3.4.2

ROS Navigation Stack

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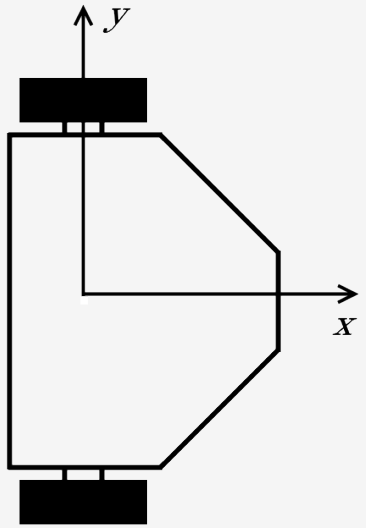
ROS Navigation Stack

- 2D navigation
- Inputs:
  - Odometry
  - Sensor data
  - Goal pose
- Output:
  - Safe velocity commands

ROS Navigation Stack

- Only for differential drive or holonomic wheeled robots
- Requires a planar laser
- Performs best on square or circular robots

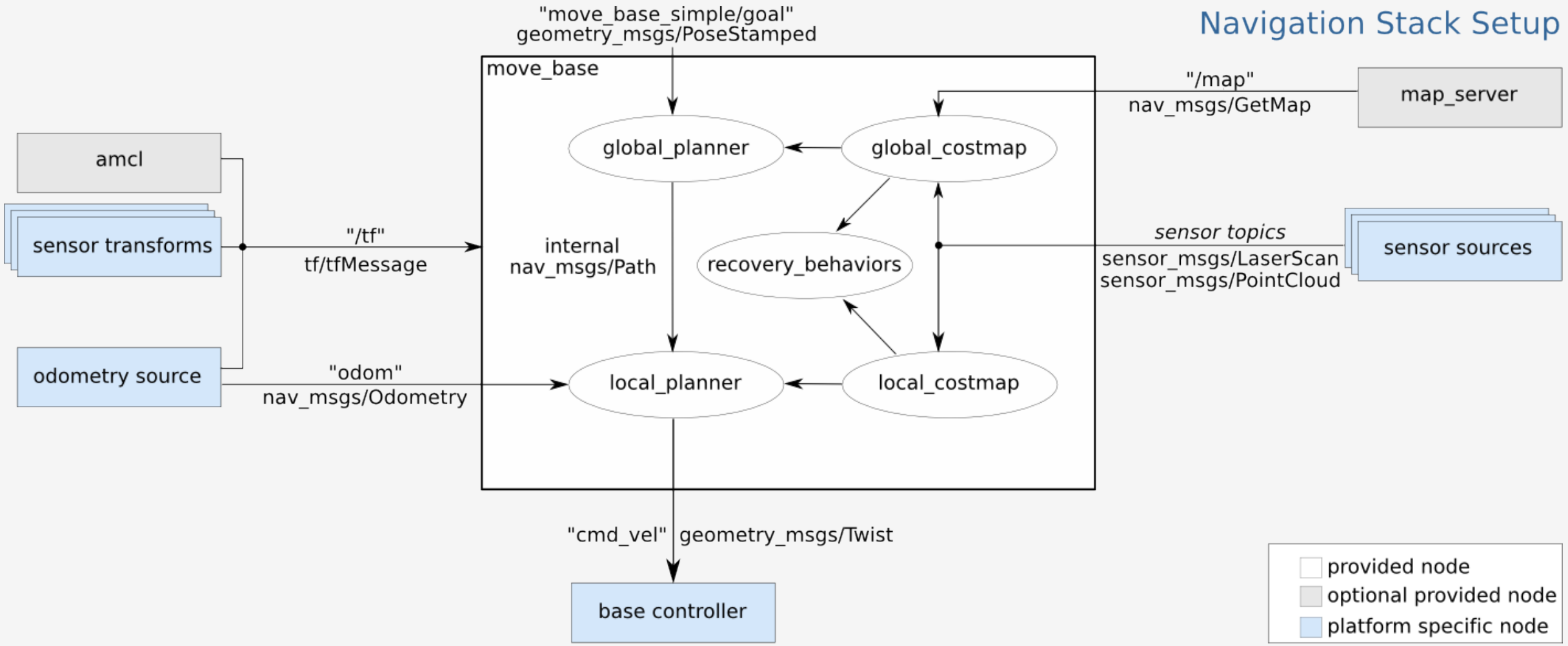


Differential drive

move_base

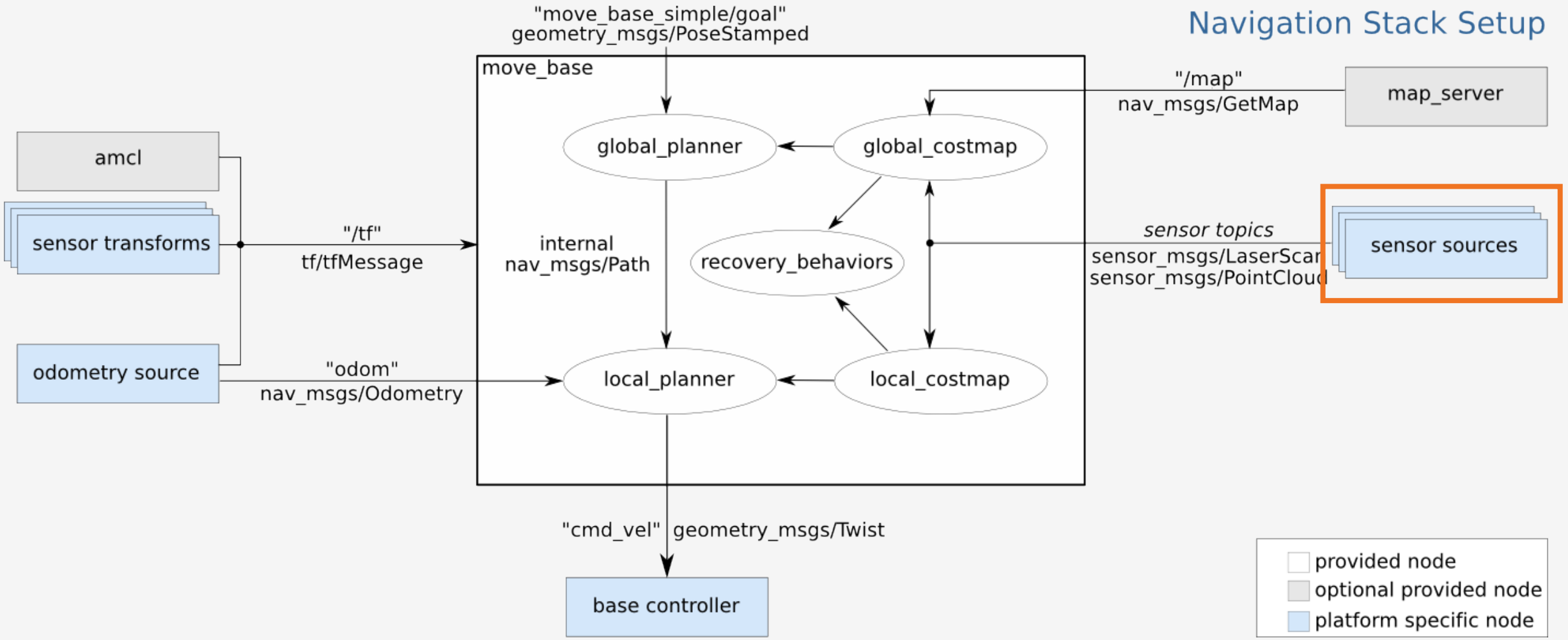
- Provides an implementation of an action
  - Actions are used for long term tasks
- Uses a global and local planner to accomplish its global navigation goal
- Manages communication between the components of the navigation stack

