SEC Events Use Cases Discussion

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(draft)
Agenda

- Network Relationship Cases
- Requirements
- Profile Cases
NETWORK RELATION CASES
Notes About Diagrams

- Arrow heads indicate HTTP Request direction (response is assumed)
  - Indicates request or event receiver
- All solid lines are typical HTTP Request & Response
- Blue line – Flow through user-agent
- Black line – Backchannel flow, may be synchronous with UA flow
- Dotted line – Event Stream
  - Usually HTTP (Response only indicates successful SET delivery)
  - Events not linked (not responses), but triggered
  - Events delivered asynchronously, OOB, compared to solid lines
Explicit Federation

1. User logs into an RP using an IDP (OIDC, SAML, OAuth)
2. User may explicitly consent to events exchange
3. IDP sends session events and account state events in backchannel
4. RP sends suspicious activity, assoc, logout events in backchannel

Observations:
- Explicit consent possible
- Many RPs for every IDP
- Some IDPs monolithic (Google), and some tenancy based (Oracle)
Logout Events

1. User initiates at OP, or RP initiates by calling backchannel logout
2. OP marks session as revoked and issues Event to relevant RPs

Observations:
- There may be many RPs notified for a particular session logout
- Current draft does not support sign-out at RP and reverse event (TBD)
Many service providers host multi-domains, tenancies, and legal jurisdictions.
Federation Perspective - RP

Identity Host X
HostX.com

Identity Host Y
HostY.com

Enterprise
MyEnterprise.com

Many service providers host multi-domains, tenancies, and legal jurisdictions

Client A
Hosted Web Application

Client B

Client C
1. User creates account on RP using an email, telephone number, etc
   • Email provider (EP) not involved initially
2. Subsequently, RP sends EP an Assoc Event/Cmd (tbd)
Later:
A. RP sends suspicious activity, recovery events to EP
   • May be in backchannel or as header in recovery Email
   • EP may require stronger user challenge before granting access to email
B. EP gives account state change (takeover, suspension) events to RP
Implicit Network Relationships

- Hosted Email Provider Domain
- Major Email Provider A
- Web Site Relying Party
- Security Broker?
- Major Email Provider B
- Enterprise Email Provider B
Provisioning Events - POST

Users/Admins May take independent actions in separate domains

On-prem workflow triggers SCIM commands to cloud hosting providers.

Changes that occur in cloud are signalled back to enterprise via SCIM Events for reconciliation.

Cloud Providers generate value-added data:
- Differences in services
- Differences in workflows
- Differences in control
- Difference in state (min PII)
Provisioning Events - POLL

Users/Adms May take independent actions in separate domains

Finance  Payroll  Recruiting

Cloud Host Provider A

Enterprise delivers changes via SCIM RESTful commands.

Enterprise POLLs for Provisioning Events using HTTP GET due to firewall
Sharing Between Peers

Major peers yes, but does it scale after more than a dozen?
Reality Internet

Multi-jurisdictions, tenancies, domains, leads back to the web

We know the "web" scales, but manageability is key to secure scale
REQUIREMENTS
Requirements

• Method of transfer – Data Plane
  – A common way to deliver messages over a Stream
  – Optional Assured Delivery
    • Receiver's choice
• Deploy: Method to configure streams
  – Endpoints, security, crypto etc
• Check: Method to detect/prevent missed SETs
  – How does receiver know if it missed events?
  – Has the transmitter been unable to deliver?
  – Can receiver pause SET delivery to facilitate operational issues to avoid loss?
Requirements Cont'd

• Update: Method to update Stream configuration
  – Key rotation (issuer or receiver)
  – Authorization updates
  – Pause or stop stream

• Manage Content:
  – What event types?
  – What entities/subjects are in the stream?
    • How does a client negotiate the events it wants?
      – Control Stream updates? or Data events?
EVENT TYPES
RISC Event Types

• TBD: Variable subject identification?
• Account Status Changes
  – Account Secured due to suspected compromise
  – Suspended – by owner / by provider
  – Reactivated – by owner / by provider
  – Deleted – by owner / by provider
  – Reissued
• Account State Change
  – Password change
  – Session(s) / Token(s) revoked
  – Recovery email/phone changed
  – Public identifier changed
  – 2\textsuperscript{nd} factor added
SCIM Events

• Subjects defined by URI
• Low-level Resource Level
  – Created, Modified, Deleted
• Account Status Changes
  – Account Secured due to suspected compromise
  – Suspended / Reactivated
  – Reissued
• Account Change
  – Password change
  – Session(s) / Token(s) revoked
  – Recovery email/phone changed
  – Public identifier changed
  – 2\textsuperscript{nd} factor added
Event Types

- **OIDC**
  - Backchannel Logout
  - Subjects defined by "iss" and "sub"

- **HEART**
  - Consent (TBD)

- **OAuth2**
  - Token Revocation Event (complement to RFC7009)
  - Subjects defined by "jti" and optional "sub"
SEC Areas Venn

- SCIM Account State/Provisioning
- RISC Explicit Federation
- OAuth2
- OIDC
- SAML
- Apps
- MobileConnect MODRNA Telephone #s
- RISC Implicit Federation
- EMAIL
- HEART CONSENT
SEC Event Examples

- Account Recovery Event
- Account Modify Events
- Account Suspension Event
- New / Change / Suspend Account Event
- Delegation Event
- Token Revocation Event
- Backchannel Logout Event
- Identifier used or re-issued
- Suspicious Activity Event
- Federation
- Pers Identifier Added (telephone)
- Authen Factor Added
- Account Association Event
- Apps
- EMAIL
- SAML
- OAuth2
- OIDC
- HEART CONSENT
- DelegaKon Event