

Report on the UN/LOCODE Reengineering Project



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Outline

1. Background
2. Overview
3. System Design
4. Project Management
5. Remaining Issues and Next Step



1. Background

Current system:

- Developed about 20 years ago from a desktop MS ACCESS application.
- Extended with a web-based application for Data Maintenance Request (DMR) online submission.
- No data-interface between the back-end-system and the front-end-system.
- Lack of tracking DMR validation
- Poor access security, performance, compatibility and disaster recovery features



1. Background

New business needs:

- Dramatic increase of number of entries in the UN/LOCODE directory (from 8,000 to over 100,000).
- Revised Rec.16
 - Geographical coordinates (Optional->Mandatory)
 - Changes in status codes
 - Changes in function codes, consistence with Rec. 19
- New maintenance workflow
 - Collaboration among FPs, experts, submitters, with support of the secretariat.
- Data quality
- Real-time data exchange between the UN/LOCODE system and Stakeholders' in-house business systems



2. Overview

- On 18-19 Oct. 2018, at the Second Annual Meeting of the UN/LOCODE Advisory Group in Hangzhou
 - CNIS volunteered to provide resources for the re-engineering
 - Recorded in the conference report (ECE_TRADE_C_CEFACT_2019_023E)
- In April 2019, reported to the UN/CEFACT Plenary (item 9 in the agenda)
- In July 2019, CNIS and UNECE agreed the Terms of Reference of the project
- On 25 July 2019, the kick-off meeting of the UN/LOCODE Re-engineering Project.



2. Overview

- On 28-29 Nov. 2019, the Business Requirement Analysis report was approved at the Third Annual Meeting of the UN/LOCODE Advisory Group.
- In May 2020, the prototype was developed and presented to the Steering Committee.
- Since August 2020, the modules are open for user testing upon developed.
- In November 2020, all modules completed.



3. System Design

■ Technologies

- Mainstream technologies
- In line with UN ICT policy

■ Functionality

- Whole DMR life cycle : DMR draft -> DMR submission -> DMR validation
- Generating the UN/LOCODE directory in different formats
- Publishing to the website
- API

