GENIVI Alliance

GENIVI Document CS00063

NavigationCore

Component Specification

Accepted Version 4.0

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Table of contents

1 Change History

Version	Date	Author	Change
0.1	27 Feb 2012	Marco Residori (XS Embedded)	Document Created.
0.2	19 Mar 2012	Marco Residori (XS Embedded)	Updated sequence diagrams. Updated *Interfaces* chapter.
0.3	21 Mar 2012	Marco Residori (XS Embedded)	Updated *Interfaces* chapter.
1.0	22 Mar 2012	Marco Residori (XS Embedded)	System Architecture Team (SAT) approval.
2.0 (beta)	07 Jun 2013	Marco Residori (XS Embedded)	Updated API description. API Version 2.0.
2.0	17 Jun 2013	Marco Residori (XS Embedded)	Updated API description. API fixes: GT-2691, GT-2689, GT-2651. API Version 2.0 (*gemini-final* tag)
3.0.0	21 Jan 2014	Marco Residori (XS Embedded)	Updated API description. API Version 3.0.0
3.0.1	22 May 2014	Marco Residori (XS Embedded)	Updated copyright notes.
3.0.2	30 June 2014	Marco Residori (XS Embedded)	Updated contributors list.
4.0	7 Feb 2017	Philippe COLLIOT (PSA GROUPE)	Refine the document for Franca based API

2 Introduction

This document describes the NavigationCore API.
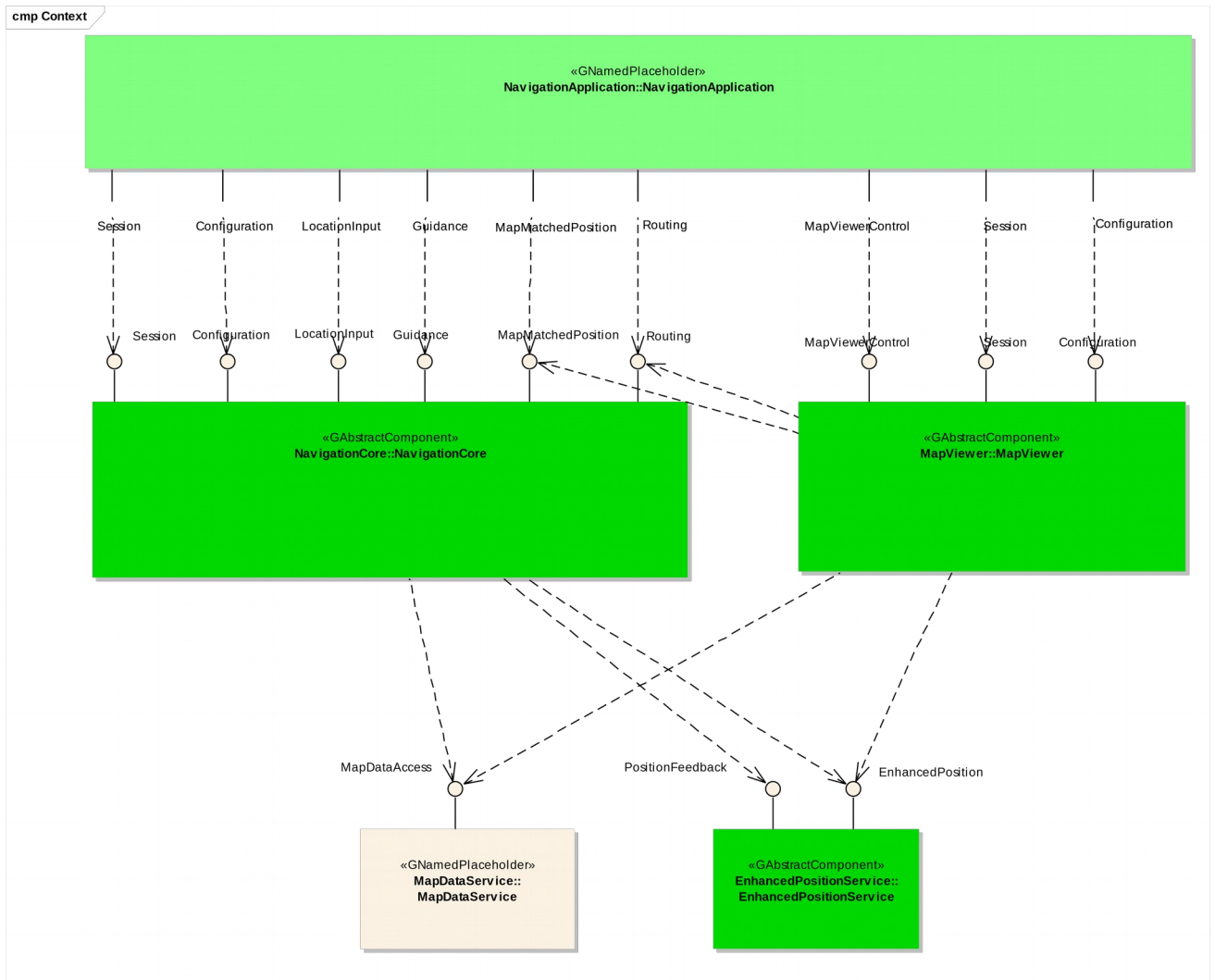
3 Terminology

