SOLANO ST., SAN MIGUEL, MANILA

**SUPPLEMENTAL/BID BULLETIN (SBB) NO. 1**

This SBB No. 1 dated December 16, 2019 for the Project, "Consultancy Services for the Independent Functional and Technical Infrastructure Quality Assurance Services for the System Integration and Stabilization of the Budget and Treasury Management System (BTMS)," is issued to clarify, modify or amend items in the Bidding Documents. Accordingly, this shall form an integral part of said Documents.

<b>PARTICULARS</b>		<b>AMENDMENTS/CLARIFICATIONS</b>	
<b>Section III. Eligibility Data Sheet</b>		<b>Section III. Eligibility Data Sheet</b>	
<b>Clause No.</b>		<b>Clause No.</b>	
9.2	xxxx  Short Listing Evaluation Criteria	9.2	xxxx  See Attached revised Short Listing Evaluation Criteria.
<b>Annex A Terms of Reference</b>		<b>Annex A Terms of Reference</b>	
<b>Clause No.</b>		<b>Clause No.</b>	
3.d	xxxx  For the task, the QAP will dedicate a five-person team composed of a team leader, a technical/ infrastructure tester, and three QA testers/trainers each specializing in the BTMS's modules namely Budget Execution, Treasury and Cash Management, and Budget Management. This team will report directly to the DBM project manager for the duration of the transition phase of the project. xxxx	3.d	xxxx  <del>For the task, the QAP will dedicate a five-person team composed of a team leader, a technical/ infrastructure tester, and three QA testers/trainers each specializing in the BTMS's modules namely Budget Execution, Treasury and Cash Management, and Budget Management. This team will report directly to the DBM project manager for the duration of the transition phase of the project.</del> xxxx

PARTICULARS		AMENDMENTS/CLARIFICATIONS	
10	XXXX	10	<p>XXXX</p> <p><b>DURING THE TESTING PHASE, THE QAP TEAM SHALL DEDICATE A OF MINIMUM OF EIGHT (8) PERSONNEL COMPOSED OF:</b></p> <ul style="list-style-type: none"> <li>▪ ONE (1) RESIDENT PROJECT MANAGER</li> <li>• ONE (1) FUNCTIONAL TEAM LEAD</li> <li>• ONE (1) TECHNICAL TEAM LEAD</li> <li>• THREE (3) FUNCTIONAL TESTER</li> <li>• TWO (2) TECHNICAL TESTER</li> </ul> <p><b>FOR THE TRANSITION PHASE, THE QAP WILL DEDICATE A FIVE-PERSON TEAM COMPOSED OF A LEADER, A TECHNICAL TESTER AND THREE FUNCTIONAL TESTER EACH SPECIALIZING IN THE BTMS'S MODULE NAMELY BUDGET EXECUTION, TREASURY AND CASH MANAGEMENT, AND BUDGET MANAGEMENT."</b></p>
11	<p>XXXX</p> <ul style="list-style-type: none"> <li>• All functional and technical quality assurance staff that will be assigned for the BTMS evaluation must</li> </ul>	11	<p>XXXX</p> <ul style="list-style-type: none"> <li>• <del>All functional and technical quality assurance staff that will be assigned for the</del></li> </ul>

PARTICULARS		AMENDMENTS/CLARIFICATIONS	
	have a minimum experience of 2 years in testing application systems.		BTMS evaluation must have a minimum experience of 2 years in testing application systems.
<p>Questions from Bidder A:</p> <ol style="list-style-type: none"> <li>Should we limit to just five members or are we allowed to include more resources as subject-matter-resource (SMR)?</li> <li>If yes, how will their credentials be scored/included in the Short Listing Evaluation criteria number 2 (Qualification of Key Personnel)? For example, only five consultants will still be considered but consultants with the most work experience will be scored regardless if part of the core team or support team.</li> <li>(p. 30) Under section 11 (Qualifications of the Quality Assurance Provider), confirm if the second item applies to the firm, as a whole, and the third item applies to individual members of the team.</li> </ol>		<p>Attached is the revised Terms of Reference.</p> <ol style="list-style-type: none"> <li>There is no limit to the number of personnel to be deployed. However, there are only eight (8) key personnel identified for the project.</li> <li>Only the eight (8) key personnel shall be evaluated for the shortlisting stage. Each personnel shall have a numerical score and all necessary information should be reflected in the curriculum vitae (CV) and submit other documents in support.</li> <li>The item refers to the firm.</li> </ol>	

**Other matters:**

- Prospective consultant should attach all necessary information in the CV and documents mentioned in the evaluation criteria for rating purposes. If information and documents are not attached in the submission, the prospective consultant shall be rated zero ("0") for the specific criteria where the information or document shall be used. Each key personnel shall be rated individually.
- The "No Contact Rule" shall be strictly observed. Bidders are not allowed to call or talk to any member of the Bids and Awards Committee, Technical Working Group or Secretariat effective December 23, 2018 right after the opening of bids.
- For guidance and information of all concerned.

**ACHILLES GERARD C. BRAVO**  
*Assistant Secretary*  
*Chairperson, DBM-BAC*

**Short Listing Evaluation Criteria  
(Revised)**

Criteria		Equivalent Points (Maximum)	Equivalent Points (Minimum)
<b>1</b>	<b>Applicable Experience of the Firm</b>	<b>50</b>	<b>25</b>
<b>1.1</b>	<b>Successful experience in functional testing services for web-based mission-critical and complex application system software</b>		
	<i>(The project references provided by the bidder should clearly indicate the following minimum details in 'Description of Actual Services Provided by Your Staff' in ED-Form VI: (i) functionality of similar systems tested by the bidder; (ii) size of the implemented system (number of users); (iii) number of years system is in use and related functionality used by the clients; (iv) value of the project)</i>		
<b>1.1.1</b>	<b>Number of Projects</b>		
	Number of successfully completed projects with a certificate of satisfactory completion or acceptance issued by the client or official receipt indicating full and final payment		
	3 or more projects		
	2 projects		
	1 project		
	zero project		
<b>1.1.2</b>	<b>Size of the Largest Project</b>		
	Size (measured in number of users) of the largest successfully completed project, with a certificate of satisfactory completion or acceptance issued by the client or official receipt indicating full and final payment		
	1 project with 20,000 or more users		
	1 project with 5,000 to 19,999 users		
	1 project with 1,000 to 4,999 users		
	1 project with 400 to 999 users		
	1 project with less than 400 users		
<b>1.2</b>	<b>Successful experience in non-functional testing services for web-based mission-critical and complex application system software and respective IT infrastructure</b>		
	<i>(The project references provided by the bidder should clearly indicate the following minimum details in 'Description of Actual Services Provided by Your Staff' in ED-Form VI: (i) functionality of similar systems tested by the bidder; (ii) size of the implemented system (number of users); (iii) number of years system is in use and related functionality used by the clients; (iv) value of the project)</i>		

1.2.1	Number of Projects		
	Number of successfully completed projects with a certificate of satisfactory completion or acceptance issued by the client or official receipt indicating full and final payment		
	3 or more projects		
	2 projects		
	1 project		
	zero project		
1.2.2	Size of the Largest Project		
	Size (measured in number of users) of the largest successfully completed project, with a certificate of satisfactory completion or acceptance issued by the client or official receipt indicating full and final payment		
	1 project with 20,000 or more users		
	1 project with 5,000 to 19,999 users		
	1 project with 1,000 to 4,999 users		
	1 project with 400 to 999 users		
	1 project with less than 400 users		
2	<b>Qualification of Personnel who may be assigned to the job vis-à-vis extent and complexity of the undertaking</b>	30	15
	<i>(In the CVs, bidder shall clearly indicate the details of academic qualifications and certifications of the key personnel, overall experience (projects and number of years) and specific experience (projects and number of years) relevant to the proposed position).</i>		
2.1	<b>Resident Project Manager</b>		
2.1.1	Qualifications		
	Post graduate degree (IT-related) or MBA		
	Bachelor degree (IT-related)		
	Post graduate degree (Non-IT) and relevant certifications for the position		
	Bachelor degree (Non-IT) and relevant certifications for the position		
	Post graduate degree (Non-IT)		
	Bachelor degree (Non-IT)		
2.1.2	Overall Experience		
	10 or more years of experience in functional testing (functional, integration, system, regression, etc.), non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.), and quality assurance of IT systems		

