IMT Atlantique
Bretagne-Pays de la Loire
École Mines-Télécom

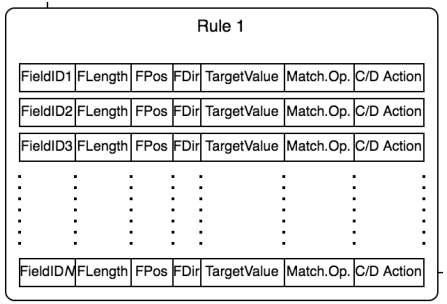
SID ALLOCATION

L. TOUTAIN

SCHC RULE (RFC 9363)


```
module: ietf-schc
  +--rw schc
     +--rw rule* [rule-id-value rule-id-length]
        +--rw rule-id-value                    uint32
        +--rw rule-id-length                   uint8
        +--rw rule-nature                      nature-type
        +--rw (nature)?
           +--:(fragmentation) {fragmentation}?
           |  +--rw fragmentation-mode         schc:fragmentation-mode-type
           |  +--rw l2-word-size?               uint8
           |  +--rw direction                   schc:di-type
           |  +--rw dtag-size?                  uint8
           |  +--rw w-size?                     uint8
           |  +--rw fcn-size                    uint8
           |  +--rw rcs-algorithm?              rcs-algorithm-type
           |  +--rw maximum-packet-size?        uint16
           |  +--rw window-size?                uint16
           |  +--rw max-interleaved-frames?     uint8
           |  +--rw inactivity-timer
           |  |  +--rw ticks-duration?   uint8
           |  |  +--rw ticks-numbers?    uint16
           |  +--rw retransmission-timer
           |  |  +--rw ticks-duration?   uint8
           |  |  +--rw ticks-numbers?    uint16
           |  +--rw max-ack-requests?           uint8
           |  +--rw (mode)?
           |     +--:(no-ack)
           |     +--:(ack-always)
           |     +--:(ack-on-error)
           |        +--rw tile-size?            uint8
           |        +--rw tile-in-all-1?        schc:all-1-data-type
           |        +--rw ack-behavior?         schc:ack-behavior-type
```

```
+--:(compression) {compression}?
          +--rw entry* [field-id field-position direction-indicator]
             +--rw field-id                     schc:fid-type
             +--rw field-length                 union
             +--rw field-position               uint8
             +--rw direction-indicator          schc:di-type
             +--rw target-value* [index]
             |  +--rw index     uint16
             |  +--rw value?    binary
             +--rw matching-operator            schc:mo-type
             +--rw matching-operator-value* [index]
             |  +--rw index     uint16
             |  +--rw value?    binary
             +--rw comp-decomp-action           schc:cda-type
             +--rw comp-decomp-action-value* [index]
                +--rw index     uint16
                +--rw value?    binary
```



Example

```
/-------------------------\
|Rule 5/3            101  |
|---------------+---+--+--+-----------------------------+-------------+----------------\
|COAP.VER       |  2| 1|BI|                           01|EQUAL        |NOT-SENT        |
|COAP.TYPE      |  2| 1|BI|-----------------------------|IGNORE       |VALUE-SENT      |
|COAP.TKL       |  4| 1|BI|-----------------------------|IGNORE       |VALUE-SENT      |
|COAP.CODE      |  8| 1|BI|-----------------------------|IGNORE       |VALUE-SENT      |
|COAP.MID       | 16| 1|BI|-----------------------------|IGNORE       |VALUE-SENT      |
|COAP.TOKEN     |tkl| 1|BI|-----------------------------|IGNORE       |VALUE-SENT      |
|COAP.URI-PATH  |var| 1|UP|                       666f6f|EQUAL        |NOT-SENT        |
|COAP.URI-PATH  |var| 2|UP|                       626172|MATCH-MAPPING|MAPPING-SENT    |
:       .       : . :. :. :                     746f746f:      .      :       .        :
|COAP.URI-PATH  |var| 3|UP|-----------------------------|IGNORE       |VALUE-SENT      |
|COAP.URI-PATH  |var| 4|UP|-----------------------------|IGNORE       |VALUE-SENT      |
|COAP.URI-QUERY |var| 1|UP|                         6b3d|MSB(16)      |LSB             |
|COAP.CONTENT-  |var| 1|DW|                           1e|EQUAL        |NOT-SENT        |
|FORMAT         |   |  |  |                             |             |                |
\---------------+---+--+--+-----------------------------+-------------+----------------/
/-------------------------\
|Rule 3/3            011  |
!=========================+==================================================================\
!v Fragmentation mode : NoAck           header dtag 2 Window  0 FCN  3              DW v!
!v No Tile size specified                                                                  v!
!v RCS Algorithm: RCS_CRC32                                                                v!
\==============================================================================================/
```

