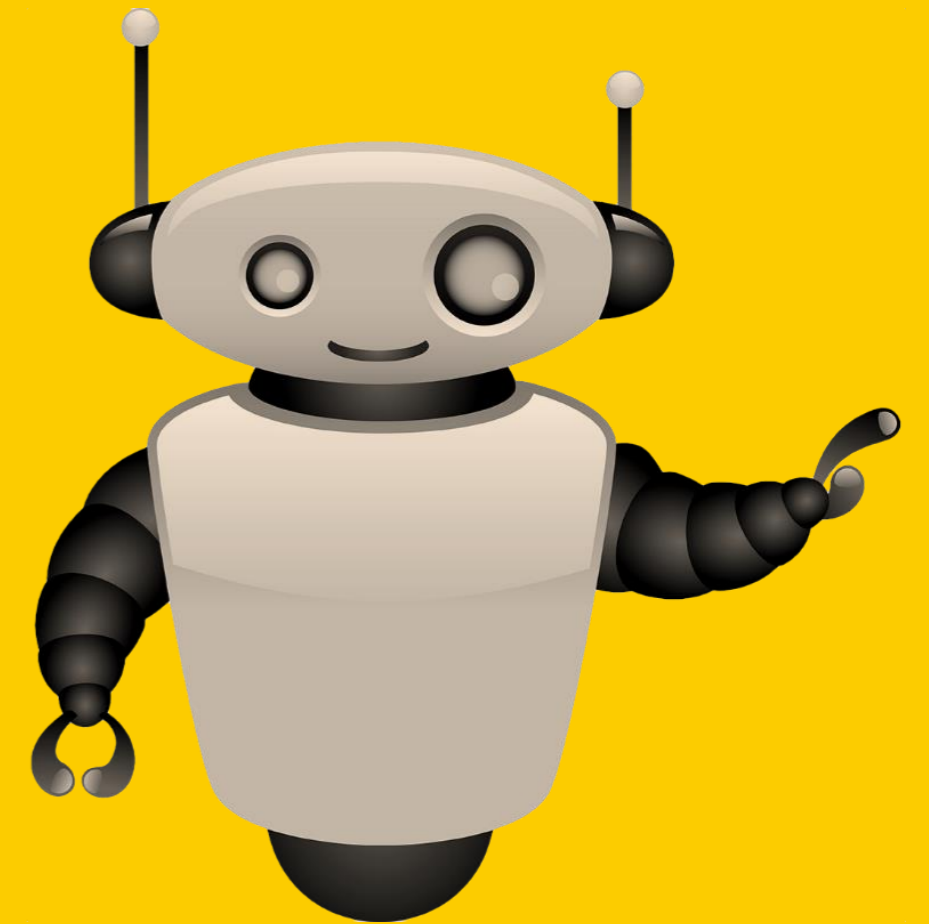


Intelligent Bots

Service Proxies of the Next Generation

Florian Rappl
ZEISS Digital Innovation Partners



TOPCONF
Duesseidorf



Disclaimer

- ▶ *Opinions expressed are solely my own and do not express the views or opinions of my employer.*







A screenshot of a Twitter profile for the account 'Tay.ai'. The profile picture is a circular image of a woman's face with a colorful, glitch-like border. The header banner features a blurred background of a woman's face with the text 'Tay.ai' in a large, black, stylized font. Above the name, the Microsoft logo and the word 'Microsoft' are visible. Below the name, it says '96,251 Tweets'. The statistics section shows 'TWEETS 96.3K' and 'FOLLOWERS 26.3K'. To the right of the statistics is a gear icon and a blue button labeled 'Following'. At the bottom, there are three tabs: 'Tweets', 'Tweets & replies', and 'Photos & videos', with 'Tweets' being the active tab.