	7-9 years of experience in functional testing (functional, integration, system, regression, etc.), non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.), and quality assurance of IT systems		
	5-6 or more years of experience in functional testing (functional, integration, system, regression, etc.), non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.), and quality assurance of IT systems		
	Less than 5 years of experience in functional testing (functional, integration, system, regression, etc.), non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.), and quality assurance of IT systems		
2.1.3	<b>Relevant Experience</b>		
	Experience as a Project Manager in 3 or more similar projects		
	Experience as a Project Manager in 2 similar projects		
	Experience as a Project Manager in 1 similar project		
	No experience as Project Manager in similar projects		
<b>2.2</b>	<b><i>Functional Testing Lead</i></b>		
2.2.1	<b>Qualifications</b>		
	Post graduate degree (IT-related)		
	Bachelor degree (IT-related)		
	Post graduate degree (Non-IT) and relevant certifications for the position		
	Bachelor degree (Non-IT) and relevant certifications for the position		
	Post graduate degree (Non-IT)		
	Bachelor degree (Non-IT)		
2.2.2	<b>Overall Experience</b>		
	10 or more years of experience in functional testing (functional, integration, system, regression, etc.) of IT systems		
	7-9 years of experience in functional testing (functional, integration, system, regression, etc.) of IT systems		
	5-6 or more years of experience in functional testing (functional, integration, system, regression, etc.) of IT systems		
	Less than 5 years of experience in functional testing (functional, integration, system, regression, etc.) of IT systems		

2.2.3	Relevant Experience		
	Testing lead of systems functional testing (functional, integration, system, regression, etc.) in 3 or more projects		
	Testing lead of systems functional testing (functional, integration, system, regression, etc.) in 2 projects		
	Testing lead of systems functional testing (functional, integration, system, regression, etc.) in 1 project		
	No experience as testing lead of systems functional testing (functional, integration, system, regression, etc.)		
2.3	<b>Non-Functional Testing Lead</b>		
2.3.1	Qualifications		
	Post graduate degree (IT-related)		
	Bachelor degree (IT-related)		
	Post graduate degree (Non-IT) and relevant certifications for the position		
	Bachelor degree (Non-IT) and relevant certifications for the position		
	Post graduate degree (Non-IT)		
	Bachelor degree (Non-IT)		
2.3.2	Overall Experience		
	10 or more years of experience in non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) of IT systems		
	7-9 years of experience in non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) of IT systems		
	5-6 or more years of experience in non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) of IT systems		
	Less than 5 years of experience in non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) of IT systems		
2.3.3	Relevant Experience		
	Testing lead of systems non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) in 3 or more projects		
	Testing lead of systems non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) in 2 projects		
	Testing lead of systems non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) in 1 project		

	No experience as testing lead of systems non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.)		
<b>2.4</b>	<b>Functional Tester</b>		
2.4.1	Qualifications		
	Post graduate degree (IT-related)		
	Bachelor degree (IT-related)		
	Post graduate degree (Non-IT) and relevant certifications for the position		
	Bachelor degree (Non-IT) and relevant certifications for the position		
	Post graduate degree (Non-IT)		
	Bachelor degree (Non-IT)		
2.4.2	Overall Experience		
	6 or more years of experience in functional testing (functional, integration, system, regression, etc.) of IT systems		
	4-5 years of experience in functional testing (functional, integration, system, regression, etc.) of IT systems		
	2-3 years of experience in functional testing (functional, integration, system, regression, etc.) of IT systems		
	Less than 2 years of experience in functional testing (functional, integration, system, regression, etc.) of IT systems		
2.4.3	Relevant Experience		
	Tester of systems in functional testing (functional, integration, system, regression, etc.) in 3 or more projects		
	Tester of systems in functional testing (functional, integration, system, regression, etc.) in 2 projects		
	Tester of systems in functional testing (functional, integration, system, regression, etc.) in 1 project		
	No experience in testing of systems functional testing (functional, integration, system, regression, etc.)		
<b>2.5</b>	<b>Non-Functional/Technical Tester</b>		
2.5.1	Qualifications		
	Post graduate degree (IT-related)		
	Bachelor degree (IT-related)		
	Post graduate degree (Non-IT) and relevant certifications for the position		
	Bachelor degree (Non-IT) and relevant certifications for the position		
	Post graduate degree (Non-IT)		
	Bachelor degree (Non-IT)		



2.5.2	<b>Overall Experience</b>		
	6 or more years of experience in non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) of IT systems		
	4-5 years of experience in non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) of IT systems		
	2-3 years of experience in non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) of IT systems		
	Less than 2 years of experience in non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) of IT systems		
2.5.3	<b>Relevant Experience</b>		
	Tester of systems in non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) in 3 or more projects		
	Tester of systems in non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) in 2 projects		
	Tester of systems in non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.) in 1 project		
	No experience in testing of systems non-functional testing (performance, stress, scalability, security, penetration, availability, fail-over, etc.)		
<b>3</b>	<b>Current Workload</b>	<b>20</b>	<b>10</b>
<b>3.1</b>	<b>A. Ongoing Project</b>		
	no current ongoing projects to less than 20 ongoing projects		
	20 to 50 ongoing projects		
	more than 50 ongoing projects		
<b>3.2</b>	<b>Financial Capacity: Current Asset (CA) less Current Liabilities (Cl)</b>		
	highest net current worth		
	score for the 2nd to the last shall be based on its net current worth divided by the highest net current worth multiplied by 10		
	<b>TOTAL</b>	<b>100</b>	<b>50</b>

**TERMS OF REFERENCE**  
**(REVISED)**

## ***1. Background***

The Government of the Philippines (GOP) has been actively pursuing the establishment of a strong Public Financial Management (PFM) system to strengthen public administration and service delivery to achieve the development goals of the nation.

The creation of an integrated financial management and reporting system (Budget and Treasury Management System – BTMS) for the oversight agencies is a key component in the PFM reform agenda. The conceptual design of BTMS was prepared in 2012 and approved by the GOP in 2013. Its detailed functional requirements, technical requirements and bidding documents were prepared in 2013-2014 and approved in 2015.

The Department of Budget and Management (DBM), via the Procurement Service finalized the procurement process for the BTMS and the contract was awarded on November 2015 to the Joint Venture of Innove Communications, Inc. and FreeBalance, Inc., referred in this document as the Joint Venture (JV) Partner. The project with the JV Partner commenced in December 2015. The table below presents the updated overall schedule of the BTMS implementation:

Table 1: BTMS Implementation Schedule for the JV Partner

<b>S.N</b>	<b>Activity</b>	<b>Timelines</b>
1.	Contract Award	Nov 2015
2.	Go-Live for BTMS Phase I – Web Portal	Jan 2017
3.	Go-Live for BTMS Phase II – Budget Execution	Apr 2017
4.	Go-Live for BTMS Phase III – Treasury and Cash Management	Aug 2017
5.	Go-live for BTMS Phase IV – Budget Management	Jul 2018
6.	Go-Live for BTMS Phase V – Complete and Integrated Solution	Jan 2018
7.	System Stabilization	Jul 2018 – Dec 2018
8.	<b>Operations and Maintenance Support</b>	<b>Jan 2017 – Jun 2019</b>

BTMS implementation covers significant portion of PFM operations being carried out by the oversight and spending agencies including system interfaces with several external systems (e.g., Budget Preparation Management System, Unified Reporting System and several banks' application). Currently, the system is rolled-out to DBM as a spending agency and to BTr as a spending and oversight agency. Eventually, it shall be rolled-out to all National Government Agencies (NGAs), with an approximate user base of 25,000 users and handle the execution of over three trillion Pesos of National Budget.