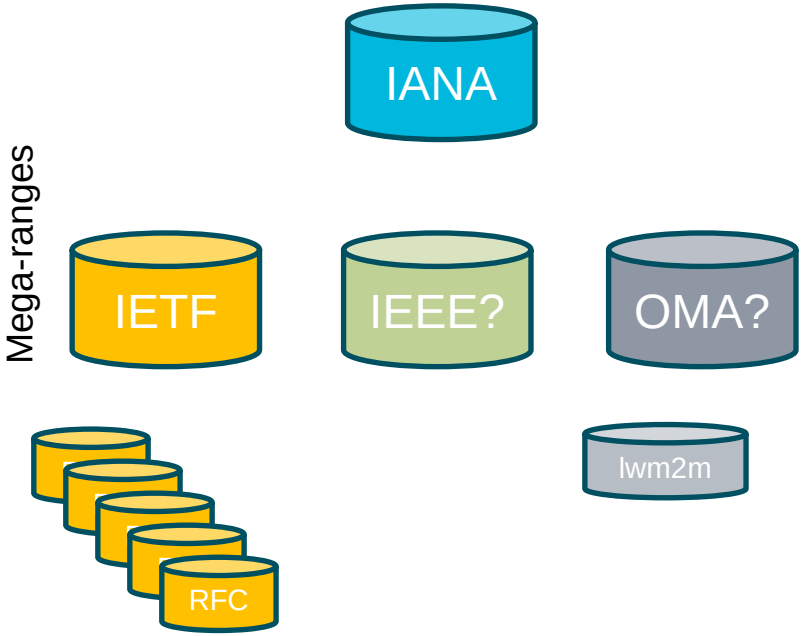
Example

```
{'ietf-schc:schc': {'rule': [{'entry': [{'comp-decomp-action': 'ietf-schc:cda-not-sent',
                                         'direction-indicator': 'ietf-schc:di-bidirectional',
                                         'field-id': 'ietf-schc:fid-coap-version',
                                         'field-length': 2,
                                         'field-position': 1,
                                         'matching-operator': 'ietf-schc:mo-equal',
                                         'target-value': [{'index': 0,
                                                           'value': 'AQ=='}]},
…
                                        {'comp-decomp-action': 'ietf-schc:cda-not-sent',
                                         'direction-indicator': 'ietf-schc:di-down',
                                         'field-id': 'ietf-schc:fid-coap-option-content-format',
                                         'field-length': 'ietf-schc:fl-variable',
                                         'field-position': 1,
                                         'matching-operator': 'ietf-schc:mo-equal',
                                         'target-value': [{'index': 0,
                                                           'value': 'Hg=='}]}],
                                 'rule-id-length': 3,
                                 'rule-id-value': 5,
                                 'rule-nature': 'ietf-schc:nature-compression'},
                                {'direction': 'ietf-schc:di-down',
                                 'dtag-size': 2,
                                 'fcn-size': 3,
                                 'fragmentation-mode': 'ietf-schc:fragmentation-mode-no-ack',
                                 'rcs-algorithm': 'ietf-schc:rcs-crc32',
                                 'rule-id-length': 3,
                                 'rule-id-value': 3,
                                 'rule-nature': 'ietf-schc:nature-fragmentation'}]}}
```

