



GBA

Government Blockchain Association

Blockchain Maturity Model (BMM)

Assessment Program Requirements

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This document is the work product of the GBA Standards & Certification Working Group



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1 Introduction

Blockchain technology is an emerging technology that is rapidly maturing. Consequently, this industry does not have decades of best practices or infrastructure for the assessment of solutions. However, formal frameworks and models are necessary to perform objective evaluations for investment, acquisition, and process improvement purposes. For that reason, a broad array of blockchain experts came together to establish the Blockchain Maturity Model. They invested two years establishing and maintaining the model.

Upon the completion of the model, the BMM Assessment Requirements were also established. The assessment requirements are modeled on other models that have been in use, and globally adopted for decades. The Assessment requirements are based on the following Assessment principles:

- Assessment requirements shall be
 - agnostic to the selection of any blockchain solution
 - applied to the full stack of the technology from the blockchain to applications built on top of any blockchain
 - evaluated in the context of the opportunities & constraints that exist for the solution
- Assessments are conducted by a qualified team of experts that achieve consensus in the outcome of assessment results.
- Assessment results are intended to provide value to the recipients of the assessment results.

1.1 Purpose

The purpose of this document is to define the Blockchain Maturity Model (BMM) requirements and criteria to perform a formal BMM Assessment.

1.2 Scope

The scope of this document applies to all GBA Certified Assessment resulting in a formal rating published on the GBA website.

1.3 References

This document is one component in the BMM series of standards. The four components of the BMM series are applicable to blockchain solutions at all layers (network, protocol, application & transactions). The series includes:

- **BMM Overview** - describing the common terms, definitions, and concepts universally applied in all the components of the BMM series.
- **Blockchain Maturity Model Requirements** – describing what criteria is required at each level of maturity to ensure confidence in the solution.
- **Training Program Requirements** – describing the method and criteria for ensuring that individuals have demonstrated their competence required to implement and assess BMM compliance.



- **Assessment Program Requirements (this document)** - describing the method and criteria required to plan, conduct, and report BMM assessment results.

1.4 Roles & Responsibilities

The table below describes the roles and associated responsibilities.

Dir, Standards & Certifications	GBA position responsible for all program management functions and leads the GBA Standards & Certification Working Group
Lead Assessor	An individual licensed to perform Assessments and submit the results to the GBA for review and publication
Assessment Team Member	An individual qualified by the GBA to perform a role on a BMM Assessment
Solution POC	Solution Point of Contact (SPOC) is an individual that is the liaison between the GBA and the entity requesting an Assessment of a solution.
BMM Quality Assurance Committee	A group lead by the Director of Standards and Certifications that is responsible for establishing, administering, overseeing assessment processes, rating assignments and dispute resolution.

1.5 Qualifications

1.5.1 Assessment Team Qualifications

- The team is led by a GBA qualified lead assessor.
- At least one member of the team has developed or implemented a blockchain solution
- The team must include at least one member with experience in the following topics:
 - Blockchain technologist
 - Blockchain related legal/compliance
 - Tokenomics
 - At least 4 years of experience in the relevant industry.
- The team shall have minimum of 4 members
- The team shall not include more than 1/3 of its membership from the solution that is being assessed

1.5.2 Assessment Team Members

All members of the assessment team must have:

- Successfully completed the:
 - GBA Blockchain Foundations Course
 - GBA BMM Course
 - GBA BMM Assessment Team Member Course
- Sign and comply with the GBA published code of conduct
- Sign & comply with the GBA assessment agreement that addresses:



- Conflict of Interest
- Confidentiality & non-disclosure
- Intellectual property protection

1.5.3 Assessment Team Leader

In addition to the Assessment Team requirements, the Lead Assessor must meet the following criteria.

- Initial Qualifications:
 - Active GBA Member
 - Referral by an active GBA member
 - Experience developing, implementing, or working with a blockchain solution
 - Participated in 3 BMM assessments as an Assessment Team Member
 - Successfully completed the BMM Lead Assessor Course & Exam
 - Peer Review approval by existing Lead Assessors
 - Compliance with the GBA code of conduct
- Credential Maintenance
 - Must participate in at least two assessments per year (any event with supporting evidence)
 - Present or taught BMM related content at least three times in two years.
 - Attended at least one course or seminar on BMM related subject matter each year (any event with supporting evidence)

1.5.4 Domain Experts

Members of the appraisal team may be considered a domain expert if they meet the following criteria:

- Successful completion of a GBA Foundation and BMM Course in the related domain or
- Experience and resume review and approval by the Director of Standards & Certification & the Lead Assessor



2 Assessment Lifecycle Overview

The BMM Assessment Method includes five major phases. They are:

- Planning
- Self-Assessment
- Assessment Team Review
- Assessment Conference
- Rate & Deliver Findings

At the center of the Assessment life cycle is the Program Management Function performed by the BMM Assessment Committee (GBA) and lead by the Director of Standards and Certifications.