Term	Description
Link-ID	Identifier of a route segment in a database

4 Architecture

4.1 Interfaces

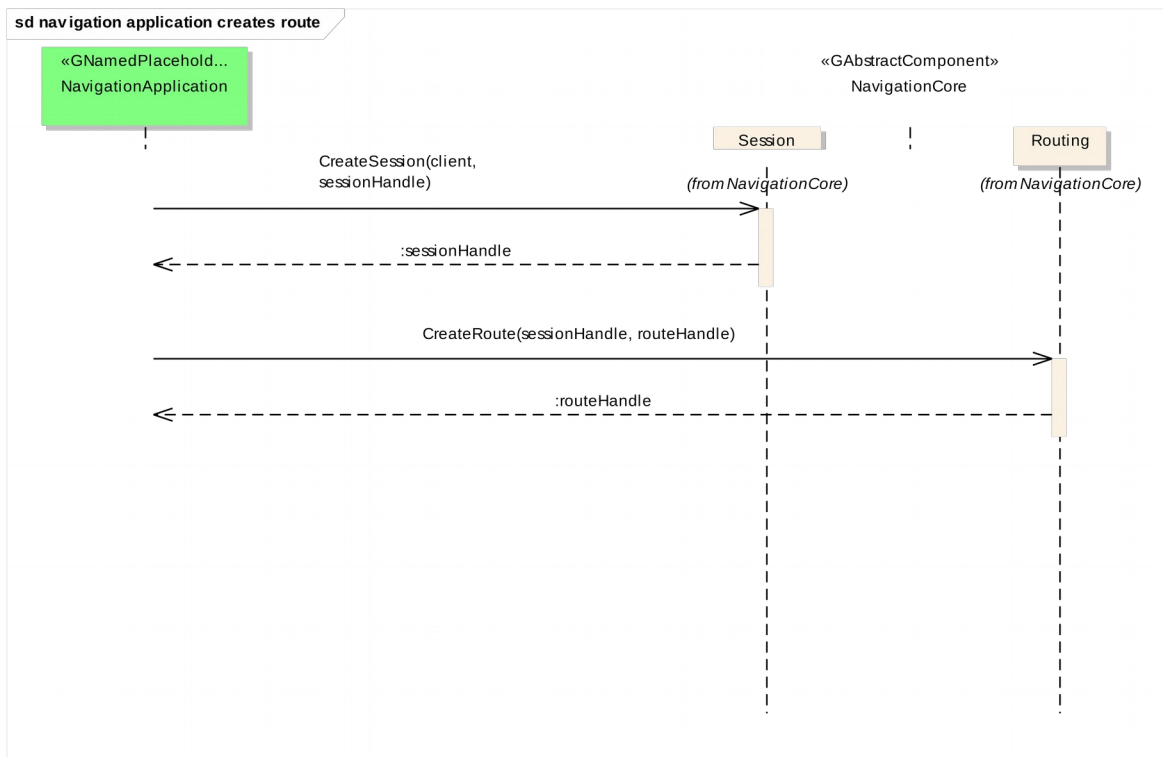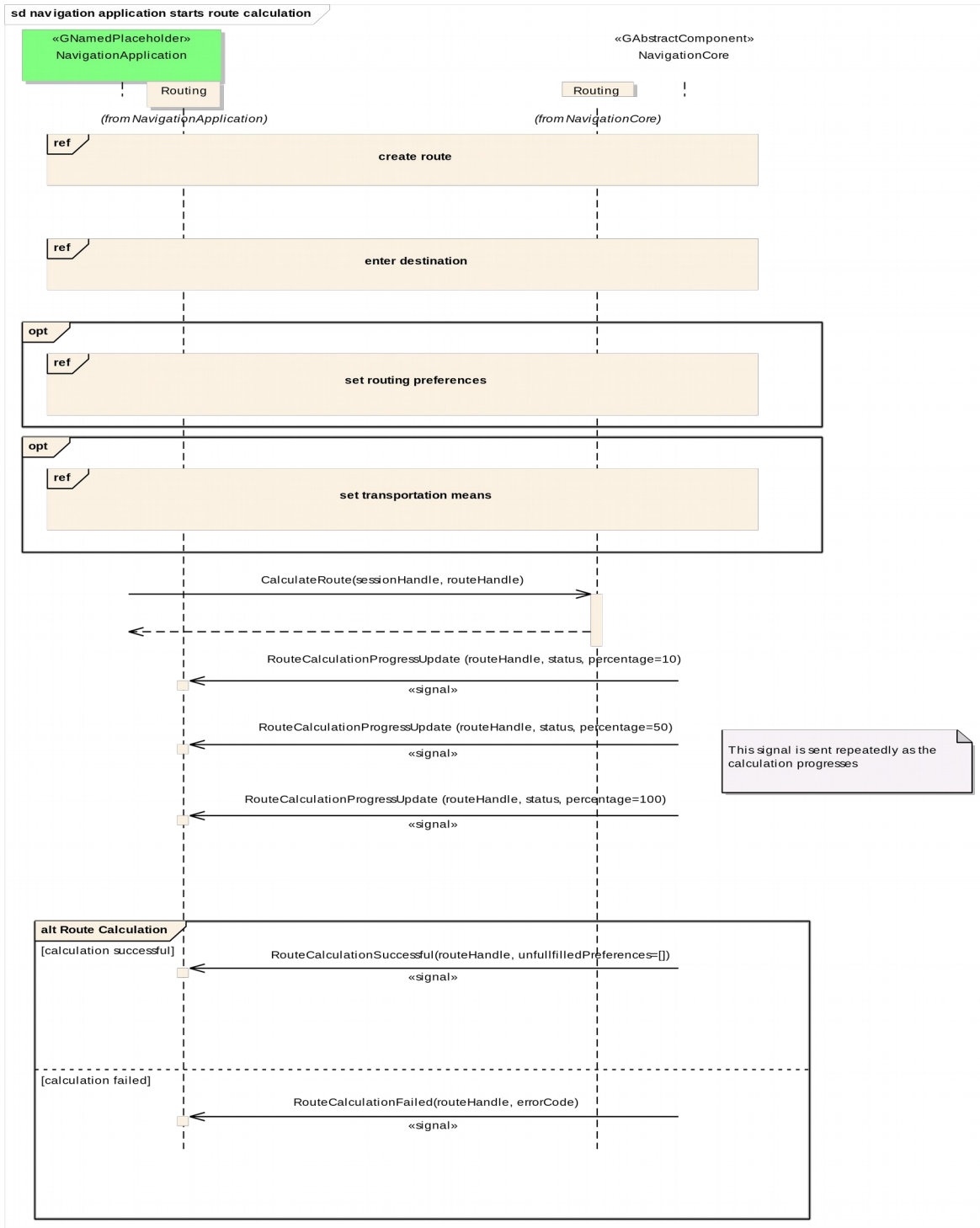## 4.2 Interaction with other Components

5 API

5.1 Git Repository

The NavigationCore interfaces can be found in the GENIVI Git repository at:
https://github.com/GENIVI/navigation/tree/master/api/franca/navigation/navigationcore

5.2 Sequence Diagrams

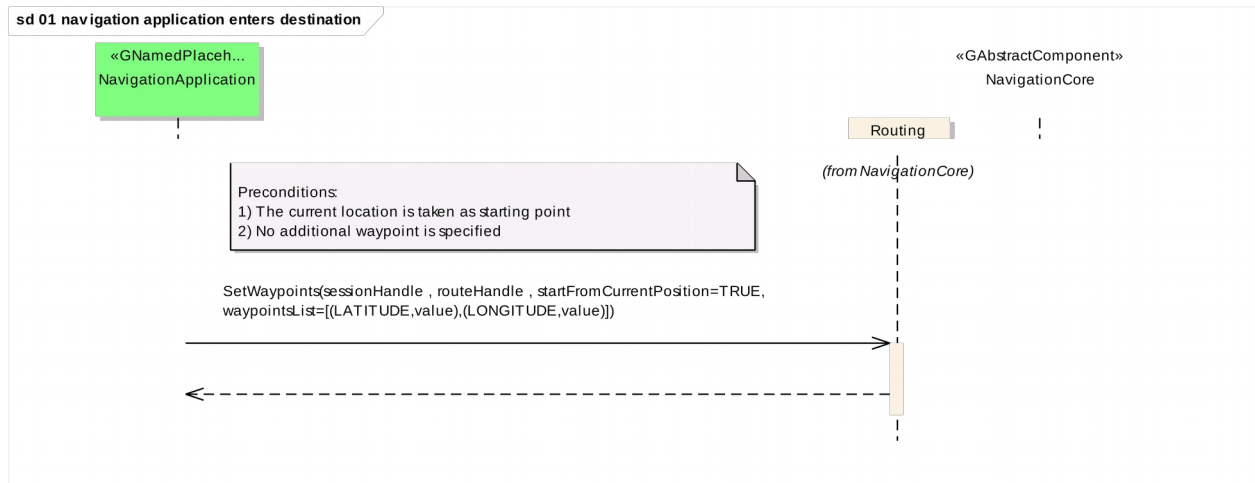### 5.2.1 navigation application creates route

