Alexa Skill Development

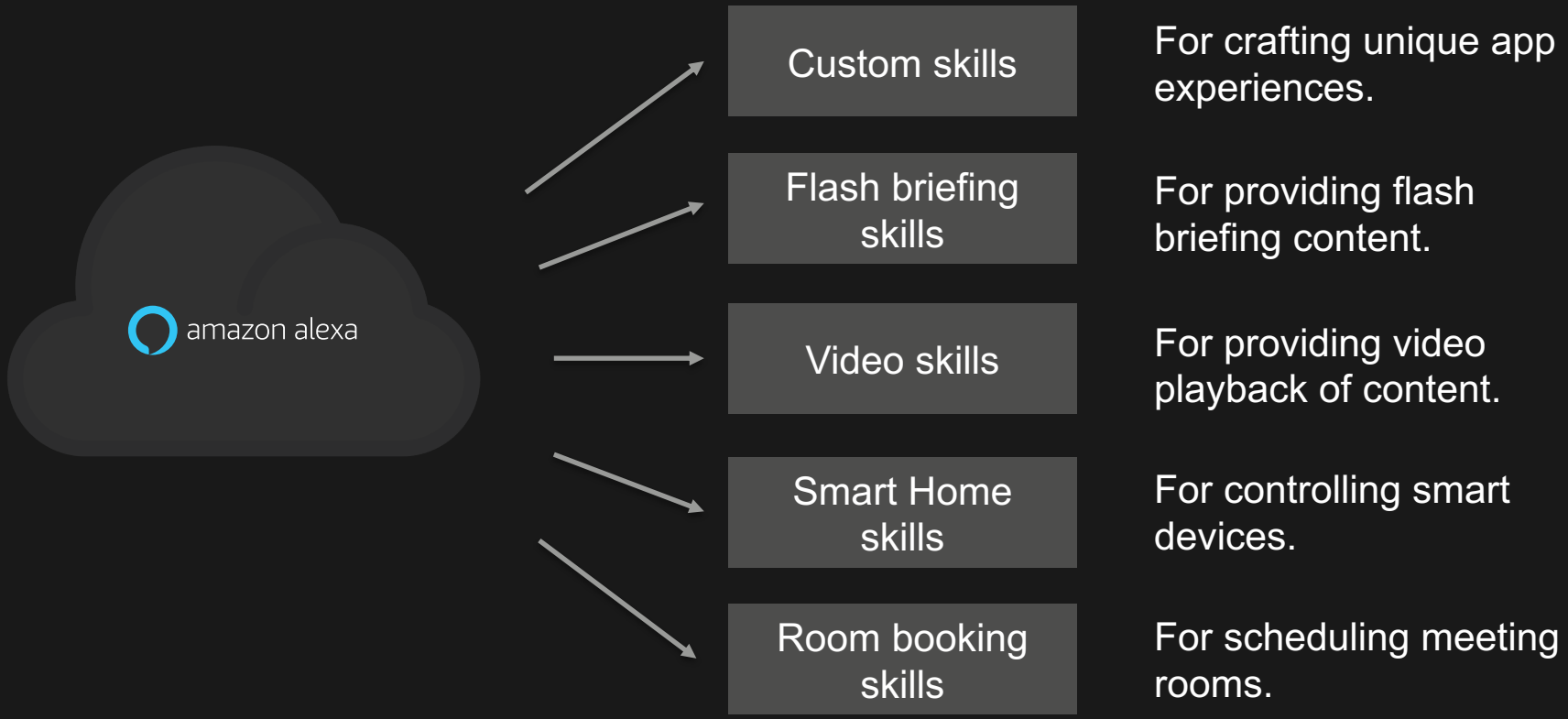
Alexa Skills Kit

The Alexa Skills Kit (ASK) lets you teach Alexa new skills.

