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Presented by:

The LF AI & Data Foundation  
Open Voice Interoperability Initiative  
*And*  
The Estonian Information System  
Authority



# Interoperability in Action:

## Using Open Voice Interoperability Specifications with the Estonia Bürokratt Government Services System

*March 14, 2024*

*1800 EET / 1700 CET / 1600 GMT/ 1200 EDT / 1100 CDT/ 0900 PDT*





**2024.3.14**

Is subject to the guidelines  
of the Linux Foundation  
Anti Trust Policy



will  
begin and end  
at its scheduled time.



Is being recorded.  
The recording will be  
published on YouTube

# Welcome!

## INTEROPERABILITY WEBINAR

- The Open Voice Interoperability Initiative is a project of the LF AI & Data Foundation, extending the Open Voice Network
- It enables independent conversational assistants
  - based on diverse platforms
  - to collaborate to solve problems for users
- We're developing standard specifications for inter-assistant communication
  - The Dialog Events specification
  - The Conversational Envelope



## Agenda

- Rainer Turner, Information System Authority of Estonia (RIA), introduction to Bürokratt, motivation for interoperability
- David Attwater, TalkMap, overview of the specifications
- Deborah Dahl, Conversational Technologies, overview of the demos
- Rainer Turner, Georg Kivi (RIA), Vassili Moskaljov (Digiviking OÜ), Demo of Open Voice specifications in Bürokratt
  - Internal access within Bürokratt
  - External access to third party application
- Diego Gosmar, XCALLY, Smart Library
- Emmett Coin, ejTalk, access to Bürokratt from the sandbox
- All: Q&A
  - Please put your questions and comments in the chat, and we'll address them in the Q&A session at the end



## Adopting OVON - Bürokratt use case

Rainer Turner  
Bürokratt Architect  
Information System Authority of Estonia



# Open Voice Specifications

David Attwater  
TalkMap



Standard way to represent  
an utterance.



## Interoperable Dialog Event Object Specification Version 1.0.1

The Open Voice Network  
Open Voice Interoperability Initiative - LF AI & Data Foundation  
Architecture Work Group

20 February 2024  
Draft Version 1.0.1

*Editor-in-Chief: David Attwater*  
*Contributors: Emmett Coin, Deborah Dahl, Jim Larson*

Standard Interface for a  
Dialog Agent



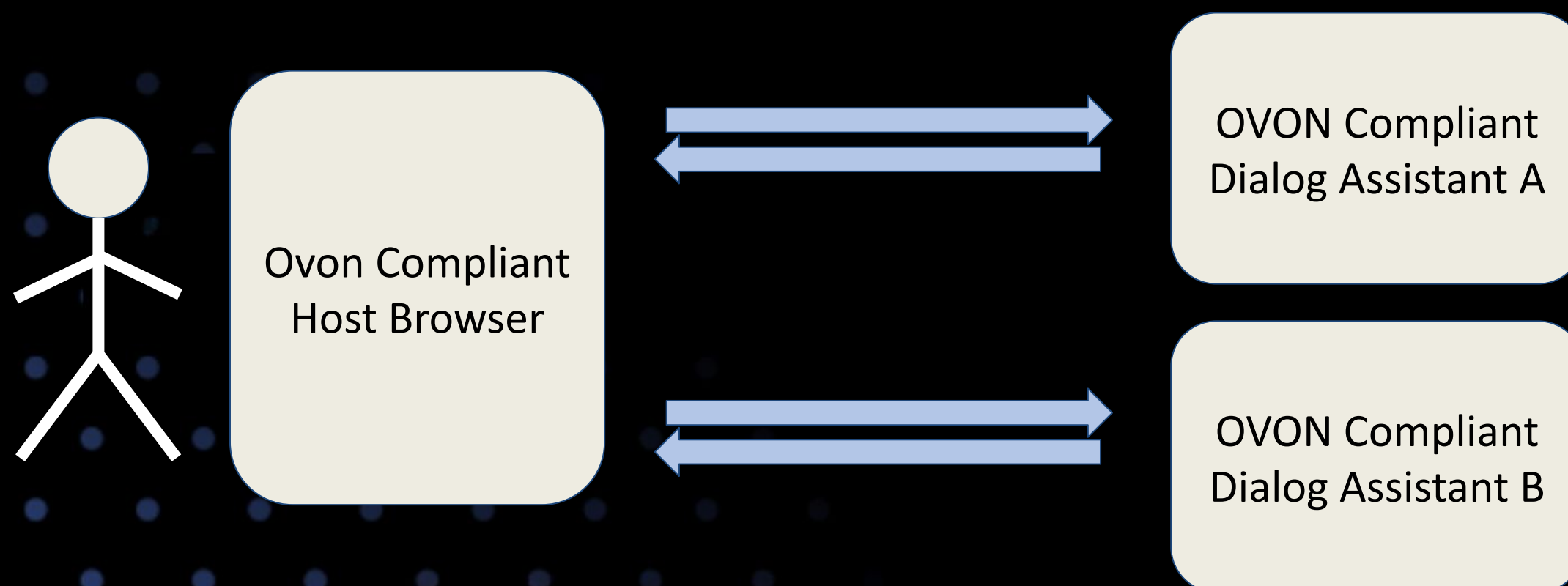
## Interoperable Conversation Envelope Specification Version 0.9.0

