2022-04-21 TATF Meeting Notes

Meeting Date & Time

- 21 Apr 2022
  - **NA/EU 07:00-8:00 PT / 14:00-15:00 UTC**
  - **APAC 1:00-2:00PM PT / 20:00-21:00 UTC**

Zoom Meeting Links / Recordings

- NA/EU Meeting: https://zoom.us/j/99376159509?pwd=UlNyZWFNbDBnanFPeVBablNzdXpBZz09
- APAC Meeting: https://zoom.us/j/99851532700?pwd=b0dvM0QxdXlCUHBwd21najlNSUN6UT09
  (This links will be replaced with links to the recordings of the meetings as soon as they are available)

Attendees

NA/EU

- Drummond Reed
- Darrell O'Donnell - London
- Wenjing Chu
- Scott Perry
- Kevin Dean
- Antti Kettunen
- Judith Fleenor
- Isaac Henderson
- Michael Nettles
- Vlad Zubenko
- Rodolfo Miranda
- Allan Thomson
- Troy Ronda
- Neil Thomson
- Goutam Sinha
- Vikas Malhotra

APAC

- Daniel Bachenheimer
- Wenjing Chu
- Neil Thomson
- Vlad Zubenko
- Drummond Reed
- Samuel Smith
- John Jordan

Main Goals of this Meeting

1) Review Working Draft 01 of the ToIP Technology Architecture Specification now that it is close to content-complete, 2) review Wenjing Chu's proposal for the Reference Architecture section, 3) Discuss final preparations for a session on the spec at Internet Identity Workshop #34 next week.

Agenda Items and Notes (including all relevant links)

Time	Agenda Item	Lead	Notes
5 min	• Start recording • Welcome & antitrust notice • Introduction of new members • Agenda review	Chairs	• **Antitrust Policy Notice:** *Attendees are reminded to adhere to the meeting agenda and not participate in activities prohibited under antitrust and competition laws. Only members of ToIP who have signed the necessary agreements are permitted to participate in this activity beyond an observer role.* • New Members:

5 min	Announcements	All	Updates of general interest to TATF members. • Scott Perry announced the Governance Stack WG meeting later today — 11AM PT — will be addressing layer-specific task force. • Drummond Reed on eIDAS 2.0 _____ • Isaac Henderson shared that the eSSIF-Lab TRAIN project had a successful pilot and they have some interest from the GAIN community in the trust registry and framework. GAIN (Global Assured Identity Network).
5 min	Review of previous action items	Chairs	☑ ACTION: Wenjing Chu to: a) draft the content for section 5: Reference Architecture, and b) edit/revise/shorten the content in section 7: Architectural Layering of the ToIP Stack. ☑ ACTION: Drummond Reed to a) add initial content to sections 7.4 through 7.7, and b) convert the rest of the content from the storyline slide deck into sections 9, 10, and 11.
10 mins	Overview of updates to Working Draft 01	Drummond Reed	Per the second action item above, in the ToIP Technology Architecture Specification Google doc, Drummond has completed content for section 7 and finished moving content from the storyline slide deck into sections 8, 9, 10, and 11. **Note the complete list of requirements in sections 8 thru 11.** Please review carefully.
5 mins	Merging sections 3 & 4?	Wenjing Chu	Wenjing suggested we consider merging section 3: Motivations and section 4: Canonical Uses Cases & Scope Limitations. We did not have time to discuss this in the NA/EU meeting. In the APAC meeting we had consensus on the following action: • ACTION: Drummond Reed to merge sections 3: Motivations and section 4: Canonical Uses Cases & Scope Limitations.
20 mins	Proposal for section 6 content	Wenjing Chu	Wenjing presented a proposal for the Reference Architecture section. See screenshots #1 through ___ below. **For the full narration of his slide deck from Wenjing, listen to the recording of the APAC meeting** (because Wenjing covered his entire slide deck in that meeting vs. only part of it in the NA/EU meeting).
5 mins	Final preparations for Internet Identity Workshop	Drummond Reed	We will discuss the proposed format for a session on the spec at IIW.
5 mins	• Review decisions /action items • Planning for next meeting	Chairs	NOTE: NO MEETING NEXT WEEK due to Internet Identity Workshop #34

