OCA to OpenC2 Mapping

Version 3

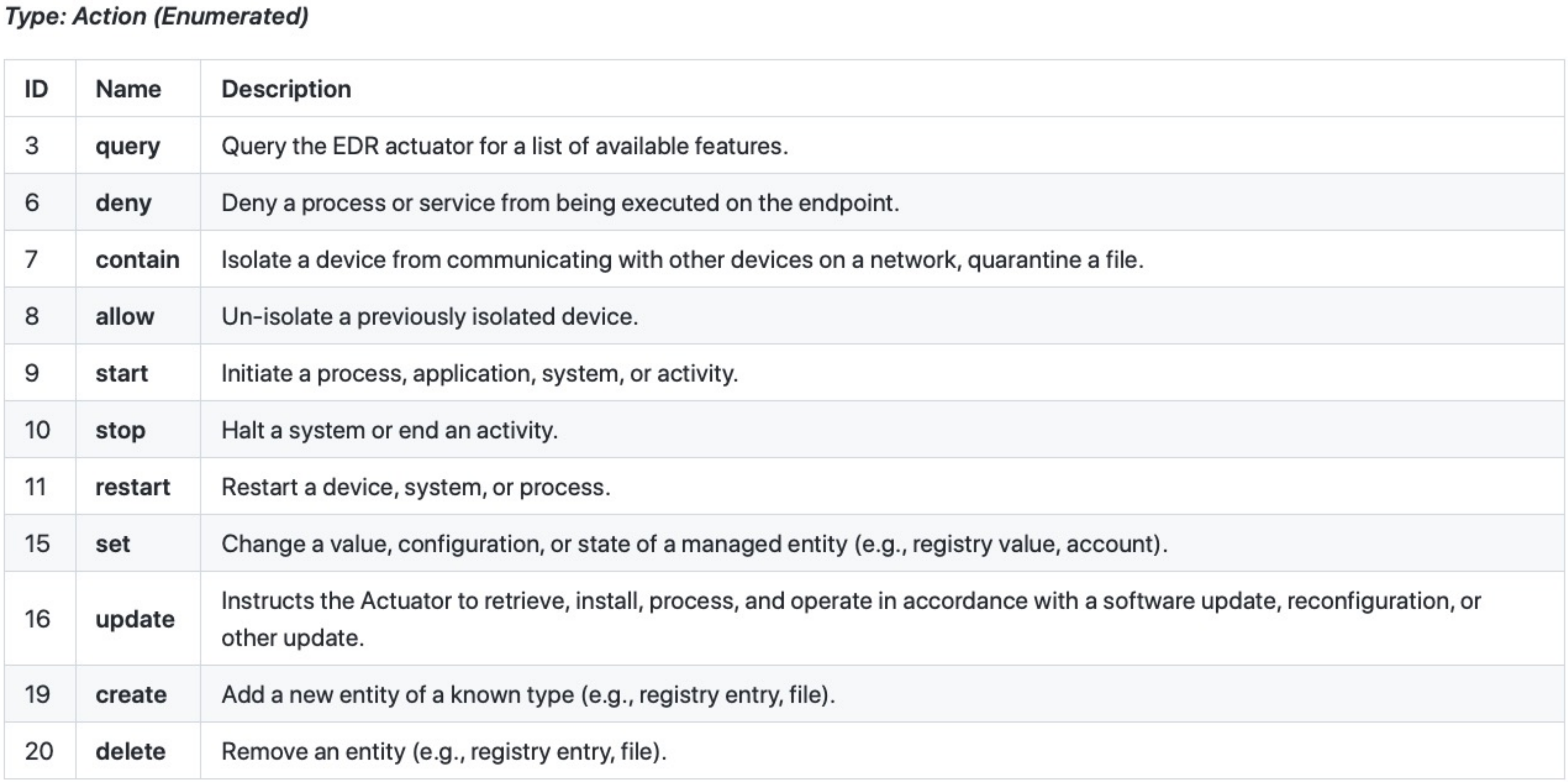
OCA to OpenC2 – C4 Diagram

OCA Action	OpenC2 Mapping (Action/Target)
Quarantine	Contain File, Contain device
Block File	Deny Process, Deny File
Block URL	Deny URL
Query Device	Query Device
Open Incident Response Case	SIEM or Threat Intelligence to SOAR