The Open Voice Network  
Open Voice Interoperability Initiative - LF AI & Data Foundation  
Architecture Work Group

16 January 2024  
Draft Version 0.9.0

*Editor-in-Chief: David Attwater*  
*Contributors: Emmett Coin, Deborah Dahl, Jim Larson, Allan Wylie, Rainer Tärner and Diego Gosmar*

## Conversation Envelope

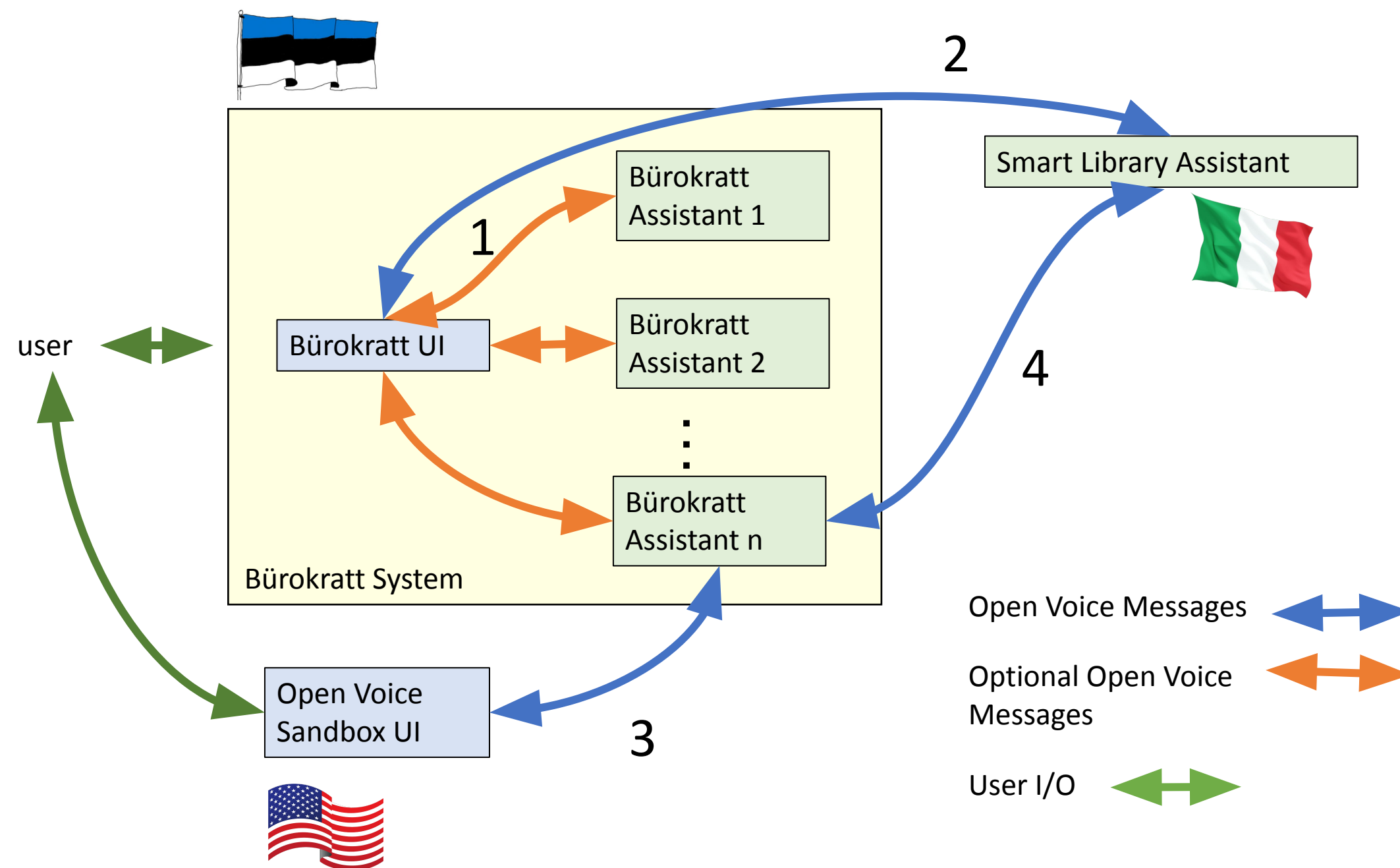


```
conversation { .. }
events [
  { utterance .. }
  { invite .. }
  { whisper .. }
  { bye .. }
]
```



