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Revolutionizing Collaboration Technology using Distributed Applications

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Where it started

In the 1990s, effort was made to transition from PSTN to "voice over IP" (VoIP)

In parallel, videoconferencing technology was moved to IP

Through the 2000s, substantial progress was made to migrating both the enterprise and PSTN to IP

Technology improved over time

Technology slowly improved over the next decade

WebRTC enabled video conferencing in browsers

Bandwidth grew

Problems with current technology

MONOLITHIC APPLICATIONS

ISOLATED ECOSYSTEMS

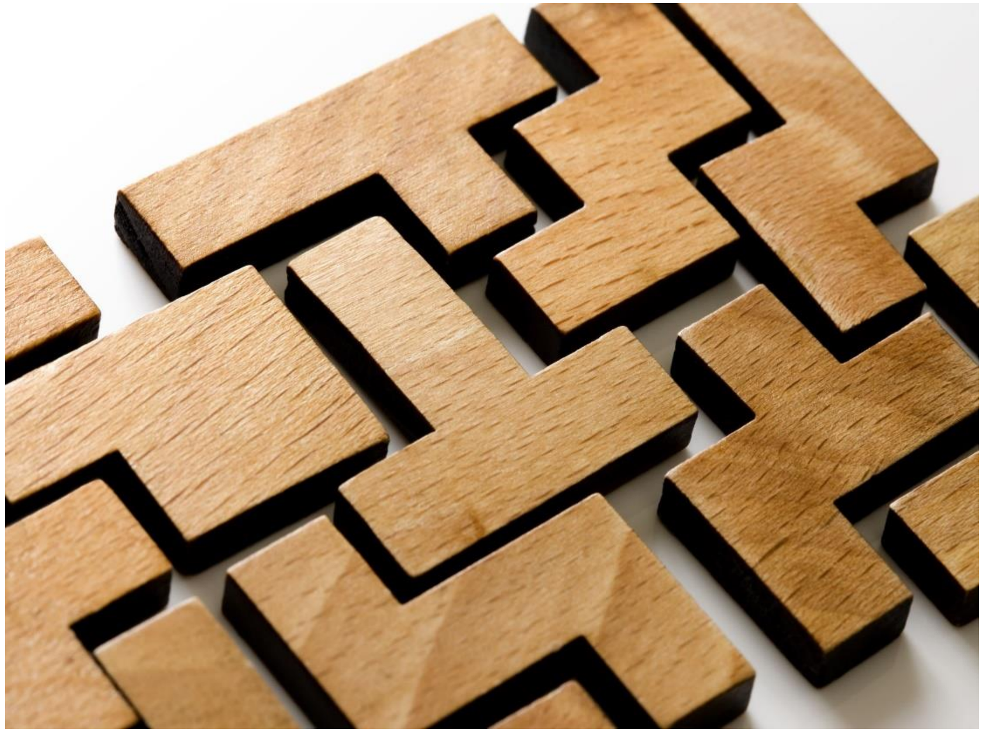
CHANGE IS SLOW

Monolithic applications

Single, complex software application or physical device with everything inside

Slow to update due complexity

Difficult to add functionality



Isolated ecosystems

Vendor have a limited set of application or hardware partners

Users are locked into the vendor's products and services

Cross-organization collaboration outside the vendor ecosystem is difficult or impossible

Progress is slow

Software has many interdependencies

Changes impact cloud infrastructure

Substantial coordination required

Users deserve more

- Vendor lock-in undesirable
- Lack of interoperability is a problem
- Brilliant application creators lack opportunity

What can we do?