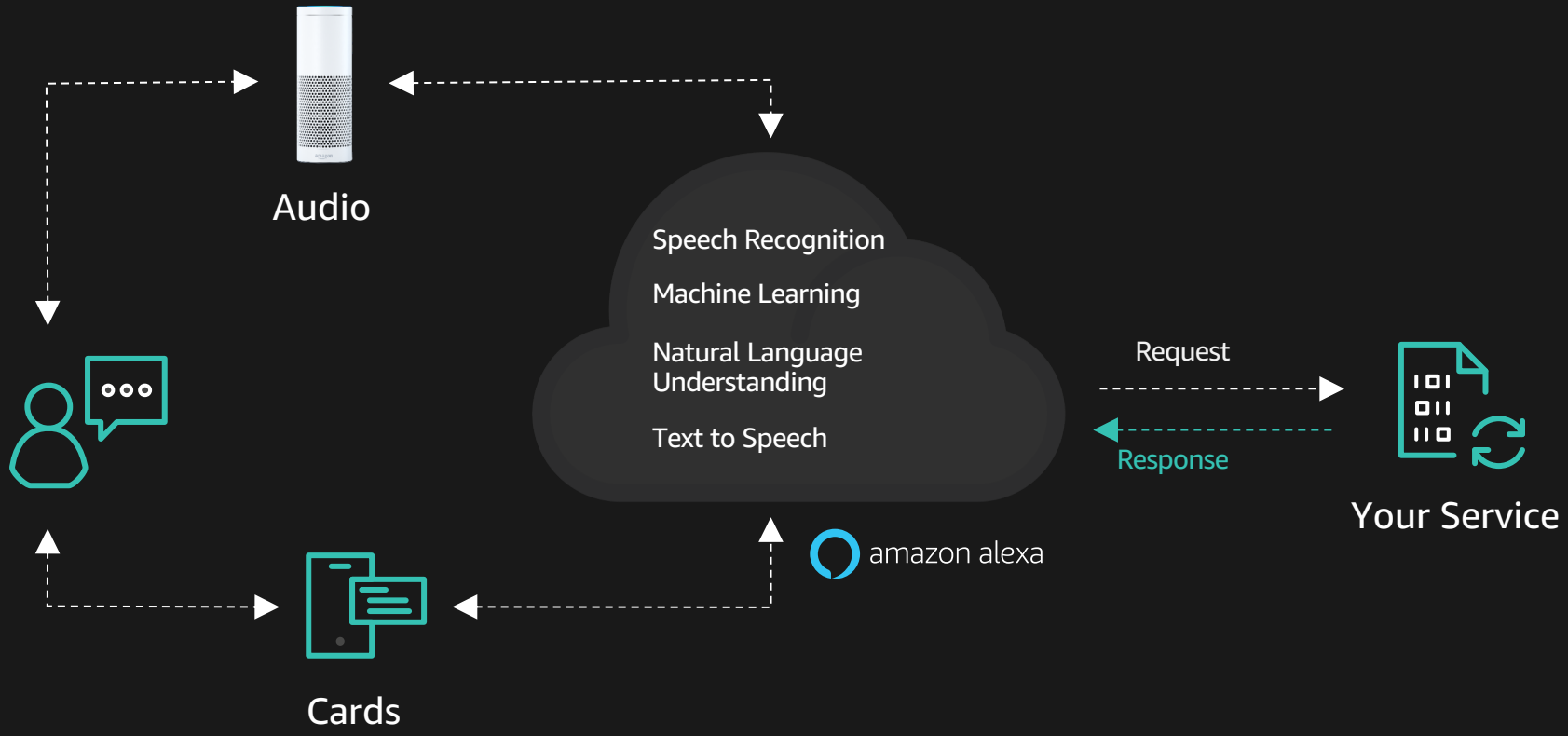
It contains documentation, tools, and sample code needed to build skills.