# Overview of the demos

Deborah Dahl  
Conversational Technologies



## Today's demos

1. Internal use within Bürokratt
2. Connection from Bürokratt to external assistant
3. Connection from external assistant to Bürokratt
4. Connection from one external assistant to another external assistant through Bürokratt



## Showcase of OVON Protocol, Adopted by Bürokratt

Rainer Türner  
Bürokratt Architect  
Information System Authority of Estonia

Vassili Moskaljov  
Senior Developer  
Digiviking LLC

Georg Kivi  
DevOps  
Information System Authority of Estonia

# Smart Library Integration

Diego Gosmar, XCALLY



# Bürokratt 3<sup>rd</sup> party Smart Library Service Integration



# SMART Library Agents



Smart Library  
conversational  
assistant

*OVON POST Request  
Utterance + Whisper,*

*OVON POST Response  
BOOK information*

*OVON Messages*

**utterance:** Can I have some  
info about Harry Potter and  
the philosopher's stone?

**whisper:** In particular can I  
get some info about the  
second edition of the book?

*The second edition of the book was  
published in 1999 by Bloomsbury  
Publishing in the UK and  
Scholastic Inc. In the US. The main  
difference between the first and  
second editions is the cover design.  
The first edition featured a simple  
design with the title and author's  
name in gold letters against a black  
background. The second edition, on  
the other hand,...*



Primary  
conversational  
assistant  
(Bürokratt 1<sup>st</sup>  
level agent)



# Example OVON REQUEST UTTERANCE & WHISPER

To be sent as part of the body of  
an HTTPS POST request to the  
endpoint:  
<https://ovon.xcally.com/smartlibrary>

Replace values with your desired  
questions about books:

**utterance:** main request

**whisper:** additional infos you'd  
like to send/request

```
"ovon": {  
  "schema": {  
    "version": "0.9.0",  
    ...  
  }  
  "eventType": "invite",  
  "parameters": {  
    "to": {  
      "url": "https://ovon.xcally.com"  
    }  
  }  
  ...  
  "eventType": "utterance",  
  "parameters": {  
    ...  
    "mimeType": "text/plain",  
    "tokens": [ { "value": "Do you know about any books  
written by Lydia Koidula?" } ]  
  }  
  ...  
  "eventType": "whisper",  
  "parameters": {  
    ...  
    "features": {  
      "text": {  
        "mimeType": "text/plain",  
        "tokens": [ { "value": "Lydia Koidula, the pen name for  
Lydia Emilie Florentine Jannsen, was one of the most important  
figures in Estonian literature, particularly known for..." } ]  
      }  
    }  
  }  
}
```

