

Federated Scheduling

Integrating JSCalendar (RFC 8984) into Matrix

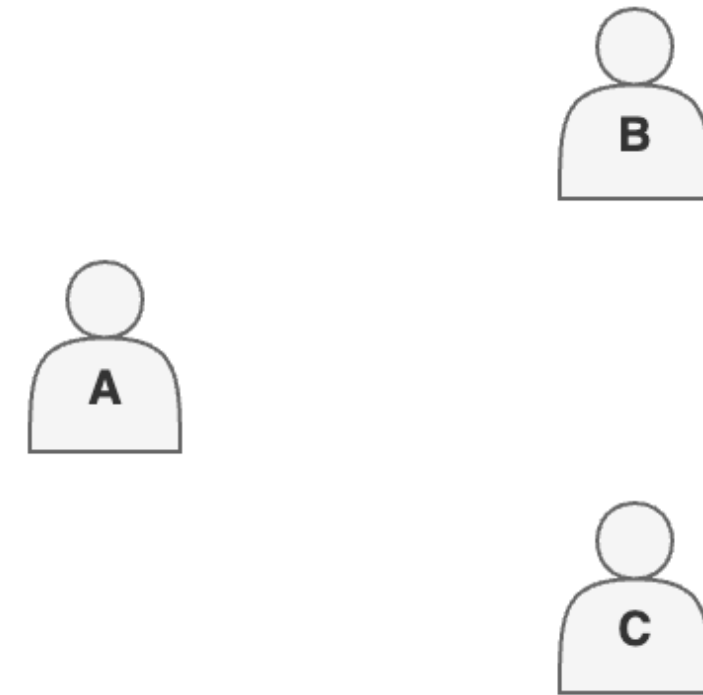
Malmö, 26/10/21

What do we want?

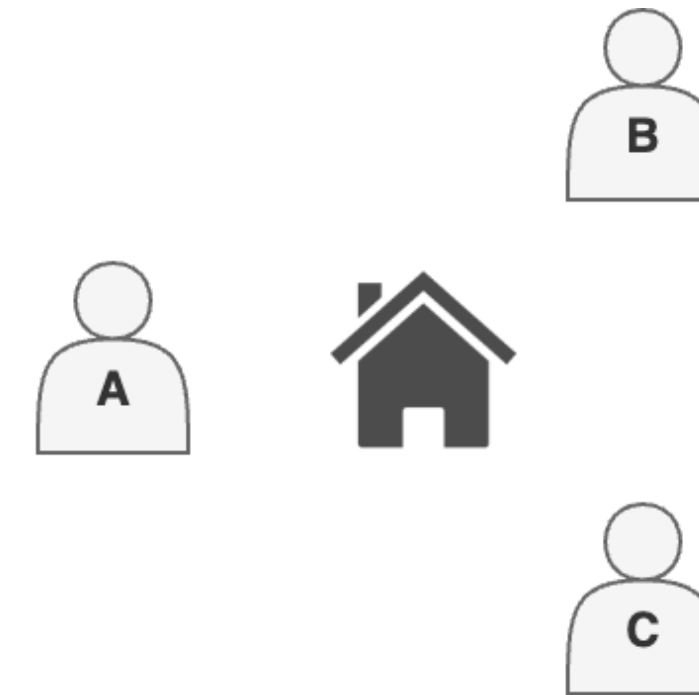
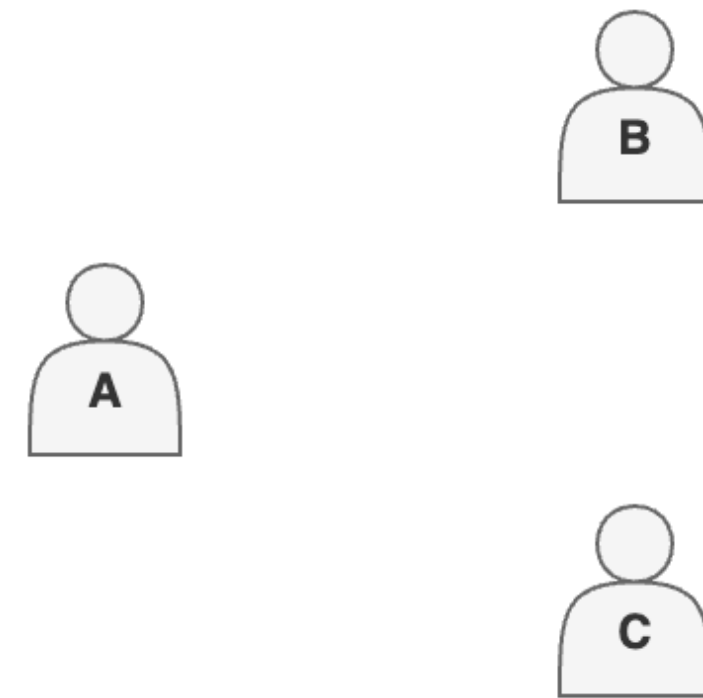
- Matrix & Meetings compliment each other
- We are still mostly writing e-mails and using Doodle-like tools to organize meetings
- We want a **solid** foundation for events / meetings in Matrix
- We have ideas on how to expand on those without breaking the base
- This is a collaboration- we need **you**!
- Present our ideas (25 minutes is nothing...)

WHAT is an Event?

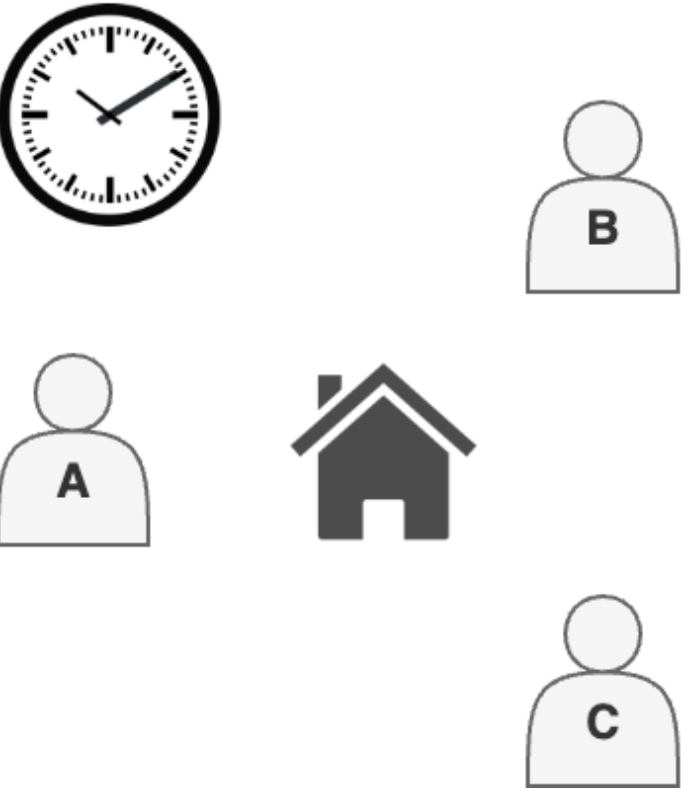
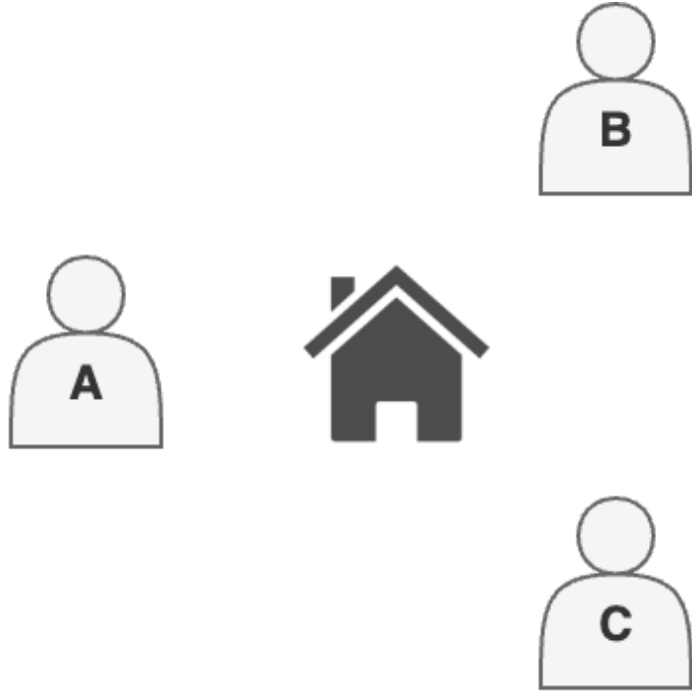
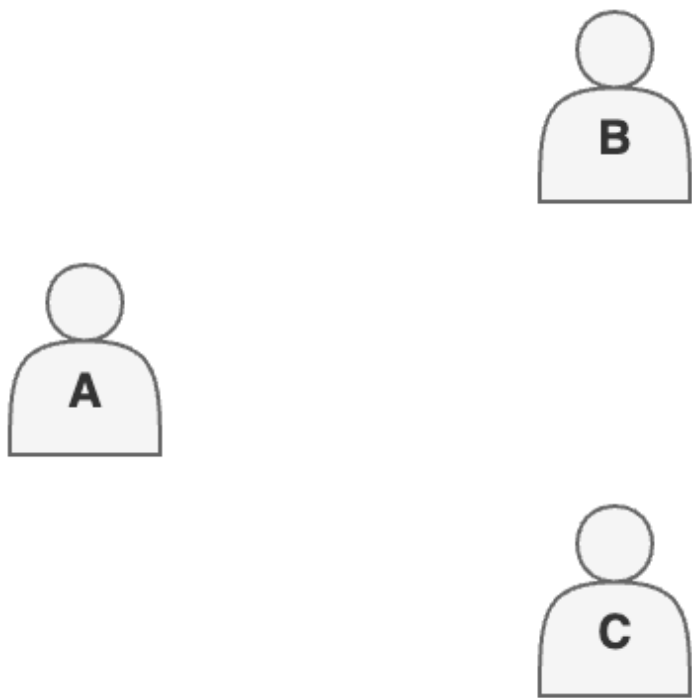
WHAT is an Event?