OCA to OpenC2 – Use Case Mappings Endpoint

OCA Action	OpenC2 Mapping
Endpoint Protection Software (EPSW) – update signatures	Update File
EPSW checks for new network blocks	(Trigger via EPSW) Set (Configure parms of retrieval, schedule for retrievals, where to pull from)
EPSW scans file	Scan Files
EPSW sends alert to logging tools	
EPSW receives Quarantine file request	Contain File
EPSW polls TIP for updated malicious hash list	(Trigger via EPSW) Set (Configure parms of retrieval, schedule for retrievals, where to pull from)

OpenC2 EDR Actuator Profile



Type: Action (Enumerated)

ID	Name	Description
3	**query**	Query the EDR actuator for a list of available features.
6	**deny**	Deny a process or service from being executed on the endpoint.
7	**contain**	Isolate a device from communicating with other devices on a network, quarantine a file.
8	**allow**	Un-isolate a previously isolated device.
9	**start**	Initiate a process, application, system, or activity.
10	**stop**	Halt a system or end an activity.
11	**restart**	Restart a device, system, or process.
15	**set**	Change a value, configuration, or state of a managed entity (e.g., registry value, account).
16	**update**	Instructs the Actuator to retrieve, install, process, and operate in accordance with a software update, reconfiguration, or other update.
19	**create**	Add a new entity of a known type (e.g., registry entry, file).
20	**delete**	Remove an entity (e.g., registry entry, file).