https://developer.amazon.com/ask

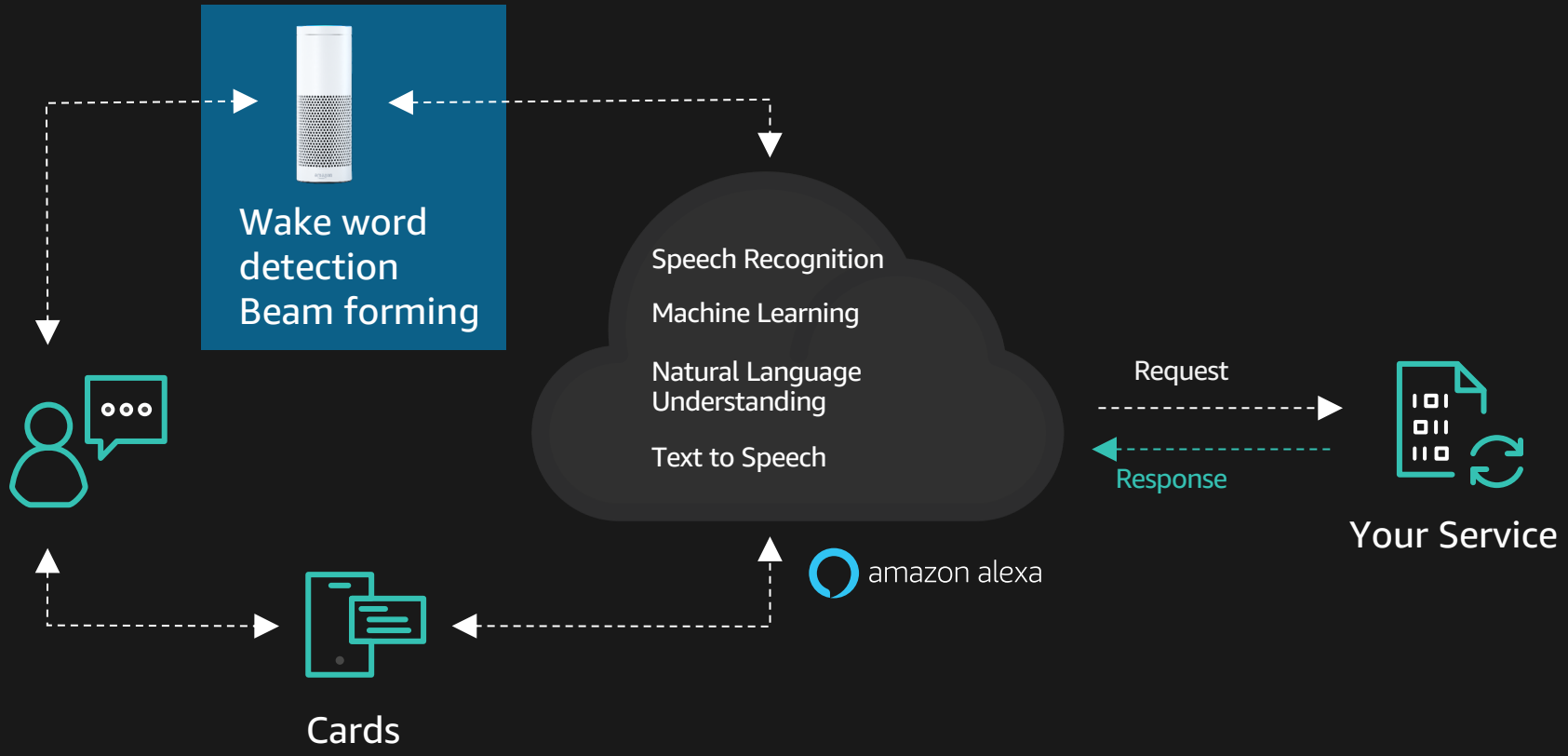
