

Next-generation Information Sharing Infrastructure

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Burkhard Schafer (Joseph Bell Centre)

Scottish Police





**Police
domain**



**Social care
domain**

**Information
sharing**

**Educational
Domain**

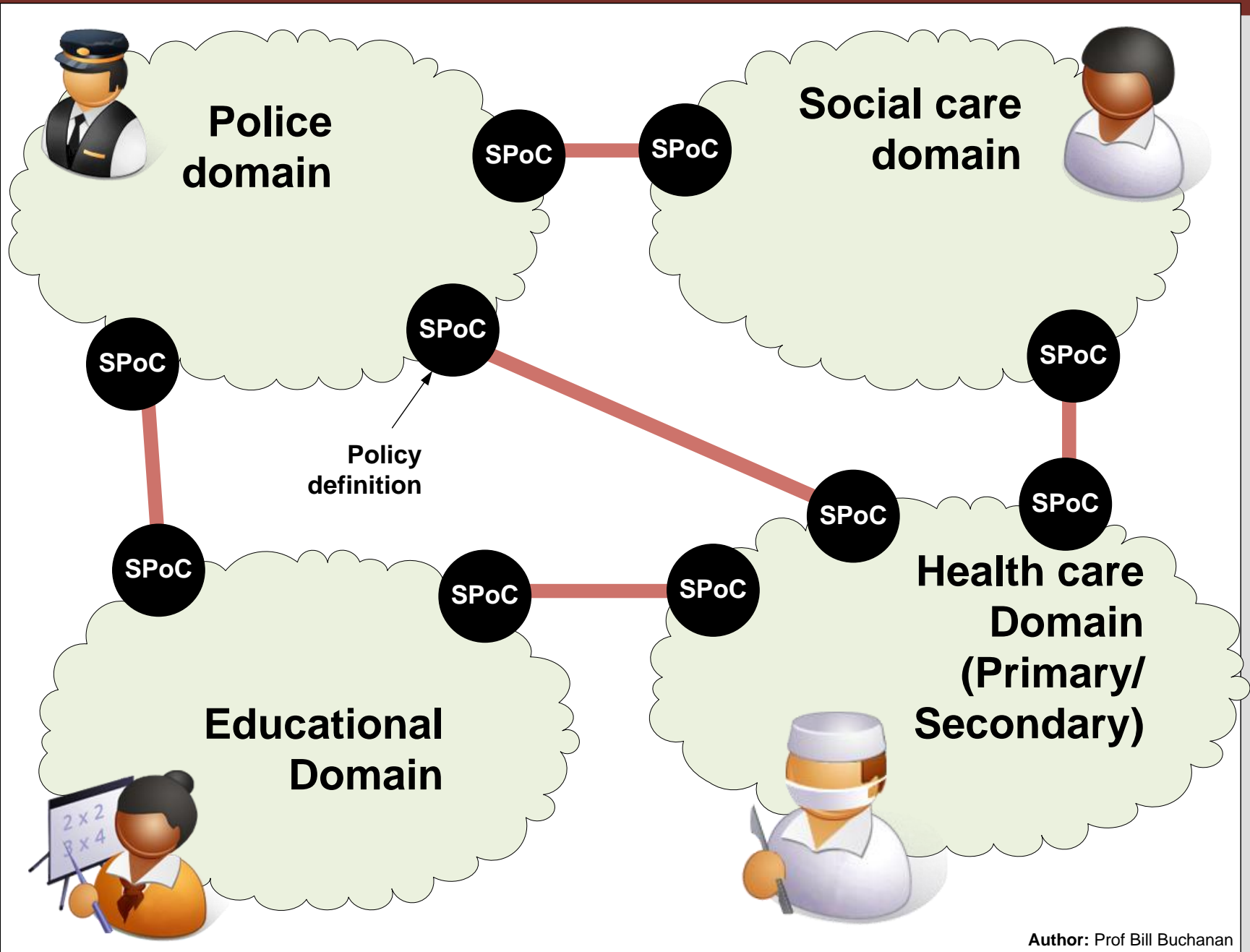


**Health care
Domain
(Primary/
Secondary)**

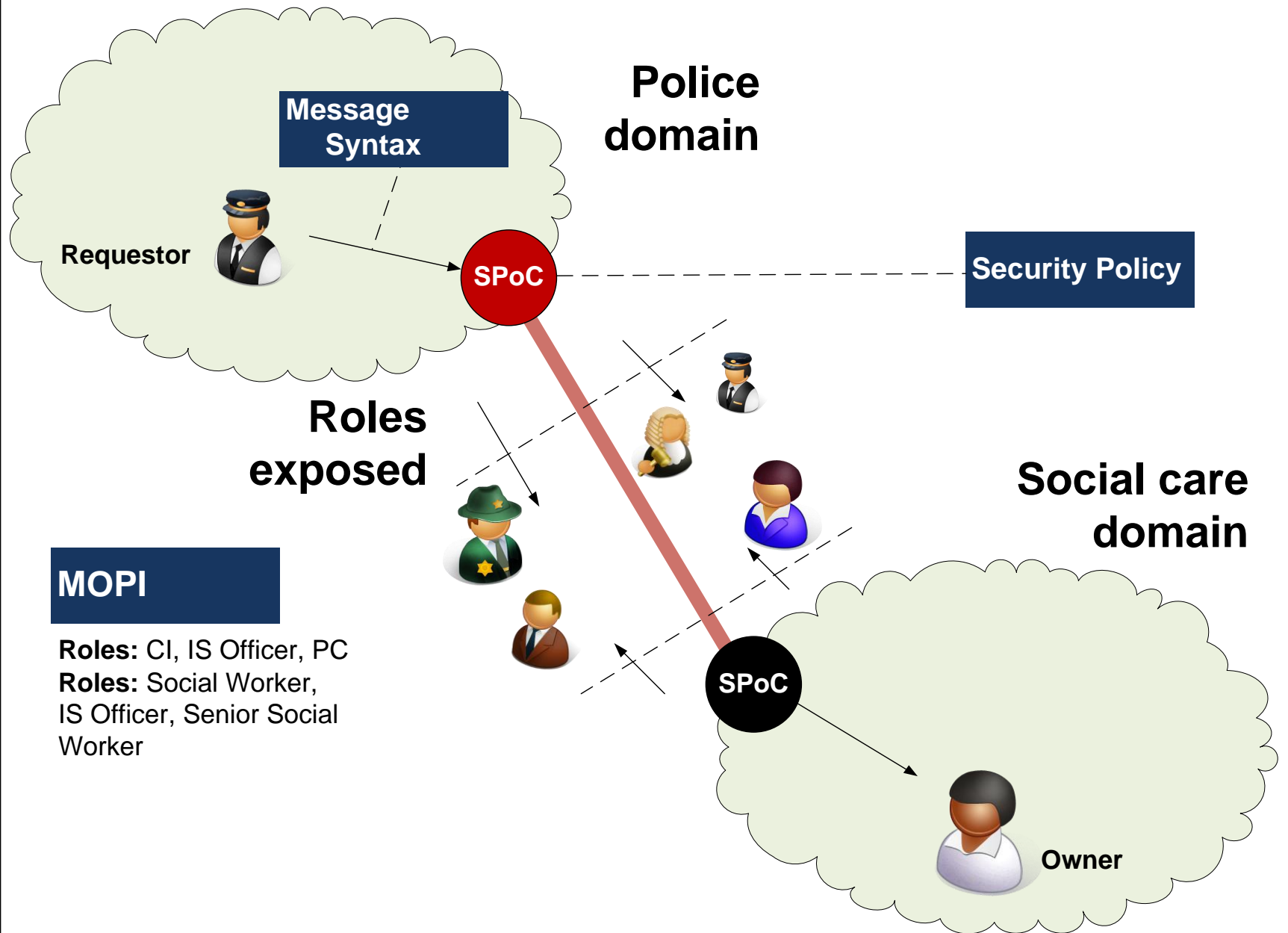