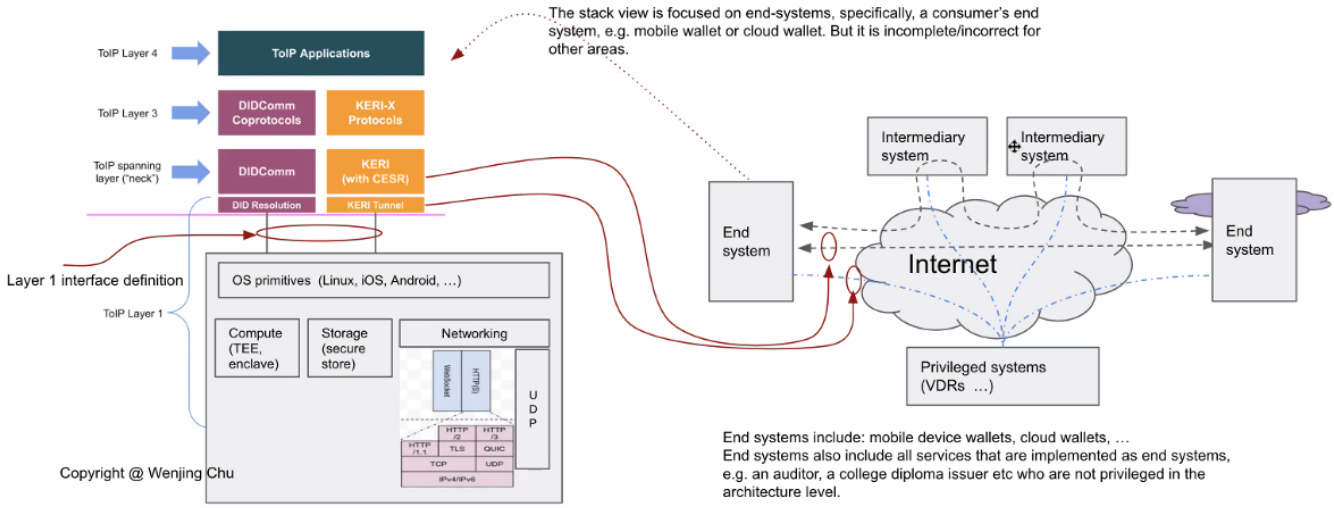
Screenshots/Diagrams (numbered for reference in notes above)

#1

Getting to a ToIP Reference Framework

The stack view we've been thinking about…

A draft reference view…



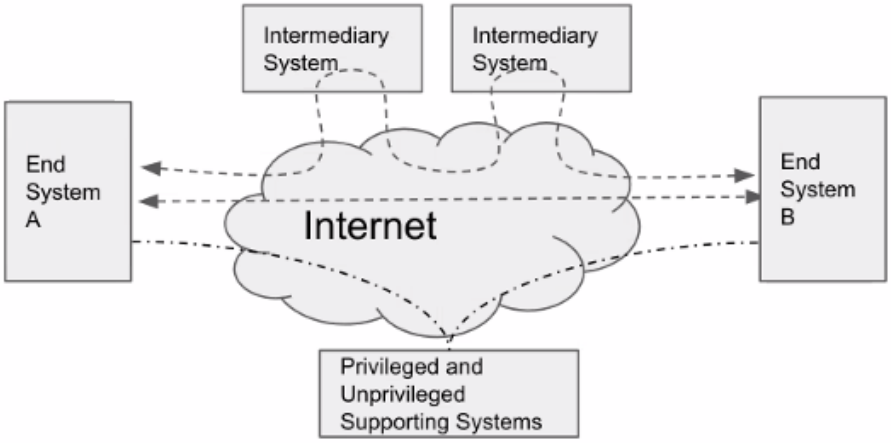
#2

A Reference Architecture of a complex system is an abstract framework consisting of a list of component subsystems and interactions with each other and with external systems.

It is a generalization of various viable solutions.

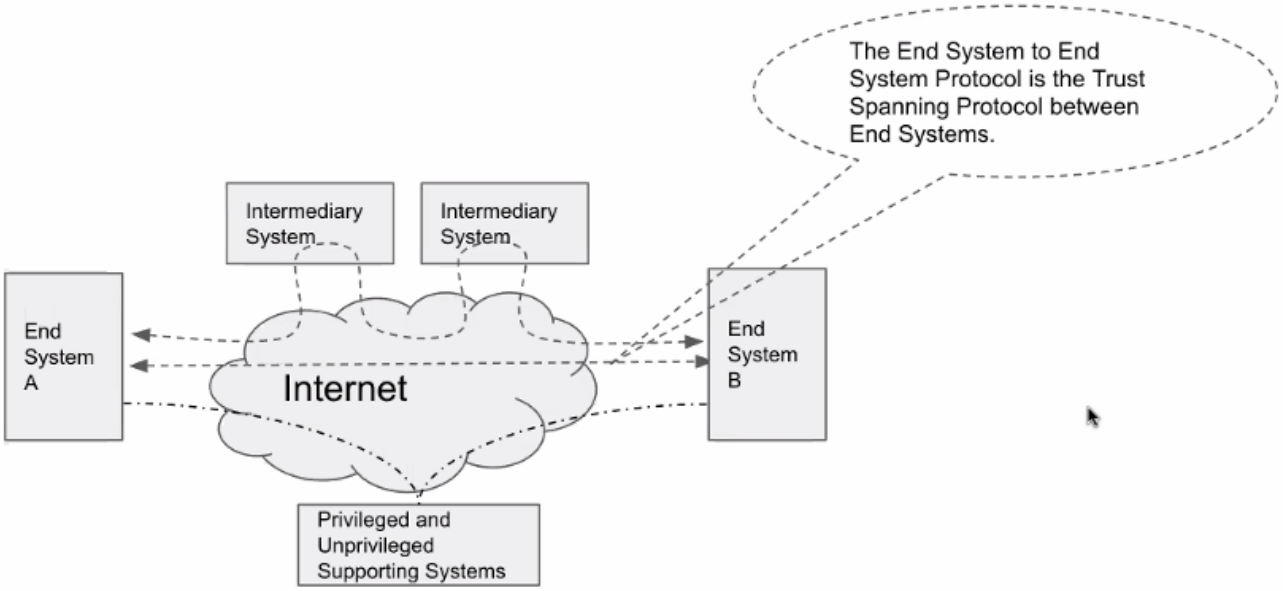
It helps crystalize the most important architecture considerations while leave some details for substantiation.

