TIPS in operations
TIPS-CG – 27 January 2021

Agenda

- **Debriefing on incidents involving TIPS on 9/16 November and 15 December 2020**

- **Main performance indicators for December 2020**

Background information

- TIPS channels with the relevant NSPs are encrypted point to point, traffic channel is secured by digital certificates.

- On SWIFT side (relevant for the incident on 16 Nov) the channel endpoint is called AGI (Alliance Gateway Instant)

- Additionally each single message integrity is ensured by the usage of HMAC, a hash-based message authentication algorithm, also based on digital certificates

- The Operational DB is a SQL database aligned every three hours with the transactions occurred meanwhile in the in-memory database

- All reported timings are CET

- Between 16:05 and 16:40 less than 50 messages were rejected by TIPS;

- One CB reported the issue and checks started on a bilateral basis; impact analysis could be only finalized once that the updated information in the Operational DB became available (i.e. approximately up to 3 hours later)

- As a matter of fact the ECB could be informed quite late compared to the incident timeframe

- It turned that during the mandatory renewal of the certificates used for the HMAC feature one of the TIPS was not restarted as foreseen in the checklist

- This procedure foresees first the renewal on TIPS side and then the activation on NSP side. The impact materialized only when this last step was executed.

- Once identified the root cause, the affected server was restarted.

- Identification of an automated measure to replace the failing steps;

- Further Review of the checklist with the aim of minimizing operational steps.

- On 16th November around 14:15, TIPS Service Desk started receiving mails from some customers reporting lack of confirmation from TIPS (pacs.008 and pacs.002 messages) since around 13:55 CET.

- TIPS deployment was ongoing, whereby first analysis focused on unexpected side effect of these activities. Nothing relevant was found.

- Additional investigations did not highlight malfunction on the TIPS side and those participants who were able to send investigation messages, received confirmation that the payments had settled.

- The impact analysis, done once that the updated information in the Operational DB became available (i.e. approximately up to 3 hours later), showed only an increase in the usual percentage of expired messages. No evidence of malfunctioning was still available, though. Eventually SWIFT was involved for checking on their side.

- It turned out that one of the SWIFT AGI was not behaving as expected due to problems connected to the automatic renewal of one digital certificate ensuring the protection of the channel to TIPS.

- Confirmed an on-going problem, the ECB was informed and a SM call arranged at 20:00

- After a failed reconfiguration attempt, SWIFT opted for completely switching off the impacted AGI at 21:19, thus solving the issues

- This AGI was put back in production the day after at 10:15. No additional issues faced so far.

16 Nov - Lesson learnt

- AGIs are outside TIPS perimeter. Although investigations on the root cause resulting in the missing renewal are still on-going, SWIFT has already committed to reviewing and correcting monitoring and operational processes in place

- Overall impact was increased by counterparties not being able to to send investigation messages to check on the status of the payments and resorting to the TIPS service desk to perform these checks on their behalf. This could not be a viable option with the expected increase of volumes.

- On 15th December at 10:18 SWIFT informed of an unstable behaviour of one of the Alliance Gateway Instants

- Around 11:35 one Central Bank reported to the TIPS Operator about three expired payments. ECB and Settlement and Crisis Managers informed in dedicated calls

- The incident occurred when one of the two AGI interfaces failed and the automatic failover to the second interface was not triggered. This caused a full isolation of the AGI and therefore of the relevant TIPS data center

- During this phase all the production traffic was automatically managed by the AGI in the second data center

- Issue solved by SWIFT at 15:12 by manually failing over to the second interface: impacted data center fully reinstated

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- 37 messages were affected when the issue materialized

- As a follow-up action, SWIFT will review the configuration of the interfaces triggering the automatic failover mechanism also in case a similar condition should be detected again.

- No follow-up identified on TIPS side

- **Instant Payment Execution Time**

			Actual Value	Committed Value
Payments Execution Time	**within 5 seconds**		99.99%	99.00%
	over 5 seconds		0.00%	1.00%

TIPS processing tasks include:

- All tasks performed by TIPS between the reception of the instant payment transaction from the Originator Participant and the forwarding of the same transaction to the Beneficiary Participant.

- All tasks performed by TIPS between the reception of the reply from the Beneficiary Participant and the sending of the confirmations or rejections to the Originator Participant and the Beneficiary Participant.

- **A2A Response Time**

		Actual Value	Committed Value
A2A message other than Instant Payment transaction	within 5 seconds	100.00%	95.00%
	between 5 and 20 seconds	0.00%	5.00%
	over 20 seconds	0.00%	0.00%

- Time indicators provided in the table are always measured within the TIPS perimeter under the responsibility of the Providing CBs. The actual transmission time of the data via the network between TIPS and the TIPS Actors is not included in the response time.

- **U2A Message Response Time**

	Average page generation time
U2A Response Time	0.28

- For all U2A requests the response time is defined as the time between the reception of a user request (HTTP-request) in the TIPS domain and the completion of the response in form of a web (HTML) page