

EBSI Service Level Agreement

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1 Service Level Agreement

1.1 Glossary

Terms used in this Service Level Agreement are defined in the [Node Operator General Conditions](#) and [Node Operator Compliance Statement for Pilot](#) documents.

Specific technical Terms related to the SLA Definition and attributes are defined in section [3. Attributes of SERVICE LEVEL ITEMS \(KPI attributes\)](#)

1.2 Introduction

1.2.1 Agreement Approach and purpose of the document

The present Service Level Agreement (SLA) is a detailed specification of the resilience, availability, and performance requirements the nodes should adhere to in order to provide the EBSI Service. That includes hardware, operating systems, security systems, networks, base Software and EBSI specific software, to enable the aims of the EBP and adherence of the network to the EBSI Decentralised Governance Model.

Performance against SLA parameters for each node will be monitored and/or reported to the European Blockchain Partnership (EBP) and unfulfillment may be rationale for requests for correction or temporary disconnection from the EBSI network if not addressed within the defined timelapse (tolerance for each specific SLA Item) of notification of SLA parameter infringement.

There is a distinction between Validator nodes that are the ones participating in the consensus algorithm (see complete definition in the [Node Operator Terms & Conditions](#) Glossary) and Regular nodes that do not participate in the consensus algorithm. Although it is advisable for Validator nodes to avoid providing any other service, until there is enough number of nodes (at least 20 regular nodes besides the Validator nodes), both Validator and Regular nodes can expose service APIs.

The uptime level will also be reasonable given the intrinsic resilience of the network and designed to ensure network availability while minimising individual member state costs. This uptime is more critical for Validator nodes as the ones that affect ledger performance but is also important for Regular nodes exposing the core services.

This is additional to the quality of code in the EBSI images, which will be dealt with through the code quality process and issue management.

1.2.2 Attributes of SERVICE LEVEL ITEMS (KPI attributes)

A Service Level Item is described by several attributes:

- **ID:** unique identifier of the Service Level Item.
- **Title:** representative name of the Service Level Item.
- **Description:** defines the purpose of the Service Level Item.
- **Type:** groups items.
- **Conditions:** describes the service conditions that must be respected to use the service; Service Level Target can be applied only when the service conditions are respected.
- **Target:** defines the performance (through a value) to be reached by the Service Provider for Regular and Validator nodes.
- **Tolerance:** the time lapse available for the node to fulfil the Target for each specific Target.
- **Consequence:** the procedure to be started if the Item Target is not met before the Tolerance time lapse.
- **Measurement tools:** identify the tools or means to be used to collect the performance data and/or calculate the performance during the specified period.

1.3 SLA Items (KPI)

ID	TITLE	DESCRIPTION	TYPE	CONDITIONS	ENVIRONMENT	REGULAR NODE TARGET	VALIDATOR NODE TARGET	TOLERANCE	CONSEQUENCE	MEASUREMENT TOOLS
1	Node Uptime	<p>Node should have a reasonable uptime of its hardware, operating systems, security systems and networks to enable the aims of the European Blockchain Partnership (EBP).</p> <p>Uptime is measured as the percentage of availability of the node to the approved EBP monitoring tool.</p>	AVAILABILITY OF NODE SYSTEMS	<p>Includes:</p> <p>Availability measures of:</p> <ul style="list-style-type: none"> - Host -Containers <p>Excludes:</p> <p>service discontinuities due to programmed interventions</p>	PROD	95.00% of up-time per month	99.00% of up-time per month	2 hours (Validator)	Demote from Validation to Regular node, i.e.: remove from Active Validator Set	EBP Technical Group agreed measurement tool, hosted by EBSI Technical Office
					PRE-PROD	Checked hourly	Checked hourly	1 day (Regular)		
					PILOT	90%	95%	4 hours (Validator)		
2	Node Network Response Ledger Latency	The latency of the connectivity to other nodes of the network, using the P2P ledger protocol	SYSTEM RESPONSE TIME	Parameters to be agreed by EBP Technical Group and may be amended over time or per	PROD	60% of connections within agreed parameter.	95% of connections within agreed parameter.	2 days	Temporary disconnection of node until recovery test is fulfilled	EBP Technical Group agreed measurement tool, hosted by EBSI Technical Office
					PRE-PROD			Daily		