Primarily designed to be a COTS (Commercial off the Shelf) solution based on FreeBalance's Accountability Suite, the BTMS was configured and customized to follow national government laws, procedures, monitoring, and reporting requirements. At the

moment, interfaces to external application or manual procedures are limited to user-initiated data transfer using the included JV's file transfer and formatting utility. Customization also currently concentrates on report generation either by direct coding (Java) or using the JV's report-writer utility. Although the implementation as much as possible adheres to the 'no-code' configuration this does not preclude more complex API or internal-coding customization in the next BTMS phases.

The scope of work for the JV Partner includes the following:

Table 2: BTMS Scope of Work for the JV Partner

<b>Scope of Work for JV Partner</b>	<b>Coverage</b>
<b>1. BTMS Implementation Requirements</b>	<ul style="list-style-type: none"> <li>a. Design and Implementation of Application and System Software</li> <li>b. Implementation of IT Infrastructure</li> <li>c. Capacity Building, Change Management and Communications Services</li> <li>d. Data Migration</li> </ul>
<b>2. BTMS Support Services Requirements</b>	<ul style="list-style-type: none"> <li>a. Establishment and management of Helpdesk Operations</li> <li>b. Warranty and Maintenance Support of Application and System Software</li> <li>c. Warranty, Operations and Maintenance Support for IT Infrastructure</li> </ul>

The DBM, with its internal budgetary support, created a Project Management Office (PMO) to coordinate, monitor and manage the BTMS implementation with the chosen JV.

However, to ensure quality, the system, its architecture and interfaces must be subjected to an independent testing and quality assurance (QA). The PMO-DBM is seeking to engage a consultant to act as the project's Quality Assurance Partner (QAP) to provide primary support in the functional and technical testing and QA of the BTMS.

## **2. Objectives**

The independent QA functional and technical quality assurance project aims to ensure that:

1. The BTMS will function as per specification : Terms of Reference (TOR) and JV's system documentation;
2. That the infrastructure and operational procedure of the system will behave as per specification, agreed upon service level agreement (SLA), and should be secure and scalable; and
3. That the practice of ensuring the quality of program delivery can be sustained by DBM.

### ***3. Scope and Coverage***

Aside from the inception phase there are three critical phases of the project namely:

- the functional testing of the BTMS,
- the technical testing of the system and its infrastructure,
- and the QA transitioning which constitute a) the continuous functional and technical testing of BTMS during its agency roll-out and maintenance phase and b) the on the job training of DBM QA trainees.

The QAP shall ensure the completion objectives and deliverables of the project and all its phases.

#### ***a. Inception phase***

The QAP shall prepare an Inception Report. The Inception Report shall present both

- a project plan containing sufficient details on work breakdown structure, sequencing and time frame for every activity, assumptions, dependencies, the critical path, the project management tool to be used, and the proposed reporting mechanism, risk, and change management procedures; and
- a comprehensive test plan that will describe the over-all strategy for a multi-stage evaluation, testing methodology, coverage, tools to be used, over-all test criteria, roles, schedule, expected quality outcome based on observable metrics, test environment configurations, and other macro assumptions that may affect the reliability, traceability, and performance of the BTMS. The plan must include the proposed staffing plan including numbers, roles, and responsibilities of team members from the QAP and their DBM counterpart or dependencies, and target testing schedule; the comprehensive test plan shall dictate the manner on how to conduct the subsequent functional and technical quality assurance phases and thus have to be approved by DBM.

#### ***b. Functional testing***

The Functional Testing of BTMS will be a comprehensive and integrated testing of all functionality of BTMS covering the scope of all Phases, from Phase I to Phase V, including data migration and interfaces with external systems, and all configurations and customizations done on the core Accountability Suite.

Data structures, users and operations manual, architecture design, and similar system documentation (Annex D) will be provided by the JV but no program codes will be available.

A structured or modular testing corresponding to the different phases of the BTMS (Annex B) is preferred to ensure completion and traceability of test results. Each phase will have its own phase test plan submitted and to be approved by DBM. This phase test plan shall follow and detail the implementation of the approved project comprehensive test plan and shall cover the following:

- Functional coverage of the phase including external and in-between phase interfaces , the acceptance criteria for the phase, staffing and roles, scheduling and other resource requirements not specified in the comprehensive test plan.
- Identification of test scenarios, development of test cases, test scripts, and the proposed quality, quantity, and availability of the test data to be used. Test cases will be based on the different use case scenarios thus, will validate target or good (sunny sky) scenario, negative, extension, and alternative cases.

However in accordance with the application being an integrated system, the end-to-end use cases (business processes) will not be limited to module boundaries but will focus on the measurable, verifiable, or tangible manifestations such as indicative report of the completed value process; individual or detailed test cases attributed to specific module can be re-used, extended, or included in other module or phase testing.

Upon approval of the phase test plan, the QAP can proceed with the two-stage testing with the assistance from the identified DBM personnel. The first stage is a complete functional pass of the phase covering all scenarios. The first-stage test result including recommendation will be submitted to PMO-DBM for resolution of defects. The second-stage testing is a second-pass regression testing with the test result and final phase recommendation again to be submitted to PMO-DBM. The schedule of the first and second pass shall be included in the proposed phase test plans.

The test result and recommendation will be presented during the weekly status reporting of the functional testing including list of completed test cases for execution, defects identified during testing, updated defect log, target coverage for next week, and if any, dependencies and/or assumptions that will hinder the test activity for succeeding week.

The phase V (integration) testing will include a complete end-to-end regression of the BTMS business processes from budget preparation data loading to the generation of ending and starting financial balance of the government of the Philippines. Financial and accountability reports must accurately reflect all budget execution transactions, cash management, and status of budget controls.

The functional testing will be conducted off-site. Should the QAP require the assistance of identified DBM personnel or need to conduct testing within the DBM office, this can be scheduled based on the test plan.

### *c. Technical testing*

The technical testing of BTMS Application and its underlying IT Infrastructure:

- shall benchmark the system against technical specification and SLA;
- shall identify optimum capacity and threshold limits ;
- shall test high availability and capability to recover against system failure or unscheduled shutdown;
- shall determine how the infrastructure shall scale as system load (data, transactions, user logins, connectivity and bandwidth requirements) increases from optimum capacity to stress conditions (for all authorized transactions, see security test below);
- shall determine security exposure or vulnerability from both malicious attacks or benign intrusions (penetration test: application, network, and database)

including server-client authenticity failure, virus and malware attacks, denial of service penetration, data confidentiality exposure, and other data or application tampering intents; security load test will differentiate unauthorized intrusions from valid logins;

- shall indicate the maintainability of the architecture such as recovery period from complete or partial shutdown, forward or backward recovery capability, transfer from primary to secondary servers and other appliances, application upgrade promotion, etc.

The performance testing of the BTMS will be conducted under production and maximum condition: will be performed on the actual architectural environment.

Testing has to be scheduled during after office or holiday hours and the backup and recovery procedure tested and approved by PMO prior to the commencement of the technical test.

The technical Testing phase shall provide the following:

1. Development of the phase's test strategy and test plan to include coverage, criteria, DBM personnel assistance, backup and recovery procedure, detailed schedule, and other specificity not covered in the comprehensive plan;
2. Identification of test scenarios and development of test cases for the performance testing of the BTMS based on the requirements specifications, SLA, and other metrics to ensure scalability, high availability, and safe and secure environment and connectivity;
3. Submit the phase test plan for approval to PMO-DBM;
4. Conduct actual testing with the identified DBM personnel
5. Report the test result, defects found, vulnerability, and to present recommendation to PMO-DBM;
6. Conduct a second-pass for regression testing concluding in the final test result and recommendation submission.

The Weekly status reporting should highlight testing cases covered, defects found, dependencies, and target completion. It must also include an up to date log of outstanding and resolved defect plus the updated project and test schedule.

The QAP may also be consulted by PMO in the resolution of failures, identification of fault conditions, risk evolution, and the corresponding procedure to avoid or mitigate the occurrence of these fault conditions.

#### ***d. Transitioning***

After the completion of the functional and technical testing, the BTMS will still evolve as it is being enhanced by actual government budgeting practices, new policies, and audit regulations, or technology and application upgrades. To ensure continuous quality delivery, DBM will both:

- Engage the services of the QAP for a continuous QA testing of the BTMS for one-year; and

- Identify DBM personnel that will be trained by the QAP specialists in their testing methodology, use of testing tools, and QA processes in general.