Types of Alexa skills



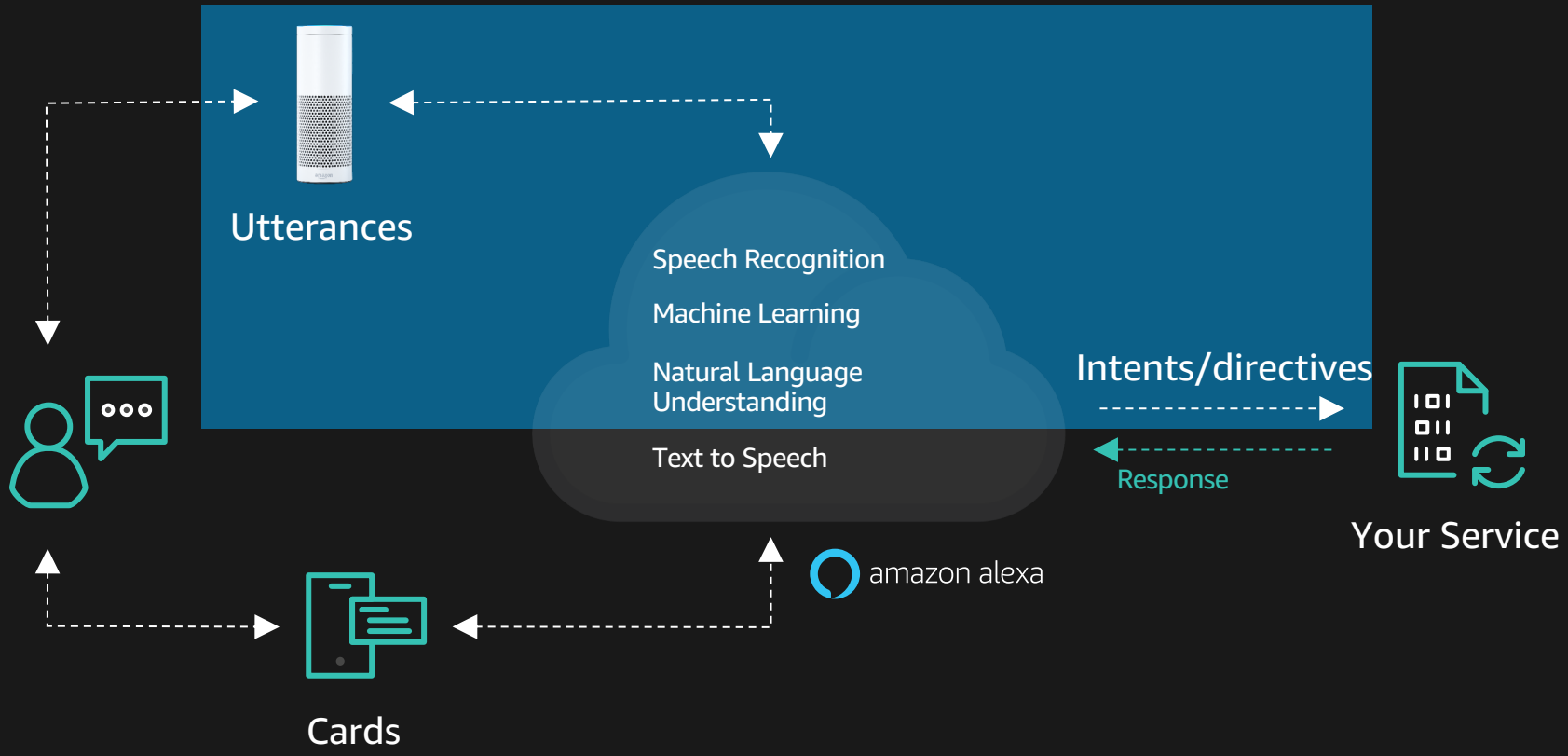
Alexa Skills Kit