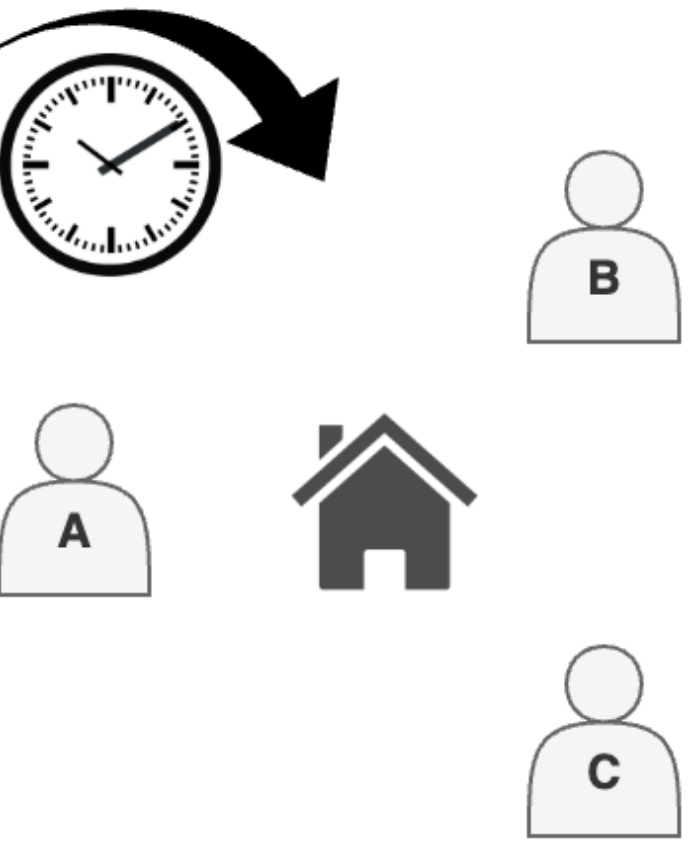
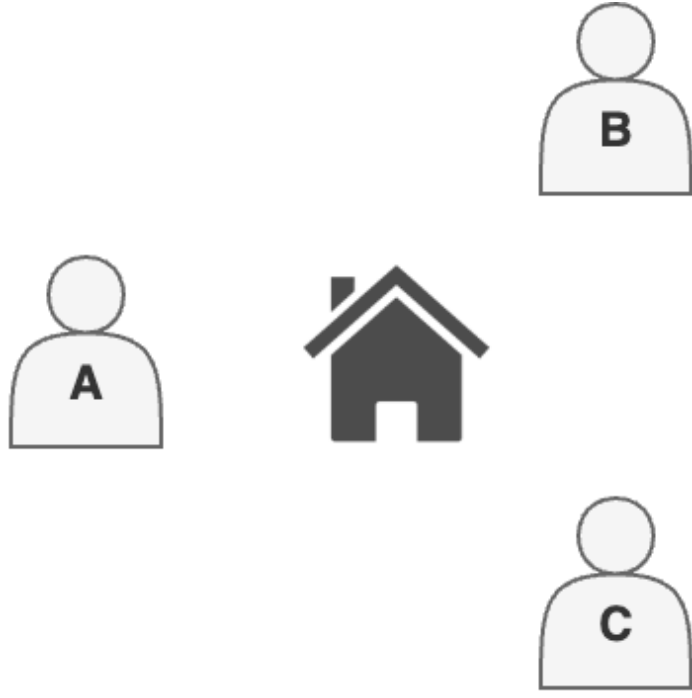
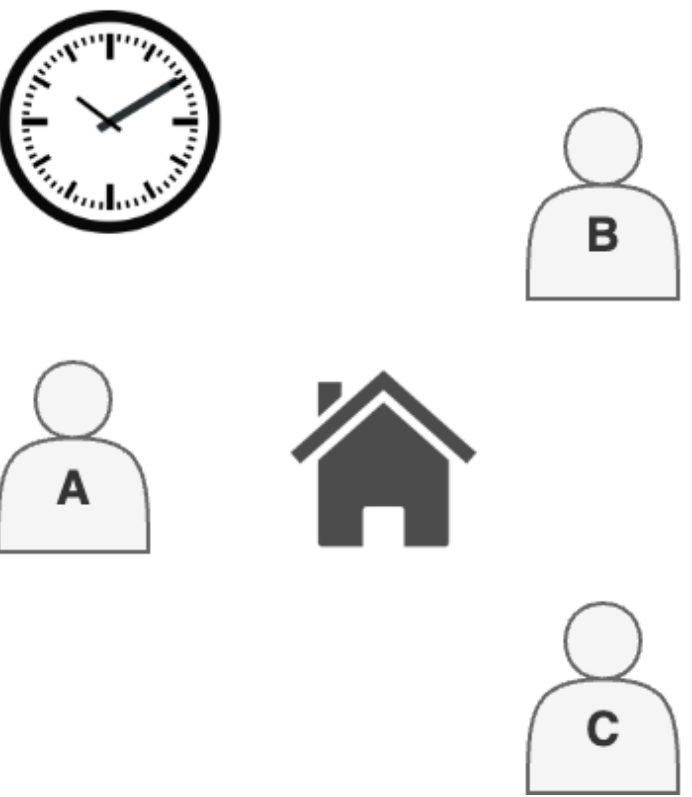
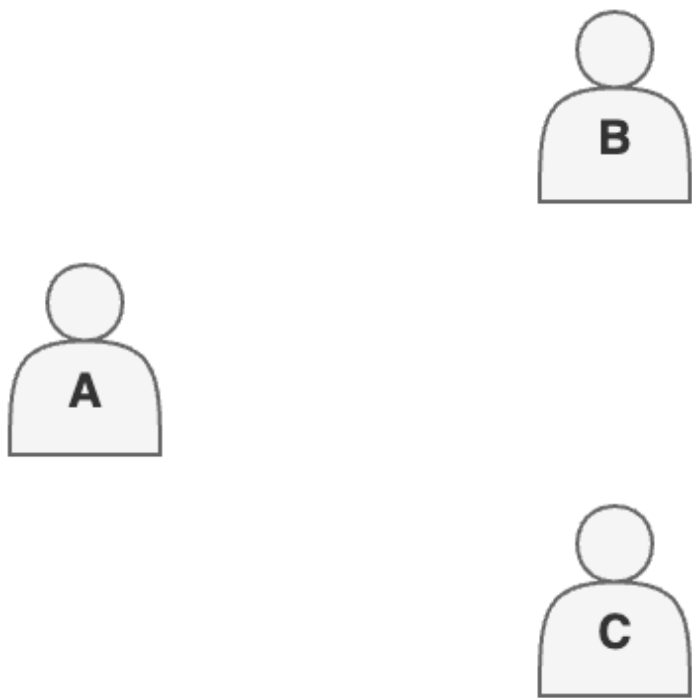
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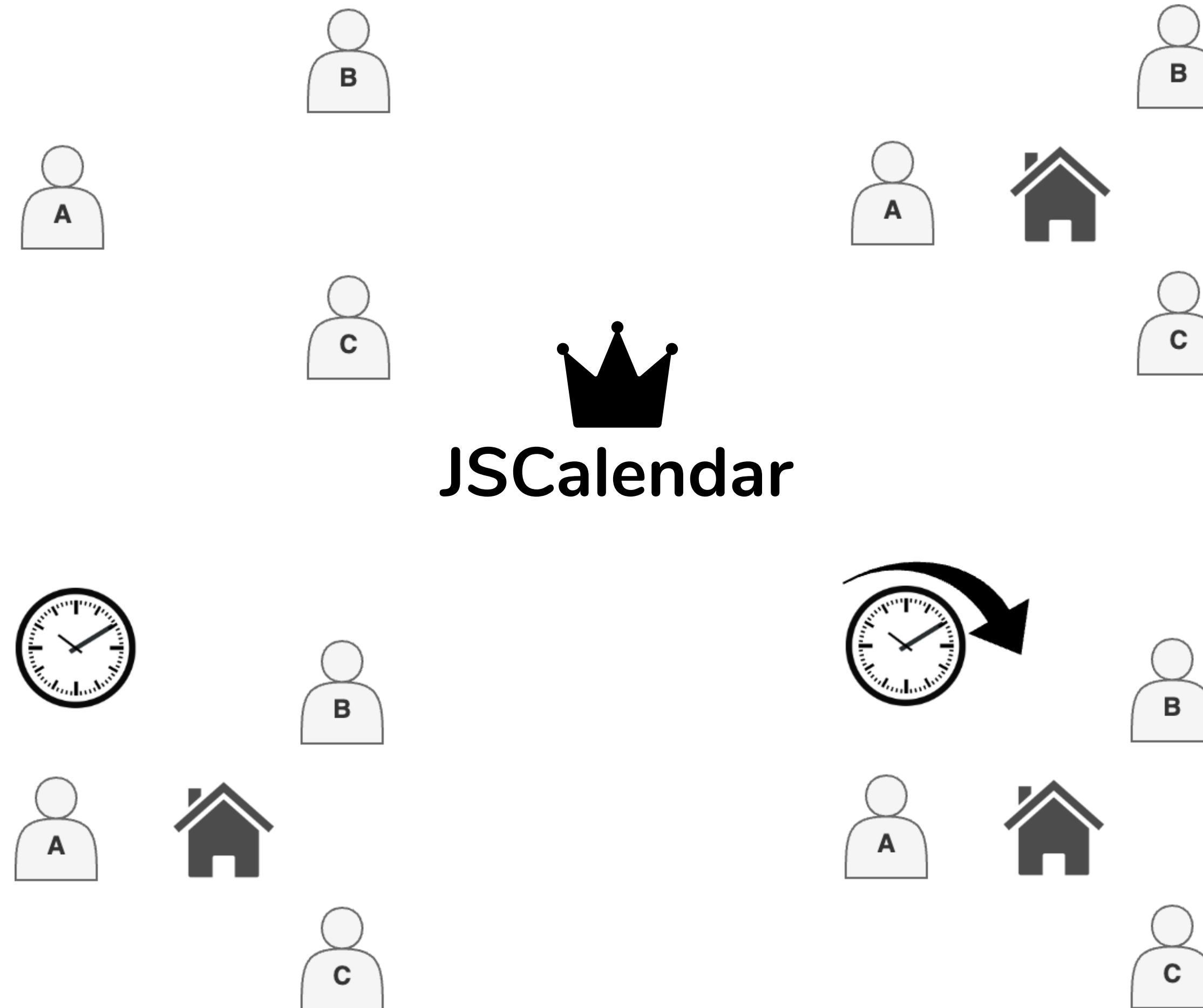