Navigation Stack Setup



Source: http://wiki.ros.org/move_base

Navigation Stack Setup



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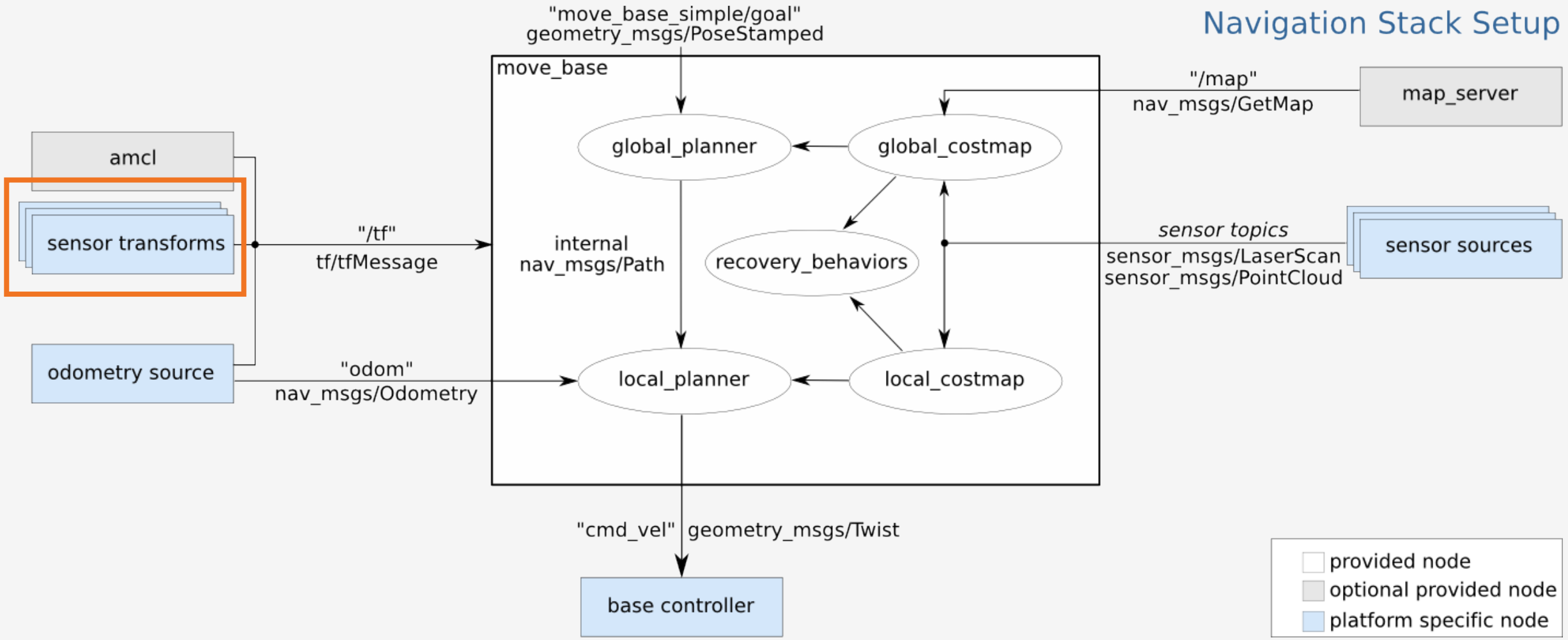
Navigation Stack Setup



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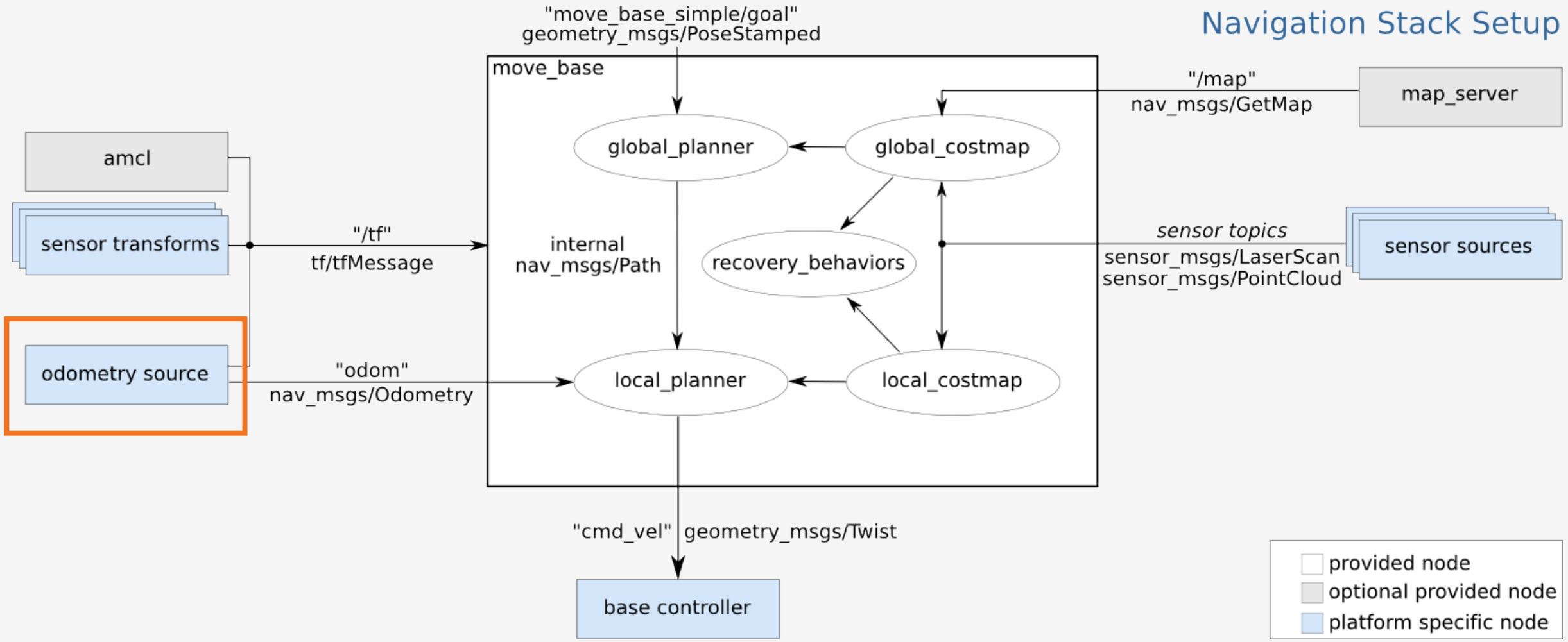
Navigation Stack Setup



