

## Schema

**title:** OpenC2 Language Objects  
**module:** oasis-open.org/openc2/v1.0/openc2-lang  
**patch:** wd08-slpf  
**description:** OpenC2 Language content used by Stateless Packet Filters.  
**exports:** OpenC2-Command, OpenC2-Response  
**imports:** slpf: oasis-open.org/openc2/v1.0/ap-slpf  
jadn: oasis-open.org/openc2/v1.0/jadn

## Types

### OpenC2-Command (Record)

ID	Name	Type	#	Description
1	action	Action	1	The task or activity to be performed (i.e., the 'verb').
2	target	Target	1	The object of the action. The action is performed on the target.
3	actuator	Actuator	0..1	The subject of the action. The actuator executes the action on the target.
4	args	Args	0..1	Additional information that applies to the command.
5	id	Command-ID	0..1	Identifier used to link responses to a command.

### Action (Enumerated)

ID	Name	Description
3	query	Initiate a request for information. Used to communicate supported options and determine state or settings.
6	deny	Prevent traffic or access.
8	allow	Permit traffic or access.
16	update	Instruct the actuator to update its configuration by retrieving and processing a configuration file and update.
20	delete	Remove a rule.

### Target (Choice)

ID	Name	Type	Description
10	file	File	Properties of a file
11	ip_addr	IP-Addr	The representation of one or more IP addresses (either version 4 or version 6) expressed using CIDER notation
15	ip_connection	IP-Connection	A network connection that originates from a source and is addressed to a destination
16	openc2	OpenC2	A set of items used with the query action to determine an actuator's capabilities
1024	slpf	slpf:Target	Targets defined in the Stateless Packet Filter profile

### Actuator (Choice)

ID	Name	Type	Description
1024	slpf	slpf:Specifiers	Specifiers as defined in the Stateless Packet Filter profile, oasis-open.org/openc2/oc2ap-slpf/v1.0/csd01

### Args (Map)

ID	Name	Type	#	Description
1	start_time	Date-Time	0..1	The specific date/time to initiate the action
2	stop_time	Date-Time	0..1	The specific date/time to terminate the action
3	duration	Duration	0..1	The length of time for an action to be in effect
4	response_requested	Response-Type	0..1	The type of response required for the action
1024	slpf	slpf:Args	0..1	Command arguments defined in the Stateless Packet Filter profile

### OpenC2-Response (Record)

ID	Name	Type	#	Description
1	status	Status-Code	1	An integer status code
2	status_text	String	0..1	A free-form human-readable description of the response status
3	*	Results	0..1	Data or extended status information that was requested from an OpenC2 command
4	id	Command-ID	0..1	ID of the response

5	id_ref	Command-ID	0..1	ID of the command that induced this response
6	actuator_id	String	0..1	ID of the actuator sending the response

#### Status-Code (Enumerated.ID)

ID	Description
102	Processing -- An interim response used to inform the client that the server has accepted the request but not yet completed it.
200	OK -- The request has succeeded.
301	Moved Permanently -- The target resource has been assigned a new permanent URI
400	Bad Request -- The server cannot process the request due to something that is perceived to be a client error (e.g., malformed request syntax.)
401	Unauthorized -- The request lacks valid authentication credentials for the target resources or authorization has been refused for the submitted credentials.
403	Forbidden -- The server understood the request but refuses to authorize it.
500	Server Error -- The server encountered an unexpected condition that prevented it from fulfilling the request.
501	Not Implemented -- The server does not support the functionality required to fulfill the request.

#### File (Map)

ID	Name	Type	#	Description
1	name	String	0..1	The name of the file as defined in the file system
2	path	String	0..1	The absolute path to the location of the file in the file system
3	hashes	Hashes	0..1	One or more cryptographic hash codes of the file contents

#### IP-Addr

Name	Type	Description
IP-Addr	String (ip)	IPv4 or IPv6 address per RFC 2673 section 3.2, and RFC 4291 section 2.2

#### IP-Connection (Record)

ID	Name	Type	#	Description
1	src_addr	IP-Addr	0..1	source address
2	src_port	Port	0..1	source TCP/UDP port number
3	dst_addr	IP-Addr	0..1	destination address
4	dst_port	Port	0..1	destination TCP/UDP port number
5	protocol	L4-Protocol	0..1	Protocol (IPv4) / Next Header (IPv6)

#### OpenC2

Name	Type	Description
OpenC2	ArrayOf(Query-Item) ['min', 'max']	A target used to query Actuator for its supported capabilities

#### Command-ID

Name	Type	Description
Command-ID	String	Uniquely identifies a particular command

#### Date-Time

Name	Type	Description
Date-Time	Integer	Milliseconds since 00:00:00 UTC, 1 January 1970.

#### Duration

Name	Type	Description
Duration	Integer	Milliseconds

#### Hashes (Map)

ID	Name	Type	#	Description
1	md5	Binary	0..1	MD5 hash as defined in RFC3121
4	sha1	Binary	0..1	SHA1 hash as defined in RFC3174

6    sha256    Binary    0..1    SHA256 as defined in RFC6234

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#### L4-Protocol (Enumerated)

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ID	Name	Description
1	icmp	Internet Control Message Protocol – RFC 792
6	tcp	Transmission Control Protocol – RFC 793
17	udp	User Datagram Protocol – RFC 768
132	sctp	Stream Control Transmission Protocol – RFC 4960

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#### Port

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Name	Type	Description
Port	Integer (port)	Transport Protocol Port Number, RFC 6335

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#### Query-Item (Enumerated)

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ID	Name	Description
1	versions	OpenC2 language versions supported by this actuator
2	profiles	List of profiles supported by this actuator
3	schema	Definition of the command syntax supported by this actuator
4	pairs	List of supported actions and applicable targets

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#### Response-Type (Enumerated)

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ID	Name	Description
0	none	No response
1	ack	Respond when command received
2	status	Respond with progress toward command completion
3	complete	Respond when all aspects of command completed

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#### Version

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Name	Type	Description
Version	String	TBSL

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#### Results (Map)

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ID	Name	Type	#	Description
4	versions	Version	0..n	Supported OpenC2 Language versions
5	profiles	jadn:Uname	0..n	Supported actuator profiles
6	schema	jadn:Schema	0..1	Schema supported by this actuator
7	pairs	ActionTargets	0..n	List of targets applicable to each supported action
1024	slpf	slpf:Results	0..n	Results from Stateless Packet Filter profile

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#### ActionTargets (Array)

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ID	Type	#	Description
1	Action	1	action -- An action supported by this actuator
2	Target.*	1..n	targets -- List of targets applicable to this action