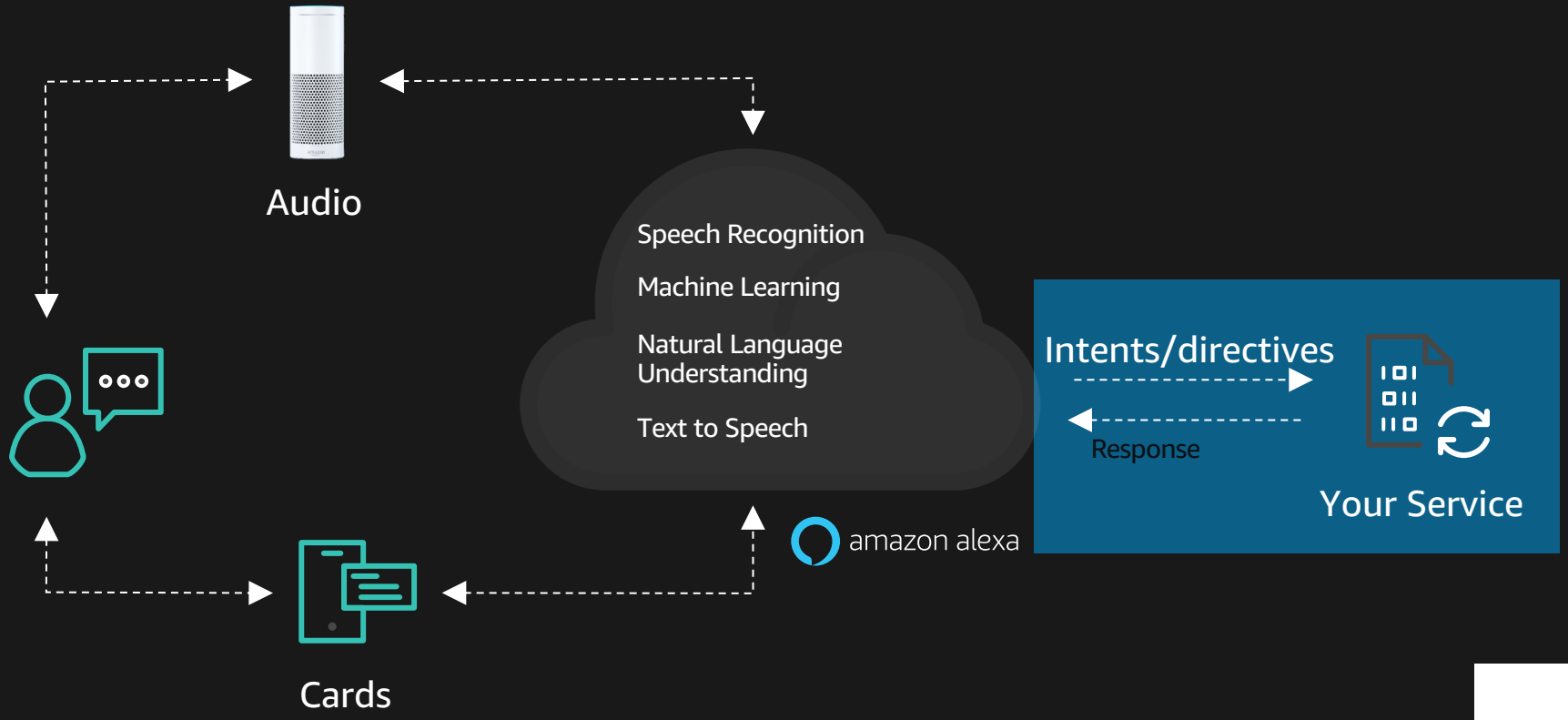
Alexa Skills Kit: Signal Processing