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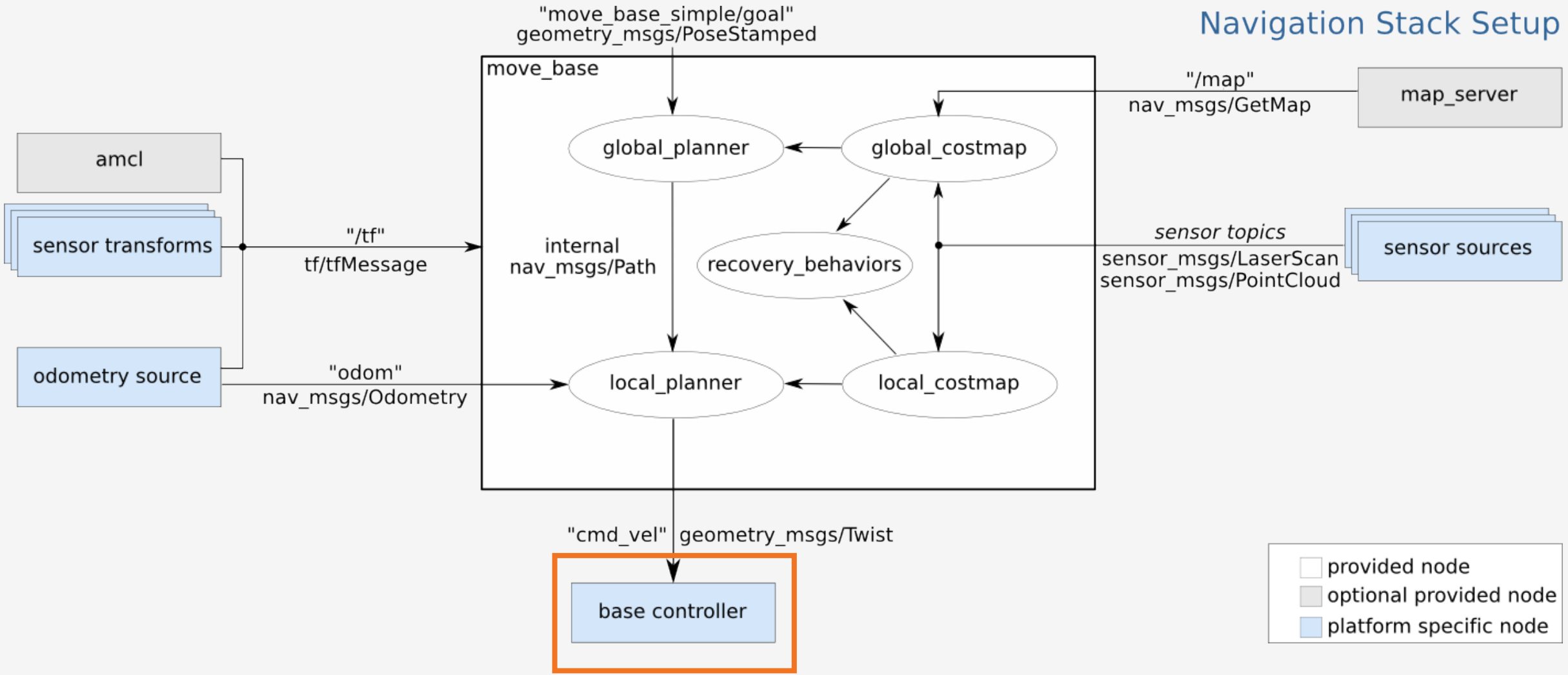
Navigation Stack Setup



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