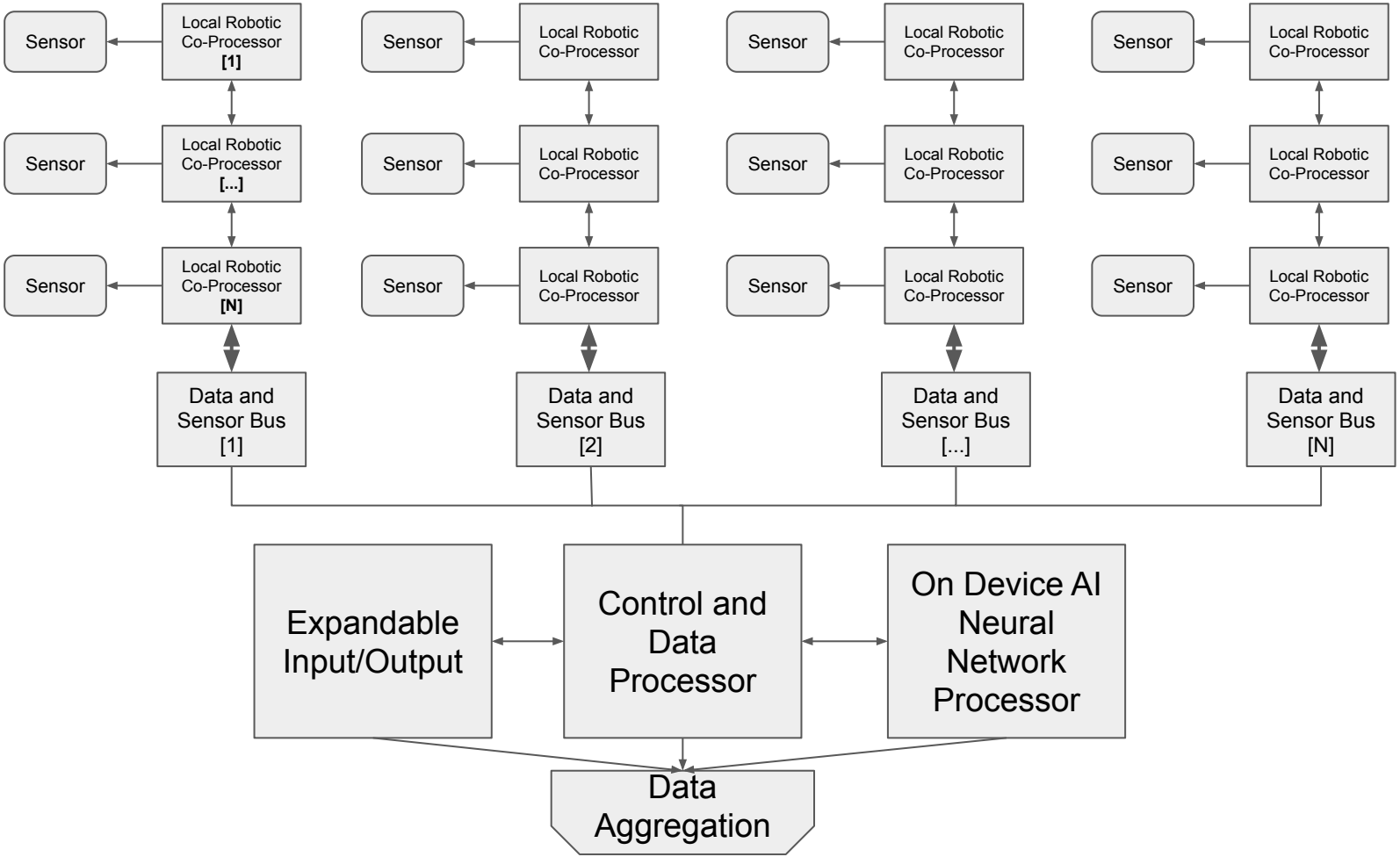
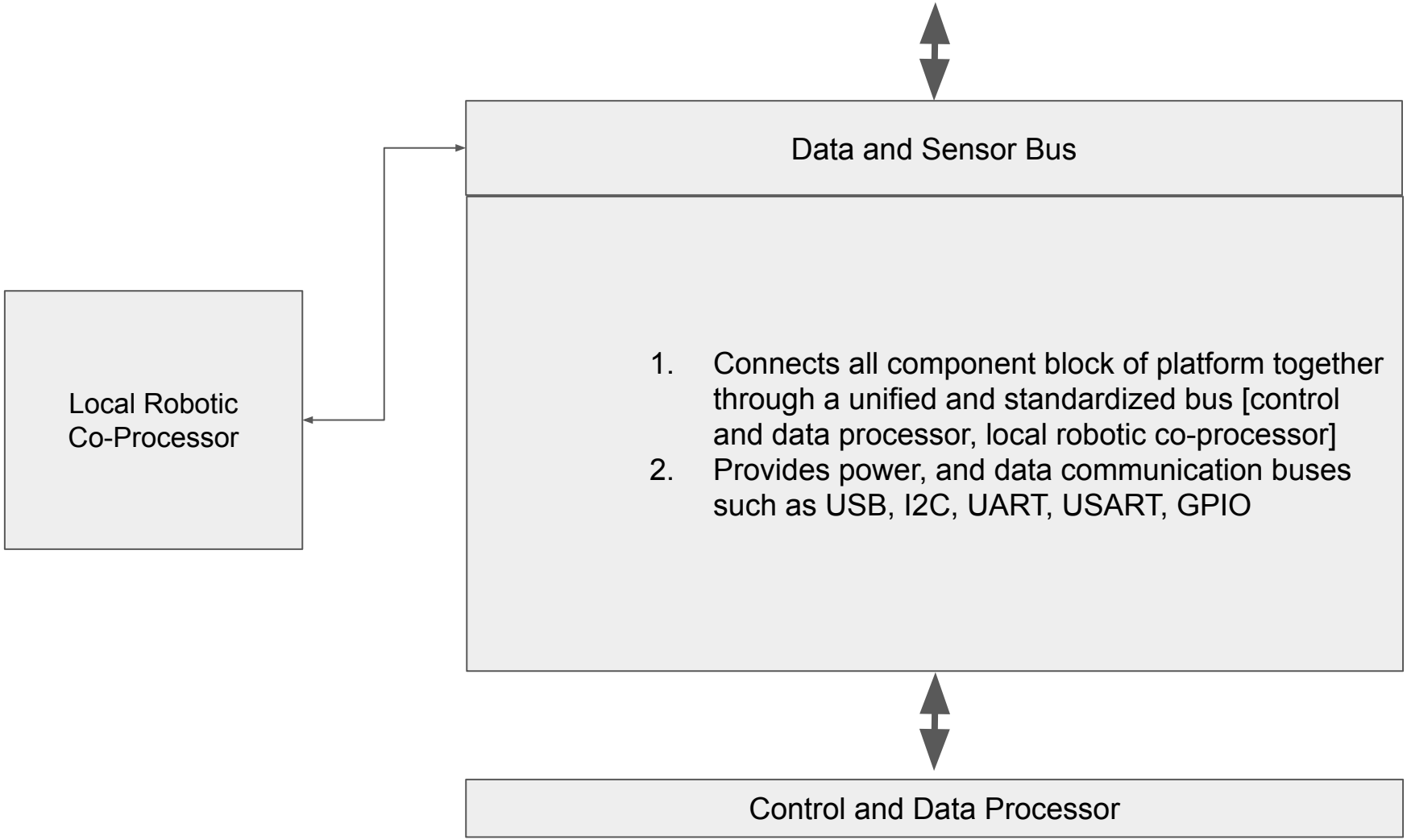
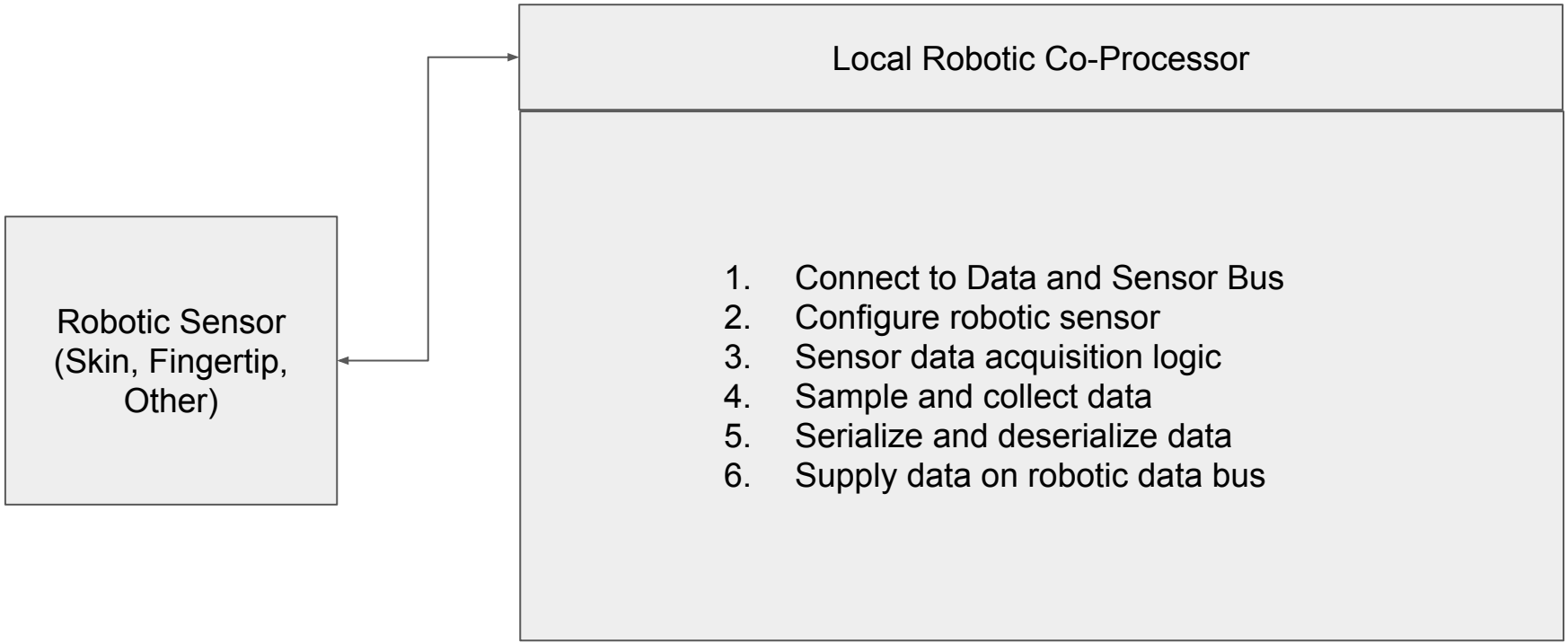
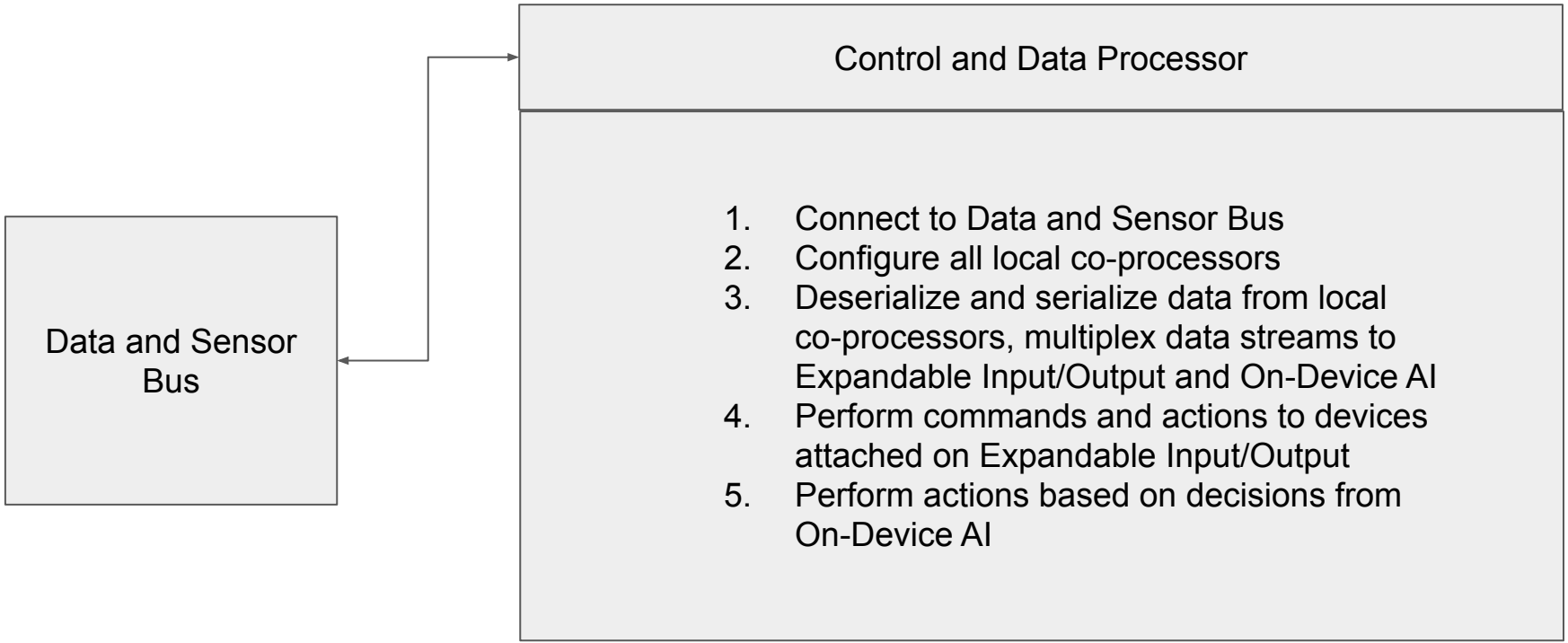
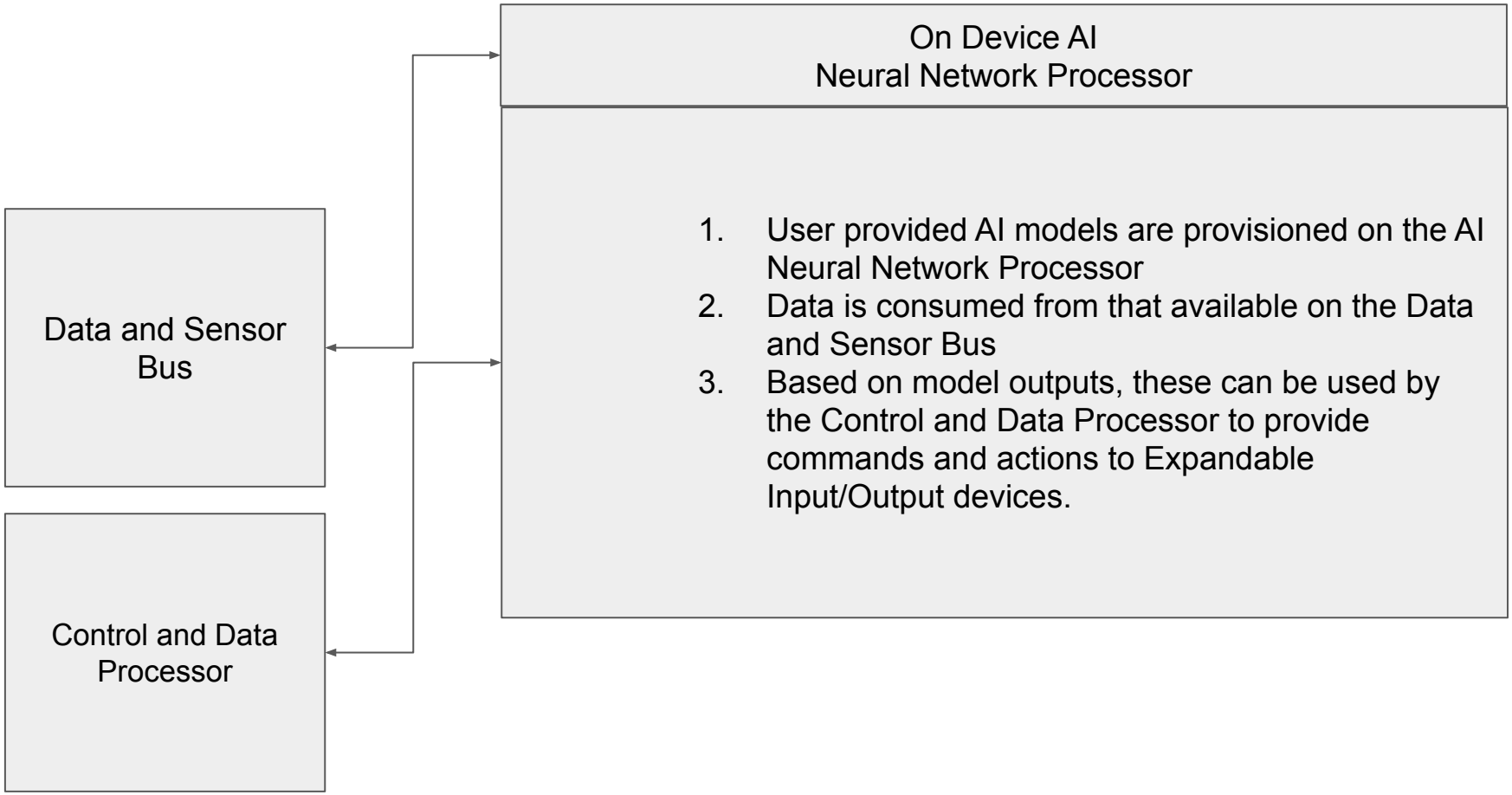
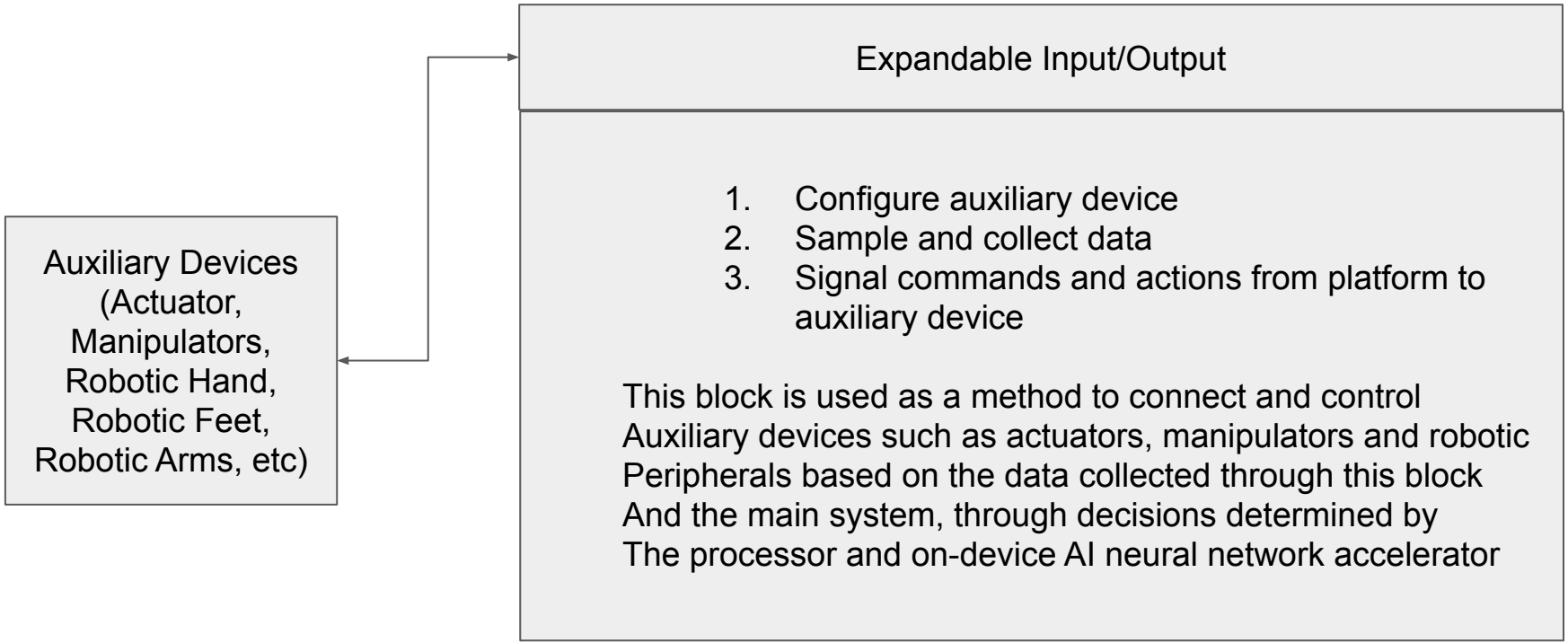

Sensor
Local Robotic Co-Processor [1]
Sensor
Local Robotic Co-Processor [...]
Sensor
Local Robotic Co-Processor [N]
Data and Sensor Bus [1]
Sensor
Local Robotic Co-Processor
Sensor