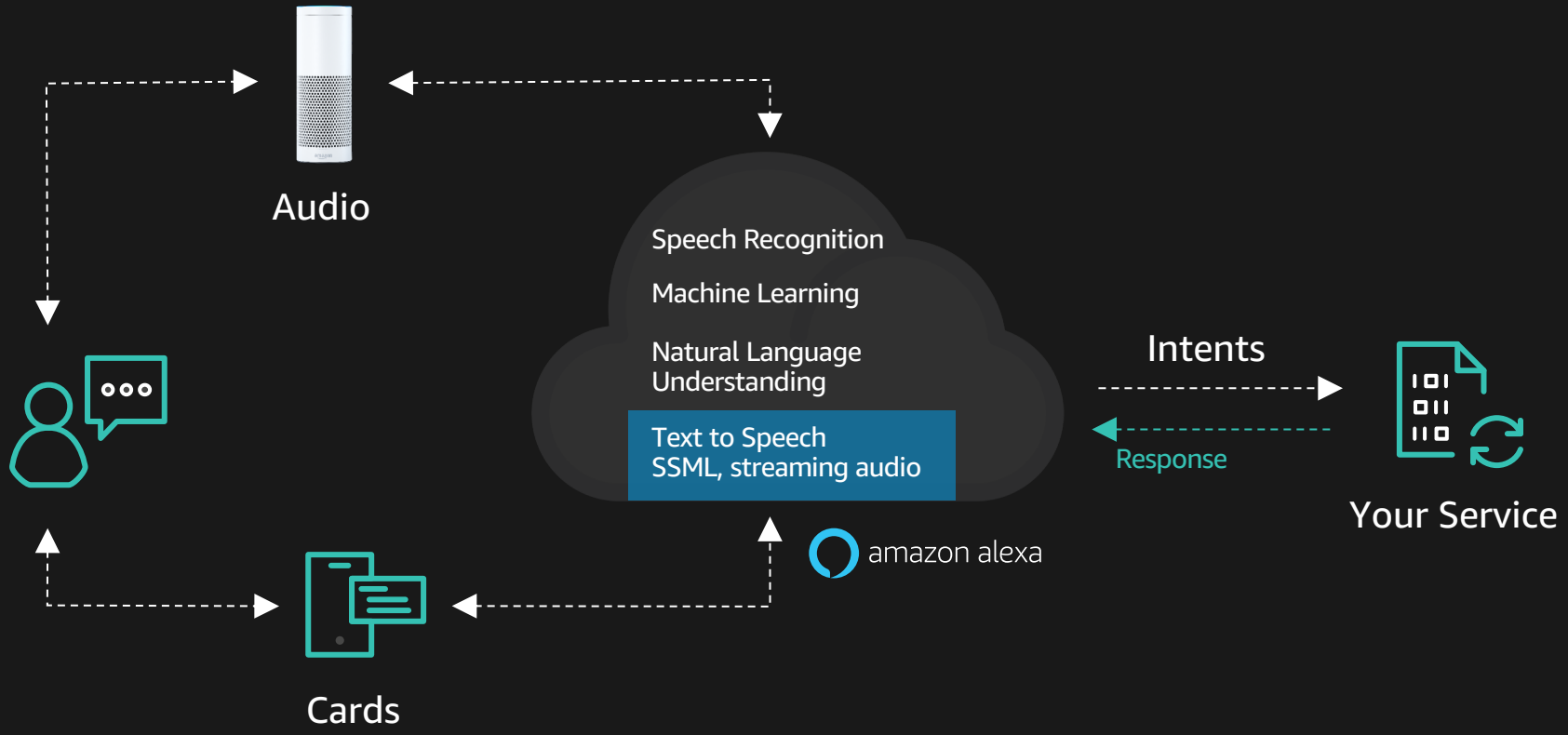
Alexa Skills Kit: Utterances Into Intents



