ISCHEDULE

Apps Area WG
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Cyrus Daboo

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OVERVIEW

• iCalendar (RFC5545) is the IETF standard for calendar data interchange.

• iTIP (RFC5546) is the IETF standard for how iCalendar data is exchanged to allow scheduling between calendar users.

• iMIP (RFC6047) defines how scheduling occurs over email.

• CalDAV (RFC4791 & RFC6638) define a client-server protocol for calendaring and scheduling.

• Whilst iMIP is reasonable for "personal" scheduling, we want a more efficient, real time, server-to-server protocol for cross-domain scheduling.
KEY ELEMENTS

• Obviously we want full reuse of existing standards, i.e., we want the protocol to be based on iTIP and an existing transport protocol (HTTP was chosen).

• Calendar servers typically generate scheduling messages on behalf of the calendar users, so a "domain-level" security model is appropriate (DKIM was chosen).

• We want a protocol that can be implemented on top of any calendar system be it standards-based like CalDAV, or proprietary (e.g., Exchange, Google calendar etc).

• Needs to scale so that large calendar-in-the-cloud providers can connect to each other and deal with a high volume of scheduling requests.

• Strong authentication required from the outset to prevent any possibility of calendar "spam".
PROPOSED SOLUTION

• iSchedule service discovery via SRV record and .well-known resource.

• ITIP over HTTP (with SSL required) used for calendar data transport.

• DKIM used to sign and verify messages.

• Extensibility handled via a "capabilities" document returned from the .well-known resource.
PROPOSED SOLUTION

• Changes to core DKIM:

  • New header canonicalization method defined to cover only the headers relevant to iSchedule (not intending DKIM use to be a "generic" HTTP signature mechanism).

  • New public key lookup mechanism based on an HTTP well-known resource bootstrapped via a DNS record. Convenient for HTTP admins to manage the public keys rather than DNS admins. DNS admin still has to setup bootstrap record.
• Work has been progressing in the Calendaring and Scheduling Consortium.

• Recent interoperability event had four independent implementations of iSchedule (C, Java, Python, PHP based).

• Each was able to exchange and verify iSchedule messages.
NEXT STEPS

• Want broader cross-area review of this work with the goal of standardizing it.

• Need to resolve IPR issues surrounding possible use of DKIM beyond the email application.