EDR Command/Target Matrix

🟩 OCA Use

🟥 OCA Request

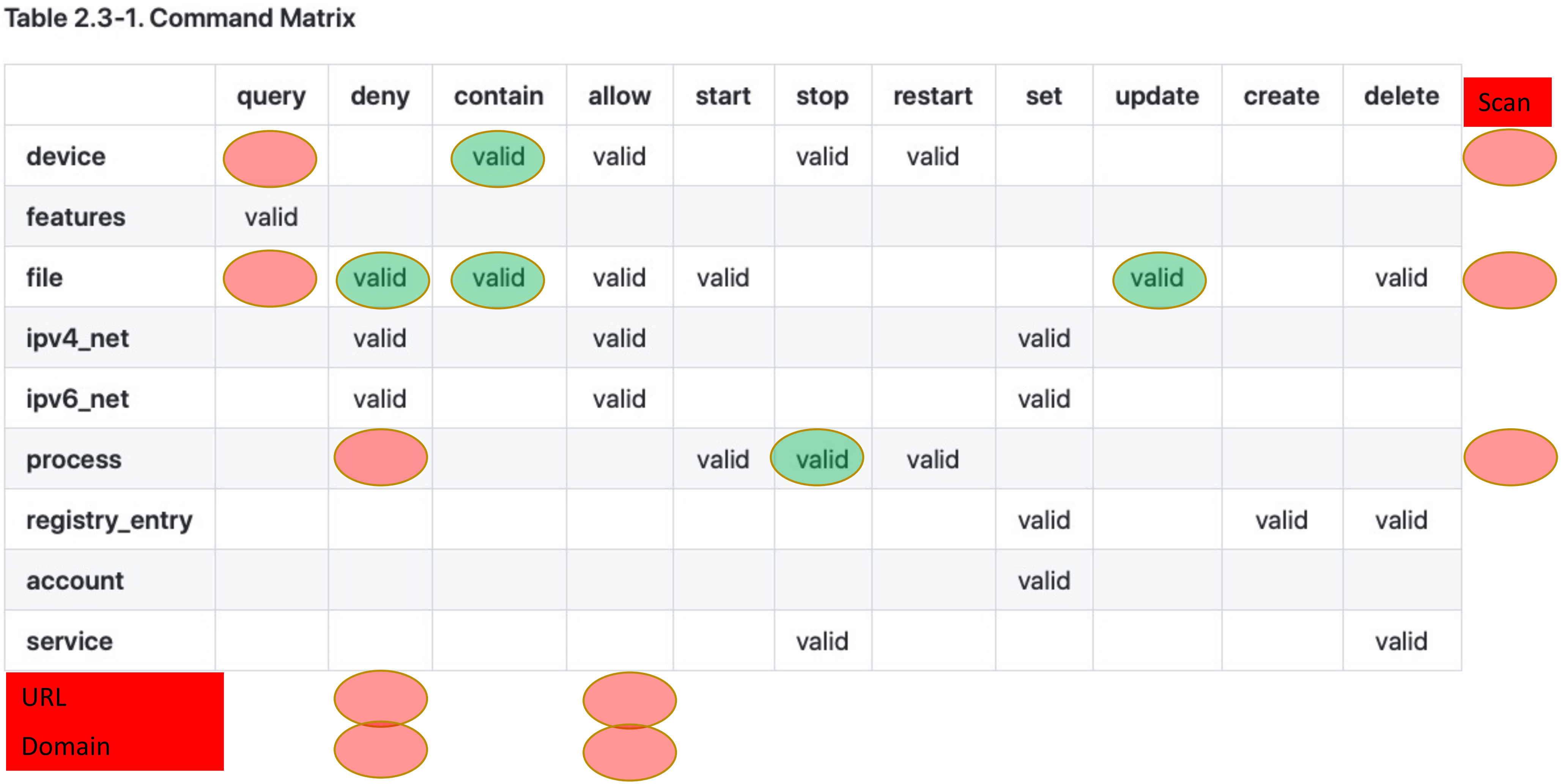


Table 2.3-1. Command Matrix

	query	deny	contain	allow	start	stop	restart	set	update	create	delete	Scan
device	🟥		🟩 valid	valid		valid	valid					🟥
features	valid											
file	🟥	🟩 valid	🟩 valid	valid	valid				🟩 valid		valid	🟥
ipv4_net		valid		valid				valid				
ipv6_net		valid		valid				valid				
process		🟥			valid	🟩 valid	valid					🟥
registry_entry								valid		valid	valid	
account								valid				
service						valid					valid	
URL		🟥		🟥								
Domain		🟥		🟥								

OCA to OpenC2 – Use Case Mappings Malware Protection (File, Endpoint)

OCA Action	OpenC2 Mapping
Quarantine Device (from SIEM/SOAR)	Contain Device
Block File (from SIEM/SOAR)	Contain File

OCA to OpenC2 – Use Case Mappings SIEM/SOAR

OCA Action	OpenC2 Mapping
Quarantine Device (to Malware protection, endpoint)	Contain Device
Block File (to Malware protection, endpoint)	Contain File
	Scan Files
Assess Endpoint Posture (PACE)	
Collect Posture Attributes (PACE)	
Query (to Threat Detection)	
Open Incident Response (to SOAR from SIEM)	
Orchestrate Posture Collection (SOAR to PACE)	
Orchestrate Posture Assessment (SOAR to PACE)	

OCA to OpenC2 – Use Case Mappings Threat Intelligence

OCA Action	OpenC2 Mapping
Quarantine Device (to Malware protection, endpoint, SIEM, SOAR)	Contain Device
Block File (to Malware protection, endpoint, SIEM, SOAR)	Contain File
Block URL (to SIEM,SOAR)	
Collect Posture Attributes (PACE)	
Query (from SIEM or SOAR to Threat Detection)	
Open Incident Response (to SOAR)	

OCA to OpenC2 – Use Case Mappings

OCA Action	OpenC2 Mapping
TIP gathers updates (threats)	QUERY or REST API
Email filtering deny list update (threats)	DENY
New blocking policy pushed out by operations	Update
Security operations invokes new server scan	SCAN
Vulnerability service scans new server VM	SCAN