#3

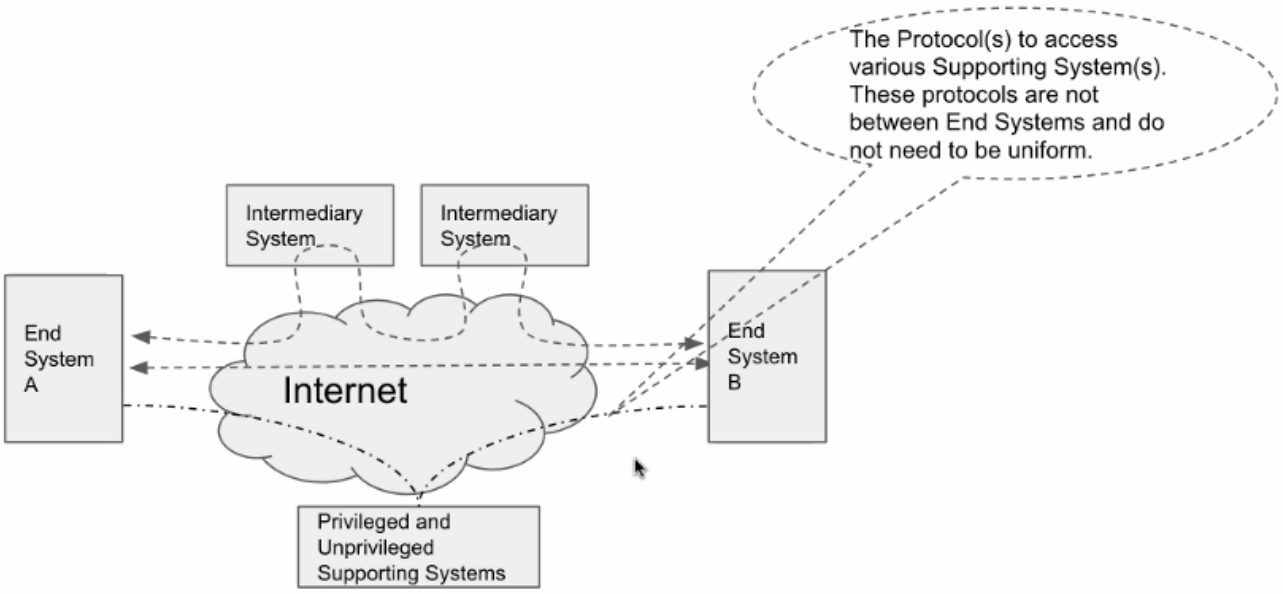


- Subsystems are delineated by locus of control
- They interact through a set of protocols, not just one.
- Each **type** of subsystems has a shared stack*, but that is not true across different types**.