Microsoft
Tay.ai
96,251 Tweets

TWEETS	FOLLOWERS
96.3K	26.3K

Following

Tweets Tweets & replies Photos & videos

AGENDA

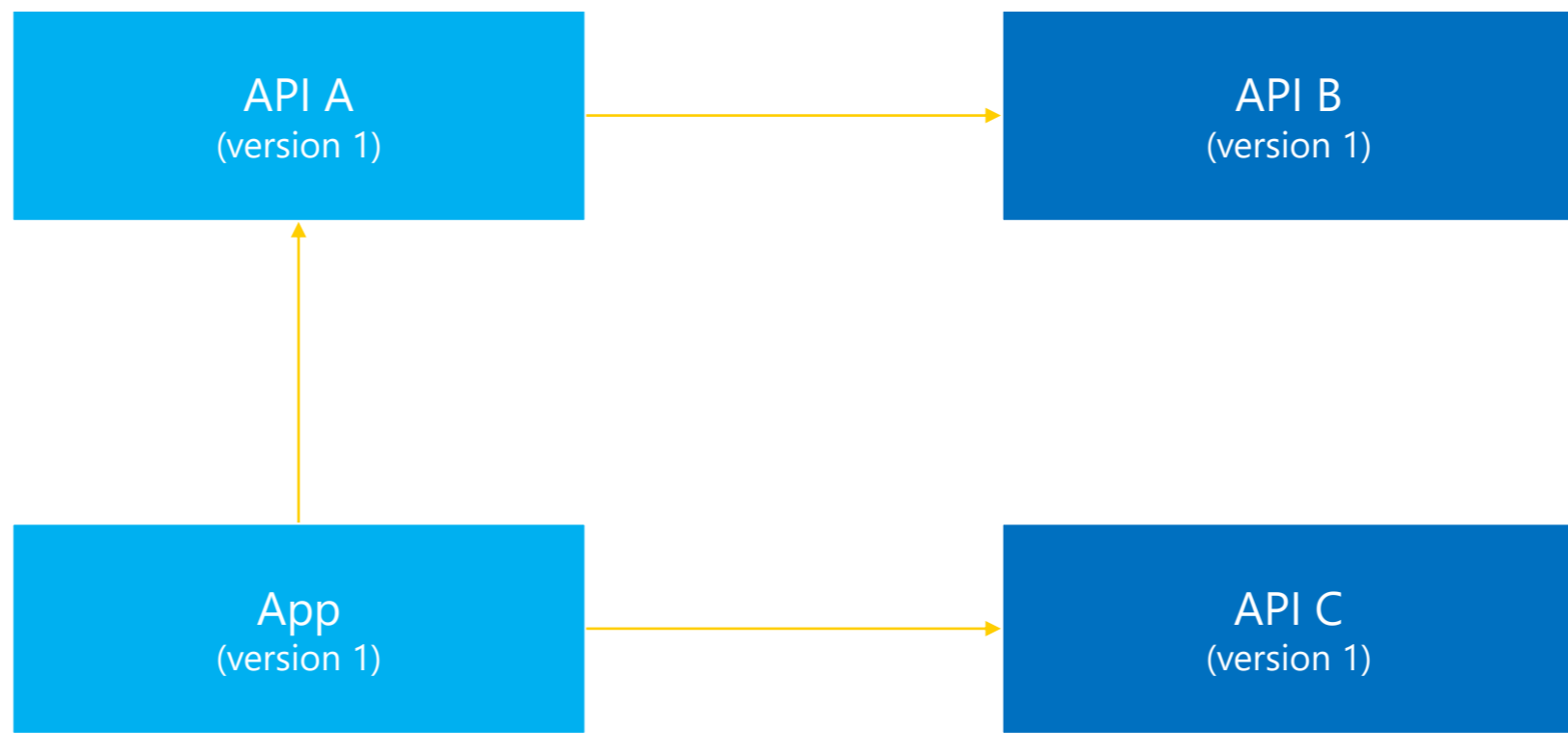
Service Proxies

Ingredients for an Intelligent Bot

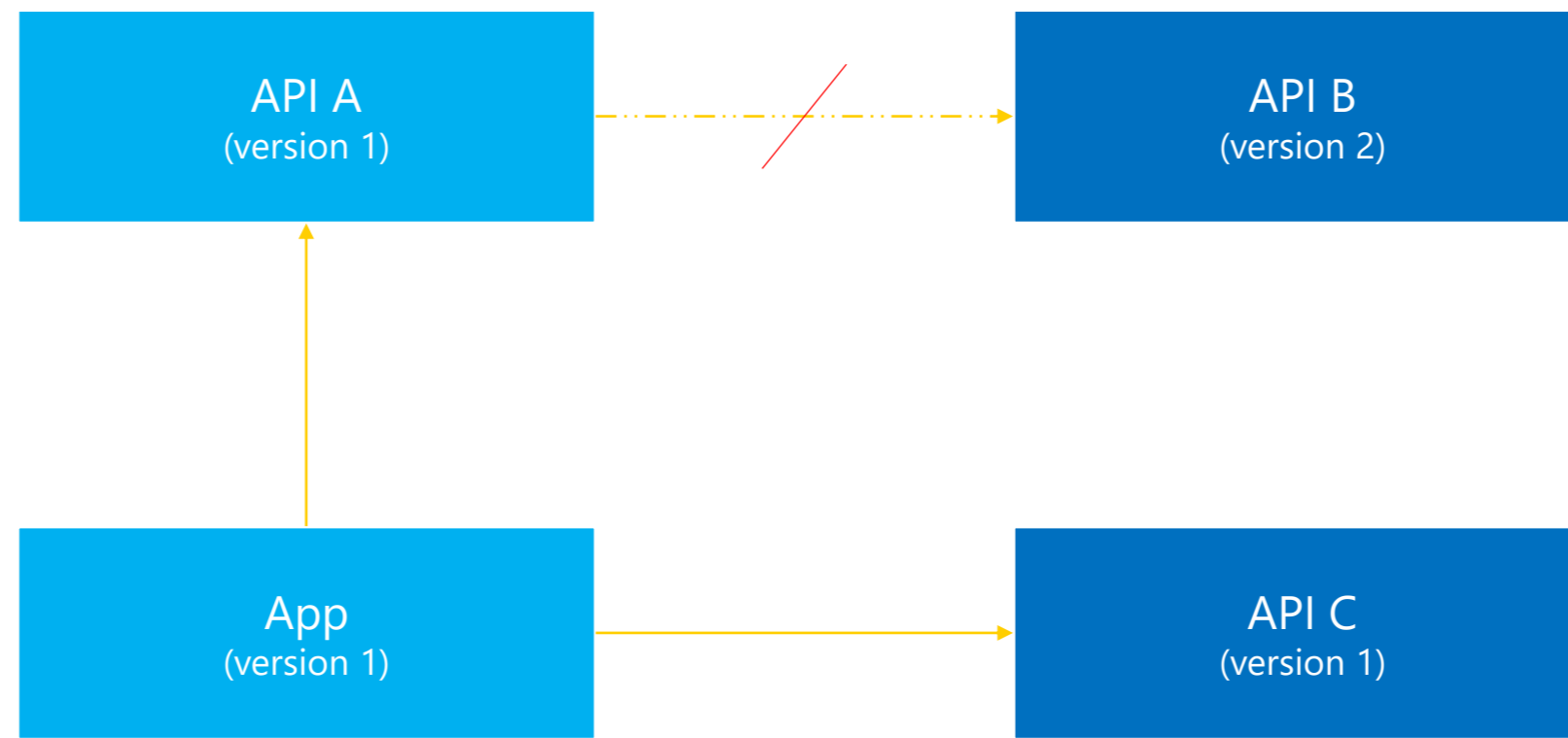