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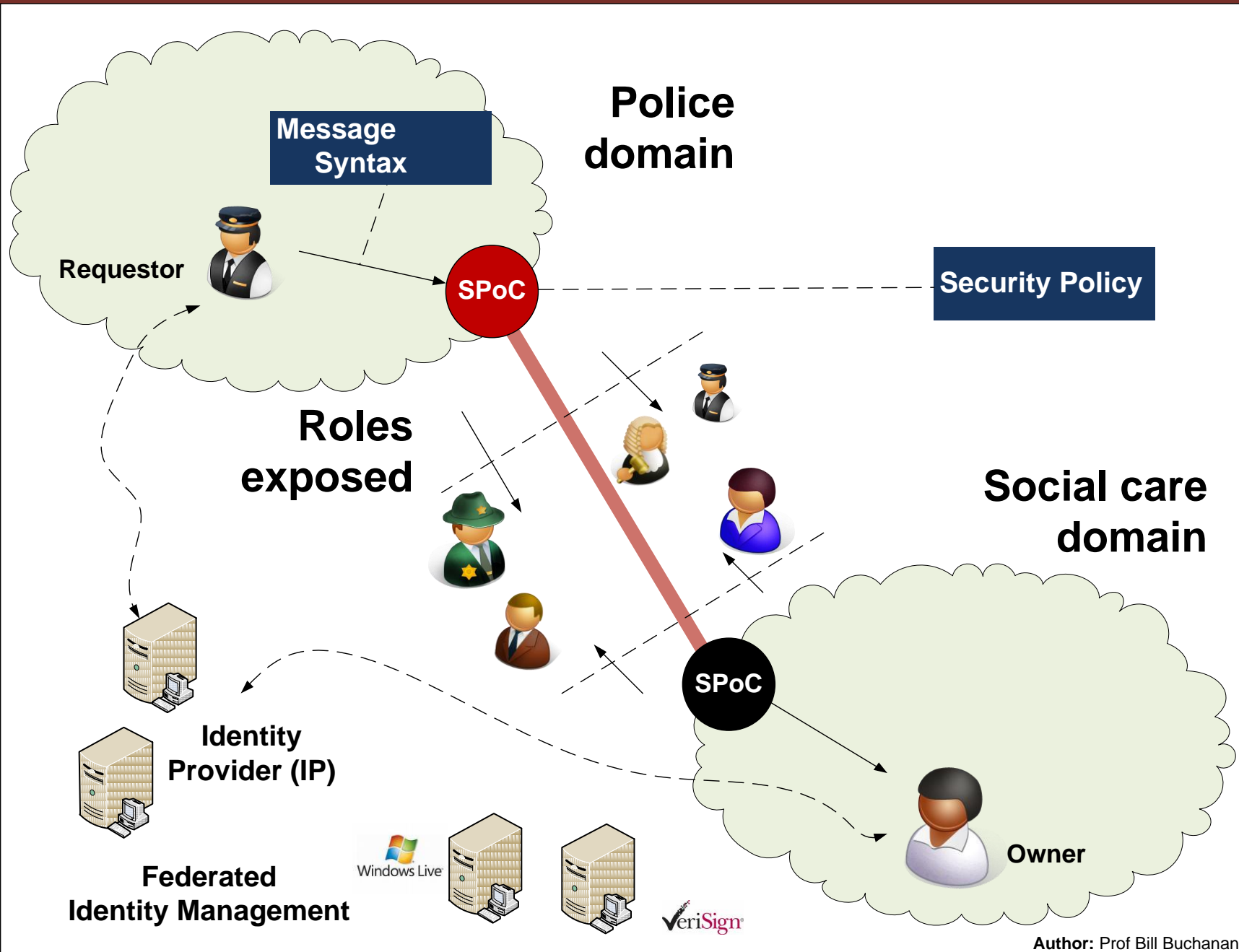
Sharing between domains



Author: Prof Bill Buchanan



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[Requester] requests [Attribute] of [Object] with [Context] from [Owner] within [Start] to [End]

Police domain

Requestor



SPoC

[permit | deny] [Requester] requests [Attribute] of [Object] with [Context] from [Owner] for [N] records in [TimeWindow] using [Compliance]

Social care domain

SPoC



Owner

Author: Prof Bill Buchanan

Police domain

[Requester] requests [Attribute] of [Object] with [Context] from [Owner] within [Start] to [End]

Requestor



SPoC

[permit | deny] [Requester] requests [Attribute] of [Object] with [Context] from [Owner] for [N] records in [TimeWindow] using [Compliance]

