
Intro to OMA GotAPI Open-Source Implementation Supporting Web - Healthcare Use Cases

The information in this presentation is public.

What is GotAPI?

Generic Open Terminal API Framework

- A published specification of the Open Mobile Alliance (OMA)
- A design pattern and implementation framework enabling user-mediated web app access to arbitrary local or connected device APIs

GotAPI Open Source Project

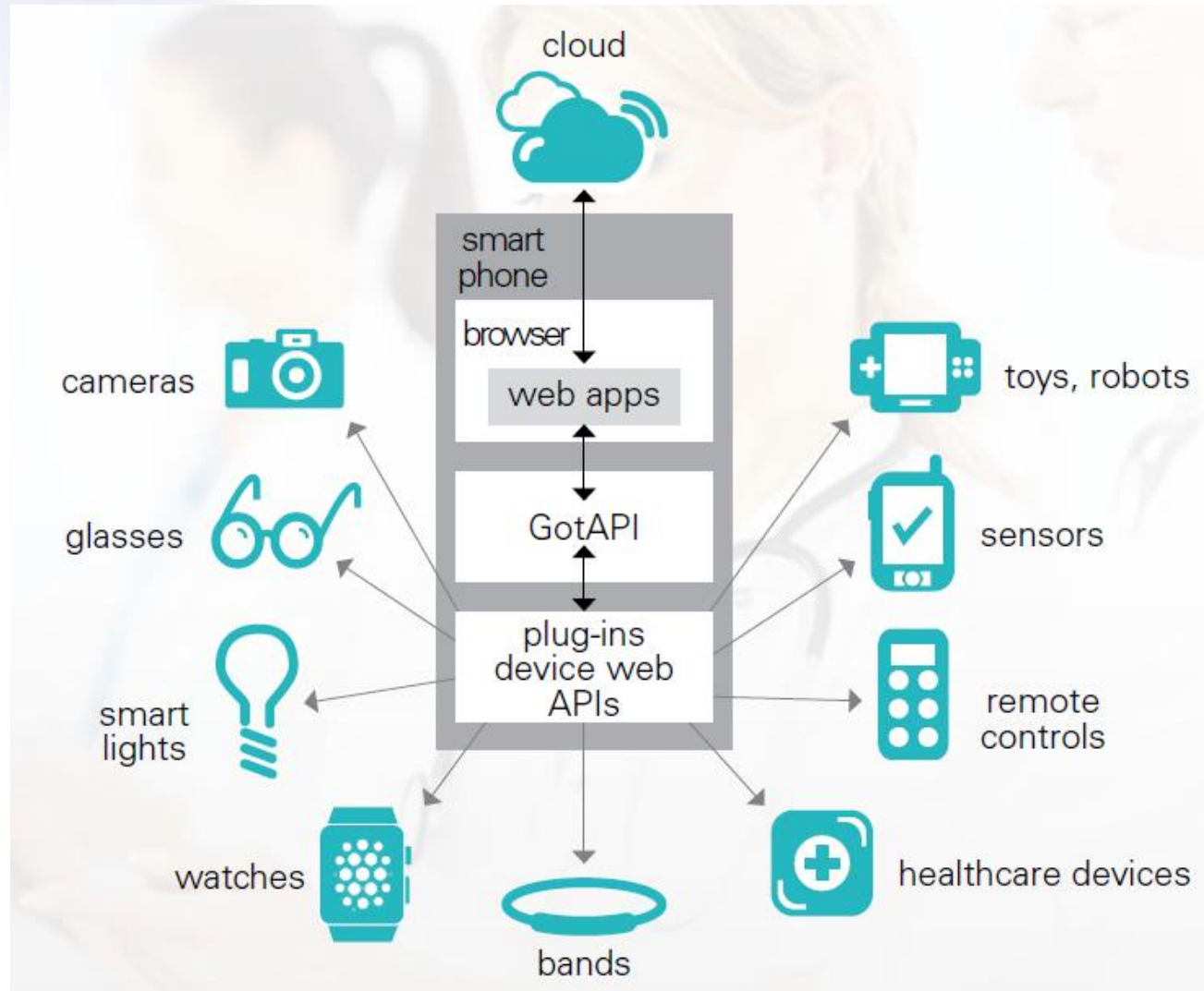
- NTT Docomo's DeviceConnect (see supported devices)
- GotAPI open source project, launched in October 2014
- Various devices supported
- Enables device vendors to reduce costs and time to develop applications interworking with smartphones