These phases are further detailed in the following section of this document (Assessment Requirements).

3 Assessment Requirements

The following sub-paragraphs describes the Assessment lifecycle requirements in further detail.

3.1 Assessment Program Management

The GBA is responsible for all program management activities. They include:

- Establishing the BMM QA Assessment Committee
- Establishing & maintaining the BMM Assessment Requirements
- Qualifying BMM Lead Assessors & Assessment Team Members
- Overseeing quality assurance of assessment activities
- Reporting assessment results

3.1.1 Program Management

The Director of Standards & Certifications facilitates and provides oversight over the Assessment process. These activities include building quality assurance activities into the process and conducting audits to verify that the process has been followed. These include verifying the:

- Planning activities to prepare for and conduct the Assessment(s)
- Credentials and capabilities of the Assessment team
- Assessment activities.



- Communication & publication of results in accordance with standards (Maturity Model)
- Compliance with ethics and code of conduct policies

These functions are further described in the following sub-paragraphs.

3.1.2 Establishing the BMM Technical Committee

This committee is responsible for the content, structure, and format of the BMM Series of documents.

3.1.3 Establishing & Maintaining the BMM Assessment Requirements

The BMM Assessment Requirements and other Assessment related processes are maintained by the GBA Standards & Certifications Working Group. This group meets regularly to review and improve the Blockchain Maturity Model assessment suite of work products.

3.1.4 Qualifying BMM Lead Appraisers & Assessment Team Members

The GBA Standards & Certifications Working Group coordinates with the GBA Education Curriculum Working Group to establish and maintain the training, testing, and certification resources to support the BMM processes.

3.1.5 BMM Quality Assurance Activities

The BMM Quality Assurance Committee reviews and approves the assessment results from the assessment team. They also review and approve Lead Assessor appointments, performance, and issue resolution.

3.1.6 Reporting Assessment Results

The Director of Standards & Certifications coordinates with the GBA CTO and the GBA Director of Communications to ensure that Assessment results are published and promoted to the global community. The details of the information published is captured on an Assessment Disclosure Statement that is prepared by the Lead Assessor and approved by the Solution Point of Contact (SPOC).

The most recent assessment results are published for a period of 24 months on a public directory of BMM rated solutions. Results may be withdrawn from the public directory if it is determined that there were instances of non-compliance with the GBA code of conduct and/or quality assurance criteria. The BMM Quality Assurance Committee is responsible for assessment of issue resolution.

3.2 Assessment Lifecycle

3.2.1 Planning

The activities associated with BMM Assessment Planning include:

- **Submission** - The first activity in the Assessment process is planning. It begins when the SPOC submits an Assessment request to the GBA Director of Standards & Certifications. The information elements of the Assessment request form are described in Appendix B.



- **Review** – The GBA Director of Standards & Certifications receives the submission, negotiates an assessment agreement, and assigns a qualified BMM Assessment Team for processing the request. The Lead Assessor reviews the request and contacts the SPOC to schedule an initial BMM Assessment Planning Call.
- **Initial Planning Call** – The Assessment Team Leader reviews the request with the SPOC and discusses the following items.
 - Suitability of a BMM for the solution
 - Scope of the Assessment
 - Documentation requirements for the Assessment
 - Review Assessment activities
 - Assessment stakeholders
 - Timing of Assessment activities
 - Logistical considerations
- **Draft Assessment Plan** – The Assessment Team Leader documents the Initial Assessment Plan that includes the:
 - Assessment Scope
 - Schedule
 - Information Management Plan
 - Confidentiality & Non-Disclosure Agreement
 - Budget Estimates
 - Communications Plan
- **Define Assessment Document Package** – The Assessment Team Leader sends the Initial Assessment Plan and a blank Assessment Compliance Matrix to the Solution POC. The matrix maps each of the Assessment expectations to the location/source where that expectation is addressed. The Assessment Team Leader and Solution POC both approve the Initial Assessment Plan prior to proceeding to the next phase of the Assessment lifecycle.
 - NOTE: Each level of the assessment requires a rating of the previous level, in order to move to the subsequent level.
- **Assessment Measurement and Analysis** – From the assessment the following shall be collected:
 - The effort expended to conduct the assessment by phase (for the purposes of future estimation of the Assessment efforts)
 - Attributes of the solution
 - Attributes of the entity presenting the solution
 - Attributes of the assessment team
 - Lessons learned and recommendations for Assessment improvements

3.2.2 Self-Assessment

The Solution Point of Contact (SPOC) reviews the Assessment Compliance Matrix (ACM) with the Relevant Stakeholders and completes the matrix. The SPOC is responsible for



collecting all relevant artifacts and documents and assembles the Assessment Document Package. The Assessment Document Package is sent to the Assessment Team Leader.

