

WR15 Connectivity & Integration Guide

Five Data Integration Methods for Customer Environments

HID · Broadcast Intent · Keyboard Output · Android SDK · Direct SPP

English Edition

Document Version 1.0 · 2026

Supported Version

Ring ScanEmul Version V2.0.0.0+
WR15 Firmware Version V2.0.0.0+



WR15

Ring Scanner

Revision History

[illegible]

Learn how to integrate WR15 into your business environment

01 Document Purpose

This guide explains how barcode data scanned by WR15 is delivered to your business system and how each integration method differs.

02 Who This Guide Is For

- Sales and technical support staff evaluating the best integration method for customer environments
 - Developers integrating WR15 with existing Android apps or business applications
 - Customer personnel reviewing the required development scope and level of device control
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03 What You'll Learn

- How HID · Broadcast Intent · Keyboard Output · Android SDK · Direct SPP work
- Data delivery paths and development scope for each method
- Criteria for selecting an integration method based on customer environment and requirements

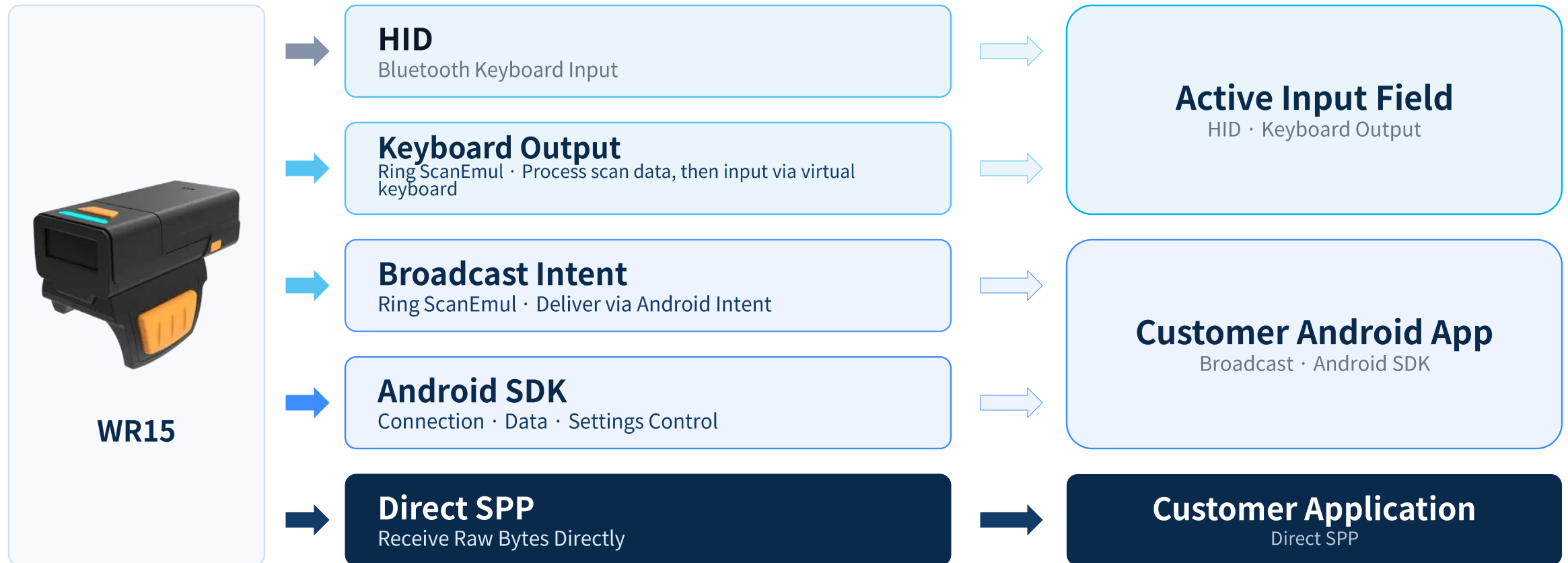
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Understanding Integration Methods

Compare how scanned data is delivered.

WR15 supports five integration methods



Choose an integration method based on development and control requirements

 Integration Requirement	 Recommended Method	 Customer Implementation Scope
Enter scan data directly into an input field	HID	No additional app development
Enter processed data into an input field	Keyboard Output	No changes to existing app (Using Ring ScanEmul)
Deliver scan data to an existing Android app	Broadcast Intent	Receiver integration (Using Ring ScanEmul)
Manage WR15 connection and settings directly from a customer Android app	SDK	Develop directly in the customer app using the SDK
Integrate directly via SPP Socket without the SDK	Direct SPP	Socket + optional protocol implementation

HID — Bluetooth Keyboard

Use WR15 like a Bluetooth keyboard with no additional app development.