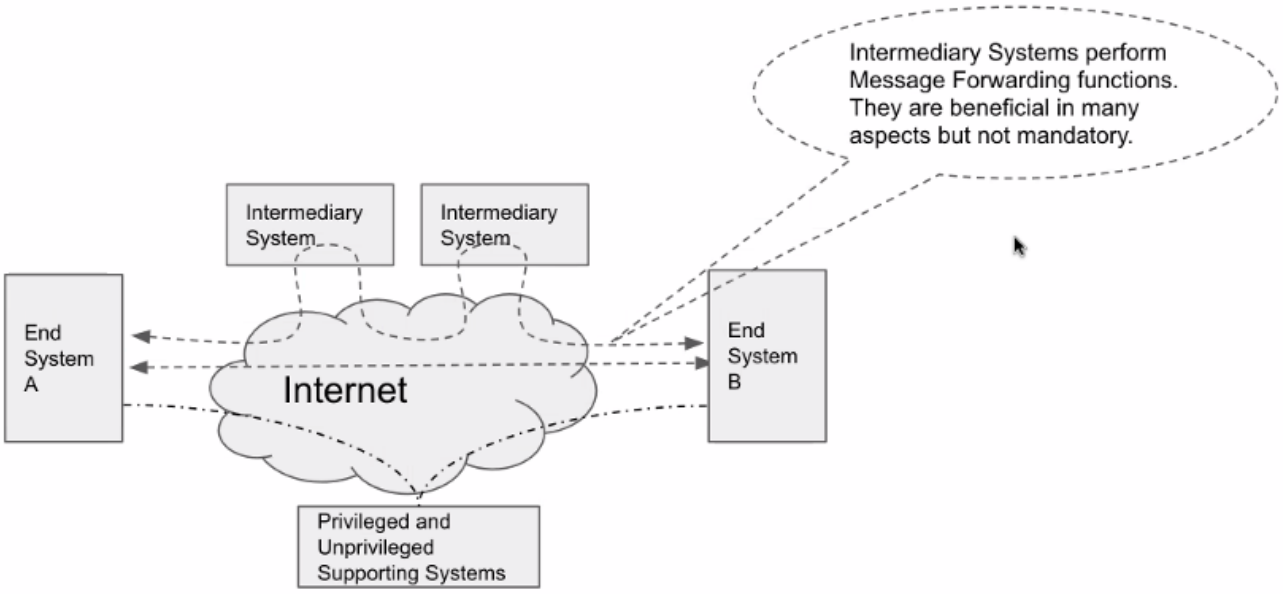
#4



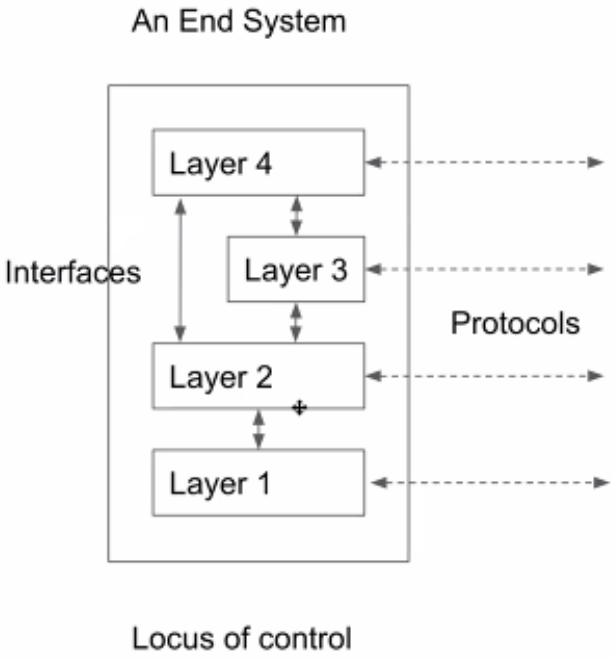
#5


The Protocol(s) to access various Supporting System(s). These protocols are not between End Systems and do not need to be uniform.
Intermediary System
Intermediary System
End System A
Internet
End System B
Privileged and Unprivileged Supporting Systems

