

# RELACSYS 4.0:

Information Systems  
& Digital Health  
in the Americas

*Regional Meeting & Connectathon*



## LACPASS Connectathon – Global Report



Collaborators



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## Introduction

The second LACPASS Regional Connectathon took place in Sao Paulo, Brazil, from November 12th to 14th of this year, 2023. This groundbreaking event in the healthcare sector in Latin America and the Caribbean showcased the technical conditions enabling the timely and secure exchange of clinical information within the region, meeting individuals' needs.

The event brought together national representatives from member countries, health authorities, information technology and telecommunications experts, international organizations, and technical teams collaborating for innovation. On this occasion, 16 participants were registered: Argentina, Belize, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Panama, Paraguay, Peru, Suriname, Uruguay, and Barbados.

The aim of the LACPASS Connectathon was to strengthen a Pan-American digital health network, intending to create more opportunities for interoperable regional health systems.

## Event organisation

### General overview

The event was organized by BID, OPS, CENS, and RACSEL in collaboration with IHE Catalyst. It took place at the Grand Hyatt hotel, where testing was conducted. Spanning from Sunday, November 12th, starting at 10 AM, until Wednesday, November 14th, ending at noon, the event operated between 8 AM to 5:15 PM, with testing scheduled from 9 AM to 5 PM.

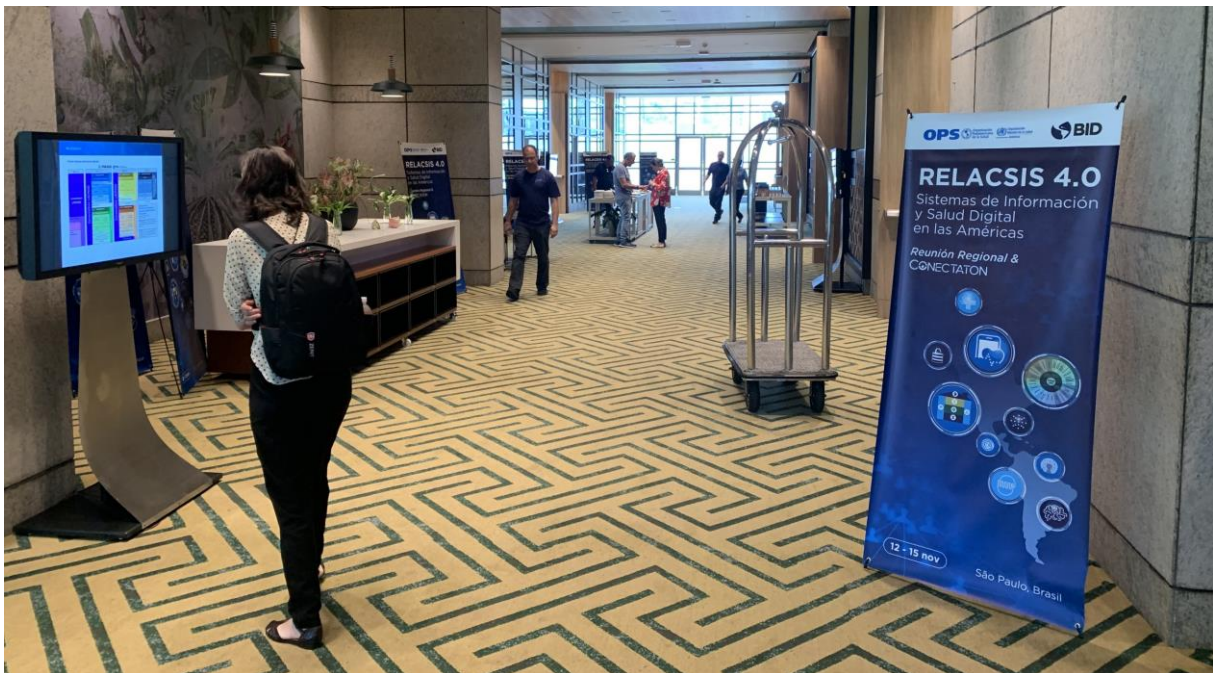


Figure 2 : Grand Hyatt Hotel

To support testers and ensure test case verification, a team of eleven monitors was enlisted, the majority of whom had prior experience from LACPASS Connectathon or G20 Pilot Connectathon with WHO and IHE Catalyst. The recruitment of monitors involved contributions from CENS and IHE Catalyst.