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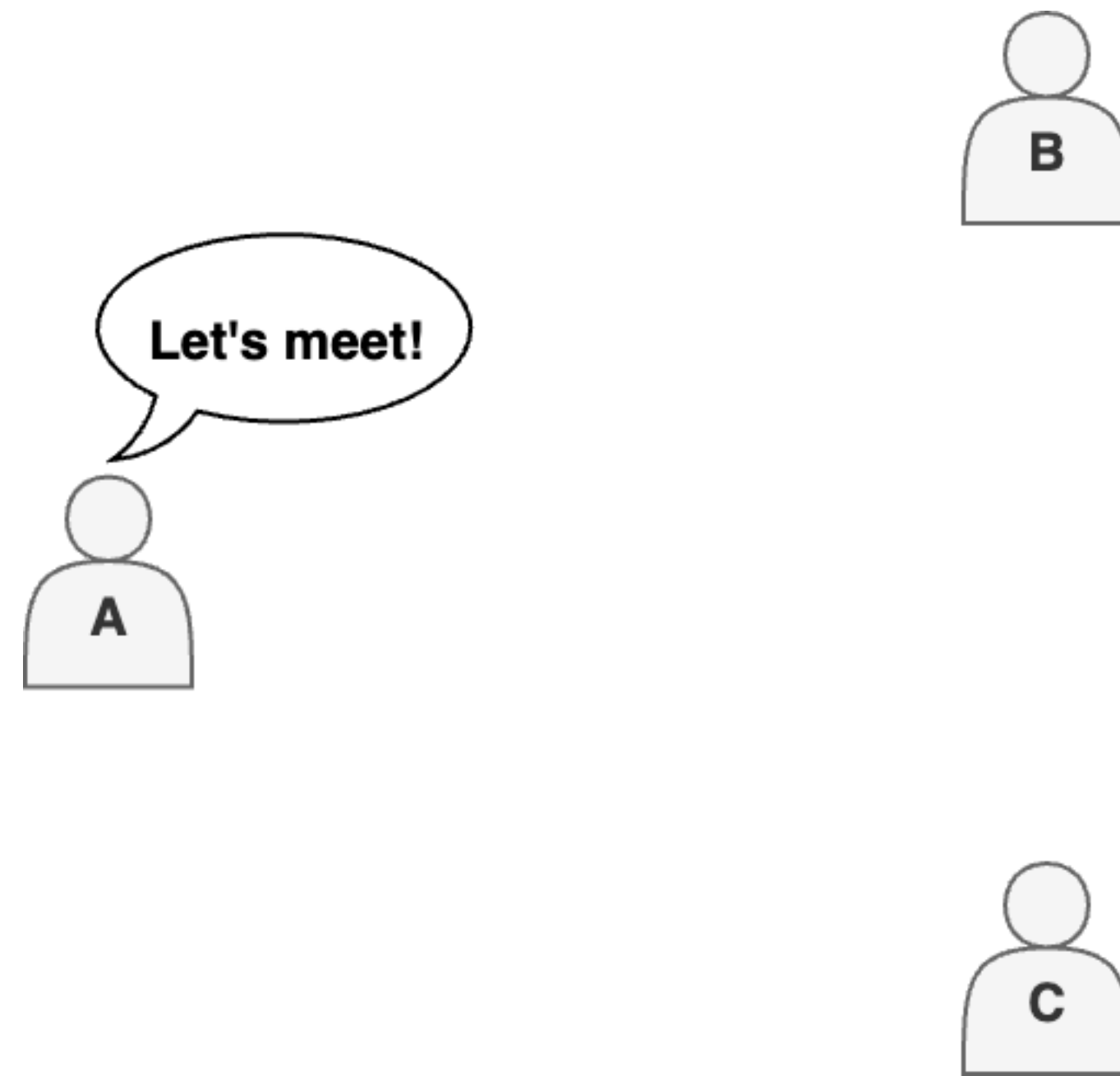
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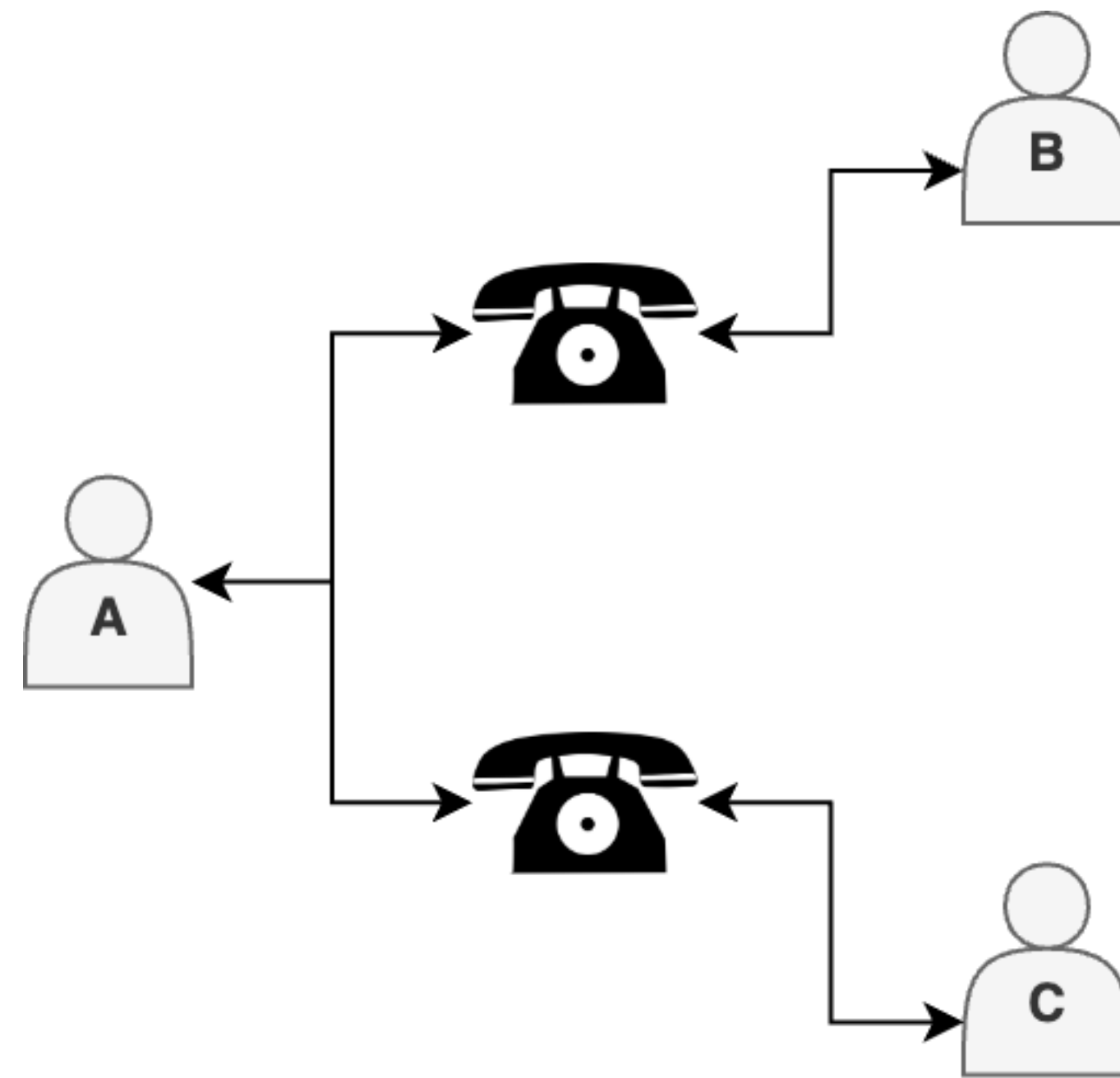
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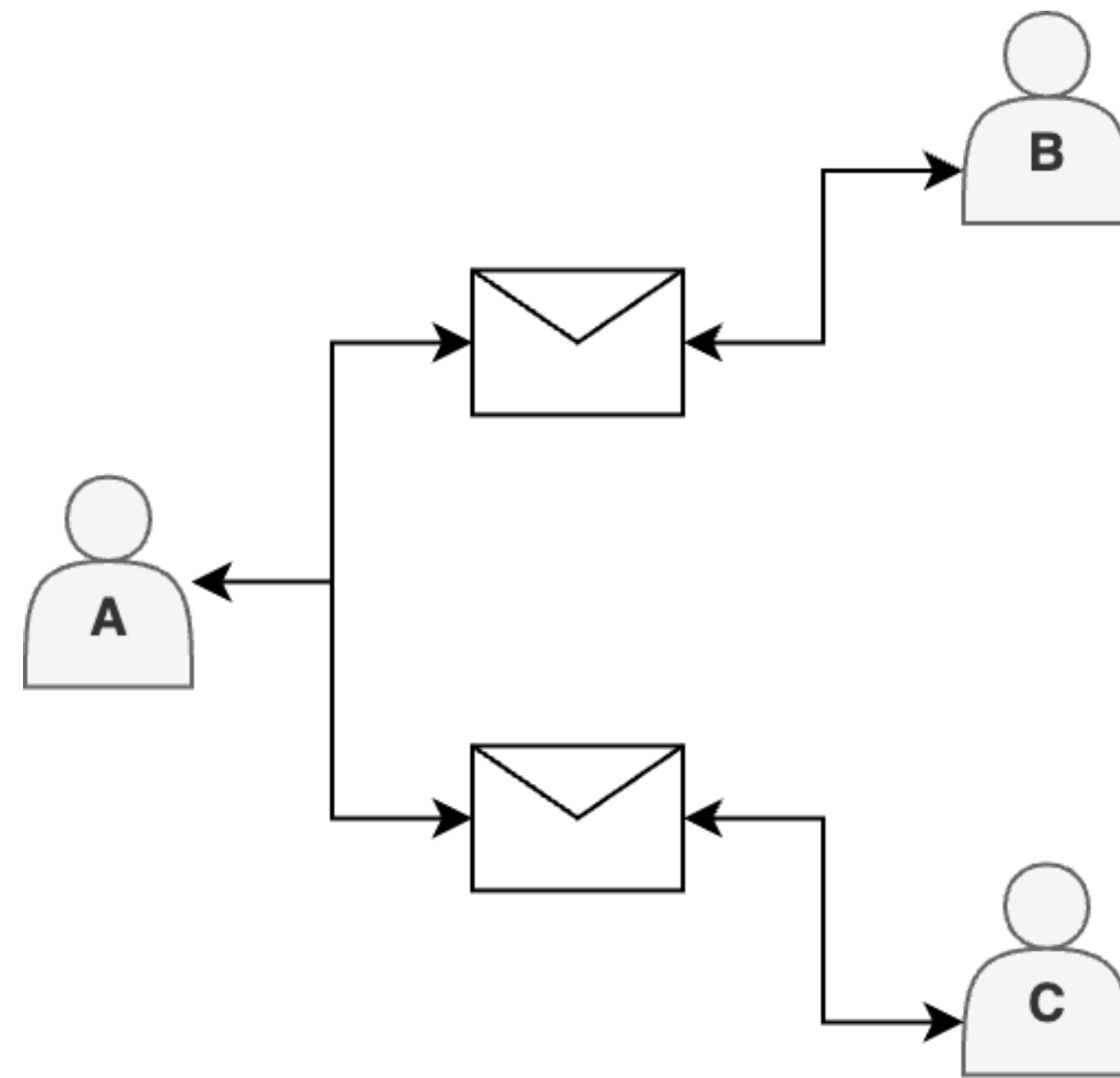
HOW do we get to an event?



