

vCon for MIMI instant messages

draft-mahy-vcon-mimi-messages

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Instant Messaging Use cases

- 1) IM applications allow multiple clients for the same user (ex: laptop and mobile, or old mobile phone migrating to new mobile phone)
- Securely share message history from an existing device to a new device = nice way to share messages that the new client could not have an end-to-end session for.
- 2) Group chat with substantive discussion, then add some users
- Allow an admin to “catch them up” by sharing message history from some relevant point in the past

Summary of added fields

- New top-level room object with id and name fields (could have mood, subject, avatar, etc).
- New fields in party object: imUri, name, role, and thumbprint
- New fields in dialog object:
 - messageId
 - replaces
 - topicId
 - expires
 - inReplyTo
 - lastSeen
 - mimiExtensions
- Also in dialog objects:
 - MultiPart / Part
 - SinglePart
 - ExternalPart
- New dialog type for changes to the dialog:
 - room metadata changes
 - participant identity change
 - participants joining and leaving
 - participants adding new clients
 - moderation events?
- Attachment handling

Rooms and Parties

```
"room": {
  "id": "mimi://example.com/r/engineering_team",
  "name": "Engineering Team",
}
"parties": [
  {
    "imUri": "mimi://example.com/u/alice-smith",
    "name": "Alice Smith",
    "role": "moderator",
    "thumbprint": "TOD0FIXDZXCog_FfQp-xLemZkD5GKB9H7Z-Y4104jEw"
  },
  {
    "imUri": "mimi://example.com/u/bob-jones",
    "name": "Bob Jones",
    "role": "member",
    "thumbprint": "TOD0FIXYUFE7bV9pXAHZHi5bwSWzLJqjncevs9aLKDg"
  },
  {
    "imUri": "mimi://example.com/u/cathy-washington",
    "name": "Cathy Washington",
    "role": "member",
    "thumbprint": "TOD0FIXzH3Ee0GbI0-oiDGTXlgKmkMzQyQ2W_Y-TB1U"
  }
],
```

```
{
  "type": "text",
  "start": "2022-02-08T22:14:08.621-00:00",
  "duration": 0,
  "parties": [
    0, 1, 2
  ],
  "originator": 1,
  "messageId": "-GqJXuoaJu1Xosu-N8nt6NWzA2RLmIRY0q9jf_kvWkM",
  "replaces": "Ygye96VUeBhT06U3D0Zl1YsSwSdKB3SiRjgxab3cdAo",
  "inReplyTo": [
    "yjetjodyYNLBto8YDnwLkEc89W09r0uEivbnxKGfHLQ",
    1,
    "6MaXLsvHITc8xzIQp8BRz_7w_UNQL1n7a6DWysTW5T0"
  ],
  "lastSeen": [
    "2YF0k6blW9ZbJ8sgXJgMCTJ01ofazdKwVRvf6ZUORFA",
    "rF4iS5BcJ-aFfisoFDCrnTE9pZZBGCxGCoXGJ9VXnck"
  ],
  "mimetype": "text/markdown;variant=GFM",
  "encoding": "none",
  "body": "Right on! _Congratulations_ y'all"
},
```

Relationships among dialog objects

```
{
  "type": "text",
  "start": "2022-02-08T22:13:45.019-00:00",
  "duration": 0,
  "parties": [
    0, 1, 2
  ],
  "originator": 0,
  "messageId": "yjetjodyYNLBto8YDnwLkEc89W09rOuEivbnxKGfHLQ",
  "lastSeen": [],
  "mimetype": "text/markdown;variant=GFM",
  "encoding": "none"
  "body": "Hi everyone, we just shipped release 2.0. __Good work__!",
},
```

```
{
  "type": "text",
  "start": "2022-02-08T22:13:57.492-00:00",
  "duration": 0,
  "parties": [
    0, 1, 2
  ],
  "originator": 1,
  "messageId": "Ygye96VUeBhT06U3D0Z1lYsSwSdKB3SiRjgxab3cdAo",
  "inReplyTo": [
    "yjetjodyYNLBto8YDnwLkEc89W09rOuEivbnxKGfHLQ",
    1,
    "6MaXlsvHITc8xzIQp8BRz_7w_UNQL1n7a6DWysTW5T0"
  ],
  "lastSeen": [
    "yjetjodyYNLBto8YDnwLkEc89W09rOuEivbnxKGfHLQ"
  ],
  "mimetype": "text/markdown;variant=GFM",
  "encoding": "none"
  "body": "Right on! _Congratulations_ \'all!",
},
  ],
  "disposition": "reaction",
  "mimetype": "text/plain;charset=utf-8",
  "encoding": "none"
  "body": "♥",
},
```

```
{
  "type": "text",
  "start": "2022-02-08T22:14:08.621-00:00",
  "duration": 0,
  "parties": [
    0, 1, 2
  ],
  "originator": 1,
  "messageId": "-GqJXuoaJu1Xosu-N8nt6NWzA2RLmIRY0q9jf_kvWkM",
  "replaces": "Ygye96VUeBhT06U3D0Z1lYsSwSdKB3SiRjgxab3cdAo",
  "inReplyTo": [
    "yjetjodyYNLBto8YDnwLkEc89W09rOuEivbnxKGfHLQ",
    1,
    "6MaXlsvHITc8xzIQp8BRz_7w_UNQL1n7a6DWysTW5T0"
  ],
  "lastSeen": [
    "2YF0k6blW9ZbJ8sgXJgMCTJ0lofazdKwVRvf6ZUORFA",
    "rF4iS5BcJ-aFfisoFDCrnTE9pZZBGCxGCoXGJ9VXnck"
  ],
  "mimetype": "text/markdown;variant=GFM",
  "encoding": "none"
  "body": "Right on! _Congratulations_ y'all"
},
```