Alexa Skills Kit: Requests and Responses



Alexa Skills Kit: Output

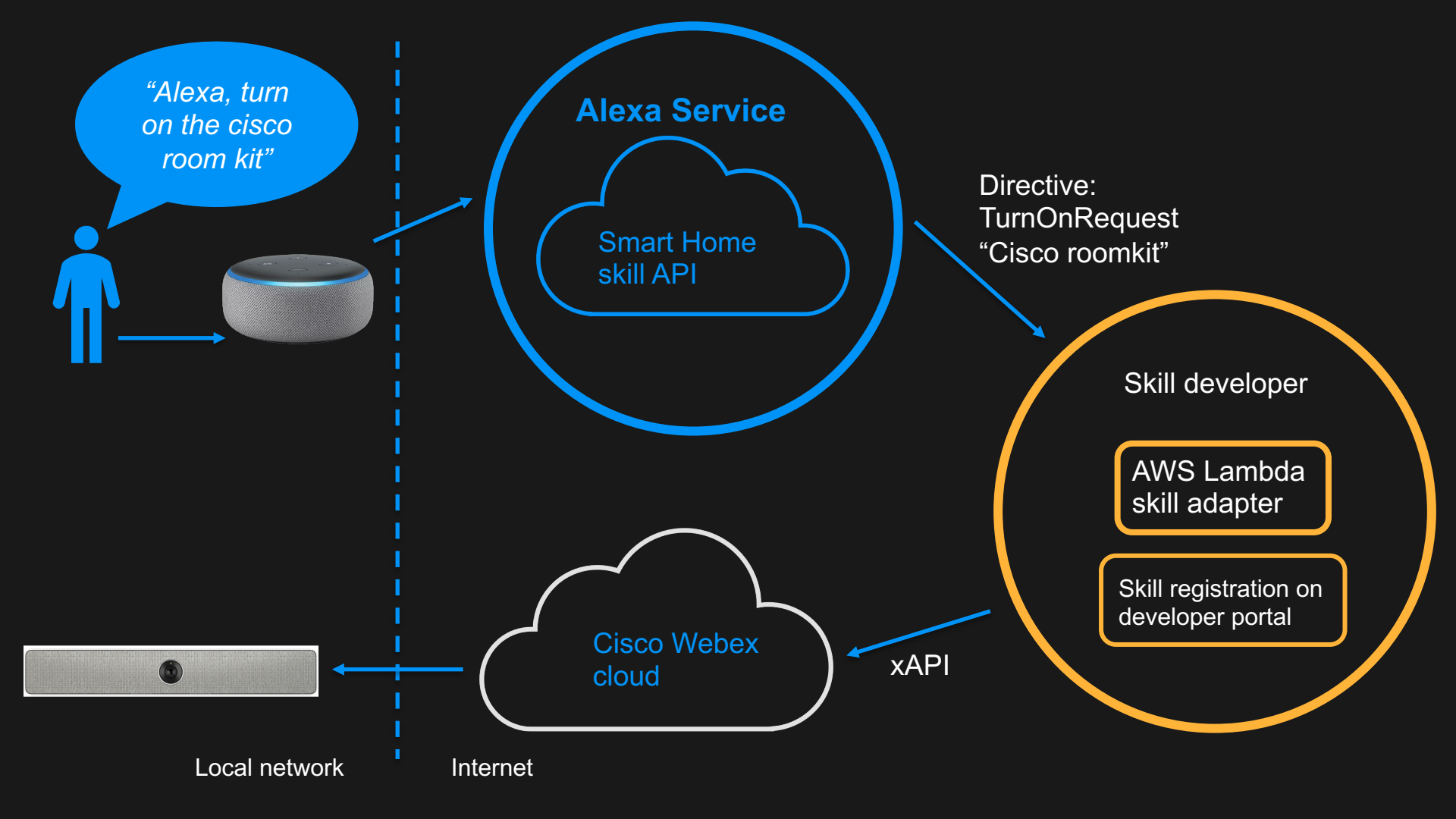


Building skills to control devices

Smart Home capability interfaces

Interface	Capability
Alexa.Discovery	Discover and describe endpoints.
Alexa.PowerController	Turning devices on and off.
Alexa.ToggleController	Toggle settings of an endpoint.
Alexa.ModeController	Control the mode settings of endpoint.
Alexa.RangeController	Control the settings of an endpoint that are represented by numbers within a minimum and maximum range.
Alexa.MeetingClientController	Join scheduled or adhoc meetings.

For a complete list of interfaces, see https://developer.amazon.com/docs/smarthome/understand-the-smart-home-skill-api.html


"Alexa, turn on the cisco room kit"
Alexa Service
Smart Home skill API
Directive:
TurnOnRequest
"Cisco roomkit"
Skill developer
AWS Lambda skill adapter
Skill registration on developer portal
xAPI
Cisco Webex cloud
Local network
Internet

Building custom skills

Defining Intents & Slots

For the most control over the user's experience, build a skill with a *custom interaction model*.

For a custom skill, *you* (as the developer) define:

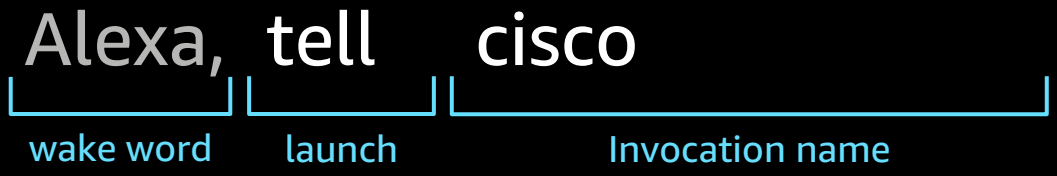
- The requests the skill can handle. These are defined as *intents*.
- The words users say to make (or invoke) those requests.
- The name Alexa uses to identify your skill, called the *invocation name*.

