Service Level

The Appendix describes the level of service that BNBGSSS provides to its participants in the provision of services related to its activities, as well as the key performance indicators it uses to measure the service level.

The BNBGSSS regularly monitors the level of all services provided, including the settlement of EUR-denominated GS transactions/operations, which takes place in T2S. The level of provision of these services is determined in accordance with Schedule 6 – T2S Service Level Agreement of the T2S Framework Agreement concluded between BNBGSSS and the Eurosystem.

The BNBGSSS consults the Users' Committee on the objectives of achieving operational reliability of its systems.

The availability factor of the system operated by the BNBGSSS (System) is used to assess the degree of achievement of the BNBGSSS objectives of high level of service and operational reliability.

1. Responsibilities for the provision of services

1.1. To achieve the required level of service, BNBGSSS:

- Ensures the availability of the System according to its work schedule (Appendix № 7 Schedule of the working day);

- Provides assistance to participants in the event of a problem or incident through expert advice from the employees of the GS Depository or from employees of the IT Services Centre (ServiceDesk) at the BNB;

- Assists participants in testing (including of continuity procedures);

- Informs the participants in case of a technical problem or incident that hinders the provision of the services;

- Reports to the Deputy Governor in charge of the Banking Department, the oversight body and the User Committee on the BNBGSSS performance in relation to the service level achieved;

- Informs the oversight body of a significant problem/incident;

- In emergency situations, informs the relevant units in the BNB, in accordance with the procedures of the BNB, in order to take the necessary actions to resume the normal operation of the System and to recover lost data, if any.

1.2. Responsibilities of BNBGSSS participants are to:

- Provide details of contact persons (e-mail and telephone) and notify the BNB without undue delay of any change in the data;

- Provide timely information about problems and incidents that have occurred and about any changes that may affect the provision of the services;

- Participate in BNBGSSS-organised tests, including on EUR-denominated GS transactions/operations settled in T2S.

2. Service level indicators

The level of service provided by BNBGSSS to its participants in the provision of services is assessed by the following indicators:

2.1. Hours and days of System availability

The System is available to its participants in accordance with Appendix No 7 Schedule of the BNBGSSS System Day.

Transactions in BGN-denominated government securities are not settled in BNBGSSS on Saturdays and Sundays and on all official national holidays of the Republic of Bulgaria.

Transactions in EUR-denominated government securities are not settled in BNBGSSS on Saturdays and Sundays and on any of these days: 1 January (New Year), Good Friday and Easter Monday (according to the calendar of the Catholic Church), 1 May, 25 and 26 December (Christmas).

2.2. System Availability Ratio

The availability period is the period of time during which the GSD services are expected to be available to participants.

The availability ratio of the System is the ratio between the number of hours the system actually worked and the number of hours it was supposed to work according to the System schedule.

$$AC = \frac{OT}{ST} * 100$$

AC - availability coefficient

OT = ST - IT

OT – operational time in hours – number of hours the System actually worked during the reporting period

ST - scheduled operating time in hours – number of hours the System should have worked according to the time schedule for the reporting period

IT – incident time in hours – number of hours the System did not work

Target is AC ≥ 99.0

The availability ratio is monitored and evaluated twice a year and its data are published in the BNB annual and semi-annual reports.

2.3. Response time and troubleshooting / incident resolution time

In order to achieve the required high level of service, the BNBGSSS applies the following values of the Recovery Time Objective (RTO) parameter to resolve the various categories of problems/incidents in the operation of the System:

No	Priority Level of the problem/ incident	Description	Response time	Troubleshooting / incident resolution time
1.	**Highest**	The problem / incident that has occurred causes interruption of the work on the implementation of important tasks of the Bank related to reputational risk	within **15 (fifteen) minutes** of notifying the System provider	within **2 (two) hours** of notifying the System provider
2.	**High**	The problem / incident that has occurred causes certain business processes in the Bank to stop working	within **2 (two) hours** of notifying the System provider	up to **1 (one) business day** of notifying the System provider
3.	**Medium**	The problem / incident that has occurred causes difficulties in the implementation of certain business processes in the Bank	up to **1 (one) business day** of notifying the System provider	within **3 (three) working days** of notifying the System provider
4.	**Low**	The problem / incident that has occurred causes inconvenience in the implementation of certain business processes in the Bank	within **3 (three) working days** of notifying the System provider	up to **7 (seven) working days** of notifying the System provider
5.	**Emergency**	Situation where the Systems are not fully or partially operational	Response **within 1 hour on site** – the BNB building	Continue working with BNB teams **until the problem / incident is resolved**

2.4. System capacity

BNBGSSS has the necessary capacity to process all transactions within the system day of the System even in case of serious disruptions and increased transaction volumes. The System has the following parameters under normal load:

- simultaneous number of users: 50

- number of transactions per day: 1000

Virtualisation technologies have also been applied, which allow for dynamic increase of System resources as needed. The technical parameters of the System are monitored on a monthly basis and the necessary actions are taken to ensure optimal operation of the System.

