# CalConnect

The Calendaring and Scheduling Consortium

# Technical Previews

October 2008 Roundtable

# Note Well

- This presentation reflects in-progress work and activities of CalConnect
- CalConnect rules governing disclosure of such work applies
- As always you can discuss this work freely within the CalConnect community

More...

# Note Well (cont.)

- Outside of CalConnect:
  - You may discuss the preview and the work being done in general
  - Please do not identify the organizations and individuals that are participating
  - Please do not discuss specific details and be cautious about inferences

# Introduction

CalConnect members have produced a Technical Demonstration of key calendaring and scheduling technologies being developed by CalConnect

This serves as a technology “preview” only and does not in any way represent final protocols or products

More...

# Introduction (cont.)

- Our goal is to solicit feedback from members and invited guests on the presentation itself as well as the technologies being demonstrated
- We also hope to show how CalConnect is successfully achieving its goal of improving calendaring and scheduling standards

# Agenda

- Introduction to CalConnect
- Technical Previews
  - CalDAV Scheduling
  - iSchedule
  - Internet Freebusy
- Conclusion
- Q&A

Don’t forget the reception afterwards!

# Introduction to CalConnect

# CalConnect

- What is CalConnect?
- Why do we need it?
- Who are the members?
- What is it doing?
  - What has been done so far?
  - What is going on now?
- Where is it going?

# What is CalConnect

- An information technology consortium focused on calendaring and scheduling that is a partnership between vendors and customers

> “Our vision of the future is not only interoperable calendaring, but ubiquitous interoperable calendaring. Calendaring should—and can—be as ubiquitous as electronic mail.”

More...

# Why do we need it?

- Our goals:
  - improve general understanding
  - promote the technologies
  - improve the technologies, in particular interoperability

> “The driving premise behind the Consortium is that interoperability between calendaring programs and systems is essential to achieving the promise and future growth of calendaring.”

# Current Membership

Apple
California State University Fresno
Dartmouth
cabo communications
Duke University
Carnegie Mellon
eventful
IBM
mailsite
Google
MIT
KERIO
Microsoft
New York University
OSAF
mozilla
peoplecube
Oracle
Rensselaer Polytechnic Institute
Sony Ericsson
Stockholm University
SCALIX
Sun microsystems
Stanford
swami
symbian
TIMEBRIDGE
Sybase iAnywhere
University of California Berkeley
synchronica
The University of Chicago
Penn
The University of Wisconsin Madison
University of Michigan
YAHOO!
University of Washington

# Done so far?

- Substantial input to the IETF on new versions of calendaring RFCs (e.g., recurrences, timezones, and minimum interoperability subsets)
- Work on CalDAV, CalDAV Scheduling, and extensions to CalDAV
- Recommendations and guidance on Extended Daylight Savings Time
- Timezone Registry and Service Recommendations

More...

# Done so far?

- Mobile Calendaring white paper and Interoperability Test Suite
- Mobile Calendaring Recurrence support
- Surveys and use cases for calendaring events, tasks (VTODOs)
- Calendaring Glossary
- Calendar Administrator's mailing list

More...

# Done so far?

- Thirteen successful IOP test events between C&S implementations
- First Mobile Calendaring IOP test event
- Demo of Federated Freebusy data consolidation in 2006

# Ongoing work?

TC-CALDAV

TC-EVENTPUB

TC-FREEBUSY

TC-IOPTEST

TC-ISCHEDULE

TC-MOBILE

TC-TIMEZONE

TC-USECASE

TC-XML

# Where is it going?

- Continue with core goals
- Calendaring libraries/apis to assist implementations
- Calendaring as a platform (e.g. project management)
- Types of calendaring infrastructures (e.g. enterprise, federation, services, ad hoc)

More...

# Where is it going?

- Expand participation in new areas
  - Vertical industry focus (e.g., mobile operators)
  - Government and private industry customer perspective
  - Overseas (Europe in short term, Asia after)

# Technical Previews

# Technical Preview

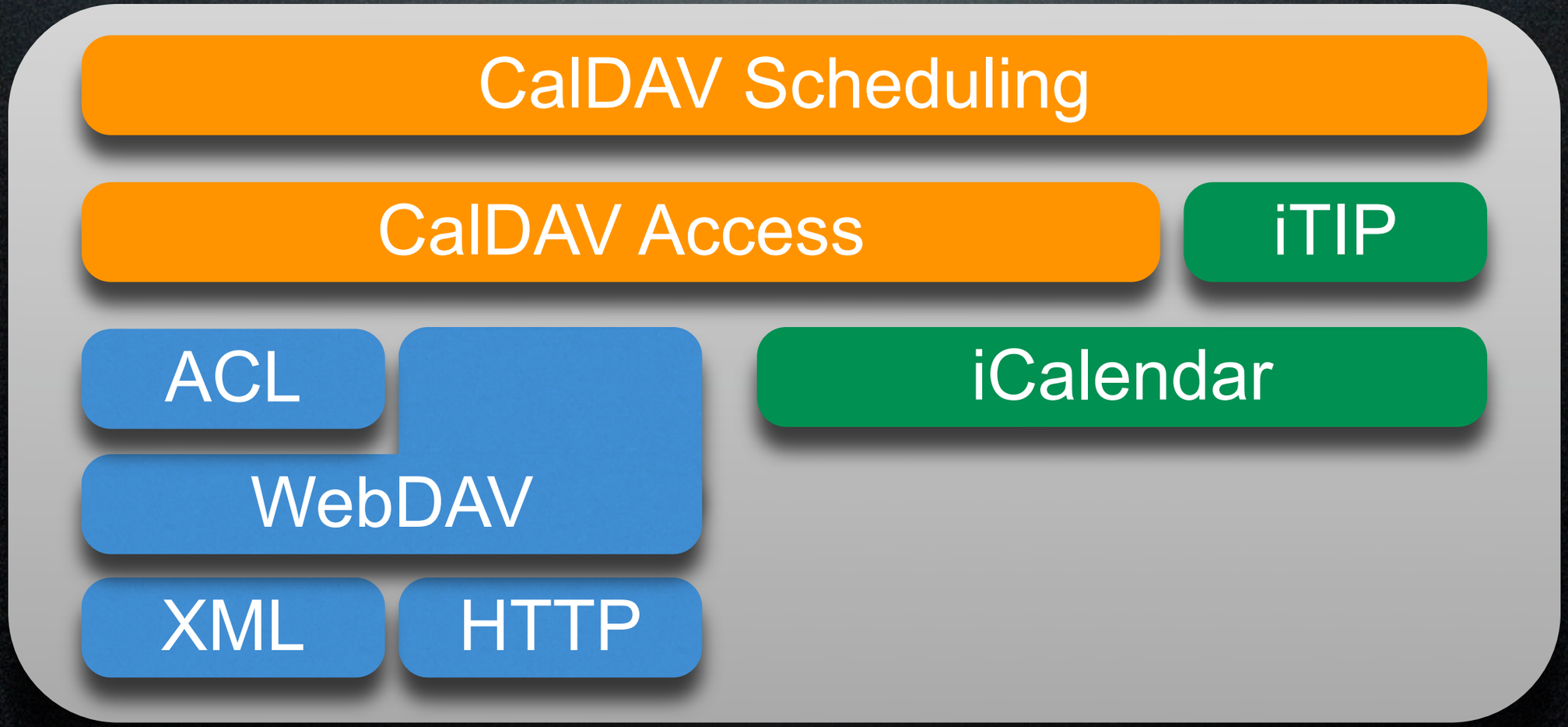
- Today we will demonstrate:
  - CalDAV Scheduling
  - iSchedule
  - Internet freebusy lookups using freebusy URLs
- Each presentation will consist of:
  - Introductory slides
  - Live demonstration