This six-month transition period will cover:

- Functional and technical testing of any additional enhancement if any, subject to the same criteria and methodology exhibited in the previous phases;
- A two-month on the job training of the DBM QA team ;
- Recommendation to purchase or transfer license of the appropriate QA tool/s and any hardware upgrade if merited.

For the task, the QAP team will report directly to the DBM project manager for the duration of the transition phase of the project.

Consequently, DBM shall identify similar complementary QA trainees: BTMS module specialists and technical/infrastructure expert.

The DBM trainees will be expected to report, train, and assist the QAP team on their place of work. However DBM shall provide for the trainee transportation, equipment, license, and other logistical need.

Aside from the weekly status report, the QAP team lead will submit a training plan that includes the scope and coverage of training, tools to use, training materials, qualifications of the target participants, and proposed training duration and schedule, and certification requirements if any.

### *e. Final Report*

The QAP shall prepare a Final Assessment Report. The Final Assessment Report shall include the:

- Summary of all the quality assurance results and recommendation on each phases;
- overall assessment the functional and technical aspects of the system.

## *4. Implementation Schedule and QAP Deliverables*

The table below presents the scope of services for the Quality Assurance Partner (QAP) and recommended schedule subject to the delivery of the appropriate BTMS modules by the JV.

Table 3: Implementation Schedule and QAP Deliverable

S.N	Phase	Sub-Phase/ Corresponding BTMS Phase	Purpose	Deliverable	Timelines (Month base 1)
1.	Inception		Set an agreement on how to conduct the functional and technical testing of the BTMS.	<ol style="list-style-type: none"> <li>Inception Report</li> <li>Project Plan</li> <li>Comprehensive test plan</li> </ol>	Month1
2.	Functional Testing of BTMS		Verify correctness, completeness, reliability, and efficiency of BTMS based on specifications and SLA.	Phase test plan	M2-M6
	Phase I		Verify portal functionality and interfaces	<ol style="list-style-type: none"> <li>Weekly status report</li> <li>Test result</li> <li>Recommendation</li> </ol>	M2
	Phase II		Verify Budget Execution and interfaces	<ol style="list-style-type: none"> <li>Weekly status report</li> <li>Test result</li> <li>Recommendation</li> </ol>	M2-M4
	Phase III		Verify Treasury and Cash Management modules and interfaces	<ol style="list-style-type: none"> <li>Weekly status report</li> <li>Test result</li> <li>Recommendation</li> </ol>	M3
	Phase IV		Verify Budget Management and interfaces	<ol style="list-style-type: none"> <li>Weekly status report</li> <li>Test result</li> <li>Recommendation</li> </ol>	M4



S.N	Phase	Sub-Phase/ Corresponding BTMS Phase	Purpose	Deliverable	Timelines (Month base 1)
		Phase V	Regression test of all phases plus Financial and Accountability reports	<ol style="list-style-type: none"> <li>Weekly status report</li> <li>Final Test result</li> <li>Final Recommendation</li> </ol>	M4-M6
3.	Technical Testing of BTMS		Conduct testing on the BTMS and its infrastructure to ensure the objective and scope of the technical test will be covered and achieved.	<ol style="list-style-type: none"> <li>Phase test plan</li> <li>Backup and recovery test result</li> <li>Test result</li> <li>Recommendation</li> <li>Weekly status report</li> </ol>	M2-M6
4.	Transition		Develop DBM QA process capability.	<ol style="list-style-type: none"> <li>Training plan</li> <li>Training result</li> <li>Test result</li> <li>Recommendation</li> <li>Weekly status report.</li> <li>Verification and validation report on system issues</li> </ol>	M5-M10
5.	Final Report		Provide overall assessment of the system	<ol style="list-style-type: none"> <li>Final Assessment Report</li> </ol>	M10

## 5. Payment Schedule

The table below details the proposed payment schedule for the Testing Services to be provided by the QAP during the project lifecycle.

The % of Payment indicated in the table below is the % of the total cost quoted towards the assignment.

For receiving the payment associated with each payment milestone indicated in the table below, the QAP shall complete all the activities and shall submit all associated deliverables for respective payment milestone (as detailed in Section 3) including other activities and deliverables due till such payment milestone.

All deliverables submitted by the QAP are subject to approval and sign-off by DBM.

Table 4: Payment Schedule for the Testing Services

Payment Milestone	Milestone	Timelines for completion	% of payment
1	Inception Report	Month2	13%
2	Functional Testing		
	Phase I Final QA report	M3	3%
	Phase II Final QA report	M5	13%
	Phase III Final QA report	M4	7%
	Phase IV Final QA report	M5	5%
	Phase V Final QA report	M7	11%
3	Technical Test report	M7	11%
4	Continuous BTMS testing	M5 – M10	5% per month
	Training result and recommendation	M10	3%
5	Final Assessment Report	M10	4%

## 6. Reporting Arrangements

The Quality Assurance Partner will functionally report to DBM through the designated BTMS Project Manager and will work closely with the PMO.

The QAP will be required to prepare the following reports:

- Inception Report, to be submitted four (4) weeks after project awarding

- Specific Testing QA Reports
- Training plan and results
- Weekly project status report conforming to the objective of each project phase or sub-phase.

## ***7. DBM Responsibilities***

DBM will provide necessary assistance to the QAP in carrying out his/her activities:

- DBM would ensure availability of identified personnel based on role requirement and agreed schedule
- DBM shall allow appropriate system and data access subject to security and confidentiality restrictions
- DBM shall assist in the installation of the approved functional test environment or any accredited utilities or tools needed for the vendor to fulfill its purpose.

The QAP will identify and report defects and is expected to provide recommendation but DBM shall conduct and implement all resolutions.

## ***8. Confidentiality***

The QAP team will have to sign a non-disclosure agreement before commencement of the project.

## ***9. Duration***

The project duration will be ten (10) months, or the time necessary to obtain sign-off for all submitted outputs as per Section 4, whichever comes later.

## ***10. Resource Requirements***

The QAP shall be responsible for all logistical, transportation and accommodation requirements of its experts to carry out the assignment, including office space in Metro Manila, access to internet, email, computer network and telephones, laptop/PC/server computers, printers, photocopiers and scanners, functional and technical quality assurance software, tools, machine, products, platforms, frameworks and respective software licenses necessary for the successful implementation of the assignment.

When required by DBM, the QAP shall deploy its experts to work with the PMO in the BTMS project premises or at any site within the Philippines suited to conduct the functional and technical tests.

Regular weekly meetings, between the PMO and the QAP, for planning and progress monitoring shall be primarily conducted at the BTMS project premises at DBM Central Office or BTr Central Office.

During the Testing phase, the QAP team shall dedicate a of minimum of eight (8) personnel composed of:

- One (1) Resident Project Manager
- One (1) Functional Team Lead
- One (1) Technical Team Lead
- Three (3) Functional Tester
- Two (2) Technical Tester

For the transition phase, the QAP will dedicate a five-person team composed of a leader, a technical tester and three functional tester each specializing in the BTMS's module namely Budget execution, Treasury and Cash Management, and Budget Management."

## ***11. Qualifications of the Quality Assurance Provider***

The successful QAP will be a local company with the following criteria and performance dimensions:

- The consultant must be specialized in Information Systems and Information and Communication Technology (IS & ICT) with proven competence in quality assurance; functional and technical testing.
- Five (5) years working experience in conducting functional and technical tests with previous experience in testing web-based mission-critical information systems, experience in government application systems is an advantage.