Device WebAPI Consortium

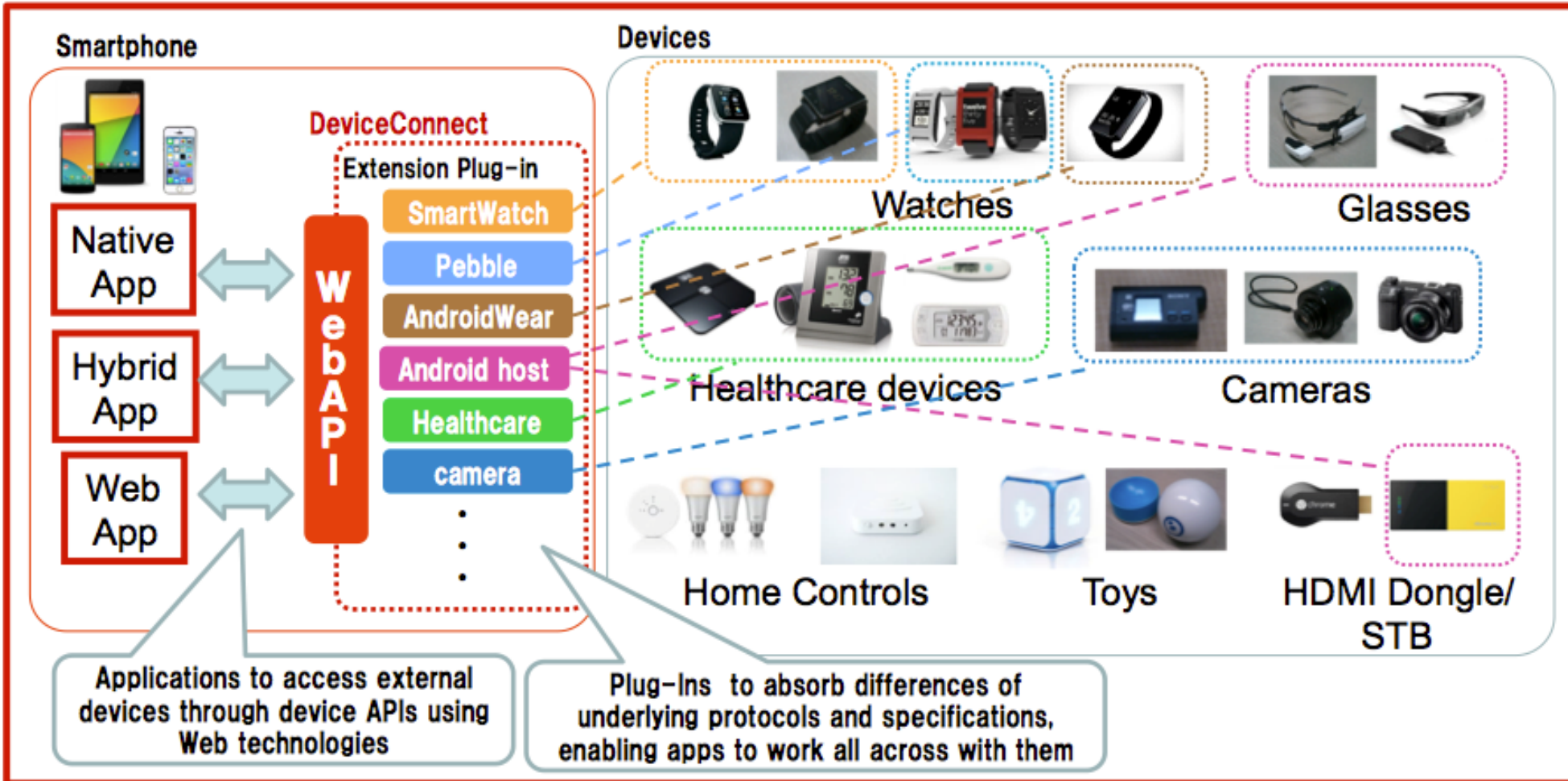
- An industry initiative to promote device Web APIs based on OMA GotAPI
- Launched in April 2015