5.2.2 navigation application starts route calculation

sd navigation application starts route calculation

«GNamedPlaceholder»
NavigationApplication

«GAbstractComponent»
NavigationCore

Routing
(from NavigationApplication)

Routing
(from NavigationCore)

ref create route

ref enter destination

opt
  ref set routing preferences

opt
  ref set transportation means

CalculateRoute(sessionHandle, routeHandle)

RouteCalculationProgressUpdate (routeHandle, status, percentage=10)
«signal»

RouteCalculationProgressUpdate (routeHandle, status, percentage=50)
«signal»

This signal is sent repeatedly as the calculation progresses

RouteCalculationProgressUpdate (routeHandle, status, percentage=100)
«signal»

alt Route Calculation

[calculation successful]

RouteCalculationSuccessful(routeHandle, unfullfilledPreferences=[])
«signal»

[calculation failed]

RouteCalculationFailed(routeHandle, errorCode)
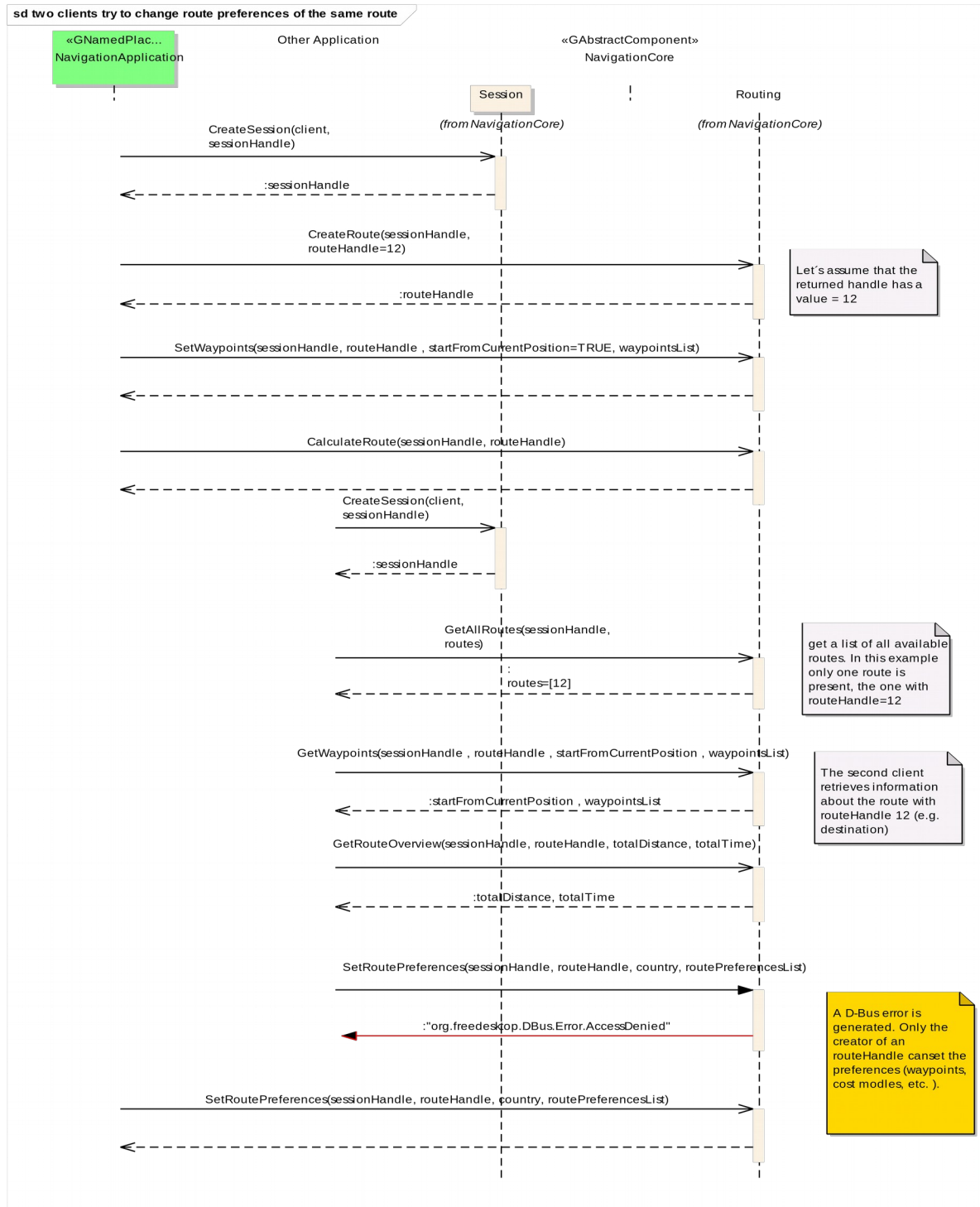«signal»