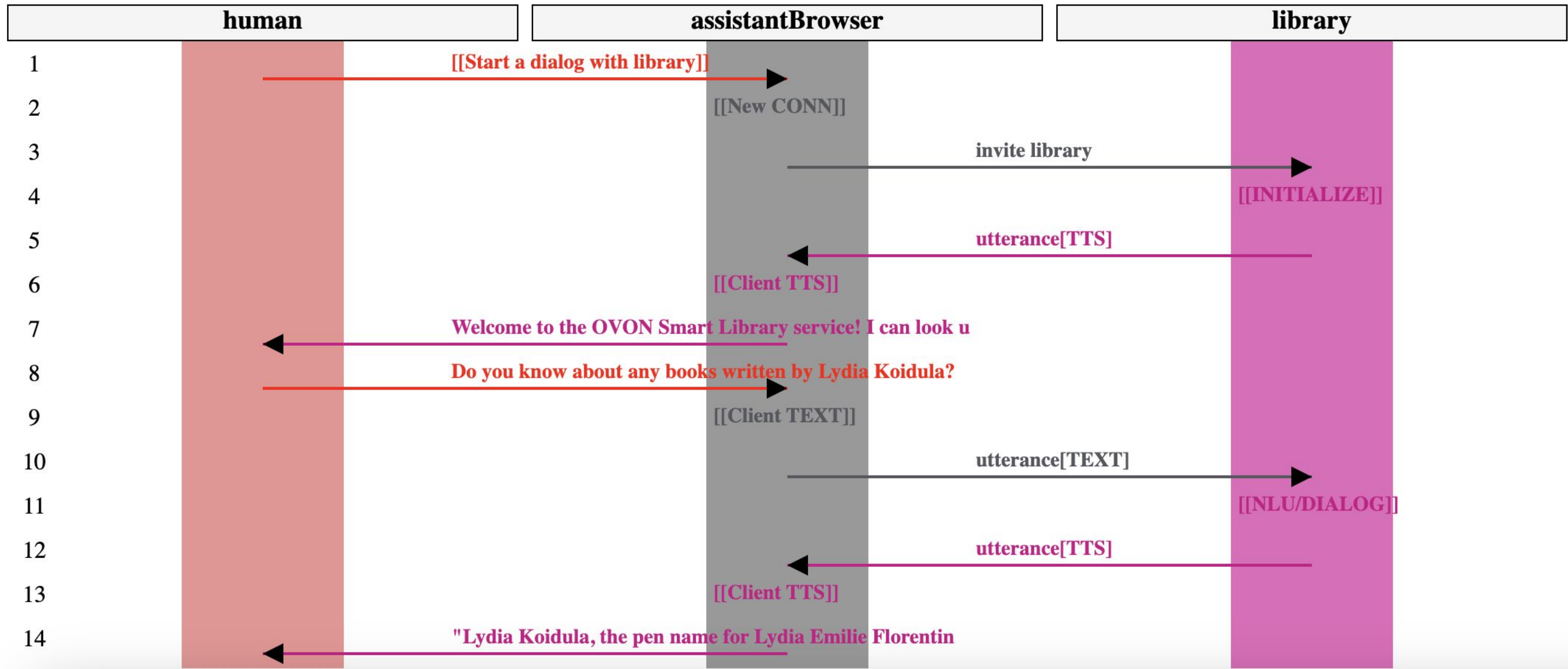
Formatted according to the:  
Conversational Envelope and Dialog Event  
specs

REFRESH

Save Diagram

Select File:

CLEAR





# Accessing Bürokratt via the sandbox with standard envelopes

Emmett Coin, ejTalk

## Accessing Bürokratt via the sandbox with standard envelopes

- Delegating to Bürokratt from an initial assistant
  - (we will look at the actual messages)
- Asking for information directly from Bürokratt
- Then asking Bürokratt for information that is provided by a third assistant
  - (Bürokratt accesses another assistant behind the scenes)
- Examine the Sequence Diagram to see what transpired



# Questions

## Resources

- Introduction to the LF AI and Data Interoperability Initiative  
<https://openvoicenetwork.org/interoperability-initiative/>
- LF AI & Data Foundation  
<https://lfaidata.foundation/>
- Interoperability Github  
<https://github.com/open-voice-interoperability>
- Specifications  
<https://github.com/open-voice-interoperability/docs/tree/main/specifications>
- Code  
<https://github.com/open-voice-interoperability/sandbox>
- Open Voice Discord
  - <https://discord.gg/QGKaUBrm>



## Previous Webinars

June 15, 2023

***Dialog Events - Negotiation and Delegation Protocols for Collaborating Conversational Assistants***

<https://www.youtube.com/watch?v=UfxVqlgsWo8&pp=ygUSb3BlbiB2b2ljZSBuZXR3b3Jr>

September 20, 2023

***The Conversational Envelope: A Universal API for Conversational Assistants***

<https://www.youtube.com/watch?v=19FsUa72ojk&t=2s>

February 8, 2024

***Introducing the Open Voice Interoperability Sandbox***

<https://www.youtube.com/watch?v=NCGnhYrZKqk&t=14s>

# Next steps

- We'll respond to any questions that we didn't get to today offline in GitHub discussions
- You can direct future questions to GitHub and Discord
- Join us!
  - Try out the specifications in your own projects
  - Help us work on the specifications



**Thank  
You!**