



EUROPEAN CENTRAL BANK

EUROSYSTEM

# TARGET2 incident on 23 October 2020

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ECB OMG Meeting  
17 December 2020

ECB-UNRESTRICTED



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# Key steps (1/3)

23/10	14:40	TARGET2 unavailable on the primary site in Germany
	15:15	1st conference call of TARGET2 Crisis Managers
	15:30	1st communication to participants
	16:30	ECONS reported as not available
		Attempts to activate intra-region failover to secondary site in Germany
	20:30	Intra-region failover reported as not feasible
		Decision to activate an inter-region failover to the secondary site in Italy
	22:30	Technical completion of the inter-region failover
		Decision not to apply the Restart After Disaster (RAD)
		ICM available
23:10	AS settlement and A2A traffic resumed	
	FIN settlement resumed and stopped again	
	SWIFT servers to be restarted manually	



# Key steps (2/3)

<b>24/10</b>	01:20	FIN settlement resumed
	03:00	Cut-off for customer payments
	03:30	Cut-off for interbank payments
		All payments in the queues have been processed (incl. T2S liquidity transfers)
	04:15	Blockage in Standing Facility module
	05:10	Opening of 26/10/2020 value date
	05:55	Start of TARGET2 night-time settlement (phase 1)
<b>25/10</b>	18:00	Communication to the market
<b>26/10</b>	01:00	TARGET2 reopening for night-time settlement (phase 2)
	07:00	TARGET2 reopening for daylight phase
	18:00	TARGET2 end of day
<b>28/10</b>	13:00	Update on the communication to the market
	19:00	3CB initial incident report
<b>01/11</b>		Failing over back to the primary site in Germany



# Key steps (3/3)

<b>23/10</b>	15:30	1 <sup>st</sup> conference call of T2S Settlement Managers
	15:45	1 <sup>st</sup> conference call of T2S Crisis Managers
		1 <sup>st</sup> decision to delay the DvP cut-off
	21:05	Decision to move on with DvP cut-off at 21:30
	21:45	Problem in RMIC (reimbursement of autocoll)
<b>24/10</b>	03:30	Decision to delay the maintenance window to 08:00
	03:01	RMIC completed (reimbursement of autocoll)
	03:17	GOLT completed (cash sweep to TARGET2)
	03:30	T2S end of day started
	06:05	Start of T2S night-time settlement
	07:30	Completion of night-time settlement
<b>26/10</b>	05:00	Reopening of T2S for real-time settlement
	15:30	Delay of DvP cut-off by one hour (upon request of one NCB)
	18:00	T2S end of day started
	20:01	Start of T2S night-time settlement
<b>28/10</b>	09:00	UTEST available for user tests again but the normal schedule was only followed as of 29 October



# Problems reported by participants

- Many actors not aware of the existence of the TARGET2 Webpage.
- Banks not sufficiently informed about the procedure to follow after an inter-region failover.
- Many banks and ancillary systems could not resend the traffic (not capable of resending or systems already closed).
- Critical ancillary system transactions settled but missing ACH SEPA files, causing late transfer of funds to beneficiaries.
- Banks did not transfer their excess of reserves to OVN deposit accounts.
- Number of reconciliation problems somehow contained (some dozens of payments).
- Problem of relocation of collateral for some DCPs.

# 3CB incident report

- Initial incident report delivered on 28/10
- Root cause of the incident:

*“The incident root cause is attributed to a third-party network device problem classified as a major severity.*

*In the context of a change planned in the weekend for activating new network switches, a preparatory activity has been conducted for the devices still logically disconnected from the network in production (with all of the involved ports in disabled mode).*

*The configuration parameter applied on the 4CBnet-NG switches, as part of this preliminary activity already started on Thursday and successfully executed on six out of eight devices, triggered on Friday a software bug. Although it was known to the vendor since May 2020, the bug was documented neither in the product manuals nor in the relevant release notes.”*

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# Communication

- During the incident
- 17 conference calls of TARGET2 Crisis Managers
- 15 communications to participants using the MID-RSS tool

The screenshot shows the ECB website's navigation menu and a specific page titled "TARGET2 for professional use". The page is dated "Fri 23 October 2020 22:30". The main content area contains the following text:

**STATUS OF THE TARGET2 SYSTEM**  
**Fri 23 October 2020 22:30**

TARGET2 is currently completing intra-region failover processes. Access to the ICM has been restored and the settlement of FIN messages as well as AS files will soon be resumed. Liquidity transfers from T2S and to/from TIPS will also be resumed soon. As a result of the interruption, the closing of TARGET2 has been delayed until 1:00 CET. The cut-off time for customer payments has also been postponed until 23:45 CET. These cut-offs will be revised if needed and such delays will be communicated in due time. FIN messages and AS file sent to TARGET2 since the start of the incident, are queued and will be processed. Participants are invited to start their reconciliation and wait for the confirmation that all these pending transactions have been settled before instructing the new ones. Due to incident the start of the new business day as well as the start of the night-time settlement will be delayed. The exact timings will be communicated in due time. This website will be updated with further information at 23:30 CET.

