Release Notes - R6 (MEC-based)

This section contains the release notes related to release 6 of this blueprint.

Summary

MEC-based Stable Topology Prediction for Vehicular Networks is planned to include the implementation of a platform that can enable stable topology prediction for vehicular networks. It aims at providing vehicle-friendly environment such that the future use-case scenarios can be built upon the provided information.

Components of the release

1. Road-aware location rectifier
2. vTrachea-Store

Dependencies of the release (upstream version, patches)

Operating system:

Name	Description
Distributor ID:	Ubuntu
Description:	Ubuntu 20.04.3 LTS
Release:	20.04
Codename:	focal
Note:	

Software used:

For	Name	Version/Info
Running Notebooks	Conda:	4.9.2
	Python:	3.8.10
	Jupyter Core:	4.7.1
	Jupyter Notebook	6.4.0
	Conda Environment File:	env_kf_model (file)
Pushing CD Logs	Jenkins:	2.303.1
	Docker-hub image link:	mehmoodasif/jenkins

	pip3	20.0.2
	lftools:	0.35.10
Running Containers	Docker:	20.10.8
	Docker build:	3967b7d
Map and Data-set Generation	SUMO:	1.10.0
	TraceExporter.py	traceExporter (file)
	Netedit:	Netedit - SUMO
	Netconvert:	Netconvert - SUMO
Note: List of software (shown below) are used after release 6		
Database	PostgreSQL server:	12.8
	DBeaver client:	21.2.2

Repository:

Repository Name	Branch Name	Branch Revision
pred-vanet-mec - gerrit.akraino.org	HEAD	master
Note:		

Differences from previous version

- Previous versions did not include the the road information
- Previous version did not have the process of rectification included

Upgrade Procedures

None.

Release Data

Module version changes

None.

Document Version Changes

Initial versions.

Software Deliverable

- Road-aware location rectifier (mechanism and internal details can be visualized here)
- vTrachea-Store (ERD can be seen on the link)

Documentation Deliverable

Installation Documentation - R6 (MEC-based)

API Documentation - R6 (MEC-based)

Release Notes - R6 (MEC-based) - this document

Fixed Issues and Bugs

None

Enhancements

- Improvement in the accuracy of estimated/predicted location of a vehicle
- Support of geo-coordinates rather than using simple x, y coordinates

Functionality changes

- Previously, the location prediction was done by the use of a basic Kalman filter
- Now, we have added the step of rectification with the help of road information extracted from OpenStreetMap
- This procedure enhances the accuracy of estimated/predicted location of a vehicle

New Features

- Enhancement in accuracy of predicted location, i.e., rectified location

Deliverable

1. Road-aware rectification (explained here)

Known Limitations, Issues and Workarounds

System Limitations

- N/A

Known Issues

- N/A

Workarounds

- N/A

References

- N/A

Expand all Collapse all