Distributed applications

Stop	Stop building monolithic applications
Distribute	Distribute functionality across devices
Harness	Harness the power of network/cloud

This is not disaggregated media

- Disaggregated media is the concept of using one device to participate in a conference, but have media handled by another device
  - The media sources and sinks are not autonomous "applications", but rather relatively dumb media senders/receivers
  - Disaggregated media increases complexity and vendor lock-in by adding more logic to the monolithic application, while working only the vendor's media-only device

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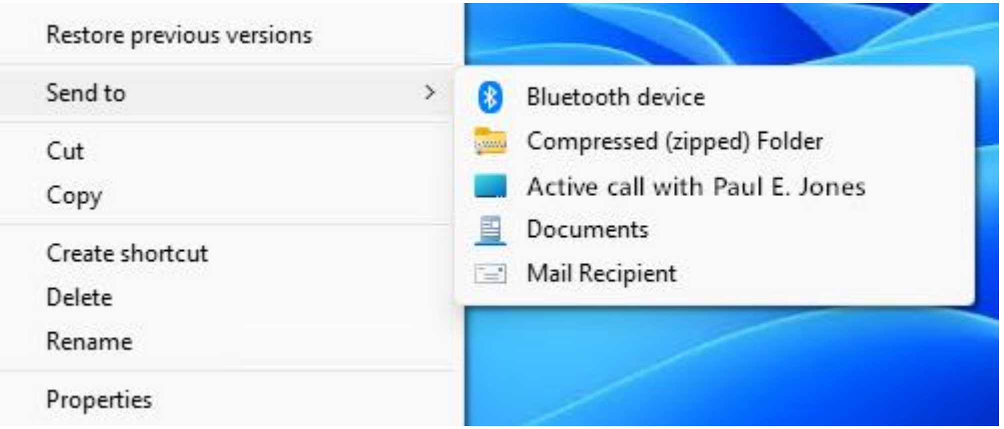
Consider sending a file

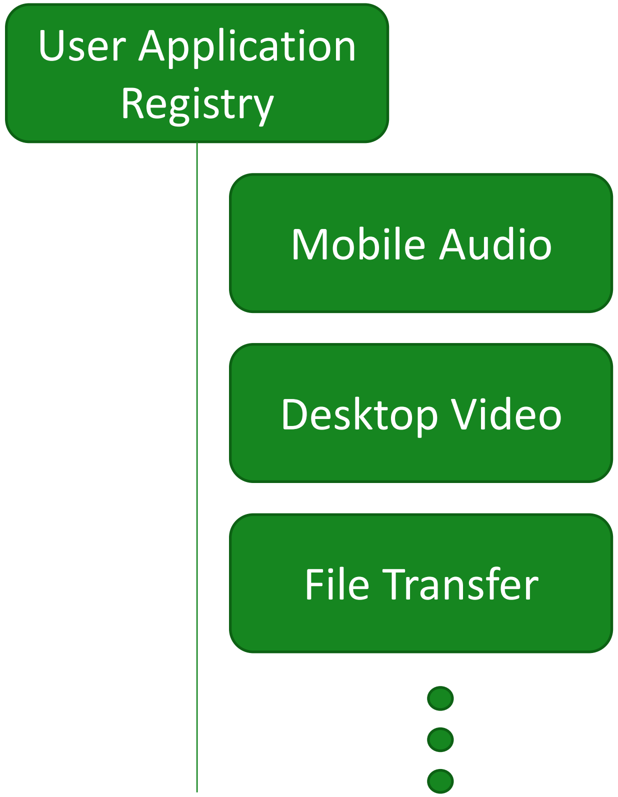
- No reason the collaboration app must be *the* tool used to send that file and *must* be built into the same tool
- If you are talking on your mobile phone and want to send the file from your PC, it should easy
- It should be possible to control incoming files are delivered, too



It should be this flexible and this easy!

How it works

- Applications are independent of each other
- Applications are associated with the user
- Applications may exist in a plurality of devices
- Applications know of communication sessions
- Cloud infrastructure to support the application can be independent of other applications
- The collection of applications engaged in sessions are part of a larger “meta session” (which is why the file exchange app knew it was possible to send a file to a specific user)



User Application Registry

Mobile Audio

Desktop Video

File Transfer

Applications may be transient

- Imagine being in a hotel and using the television to have a video call initiated using your mobile phone
  - Associate the device by having it register in the application registry
  - It will appear as an available application
  - Initiate the video call … and voila
- Similarly, make use of the desk phone when visiting a different office temporarily by having it associate with you

Faster, unhindered innovation

No dependency on other teams to create applications

No dependency on other teams to change applications

Any vendor can create new applications and devices

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