# CalDAV Scheduling

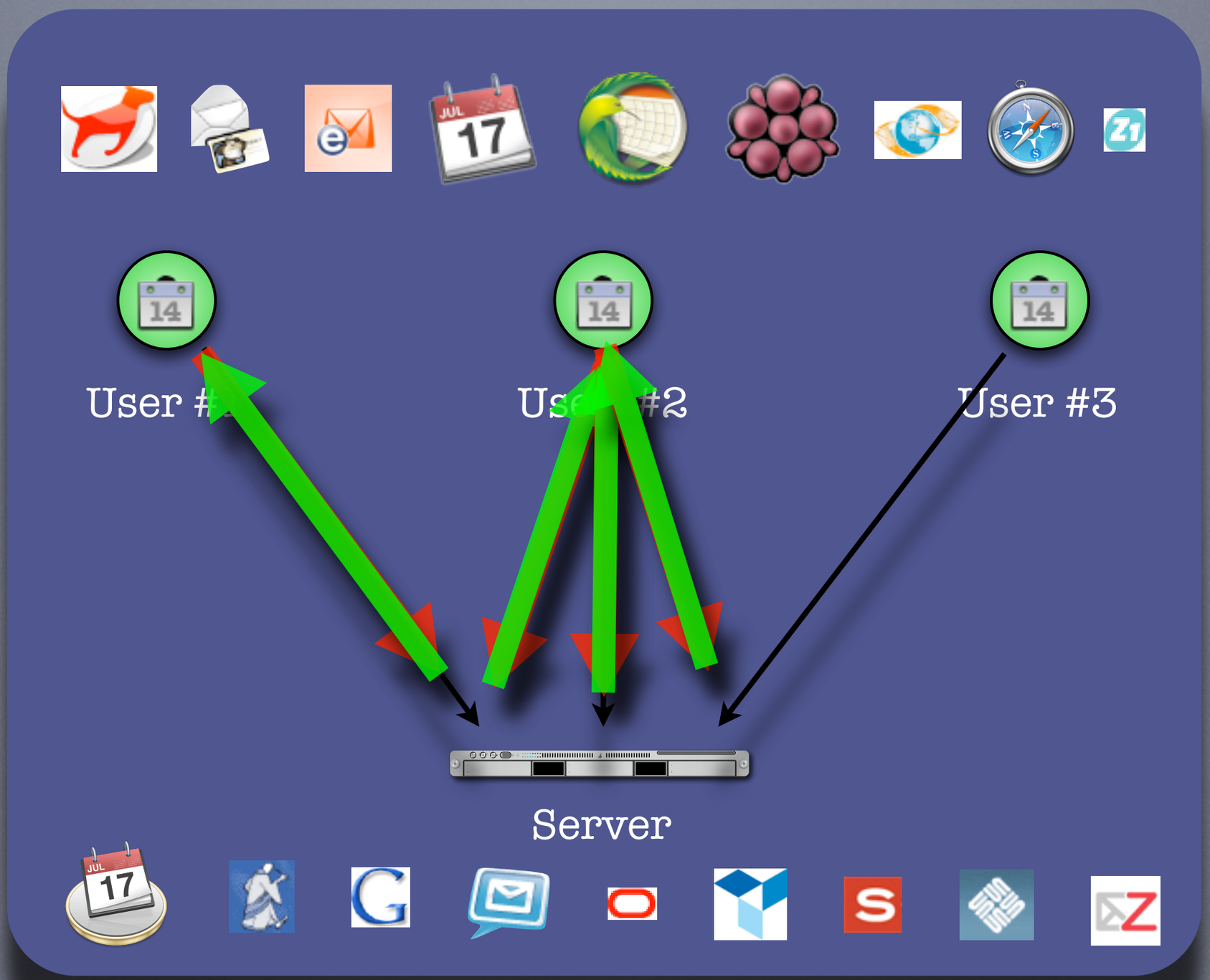
## How it works

# Introduction to CalDAV

- RFC4791 defines the CalDAV Access protocol.
- Built on core internet technologies



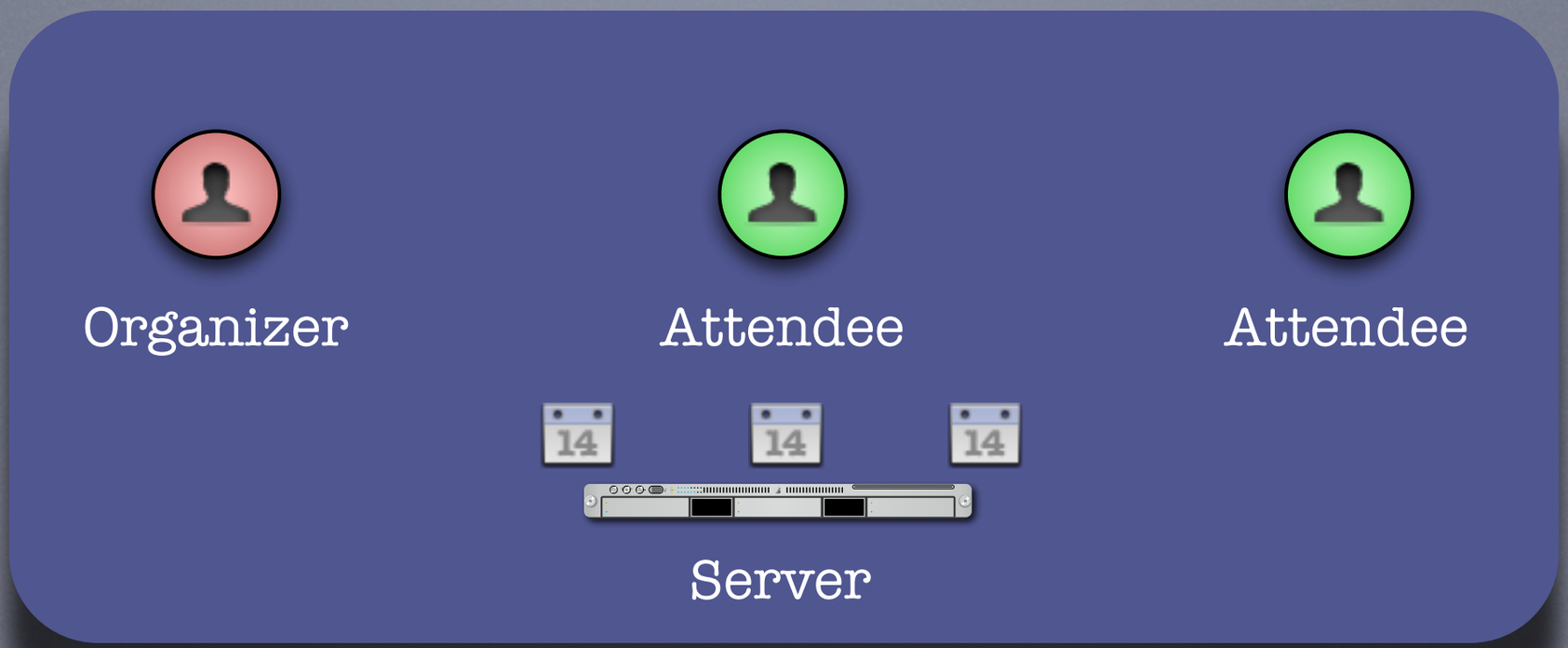
# Multiple Users can Access and Share Calendars



# CalDAV Scheduling

- How it works:
  - Several users on one CalDAV server (any client) schedule with each other
  - One user is the “Organizer”, others are “Attendees”

# One is the Organizer, others are Attendees



# CalDAV Scheduling

- There are two parts to scheduling:
  - Freebusy lookup
  - Sending invitations and receiving replies
- Freebusy results are returned immediately
- Invitation replies are sent only after users inspect and accept or decline