Social care domain

SPoC

Owner



- **REQUESTER** = {Social worker, Doctor, Police Inspector...}.
- **ATTRIBUTE** = {Location, Identity, History, Behaviour, Interaction, Association}.
- **OBJECT** = Any searchable entity about which information is held and which is mapped to a UID within the domain.
- **CONTEXT** = {Crisis, Terrorism, Murder, Missing Person, Child/Adult Protection, Drugs, Volume Crime, Petty Crime, General Request}.
- **OWNER** = {Business Unit 1, Business Unit 2, ...}.
- **TIMERANGE**= Definition of time.
- **RECORDS**= {n}.

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Police domain

[Firearm Registration Officer] requests [Location] relating to [John Doe] for [Firearm Crime] reason from [Social Worker] within [2008] to [2009]

Requestor



SPoC

DENY [Firearm Registration Officer] requests [Location] relating to [John Doe] for [Firearm Crime] reason from [Social Worker] for [2009]

Invalid access

Social care domain

PERMIT [Firearm Registration Officer] requests [Location] relating to [John Doe] for [Firearm Crime] reason from [Social Worker] for [2009]

SPoC



Owner

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Police domain

[Firearm Registration Officer] requests [Location] relating to [John Doe] for [Firearm Crime] reason from [Social Worker] within [2008] to [2009]

Requestor



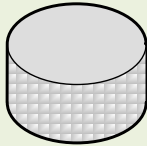
SPoC

PERMIT [Firearm Registration Officer] requests [Location] relating to [John Doe] for [Firearm Crime] reason from [Social Worker] for [1 year] with [10] records

Too many records – please refine the search

Social care domain

SPoC



100 records Return!



Owner

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[Firearm Registration Officer] requests [Location] relating to [John Wilson Doe] for [Firearm Crime] reason from [Social Worker] within [2008] to [2009]

Police domain

Requestor



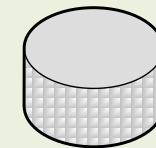
SPoC

PERMIT [Firearm Registration Officer] requests [Location] relating to [John Doe] for [Firearm Crime] reason from [Social Worker] for [1 year] with [10] records

Location: G1 1FX, Time: 1/2/2009
Location: G2 3FX, Time: 1/2/2009
Location: G10 1HH, Time: 1/2/2009
Location: G11 1FG, Time: 1/2/2009
Location: G1 1FX, Time: 1/2/2009

Social care domain

SPoC



5 records Return!

Owner

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Successful request



Requestor

Login Information Request Results

Request

Your current role: Senior Social Worker 

Information Request: Location

Object: John Wilson Doe

Context: Firearm Crime

From: Police Firearms Unit

Date from: 28 January 2010

Date to: 28 January 2010

[Make request>>](#)

Secure connection enabled

Requestor



Author: Prof Bill Buchanan



Requestor

Requestor

Request

Your current role: Senior Social Worker

Information Request: Location

Object: John Wilson Doe

Context: Firearm Crime

From: Police Firearms Unit

Date from: 28 January 2010

Date to: 28 January 2010

Secure connection enabled

[Firearm Registration Officer] requests [Location] relating to [John Wilson Doe] for [Firearm Crime] reason from [Social Worker] within [2008] to [2009]