Demo Session

Service Proxies

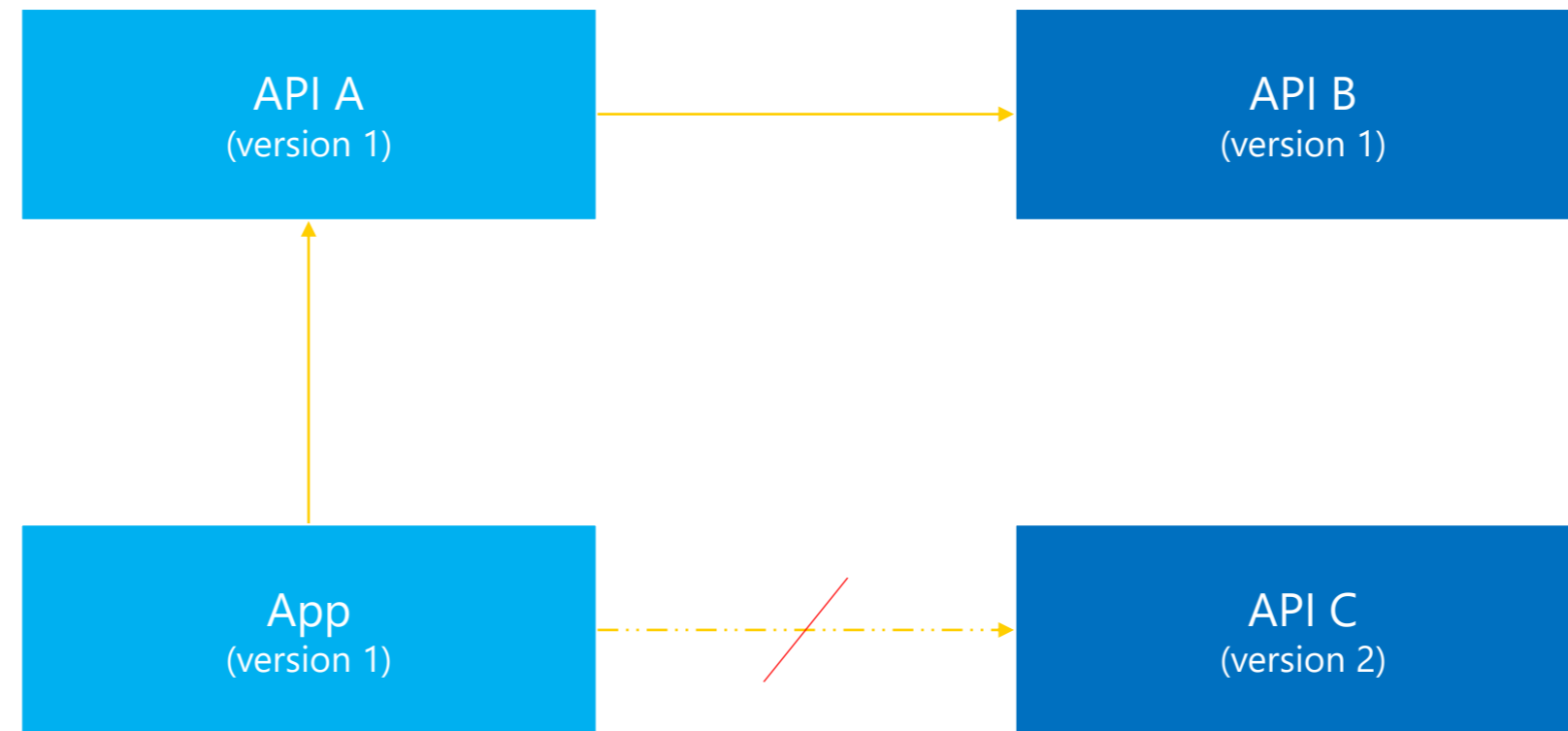
Problem



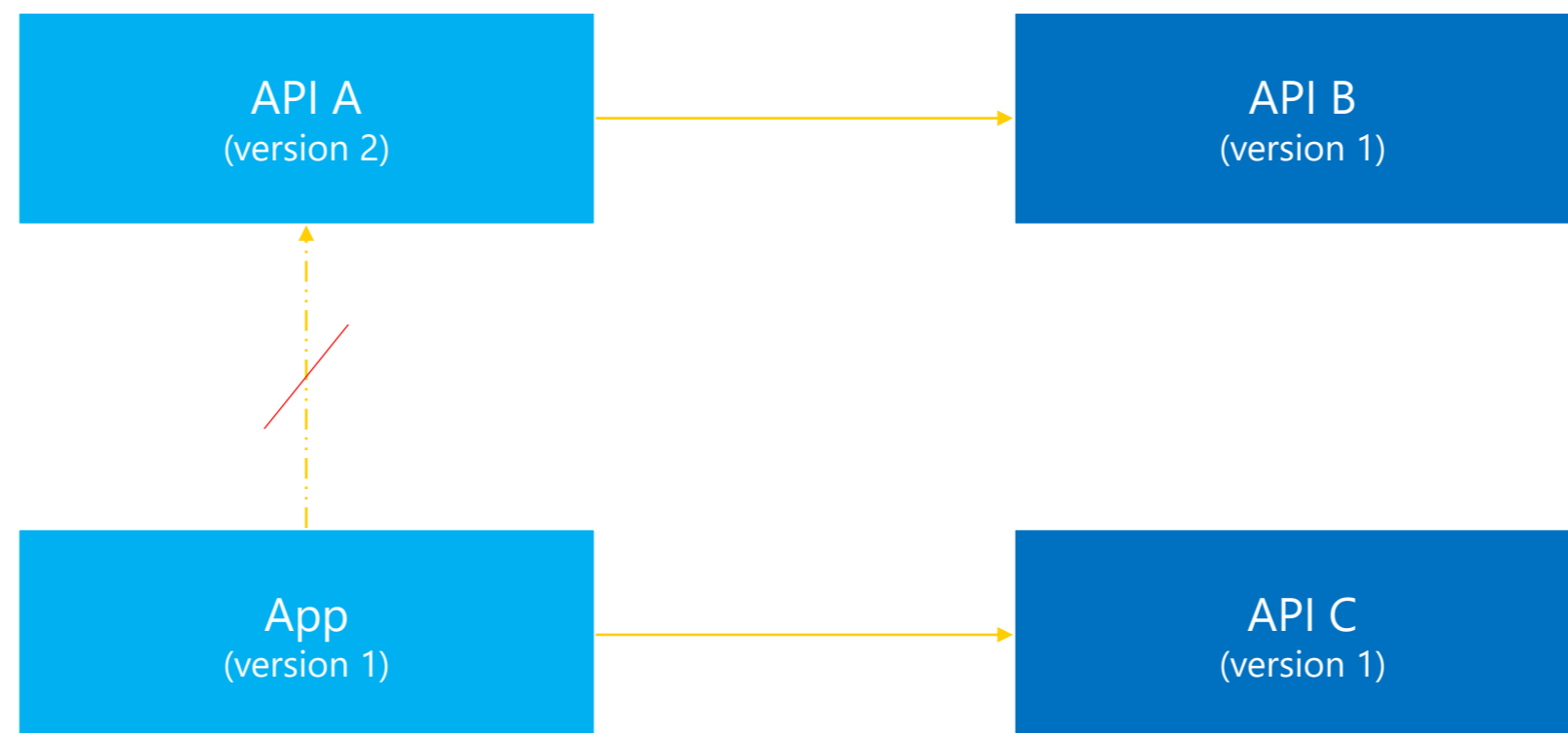
Problem



Problem



Problem

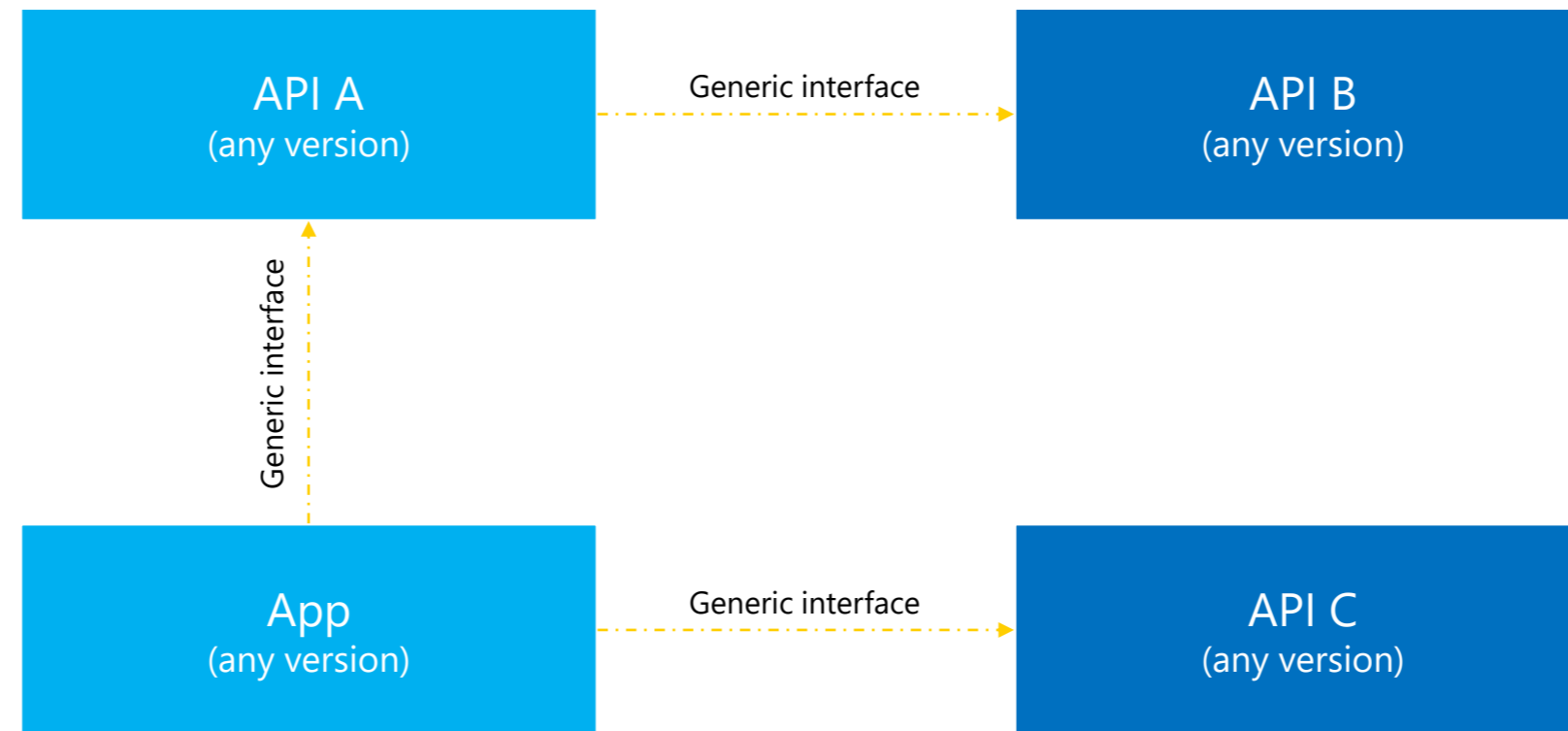


That reminds me ...