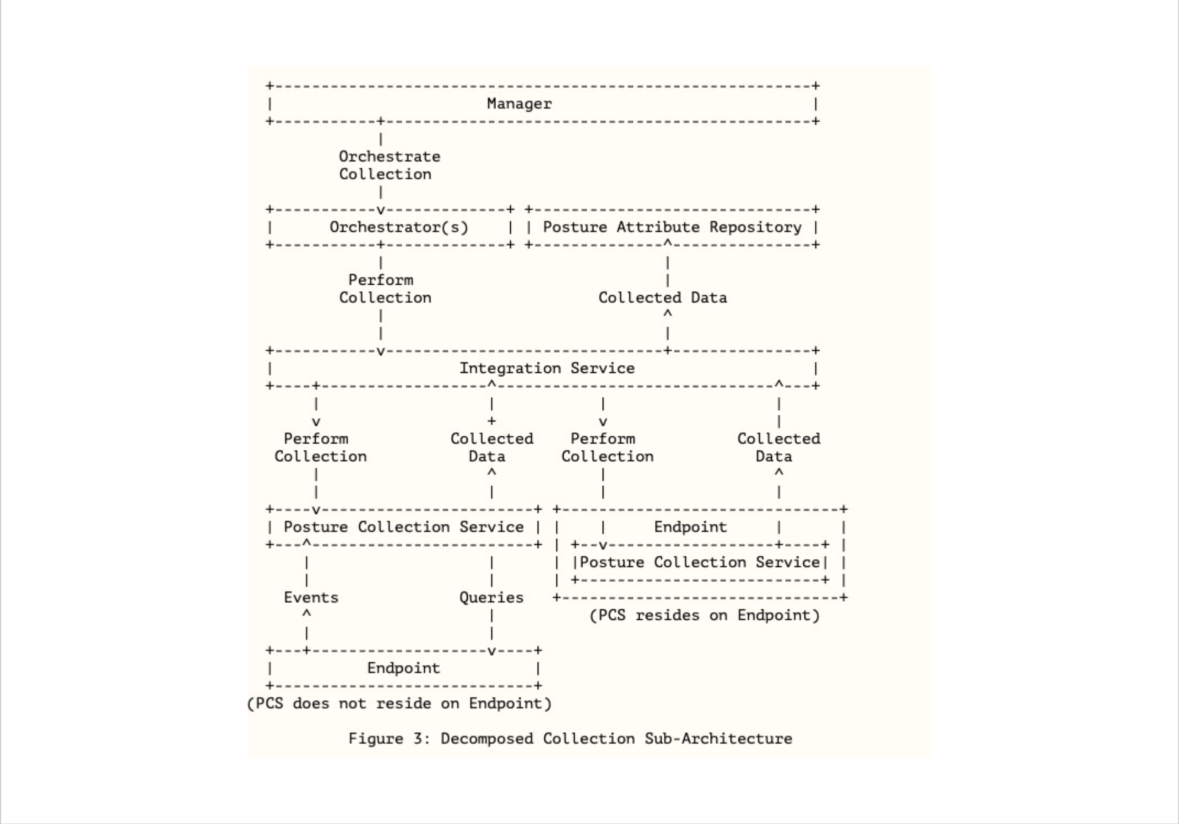
OCA to OpenC2 – Use Case Mappings

OCA Action	OpenC2 Mapping
TIP gathers updates (threats)	QUERY or REST API
Email filtering deny list update (threats)	DENY
New blocking policy pushed out by operations	Update
Security operations invokes new server scan	SCAN
Vulnerability service scans new server VM	SCAN

OCA to OpenC2 – C4 Diagram - PACE

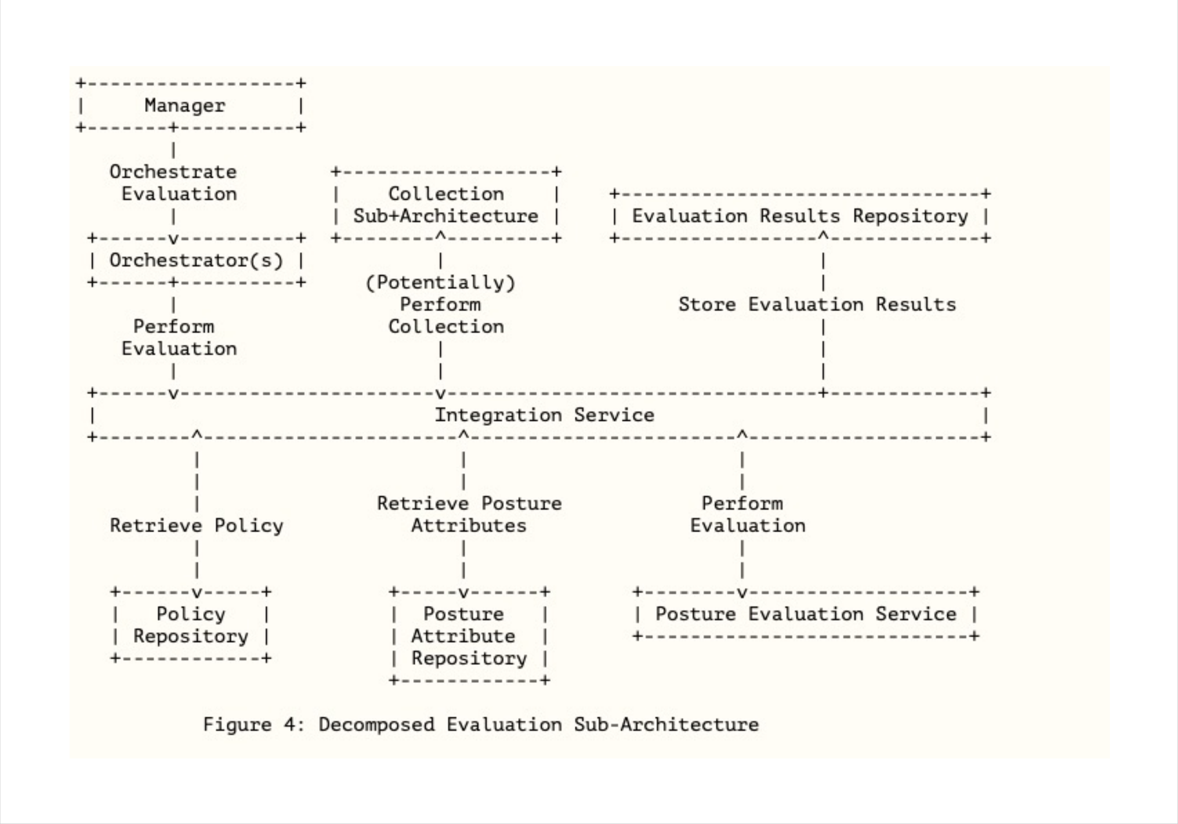
OCA Action	OpenC2 Mapping (Action/Target)
Publish Collection Results	(Endpoint, Malware protect for Email, Malware protect for Endpoint to Posture Collection)
Perform Posture Attribute Collection	Query (Posture Collection System to Endpoint, Malware protect for Email, Malware protect for Endpoint)
Orchestrate Posture Assessment	SOAR to Posture Collection System
Orchestrate Posture Collection	Query (posture attributes) SOAR to Posture Assessment System
Assess Endpoint Posture	Query (SIEM or SOAR to Posture Collection System)
Collect Posture Attributes Action	Query (SIEM or SOAR to Posture Collection System)

