ECMS: User Testing framework (UT)
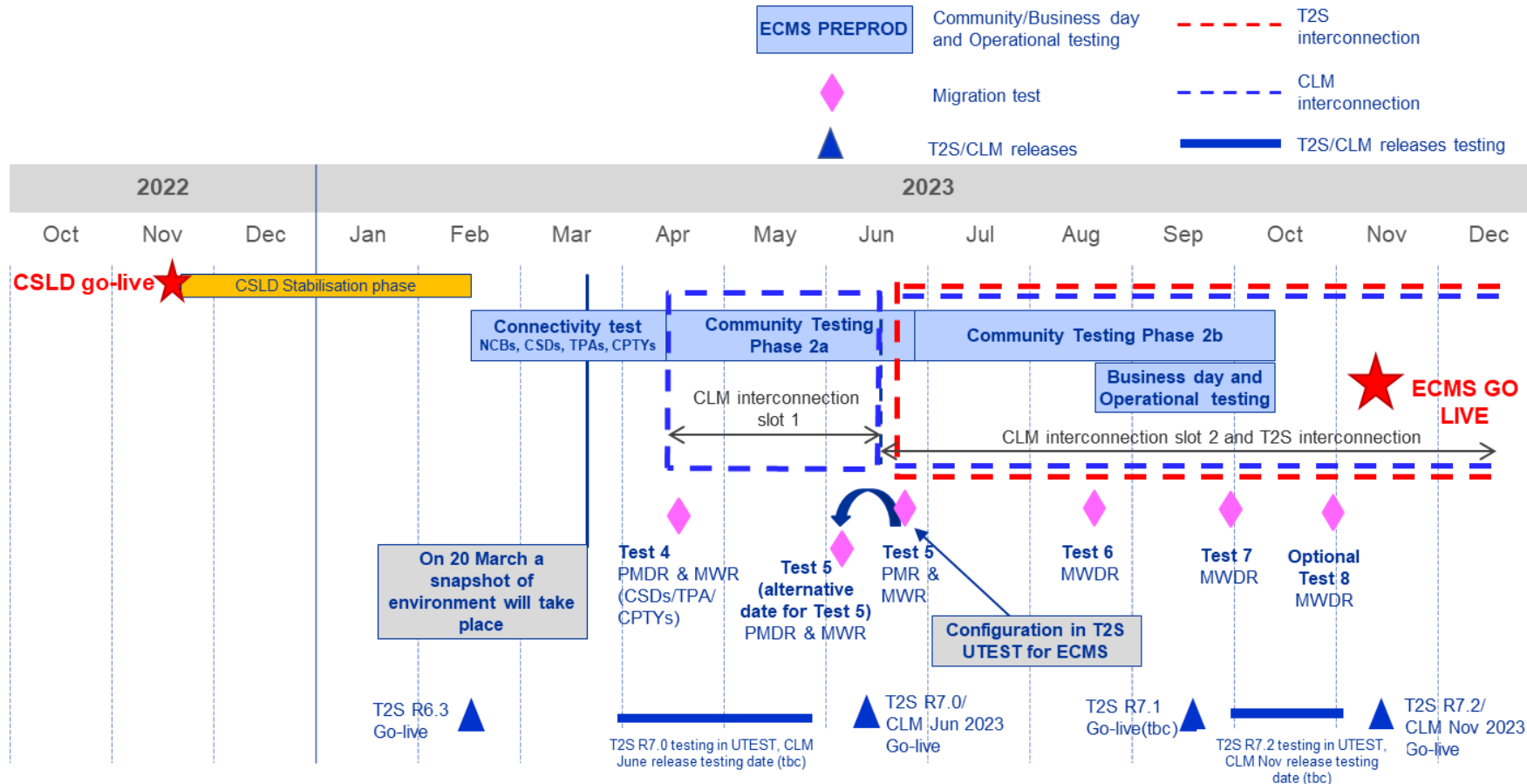
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ECMS UT Plan

- **ECMS UT** is planned to take place in EAC and Pre-Prod test environment and involved following UT phases:

  - ✓ Connectivity testing in each test environment

  - ✓ Central Bank Testing (CBT)

  - ✓ Community testing phase 1

  - ✓ Community testing phase 2

  - ✓ Business Day testing

  - ✓ Operational testing

- In EAC environment only NCBs, CSDs and TPAs will perform the testing

- In **Pre-Prod environment** NCBs, CSDs, TPAs and **Counterparties** will perform testing.