## ***12. Annexes***

<b>Annex</b>	<b>Description</b>
Annex A:	List of Acronyms
Annex B:	BTMS Overview, Phases and Functional Modules
Annex C:	BTMS IT Infrastructure
Annex D:	BTMS Documentation
Annex E:	BTMS Service Level Agreements

## *Annex 1 – List of Acronyms*

<b>Acronym</b>	<b>Description</b>
ACII	Automated Clearing House
BED	Budget Execution Document
BFAR	Budget and Financial Accountability Report
BIR	Bureau of Internal Revenue
BOC	Bureau of Customs
BPMS	Budget Preparation Management System
BTMS	Budget and Treasury Management System
BTr	Bureau of Treasury
COTS	Commercial Off-The-Shelf
DBM	Department of Budget and Management
DC	Data Center
DICT	Department of Information and Communication Technology
DMFAS	Debt Management and Financial Analysis System
DMZ	Demilitarized Zone
DR	Disaster Recovery
EDMS	Electronic Document Management System
EFT	Electronic Fund Transfer
EMS	Enterprise Management System
FRS	Functional Requirements Specification
GAA	General Appropriations Act
GAM	Government Accounting Manual
GOV	Government of the Philippines
GRN	Goods Received Note
GRP	Government Resource Planning
ICT	Information and Communication Technology
ID	Identification
IE	Internet Explorer
IPS	Intrusion Prevention System
IS	Information System
IT	Information Technology
JV	Joint Venture
LAN	Local Area Network
MCOMS	Monthly Cost of Operations and Maintenance Support
MDP	Monthly Disbursement Program
NG	National Government
NGA	National Government Agency
NGCS	National Government Collections System
NPBH	Non-Peak Business Hours
nROSS	Registry of Scriptless Securities System

PBH	Peak Business Hours
PFM	Public Financial Management
PhilGEPS	Philippine Government Electronic Procurement System
PMO	Project Management Office
PO	Purchase Order
PPE	Property, Plant and Equipment
PPSAS	Philippine Public Sector Accounting Standards
PS	Procurement Service
QAP	Quality Assurance Partner
RDBMS	Relational Data Base Management System
RPO	Recovery Point Objective
RTO	Recovery Time Objective
SAN	Storage Area Network
SIEM	Security Information Event Management
SLA	Service Level Agreement
TOR	Terms of Reference
TRS	Technical Requirements Specifications
TSA	Treasury Single Account
UACS	Unified Accounts Code Structure
URS	Unified Reporting System

## *Annex 2 – BTMS Overview, Phases, Functional Modules and Interfaces*

BTMS is a modern, integrated, web-based management information system that supports crucial public financial management functions.

### *Purpose*

BTMS is a key technical component of the Philippines' overall PFM Reform Roadmap to improve the efficiency, transparency and accountability of government operations. It sustains and builds on the gains of recent PFM initiatives in improving treasury cash management operations through the Treasury Single Account (TSA), in harmonizing accounting, treasury and budget reporting classifications via the implementation of a Unified Accounts Code Structure (UACS).

With prerequisite reforms in place, government can now build an integrated and web-based management information system to support functions such as the Budget Management, Commitments Management, Payments Management, Receipts Management, Cash Management, Property, Plant and Equipment Management (PPE), Accounting and Fiscal Reporting. By linking the financial processes of DBM and BTr, BTMS cuts down on the effort and resources necessary to manage public funds.

### *Benefits*

The specific objectives of the BTMS are to support the ongoing financial management reform and provide the following benefits to government:

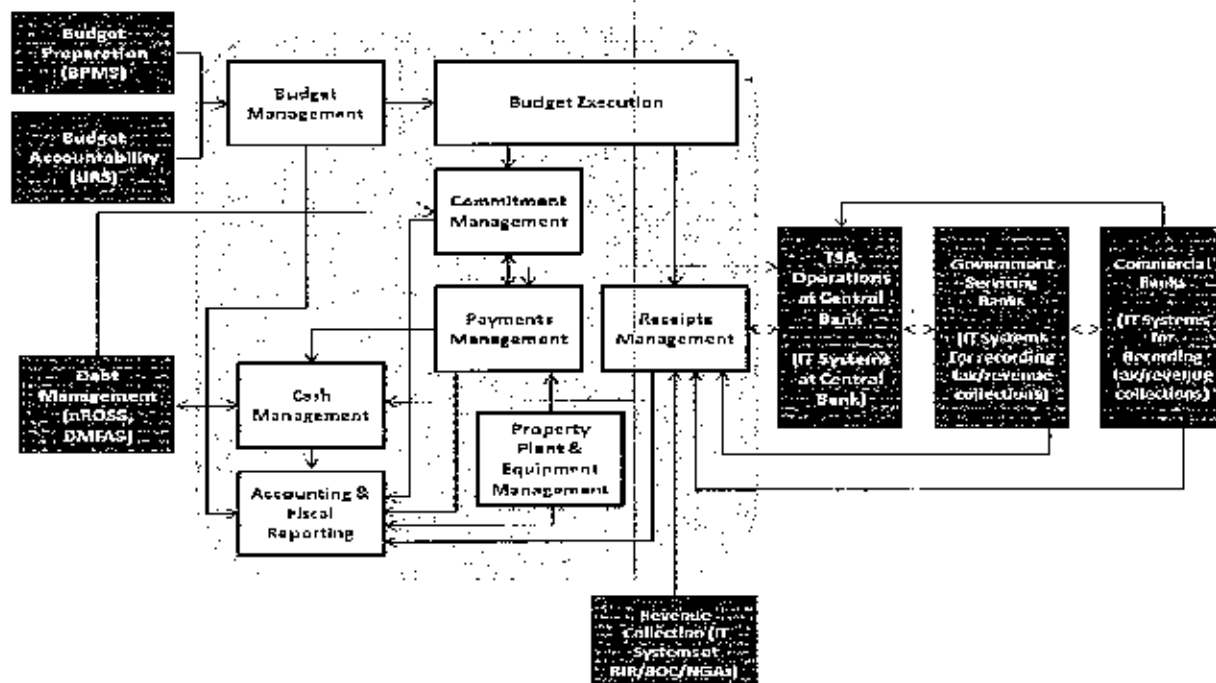
- Online monitoring of appropriations vs. allotments vs. obligations vs. disbursements;
- A TSA that provides a more modern, efficient and effective way of cash management, a more economical system for cash disbursements, which is also envisaged to support in timely bank reconciliation;
- A predictable and streamlined allotment and cash release programs throughout the year to support the operations of implementing agencies based on reliable cash forecasting and programming;
- Timeliness and relevance of regular fiscal reporting including timely year-end audit reports of agency finances and operations; and,

Compliant with the generally accepted accounting principle prescribed by Government Accounting Manual (GAM), and consistent with the international standards as adopted through Philippine Public Sector Accounting Standards (PPSAS).



## Functions and Interfaces

The diagram below outlines the specific PFM functions to be supported by BTMS as well as interfaces with other related functions/information systems of the government and other stakeholders, e.g. budget preparation, debt management and revenue collections, among others.



## Implementation Phases

The table below describe the BTMS Phases and respective Functional Modules and Interfaces.

Table 5: BTMS Phases, Functional Modules and Interfaces

Phase	Name	Description	Modules/Interfaces
Phase I	Web Portal	The portal is the gateway for the users to access the BTMS application, and also provides useful information for the users, including schedule of training, users' guides, handling procedures and advisories among others.	<p>Modules</p> <ul style="list-style-type: none"> <li>• NA</li> </ul> <p>Interfaces</p> <ul style="list-style-type: none"> <li>• NA</li> </ul>
Phase II	Budget Execution	<p>Functionality for the NGAs to execute their budgets, including Commitments and Purchase Requisitions, Obligations and Purchase Orders, Disbursement Vouchers, Payment Requests, Journal Entry Vouchers, Revenue Vouchers, Bank Reconciliation, Electronic Funds Transfer (EFT) from the TSA to the beneficiary bank account.</p> <p>Functionality for user registration, identification, authentication (including two-factor authentication) and access control to functionality and data.</p>	<p>Modules</p> <ul style="list-style-type: none"> <li>• Commitments Management</li> <li>• Payments Management</li> <li>• PPE Management</li> <li>• Receipts Management</li> <li>• Accounting and Fiscal Reporting</li> </ul> <p>Interfaces</p> <ul style="list-style-type: none"> <li>• IT Systems at the Banks</li> <li>• Unified Reporting System (URS)</li> <li>• Philippine Government Electronic Procurement System (PhilGEPS)</li> </ul>
Phase III	Treasury and Cash Management	Functionality for BTr as an oversight agency, including Bank Accounts management, Bank Reconciliation, Cash Forecasting, Payments Management, Receipts Management, Debt Servicing, etc.	<p>Modules</p> <ul style="list-style-type: none"> <li>• Commitments Management</li> <li>• Payments Management</li> <li>• Receipts Management</li> <li>• Cash Management</li> <li>• Accounting and Fiscal Reporting</li> </ul> <p>Interfaces</p> <ul style="list-style-type: none"> <li>• Debt Management and Financial Analysis System (DMFAS)</li> <li>• Registry of Scriptless Securities System (nROSS)</li> </ul>