Local Robotic Co-Processor
Sensor
Local Robotic Co-Processor
Data and Sensor Bus [2]
Sensor
Local Robotic Co-Processor
Sensor
Local Robotic Co-Processor
Sensor
Local Robotic Co-Processor
Data and Sensor Bus [...]
Sensor
Local Robotic Co-Processor
Sensor
Local Robotic Co-Processor
Sensor
Local Robotic Co-Processor
Data and Sensor Bus [N]
Expandable Input/Output
Control and Data Processor
On Device AI Neural Network Processor
Data Aggregation

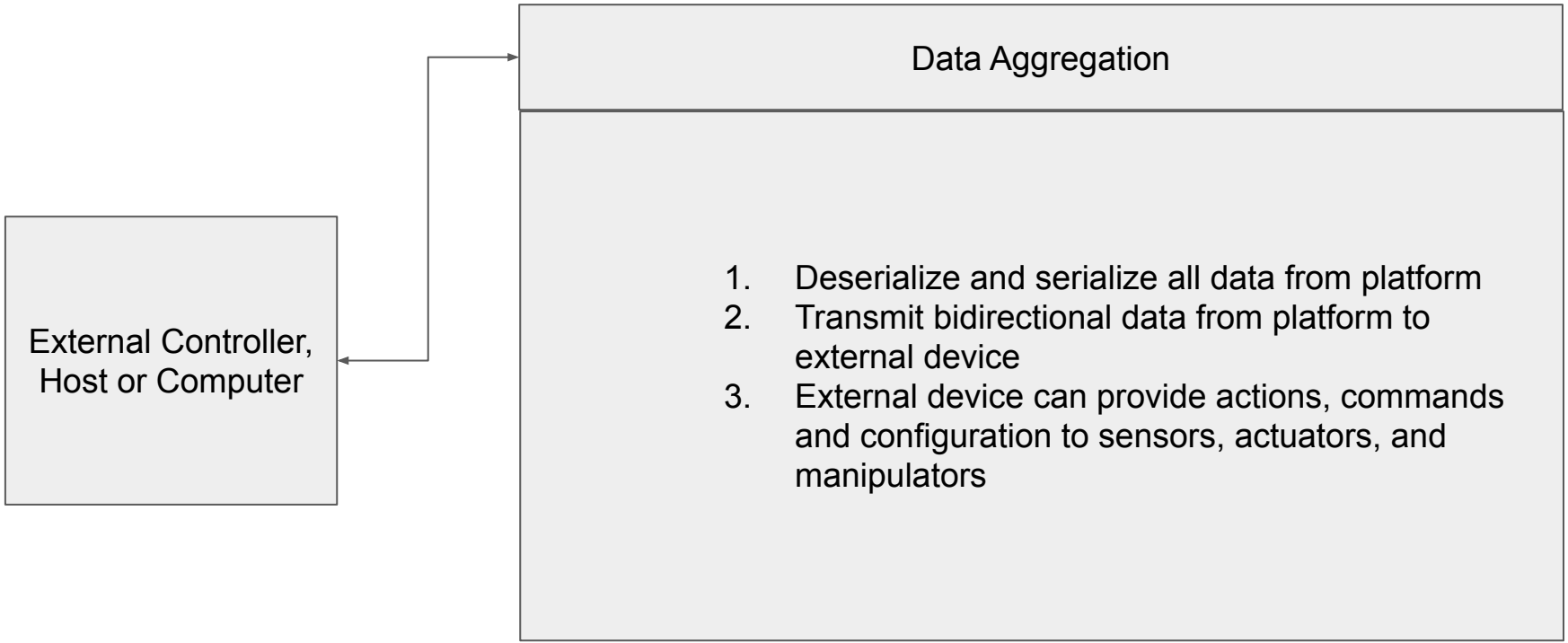

Data and Sensor Bus
Local Robotic Co-Processor
1. Connects all component block of platform together through a unified and standardized bus [control and data processor, local robotic co-processor]
2. Provides power, and data communication buses such as USB, I2C, UART, USART, GPIO
Control and Data Processor


Local Robotic Co-Processor
Robotic Sensor (Skin, Fingertip, Other)