HID inputs data directly into the active input field



Scan Barcode



Recognized as a Bluetooth
keyboard
(Android / Windows)



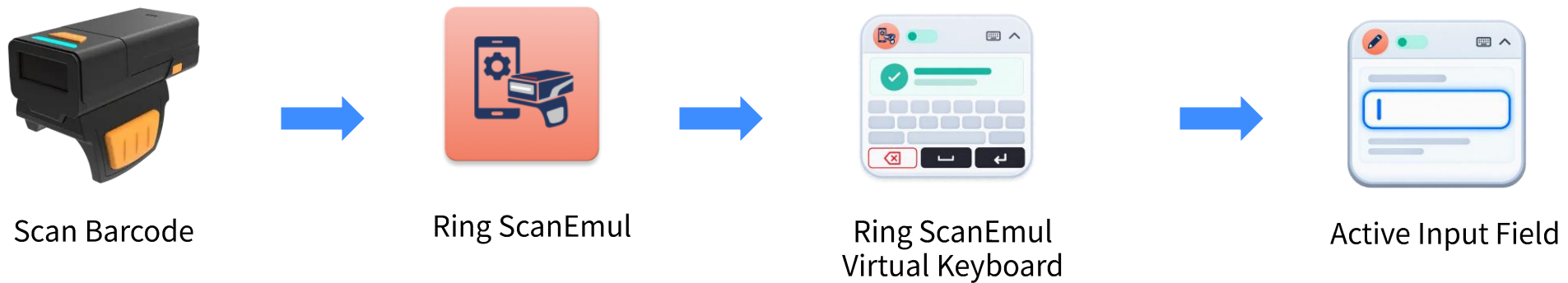
Active Input Field

With HID, WR15 works like a standard Bluetooth keyboard.

Ring ScanEmul — App-based Delivery (Keyboard Output)

Ring ScanEmul delivers received scan data to the active input field.

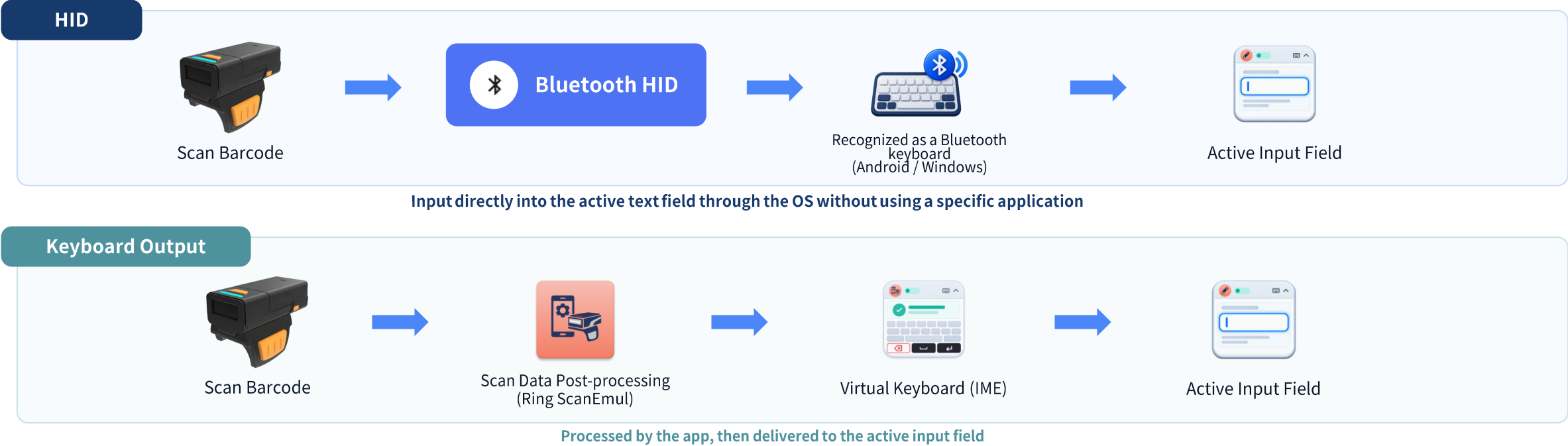
Keyboard Output delivers data to the active input field via a virtual keyboard



Keyboard Output uses Android's input method (IME), i.e., a virtual keyboard. When Ring ScanEmul Keyboard is selected as the active keyboard, scanned data is entered into the active input field.

Regular characters are sent via `commitText`; if the data ends with Enter or Tab, it is sent as a `KeyEvent`.