Figure 1 : Monitor team and Technical support team and staff

All tools utilized during the event were consolidated within a single virtual machine hosted on the cloud at <https://gazelle.racsel.org/>. The management of the network was overseen by Grand Hyatt network administrators.

To keep participants informed, event-related updates were regularly posted on the website <https://racsel.org/conectaton2023/>. Additionally, IHE Catalyst hosted three webinars covering the registration process and pre-Projectathon-tests in May and June 2023. The pre-Projectathon test phase spanned from October 1st to November 10th, 2023.

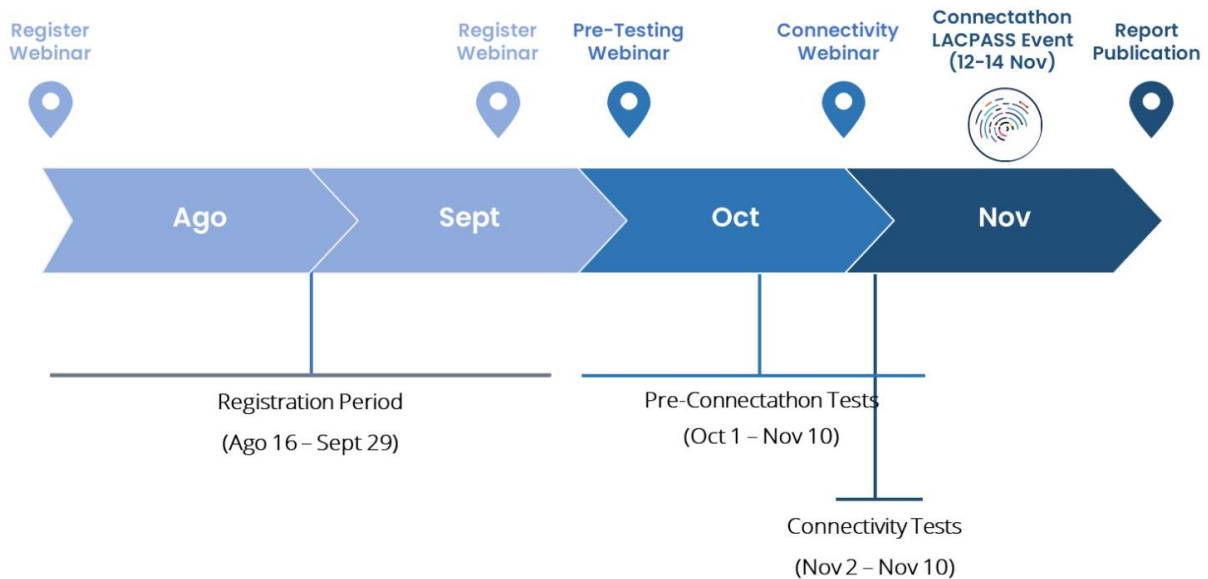


Figure 3 : Conectathon Calendar 2023

On Tuesday, November 14th, the "LACPASS AWARDS" ceremony was held at the Grand Hyatt hotel, featuring a standing dinner. Throughout the event, participants had the opportunity to attend presentations from WHO, RACSEL, IHE, and the EU Commission between Monday and Tuesday.

Moreover, external guests were offered a "Guided Tour" of the Connectathon room, facilitated by RACSEL, for a comprehensive view of the event's activities.

## Projectathon scope

The second iteration of the LACPASS Connectathon introduces two tracks, as outlined in the accompanying figure, focusing on the essential enablers deemed crucial for the LAC region.