# Communication

- *After the incident*
- 1 communication published on Sunday 18:00
- 1 update published on Wednesday 13:00

**THE WALL STREET JOURNAL**  
 MARKETS | STOCKS | EUROPE MARKETS  
**Europe's Core Payments Network Disrupted by Technical Outage**  
 Outage on Friday paralyzed European Central Bank's payments system for almost 11 hours

**BLOOMBERG NEWS WIRE** | NEWS | VIDEO  
**ECB Glitch Reduced Bank Deposits By More Than 400 Billion Euros**  
 Banks could not move more than 400 billion euros due to Target2 outage

**Frankfurter Allgemeine**  
 ZEITUNG • FAZ.NET  
**Panne beim Target-System**  
 VON CHRISTIAN UEDENBERGEL

**ECB blames third-party network device for Target2 collapse**  
 28 October 2020

**FINANCEFEEDS**  
**Pass the buck! 11 hour settlement outage blamed on third party tech by ECB**  
 The Eurosystem blamed by European Central Bank for Target2 outage on Friday

**box** Don't be that bank.

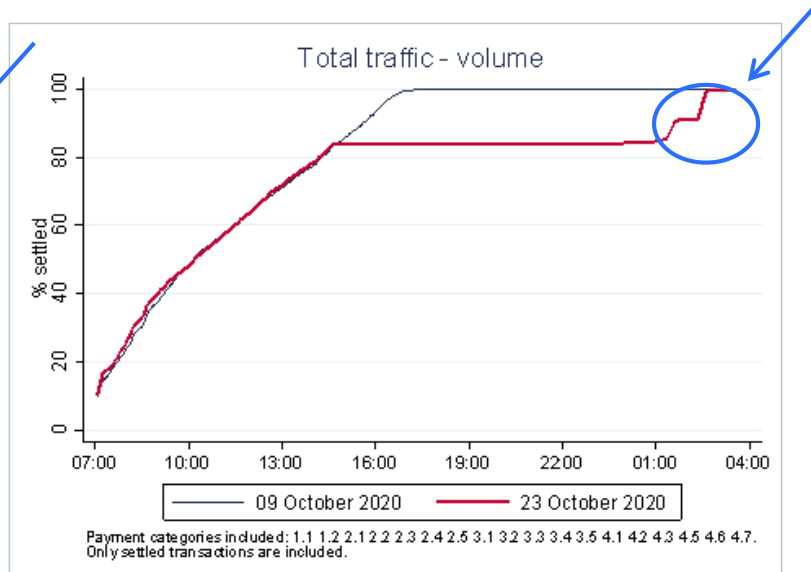
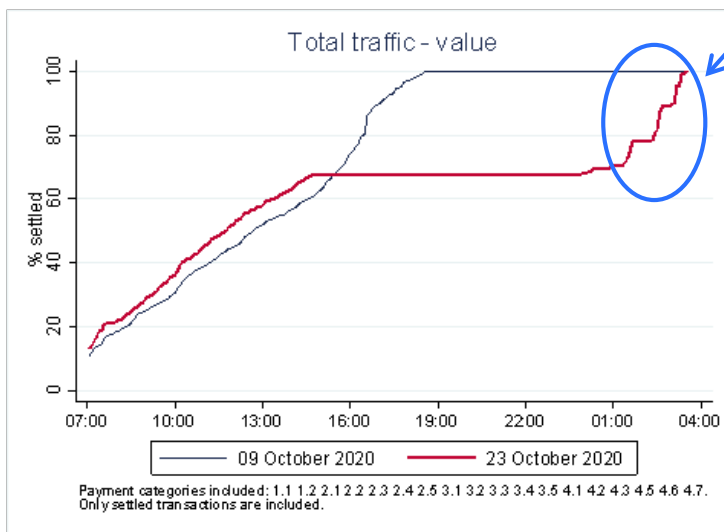
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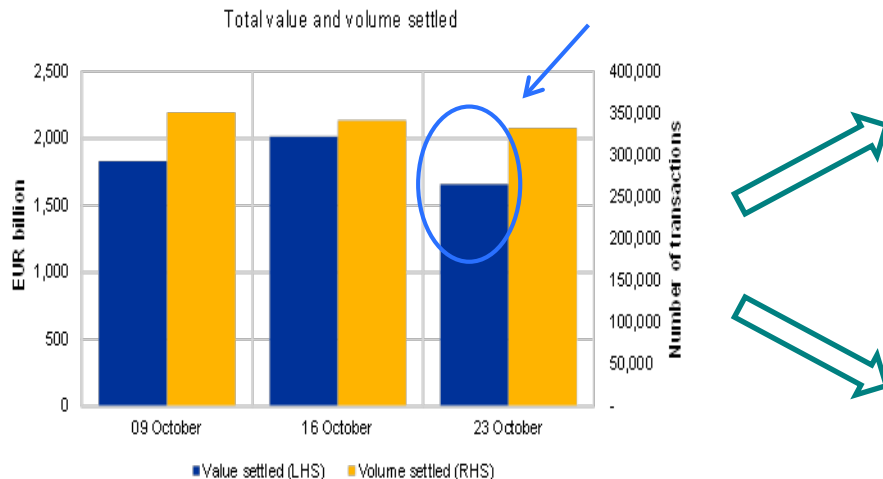
# Business impact