5.2.3 navigation application gets list of segments
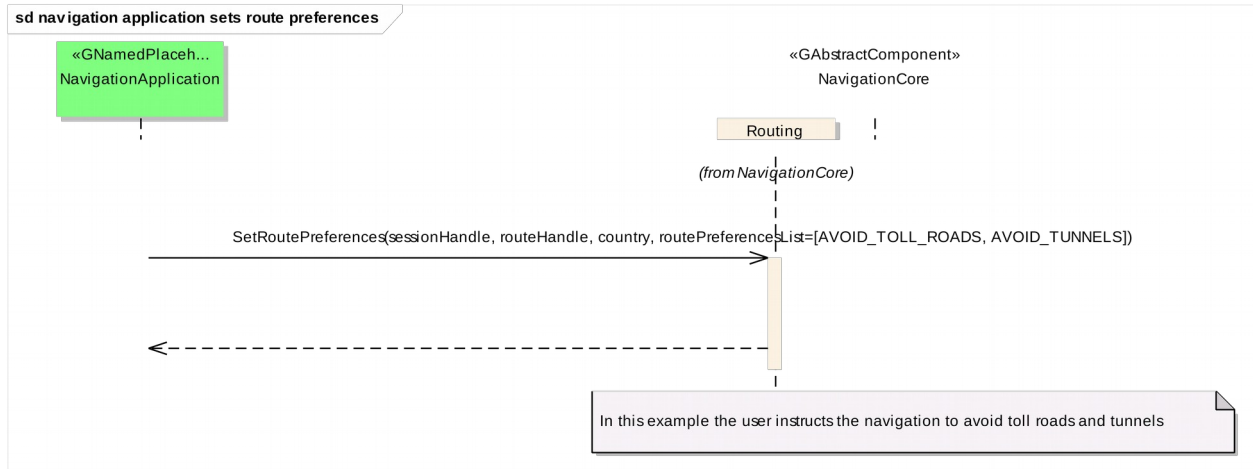
5.2.4 navigation application enters destination
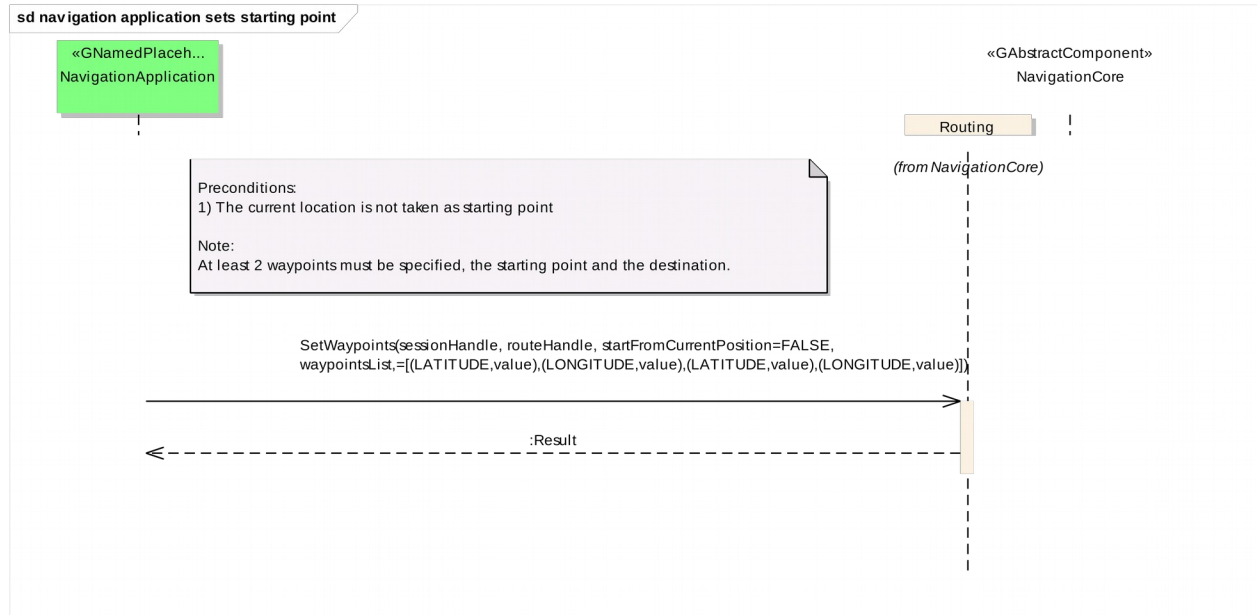
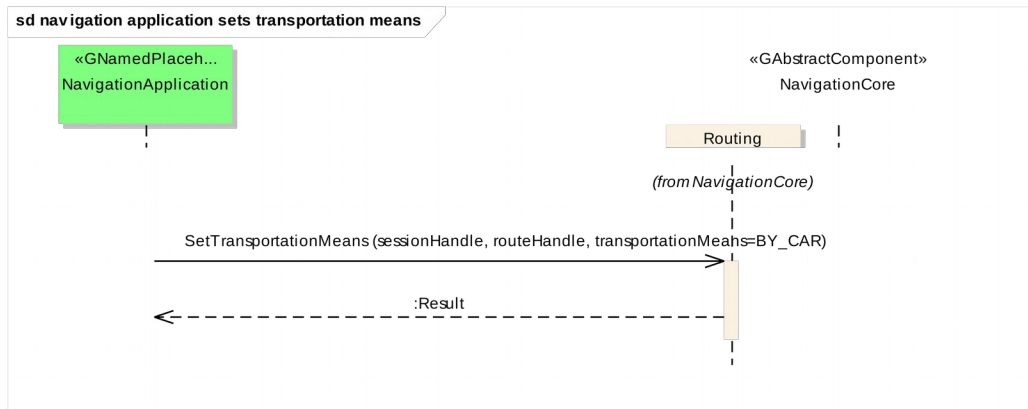## 5.2.5 two clients try to change route preferences of the same route

5.2.6 navigation application sets route preferences

sd navigation application sets route preferences

«GNamedPlaceh...
NavigationApplication

«GAbstractComponent»
NavigationCore

Routing

(from NavigationCore)

SetRoutePreferences(sessionHandle, routeHandle, country, routePreferencesList=[AVOID_TOLL_ROADS, AVOID_TUNNELS])