Note: The BMM Consultant may perform the role of SPOC with the blockchain solution's organization consent.

3.2.3 Assessment Team Review

The Assessment Team Leader reviews the package for completeness and appropriateness. If there are any gaps coordinates with the SPOC to resolve any issues with the package.

3.2.3.1 Assemble Assessment Team

The Assessment Team Leader identifies and appoints an Assessment team that consists of Assessment team members with the following GBA qualifications:

3.2.3.2 Document Review

The ATL makes review assignments and distributes the Assessment Document Package (ADP) to the team members. Each team member is assigned specific elements to review. The Assessment Plan is revised to reflect the team review assignments.

Each ATM conducts their review in accordance with the Assessment plan. This may be asynchronous, remote, on-site, or any combination.

The ATMs submit their results to the ATL. The ATL consolidates the team findings and reviews the consolidated findings with the full Assessment team. The full team identifies any gaps against the model and prepares draft document review findings. These findings are presented to the Solution POC and any relevant stakeholders that can provide insight and clarity into the findings.

3.2.4 Assessment Conference

The Solution POC and relevant stakeholders are provided an opportunity to collect additional information, and to resolve any documentation gaps. The Assessment Team the Solution POC, and the Relevant Stakeholders participate in one or more conferences to discuss the document review findings. Each of the Model Elements are discussed and the requirements are compared with the evidence provided to the Assessment Team.

3.2.5 Rate & Deliver Findings

The ATL facilitates the review of each element to achieve consensus¹ on the satisfaction of each requirement for each element of the model.

3.2.5.1 Maturity Rating

In order to achieve a maturity rating, all of the requirements for those levels and all lower levels must be satisfied.

¹ "Consensus" has a specific meaning in the context of a BMM Assessment – see glossary.



3.2.5.2 *Element Rating*

An element rating may be awarded for one or more elements if all the level requirements up to a specific level have been achieved. For example, if levels one, two, and three have been satisfied, an element level three may be awarded to a specific element.

3.2.5.3 *Deliver Results*

The ATL delivers the results to the Solution POC and others as defined in the Assessment Plan. The results are written in a way to prevent the attribution of any negative finding to an individual. The results are delivered in three components. They are:

1. An assessment report/presentation that addresses each element. The assessment report provides an executive summary of the rating of each element.
2. Detailed findings with a mapping of each finding to the source (excluding attribution to a person)
3. Assessment result package submitted to the GBA that includes the:
 - a. Assessment Plan
 - b. Assessment Presentation
 - c. Detailed Findings
 - d. Assessment Disclosure Statement²

² Assessment Disclosure Statement is a specific appraisal output – see glossary



Appendixes



Appendix A: Glossary

Assessment Compliance Matrix (ACM)	A matrix that maps each of the Assessment expectations to the location/source where that expectation is addressed.
Assessment Disclosure Statement	An Assessment Disclosure Statement is prepared by the Lead Appraiser and approved by the Solution POC. It details the Assessment information published for public visibility.
Assessment Document Package	The Assessment Compliance Matrix plus all of the referenced documents, artifacts, or links that enable the review of Assessment evidence.
Consensus	This term is used when all members of an Assessment team can support an Assessment finding and no member of the Assessment team objects to the finding.
Relevant Stakeholders	People involved in the Assessment process that have specific responsibilities to perform defined actions or functions.
SPOC	The Solution Point of Contact (person) responsible for arranging and conducting the Assessment of a solution.
Blockchain Maturity Model assessment suite of tools	The BMM assessment suite of tools includes documented information, content, procedures, requirements, presentations, training materials, delivery methodologies, format/structure, and compliance criteria, to conduct assessments.



Appendix B: Assessment Request Form

The Assessment Request Form includes the following information:

- Solution Point of Contact (SPOC) & contact information
- Relevant Stakeholders
- Solution Information
 - Solution Name
 - Blockchain Name (Technology)
 - Publicly Available Information / Website
 - Target Maturity Level
 - Industry / Domain
- Assessment Goals



Appendix C: PLACEHOLDER Assessment Team Metrics Collections

The Assessment Team will collect the following information during the life cycle of the assessment.