# CalDAV Scheduling

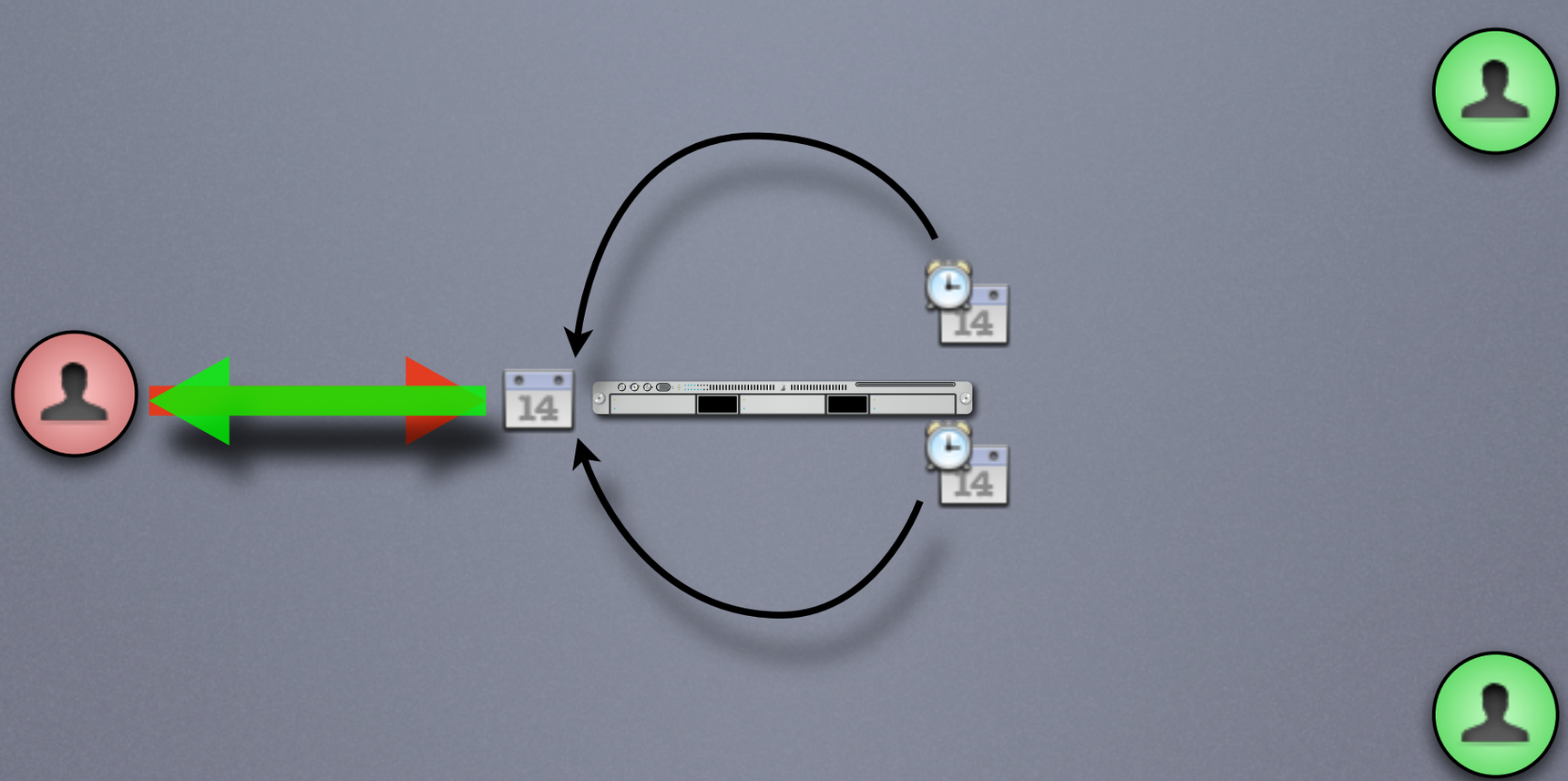
- Each user has an “Outbox” and an “Inbox”
- The “Outbox” is used to trigger freebusy lookup
- The “Inbox” is where invites or replies are delivered
- Changes to events trigger scheduling
- Clients monitor the “Inbox” for incoming scheduling messages

# CalDAV Scheduling

Sequence of diagrams showing free-busy lookup.

# Organizer sends freebusy request to the server

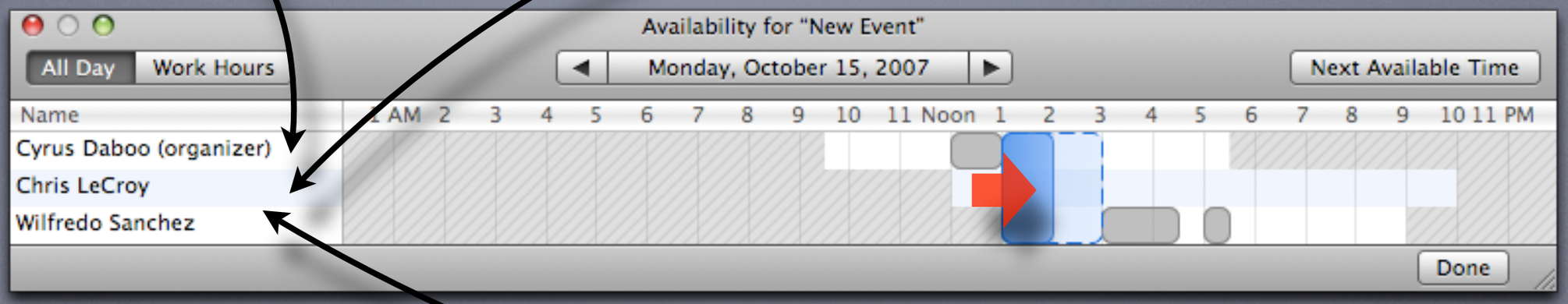
Server calculates and returns freebusy data for attendees