ID	TITLE	DESCRIPTION	TYPE	CONDITIONS	ENVIRONMENT	REGULAR NODE TARGET	VALIDATOR NODE TARGET	TOLERANCE	CONSEQUENCE	MEASUREMENT TOOLS
				node if relevant	PILOT	50%	80%	4 days	2 Notifications from EBSI Service Desk. On 3rd notification: Temporary disconnection of node until Resolution	
3	Node Network Response Offchain Latency	The latency of the connectivity to other nodes of the network, using the offchain replication protocol	SYSTEM RESPONSE TIME	Parameters to be agreed by EBP Technical Group and may be amended over time or per node if relevant	PROD	60% of connections within agreed parameter.	95% of connection within agreed parameter.	1 day (Validator) 2 days (Regular)	Temporary disconnection of node until recovery test is fulfilled	EBP Technical Group agreed measurement tool, hosted by EBSI Technical Office
					PRE-PROD	Daily	Hourly	1 day (Validator) 2 days (Regular)		
					PILOT	50%	80%	1 days (Validator) 2 days (Regular)	2 Notifications from EBSI Service Desk. On 3rd notification: Temporary disconnection of node until Resolution	
4	Node Systems EBSI Response Latency	The response time of the EBSI Service (API responses) of the node to non-node entities (Users, Issuers, Early Adopters, Wallets and Relying Parties)	SYSTEM RESPONSE TIME	Parameters to be agreed by EBP Technical Group and may be amended over time or per	PROD	80% of responses within agreed parameter. Daily	95% of responses within agreed parameter, if applicable. Daily	2 days	Temporary disconnection of node until recovery test is fulfilled	EBP Technical Group agreed measurement tool, hosted by EBSI Technical Office
					PRE-PROD			4 days		

ID	TITLE	DESCRIPTION	TYPE	CONDITIONS	ENVIRONMENT	REGULAR NODE TARGET	VALIDATOR NODE TARGET	TOLERANCE	CONSEQUENCE	MEASUREMENT TOOLS
				node if relevant	PILOT	60%	80%	4 days	2 Notifications from EBSI Service Desk. On 3rd notification: Temporary disconnection of node until Resolution	
5	Node Systems Governance Response Latency	The latency of the Governance/Management Service Response of the node to EBP Hosting Member or EC requests. (How fast a node answers to voting requests, acknowledgements, etc.)	SYSTEM RESPONSE TIME	Parameters to be agreed by EBP Technical Group and may be amended over time or per node if relevant	PROD	95 % of responses within agreed parameter. Daily	99% of responses within agreed parameter, if applicable. Daily	4 hours	Temporary disconnection of node until root reason is assessed	EBP Technical Group agreed measurement tool, hosted by EBSI Technical Office
					PRE-PROD			8 hours		
					PILOT	90%	95%	1 day	2 Notifications from EBSI Service Desk. On 3rd notification: Temporary disconnection of node until Resolution	
6a	Security Issue Critical	Resolution of security issues by Node Operator. Emergency Situation: Active Cyber-attack e.g. Evidence of an attacker operating from an escalated account, malware or attack behaviour on a host, multiple machines displaying attack behaviour, data exfiltration.	NODE HOST SUPPORT TEAM RESPONSE TIME PER ISSUE	Security issues should have the capability to take the node offline at any time.	PROD	<i>This information is considered confidential and not publicly disclosed for security reasons.</i>			Temporary disconnection of node until Resolution	EBSI TECHNICAL OFFICE SUPPORT DESK TOOL
					PRE-PROD					
					PILOT					