Phase	Name	Description	Modules/Interfaces
			<ul style="list-style-type: none"> <li>• National Government Collections System (NGCS)</li> <li>• IT Systems at the Banks</li> <li>• IT Systems at the Revenue Agencies</li> </ul>
Phase IV	Budget Management	Functionality for DBM as an oversight agency, including maintenance of the Monthly Disbursement Program, Allotments Release, Cash Allocations Release, Realigments, Physical Performance, etc.	<p>Modules</p> <ul style="list-style-type: none"> <li>• Budget Management</li> <li>• Fiscal Reporting</li> </ul> <p>Interfaces</p> <ul style="list-style-type: none"> <li>• Budget Preparation Management System (BPMS)</li> <li>• Unified Reporting System (URS)</li> </ul>
Phase V	Complete and Integrated Solution	Complete and integrated functionality of Phases II, III and IV above, supporting the oversight functions of DBM and BTr and the spending functions of all NGAs.	<p>Modules</p> <ul style="list-style-type: none"> <li>• All modules above</li> </ul> <p>Interfaces</p> <ul style="list-style-type: none"> <li>• All interfaces above</li> </ul>

### *Functional Modules*

The table below describe the Functional Modules of BTMS.

Table 6: BTMS Functional Modules

Module	Functionality
Budget Management	<p>The BTMS Budget Management function would support in recording the approved appropriations, allotments, monthly disbursements program (MDP) and cash allocations. In case of delays in approval of the budgets, budget management function supports in recording interim appropriations (based on last year GAA or as determined by the government).</p> <p>It would also support in budget adjustments including re-allocations, sub-allotments, and additional allocations as approved by DBM (and legislature in case of additional allocations) during the course of the year. The system supports in maintaining the complete audit trail of appropriations, allocations, adjustments and balances for each spending agency and at an aggregate level for national government.</p> <p>In addition, this system would also support in budget programming activities in terms of capturing MDPs of the national government agencies on the basis of appropriations and in revising cash programs based on budget adjustments.</p>
Commitments Management	<p>Commitment Management is the process of setting aside a budget allotment for a specific expenditure that is to be incurred in the future, subject to fulfilment of certain conditions. The process of Commitment Management covers the recording of Commitments and Obligations.</p> <p>Commitment process records the intent to incur expenditure by spending agencies. It earmarks the allotments and hence reduces the allotment balance by the amount of the commitment. Commitment can be created, approved, updated and closed. The commitments can also be rolled over to next fiscal year.</p>

Module	Functionality
	<p>Obligation is an act of a duly authorized official which binds the government to the immediate or eventual payment of a sum of money. An obligation is a binding agreement with a vendor. With BTMS, it can be created manually, linked to a pre-created Commitment, or automatically when a Purchase Order (PO) is created.</p>
<p>Payments Management</p>	<p>Payment Management involves recording of expenditure and processing of payments to suppliers, employees, and others. This process handles expenditure and payment management cycles from purchasing, receipt of goods/services, supplier's invoices to the payments, and bank reconciliation.</p> <p>BTMS maintains a database of suppliers, details of expenditures and payments, etc. The process enforces expenditure control against commitments, obligations, allotments, and cash allocations. Payments in excess of available bank balances are not allowed. Expenditures are matched against POs and Good Received Notes (GRNs) for acceptance and/or invoices from various suppliers</p>
<p>Receipts Management</p>	<p>Receipt Management is the process of recording, classifying and managing revenue collections from different sources. The main function of receipts management is to ensure correct recording and reporting of Tax and Non-Tax Revenues.</p> <p>It covers the following PFM functions:</p> <ol style="list-style-type: none"> <li>1. Recording of receipts and recognition of Tax and Non-Tax Revenues of the National Government Agencies (NGAs) that are outside of BTMS, such as BIR and BOC,</li> <li>2. Recording of receipts and recognition of Non-Tax Revenues by NGAs implementing BTMS, particularly the BTr, and</li> <li>3. Recording of other receipts.</li> </ol>
<p>Cash Management</p>	<p>The Cash Management and Debt Management business areas are high level aggregations of the processes that relate to the collection, handling and usage of cash resources, and issuance, servicing and repayment of Government liabilities, respectively. The processes described in this section are oversight functions of BTr in compliance with its mandate to manage the financial resources of GOP.</p> <p>It covers the following PFM functions:</p> <ol style="list-style-type: none"> <li>1. Maintenance of bank account data</li> <li>2. Recording cash receipts and processing cash disbursements</li> <li>3. Bank account reconciliation</li> <li>4. Forecasting cash flows</li> <li>5. Managing cash balances</li> <li>6. Government Borrowings in the form of Loans</li> <li>7. Government Borrowing in the form of NG Securities</li> <li>8. On-Lending</li> </ol>
<p>Accounting and Fiscal Reporting</p>	<p>The purpose of 'Accounting &amp; Fiscal Reporting' process is to compile all the financial transactions, generate consolidated financial statements of the GOP as per pre-defined format, and likewise generate relevant Fiscal Reports on budgets, actual revenue &amp; expenditure, accounting statements, and other such reports as required for fiscal performance monitoring and management.</p> <p>The process is to enable the preparation of periodic financial statements, accounting reports as per pre-defined formats and to generate statutory accounting statements from the General Ledger accounts, after incorporating necessary month and year-end adjustment entries.</p> <p>It covers the following processes:</p>

Module	Functionality
	<ol style="list-style-type: none"> <li>1. Process of Adjustment Entries</li> <li>2. Periodic Accounting Function</li> <li>3. Fiscal Reporting</li> </ol>
PPE Management	<p>PPE Management covers the process of the procurement of assets, transfers, disposal, survey and valuation of the PPE (land, buildings, industrial machines, IT equipment, transport equipment, roads, etc.). It also covers the steps from the receipt of the new PPE's on their acquisition, recording of their physical location, financial information, allocation of assets, and verification details in the Assets in BTMS. Some information is mandatory to be recorded in the asset register such as asset ID, asset classification and sub-classification, Asset item group, value of the asset, asset acquisition methods, depreciation method and period, salvage value, item operational status, disposal details, etc.</p>

## Interfaces

The table below describe the Interfaces of BTMS with other IT Systems.