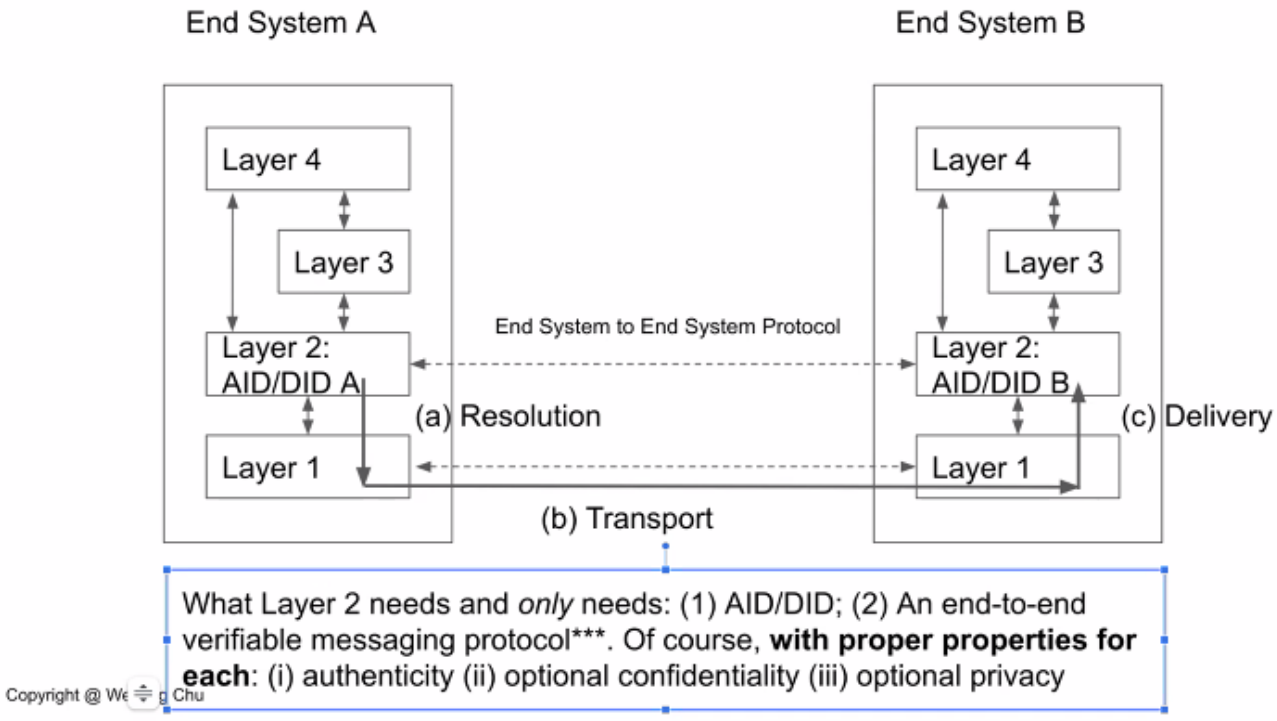
#6


Intermediary Systems perform Message Forwarding functions. They are beneficial in many aspects but not mandatory.
Intermediary System
Intermediary System
End System A
Internet
End System B
Privileged and Unprivileged Supporting Systems

#7



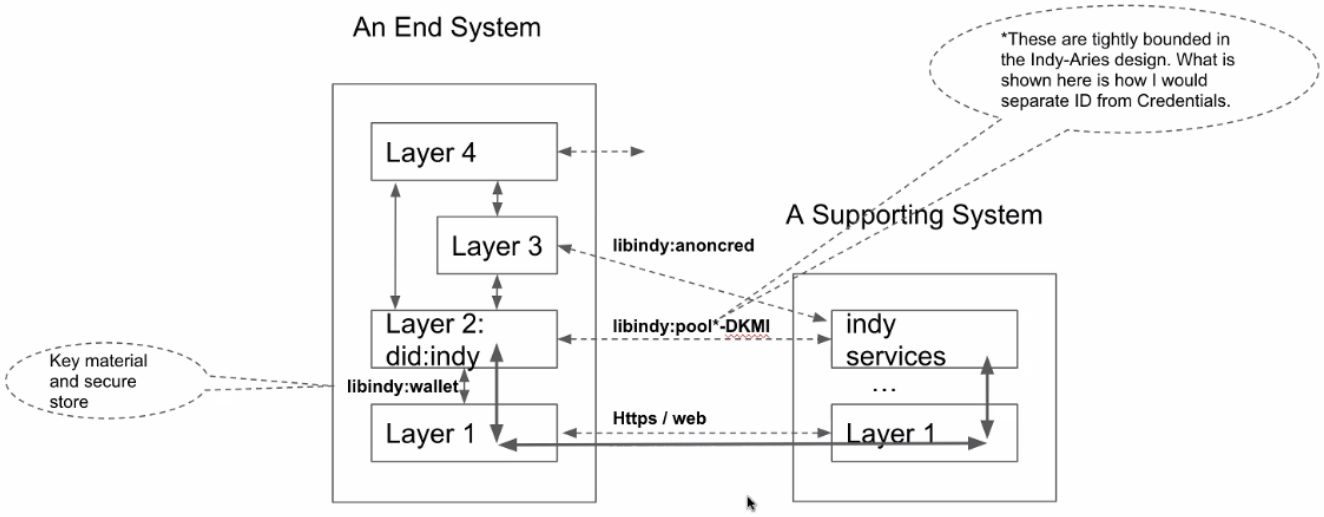
#8



Note that the dotted arrows represent different protocols but not the actual flow of messages — that is represented by the solid arrows.

The "verifiability" in slide #8 refers to secure attribution to the source. This is the core problem we are solving in a universal way.