- **Migration testing is spread across entire UT stage in both test environments.**

ECMS UT Plan – Pre-Prod

Legend:
- ECMS PREPROD
- Migration test
- T2S/CLM releases
- Community/Business day and Operational testing
- T2S interconnection
- CLM interconnection
- T2S/CLM releases testing

Timeline 2022: Oct, Nov, Dec
Timeline 2023: Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec

- CSLD go-live — CSLD Stabilisation phase
- Connectivity test NCBs, CSDs, TPAs, CPTYs
- Community Testing Phase 2a
- Community Testing Phase 2b
- Business day and Operational testing
- ECMS GO LIVE
- CLM interconnection slot 1
- CLM interconnection slot 2 and T2S interconnection
- On 20 March a snapshot of environment will take place
- Test 4 PMDR & MWR (CSDs/TPA/CPTYs)
- Test 5 (alternative date for Test 5) PMDR & MWR
- Test 5 PMR & MWR
- Test 6 MWDR
- Test 7 MWDR
- Optional Test 8 MWDR
- Configuration in T2S UTEST for ECMS
- T2S R6.3 Go-live
- T2S R7.0 testing in UTEST, CLM June release testing date (tbc)
- T2S R7.0/ CLM Jun 2023 Go-live
- T2S R7.1 Go-live(tbc)
- T2S R7.2 testing in UTEST, CLM Nov release testing date (tbc)
- T2S R7.2/ CLM Nov 2023 Go-live

- The duration of User Testing phases (Community testing phase 2, Business day and Operational testing) includes time needed to execute migration testing.
- The CSDs/TPAs/CPTYs are expected to finish connectivity testing by 31 March 2023; the two weeks from 03-14 April 2023 is a buffer period.

Test Summary documents – for counterparties

- **Summary documents for each UT phase** will be ready in advance of the start of the UT phase.

- **Summary documents for first migration test** for each environment will be prepared in advance of the test.

- Thereafter, for all subsequent migration tests, the summary document should be ready 2 weeks in advance of the test to allow reflection based on lesson learnt from previous test.

Steps involved in UT journey for Counterparties

Start of Connectivity Testing in Pre-Prod	
Scope (what?)	The objective is to ensure full end-to-end connectivity to the ECMS via ESMIG to ensure that all communication between ECMS actors and the ECMS is working properly for A2A (correct inbound and outbound messages transmission) and U2A (access to the ECMS GUI).
Actors involved	NCBs, CSDs, TPAs and **Counterparties**
Planning (when?)	Testing from 20 Feb 2023 - 14 Apr 2023 (to be reassessed and upon greenlight from NCBs for Counterparties)
Support 1st level (who?)	For technical problems, depending on nature of the problem: Selected NSP support team and ECMS National Service Desk. In case of need, the NSP's support and the ECMS Services Desk can cooperate by means of a joint teleconference with the ÈCMS National Service Desk.
Key documents (how?)	TARGET Connectivity guide v2.0 Selected NSP documents and guides

Connectivity testing

- Connectivity tests are mandatory to make sure all ECMS Users shall be able to connect in User Testing and later in production.

- The connectivity is provided by the certified NSP selected by the ECMS actor.

- The connectivity principles are defined in the Target Services Connectivity Guide.