Table 7: BTMS Interfaces

IT System	Interface
IT Systems at the Banks	<p>BTMS generates payment orders via Electronic Fund Transfers (EFT) from the Treasury Single Account (TSA) to the beneficiary bank account.</p> <p>BTMS interfaces with the IT Systems at the Banks responsible for implementing the TSA and for processing EFTs via the Automated Clearing House (ACH).</p> <p>BTMS interfaces with the IT Systems at the Banks that maintain Treasury Bank Accounts, including the TSA, for receiving the electronic bank statements for automated bank reconciliation.</p>
Unified Reporting System (URS) of DBM	<p>The NGAs submit their Budget Execution Documents (BEDs), including the Financial Plan, Physical Plan and Monthly Disbursement Program (MDP) through the URS.</p> <p>BTMS interfaces with URS to receive the BEDs from the NGAs.</p> <p>BTMS generates Budget and Financial Accountability Reports (BFARs) for the rolled-out NGAs.</p> <p>BTMS interfaces with the URS to provide the same with the BFARs for consolidation.</p>
Debt Management and Financial Analysis System (DMFAS) at BTr	<p>BTr uses DMFAS for managing domestic and foreign debt.</p> <p>DMFAS interfaces with BTMS to provide the debt schedule, including the receipt of loans and grants and also the debt servicing of principal and interest.</p> <p>BTMS interfaces with DMFAS to inform on receipt of loans and grants via the Receipts Management module.</p> <p>DMFAS interfaces with BTMS to inform on debt servicing of principal and interest via the Commitments and Payments Management modules.</p>
Registry of Scriptless Securities System (nROSS) of BTr	<p>BTr uses nROSS for managing Treasury securities.</p> <p>nROSS interfaces with BTMS to provide the securities schedule, including issuance and maturity.</p> <p>BTMS interfaces with nROSS to inform on receipt of securities via the Receipts Management module.</p>

IT System	Interface
IT Systems at Revenue Agencies	<p>nROSS interfaces with BTMS to inform on securities redemption via the Commitments and Payments Management modules.</p> <p>The revenue agencies, the Bureau of Internal Revenue (BIR) and the Bureau of Customs (BOC), use their own IT systems for revenue management at the transaction level for each tax/duty assessment and collection for each individual tax/duty payer.</p> <p>The revenue agencies remit to the TSA all collections of tax/duties in the next day.</p> <p>BTMS interfaces with the IT Systems at the Revenue Agencies to receive the aggregate collections per date, per bank and per tax/duty code for automated reconciliation, classification and accounting of revenues.</p>
National Government Collections System (NGCS) of BTr	<p>The BTr uses the NGCS for recording the non-tax receipts of the NGAs.</p> <p>The NGAs remit to the TSA all collections of fees in the next day.</p> <p>BTMS interfaces with NGCS to receive the aggregate collections per date, per bank and per fee code for automated reconciliation, classification and accounting of revenues.</p>
Budget Preparation Management System (BPMS) of DBM	<p>The DBM uses BPMS to prepare the budget and to keep the approved General Appropriations Act (GAA) and other budgetary requirements.</p> <p>The BTMS interfaces with BPMS to receive the GAA and other budgetary requirements to enable the budget execution by the NGAs.</p>
Philippine Government Electronic Procurement System (PhilGEPS) of Procurement Service	<p>The Procurement Service (PS) of DBM uses PhilGEPS to maintain the master data of all suppliers of the GOP, including manufacturers, distributors, contractors and consultants, local and foreign.</p> <p>The BTMS interfaces with PhilGEPS to receive the daily updates on the suppliers' master data.</p>

## *Annex 3 – BTMS IT Infrastructure*

### *Software*

BTMS is a web based application and is hosted based on a centralized architecture with a common application instance for all users. The solution is accessible through standard web browsers (e.g., Chrome, Firefox, Safari and IE) and don't require installation of any tools or software on end user workstation. The major software components of BTMS are listed in the table below.

Table 8: BTMS Software

<b>Item</b>	<b>Description</b>	<b>Qty</b>
BTMS Application Software	FreeBalance Accountability Suite Government Resource Planning (GRP) Commercial Off-The-Shelf (COTS) Version 7.0	3,000 concurrent users as of May 2018. After completion of the rollout there should be 10,800 concurrent users
Operating System	Microsoft Windows Server 2012	-
RDBMS	Microsoft SQL Server 2012 Clustered	-
Application Server	Tomcat Servlet Engine 7	-
Web Server	Apache Web Server 2.0	-
Virtualization Manager	Microsoft System Center/Hyper-V	-
Anti-Virus	Symantec End Point 12.1	-
EMS	Solarwinds	-
Helpdesk	Landesk	-
Backup	Dell NetVault	-
Integration Software	Paperless Trail B2B Fusion	-
Portal Server	Liferay Portal 6.2	-
EDMS	Paperless Trail Archive One 8	-

### *Hardware in the Main Data Center*

The IT Infrastructure for BTMS at the Main Data Center, supporting the Development, Test, Training and Production Environments, considers redundancy, high availability and fail-over at all levels of the solution. The IT Infrastructure is collocated in the DICT cage hosted in the Globe's MK2 Data Center in Makati City. All Web, Application and Database servers are virtualized and hosted in Blade servers. The major components of the BTMS IT Infrastructure in the Main Data Center are described in the table below.

Table 9: BTMS IT Infrastructure in the Main Data Center

<b>Item</b>	<b>Description</b>	<b>Qty</b>
Blade Chassis	Dell PowerEdge M1000c	1 pc
Blade Server	Dell PowerEdge M830	6 pcs
Backup Server	Dell PowerEdge R430 Rack Server	1 pc
EMS Server	Dell PowerEdge R430 Rack Server	1 pc
	Dell PowerEdge R730 Rack Server	1 pc
Tape Backup	Dell PowerVault TL4000	1 pc
SAN Storage	Dell Compellent SC8000	1 pc
Tier-1 Firewall	Juniper Networks SRX1400	2 pcs
Tier-2 Firewall	Dell Sonicwall NSA 6600	2 pcs
IPS	HP Tipping Point	2 pcs
Core Router	Cisco ISR 4451	2 pcs
Load Balancer	F5 BIG-IP 4000s	2 pcs
SIEM	HP ArcSight	1 pc
SAN Switch	Dell Networking S5000	2 pcs
Core Switch	Dell Networking S6000	2 pcs
<b>DMZ Switch</b>	<b>Dell Networking N4032F</b>	<b>2 pcs</b>



## ***Annex 4 – BTMS Documentation***

The table below lists the BTMS documentation that can be provided to the QAP to support in the conduction of the testing activities.

Table 11: BTMS Documentation

<b>Document</b>	<b>Author</b>
<b>Terms of Reference (TOR) for the “Design, Implementation, Operation and Maintenance of Budget and Treasury Management System (BTMS) for the Government of the Philippines”</b>	<b>DBM</b>
<b>Functional Requirements Specifications (FRS) for the “Design, Implementation, Operation and Maintenance of Budget and Treasury Management System (BTMS) for the Government of the Philippines”</b>	<b>DBM</b>
<b>Technical Requirements Specifications (TRS) for the “Design, Implementation, Operation and Maintenance of Budget and Treasury Management System (BTMS) for the Government of the Philippines”</b>	<b>DBM</b>
<b>Project Plan</b>	<b>JV Partner</b>
<b>As-Is and To-Be Study Report</b>	<b>JV Partner</b>
<b>Portal Requirements Specification and Design for Phase I</b>	<b>JV Partner</b>
<b>Gap Analysis Report for Phases II, III and IV</b>	<b>JV Partner</b>
<b>Configuration Blueprint</b>	<b>JV Partner</b>
<b>Data Digitization and Migration Strategy and Plan for Phases II, III and IV</b>	<b>JV Partner</b>
<b>Interface Definition Study for Phases II, III and IV</b>	<b>JV Partner</b>
<b>Test Cases for User Acceptance Testing for Phases I, II, III and IV</b>	<b>JV Partner</b>
<b>Training Guide for System Administrator</b>	<b>JV Partner</b>
<b>Training Guide for Phases I, II, III and IV</b>	<b>JV Partner</b>
<b>User Guide for Phases II, III and IV</b>	<b>JV Partner</b>
<b>Handling Guidelines</b>	<b>JV Partner</b>
<b>IT Infrastructure Delivery and Installation Report for Development, Test, Training and Production Environments</b>	<b>JV Partner</b>
<b>IT Infrastructure Document</b>	<b>JV Partner</b>

<b>Solution Architecture Document</b>	<b>JV Partner</b>
<b>Two-Factor Authentication Design</b>	<b>JV Partner</b>
<b>Digital Signature Certificates Design</b>	<b>JV Partner</b>
<b>System Integration Solution Design</b>	<b>JV Partner</b>
<b>Electronic Document Management System Design</b>	<b>JV Partner</b>
<b>Standard Operating Procedures</b>	<b>JV Partner</b>
<b>Information Systems Security Policy</b>	<b>JV Partner</b>

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## Annex 5 – BTMS Service Level Agreements

The table below lists key performance indicators and requirements for BTMS and support services to be rendered by JV Partner during operations and maintenance phase. The performance indicators for BTMS shall be measured on a 24/7 basis and JV Partner shall be responsible for supply and implementation of an Enterprise Management System (EMS) to support in measuring and generation of relevant reports on performance requirements for BTMS. The EMS shall include web interface, which shall support DBM in monitoring the performance indicators and downloading the reports for the performance indicators. Access to EMS shall be provided by JV Partner to the staff designated by DBM. The EMS implemented by JV Partner shall also be subjected to an independent verification and validation to validate the completeness and integrity of performance data and reports generated by the system.