In this example the user instructs the navigation to avoid toll roads and tunnels
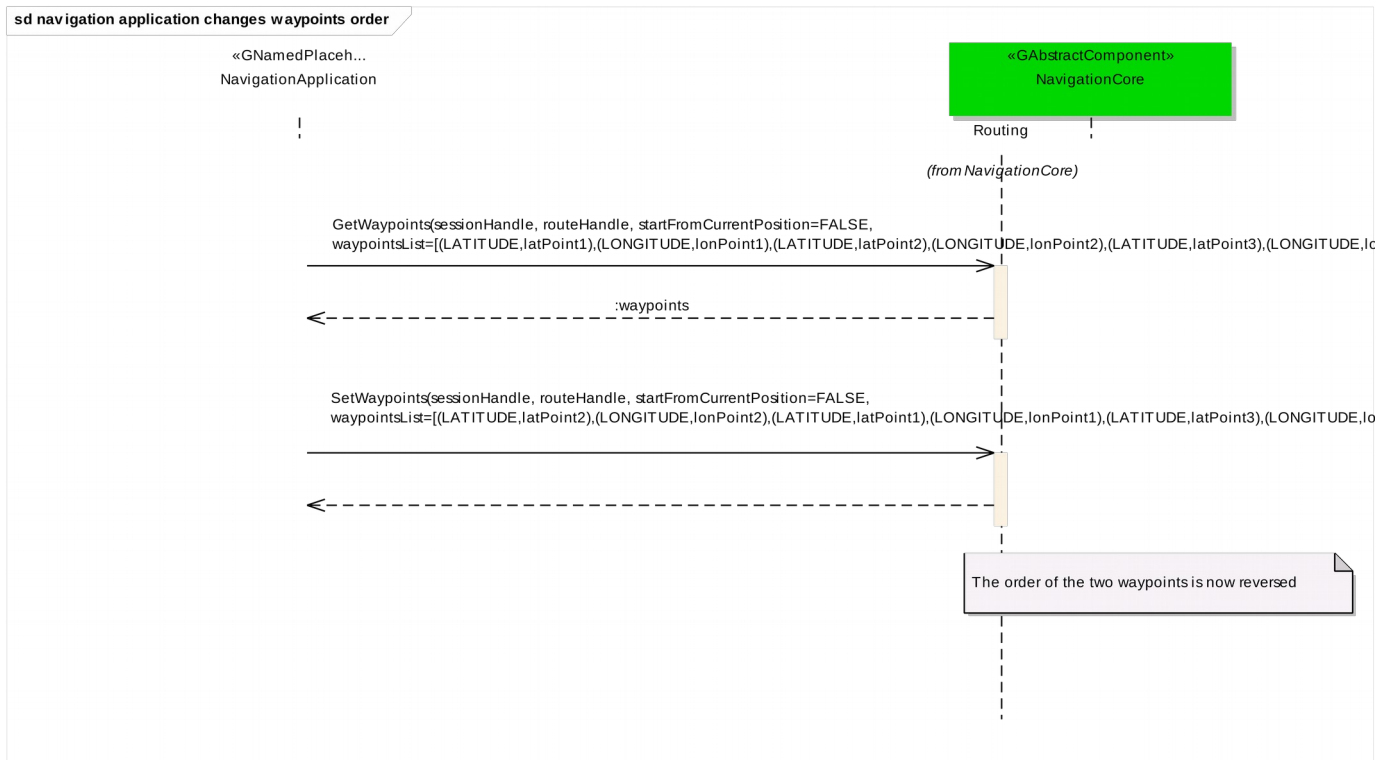
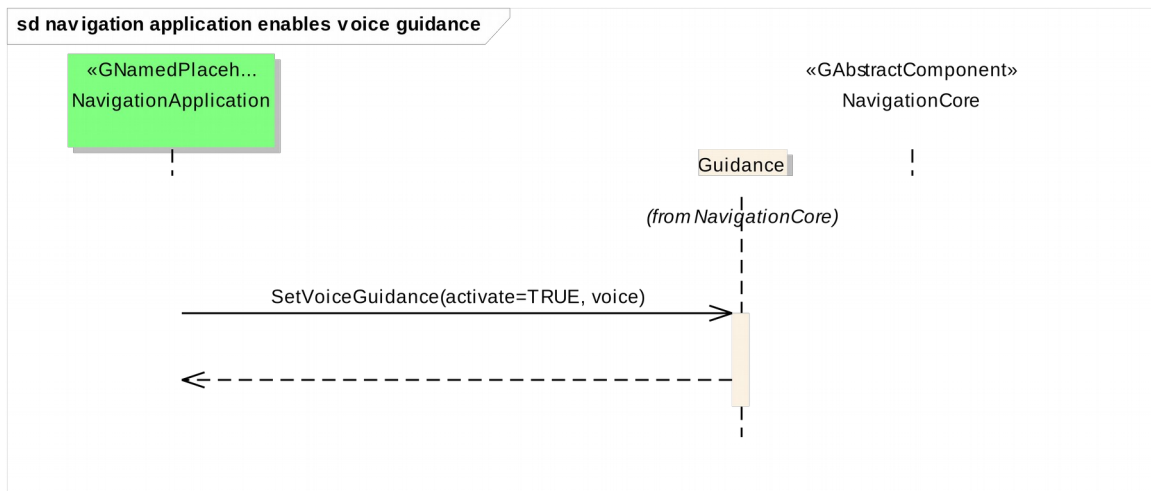## 5.2.7 navigation application sets starting point
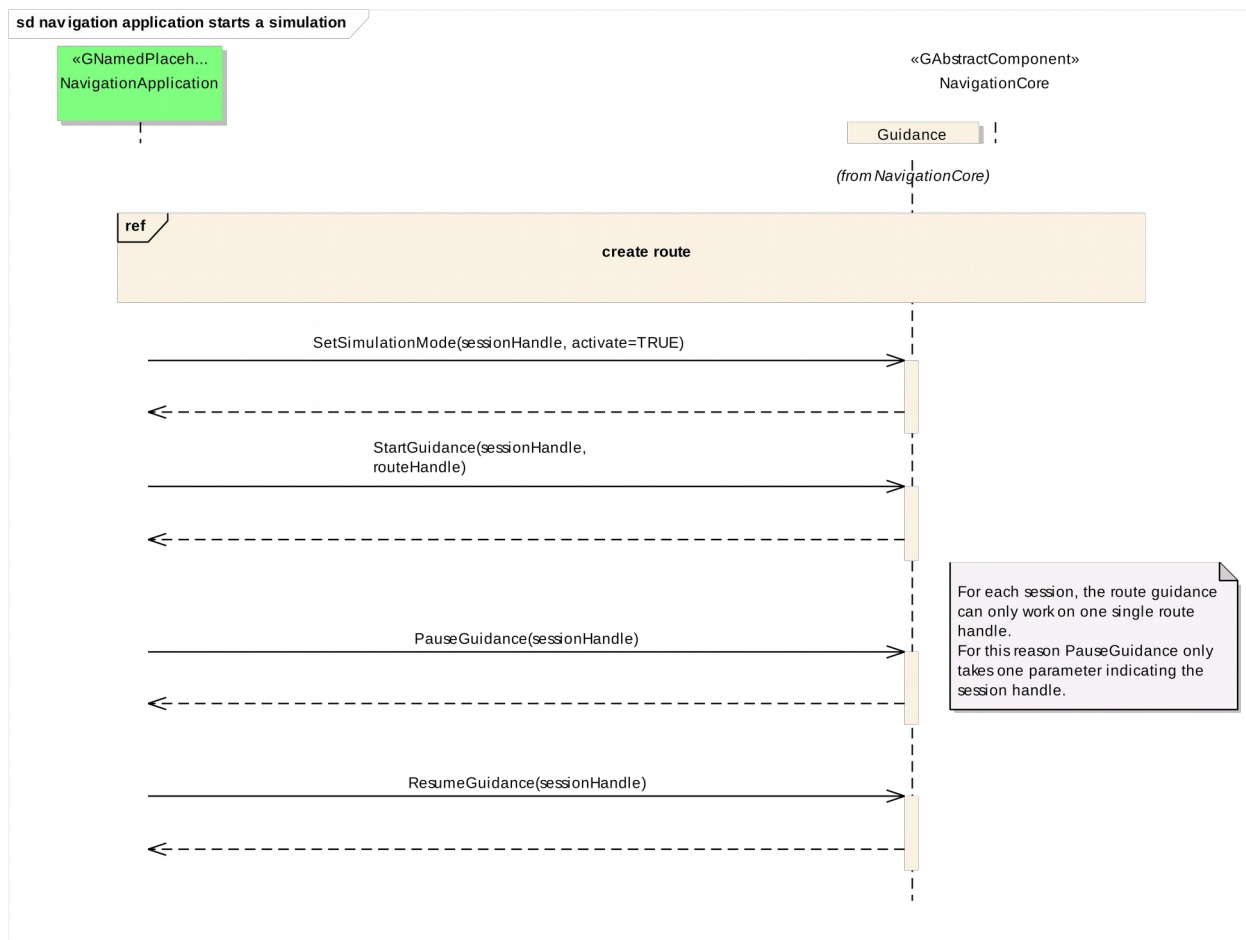
5.2.8 navigation application sets transportation means
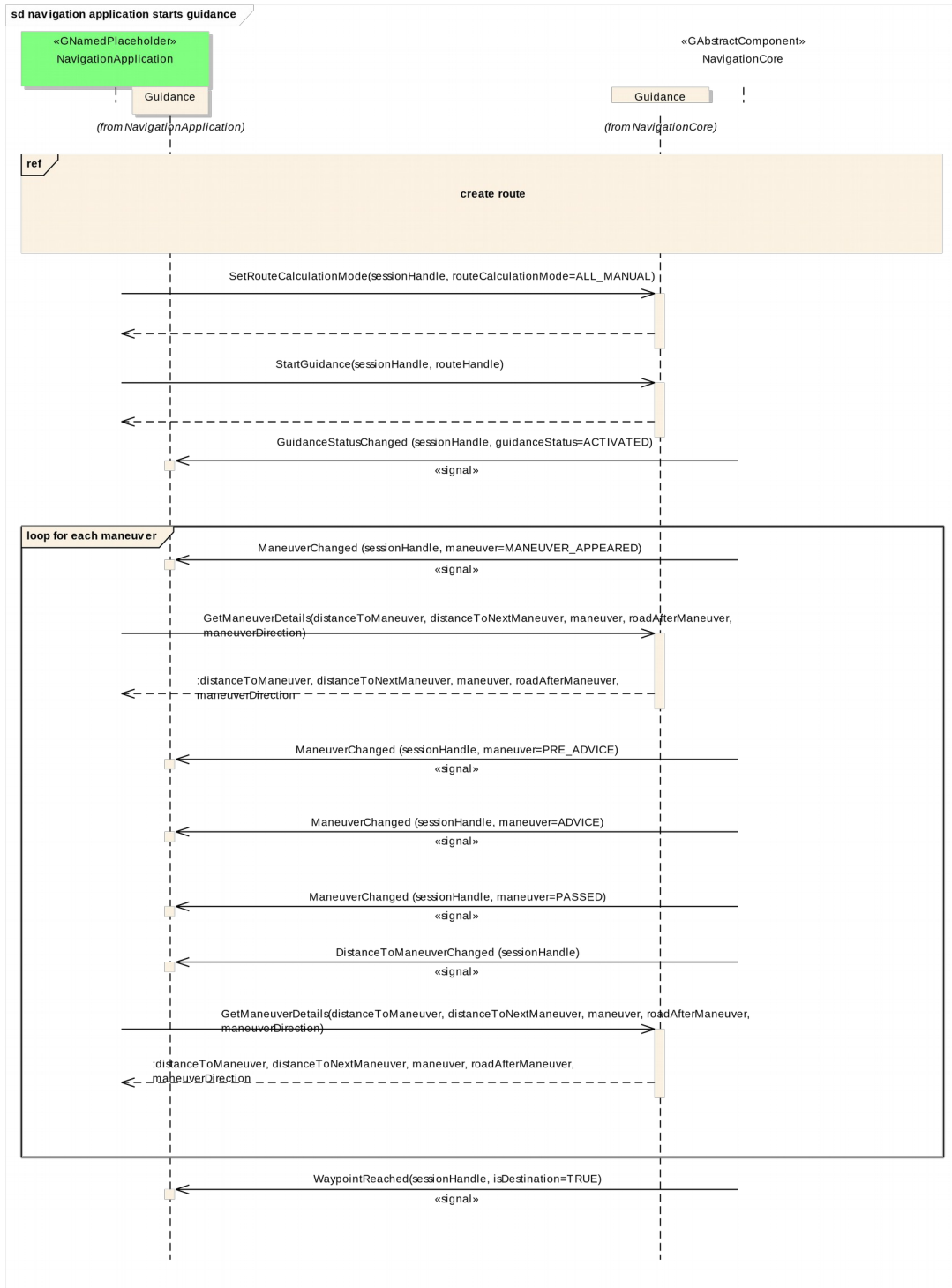
5.2.9 navigation application changes waypoints order
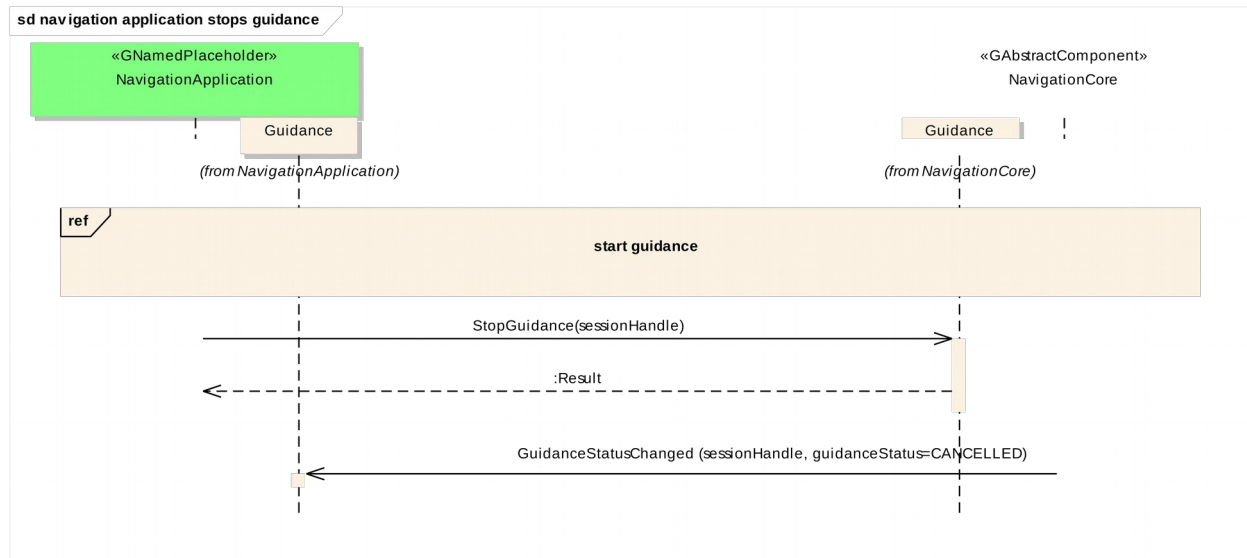
5.2.10 navigation application enables voice guidance