# Organizer sees freebusy for everyone

## Adjusts for free time for everyone

Free




Busy

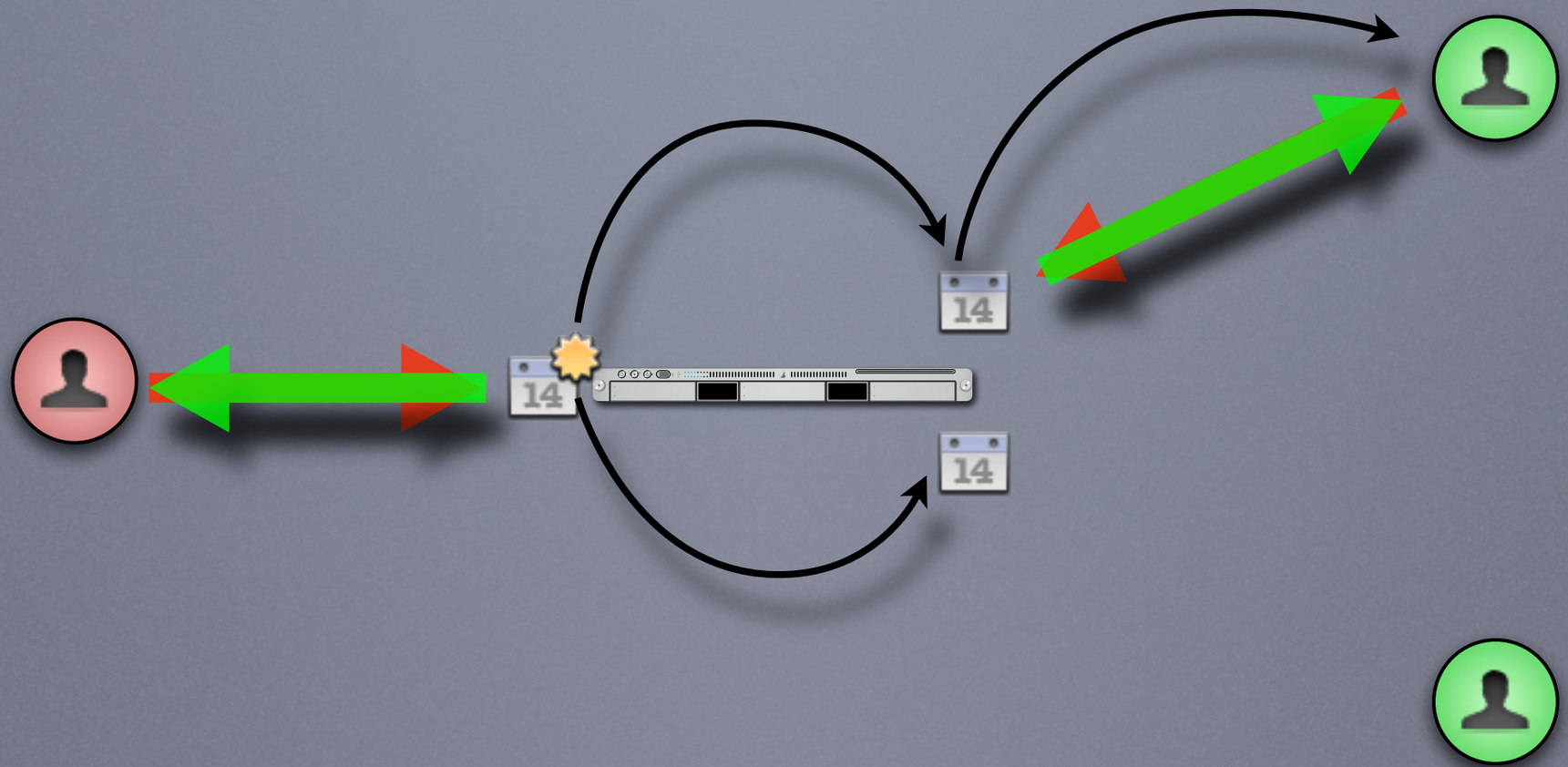
# CalDAV Scheduling

Sequence of diagrams showing invitations being sent out, replies returned.

# Organizer sends invite request to the server

Server copies the request into each attendees' Inbox

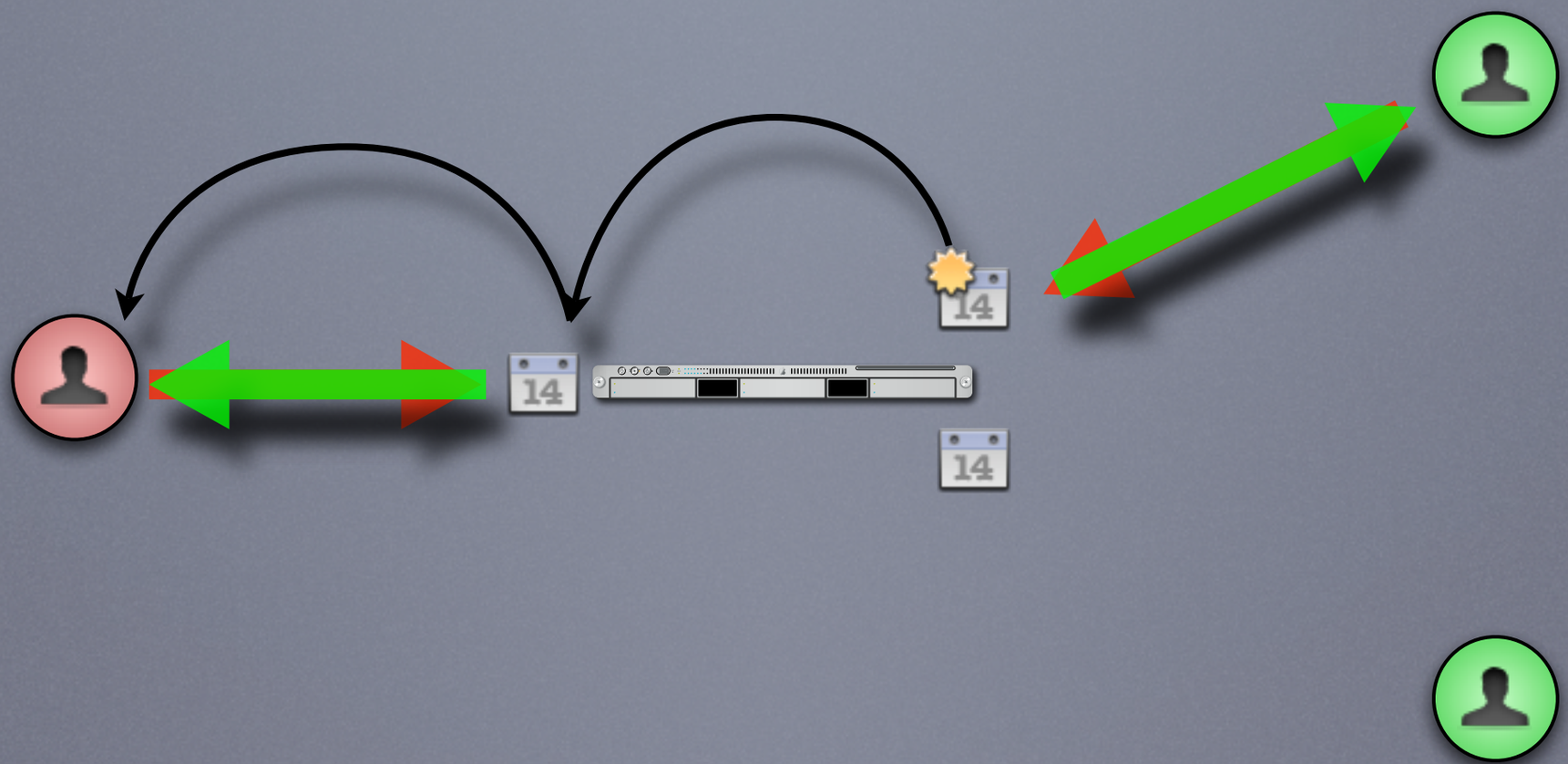
Attendees see the invites when they next check the server