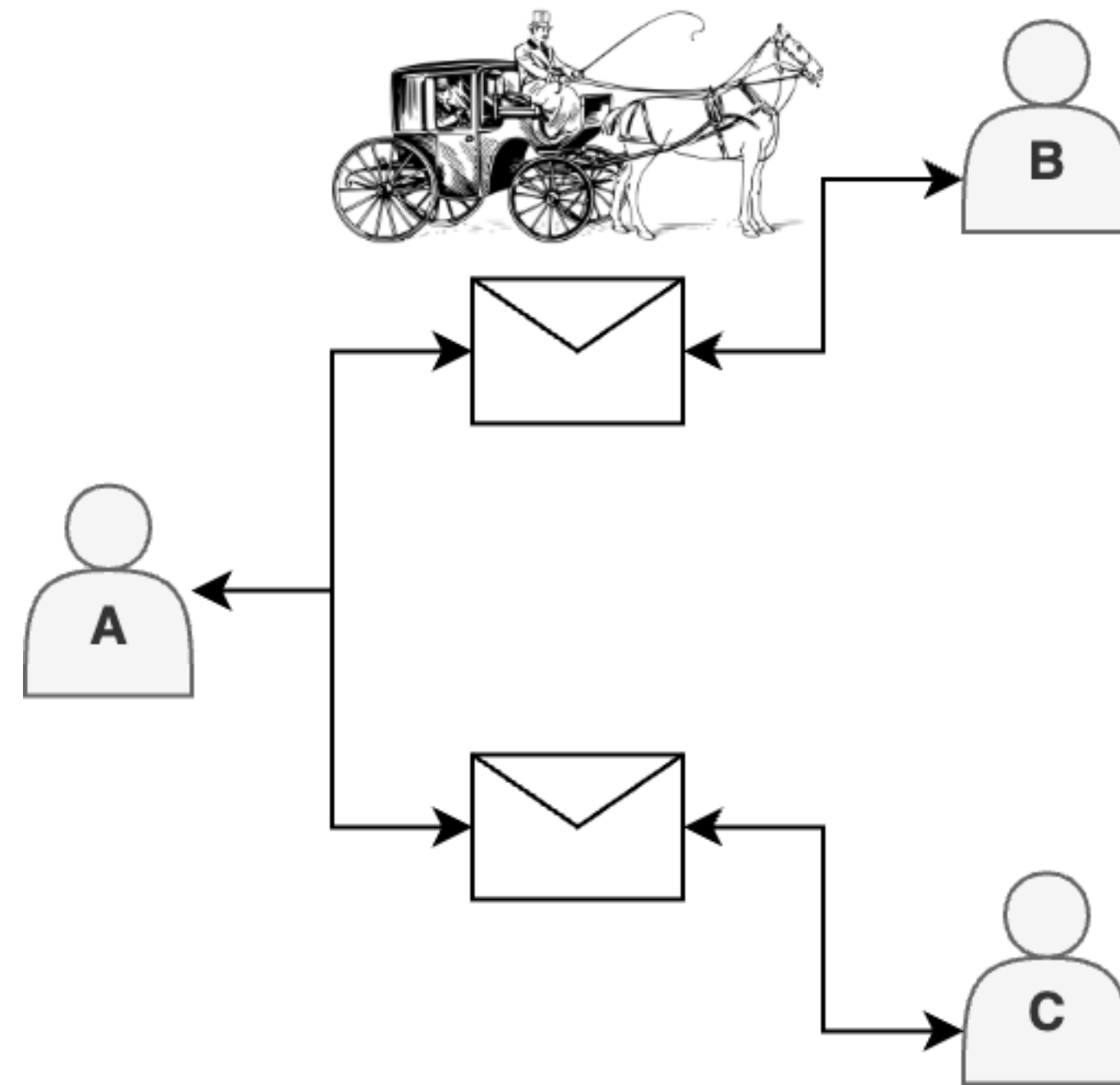
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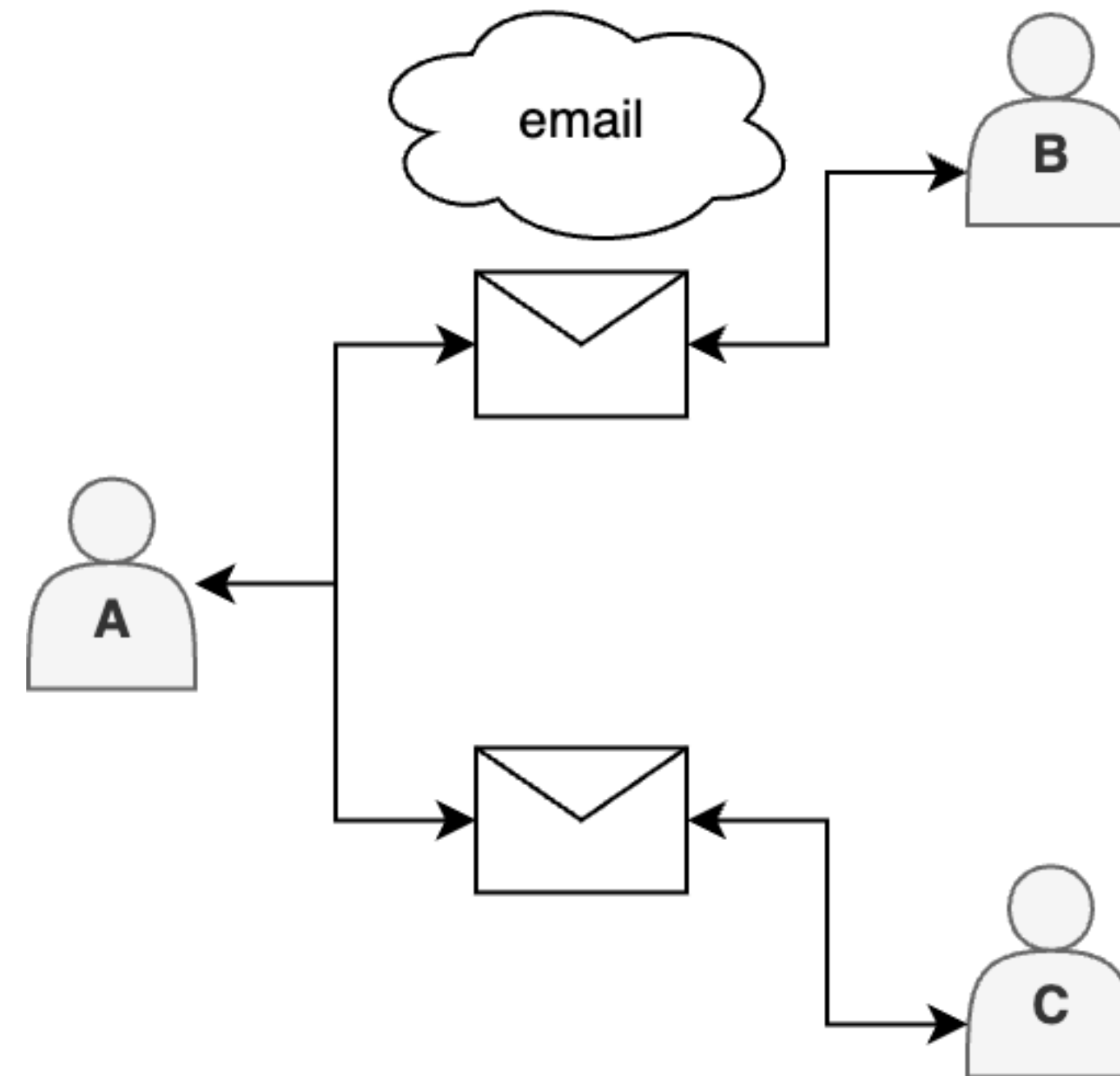
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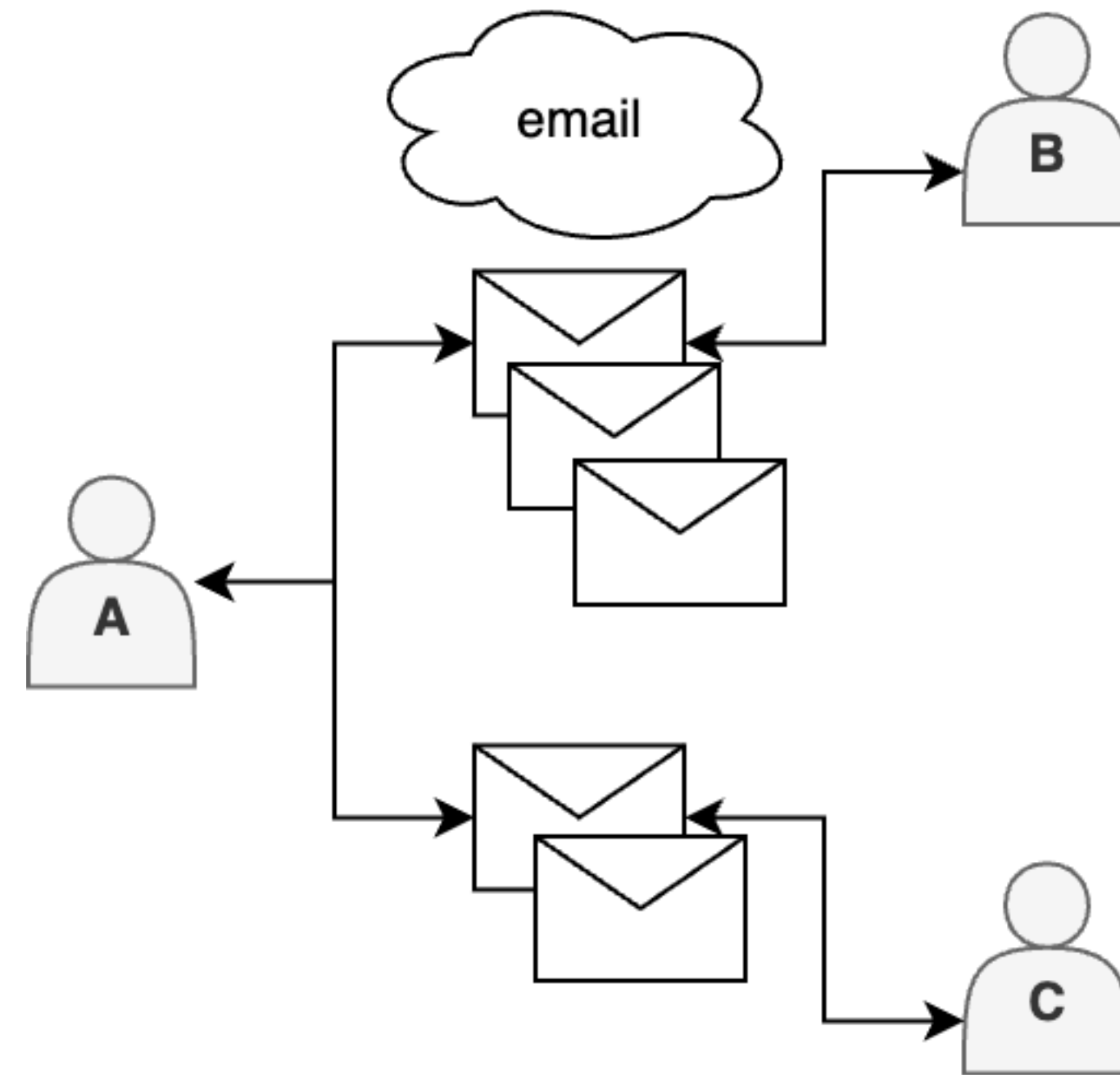
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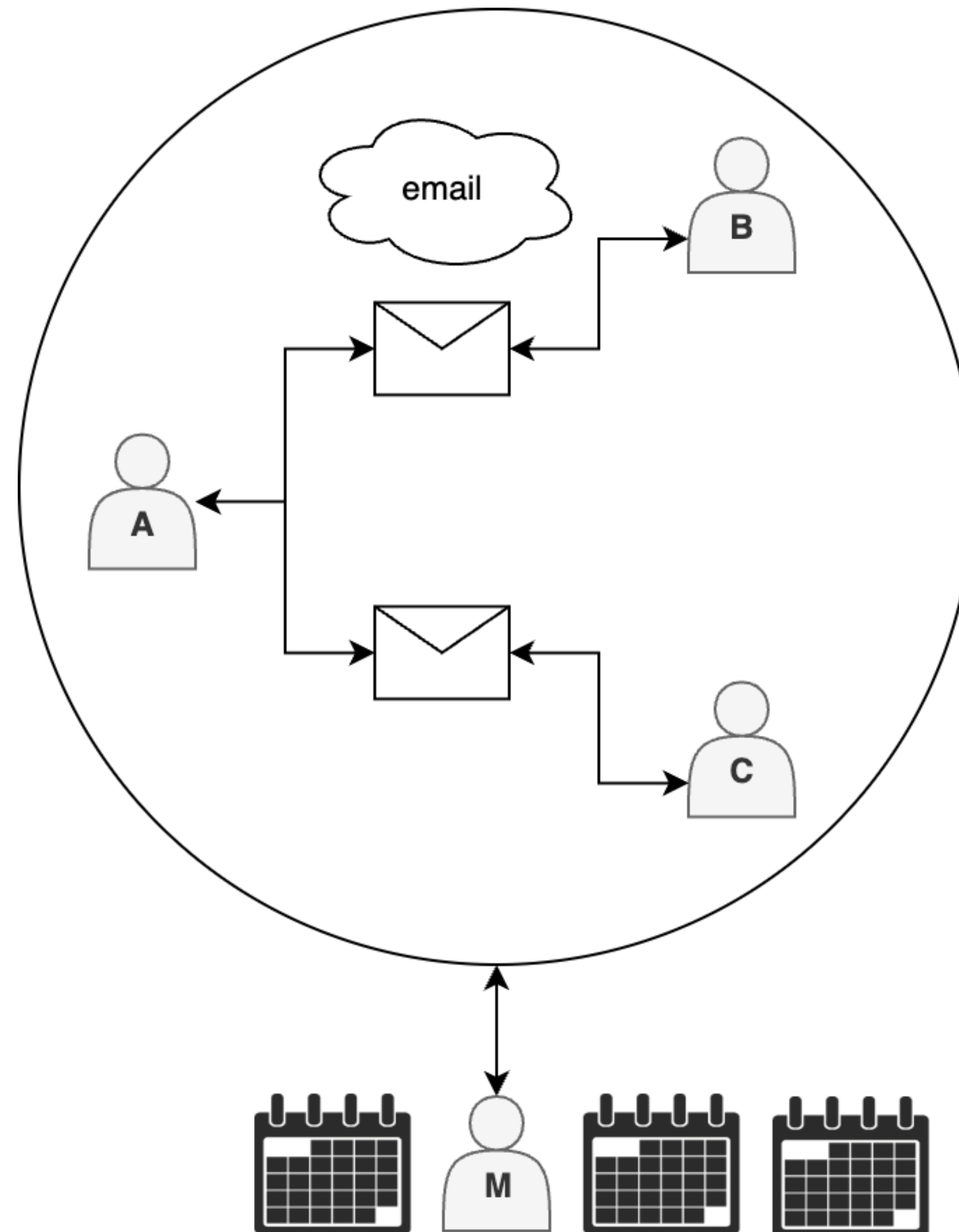