Objectives of connectivity testing

- The objective is to **ensure full end-to-end connectivity** to the ECMS via ESMIG

- i.e. to ensure that all communication between ECMS actors and the ECMS is working properly for A2A and U2A.
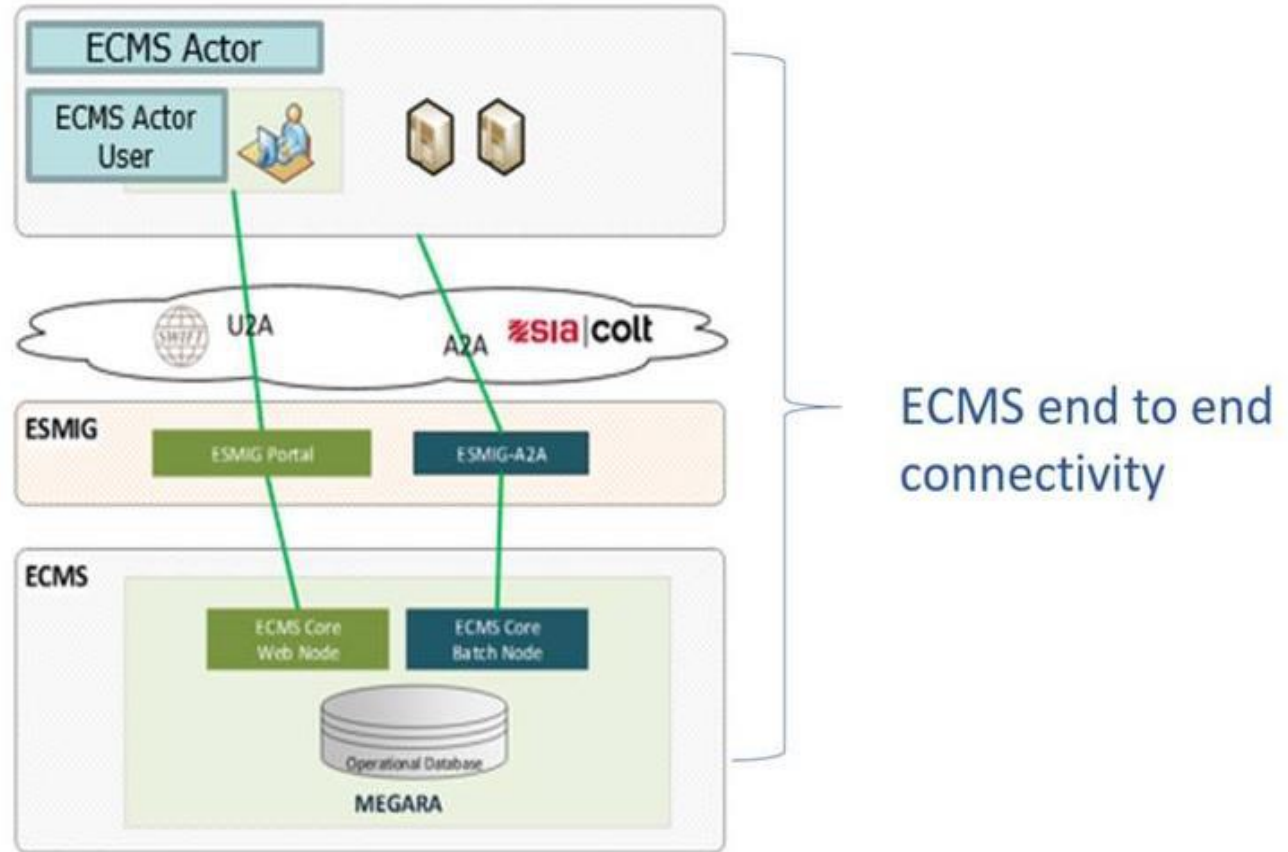
Objectives of connectivity testing

U2A

- U2A connectivity test aims to check that U2A users can access the ECMS GUI **landing page**.

A2A

- A2A connectivity test aims to check that A2A users receive an acknowledgement message (**admi.007**) from the ECMS after sending one A2A message. Each ECMS actor will be able to send any message within the scope of their ECMS business activity.

- ECMS actors who do not intend to send any ISO 20022 messages in Production, but would still like to check their ability to receive files/reports via A2A, can validate the connectivity by sending a signed "admi.005" message (report request).