sd navigation application enables voice guidance

«GNamedPlaceh...
NavigationApplication

«GAbstractComponent»
NavigationCore

Guidance

(from NavigationCore)

SetVoiceGuidance(activate=TRUE, voice)

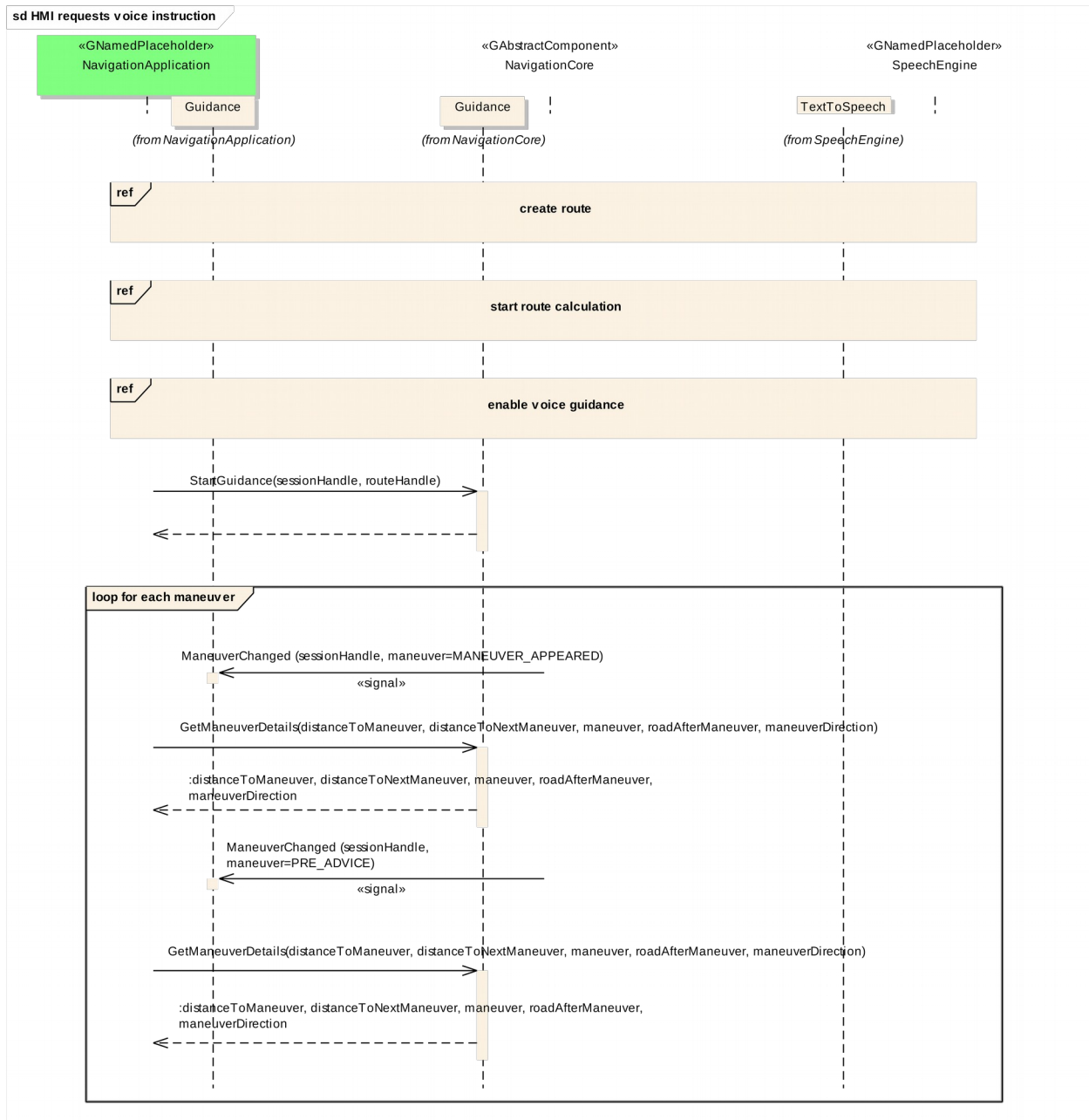## 5.2.11 navigation application starts a simulation