7583 Bytes

3423 Bytes

PYANG: SID



YANG-SID Mega-Ranges

Registration Procedure(s)
Expert Review
Expert(s)
Michel Veillette, Alexander Pelov, Laurent Toutain
Reference
[RFC9595]
Available Formats
csv

Entry Point	Size	Allocation	Organization Name	URL	Reference
0	1000000	Public	IANA	[https://www.iana.org]	[RFC9595]

IETF YANG-SID Ranges

Expert(s)
Michel Veillette, Alexander Pelov, Laurent Toutain
Reference
[RFC9595]
Available Formats
csv

Entry Point	Size	Registration Procedures	Note
0	1000	IESG Approval	
1000	59000	RFC Required (or Expert Review if YANG comes from existing RFC)	See [RFC9595], Section 6.4.2, Item 2
60000	40000	Reserved for Experimental Use	
100000	200000	RFC Required (or Expert Review if YANG comes from existing RFC)	See [RFC9595], Section 6.4.2, Item 2
300000	700000	Reserved	

Entry Point	Size	Module Name	Reference
0	1	(Reserved: not a valid SID)	[RFC9595]
1000	100	ietf-coreconf	[RFC9595][draf
1100	50	ietf-yang-types	[RFC6991]
1150	50	ietf-inet-types	[RFC6991]
1200	50	iana-crypt-hash	[RFC7317]
1250	50	ietf-netconf-acm	[RFC8341]
1300	50	ietf-sid-file	[RFC9595]
1500	100	ietf-interfaces	[RFC8343]
1600	100	ietf-ip	[RFC8344]
1700	100	ietf-system	[RFC7317]
1800	400	iana-if-type	[RFC7224]
2450	50	ietf-voucher (TEMPORARY - registered 2024-07-15, extension registered 2025-06-06, expires 2026-07-15)	[draft-ietf-anim
2500	50	ietf-voucher-request (TEMPORARY - registered 2024-07-15, extension registered 2025-06-06, expires 2026-07-15)	[draft-ietf-anim
2550	400	ietf-schc	[RFC9363]