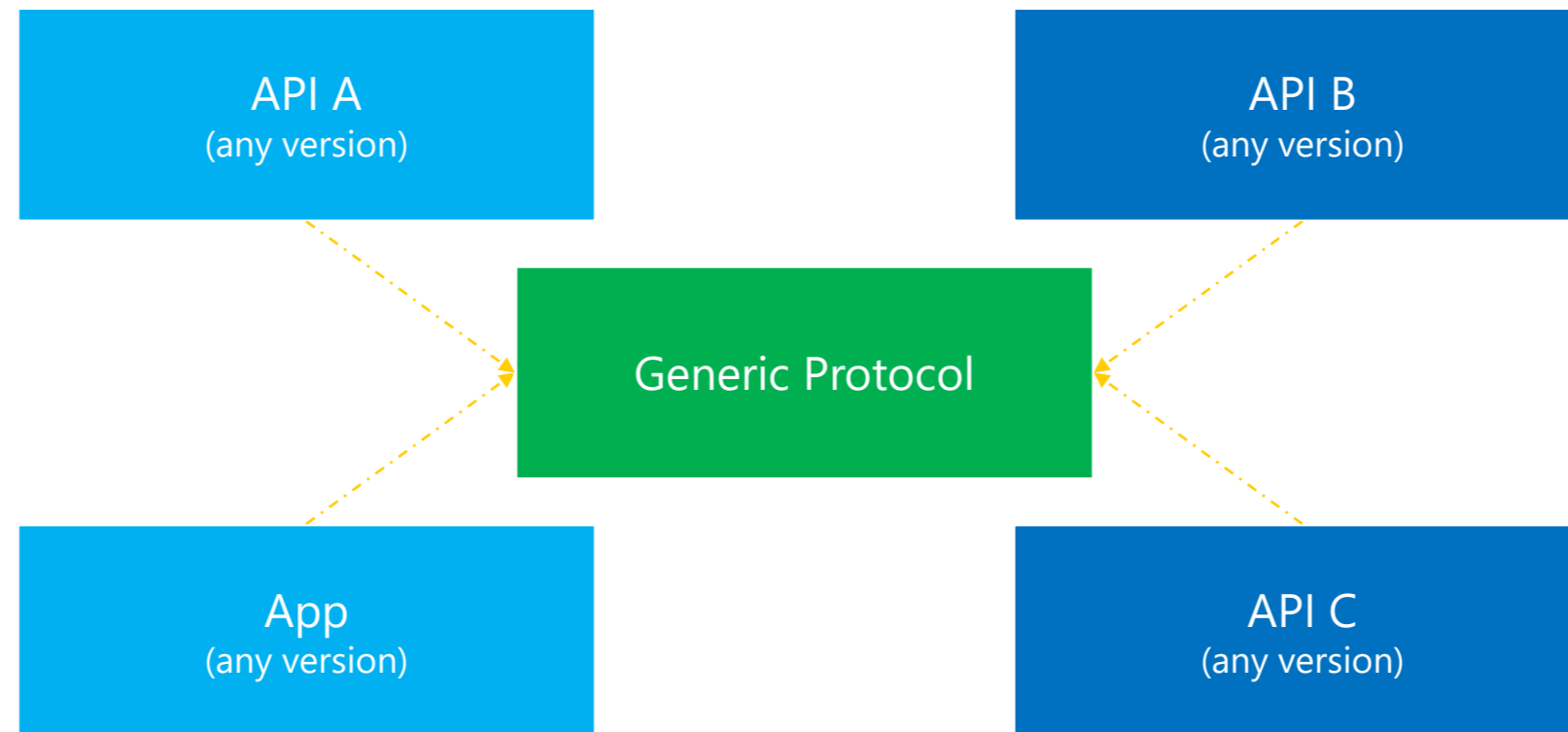
HOW STANDARDS PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)