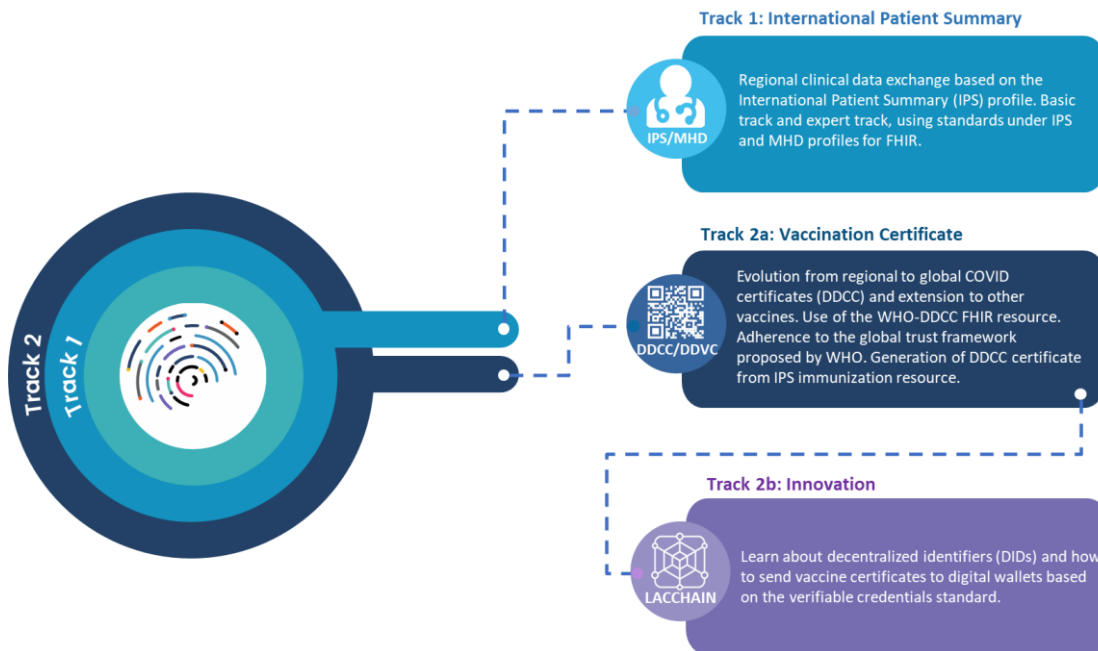


Figure 4 : Conectathon scope

**Track 1 - International Patient Summary:** This track aims for all participants to create their own international patient summary using the IPS profile and effectively interact through MHD transactions. Prerequisites include adherence to the FHIR standard, IPS Profile, MHD Profile, and the utilization of LACPASS Docker.

**Track 2a - Vaccination Certificate:** The goal of this track is for each participant to successfully generate and exchange a vaccination certificate aligned with the WHO DDCC profile. Requirements involve compliance with the FHIR Standard, WHO DDCC, and the use of LACPASS Docker.

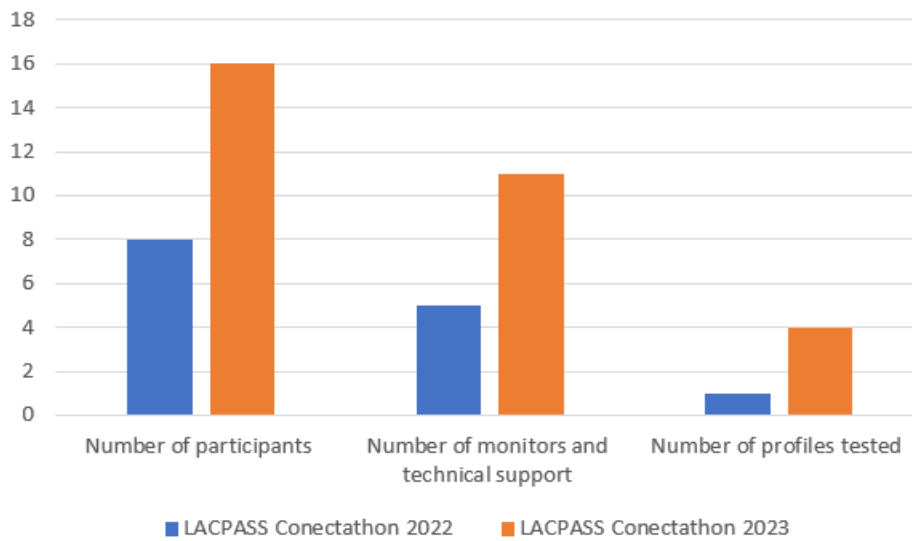
**Track 2b - Innovation:** The objective of this track is to familiarize participants with decentralized identifiers (DIDs) and the process of transmitting vaccine certificates to digital wallets following the verifiable credentials standard.

## Participating countries per track

The following table illustrates the evolution of the LACPASS Connectathon between 2022 and 2023.

	LACPASS Conectathon 2022	LACPASS Conectathon 2023
<i>Number of countries</i>	8	16
<i>Number of monitors and technical support</i>	5	11
<i>Number of profiles tested</i>	1	4
<i>Number of tests executed</i>	83	403

According to this table, the LACPASS connectathon has seen significant growth between 2022 and 2023. The number of participants has doubled, leading to an increase in the Support team and the count of monitors, as well as the number of tests executed in Gazelle.



Each of the 16 countries has set up a system in Gazelle by registering for the profiles that interest them.