Overview of GotAPI Design

- Device-local web server (“GotAPI Server”) acts as bridge to API plugins
- Web apps discover GotAPI support and get approved access to APIs
- Web apps use standard web APIs (XHR, SSE, WebSockets, WebRTC) to access APIs thru the GotAPI Server or directly (if supported by plugin)
- Plugins provide access to device-local APIs/resources or connected devices, as applicable for the plugin

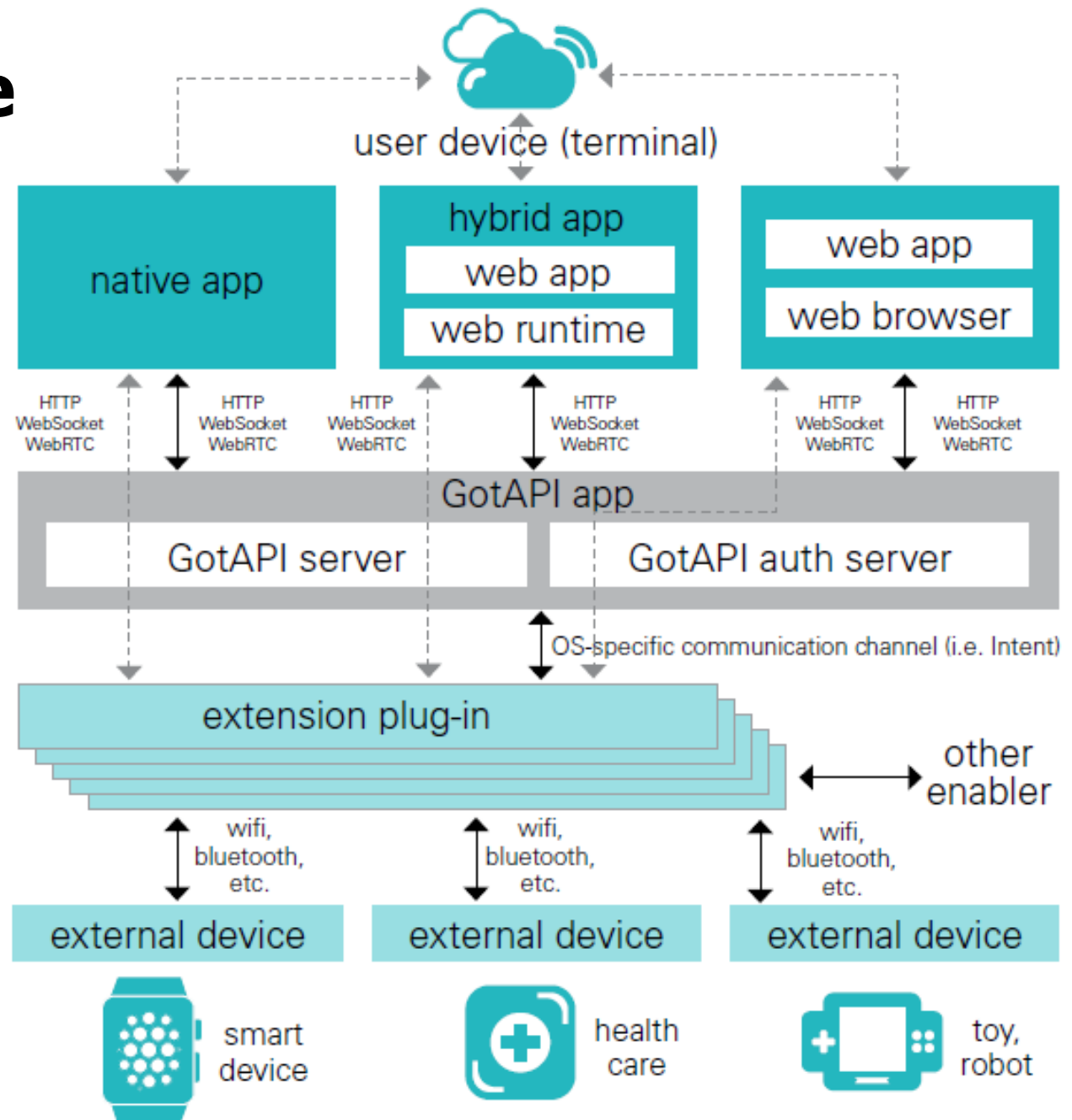


DeviceConnect Implementation



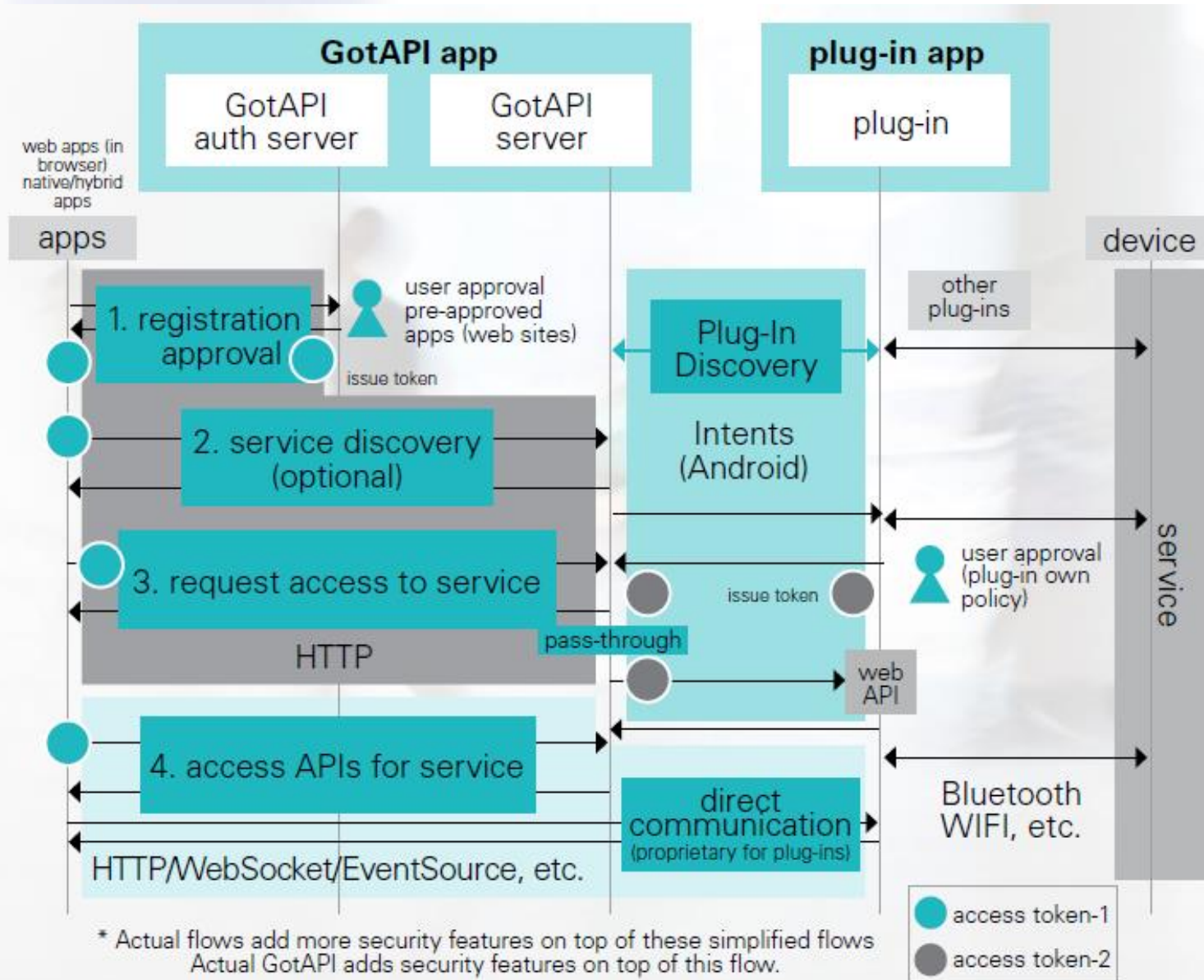
Architecture

- A “GotAPI app” implements servers for API access auth and operations
- Developers create plugins that integrate with GotAPI thru platform-specific methods
- Devices that can be accessed are only limited to the types of connections supported by the GotAPI host device, and the openness of connected device interfaces