ID	TITLE	DESCRIPTION	TYPE	CONDITIONS	ENVIRONMENT	REGULAR NODE TARGET	VALIDATOR NODE TARGET	TOLERANCE	CONSEQUENCE	MEASUREMENT TOOLS
6b	Security Issue High	Resolution of security issues by Node Operator. High possibility of functional impact e.g. credential lost due to phishing, detection of unauthorised program task or user activities	NODE HOST SUPPORT TEAM RESPONSE TIME PER ISSUE	Security issues should have the capability to take the node offline at any time.	PROD				Temporary disconnection of node until Resolution	EBSI TECHNICAL OFFICE SUPPORT DESK TOOL
					PRE-PROD					
					PILOT					
6c	Security Issue Medium	Resolution of security issues by Node Operator. Moderate possibility of functional impact e.g. malware quarantines or blocked, suspicious inbound/outbound connections blocked, evidence of suspicious sign-in attempts.	NODE HOST SUPPORT TEAM RESPONSE TIME PER ISSUE	Security issues should have the capability to take the node offline at any time.	PROD				Temporary disconnection of node until Resolution	EBSI TECHNICAL OFFICE SUPPORT DESK TOOL
					PRE-PROD					
					PILOT					
6d	Security Issue Low	Resolution of security issues by Node Operator. Slight possibility of functional impact e.g. vulnerability scan or risk assessment reveals Low risk vulnerabilities	NODE HOST SUPPORT TEAM RESPONSE TIME PER ISSUE	Security issues should have the capability to take the node offline at any time.	PROD				Temporary disconnection of node until Resolution	EBSI TECHNICAL OFFICE SUPPORT DESK TOOL
					PRE-PROD					
					PILOT					
7a	Issue resolution Priority 1	Resolution of issues assigned to node hosts: P1: Critical – an incident will be classified as ‘Critical’ when <ul style="list-style-type: none"> Node Services are totally unusable the validation service is not producing new blocks is affecting critical functions So, the issue is causing a major impact (service unavailability).	NODE HOST SUPPORT TEAM RESPONSE TIME PER ISSUE	Issues should have the capability to take the node offline at any time.	PROD				Temporary disconnection of node until Resolution	EBSI TECHNICAL OFFICE SUPPORT DESK TOOL
					PRE-PROD				N/A	
					PILOT					

ID	TITLE	DESCRIPTION	TYPE	CONDITIONS	ENVIRONMENT	REGULAR NODE TARGET	VALIDATOR NODE TARGET	TOLERANCE	CONSEQUENCE	MEASUREMENT TOOLS
7b	Issue resolution Priority 2	Resolution of issues assigned to node hosts: P2: Urgent – an incident will be classified as ‘Urgent’ when it is possible to use the service of any node but limited in daily work (deteriorated method): large but not critical part of the EBSI network which can have an impact for the users	NODE HOST SUPPORT TEAM RESPONSE TIME PER ISSUE	Issues should have the capability to take the node offline at any time.	PROD				Temporary disconnection of node until Resolution	EBSI TECHNICAL OFFICE SUPPORT DESK TOOL
					PRE-PROD					
					PILOT					
7c	Issue resolution Priority 3	Resolution of issues assigned to node hosts: P3: Normal – an incident will be classified as ‘Normal’ when it does not affect production or causes limited loss of functionality	NODE HOST SUPPORT TEAM RESPONSE TIME PER ISSUE		PROD				Temporary disconnection of node until Resolution	EBSI TECHNICAL OFFICE SUPPORT DESK TOOL
					PRE-PROD					
					PILOT					
7d	Issue resolution Priority 4	Resolution of issues assigned to node hosts: P4: Low – an incident will be classified as ‘Low’ for all other issues.	NODE HOST SUPPORT TEAM RESPONSE TIME PER ISSUE		PROD				Temporary disconnection of node until Resolution	EBSI TECHNICAL OFFICE SUPPORT DESK TOOL
					PRE-PROD					
					PILOT					
								2 Notifications from EBSI Service Desk. On 3rd notification: Temporary disconnection of node until Resolution		
								2 Notifications from EBSI Service Desk. On 3rd notification: Temporary disconnection of node until Resolution		