IHE Profiles		WHO - Digital Adaptation Kit		Block Chain Technology	
IPS International Patient Summary	MHD Mobile Health Document	DDVC Digital Documentation Vaccination Certificate	LACCHAIN Innovation		
Argentina	Argentina	Argentina	Belize		
Barbados	Barbados	Barbados	Chile		
Belize	Belize	Belize	Guatemala		
Brazil	Brazil	Brazil	El Salvador		
Chile	Chile	Chile	Honduras		
Colombia	Colombia	Colombia	Panama		
Costa Rica	Costa Rica	Costa Rica	Paraguay		
Ecuador	Ecuador	Ecuador	Peru		
El Salvador	El Salvador	El Salvador	Suriname		
Guatemala	Guatemala	Guatemala			
Honduras	Honduras	Honduras			
Panama	Panama	Panama			
Paraguay	Paraguay	Paraguay			
Peru	Peru	Peru			
Suriname	Suriname	Suriname			
Uruguay	Uruguay	Uruguay			

Figure 5 : Participants list per Track

### Test results per track

Throughout the event, 403 test instances have been processed by the 16 countries. Among these, 17 were incomplete, 8 showed partial verification, and 14 resulted in failure. However, 363 tests were successfully executed.

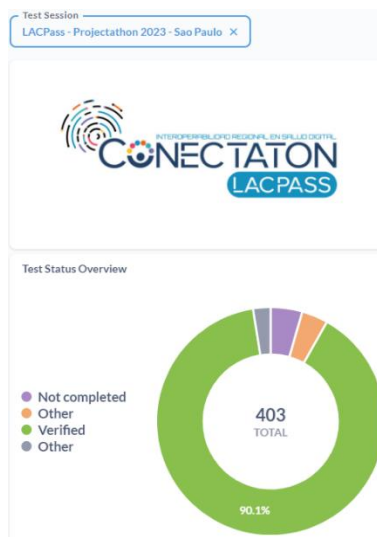
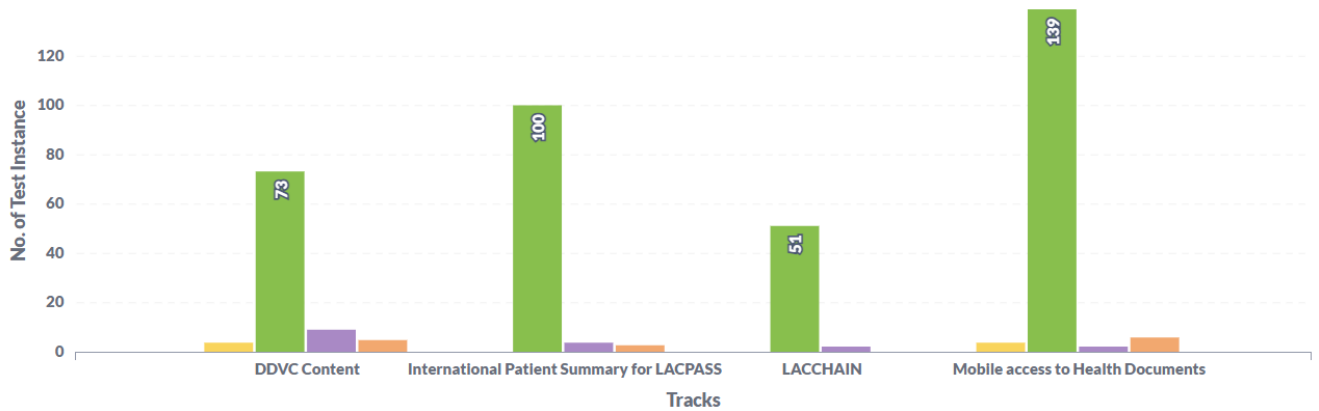


Figure 6 : Results overview 2023

Out of the 363 tests verified, 73 belong to the DDVC profile, 100 to the MHD profile, 51 to the LACCHAIN profile, and 139 to the MHD profile.

Test Status by Tracks

● Partially Verified ● Verified ● Not completed ● Other



The following chapters provide detailed statistics by profile.

### IPS Profile

The statistics related to the IPS Profile are as follows:

- 91 tests were executed on IPS
- A total of 4 verifications were partially completed.
- 73 verifications were successfully completed.
- There were 9 verifications that were initiated but not finalized.
- 5 verifications ended in failure.