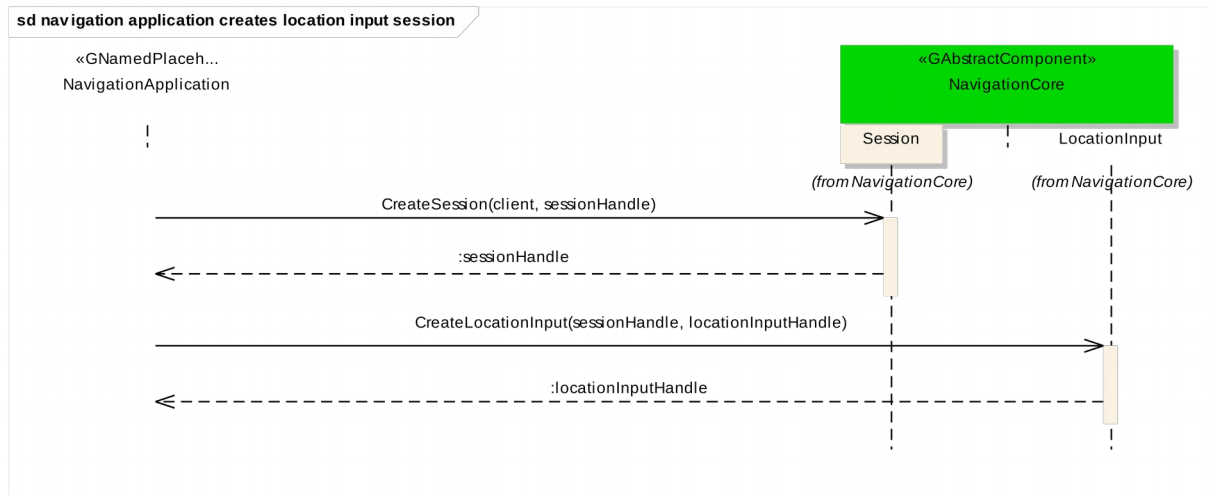## 5.2.12   navigation application starts guidance
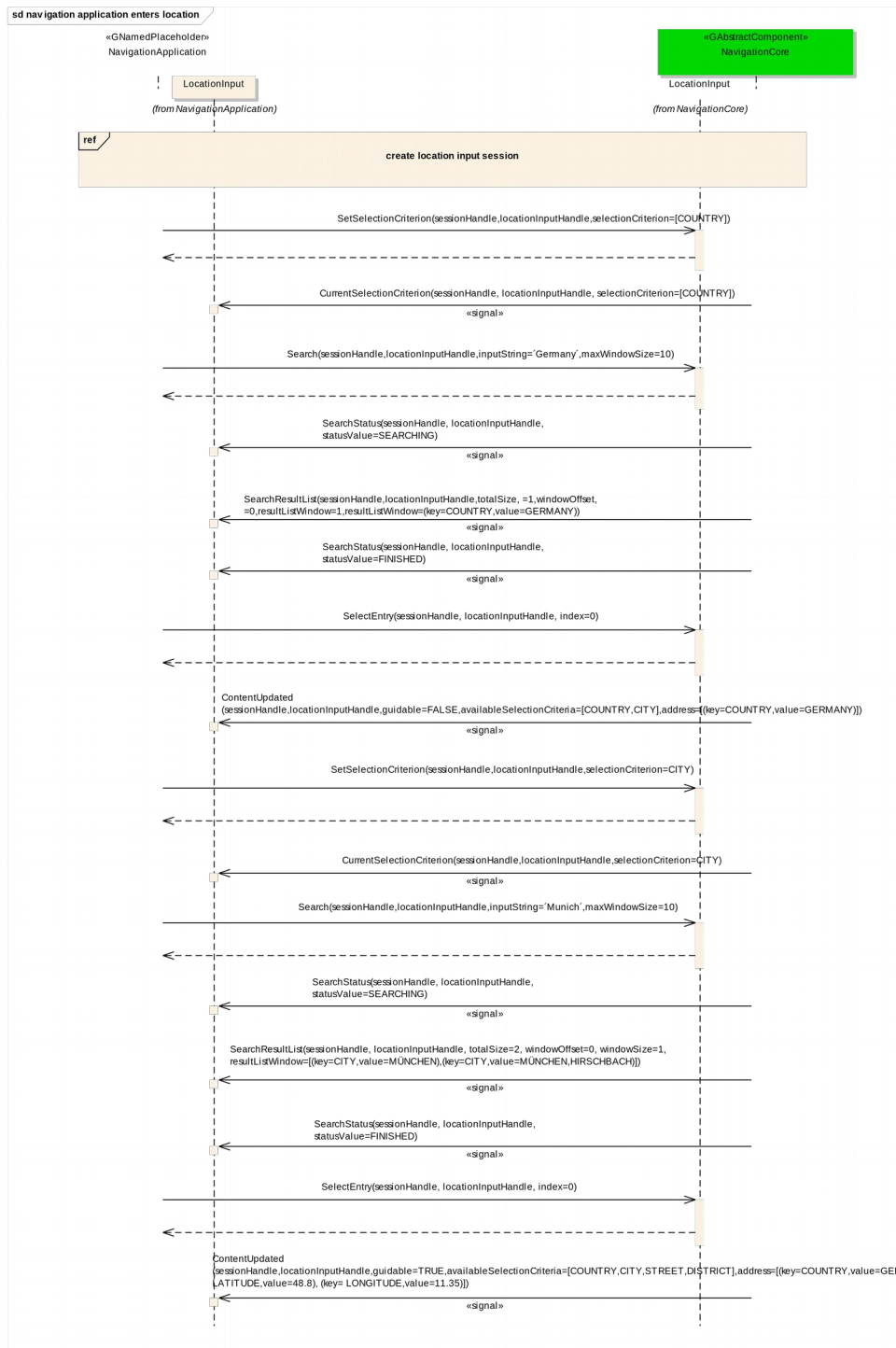
5.2.13　　navigation application stops guidance