Bodies and MultiPart

- `mimetype`, `encoding`, and `body` can be at the dialog level if there is a single (embedded) part; otherwise they are inside a `Part`.
- `partIndex` is 0 if there is only one part
- `disposition` and `language` can be at the dialog level if there is a single embedded part or `ExternalPart`; otherwise they are inside a `Part`
- `MultiPart` contains `partSemantics`:
 - `chooseOne`
 - `singleUnit`
 - `processAll`
- `MultiPart` contains multiple `Parts`. Each part has a `partIndex`

```
1,
"disposition": "render",
"partIndex": 0,
"MultiPart": {
  "partSemantics": "chooseOne",
  "parts": [
    "Part": {
      "disposition": "render",
      "language": "en",
      "partIndex": 1,
      "mimetype": "text/markdown;variant=GFM",
      "encoding": "none"
      "body": "Hello!"
    },
    "Part": {
      "disposition": "render",
      "language": "fr",
      "partIndex": 2,
      "mimetype": "text/markdown;variant=GFM",
      "encoding": "none"
      "body": "Bonjour!"
    }
  ]
}
```

Attachments

```
{
  "type": "text",
  "start": "2022-02-08T22:53:41.134-00:00",
  "duration": 0,
  "parties": [
    0, 1, 2
  ],
  "originator": 1,
  "messageId": "Tdt8UCU11ugSLRmu0bvib_4bvU_Hz3NSwaYuy-TtET4",
  "lastSeen": [
    "GkblzkXJxyar0lTgkfcMQ0wo8qpbCUMqtTg-gM1FiY"
  ],
  "disposition": "attachment",
  "language": "en",
  "ExternalPart": {
    "mimetype": "video/mp4",
    "url": "https://example.com/storage/8ksB4bSrrRE.mp4",
    "size": 708234961,
    "description": "2 hours of key signing video",
    "filename": "bigfile.mp4",
    "contentHash": "sha256:0czZYpW_L0B1DsMSLJqL2jTRJKoj7fTUJ2jhnX70-00",
  },
  "encAlg": 1,
  "key": "aZIS0s306M7n_3csR-J1cw",
  "nonce": "5VM0QcZI3PNmnquV6CUgxg",
  "aad": ""
},
}
```

mid: *messageId* : *partIndex* @anonymous.invalid →

```
"dialog": [
  {
    "type": "text",
    "start": "2022-02-08T22:53:41.134-00:00",
    "duration": 0,
    "parties": [
      0, 1, 2
    ],
    "originator": 1,
    "messageId": "Tdt8UCU11ugSLRmu0bvib_4bvU_Hz3NSwaYuy-TtET4",
    "lastSeen": [
      "GkblzkXJxyar0lTgkfcMQ0wo8qpbCUMqtTg-gM1FiY"
    ],
    "disposition": "attachment",
    "language": "en",
    "ExternalPart": {
      "mimetype": "video/mp4",
      "url": "https://example.com/storage/8ksB4bSrrRE.mp4",
      "size": 708234961,
      "description": "2 hours of key signing video",
      "filename": "bigfile.mp4",
      "contentHash": "sha256:0czZYpW_L0B1DsMSLJqL2jTRJKoj7fTUJ2jhnX70-00",
      "cached": true
    }
  },
],
"attachments": [
  {
    "start": "2022-02-08T22:53:41.134-00:00",
    "party": 1,
    "contentHash": "sha256:0czZYpW_L0B1DsMSLJqL2jTRJKoj7fTUJ2jhnX70-00",
    "dialogObjectRef":
    "mid:Tdt8UCU11ugSLRmu0bvib_4bvU_Hz3NSwaYuy-TtET4:0@anonymous.invalid",
    "mimetype": "video/mp4",
    "filename": "bigfile.mp4",
    "encoding": "base64url",
    "body": "Ma0hHSr0f_iUk_RSShTgtY...nSQbZEip5danJYQqsvwWQ"
  }
]
}
```

Thoughts? Questions?