HID vs. Keyboard Output

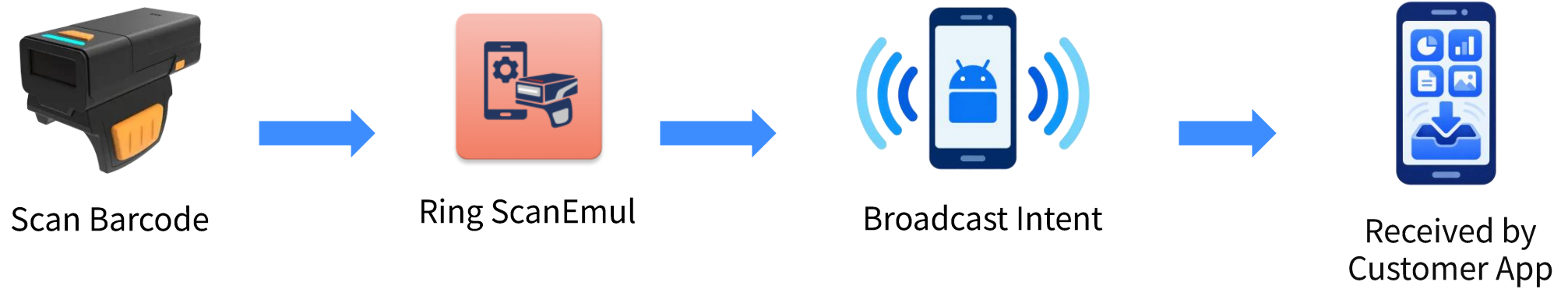


Comparison	HID	Keyboard Output
Input Path	Direct input through the OS	Via Ring ScanEmul
Data Post-processing	✗ Not Supported	✓ Supported
Environment	Android / Windows	Android

Ring ScanEmul — App-based Delivery (Broadcast Intent)

Delivers data received by the app to the customer app.

Broadcast Intent delivers data to a specified Android app



Set the customer app's Broadcast Action and Extra Key in Ring ScanEmul, and scanned data is sent as a Broadcast Intent using the configured format.

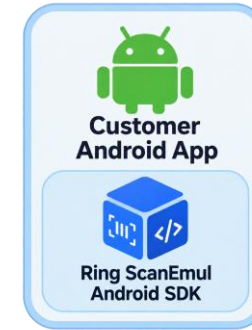
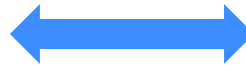
Custom Development — SDK

Connect to and control WR15 directly from the customer app.

Android SDK lets the customer app manage WR15 directly



WR15

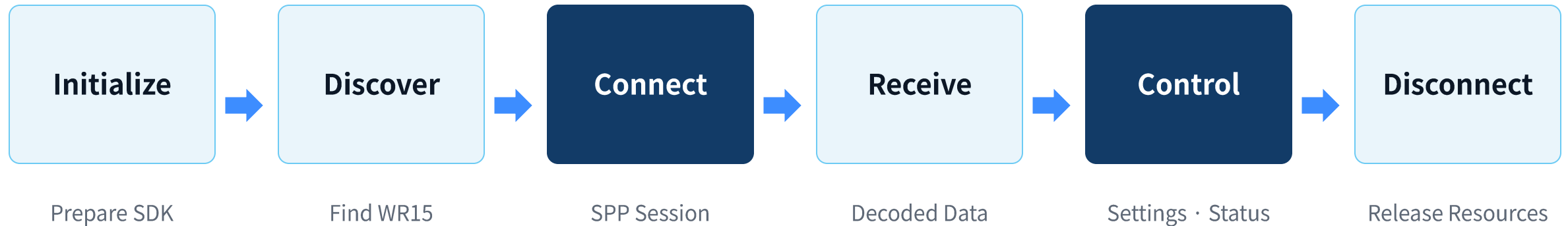


Direct SDK Integration
in Customer App

Discovery · Connection · Data Reception · Settings · Status · Control

Connect directly to WR15 from the customer app to process barcode data,
and control WR15 settings and operations.

The SDK handles all connection and control within the customer app.



For details about the Ring ScanEmul SDK, see the SDK Manual.

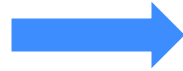
Custom Development — Socket

Connect to and control WR15 directly from the customer app.