## Timely distribution



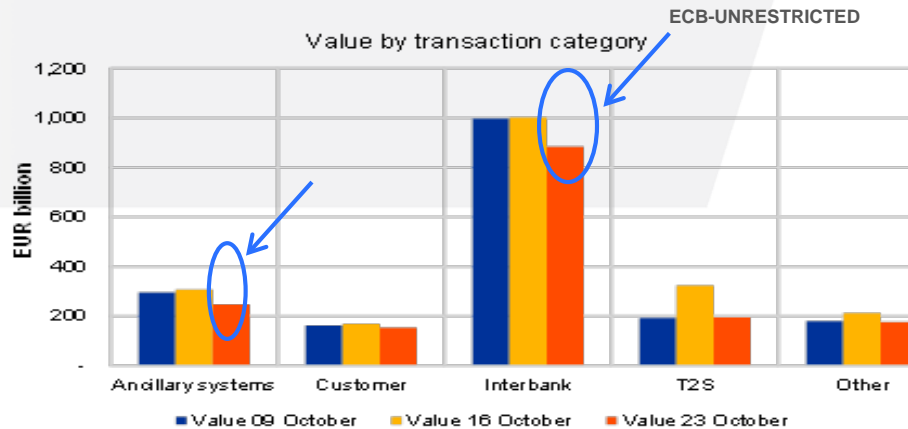
- Roughly 65% of the daily traffic in value and 85% of the daily turnover was already settled at the time of the incident
- Progressive restart of services clearly visible after 1:00 am

# Business impact

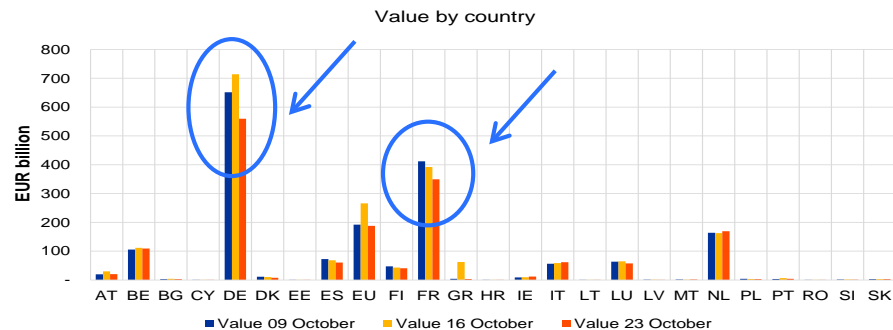


Compared to the last two Fridays:

- Turnover 10-15% lower
- Traffic 3-5 % lower



- Most affected categories:
- Ancillary systems settlement
- Interbank payments

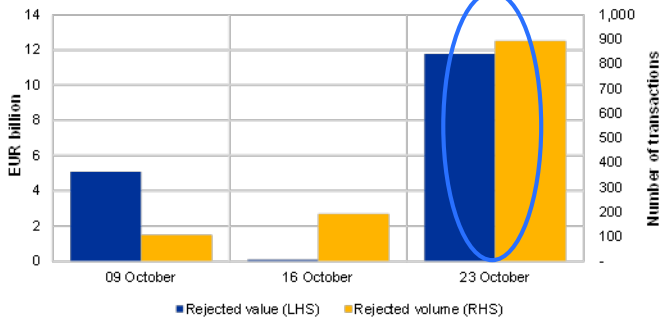


Most affected communities: DE, FR

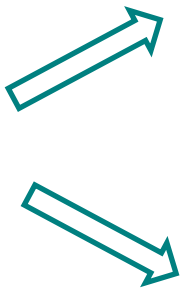
# Business impact

## Rejected payments

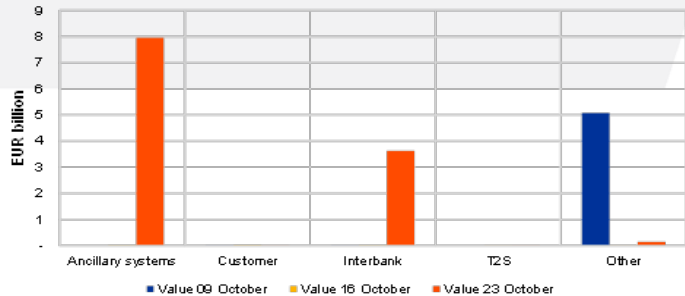
Total value and volume of rejected transactions



- More than 900 transactions
- Approximately 12 bn €



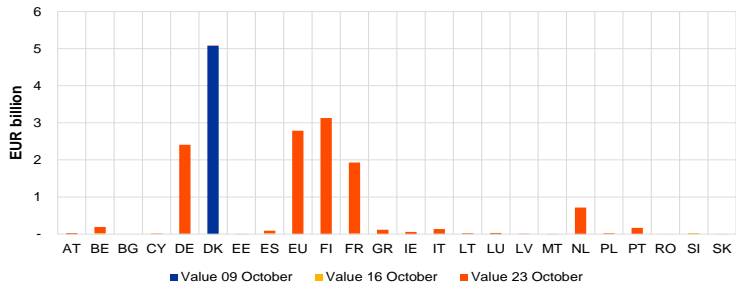
Rejected value by transaction category



Most affected categories:

- Ancillary systems settlement
- Interbank payments

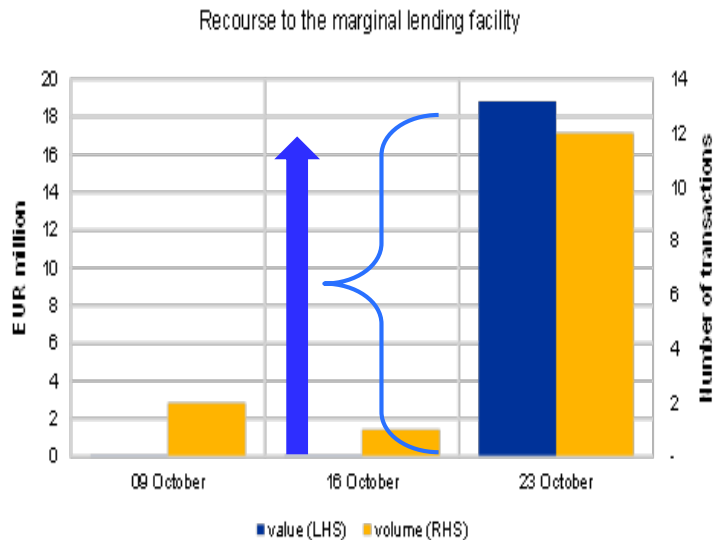
Rejected value by country



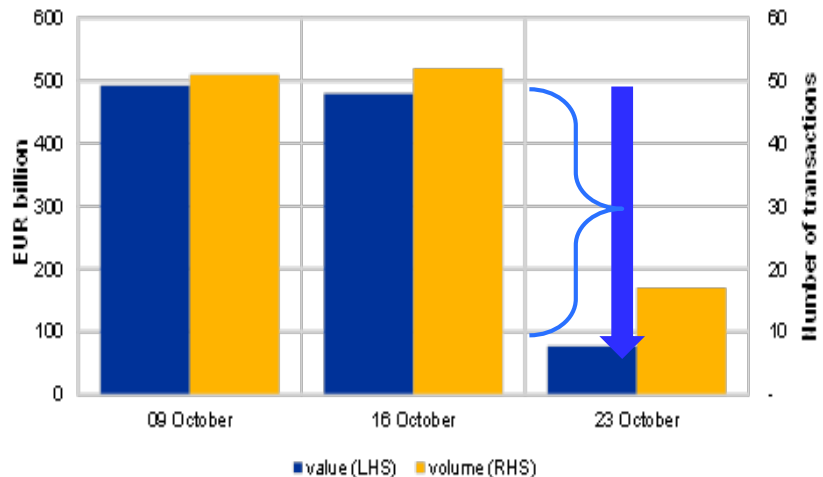
Most affected communities:  
DE, FR, FI, ECB, NL

# Business impact

## *Recourse to standing facilities*



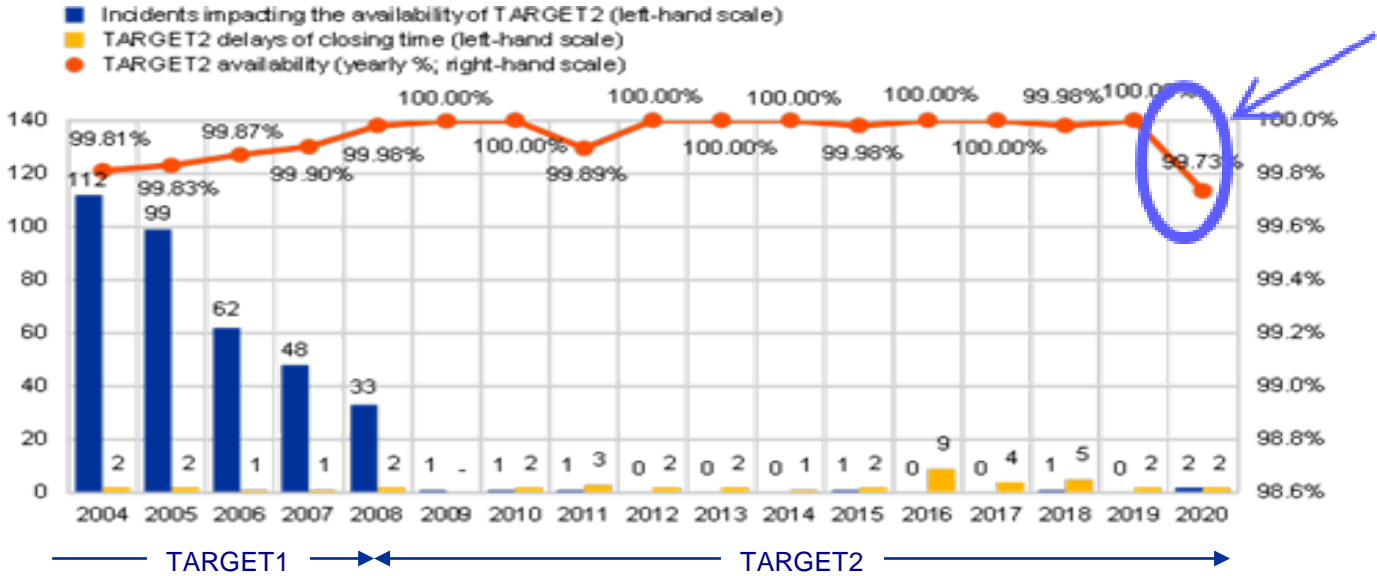
## Use of overnight deposits



- 11 banks had recourse to MLF for €19 million
- Approximately € 400 bn less on overnight deposit accounts

# Business impact

## System availability



- Technical availability (yearly basis) at the lowest level since the migration to TARGET2 in May 2008



# Next steps

- To complement its own analysis, the Eurosystem decided to involve an **external and independent** party to assess the incident as well as the recent ones that hit TARGET2 and T2S.
- The scope of the review will be **broad** enough to allow the Eurosystem to draw general lessons on the proper management of its infrastructures i.e. not only for TARGET 2 but for all TARGET services.
- The scope shall encompass *inter alia* the robustness of the **business continuity** model, the adequacy of the regular **recovery tests**, the efficiency of the **change and release management** and the **communication** protocols (internal and external).
- The work shall start shortly after the designation of the independent reviewer and is currently planned to last until **end of Q1-2021**.
- The main findings of the external review, as well as the responses of the Eurosystem, will be **shared with market participants** (expected Q2 2021).

# Questions?