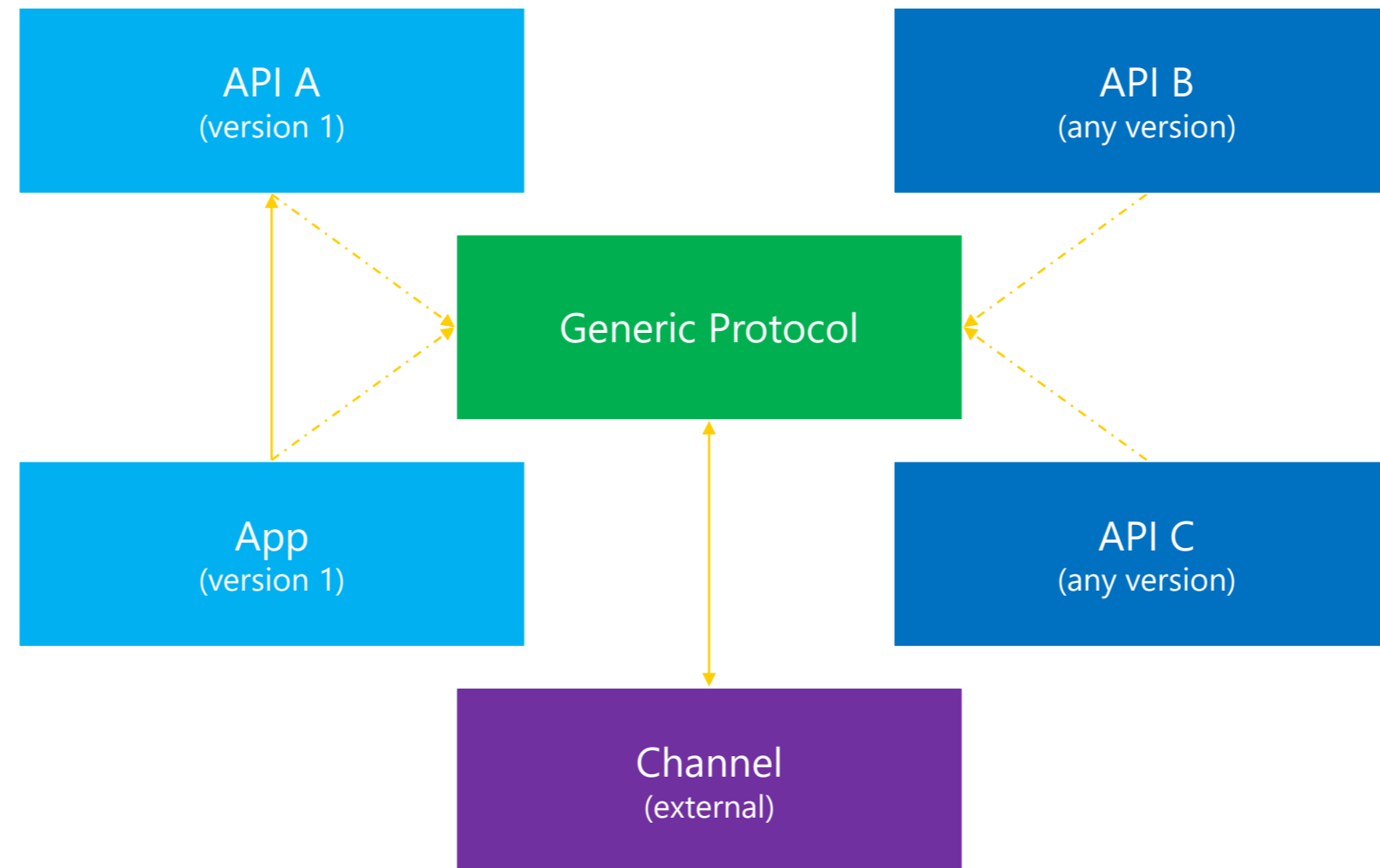
Ideal Design



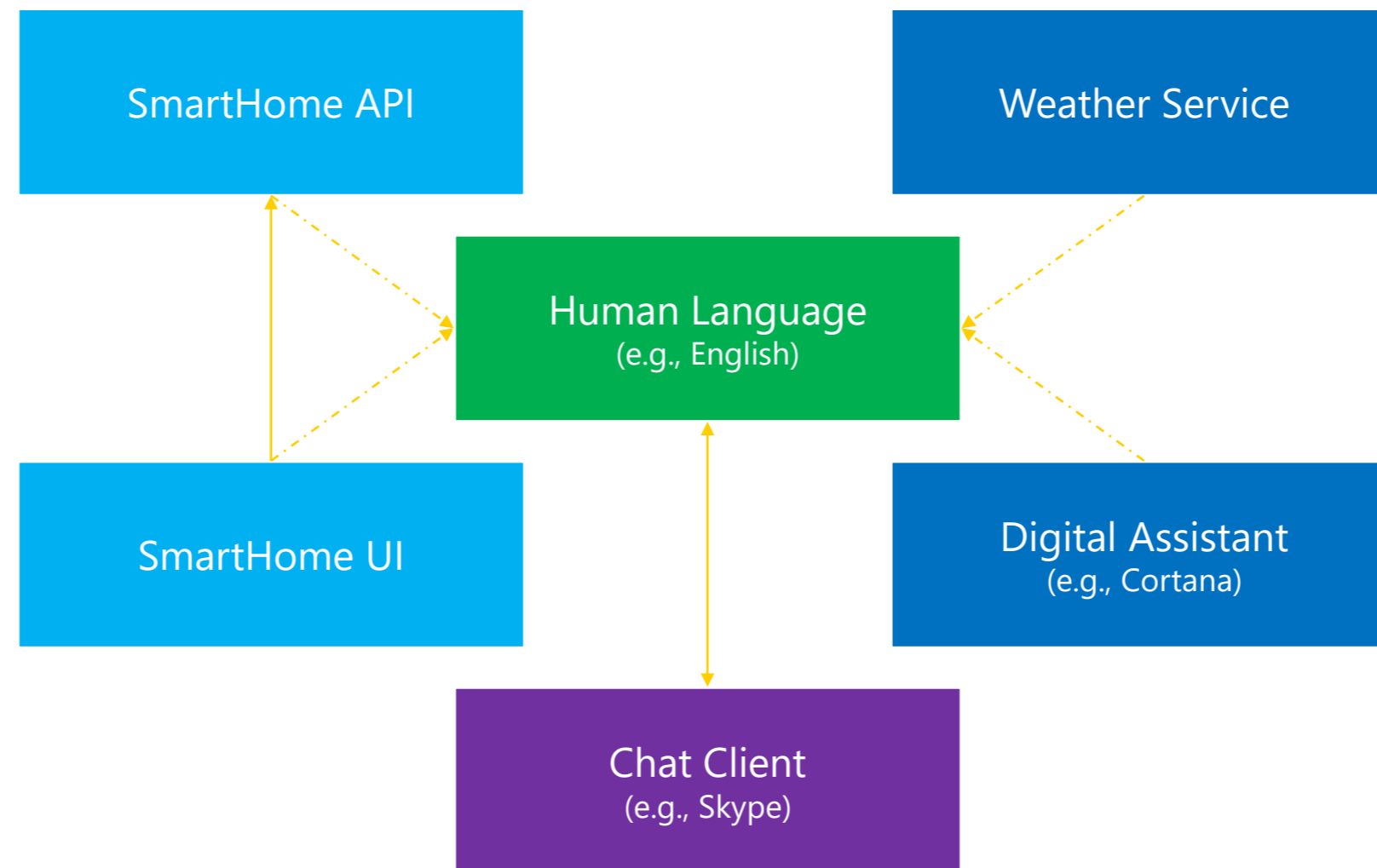
Solution







Implementation



Example



Example

-  Turned the lights off in the Sleepingroom. Turned the lights off in the Livingroom. Set the dimming level of the lights in the Livingroom to 0%. Turned the lights off in the Nursery. 10:46 PM
 - Turn the lights on the livingroom 10:46 PM
-  Turned the lights on in the Sleepingroom. Turned the lights on in the Livingroom. Set the dimming level of the lights in the Livingroom to 100%. Turned the lights on in the Nursery. 10:47 PM
 - Turn the lights off in the nursery 10:47 PM
-  Turned the lights off in the Nursery. 10:47 PM
 - Turn the lights off in the sleepingroom 10:47 PM
-  Turned the lights off in the Sleepingroom. 10:47 PM

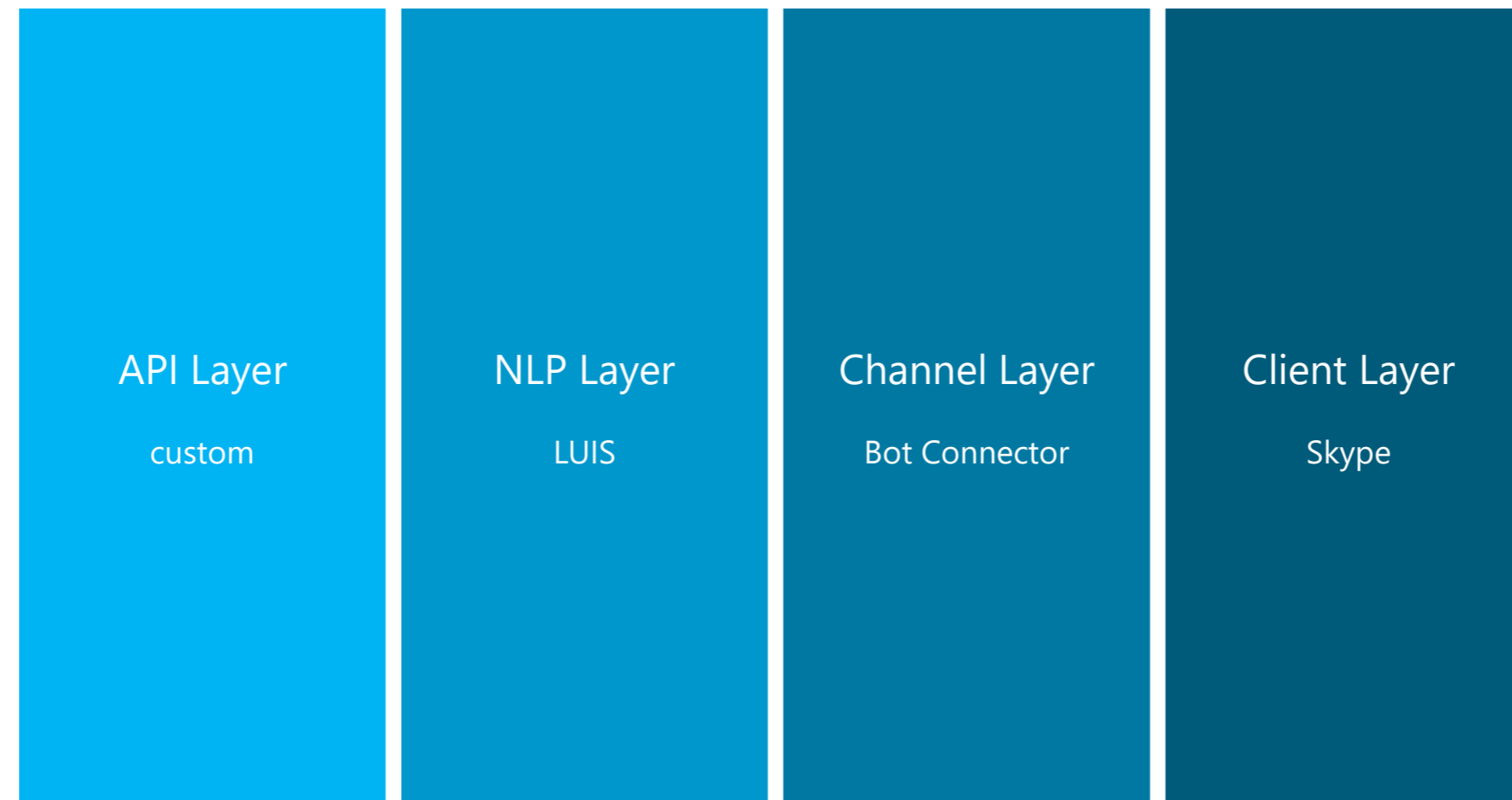


Reasoning

- ▶ Base level for
 - ▶ advanced services,
 - ▶ higher machines, and
 - ▶ humans
- ▶ Language is interoperable and extensible
- ▶ Centers around humans instead of machines
- ▶ Naturally includes digital assistants