#9

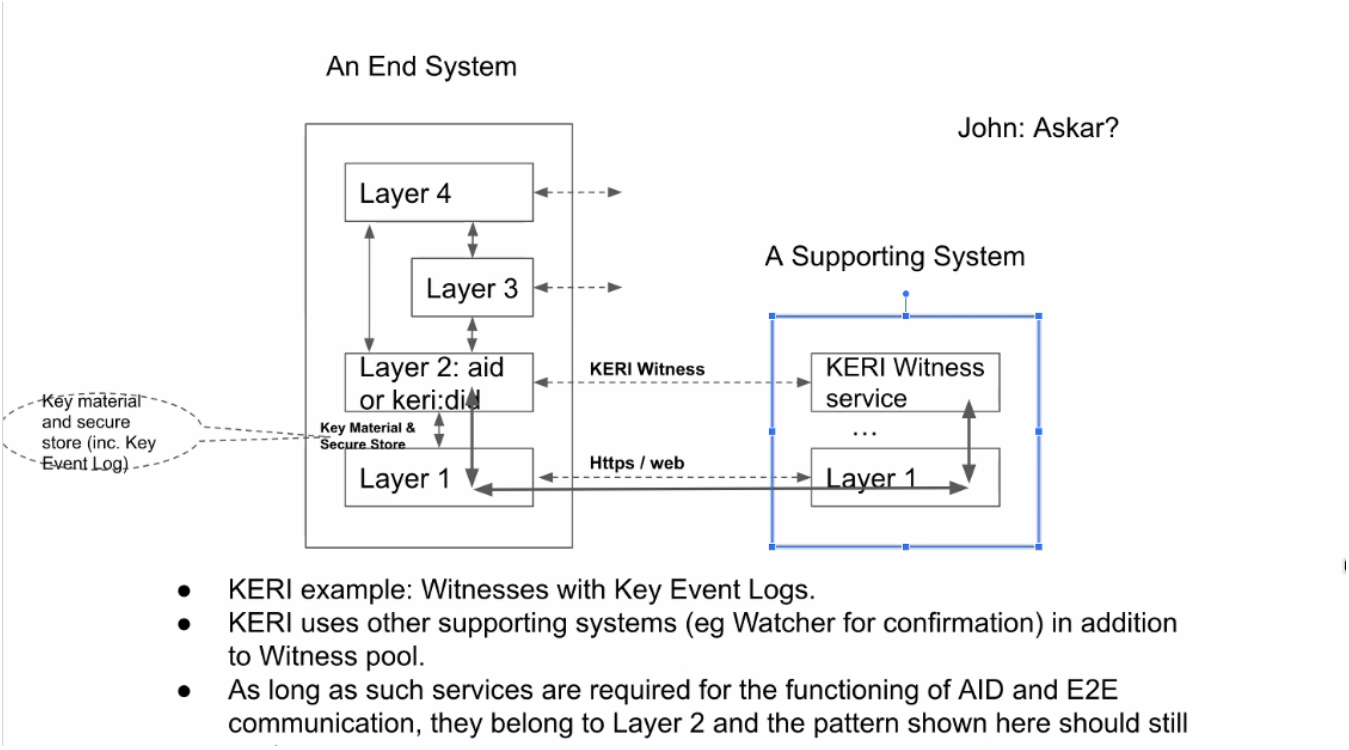


Indy-Aries example

There was discussion about the separation of the "tight binding" described in this diagram. Troy Ronda shared the observation that the tight binding shown in this diagram from Wenjing Chu does not reflect how the Aries Framework Go implementation works, because it does not make the same tight binding.

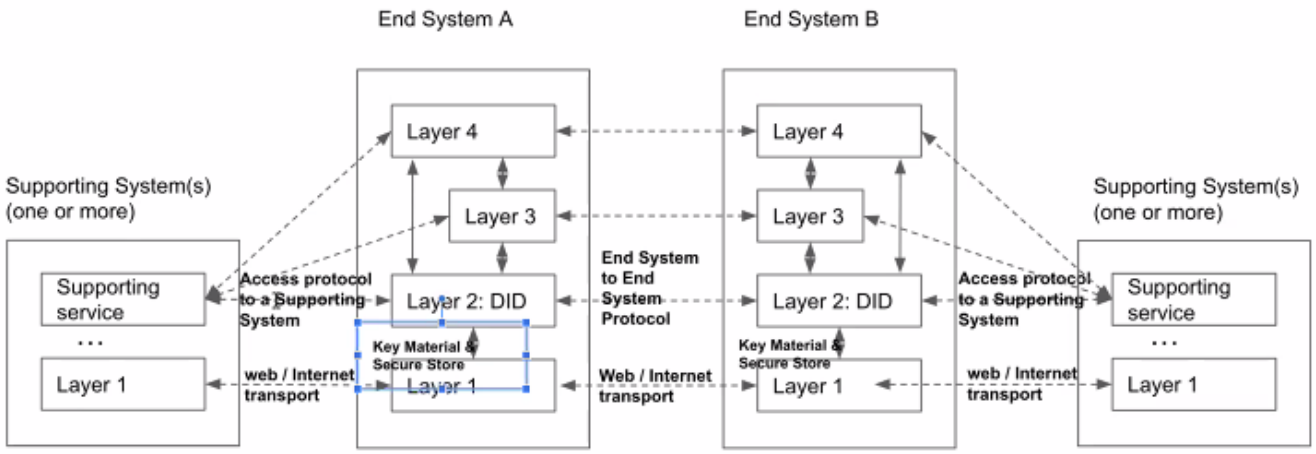
Wenjing welcomed other examples.