### MHD Profile

The statistics for the MHD Profile exhibit the following outcomes:

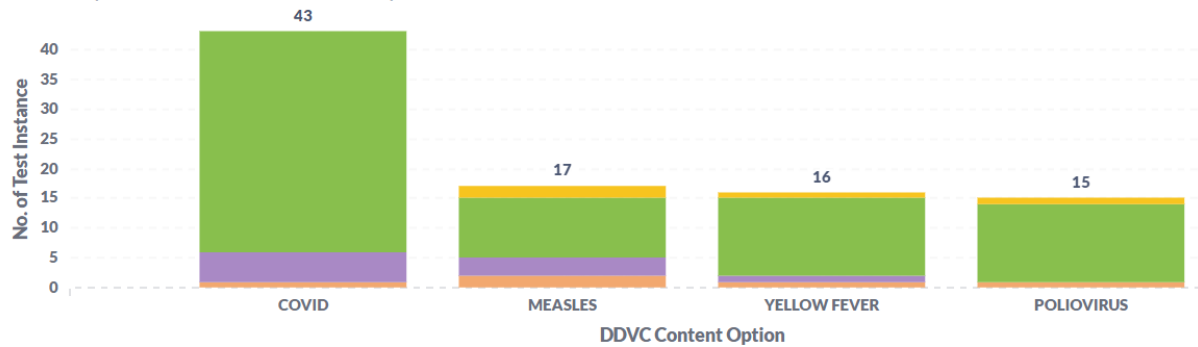
- 151 tests were executed on IPS
- There were 4 verifications that were partially completed.
- A total of 139 verifications were successfully completed.
- 2 verifications were initiated but remained incomplete.
- 6 verifications concluded in failure.



## DDCC profile

Test Status by DDVC Content Options

● Partially Verified ● Verified ● Not completed ● Other



On the DDVC profile, the participants engaged in testing for four different vaccine codes: Yellow Fever, MEASLES, COVID, and Polio.

Here is the breakdown of results for each QR Code:

### COVID

- Total tests conducted: 43
- Tests successfully verified: 37
- Tests not completed: 5
- Failed test: 1

### MEASLES

- Total tests conducted: 17
- Tests successfully verified: 10
- Tests partially verified: 2
- Tests not completed: 3
- Failed tests: 2

### Yellow Fever

- Total tests conducted: 16
- Tests successfully verified: 13
- Tests partially verified: 1
- Tests not completed: 1
- Failed test: 1

### Polio

- Total tests conducted: 15
- Tests successfully verified: 13
- Tests partially verified: 1
- Failed tests: 1

## LACCHAIN profile

On LACCHAIN, 53 tests were executed :

- 51 were successfully verified,
- 2 tests were left unfinished

## Tooling

In terms of tooling, the following tools were utilized during the tests:

- Gazelle Test Management for executing the test plan and connecting to the connectathon
- EVSClient, the Gazelle tool that incorporates the following validators:
  - IPS Validator to validate the content and structure of IPS messages
  - MHD requests validator (ITI-65, ITI-67, and ITI-68)
  - WHO DDCC Universal Validator integrated into Gazelle
- Proxy to capture messages exchanged between participants' systems.

## Parallel events

Several presentations have taken place in parallel with the technical tests. Here are some examples :

- Presentation of IPS profile and its utilization within the LACPASS context.
- Presentation of MHD Profile and its role in exchanging clinical documents using HL7 FHIR, as well as its implementation in the LACPASS connectathon.
- Presentation titled 'From DDCC to DDVC' aimed at showcasing the DDCC immunization standard and the approach to new vaccination certificates.
- Presentation on the Global Trust Framework by Carl Leitner.
- Terminology services presentation intended to acquaint participants with the use of terminology services and explore potential implementation scenarios.

## Conclusion

In summary, the second connectathon was a success, meeting its objectives. The event culminated in an award ceremony honoring all participating countries for their contributions, both during the preparatory phase and throughout the event, significantly contributing to its success. For most of these countries, the LACPASS project is slated to enter production.

At the debriefing meeting among organizers (IHE, CENS, and IDB), several lessons learned were discussed and will be taken into account for the next edition.

- Simplify the use of Gazelle and tailor the registration process (Profiles/Actors) to suit the LACPASS context.
- Extend the training duration for monitors to enhance their autonomy.
- Adhere to the registration deadline to anticipate connectivity tests, avoiding last-minute technical issues in Gazelle a week before the event.
- Plan for a significantly larger room for the next event to facilitate the movement of monitors and participants. Also, reconsider the table layout in the connectathon room with the experienced IHE team.