Steps for connectivity testing

Connectivity check-list ECMS through a NSP

- The tables below show a quick summary of the steps to be taken in order to connect to ECMS through a NSP and test the connectivity

Step	Action	Who
1	Select the NSP of choice and select the related Services.	ECMS Users
2	Ask the NSP's for an offer and order the related products.	ECMS Users
3	Connectivity setup with the NSP.	ECMS Users
4	Subscribe to the NSP's Services for TARGET Services (e.g. inclusion into the CGU).	ECMS Users
5	Request for the NSP PKI certificates.	ECMS Users
6	Create the Party in Reference Data in ECMS	
7	Create Party administrators in ECMS	
8	Create the users and the Distinguish Name in CRDM or ECMS	
9	Connectivity test with TARGET Services A2A • in case of schema validation error, the user will receive an admi.007 message • business validation errors will trigger the relevant business response message (eg. Pacs.002, camt.025 and reda.xxxaccording to the service/component the message has been sent to) U2A • the user will be able to reach the ESMIG landing page	

See details of steps 6-9 in next slide

Steps for connectivity testing

Connectivity check-list ECMS through a NSP

• This table provides additional details on the steps 6 to 9 of the previous slide:

Connectivity test with ECMS	Actor
1. Creation of NCB/CSD/TPA party	ECMS Operator
2a. Creation of NCB user(s) with the role 'NCB Admin' 2b. Creation of CSD/TPA A2A user without any role attached (assigning a role is not needed for starting connectivity testing)	ECMS Operator
As from 2b. CSD/TPA A2A connectivity testing can be done	CSD/TPA A2A user
3. Connection to the ECMS GUI landing page (and the user can access menu corresponding to his role)	NCB Admin
4a. Creation of NCB A2A user without any role attached (not needed for connectivity testing) 4b. Creation of NCB User(s) with the role 'NCB – U2A General Reference Data Execution' (as from that moment the NCB user can access the menu corresponding to his role)	NCB Admin
As from 4a. NCB A2A connectivity testing can be done	NCB A2A user
5. Creation of the CPTY party	NCB User in U2A (cf. step 4b)
6. Creation of the CPTY user(s) with the role 'CTPY Admin'	NCB Admin
7. Connection to the ECMS GUI landing page (and the user can access menu corresponding to his role)	CTPY Admin
8. Creation of CTPY A2A user without any role attached (not needed for connectivity testing)	CTPY Admin
As from 8. CTPY A2A connectivity testing can be done	CTPY A2A user

target | ECMS
services

ECMS Training Session

Steps involved in UT journey

Start of PMDR activities for NCBs in Pre-Prod to perform reference data set-up

Scope (what?)	In order to set-up reference data in Pre-Prod environment, a Pre-Migration Dress Rehearsal will be executed in Pre-Prod. NCBs will capture their own reference data and data **provided by Counterparties via registration forms** during this period
Actors involved	NCBs
Planning (when?)	From 20 March 2023 until 14 April 2023. (to be reassessed)
Support 1st level (who?)	ECMS Service Desk
Key documents (how?)	Test Summary Document Registration form

Start of CTP2a with PMDR activities for Counterparties

Scope (what?)	After the capture of their registration form data by the NCB, **Counterparties capture their own reference data under their direct management (e.g. users, access rights)**. Thereafter the Community testing phase 2a (CTP2a) can start where NCBs and their counterparties will participate in testing.
Actors involved	NCBs, Counterparties
Planning (when?)	Capture of reference data by Counterparties - From 17 April 2023 until 21 April 2023 Community testing phase 2a from 17 April 2023 until 23 June 2023 (to be reassessed)
Support 1st level (who?)	For Counterparties, the main support is given by the ECMS National Service Desks. Support to NCBs is provided by the ECMS Service Desk.
Key documents (how?)	Strategy for ECMS Migration and Testing Test Summary Document ECMS User testing Terms of Reference for Pre-production environment v1.0

target services | ECMS

Migration tests

Migration tests will be executed both in EAC environment and in Pre-Prod environment across the whole UT stage (plan under re-assessment).

During Migration tests no functional test will be possible.