# Attendee replies to the server

Server copies the reply into the organizer's Inbox

Organizer sees the reply when they next check the server



# CalDAV Scheduling Demonstration #1

Simple meeting between two people

# Demo Participants

Screen #1

Organizer

Screen #2

Attendee

CalDAV

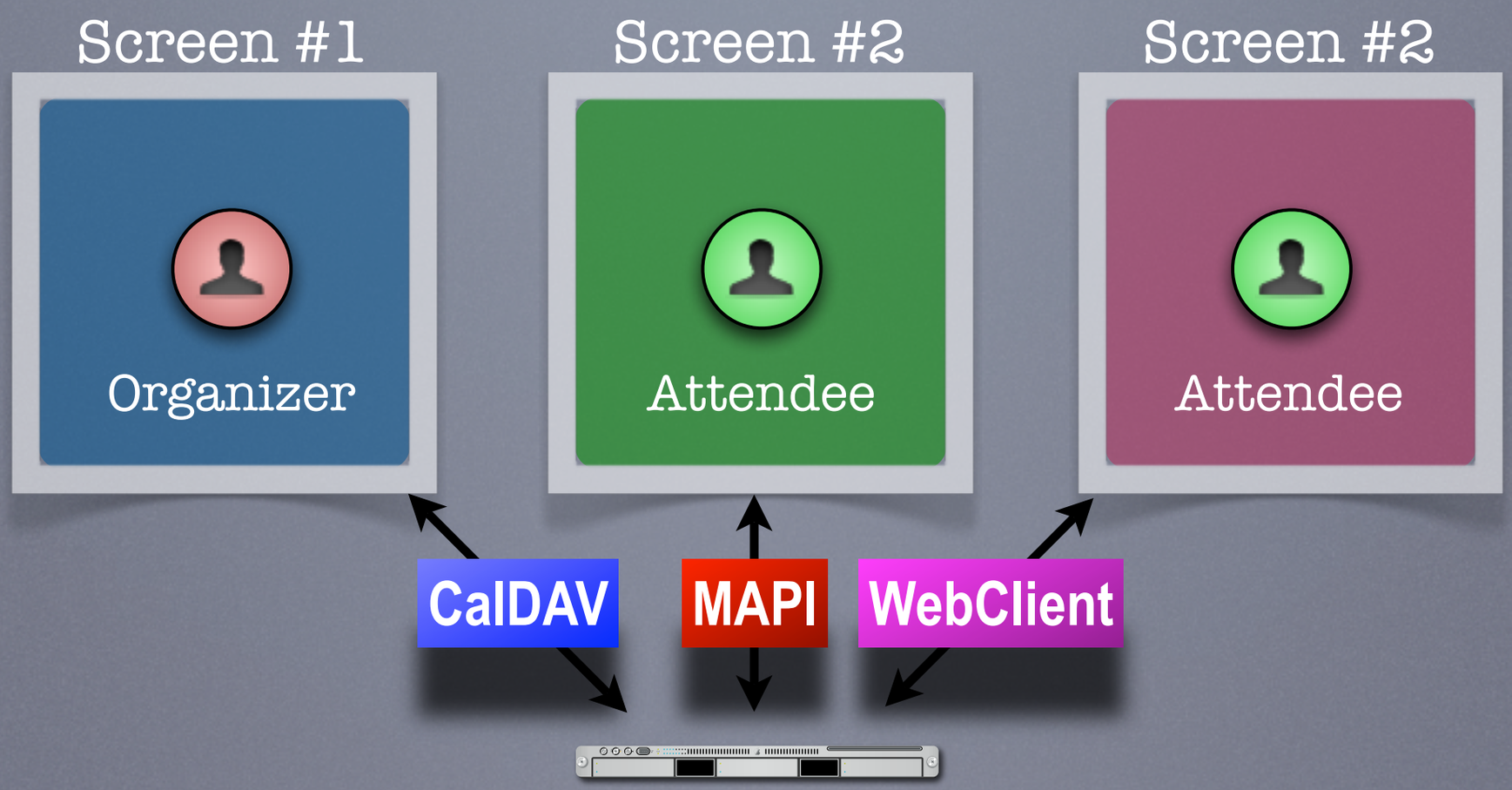
CalDAV

Server

# CalDAV Scheduling Demonstration #2

Simple meeting between multiple people with different clients some CalDAV others using a CalDAV “connector”

# Demo Participants



# iSchedule

How it works

# Basic Concept

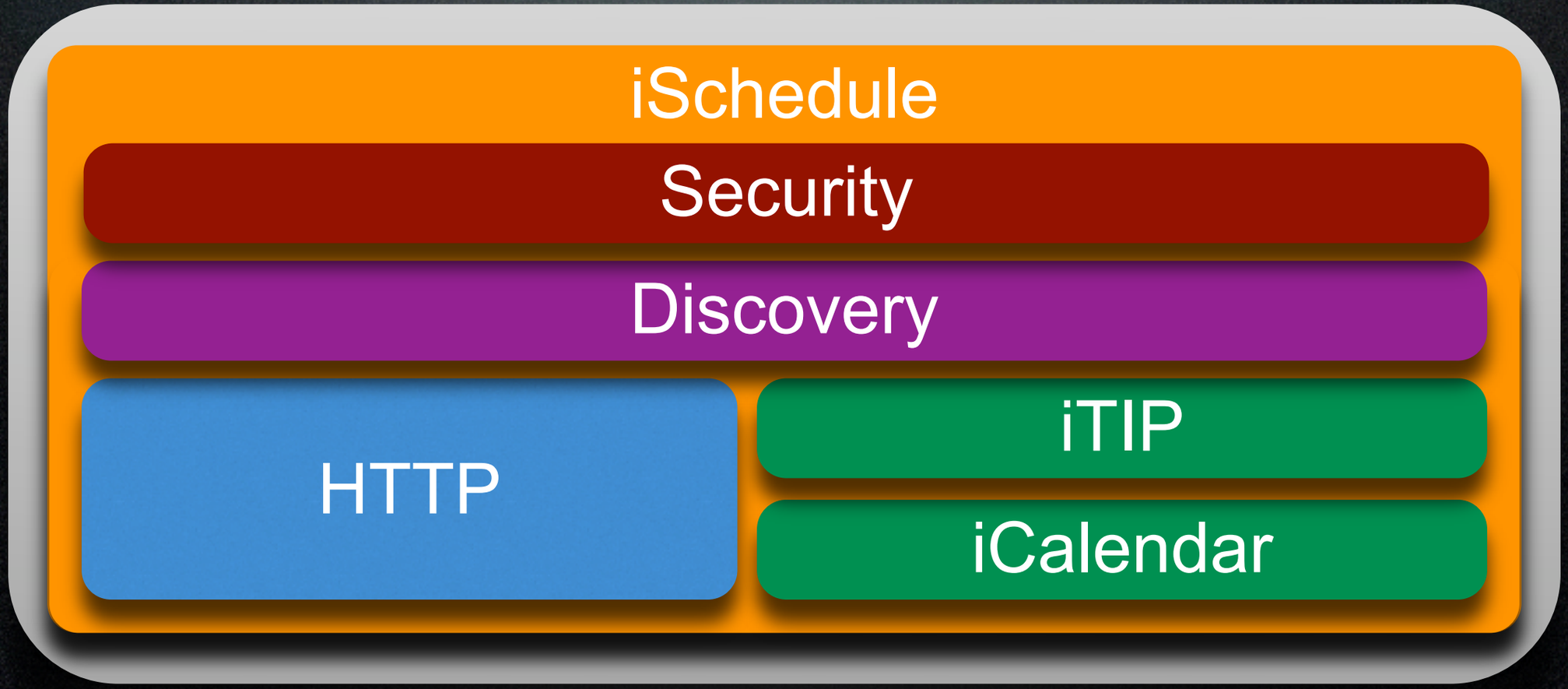
- Provides the ability for users on different calendaring systems to schedule meetings with each other
- Instantaneous freebusy lookups
- Invites, replies sent as “messages” with delivery status immediately returned

# Can’t this be done today?

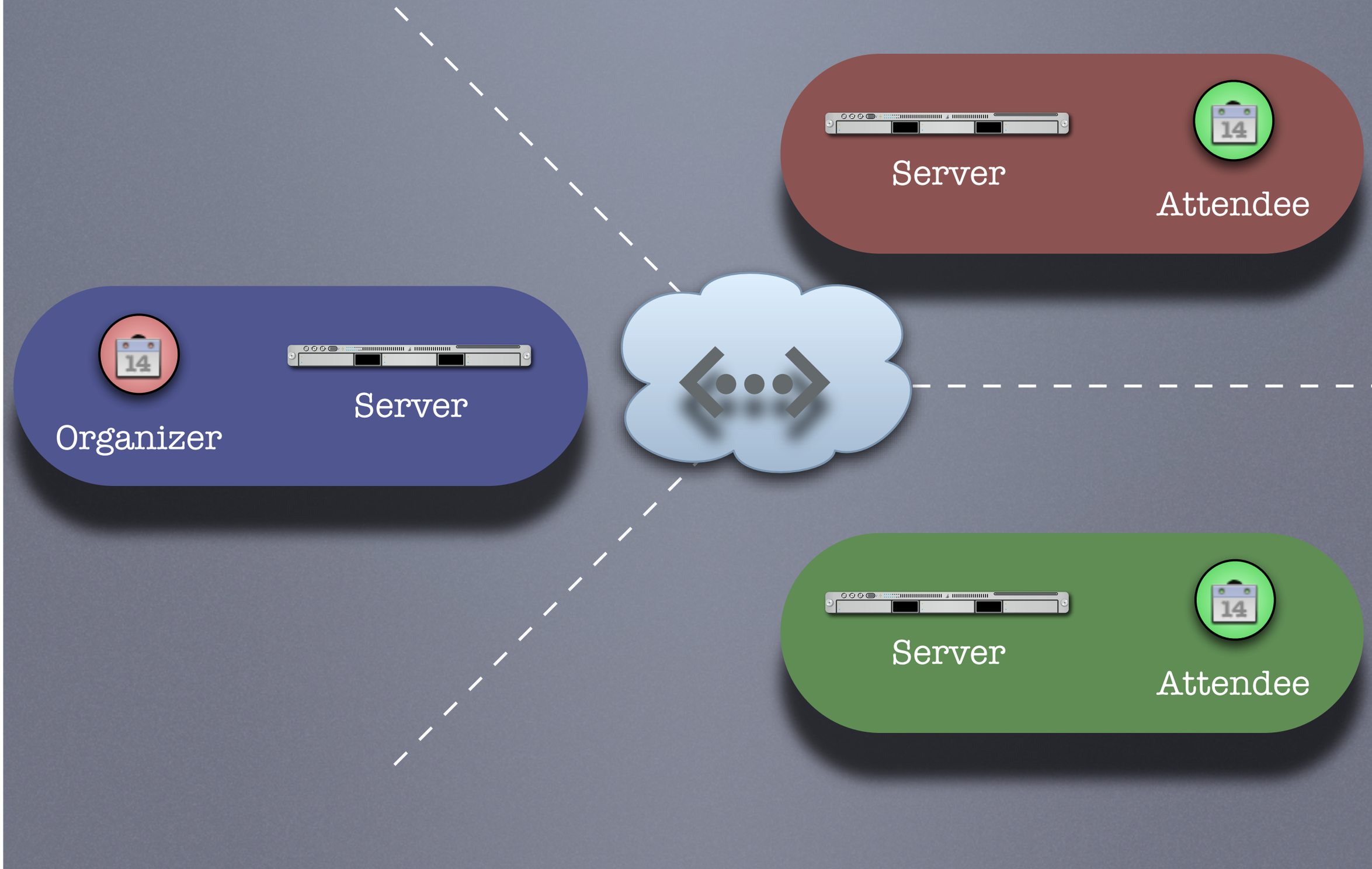
- But I can do scheduling with my colleagues today!
- True, but only people on the same server as you, or via some other communication process such as email or telephone.