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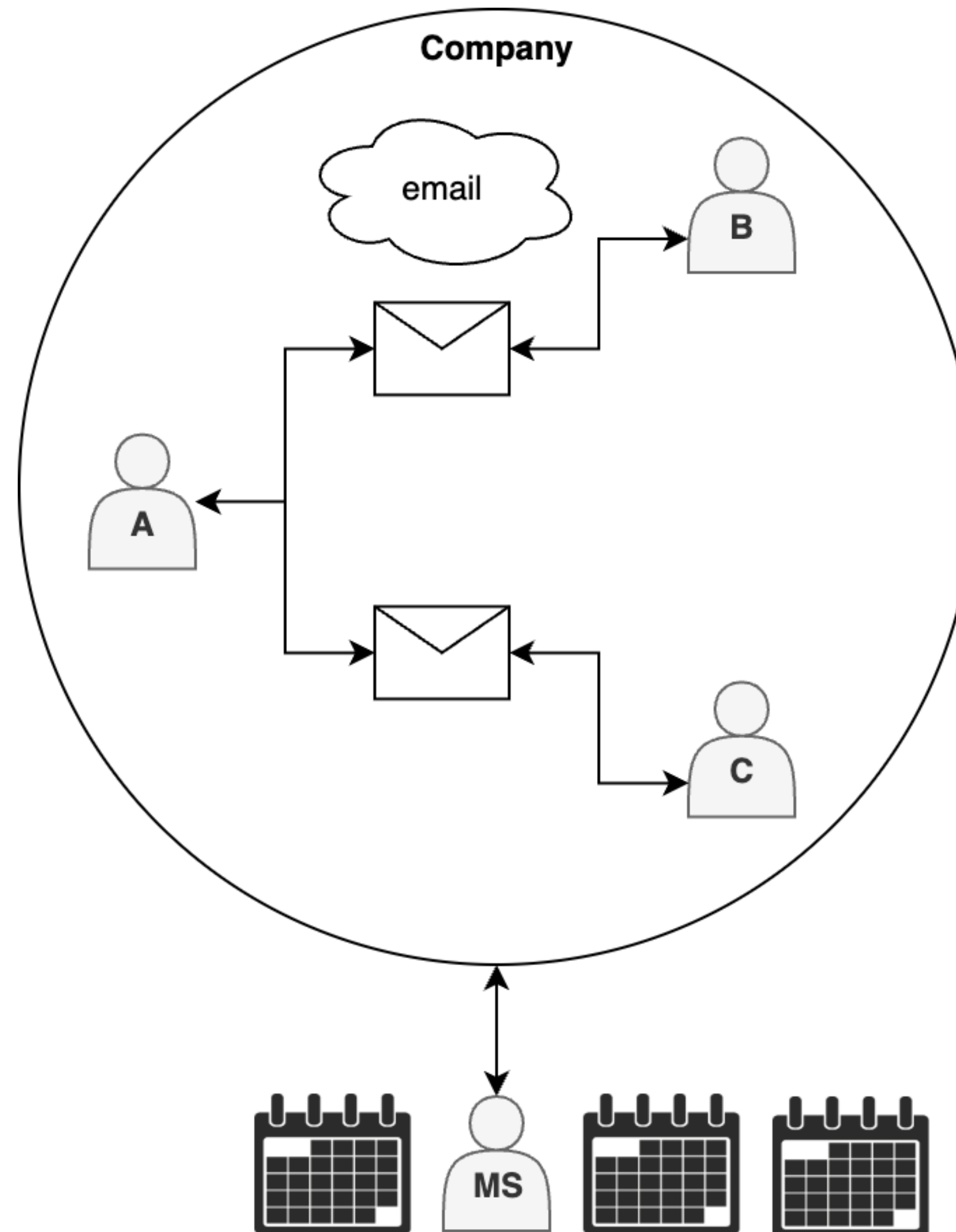