Different Migration Tests:

- **PM(D)R - PreMigration (Dress) Rehearsal:** test of all the activities affecting pre-migration (i.e. static data)

- **PW(D)R - Preparation Week (Dress) Rehearsal:** test of the activities to be performed in the week before the migration (i.e. provision of data from ESCB Services, CC Static data, Corporate Actions…)

- **MW(D)R - Migration Weekend (Dress) Rehearsal:** test of the migration weekend activities (i.e. transactional data)

In a **Dress Rehearsal** data should be similar to what is expected as business after ECMS go-live (production-like) and volumes should be similar to what is expected in production.

In PreProd environment, at present there will be **4 Migration tests** (plus 1 optional)

Migration test - migrated data

- Activities expected to be performed by Counterparties during Migration tests are similar to those foreseen for the go-live migration. MW(D)R in PreProd will be executed during weekend days.

- Depending of the type of Migration Test (Pre-Migration or Migration weekend) a **snapshot** of data will be taken at ECMS database level after each test and/or a **cleanup** of the database will be performed before the restart of functional testing, so that data could be reloaded in case of need or contingency and Actors could start testing on a clean environment.

- At the same time, this will allow Counterparties not to reload and setup their user if not needed for the purpose of a given migration test (e.g. after a PMDR a snapshot will be taken, than the cleanup will be performed before a new test that could be a MWDR. In this case the snapshot of the previous PMDR will be reloaded after the cleanup of the environment thus not requiring Counterparties to re-configure their Users).

Steps involved in UT journey

Start of Community testing phase 2b	
Scope (what?)	During the Community Testing Phase 2b (CTP2b), all ECMS actors will participate in testing, with a full interconnection with CLM and T2S
Actors involved	NCBs, CSDs, TPAs and Counterparties
Planning (when?)	Community testing phase 2b from 26 June 2023 until 13 October 2023 (to be reassessed)
Support 1st level (who?)	For the counterparties, CSDs and TPAs, the main support is given by the ECMS National Service Desks. Support to NCBs is provided by the ECMS Service Desk.
Key documents (how?)	Strategy for ECMS Migration and Testing ECMS User Testing Terms of Reference for Pre-Production environment SWIFT MyStandard readiness portal

Execution of Fundamental Test Cases	
Scope (what?)	The ECMS UT Fundamental test cases should be successfully executed by each ECMS Actor (conditions apply depending on actor type), and results to be provided to their respective NCB. **ECMS Actors report progress to NCB** on a monthly basis.
Actors involved	NCBs, CSDs, TPAs and **Counterparties**
Planning (when?)	ECMS Actors can start as soon as UT Stage commences. Must be completed before beginning of Business day testing phase
Support 1st level (who?)	For the counterparties, CSDs and TPAs, the main support is given by the ECMS National Service Desks.Support to NCBs is provided by the ECMS Service Desk.
Key documents (how?)	ECMS UT Fundamental test cases. Each NCB could ask their community perform **additional test cases** on top of those defined in ECMS UT Fundamental test cases.

UT Fundamental Test Cases: Background

- **Objective:**
  - ✓ Ensure that NCBs and their community have executed a specific set of plain vanilla (basic positive) test cases.

  - ✓ Ensure that there is no disruption in ECMS production caused by ECMS Actors lack of readiness when the ECMS goes live, thus protecting NCBs and their communities against systemic risk.

  - ✓ Ensure that the ECMS functionalities commonly used by NCBs and their communities work properly.

- **NCBs may define additional mandatory test cases** which they require their community to execute on top of the ECMS UT Fundamental Test Cases. Banca d'Italia circulated additional Mandatory Test Cases together with principles for their execution and reporting framework.

Principle for UT Fundamental Test Cases

- No dedicated testing phase in which to execute the UT Fundamental Test Cases

- Test cases **must be successfully executed before the start of the Business day testing phase** (global entry criteria)

- ECMS Actors don't have to execute test cases for functionality which they do not intend to use in production

- Some test cases will involve several actors (to fulfil the required pre-requisites, to execute some steps of the test case, etc) and require coordination by NCBs or among NCBs.