# Design of iSchedule

- Built on core internet technologies
- Can be used with any type of calendar store (does not depend on CalDAV)



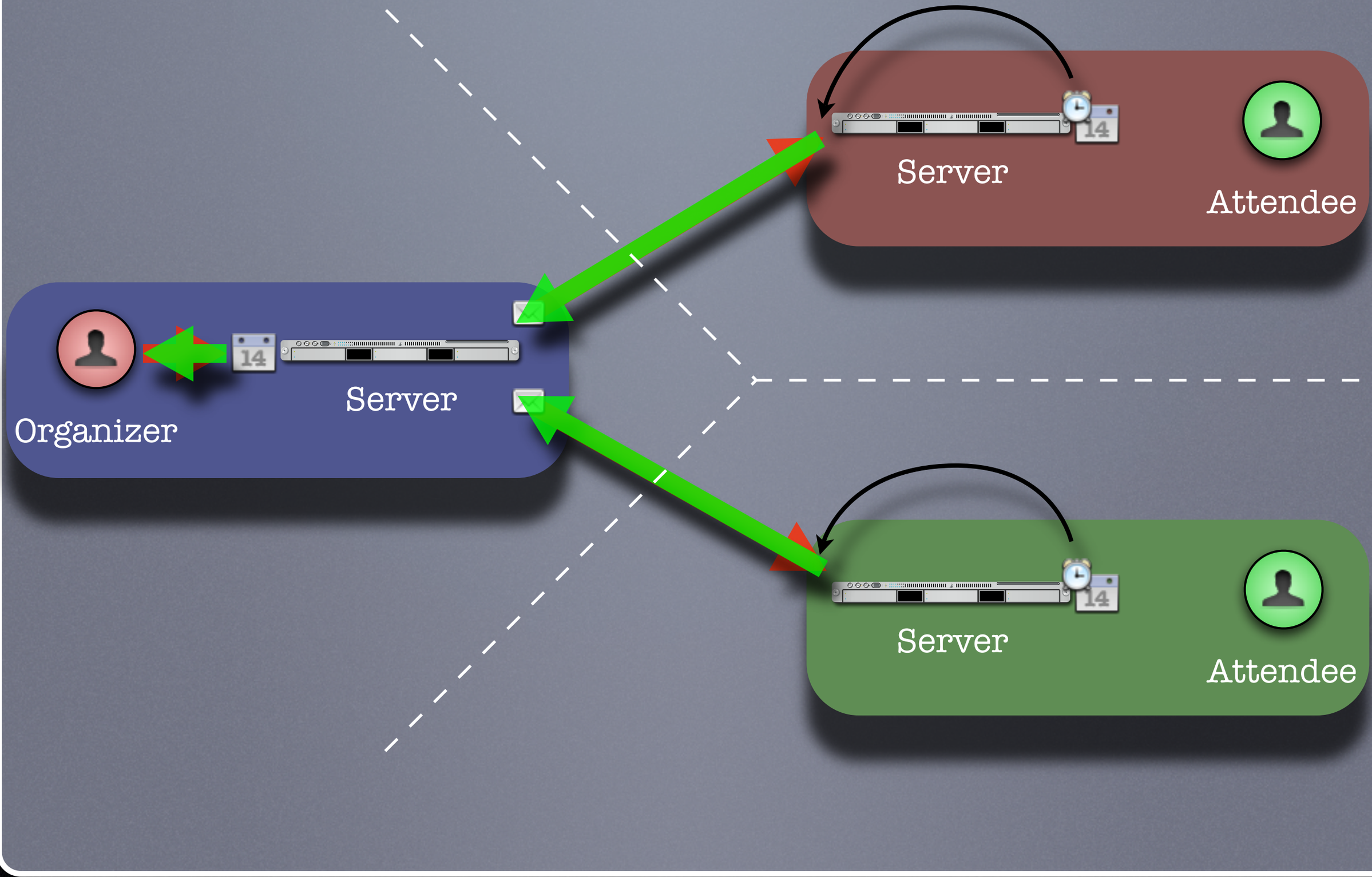
# Organizer and Attendees on different systems



# iSchedule

Sequence of diagrams showing freebusy.

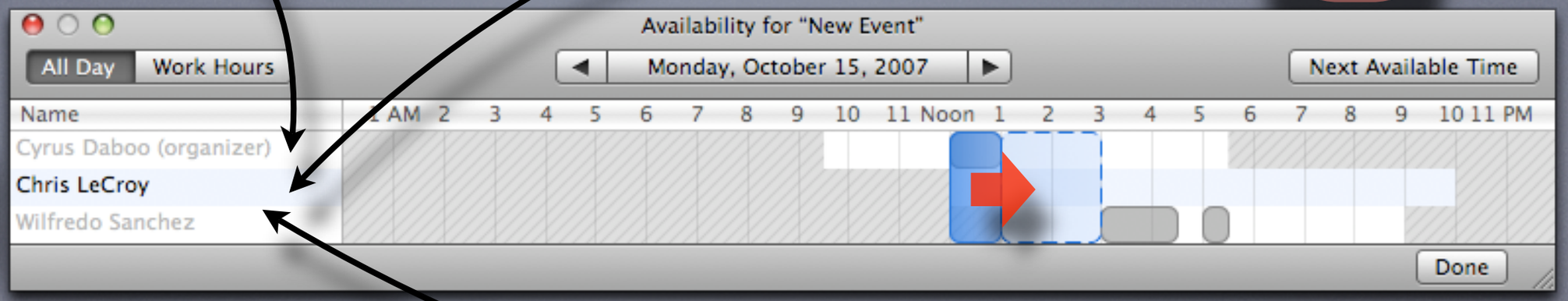
# Freebusy response comes back immediately