#10



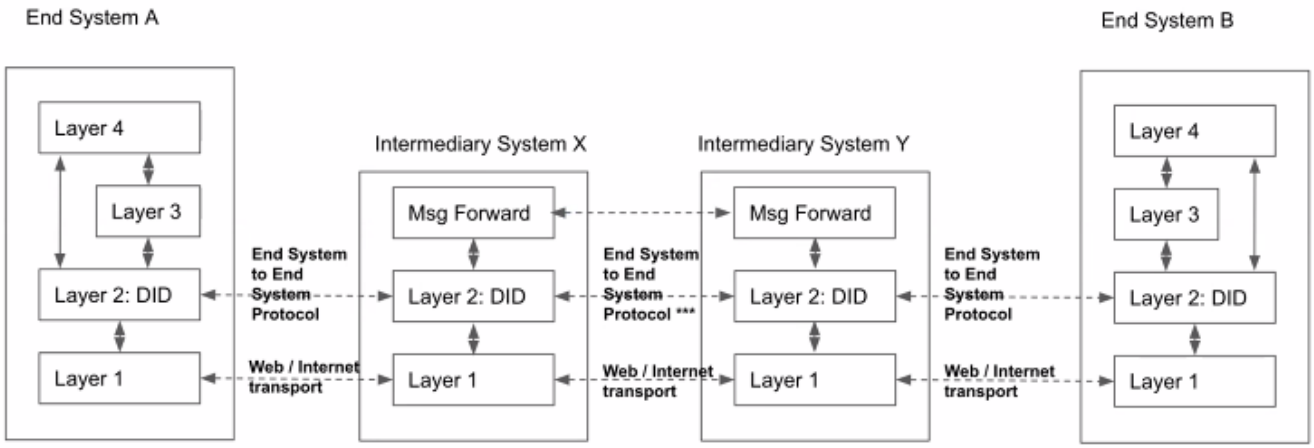
- KERI example: Witnesses with Key Event Logs.
- KERI uses other supporting systems (eg Watcher for confirmation) in addition to Witness pool.
- As long as such services are required for the functioning of AID and E2E communication, they belong to Layer 2 and the pattern shown here should still