- Those test cases should be executed with interconnection with T2S and CLM. In case test cases are executed with the Simulators for T2S and CLM and they must be re-executed with interconnection.

Tools facilitating testing

## Interactions with CLM/T2S when interconnection will not be available

▪ During periods when CLM and T2S interconnection will not be available, their answers to ECMS will be simulated through "basic" simulators.

▪ These simulators are hardcoded and would answer **only positively or negatively according to a pre-defined setup*.**

Connected System / Service	Possible configuration
CLM	4CB Simulator
T2S	4CB Simulator

*no market instruction and matching needed in T2S, when its simulator is used.

Ticket Management System

Any issue should be communicated via email to ECMS National Service Desk (Banca d'Italia) who interacts with the ECMS Service Desk for them to be managed into the Ticket Management System.

NCB level

4CB level

NCB Community
No access to TMS

ECMS National Service Desk

ECMS Service Desk
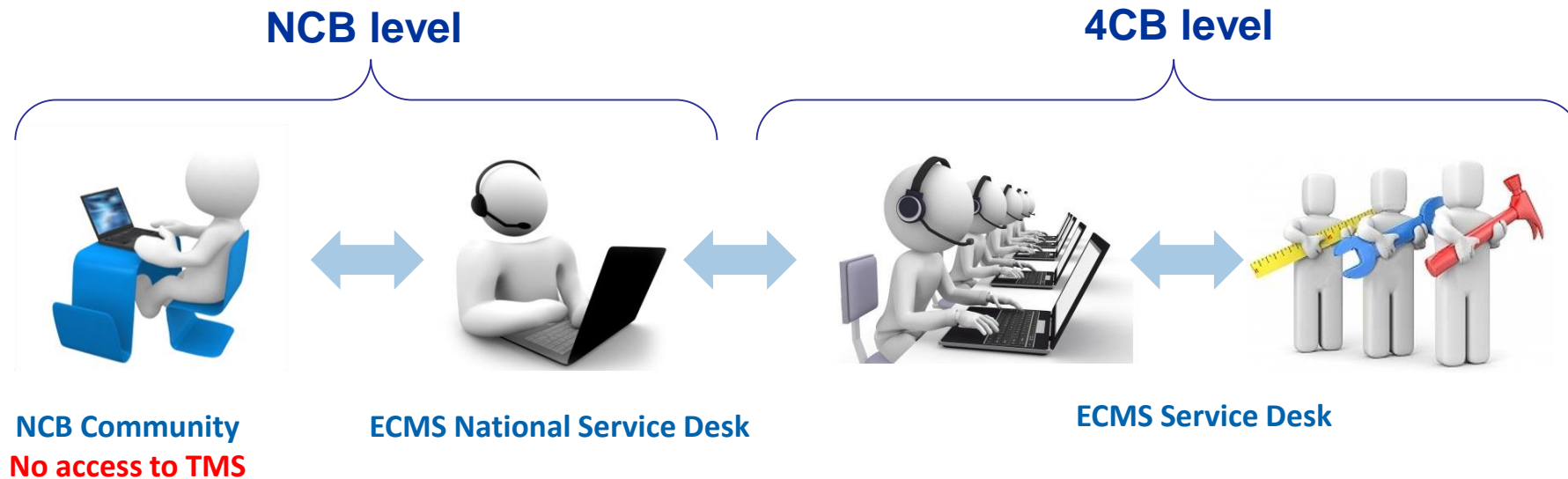
UT Test Calendar: Background

- ## Usage

  ### Detailed view:

  - Includes the daily detailed planned activities on both environments for the next eight (8) weeks.

  - Structured by day, date and test environment (on the columns side) and by activity type (on the row side): each cell depicts the details of the activity which shall be performed on this day of the week, date, environment and belonging to this activity type.

  ### Complete view:

  - Includes the overview of all planned activities until the go-live of the Project.

  - Past events are not shown anymore

  - Activities that have a duration exceeding one week are repeated and presented from Monday to Friday of each week.

  - Structured by date, Activity type, Activity, Environment.