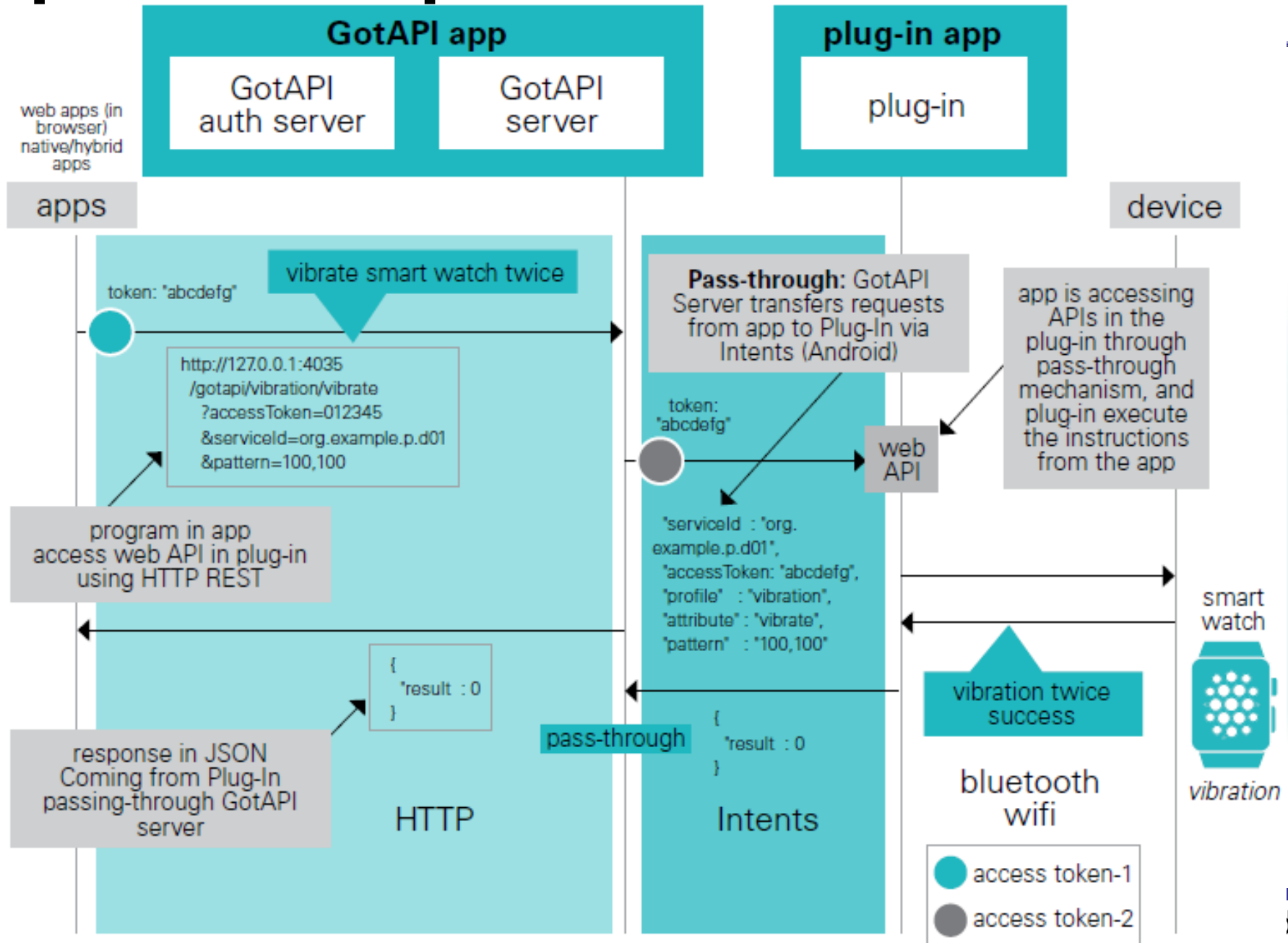


Basic Flow

- App seeks and gains access to GotAPI-enabled services
- App discovers available APIs
- App requests and is allowed access to specific API
- App accesses the APIs thru the GotAPI Server or directly



Specific Example



Focus on Security

- GotAPI contains specific measures to address
 - Application registration and authenticity
 - Application spoofing by rogue apps
 - Privacy (user-mediated access to plug-ins and devices)
 - GotAPI Server spoofing by rogue apps
 - Plugin spoofing by rogue plugin
 - DOS attacks
- GotAPI assumes
 - Host device is not rooted
 - Apps are obtained from legitimate sources (App Stores, web servers)

Fujitsu Implementation demo



Fujitsu Implementation demo



Next Steps for GotAPI

- GotAPI 1.1 is complete specifications for WebSocket based APIs
- Device WebAPI 1.0 is developing specific plugin APIs for
 - Healthcare devices based upon published and implemented IEEE specs
 - Thermometer
 - Pulse Oximeter