1. Connect to Data and Sensor Bus
2. Configure robotic sensor
3. Sensor data acquisition logic
4. Sample and collect data
5. Serialize and deserialize data
6. Supply data on robotic data bus


Control and Data Processor
1. Connect to Data and Sensor Bus
2. Configure all local co-processors
3. Deserialize and serialize data from local co-processors, multiplex data streams to Expandable Input/Output and On-Device AI
4. Perform commands and actions to devices attached on Expandable Input/Output
5. Perform actions based on decisions from On-Device AI
Data and Sensor Bus


On Device AI
Neural Network Processor
1. User provided AI models are provisioned on the AI Neural Network Processor
2. Data is consumed from that available on the Data and Sensor Bus
3. Based on model outputs, these can be used by the Control and Data Processor to provide commands and actions to Expandable Input/Output devices.
Data and Sensor Bus
Control and Data Processor


Expandable Input/Output
1. Configure auxiliary device
2. Sample and collect data
3. Signal commands and actions from platform to auxiliary device
This block is used as a method to connect and control
Auxiliary devices such as actuators, manipulators and robotic
Peripherals based on the data collected through this block
And the main system, through decisions determined by
The processor and on-device AI neural network accelerator
Auxiliary Devices (Actuator, Manipulators, Robotic Hand, Robotic Feet, Robotic Arms, etc)


Data Aggregation
External Controller, Host or Computer
1. Deserialize and serialize all data from platform
2. Transmit bidirectional data from platform to external device
3. External device can provide actions, commands and configuration to sensors, actuators, and manipulators