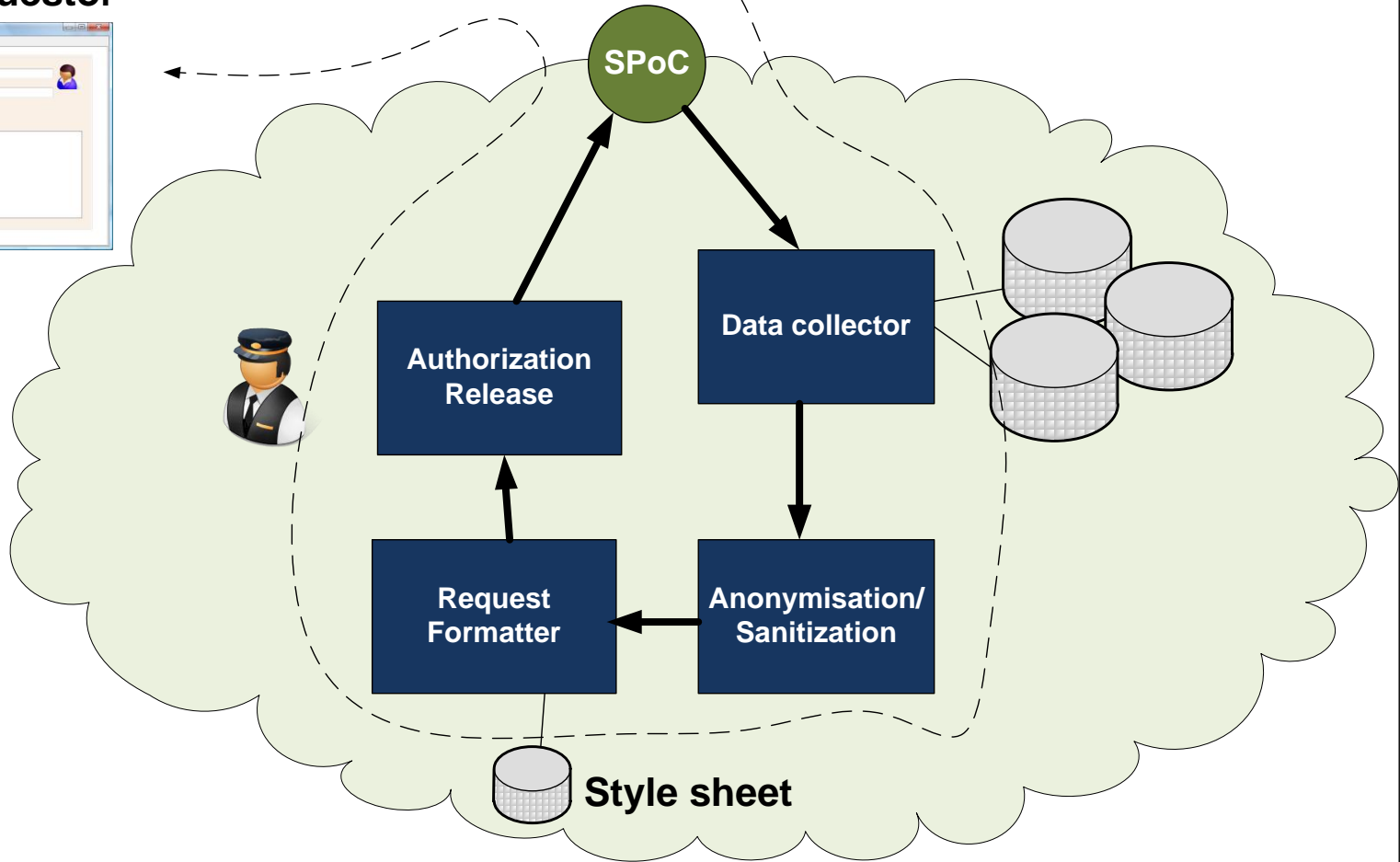
Requestor

Response

Requestor: John Wilson Doe

Your current role: Senior Social Worker

Location: G1 1PX, Time: 1/2/2009
 Location: G2 2PX, Time: 1/2/2009
 Location: G10 1PX, Time: 1/2/2009
 Location: G11 1PX, Time: 1/2/2009
 Location: G1 1PX, Time: 1/2/2009



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[Requester] requests [Attribute] of [Object] with [Context] from [Owner] within [Start] to [End]