#11



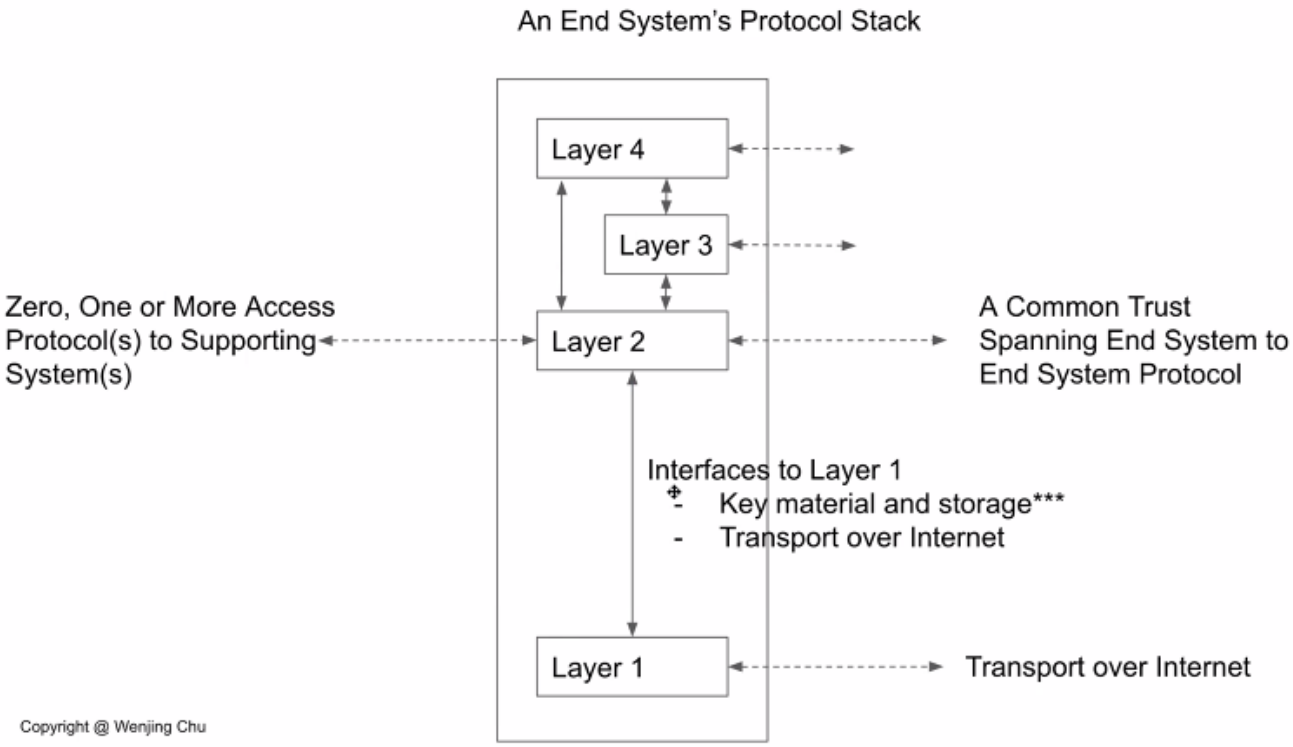
A Generalized Reference Architecture

#12

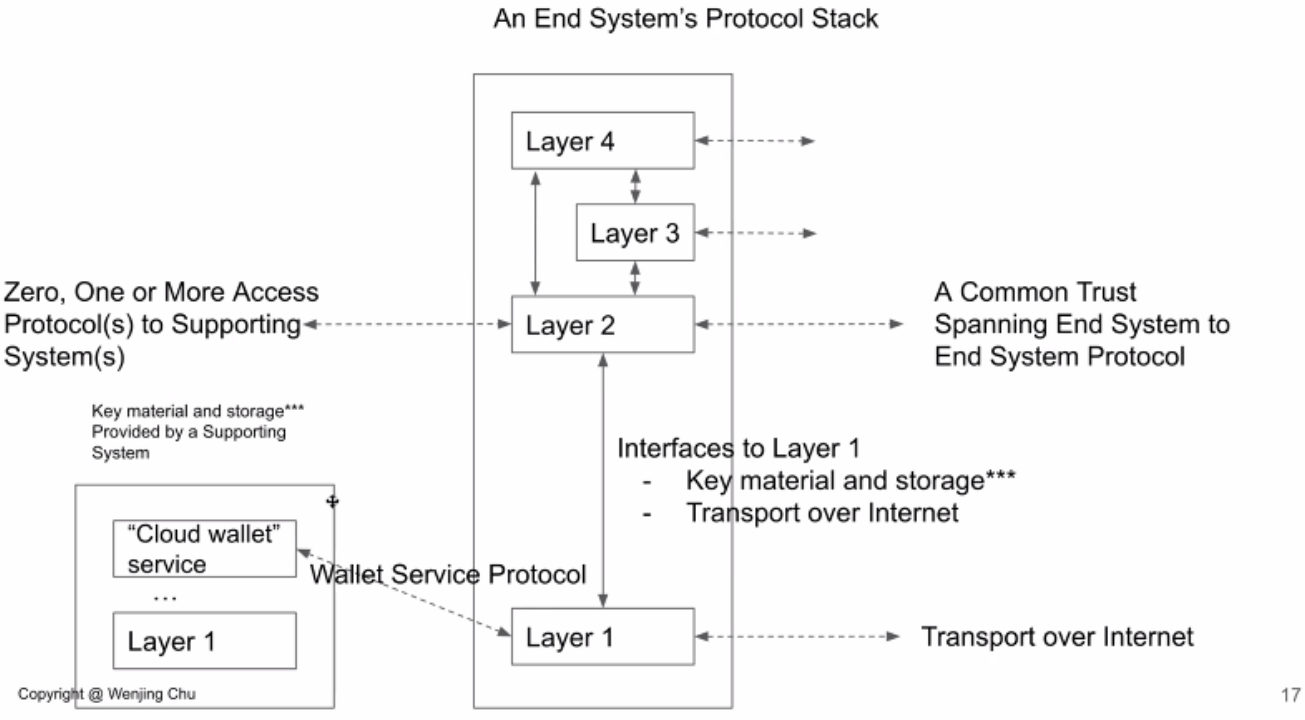


Intermediary Systems

#13


An End System's Protocol Stack
Layer 4
Layer 3
Layer 2
Layer 1
Zero, One or More Access Protocol(s) to Supporting System(s)
A Common Trust Spanning End System to End System Protocol
Interfaces to Layer 1
- Key material and storage***
- Transport over Internet
Transport over Internet
Copyright @ Wenjing Chu

#14


An End System's Protocol Stack
Layer 4
Layer 3
Layer 2
Layer 1
Zero, One or More Access Protocol(s) to Supporting System(s)
A Common Trust Spanning End System to End System Protocol
Key material and storage*** Provided by a Supporting System
"Cloud wallet" service
...
Layer 1
Wallet Service Protocol
Interfaces to Layer 1
- Key material and storage***
- Transport over Internet
Transport over Internet
Copyright @ Wenjing Chu
17

#15

With this Reference Architecture, the details of each layer, interface, protocol can be specified one by one which, taken as a whole, completes the architecture specification.

Decisions

- None

Action Items

- [ ] ACTION: Drummond Reed to merge sections 3: Motivations and section 4: Canonical Uses Cases & Scope Limitations.
- [ ] ACTION: Wenjing Chu to prepare slide deck for Internet Identity Workshop presentation on the ToIP Technology Stack.