 - Weight Scale and Body Composition Analyzer
 - Blood Pressure Monitor
 - Glucometer
 - Heart Rate Monitor
 - 3D Printers

Links –Draft TS Specification

- http://member.openmobilealliance.org/ftp/Public_documents/CD/DWAPI/Permanent_documents/OMA-TS-Weight_Scale_Body_Composition_Analyzer_APIs-V1_0-20151104-D.zip
- http://member.openmobilealliance.org/ftp/Public_documents/CD/DWAPI/Permanent_documents/OMA-TS-Thermometer_APIs-V1_0-20151106-D.zip
- http://member.openmobilealliance.org/ftp/Public_documents/CD/DWAPI/Permanent_documents/OMA-TS-Pulse_Oximeter_APIs-V1_0-20151106-D.zip
- http://member.openmobilealliance.org/ftp/Public_documents/CD/DWAPI/Permanent_documents/OMA-TS-Heart_Rate_Monitor_APIs-V1_0-20151105-D.zip
- http://member.openmobilealliance.org/ftp/Public_documents/CD/DWAPI/Permanent_documents/OMA-TS-Glucometer_APIs-V1_0-20151104-D.zip
- http://member.openmobilealliance.org/ftp/Public_documents/CD/DWAPI/Permanent_documents/OMA-TS-Blood_Pressure_Monitor_APIs-V1_0-20151104-D.zip