# Organizer sees freebusy for everyone

## Adjusts for free time for everyone

Free




Busy

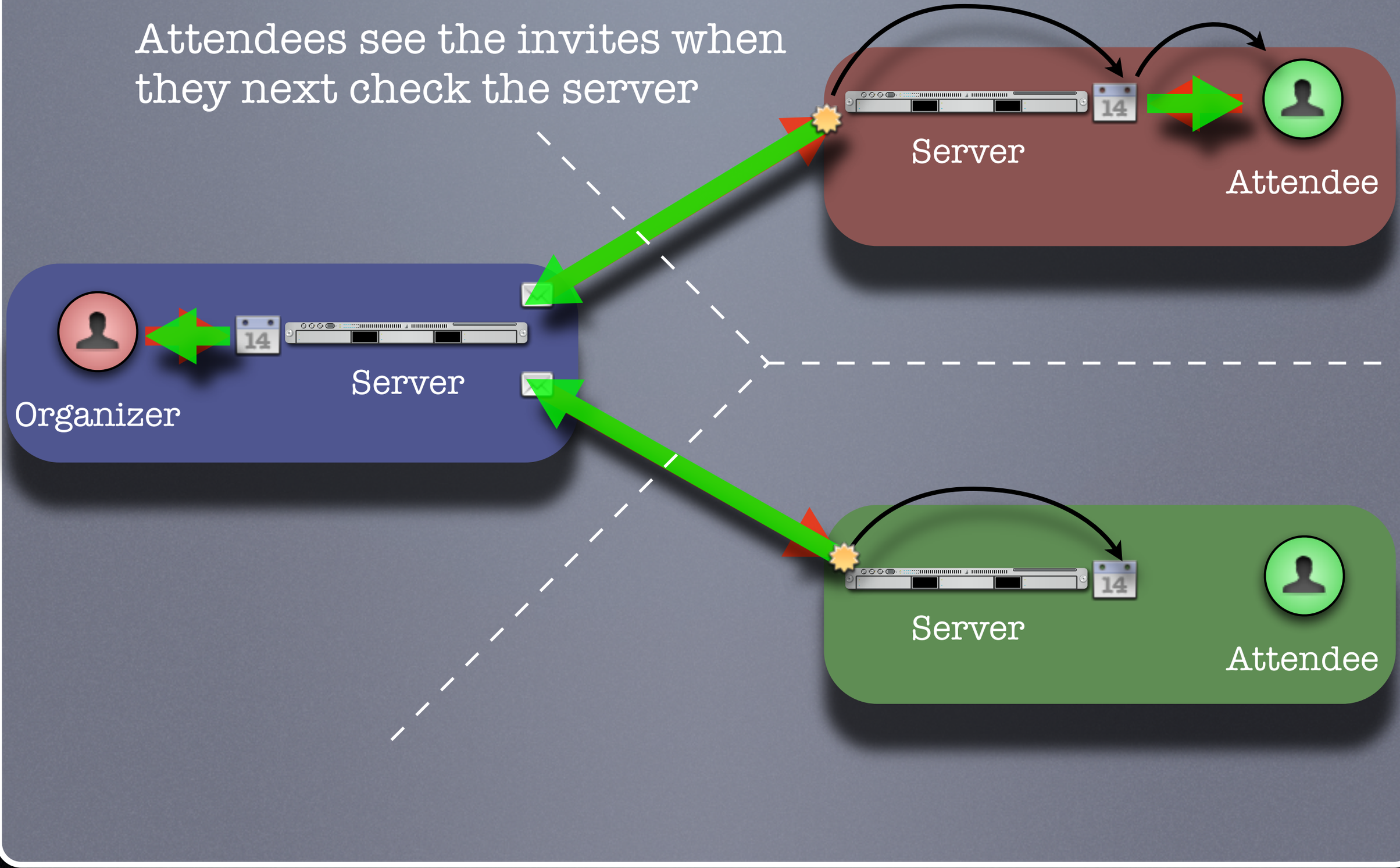
# iSchedule

Sequence of diagrams showing invites and replies.

# Organizer sends invite request to their server

Server sends the invite to each attendee's server

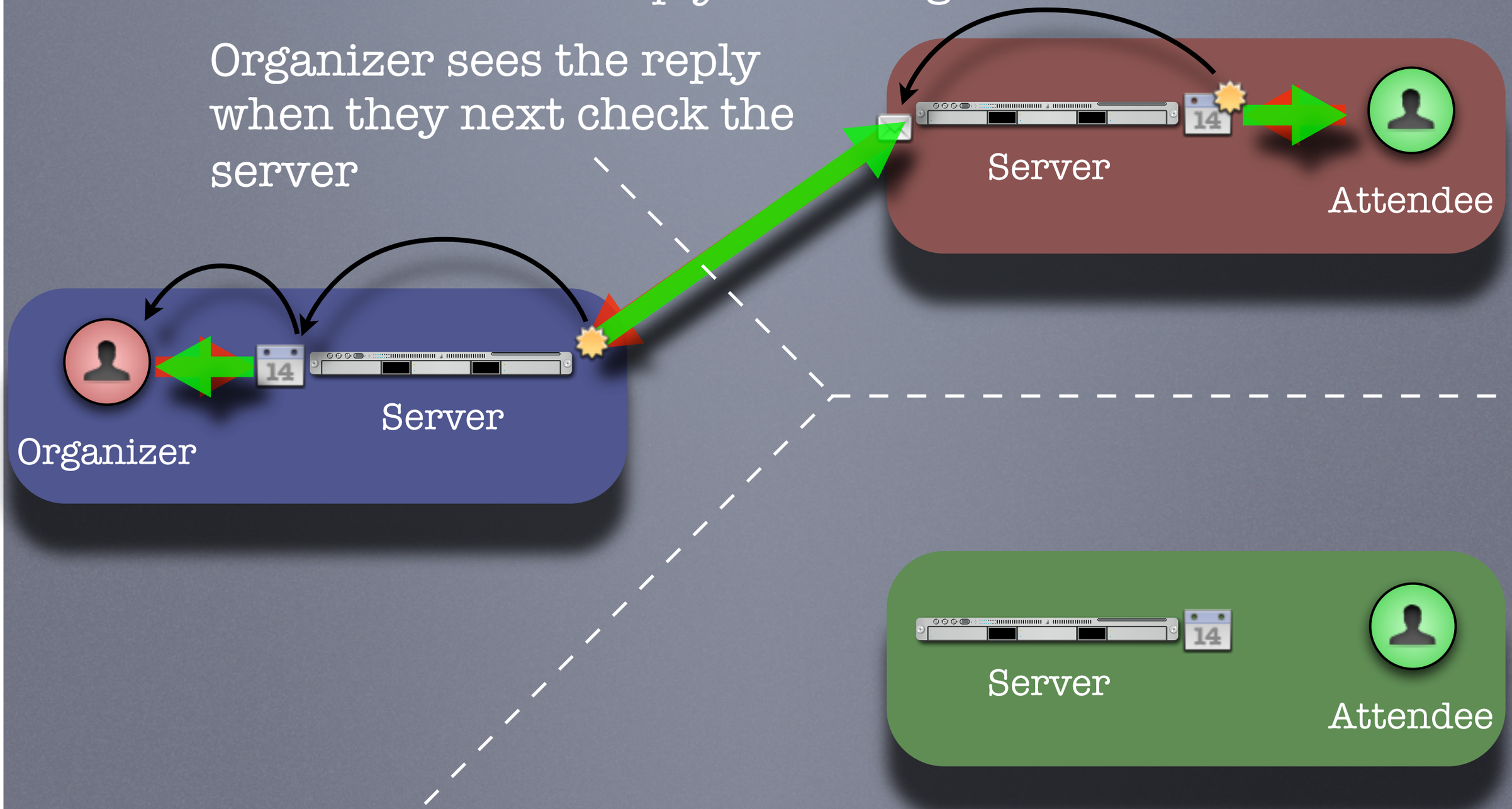
Attendees see the invites when they next check the server