HOW do we get to an event? - Solutions

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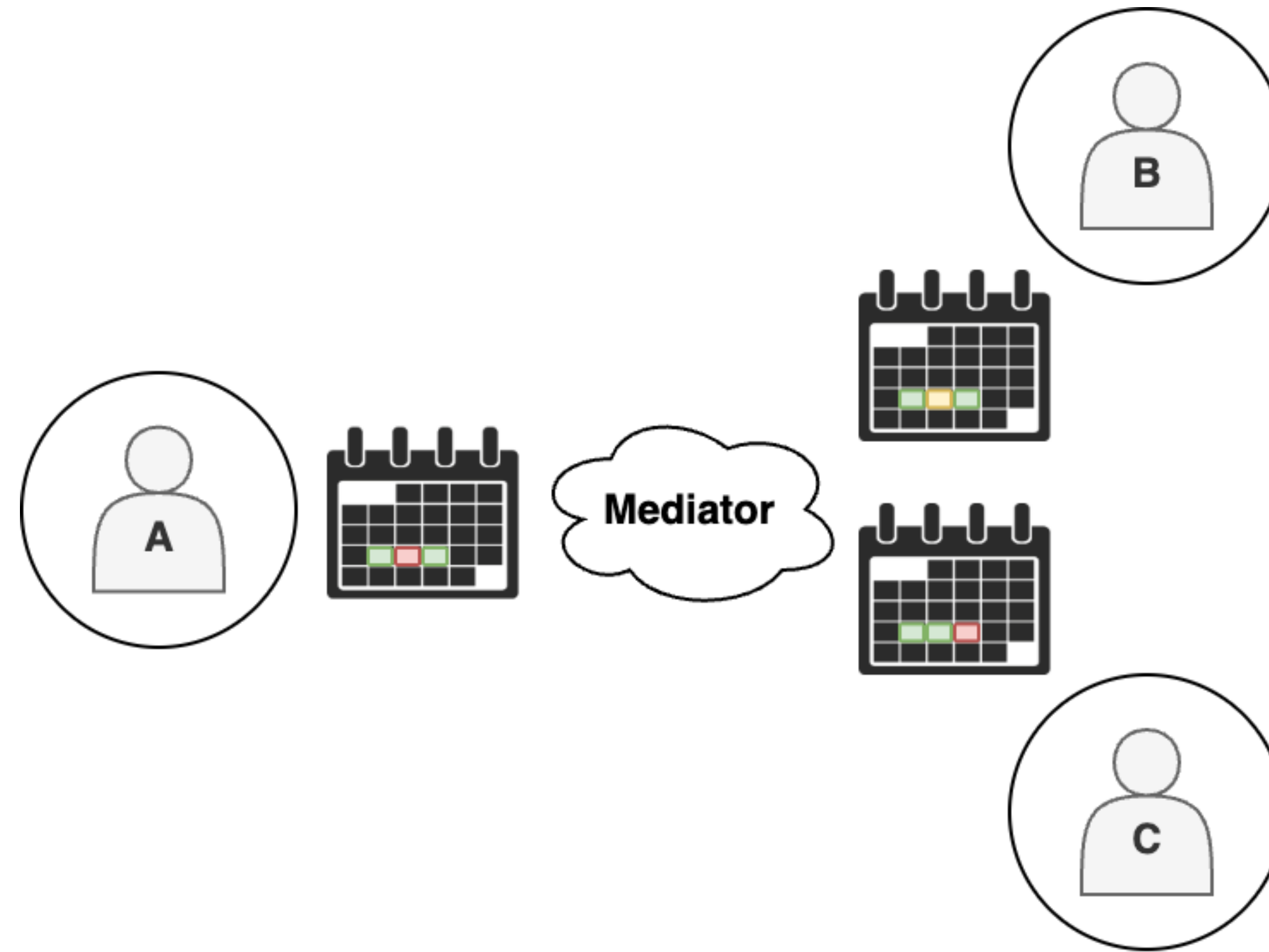


HOW do we get to an event? - Solutions



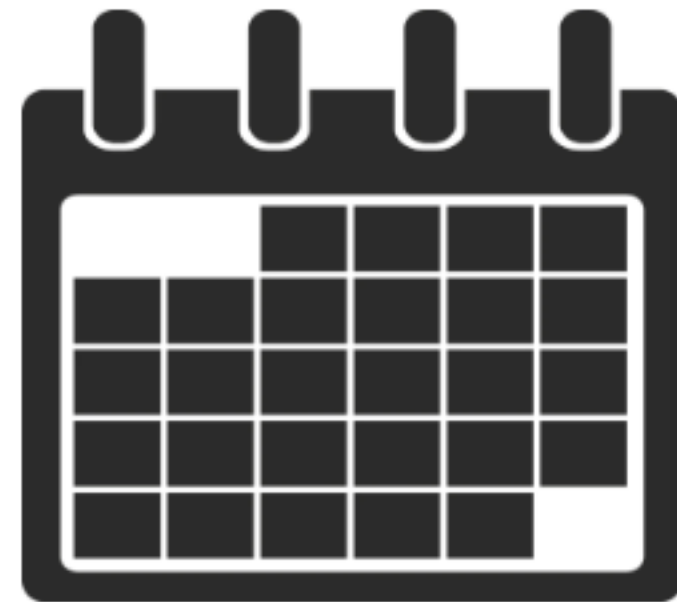
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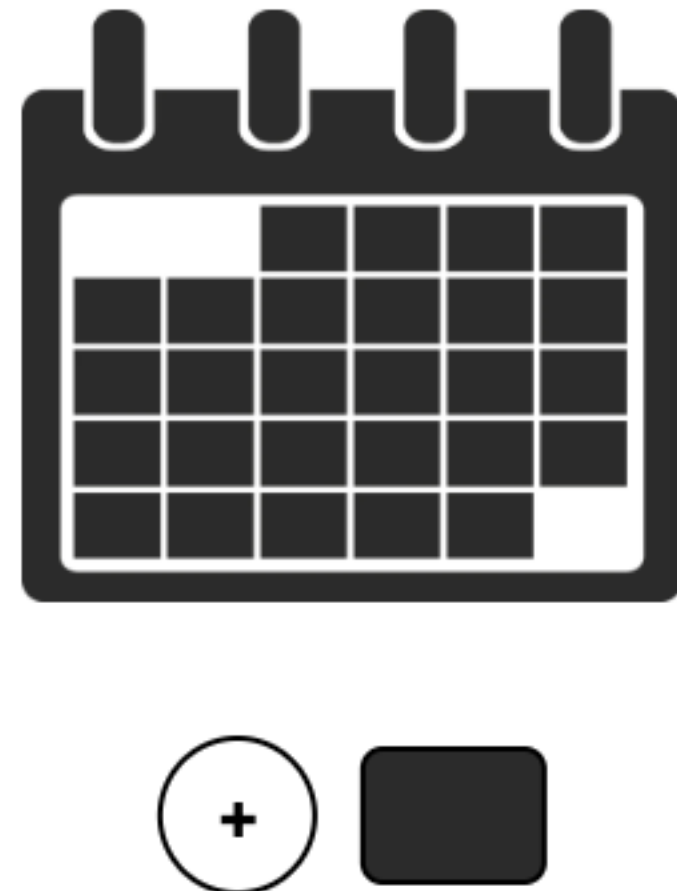


HOW do we organize events?