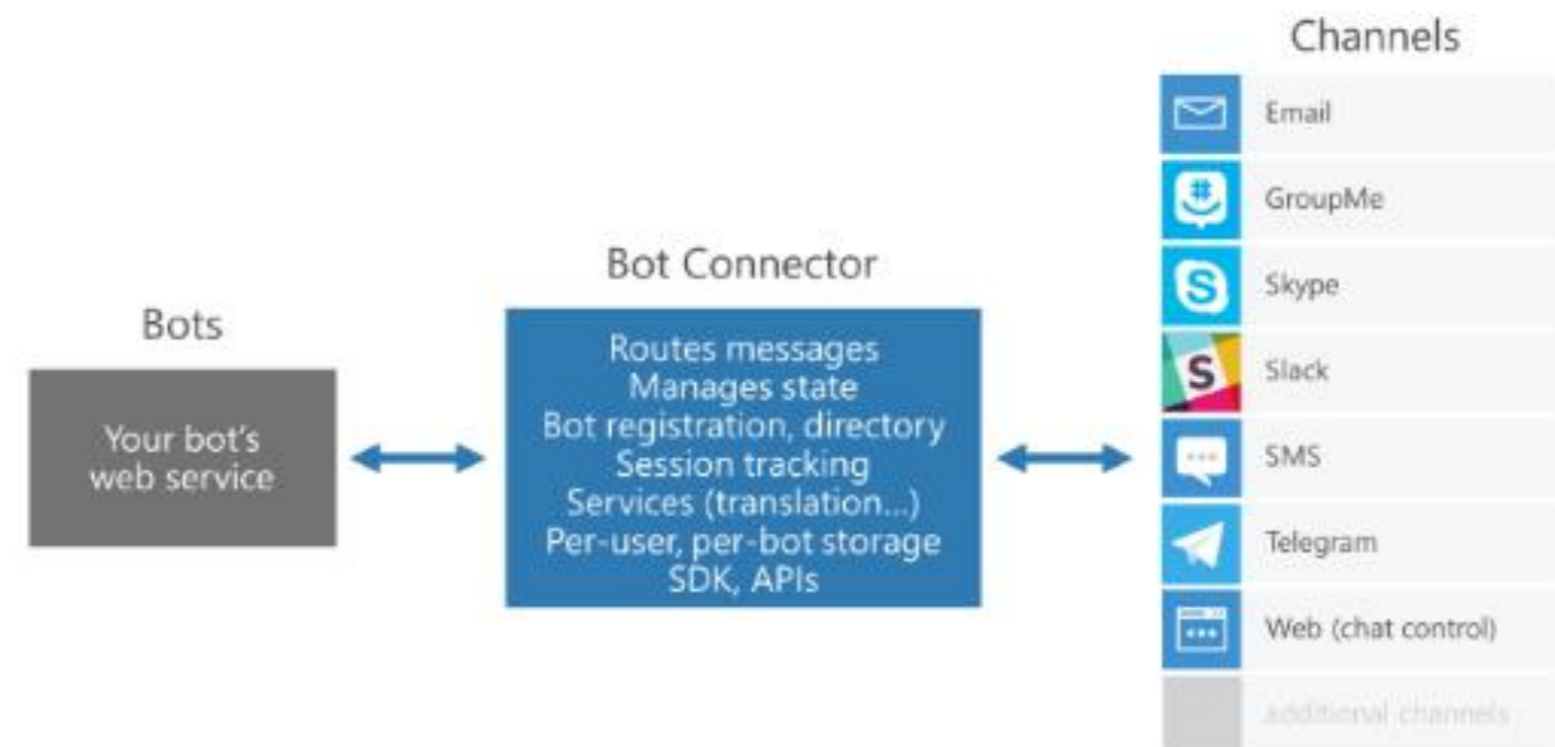
Ingredients

Application Layers

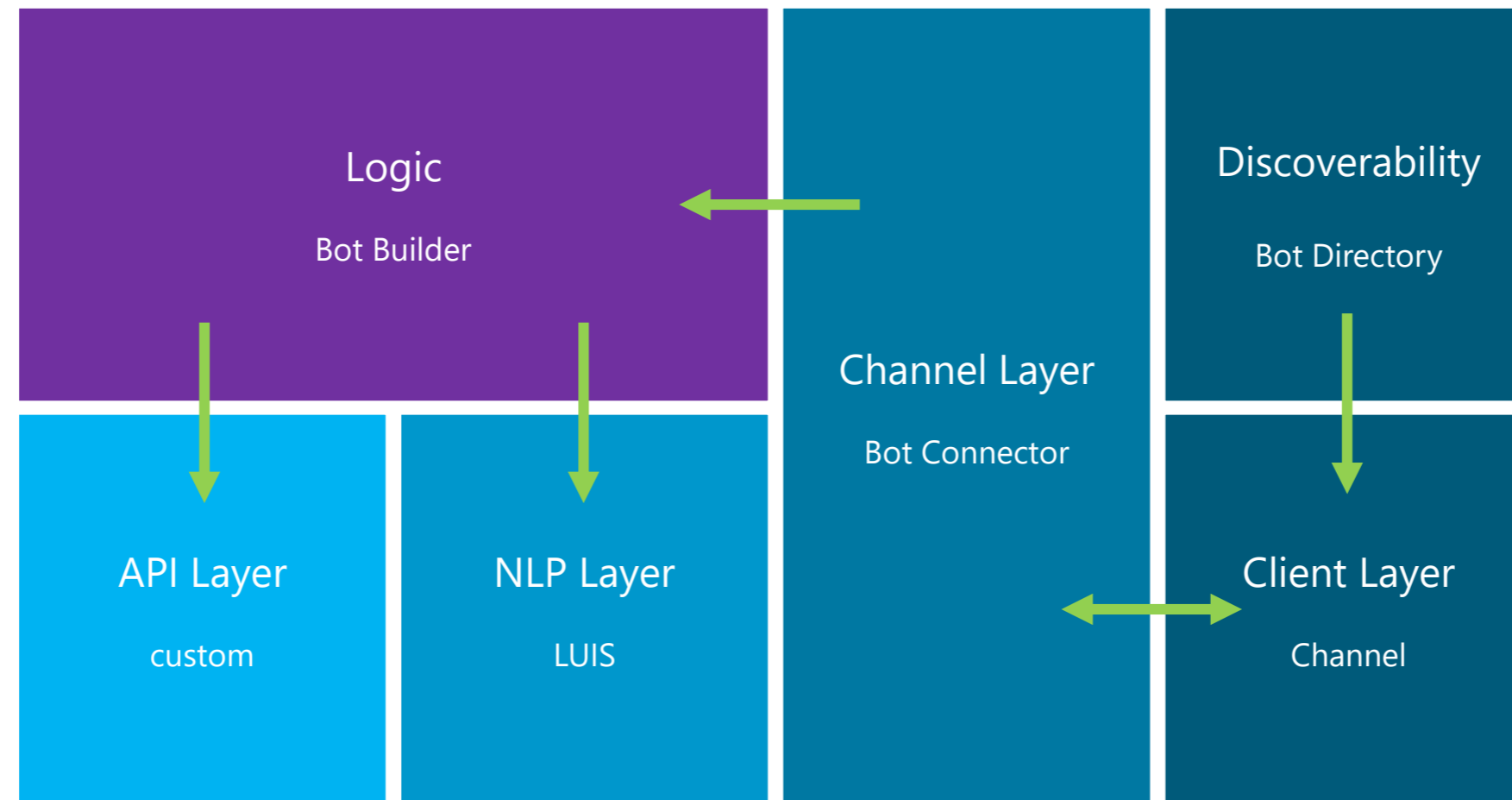


The Microsoft Bot Framework

- ▶ A framework and service consisting of three parts
 - ▶ Bot builder to build bots (producers)
 - ▶ Bot connector to connect bots (distributors)
 - ▶ Bot directory to discover bots (consumers)