Police domain

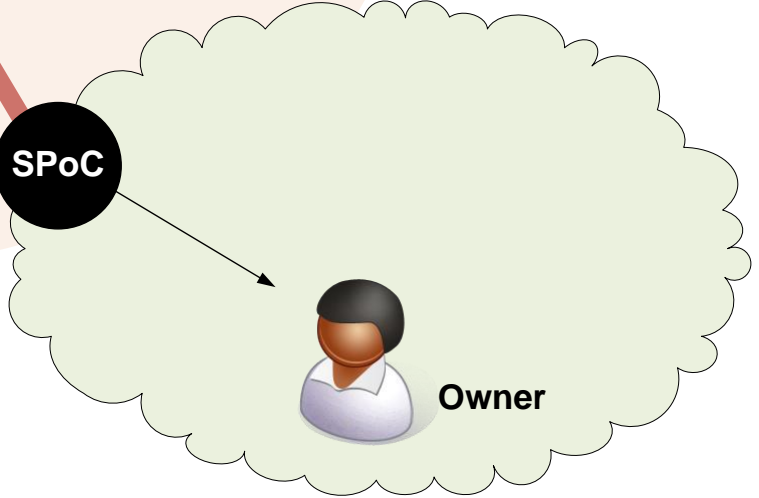
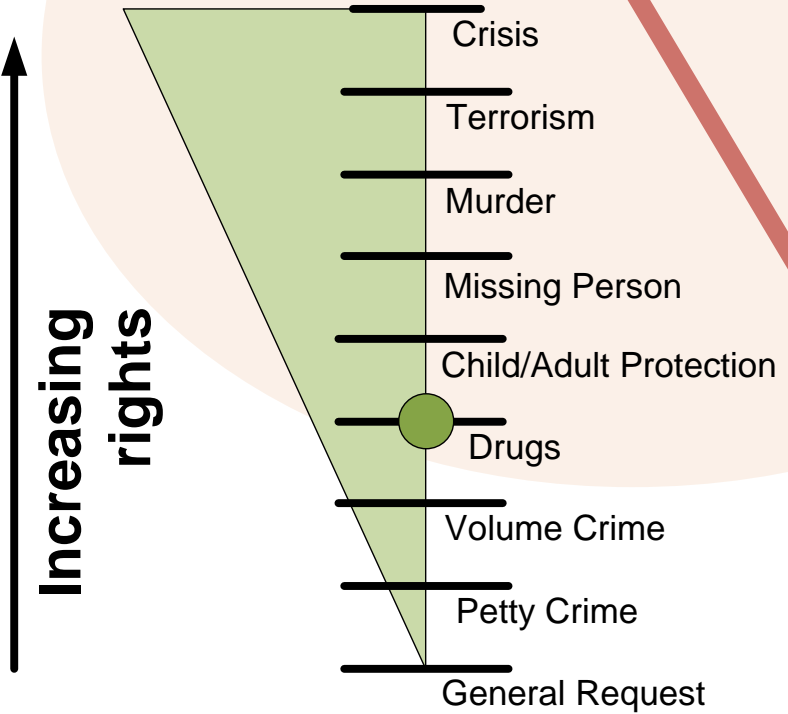


Requestor



[permit | deny] [Requester] requests [Attribute] of [Object] with [Context] from [Owner] for [N] records in [TimeWindow] using [Compliance]

Social care domain



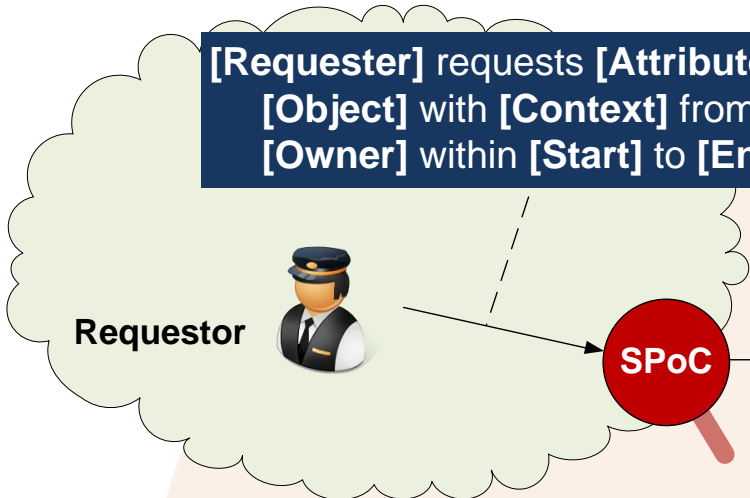
Owner

[Requester] requests [Attribute] of [Object] with [Context] from [Owner] within [Start] to [End]