The following provides definitions of terms used in the BTMS performance indicators.

- PBH – Peak Business Hours
- NPBH – Non Peak Business Hours
- MCOMS – Monthly Cost of Operations and Maintenance Support, the proportional monthly cost for one month of operations and maintenance support to be paid by GOP for respective month.

Table 12. BTMS performance indicators

S.N	SLA Parameter	PBH (08:00 AM to 8:00 PM)		NPBH (8:00 PM – 8:00 AM)	
		Monthly Performance Achieved	% of Penalty on MCOMS	Monthly Performance Achieved	% of Penalty on MCOMS
<b>1</b>	<b>Availability of the systems</b> - Availability of systems will not only refer to the uptime of hardware and related operating system, but also includes uptime of BTMS Application Software, Web Server Software, Application Server Software, Database Server Software, Integration Server Software, Workflow Server Software, Document Management Server Software and services of BTMS to users from oversight, revenue and spending agencies and other related stakeholders. Uptime of the server OS without the availability of BTMS services will be treated as system downtime This parameter shall be monitored and measured during operations and maintenance phase and failure in non-compliance with given requirement will attract penalties as detailed below.				
1.1	Availability of BTMS	<99.52 %	1.00%	<98.33 %	1.00%
1.2	Application Software, Web	<99.05 %	2.00%	<96.67 %	2.00%
1.3	Server Software, Application	<98.10 %	3.00%	<95.00 %	3.00%
1.4	Server Software, Database Server	<97.14 %	3.75%	<91.67 %	3.75%

S.N	SLA Parameter	PBH (08:00 AM to 8:00 PM)		NPBH (8:00 PM – 8:00 AM)	
		Monthly Performance Achieved	% of Penalty on MCOMS	Monthly Performance Achieved	% of Penalty on MCOMS
	Software, Integration Server Software, Workflow Server Software, Document Management Server Software				
2	<p><b>BTMS Portal loading time:</b> During acceptance testing phase, system shall demonstrate performance of &lt;= 3 seconds up to concurrency of 40% of the total planned user base. Failure in achieving this performance shall be treated as non-compliance of the system with the given requirements. This parameter shall also be measured and monitored during operations and maintenance phase. Failure in complying with this requirement during operations and maintenance (if there is an instance of non-compliance with this requirement during the period of measurement), will attract penalties as detailed below.</p> <p>This parameter shall be measured from a system implemented in the data center in DC LAN and the measurement process shall ensure that the page is loaded from the server not from the local cache in the system used for measurement. System performance for this parameter shall also be measured during operations and maintenance phase.</p>				
2.1	BTMS Portal loading time	>3 sec	2.00%	-	-
2.2	BTMS Portal loading time	>5 sec	3.00%	-	-
2.3	BTMS Portal loading time	>7 sec	3.75%	-	-
3	<p><b>System Concurrency</b> BTMS application and supporting infrastructure shall be sized to support a concurrency 40% of the total planned user base. This requirement shall be tested during the acceptance testing phase and monitored continuously during operations and maintenance phase.</p> <p>Failure in achieving this performance during acceptance testing shall be treated as non-compliance of the system with the given requirements. Failure in complying with this requirement during operations and maintenance (if there is an instance of non-compliance with this requirement during the period of measurement), will attract penalties as detailed below.</p> <p>For each connection dropped/denied by the system, the EMS shall record the number of concurrent sessions at that instance. The SLA report for this parameter should include instances of connection drops/denial, at which the</p>				

S.N	SLA Parameter	PBH (08:00 AM to 8:00 PM)		NPBH (8:00 PM – 8:00 AM)	
		Monthly Performance Achieved	% of Penalty on MCOMS	Monthly Performance Achieved	% of Penalty on MCOMS
<p>concurrent sessions are lower than 40% of the total planned user base. The EMS shall also provide report on all instances of connection drops/denial by the system and number of concurrent connections at such instances. Failure in complying with this requirement during operations and maintenance (if there is an instance of non-compliance with this requirement during the period of measurement), will attract penalties as detailed below.</p>					
3.1	Instances of connection drop/denial by the system at system concurrency below or equal to 10% of total planned user base.	Connection drop/denial at <=10% of planned user base	3.75%	-	-
3.2	Instances of connection drop/denial by the system at system concurrency below or equal to 20% of total planned user base.	Connection drop/denial at <=20% of planned user base	3.00%	-	-
3.3	Instances of connection drop/denial by the system at system concurrency below or equal to 30% of total planned user base.	Connection drop/denial at <=30% of planned user base	2.50%	-	-
3.4	Instances of connection drop/denial by the system at system	Connection drop/denial at <=40% of planned user	2.00%	-	-

S.N	SLA Parameter	PBH (08:00 AM to 8:00 PM)	NPBH (8:00 PM – 8:00 AM)		
		Monthly Performance Achieved	% of Penalty on MCOMS	Monthly Performance Achieved	% of Penalty on MCOMS
	concurrency below or equal to 40% of total planned user base.	base			
<b>4</b>	<b>Response time for BTMS Application Software</b>				
	<p>BTMS application and supporting infrastructure shall be sized to support an application response time of &lt;=7 seconds up to a concurrency of 40% of the total planned user base. This requirement shall be tested during the acceptance testing phase and monitored continuously during operations and maintenance phase.</p> <p>Failure in achieving this performance during acceptance testing shall be treated as non-compliance of the system with the given requirements. Failure in complying with this requirement during operations and maintenance (if there is an instance of non-compliance with this requirement during the period of measurement), will attract penalties as detailed below.</p>				
4.1	Response time	> 7 Sec	2.50%	-	-
<b>5</b>	<b>Software Change Control Management</b>				
5.1	Implementation of change request within signed-off timelines in Change Control Note.	For every week of delay for each Change Request	0.50%	NA	NA
<b>6</b>	<b>Compliance with Critical (High/Medium) Standard Operating Procedures</b> (refer to note below the table)	For every incidence of non-compliance with high critical procedures for the month	0.50%	NA	NA
<b>7</b>	<p><b>Helpdesk Operations</b> - Each incidence of helpdesk staff closing the call/ticket without actually providing the resolution for the reported issue will attract penalty. Each incidence of helpdesk staff not closing the call/ticket and not providing the resolution for the reported issue within the stipulated response time will attract penalty. The penalty will be applied for each</p>				

S.N	SLA Parameter	PBH (08:00 AM to 8:00 PM)		NPBH (8:00 PM – 8:00 AM)	
		Monthly Performance Achieved	% of Penalty on MCOMS	Monthly Performance Achieved	% of Penalty on MCOMS
	incidence.				
	<b>High-critical</b> issues refer to any issues or gaps in application software, system software, IT and support infrastructure delivered, implemented and managed by the service provider, which have a severe impact on quality, availability or performance of all BTMS application services to the oversight and spending agencies.				
	<b>Medium-critical</b> issues refer to any issues or gaps in application software, system software, IT and support infrastructure delivered, implemented and managed by the service provider, which have an impact on quality, availability or performance of BTMS application services for a particular function or for an oversight or a spending agency.				
	<b>Low-critical</b> issues refer to any issues or gaps in application software, system software, IT and support infrastructure delivered, implemented and managed by the service provider, which have an impact on quality, availability or performance of BTMS application services for a particular user.				
7.1	Resolution of High-Critical issues reported/ support sought by the internal users	> 4 hours	0.75%	NA	NA
7.2	Resolution of medium-Critical issues reported/ support sought by the internal users	>24 hours	0.75%	NA	NA
7.3	Resolution of low-Critical issues reported/ support sought by the internal users	> 48 hours	0.75%	NA	NA