■ User Interfaces Styles

- UN style
- Ease of use

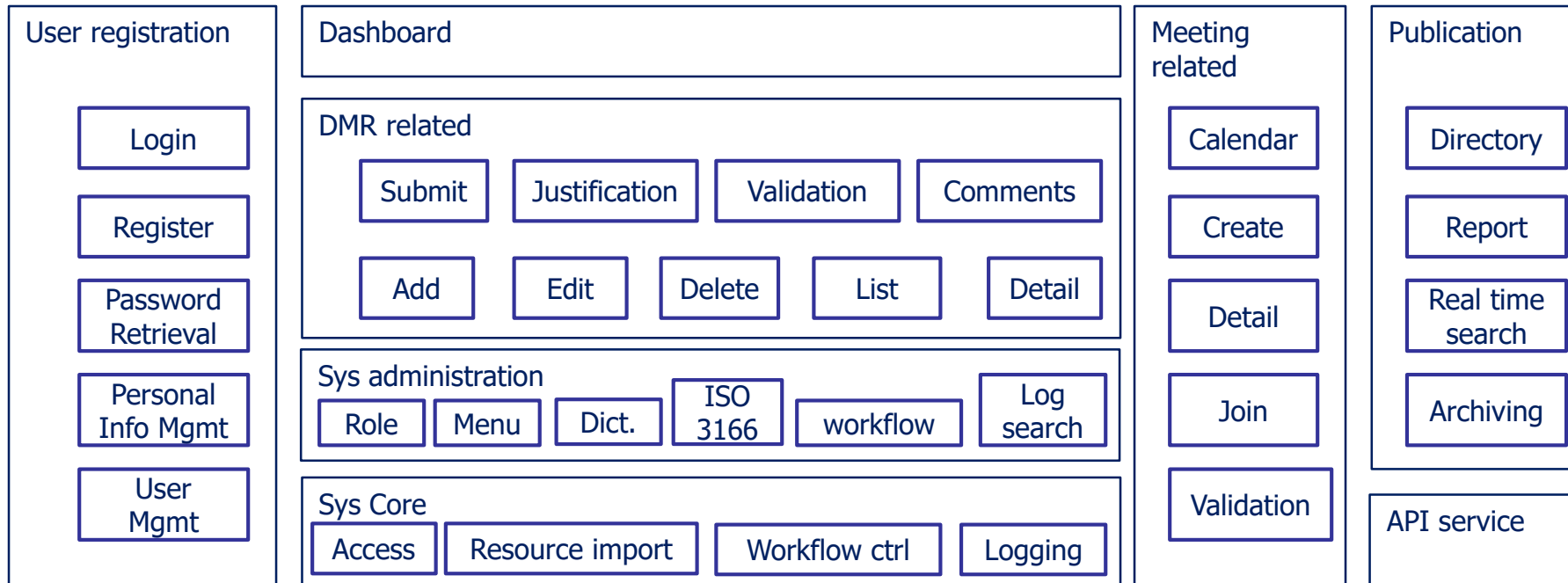


3. System Design

- System Roles
 - End User
 - DMR submitter
 - National Focal Point
 - Expert
 - Secretariat
 - System Administrator

3. System Design

■ System modules



3. System Design

Layout – Home page

The screenshot displays the UN/LOCODE 2020 home page. The header features the UNECE logo and the text 'UN/LOCODE'. A navigation menu on the left lists: Home, DMR Submitter, Focal Point, Expert, Secretariat, UN/LOCODE, System Administration, and Data Management. The main content area includes a 'My Requests' summary, a world map titled 'UN/LOCODE Density by Country and Territory' with a color scale from low to high, and a 'Meeting Schedule' calendar for November 2020. A search bar at the bottom is labeled 'Real-time search'. Callouts point to the navigation menu, the statistics section, the meeting calendar, and the overview of LOCODEs.

Navigation of menu

- Home
- DMR Submitter
- Focal Point
- Expert
- Secretariat
- UN/LOCODE
- System Administration
- Data Management

The statistics

My Requests Total: 0 Draft: 0 Submitted: 0 For Actions: 0

DMRs for Expert Total: 11 Commented by me: 3 DMRs with new comments: 0 Not reviewed by FP: 3 FP Reviewed: 8

Meeting Calendar

Meeting Schedule

NOVEMBER 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5
6	7	8	9	10	11	12

Real time search

UN/LOCODE 2020

Real-time search

Overview of LOCODEs

UN/LOCODE 2020

Help Contact

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3. System Design

Layout - DMR list

The screenshot shows a web interface for managing DMRs. At the top, there is a navigation bar with tabs: 'All', 'Not Reviewed by FP', 'Reviewed by FP', 'DMRs with comments', and 'Commented by me'. Below this is a search section with a search box labeled 'Search by Request ID' and a dropdown menu for 'Type' set to 'All'. The main content is a table with 10 columns: No., Request ID, Submitter, Change Indicator, UN/LOCODE, Country or Territory, Subdivision, Name, Functions, and DMR Status. The table contains 8 rows of data. Callouts point to the navigation tabs, the search area, and the table itself.

No.	Request ID	Submitter	Change Indicator	UN/LOCODE	Country or Territory	Subdivision	Name	Functions	DMR Status
▶ 1	UN-2020-00110	Xiaohui DUAN	Addition (+)	CN EAC	China	Guangdong Sheng [GD]	Location name	1-3----	MT Review
▶ 2	UN-2020-00087	Xiaohui DUAN	Addition (+)	CNAAC	China	Anhui Sheng [AH]	liuchao	---5678	FP Approved
▶ 3	UN-2020-00096	Xiaohui DUAN	Deletion (X)	CNAYS	China	undefined [41]	Anyang	----6--	FP Approved
▶ 4	UN-2020-00094	Xiaohui DUAN	Modification (I)	CNANQ	China	Chongqing Shi [CQ]	Anqiu	1-3----	FP Approved
▶ 5	UN-2020-00093	Xiaohui DUAN	Modification (I)	CNAQG	China		Anqing Pt	1-----	FP Approved
▶ 6	UN-2020-00090	Xiaohui DUAN	Deletion (X)	CNAID	China	undefined [45]	Aidian	--3----	FP Approved
▶ 7	UN-2020-00089	Xiaohui DUAN	Modification (I)	CNAHK	China		Aheitubieke	--3----	FP Review
▶ 8	UN-2020-00085	Xiaohui DUAN	Addition (+)	CNAAA	China	Anhui Sheng [AH]	Location name	-23----	FP Approved