# Attendees reply to their server

Server sends the reply to the organizer's server

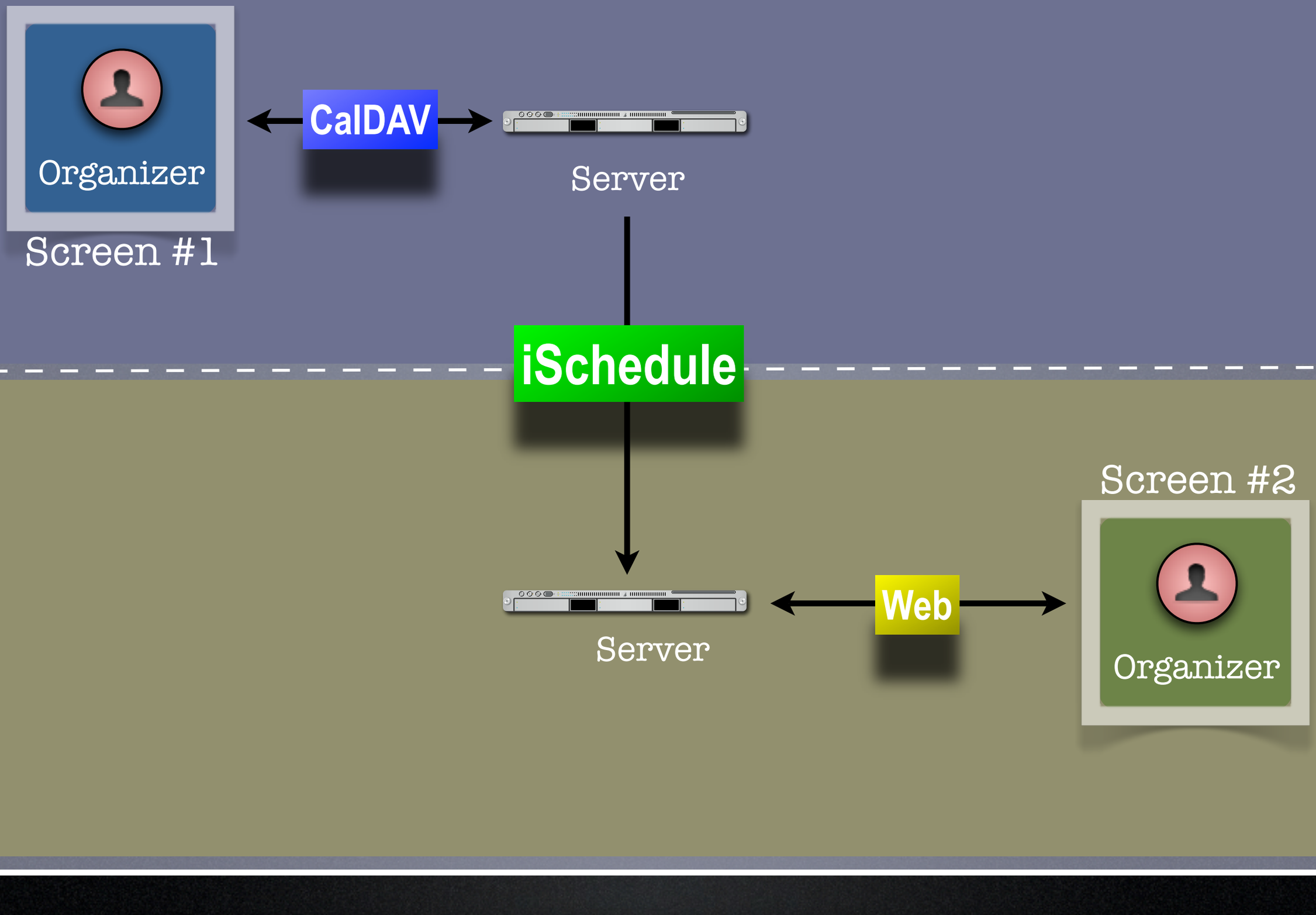
Organizer sees the reply when they next check the server



# iSchedule Demonstration

Two calendar users in different domains

# iSchedule Demo Setup



# iSchedule Demonstration

Four calendar users in different domains

# iSchedule Demo Setup

Organizer

Screen #1

CalDAV

Server

Server

CalDAV

Attendee

Screen #2

iSchedule

Server

Server

Web

Screen #1

Organizer

ActiveSync

Off Screen

Attendee

# Freebusy URL

# What is Freebusy?

- A list of free and busy periods for a particular calendar user or resource
- Primarily used for scheduling resources or meetings with other people
- Time periods may be marked as
  - busy
  - free
  - busy unavailable (“out of office”)
  - busy-tentative

# Expressing Freebusy time

- Most commonly as a RFC 2445 VFREEBUSY object
  - a request for freebusy time,
  - a response to a request, or
  - a published set of busy time

# Sharing Freebusy

- CalDAV Scheduling
- iTIP/iMIP (email)
- iCalendar .ics file
- Freebusy URL (FBURL)

# Why FBURL?

- Freebusy is LCD scheduling
- FBURL is LCD Freebusy (or could be)
- Easy
- Outlook supports a form of FBURL

# Why FBURL? (cont.)

- The market says FBURL is desirable and useful
  - tungle.com, timebridge.com, timetomeet.info, doodle.ch
- Potentially bridge the divide between enterprise calendaring and
  - calendar/scheduling augmenters
  - standalone calendaring clients (no server)

# What we have done

- Standardize/Normalize
- Parameters -URI template
- Error reporting within the HTTP protocol
- Allow for non-authenticated or weakly authenticated service
- Keep it simple (in its simplest form)

# What we have done...

- Outlook compatibility
- Extend?
  - Discovery
  - Authentication
  - Provisioning
  - VAVAILABILITY
    - provide a grouping of available time information over a specific range of time.

# How it works (1)

- The “Read URL” is used to get freebusy data for a user

http://www.example.com/freebusy/user1@example.com?start=20070901T000000-0800

http://www.example.com/freebusy/user1@example.com

- returns VFREEBUSY object

# How it works (2)

- The “Publish URL” is used by a client to upload freebusy data for a user

http://www.example.com/freebusy/user1@example.com

http://www.example.com/freebusy?user=user1@example.com&token=xcsfdgetdh

# What we will show you

- Basic form FBURL
  - lookups - no publishing
  - Accessing multiple servers from the same clients
- Comparison with server-server lookups

# Freebusy URL Demonstration #1

Several clients retrieving freebusy information

# Freebusy Demo #1 Setup

Server

Server

Server

Server

**Freebusy URL**

**Freebusy URL**

Screen #1

Organizer

Screen #2

Organizer

# Freebusy URL Demonstration #2

Freebusy aggregation information

# Freebusy Demo #2 Setup

Server

Server

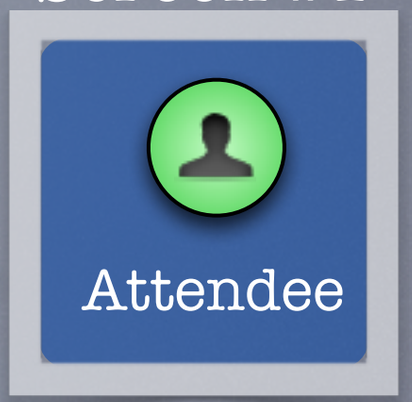
Server

Server

CalDAV

Freebusy URL

Screen #1




Screen #2

# Conclusion

# Wrap-up

- We have demonstrated how progress is being made with key scheduling technologies
- As with a lot of CalConnect work this is a very interactive process with specifications and implementations being worked on together
- This ultimately provides for a better specification and interoperability

# CalDAV Scheduling

- A new CalDAV scheduling draft with implicit scheduling support was recently published and now we are heavily testing that
- Hope to complete this by end-2008

# iSchedule

- Demonstrated basic scheduling message processing
- Key elements of iSchedule still need to be developed:
  - Discovery (use SRV records in DNS)
  - Security - need input from security experts as to what model(s) to use
- Hope to complete this by mid 2009

# Freebusy URL

- Freebusy is LCD scheduling
- Freebusy is soft-core calendaring
- It is what we settle for,  not what we want
- But...Free/Busy is very, very useful
- CalConnect will continue to develop FBURL

# Q&A

# Thanks