SACM Architecture



```
  +----------------------------------------------------------+
  |                       Manager                            |
  +-----------+----------------------------------------------+
              |
          Orchestrate
          Collection
              |
  +-----------v-------------+ +------------------------------+
  |      Orchestrator(s)    | | Posture Attribute Repository |
  +-----------+-------------+ +--------------^---------------+
              |                              |
           Perform                           |
          Collection                  Collected Data
              |                              ^
              |                              |
  +-----------v------------------------------+---------------+
  |                    Integration Service                   |
  +----+------------------^------------------------------^---+
       |                  |           |                  |
       v                  +           v                  |
    Perform           Collected    Perform           Collected
   Collection           Data     Collection            Data
       |                  ^           |                  ^
       |                  |           |                  |
  +----v-----------------------+ +------------------------------+
  | Posture Collection Service | |    |     Endpoint     |      |
  +---^------------------------+ | +--v------------------+----+ |
      |                   |      | |Posture Collection Service| |
      |                   |      | +--------------------------+ |
    Events             Queries   +------------------------------+
      ^                   |          (PCS resides on Endpoint)
      |                   |
  +---+-------------------v----+
  |          Endpoint          |
  +----------------------------+
(PCS does not reside on Endpoint)
```

Figure 3: Decomposed Collection Sub-Architecture



```
+------------------+
|     Manager      |
+-------+----------+
        |
   Orchestrate        +------------------+
    Evaluation        |    Collection    |    +-------------------------------+
        |             | Sub+Architecture |    | Evaluation Results Repository |
 +------v----------+  +--------^---------+    +-----------------^-------------+
 | Orchestrator(s) |           |                                |
 +------+----------+     (Potentially)                          |
        |                   Perform                 Store Evaluation Results
     Perform               Collection                           |
    Evaluation                 |                                |
        |                      |                                |
 +------v----------------------v--------------------------------+-------------+
 |                             Integration Service                            |
 +--------^----------------------^-----------------------^--------------------+
          |                      |                       |
          |                      |                       |
          |               Retrieve Posture            Perform
   Retrieve Policy           Attributes              Evaluation
          |                      |                       |
          |                      |                       |
   +------v-----+          +-----v------+       +--------v-------------------+
   |   Policy   |          |  Posture   |       | Posture Evaluation Service |
   | Repository |          | Attribute  |       +----------------------------+
   +------------+          | Repository |
                           +------------+
```

Figure 4: Decomposed Evaluation Sub-Architecture