3. System Design

Layout - Details of a DMR

DMR Submitter >> DMR Detail


Request ID: UN-2020-00106 (Modification) **Draft**

Country or Territory*: China [CN]

UN/LOCODE*: CN BJO

Location name* Beijiao

Subdivision: Beijing Shi [BJ] **Beijing Shi [35]**

Coordinates*: 26.36 **26.35** 119.99 **119.92** 

Functions*:


- 1 Maritime transport
- 2 Rail transport
- 3 Road transport
- 4 Air transport or Space transport
- 5 International Mail Processing Centre recognized by Universal Postal Union(UPU)
- 6 Multimodal transport facility
- 7 Fixed transport installation
- 8 Inland water transport

Operations

[Return](#) [Delete](#) [Edit](#) [Submit](#)

Information tabs

[Map](#) [Comments](#) [Modified](#) [Justification](#) [Approval Log](#)



Attributes in a DMR (Rec.16)

Operations

Return Delete Edit Submit

Information tabs



3. System Design

■ Features

- Overall validation of DMR: justifications, expert comments, FP validation, etc.
- Map aided to visualize the UN/LOCODE assignments, requested locations, to avoid duplication, incorrect coordinates, etc.
- DMR data quality: mandatory fields, pre-define code lists, etc.
- API
- Tracking of DMR validation
- Efficient organization of meetings, auto/semi-auto generation of agendas, meeting minutes, etc.
- Efficient publication process



4. Project Management

- **Transparent Project Management:**
 - Decisions prepared by the Steering Committee, including the representatives of the UN/CEFACT Bureau, the UN/LOCODE Maintenance Team and secretariat.
 - Decisions made by the UN/LOCODE Advisory Group
 - Decisions reported to the UN/CEFACT Plenary
 - All documents shared on CUE
 - UNECE owns and hosts the new system
 - Developed in-house with support of CNIS



4. Project Management

- Others

- Advance user testing

- Report to the Steering Committee
- Testing environment hosted by UNECE
- Testers identified by the UN/LOCODE Maintenance Team

- Weekly project meetings

- Newsletters: September and December 2019 and in March, May, August, September 2020.

- COVID-19



5. Remaining Issues and Next Step

- Remaining issues
 - Wrap-up of development
 - Refinements
 - Dictionary
 - Configuration
 - Updates on ISO 3166-1, ISO 3166-2
 - API with WebEx to update meeting information
 - Further testing by the secretariat, experts, FPs, requesters
 - Need more rounds of testing
 - Need more testers (more testers for each role)
 - Need testers to do more tests




5. Remaining Issues and Next Step

- The next step
 - Wrap-up of development
 - Continued testing
 - Data migration
 - APIs
 - Deployment
- How to transfer to the system?
 - Smooth transfer: launch the new system and run the current system in a parallel way for a while?
 - Decision to when to close the old way and when to use the new system?
 - There needs to be a study and a solution



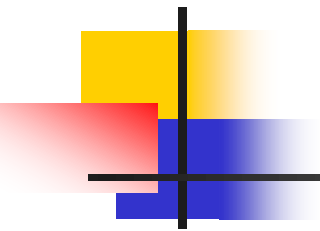
5. Remaining Issues and Next Step

- How to transfer to the new system?
- Current system:
 - Run until the cut-off date of the release 2021-1: 31 March 2021.
 - DMRs to be processed for the release 2021-1.
- New system:
 - Launch of the new system before the end of March 2021, for example, in February 2021.
 - With the current system run in a parallel way.
 - All DMRs to be processed only for the release 2021-2.
 - Close the current system before the work for release 2022-1.



5. Remaining Issues and Next Step

- A possible Version 2.0
 - The purpose is for a better user experience and enhanced features
 - Maybe other considerations...
 - All comments and suggestions should be collected, recorded and addressed for the current version.



Thank you!