2.5. Swiftness of the System

The System provides response time when users interact with it by setting the following swiftness indicators:

- < 1 second for all simple operations (screen navigation, menu operation, hyperlink activation) – in 99% of cases;

- < 10 seconds for more complex inquiries (cases of transactional mode of entering information) - in 95% of cases.

3. Service level measures

In order to ensure the maximum availability of the BNBGSSS System, the following measures and activities are applied:

3.1. Subscription Service Agreement for the System

In order to ensure the normal and efficient operation of the System and to achieve the objectives set by the indicators to ensure the necessary level of service, BNBGSSS has a contract for subscription service of the System with an external service provider (SLA). All problems/incidents are registered in the BNB Service Desk and in the Helpdesk system of the subscription service provider of the System. They are rectified in accordance with the priority given within the time limits set out above.

3.2. Continuity policy

In connection with the continuity policy and on the basis of risk and business impact analysis, a list of all processes and activities that help to provide the services offered by BNBGSSS and their respective dependencies has been drawn up. The analysis is carried out annually or in the event of substantial changes in the functionality of the systems. Business continuity in BNBGSSS is ensured by backup in an alternative BNB data processing site.

The data of the System is archived daily and the archives are replicated in an alternative data processing site.

By backing up BNBGSSS in an alternative BNB data processing site and real-time data synchronisation/replication, business continuity is ensured. Annually, the BNB performs a check of the procedures for ensuring business continuity and working in a backup environment.

The recovery time of the System when switching to an alternative data processing site is up to 2 hours.

3.3. System Stress Tests

Upon commissioning of major changes and large-scale improvements in the System, the BNBGSSS organises stress tests of the systems to verify the provision of the required capacity and reflects their results in protocols that are reported to the BNBGSSS management.

3.4. Reporting/Notification

The BNBGSSS notifies the Deputy Governor in charge of the Banking Department of the performance of the GS settlement system with regard to the service level achieved following tests related to functional and technical changes. The BNBGSSS also reports the performance of its System to the User Committee and the oversight body.

The BNBGSSS informs participants of incidents that have occurred and creates incident reports. In the event of an operational, security or operational emergency, the BNBGSSS provides the oversight body with an initial report within 4 hours of the moment when the significant operational or security incident is first detected, as well as a final incident report after a root cause analysis has been performed (whether mitigation measures have already been implemented or the final root cause has been identified) and actual data are available to replace all predictions. The final report is submitted within 2 weeks after normal operational activity is deemed to have been resumed. In the event of a need for an extension, the BNBGSSS must notify the oversight body with an appropriate justification.

3.5. Regular examinations

The BNBGSSS conducts periodic (at least once a year) testing and review of the operating rules, policies and procedures with the participants in the BNBGSSS, as well as in the following cases:

- in the event of substantial changes to the System;
- following operational incidents affecting the smooth provision of services by the BNBGSSS.

The BNBGSSS performs periodic (at least once a year) testing and review of the contracts with the suppliers of the System related to the provision of the necessary level of service as well as the set goals.

The BNBGSSS periodically (every three months) reviews a report from the technical monitoring of the System, the problems/incidents resolved during the period and the recommendations for measures related to the provision of the required level of service.

The results of the examinations and tests are brought to the attention of management.

4. Service level of settlement for EUR-denominated government securities in T2S

In order to ensure the service level for EUR-denominated government securities transactions/operations settled in T2S, the BNBGSSS fulfils all its obligations arising from the T2S

Service Level Agreement, including by participating in and contributing to incident and crisis management at T2S level.

The Eurosystem provides the BNBGSSS with a monthly report on the level of compliance of the service level provided for the previous month with Appendix 6 (T2S Service Level Agreement) of the T2S Framework Agreement, in particular with regard to key indicators.

In the event that any of the key indicators are outside the values agreed in the Service Level Agreement, the Eurosystem, in cooperation with the BNBGSSS:

- verify the cause that led to the deviation of the indicator and/or incident;

- take the necessary measures to minimise the impact of the incident;

- take the necessary measures to prevent reoccurrence of the incident or report the cause, condition and means necessary to prevent reoccurrence of the incident.