ID	TITLE	DESCRIPTION	TYPE	CONDITIONS	ENVIRONMENT	REGULAR NODE TARGET	VALIDATOR NODE TARGET	TOLERANCE	CONSEQUENCE	MEASUREMENT TOOLS
8	Minimal technical requirements	Node Minimal technical requirements in force need to be respected at all times	HW conformance		PROD	full compliance (or better)	full compliance (or better)	No tolerance	Temporary disconnection of node until Resolution	AGREED AUDIT TOOL
					PRE-PROD					
					PILOT	checked monthly	checked monthly	2 WORKING DAYS		
9	Open firewalls requirement	Node Open firewalls ports requirements in force need to be respected at all times	SW Conformance		PROD	100% compliance	100% compliance	4h	Temporary disconnection of node until Resolution	AGREED AUDIT TOOL
					PRE-PROD					
					PILOT			2 WORKING DAYS		
10	Software stack up to date	Required versions for node software stack (O.S., low level stack, containers) needs to be respected at all times.	SW Conformance		PROD	100% compliance	100% compliance	24h	Temporary disconnection of node until Resolution	AGREED AUDIT TOOL
					PRE-PROD					
					PILOT			2 WORKING DAYS		
11	EBSI installed software	There can be no additional software installed on the node (VM) by the Node Operators	SW Conformance		PROD	100% compliance	100% compliance	24h	Temporary disconnection of node until Resolution	AGREED AUDIT TOOL
					PRE-PROD					
		PILOT					2 WORKING DAYS			
12	Response Frequency	How often does a node respond to an EBSI Service Request.	Availability	This SLA Item is applicable to Nodes exposing EBSI APIs	PROD	99%.	99%, if applicable.	2 days	Temporary disconnection of node until recovery test is fulfilled	AGREED AUDIT TOOL
		The percentage of the EBSI Service responses (API responses) of the			PRE-PROD	Daily	Daily	4 days		

ID	TITLE	DESCRIPTION	TYPE	CONDITIONS	ENVIRONMENT	REGULAR NODE TARGET	VALIDATOR NODE TARGET	TOLERANCE	CONSEQUENCE	MEASUREMENT TOOLS
		node to non node entities (Users, Issuers and Relying Parties).			PILOT	95%	95%	6 days	2 Notifications from EBSI Service Desk. On 3rd notification: Temporary disconnection of node until Resolution	
13	Block Proposal Time	Block Proposal time. Each time a node is assigned to propose the next block of transactions, it must do so within the established timeframe. When such a node fails to comply, it will lose its privilege to propose blocks of transactions as it directly impacts the whole system performance	Consensus	When block node proposal role is assigned to node. The timeframe, i.e. the maximum available time to propose a node should be defined by the TO and can be updated in the future.	PROD	N/A	2 block proposal misses in a day	1 day	Problem must be analysed immediately, to report causes and solutions. Node is proposed for demotion when it fails to propose the block in the specified timeframe on the same day for the second time.	AGREED AUDIT TOOL
					PRE-PROD					
					PILOT					
14			Consensus		PROD	N/A		1 day		

ID	TITLE	DESCRIPTION	TYPE	CONDITIONS	ENVIRONMENT	REGULAR NODE TARGET	VALIDATOR NODE TARGET	TOLERANCE	CONSEQUENCE	MEASUREMENT TOOLS
	Validation Participation	Participation on the group of accepting/refusing the new block. A node must effectively participate in the consensus algorithm to retain its status while included in the Active Validator Set.		Node in the Active Validator Set. Parameters to be agreed by EBP Technical Group and may be amended over time or per node if relevant	PRE-PROD		70% of average block signatures Hourly		Node proposed for demotion until the causes are analysed and solved.	AGREED AUDIT TOOL
				PILOT		50% of block signatures Daily	2 days	2 Notifications from EBSI Service Desk. On 3rd notification: Temporary disconnection of node until Resolution		

NOTE: Whenever EBSI requires a new configuration update of data center firewalls, these must be applied within 48 hours.

1.4 EBSI Service Desk Contact Information

EBSI Support Team By Service Desk

By email

Standard Service:

8:00-18:00 CET on normal Commission working days

Standby Service*:

18:00-8:00 CET on normal Commission working days

Available 24 hours on weekends, Commission and public holidays Only by phone: +32 2 298 96 00

* Only for critical and urgent incidents and only by phone

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