Speaking with Alexa

Alexa,

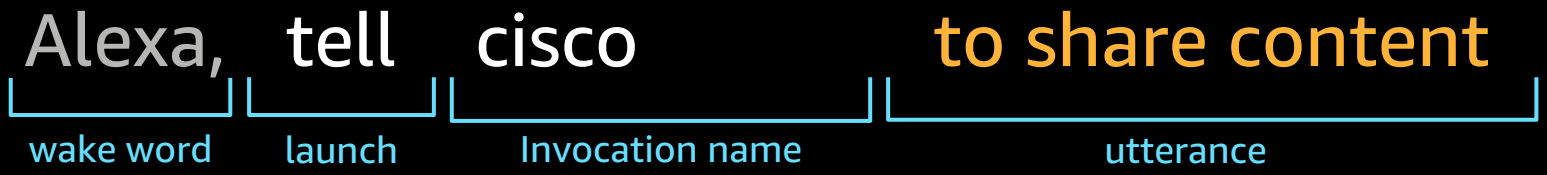
wake word

Speaking with Alexa



Start
Launch
Begin
Resume
Ask
open

Speaking with Alexa - one shot

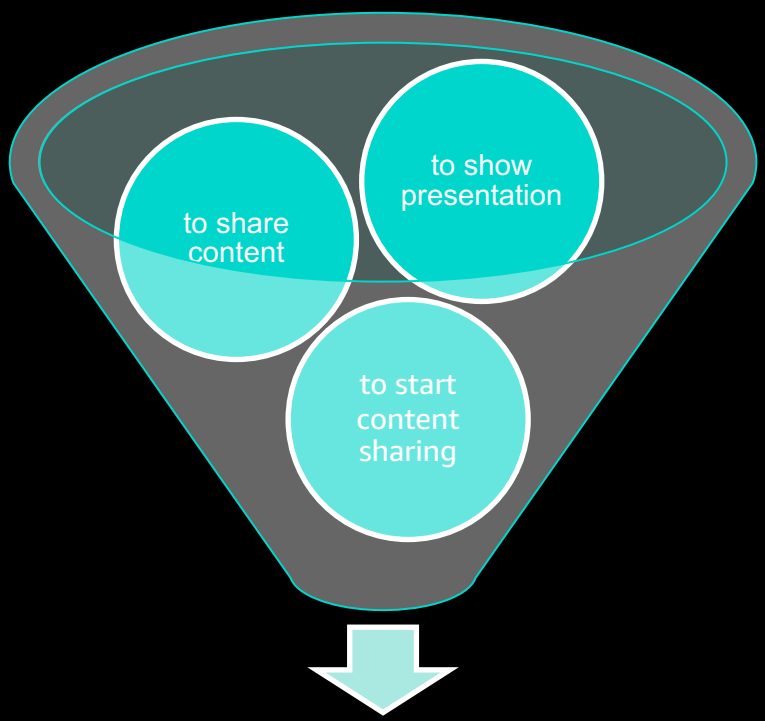


to enable screen sharing

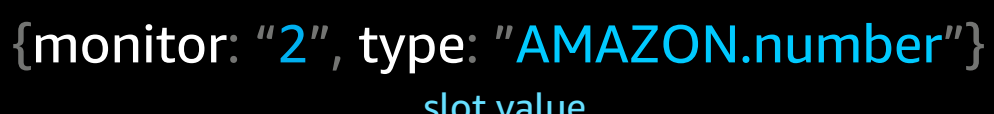
to turn on content sharing

to show presentation

Speaking with Alexa



Speaking with Alexa - slot



Getting started

Create your accounts

Alexa Skill Kit:
https://developer.amazon.com

AWS Management Console:
https://console.aws.amazon.com

Helpful resources for developers

- How Alexa skills work
  https://www.youtube.com/watch?v=hbH6gZoKcbM
- Alexa Skills Kit – developer console overview
  https://www.youtube.com/watch?v=q-mrSBrlDso
- Building Alexa skills to control devices
  https://www.youtube.com/watch?v=new31qM7Jxk

Helpful resources for developers

- Build Skills with the Alexa Skills Kit https://developer.amazon.com/docs/ask-overviews/build-skills-with-the-alexa-skills-kit.html
- Understand the Smart Home Skill API https://developer.amazon.com/docs/smarthome/understand-the-smart-home-skill-api.html
- Understand Account Linking https://developer.amazon.com/docs/account-linking/understand-account-linking.html

Helpful resources for developers – example code

You will find many skill examples on github.com/alexa

- Example skill to control devices
  https://github.com/alexa/skill-sample-nodejs-smarthome-switch
  https://github.com/alexa/skill-sample-python-smarthome-switch
- Example skill to control Cisco endpoint using xAPI
  //todo