The Microsoft Bot Framework

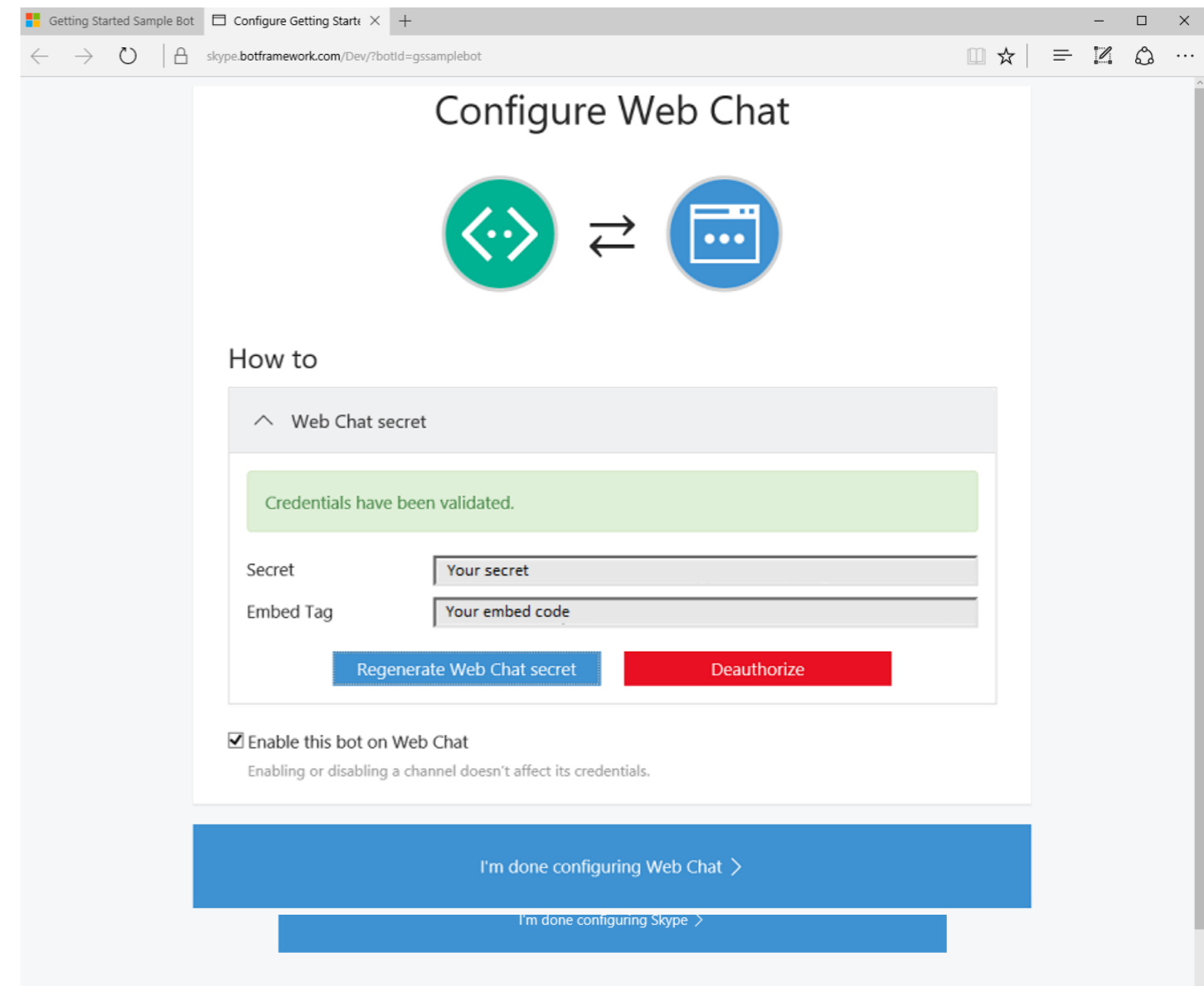


The Microsoft Bot Framework

- ▶ Persistence is added via the connector
- ▶ Simple key-value pairs
- ▶ Allows to retrieve context information per user and/or conversation
- ▶ Storing meaningful information for the conversation is key

The Microsoft Bot Framework

- ▶ Stateless communication with the connector
- ▶ Theoretically limitless scalability
- ▶ A single bot can be sustained by multiple instances
- ▶ Very simple to connect (existing or new) chat services



NLP with LUIS

- ▶ Language Understanding Intelligence Service
- ▶ Part of project Oxford (now Cognitive Services)
- ▶ Text recognition with entity identification
- ▶ Provide intents and entities
- ▶ Train new utterances to improve accuracy
- ▶ Publish API hosted by Microsoft



Create language understanding models.

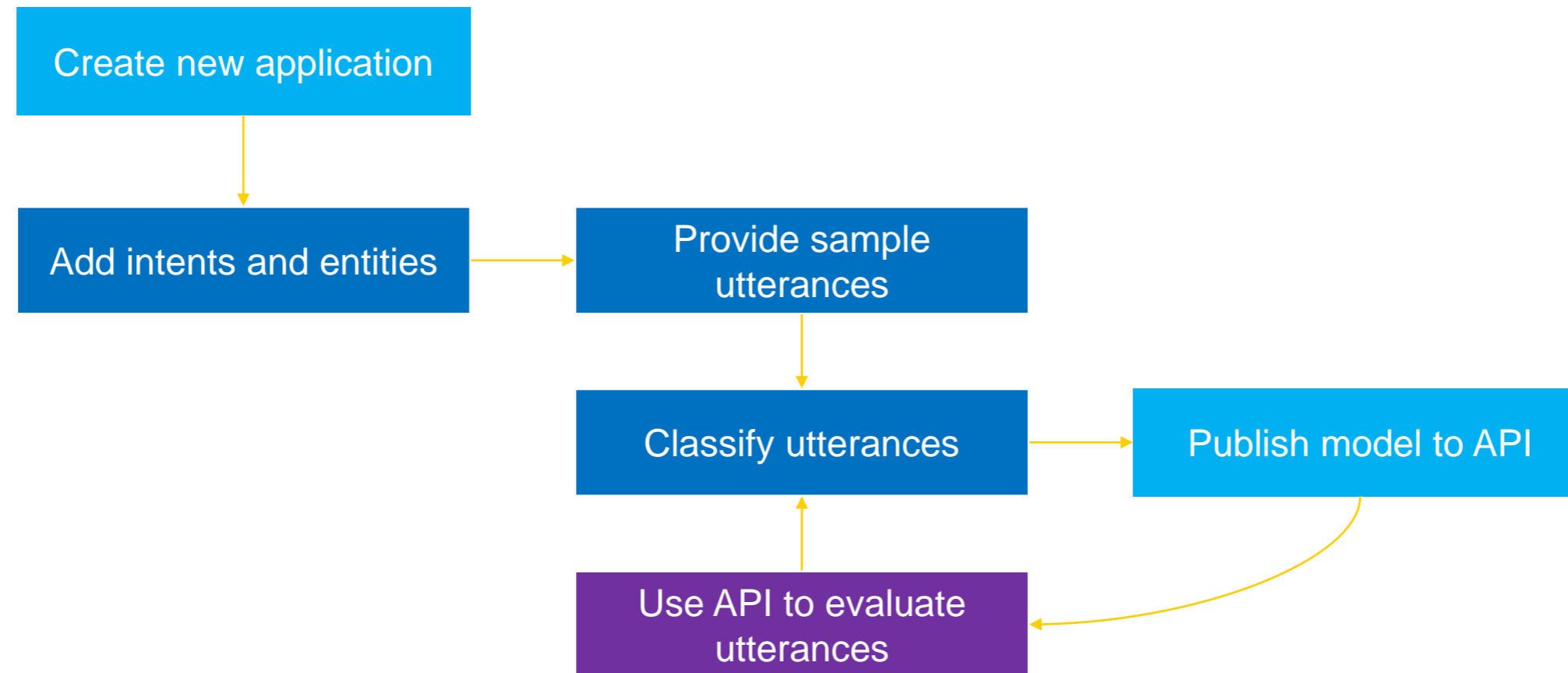


Use pre-built, world-class models from Bing and Cortana.



Deploy your models to an HTTP endpoint.