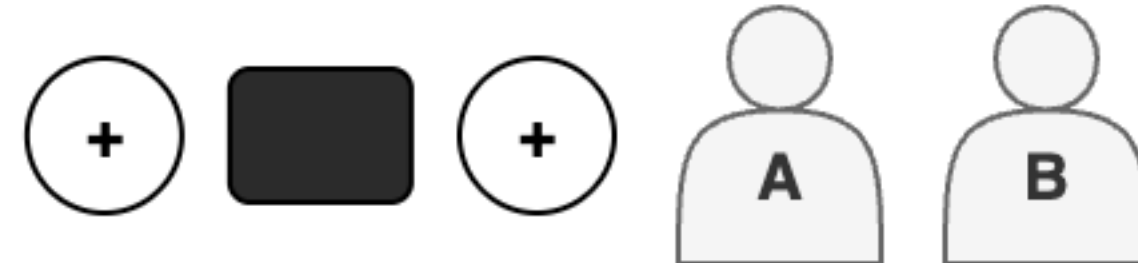
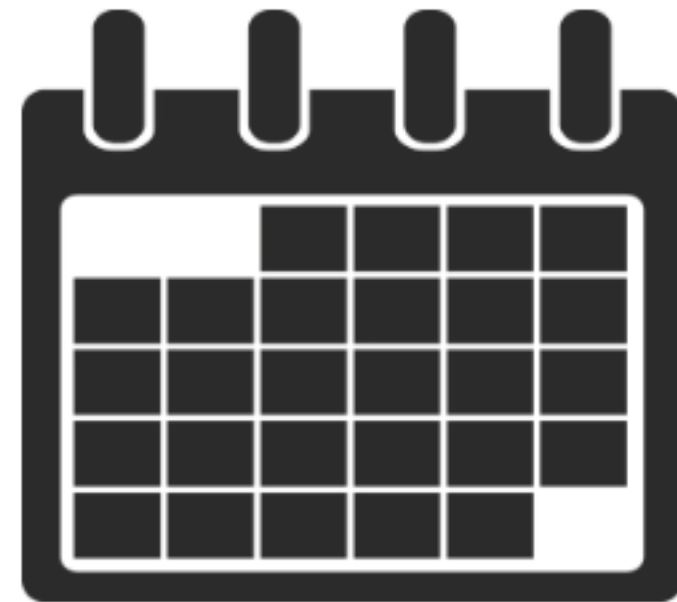
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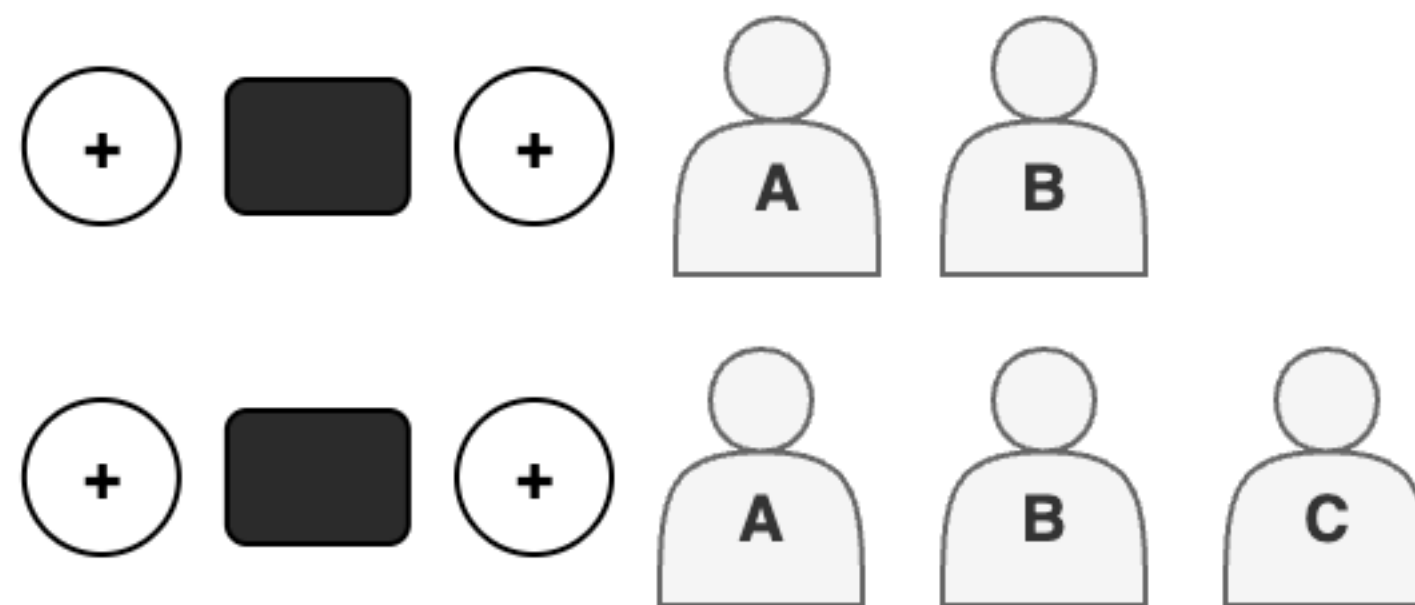
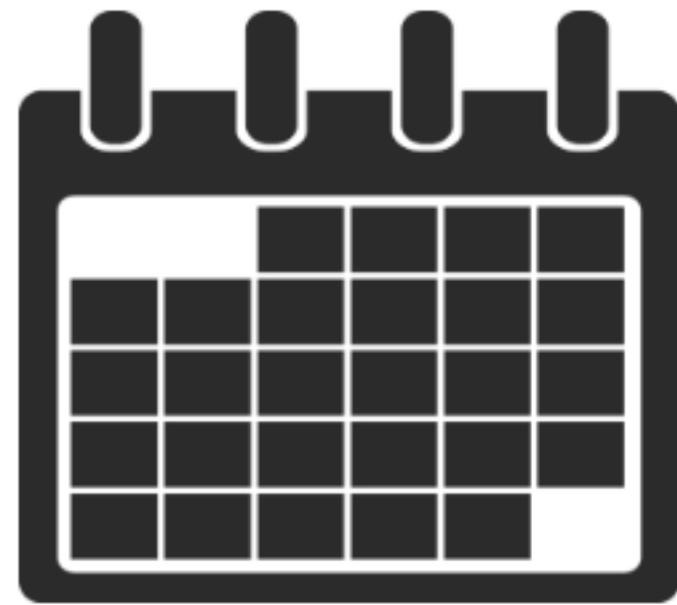
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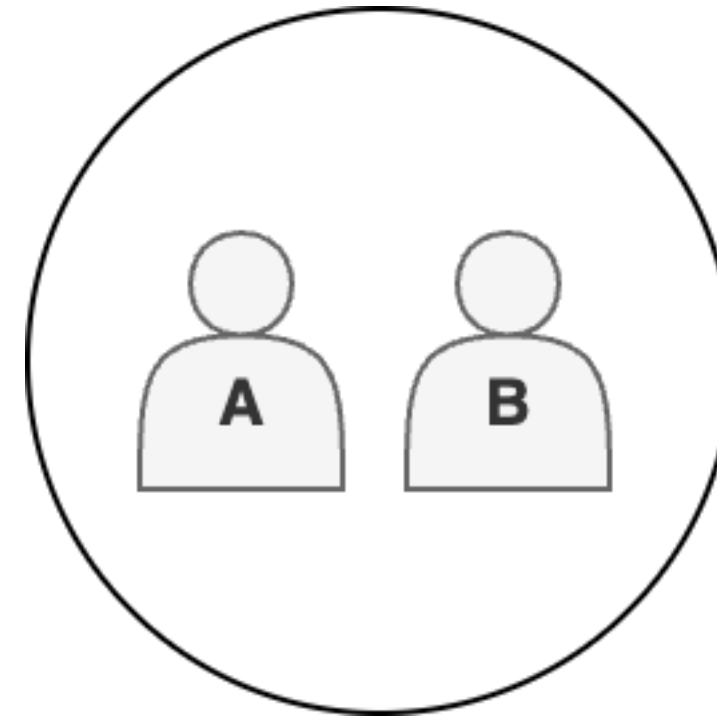


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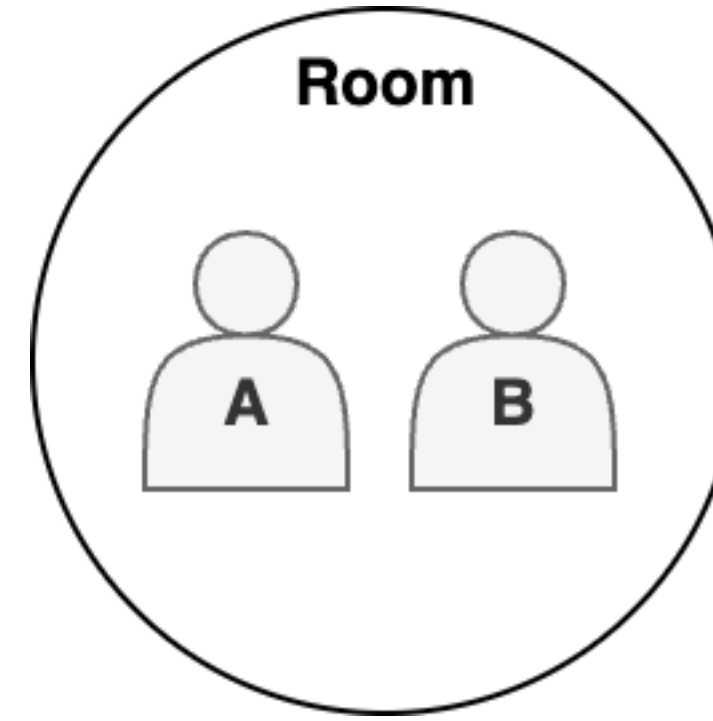


HOW do we organize events? - Alternative

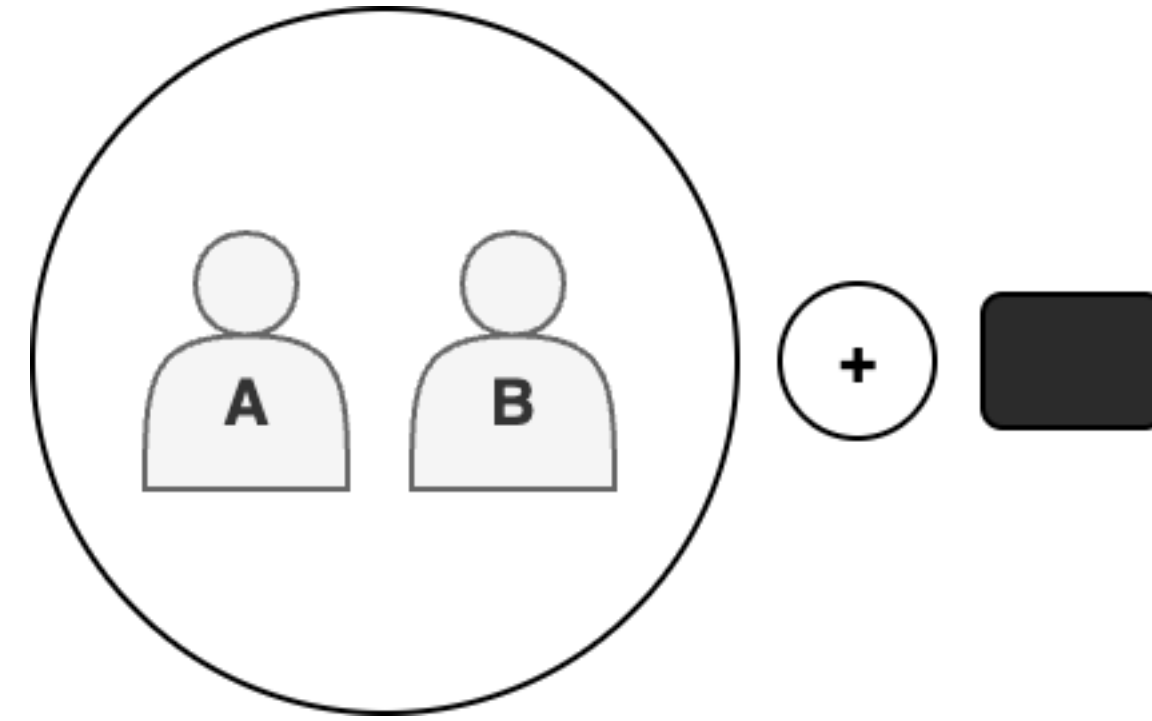
HOW do we organize events? - Alternative



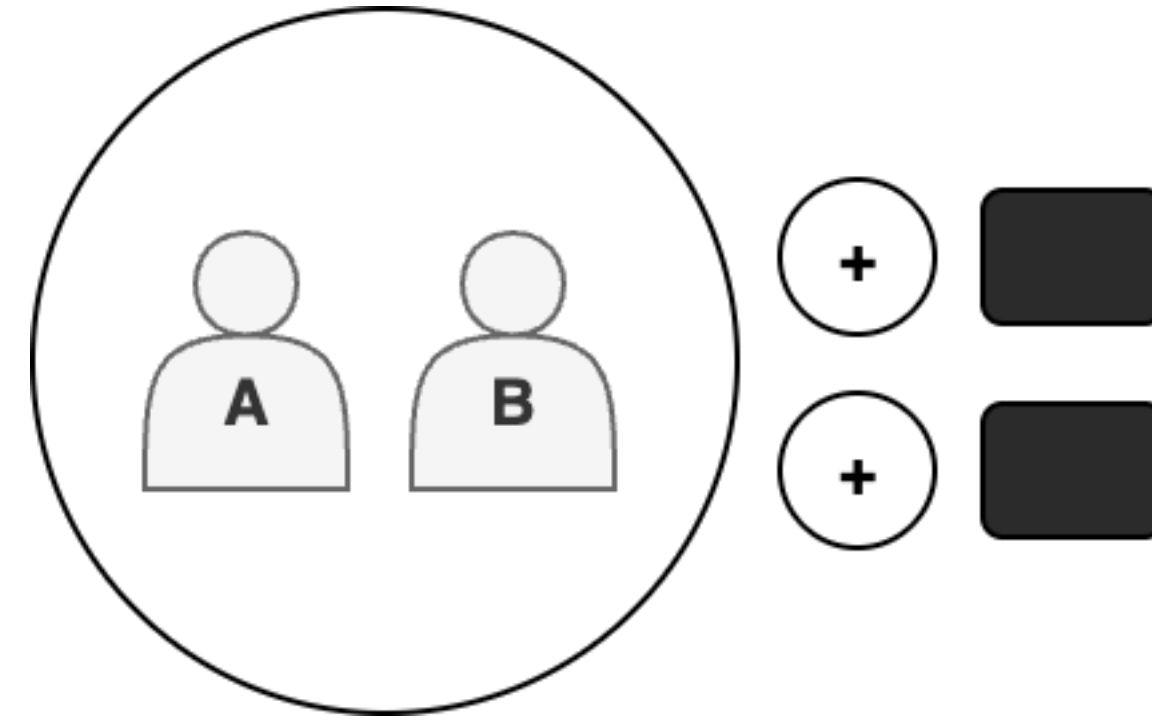
HOW do we organize events? - Alternative