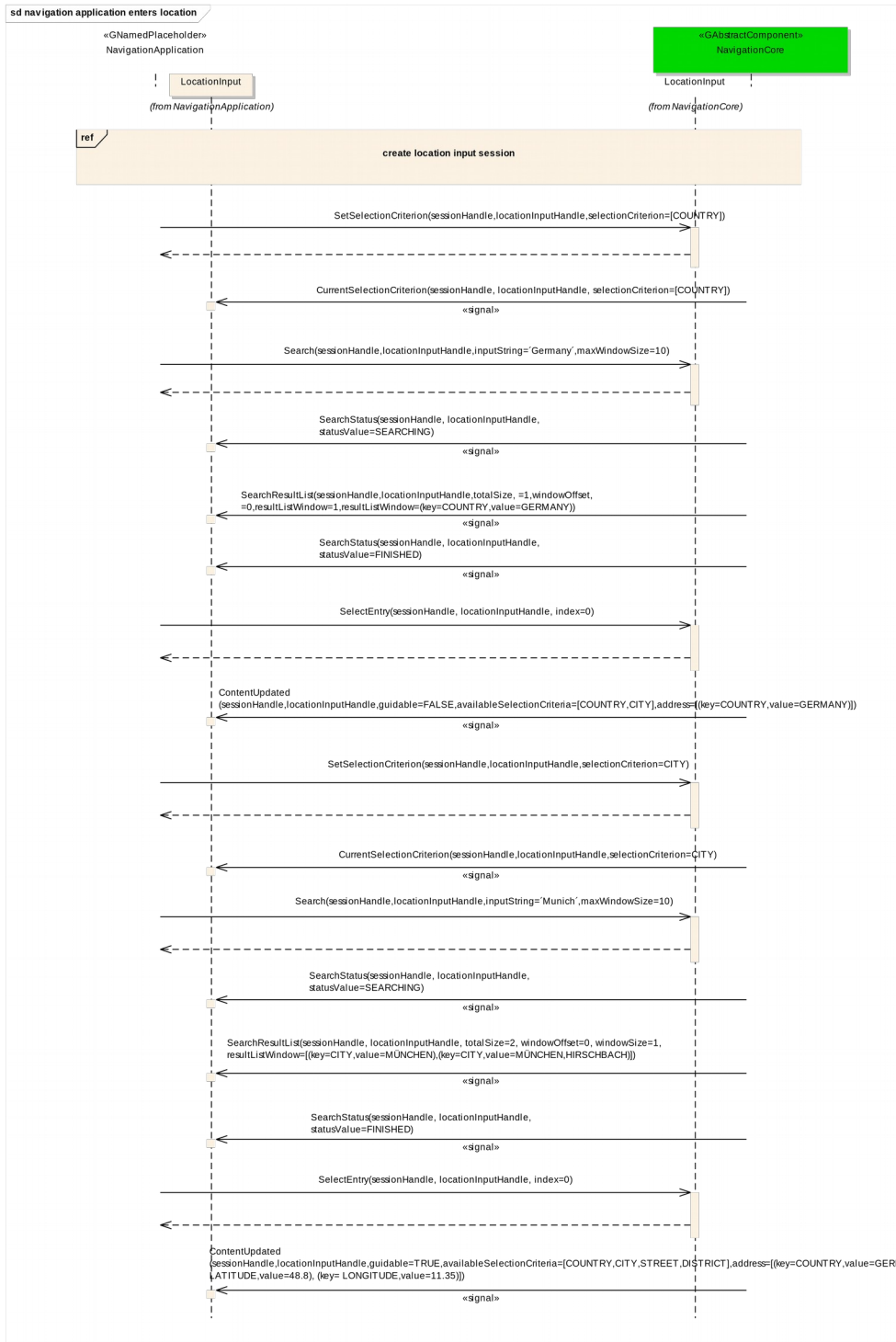## 5.2.14　　HMI requests voice instruction

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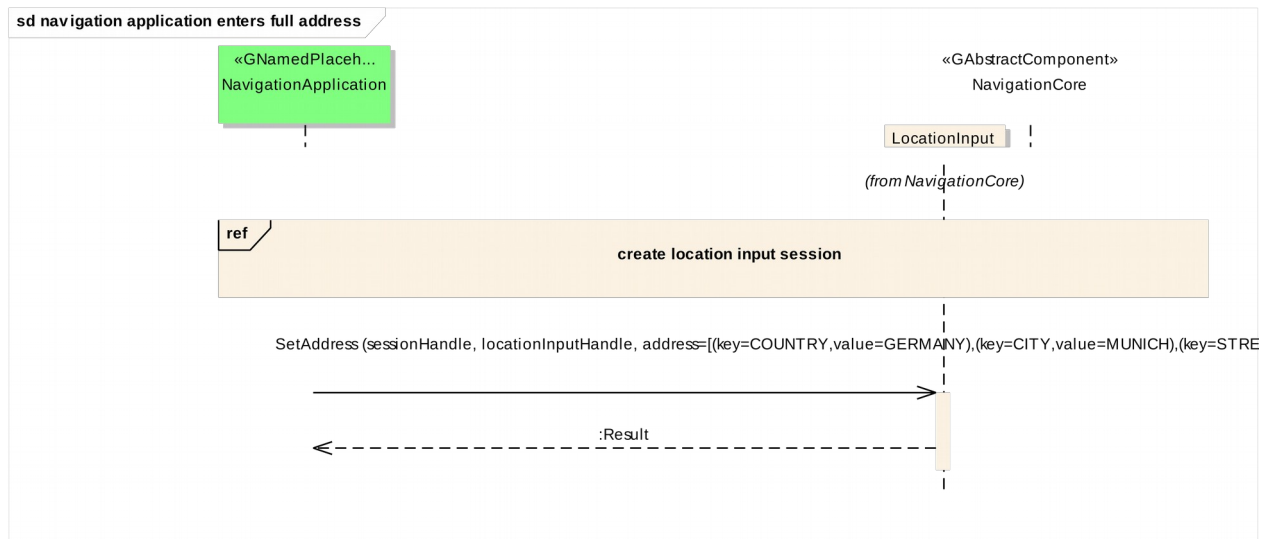## 5.2.15 navigation application creates location input session

5.2.16   navigation application enters location

5.2.17   navigation application enters location using speller

5.2.18 navigation application enters full address

sd navigation application enters full address

«GNamedPlaceh...
NavigationApplication

«GAbstractComponent»
NavigationCore

LocationInput

(from NavigationCore)

ref create location input session

SetAddress (sessionHandle, locationInputHandle, address=[(key=COUNTRY,value=GERMANY),(key=CITY,value=MUNICH),(key=STRE

:Result

5.3 Interfaces