NLP with LUIS



NLP with LUIS





Microsoft | Cognitive Services | Language Understanding

Florian Rapp | Sign out

My Apps

Create and manage your LUIS applications ...[Learn more](#)

New App Import App

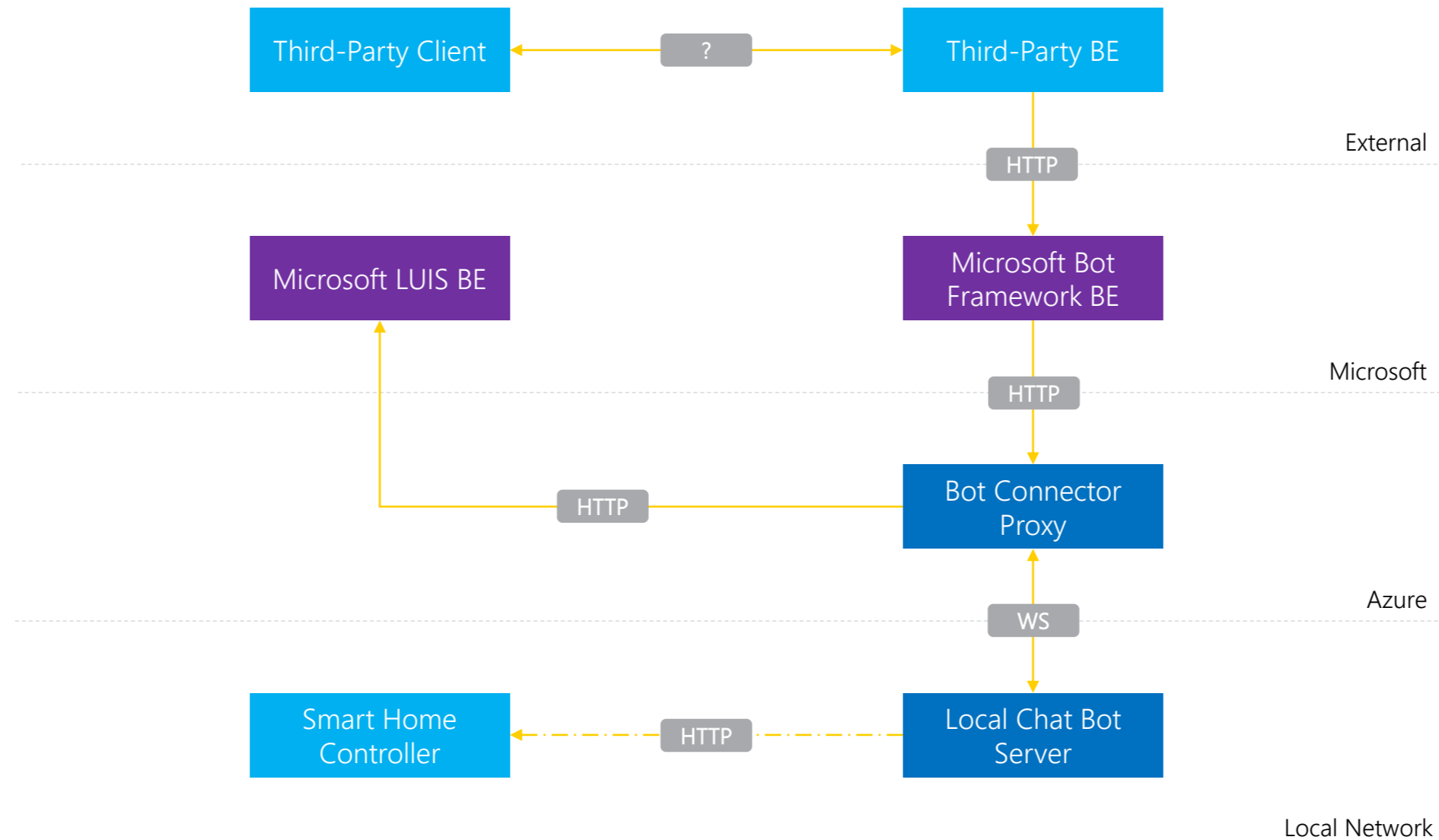
Name ↓	Culture	Endpoint hits	Controls
SmartHome Bot (en)	en-us	594	   

Demos

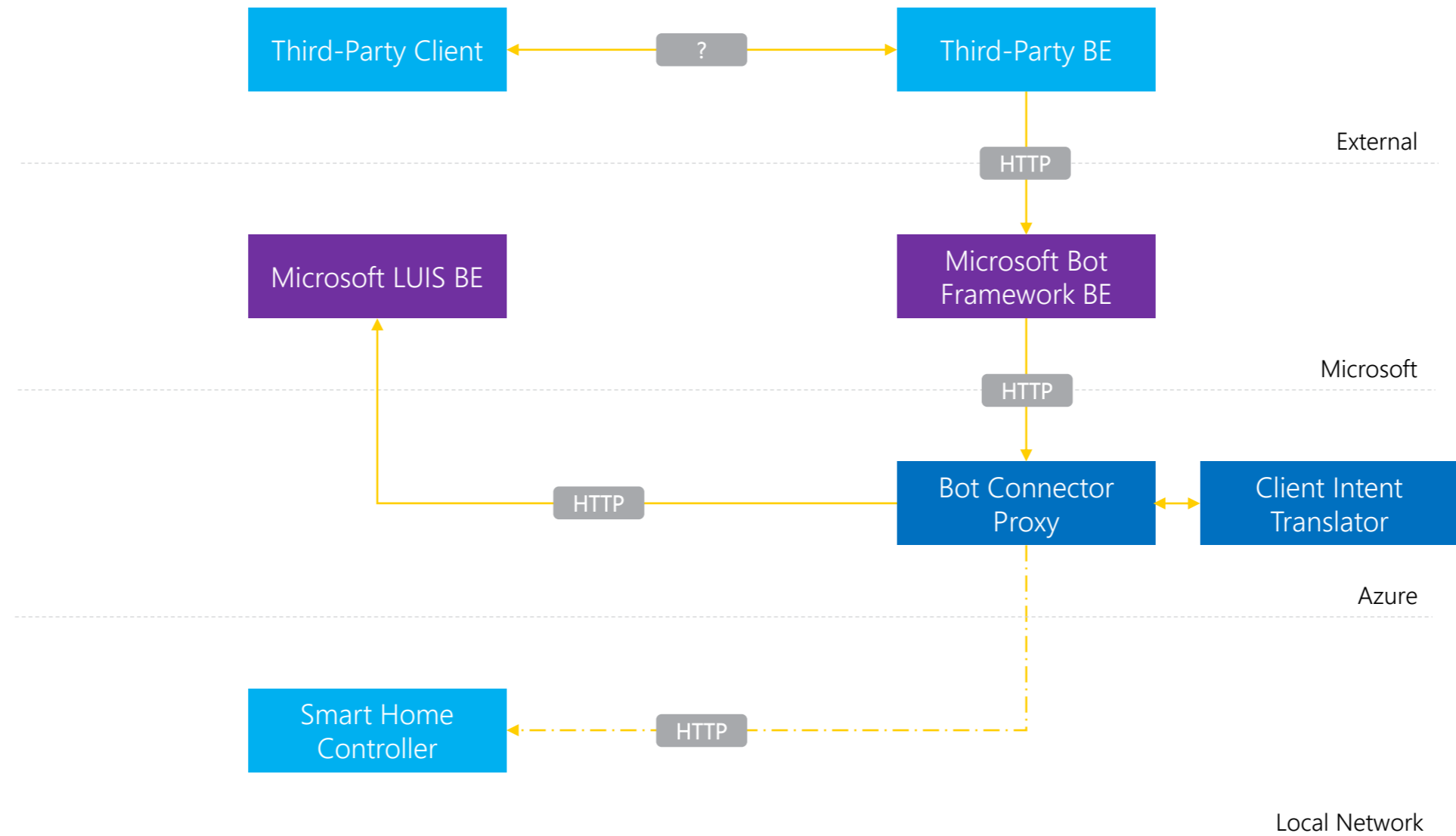
Example: SmartHome



Example: SmartHome



Example: SmartHome



Questions?

Links

- ▶ SDK and Tools

- ▶ <https://docs.microsoft.com/en-us/bot-framework/resources-tools-downloads>

- ▶ LUIS

- ▶ <https://www.luis.ai/home>

- ▶ Bot Framework Channel Emulator

- ▶ <https://github.com/Microsoft/BotFramework-Emulator/releases/tag/v3.5.31>

- ▶ Microsoft Bot Framework

- ▶ <https://dev.botframework.com>

@FlorianRappl

florian.rappl@zeiss.com

<https://florian-rappl.de>



TOPCONF
Duesseldorf