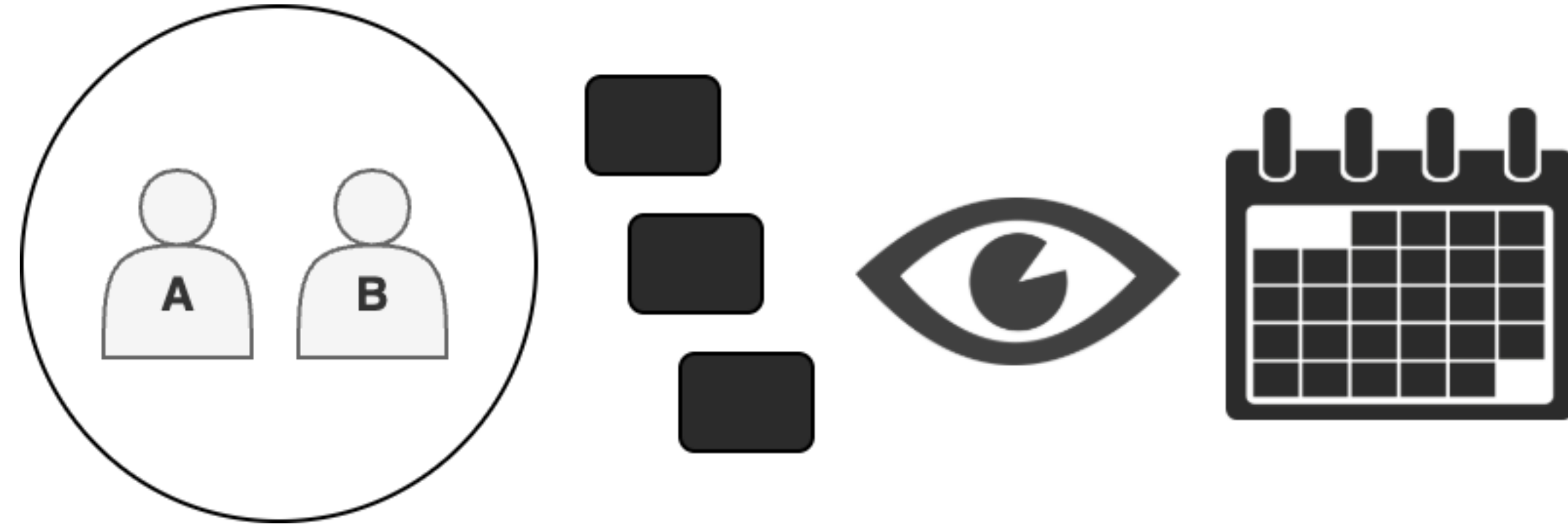
HOW do we organize events? - Alternative



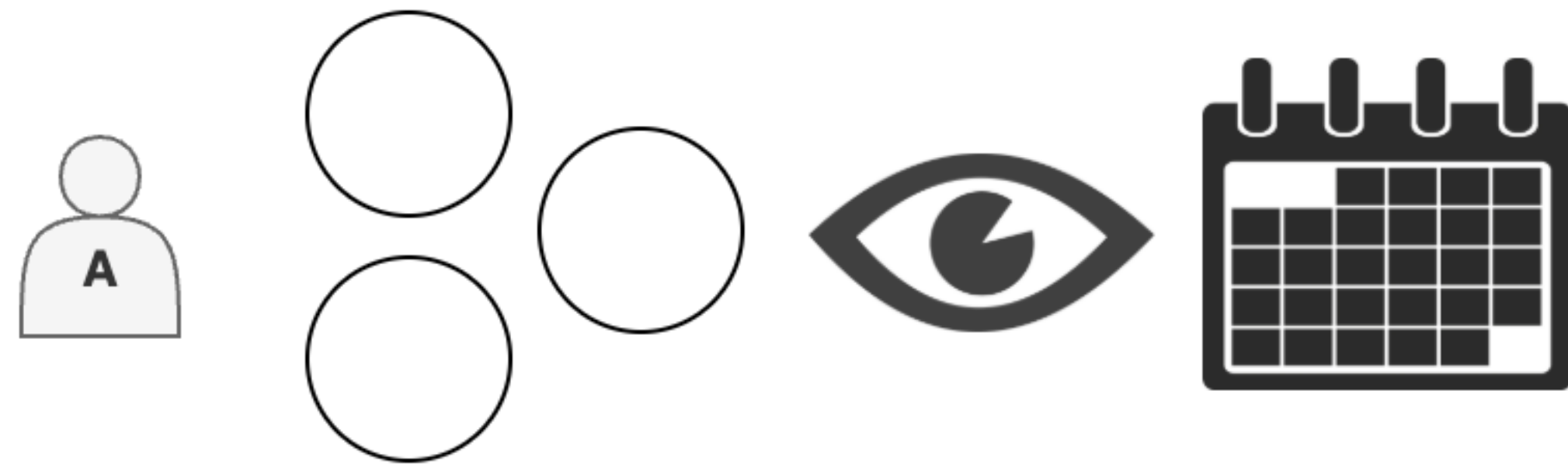
HOW do we organize events? - Alternative



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Demo

What is JSCalendar

- **Standardized** format: An IETF specification for representing calendar data in JSON.
- Three primary objects:
 - **Event**: A scheduled event with a title, start time, duration, participants, and more.
 - **Task**: A task with a start time, due time, progress, and more.
 - **Group**: A collection of events and tasks.
- **Interoperability**: Designed to support import/export and integration with existing calendar ecosystems, including iCalendar and CalDAV.
- **Flexible**: Supports features such as recurrence, participants, and notifications.
- -> Instead of inventing a new event (**not calendar!**) data model, Matrix can reuse an established standard and adapt it to its federated synchronization model.

Example 1: JSCalendar objects <-> Matrix events

```
{
  "@type": "Group",
  "version": "2.0",
  "uid": "group-001",
  "title": "The Matrix Conference 2026",
  "description": "Don't forget your towels!",
  "locations": {
    "1": {
      "name": "Sofya"
    }
  },
  "entries": [
    {
      "@type": "Event",
      "uid": "event-001",
      "title": "Integrating JSCalendar into Matrix",
      "start": "2026-10-21T14:45:00",
      "duration": "PT25M",
      "mainLocationId": "1"
    }
  ]
}
```

```
{
  "type": "m.jscalendar.group",
  "state_key": "",
  "content": {
    "m.jscalendar.group": {
      "version": "2.0",
      "uid": "group-001",
      "title": "The Matrix Conference 2026",
      "description": "Don't forget your towels!",
      "locations": {
        "1": {
          "name": "Sofya"
        }
      }
    }
  }
}
```

```
{
  "type": "m.jscalendar.event",
  "state_key": "event-001",
  "content": {
    "m.jscalendar.event": {
      "title": "Integrating JSCalendar into Matrix",
      "start": "2026-10-21T14:45:00",
      "duration": "PT25M",
      "mainLocationId": "1"
    }
  }
}
```

Example 2: Adding participants

```
{
  "@type": "Group",
  "version": "2.0",
  "uid": "group-001",
  "title": "The Matrix Conference 2026",
  "description": "Don't forget your towels!",
  "locations": {
    "1": {
      "name": "Sofya"
    }
  },
  "entries": [
    {
      "@type": "Event",
      "uid": "event-001",
      "title": "Integrating JSCalendar into Matrix",
      "start": "2026-10-21T14:45:00",
      "duration": "PT25M",
      "mainLocationId": "1",
      "participants": {
        "@alice:example.org": {
          "participationStatus": "accepted"
        }
      }
    }
  ]
}
```

```
{
  "type": "m.jscalendar.patch",
  "sender": "@alice:example.org",
  "content": {
    "m.jscalendar.patch": {
      "participants/@alice:example.org/participationStatus": "accepted"
    },
    "m.relates_to": {
      "rel_type": "m.jscalendar.patch",
      "event_id": "$event001"
    }
  }
}
```

Example 3: Personal overrides

```
{
  "@type": "Group",
  "version": "2.0",
  "uid": "group-001",
  "title": "The Matrix Conference 2026",
  "description": "Don't forget your towels!",
  "locations": {
    "1": {
      "name": "Sofya"
    }
  },
  "entries": [
    {
      "@type": "Event",
      "uid": "event-001",
      "title": "Integrating JSCalendar into Matrix",
      "description": "This is me!",
      "start": "2026-10-21T14:40:00",
      "duration": "PT30M",
      "mainLocationId": "1",
      "participants": {
        "@alice:example.org": {
          "participationStatus": "accepted"
        }
      }
    }
  ]
}
```

```
{
  "type": "m.jscalendar.patch.$event0001",
  "content": {
    "m.jscalendar.patch": {
      "start": "2026-10-21T14:40:00",
      "duration": "PT30M"
    }
  }
}
```

JSCalendar in Matrix

Matrix component	Purpose
m.calendar room	Container for a single JSCalendar Group
m.jscalendar.group state event	Stores group metadata, such as its title and description
m.jscalendar.event state event	Stores an individual event
m.jscalendar.task state event	Stores an individual task
m.jscalendar.patch message event	Updates participant information
m.jscalendar.patch.<state_key> room account data	Stores private changes, such as notification settings

Now & Future

- MSC-4569
- <https://github.com/matrix-org/matrix-spec-proposals/pull/4569>
- Matrix Calendar Working Group?



Tammy

<https://tammy.connect2x.de>



Trixnity Messenger

<https://gitlab.com/trixnity-messenger>