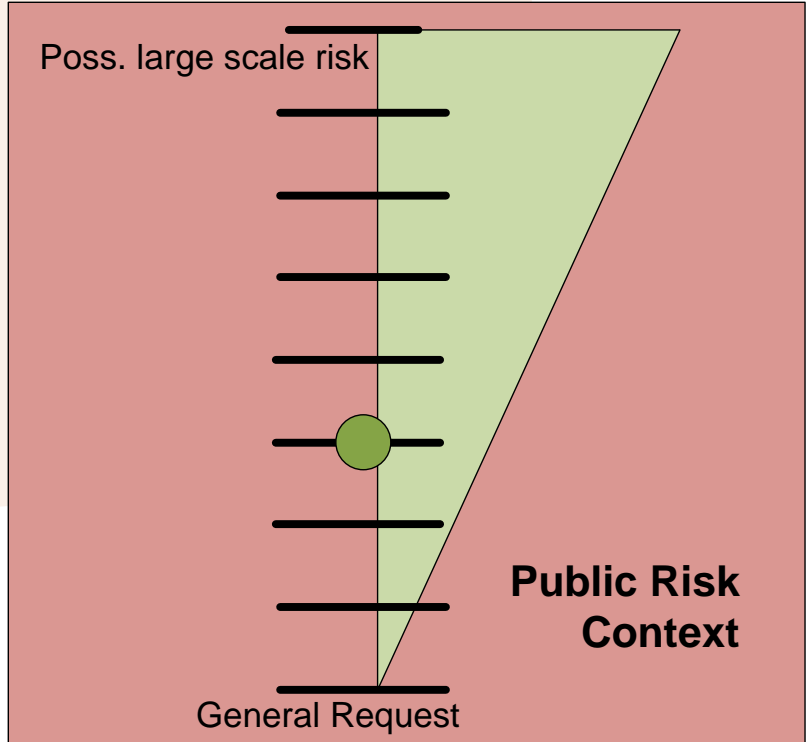
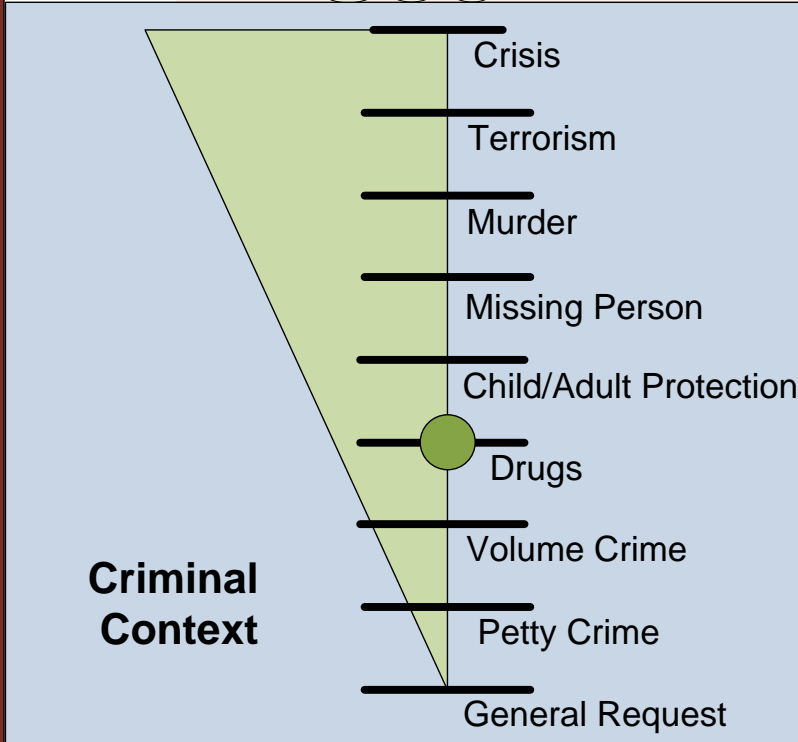
Police domain