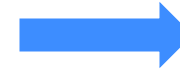
Direct SPP receives data directly without the SDK



WR15



Decoded byte stream

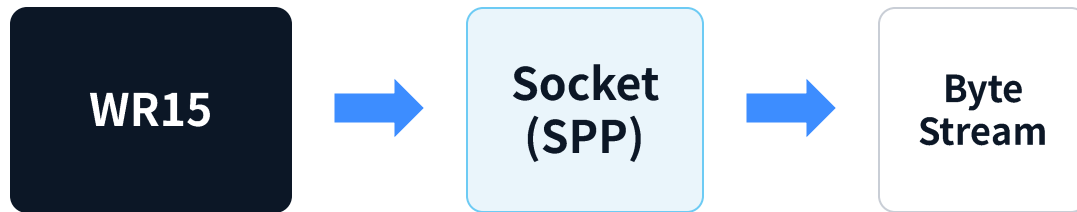


Customer Application

If you only need scan data, connect an SPP Socket and read the incoming bytes.
No need to parse WR15 command packets.

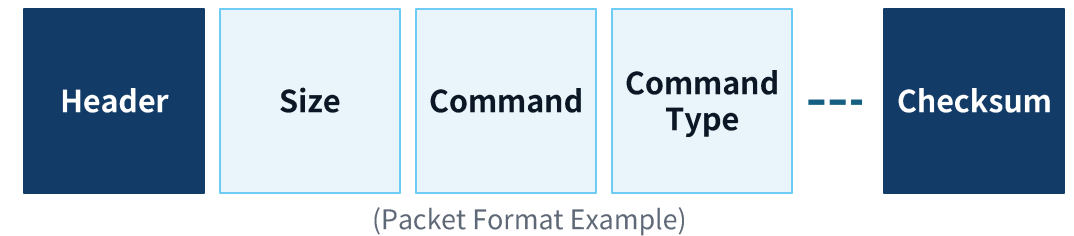
Data reception and WR15 control require different implementation scopes

Receive Scan Data Only



If you only need barcode data, connect an SPP Socket and use the delivered Raw Bytes as-is. There is no need to build or parse WR15 command packets.

Settings · Status · Device Control



Request/response handling based on the WR15 command protocol

Header, Cmd, CmdType, Setting ID, Value, Checksum, etc.
The protocol specification must be implemented for communication.

Choosing an Integration Method

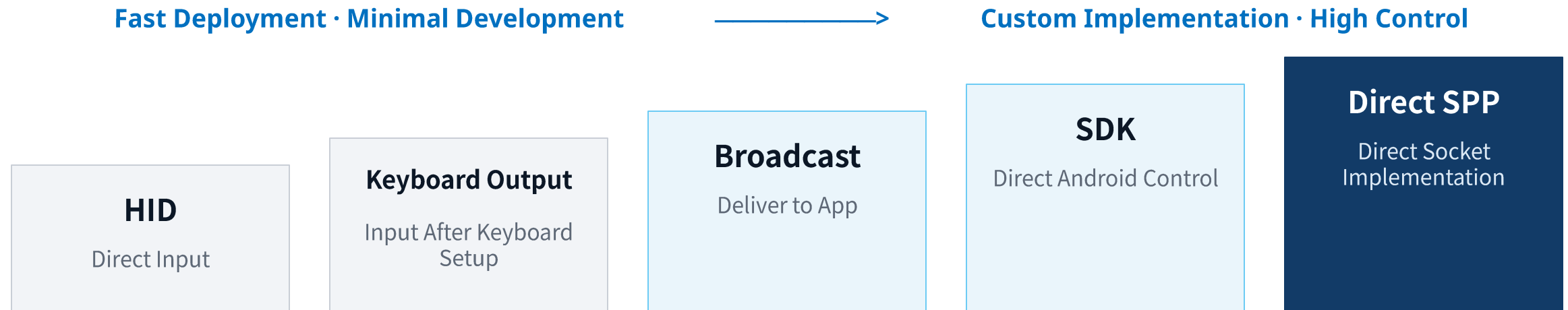
Decide based on development scope and required level of control.

The five methods differ in development scope and control level

Method	Delivery Target	Customer Development	Data Processing	Device Control
HID	Active Input Field	None	Scanner Settings	Low
Keyboard Output	Active Input Field	None	Ring ScanEmul	Configured in App
Broadcast	Android App	Add Receiver	Ring ScanEmul	Configured in App
Android SDK	Customer Android App	SDK Integration	Customer Implementation	High
Direct SPP	Customer Application	Socket Connection	Customer Implementation	With Protocol Implementation

Start with the simplest method and move to a higher integration level as delivery targets and device-control requirements increase.

Customer development scope and WR15 control level vary by integration method



Reference Documents

Connection · Demo

Quick Start Guide

App Setup · Post-processing

App User Manual

Direct Android Development

SDK Manual

Socket Device Control

Settings/control protocol specifications are provided separately after the integration scope is agreed.