Level III
Level II
Level I

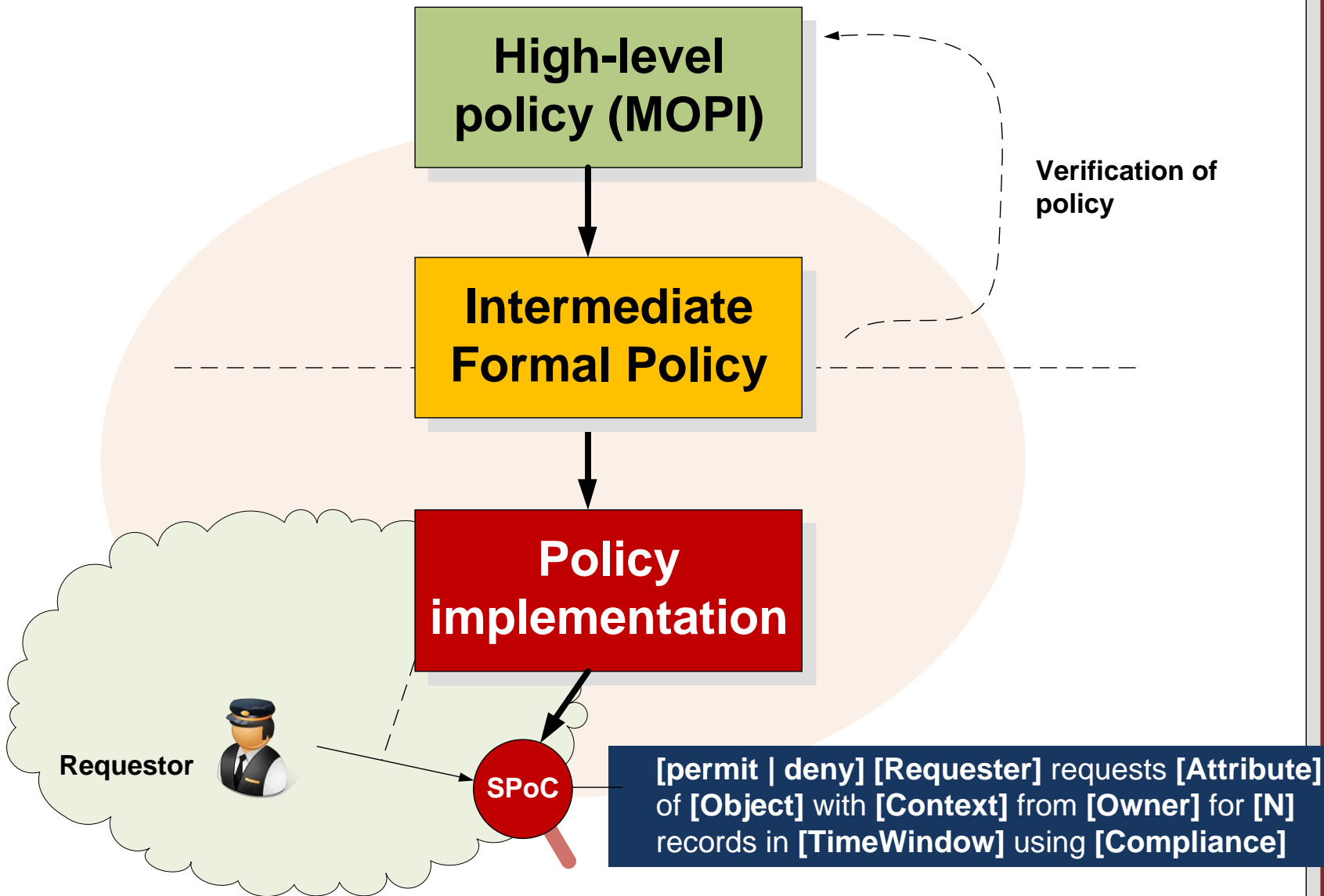
NIM



[permit | deny] [Requester] requests [Attribute] of [Object] with [Context] from [Owner] for [N] records in [TimeWindow] using [Compliance]



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Layer 3 (After the event)

Values

Right to life.
Right to property
Right to religion,
Etc

Layer 2 (Intervention)

**Criminal
Context**

Layer 1 (Community)

Values

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Next-generation Information Sharing Infrastructure

- Scalable architecture.
- Enhanced security.
- No need to expose data structure to other domains.
- Well defined policies.
- Integrated auditing/compliance.
- Context allows access, if required.
- Lock-down (explicit deny).
- Interchange between any domain.
- Links to any domain.
- Customised policies between domains.