PYANG GENERATE-FILE


```
SID        Assigned to
---------  ---------------------------------------------------
2550       module ietf-schc
2551       identity ack-behavior-after-all-0
2552       identity ack-behavior-after-all-1
2553       identity ack-behavior-base-type
2554       identity ack-behavior-by-layer2
2555       identity all-1-data-base-type
2556       identity all-1-data-no
2557       identity all-1-data-sender-choice
2558       identity all-1-data-yes
2559       identity cda-appiid
2560       identity cda-base-type
2561       identity cda-compute
2562       identity cda-deviid
2563       identity cda-lsb
2564       identity cda-mapping-sent
2565       identity cda-not-sent
2566       identity cda-value-sent
2567       identity di-base-type
2568       identity di-bidirectional
2569       identity di-down
2570       identity di-up
2571       identity fid-base-type
2572       identity fid-coap-base-type
2573       identity fid-coap-code
2574       identity fid-coap-code-class
2575       identity fid-coap-code-detail
2576       identity fid-coap-mid
2577       identity fid-coap-option
2578       identity fid-coap-option-accept
2579       identity fid-coap-option-block1
2580       identity fid-coap-option-block2
2581       identity fid-coap-option-content-format
2582       identity fid-coap-option-etag
2583       identity fid-coap-option-if-match
2584       identity fid-coap-option-if-none-match
2585       identity fid-coap-option-location-path
2586       identity fid-coap-option-location-query
2587       identity fid-coap-option-max-age
2588       identity fid-coap-option-no-response
```

```
SID        Assigned to
---------  ---------------------------------------------------
2550       module ietf-schc
2645       data /ietf-schc:schc
2646       data /ietf-schc:schc/rule
2647       data /ietf-schc:schc/rule/ack-behavior
2648       data /ietf-schc:schc/rule/direction
2649       data /ietf-schc:schc/rule/dtag-size
2650       data /ietf-schc:schc/rule/entry
2651       data /ietf-schc:schc/rule/entry/comp-decomp-action
2652       data /ietf-schc:schc/rule/entry/comp-decomp-action-value
2653       data /ietf-schc:schc/rule/entry/comp-decomp-action-value/index
2654       data /ietf-schc:schc/rule/entry/comp-decomp-action-value/value
2655       data /ietf-schc:schc/rule/entry/direction-indicator
2656       data /ietf-schc:schc/rule/entry/field-id
2657       data /ietf-schc:schc/rule/entry/field-length
2658       data /ietf-schc:schc/rule/entry/field-position
2659       data /ietf-schc:schc/rule/entry/matching-operator
2660       data /ietf-schc:schc/rule/entry/matching-operator-value
2661       data /ietf-schc:schc/rule/entry/matching-operator-value/index
2662       data /ietf-schc:schc/rule/entry/matching-operator-value/value
2663       data /ietf-schc:schc/rule/entry/target-value
2664       data /ietf-schc:schc/rule/entry/target-value/index
2665       data /ietf-schc:schc/rule/entry/target-value/value
2666       data /ietf-schc:schc/rule/fcn-size
2667       data /ietf-schc:schc/rule/fragmentation-mode
2668       data /ietf-schc:schc/rule/inactivity-timer
2669       data /ietf-schc:schc/rule/inactivity-timer/ticks-duration
2670       data /ietf-schc:schc/rule/inactivity-timer/ticks-numbers
2671       data /ietf-schc:schc/rule/l2-word-size
2672       data /ietf-schc:schc/rule/max-ack-requests
2673       data /ietf-schc:schc/rule/max-interleaved-frames
2674       data /ietf-schc:schc/rule/maximum-packet-size
2675       data /ietf-schc:schc/rule/rcs-algorithm
2676       data /ietf-schc:schc/rule/retransmission-timer
2677       data /ietf-schc:schc/rule/retransmission-timer/ticks-duration
2678       data /ietf-schc:schc/rule/retransmission-timer/ticks-numbers
2679       data /ietf-schc:schc/rule/rule-id-length
2680       data /ietf-schc:schc/rule/rule-id-value
2681       data /ietf-schc:schc/rule/rule-nature
2682       data /ietf-schc:schc/rule/tile-in-all-1
2683       data /ietf-schc:schc/rule/tile-size
2684       data /ietf-schc:schc/rule/w-size
2685       data /ietf-schc:schc/rule/window-size

File ietf-schc@2023-03-01.sid created
Number of SIDs available : 400
Number of SIDs used : 136
```

```
SID        Assigned to
---------  ---------------------------------------------------
2550       module ietf-schc
2645       data /ietf-schc:schc
 2646      data /ietf-schc:schc/rule
  2647     data /ietf-schc:schc/rule/ack-behavior
  2648     data /ietf-schc:schc/rule/direction
  2649     data /ietf-schc:schc/rule/dtag-size
  2650     data /ietf-schc:schc/rule/entry
   2651    data /ietf-schc:schc/rule/entry/comp-decomp-action
   2652    data /ietf-schc:schc/rule/entry/comp-decomp-action-value
    2653   data /ietf-schc:schc/rule/entry/comp-decomp-action-value/index
    2654   data /ietf-schc:schc/rule/entry/comp-decomp-action-value/value
   2655    data /ietf-schc:schc/rule/entry/direction-indicator
   2656    data /ietf-schc:schc/rule/entry/field-id
   2657    data /ietf-schc:schc/rule/entry/field-length
   2658    data /ietf-schc:schc/rule/entry/field-position
   2659    data /ietf-schc:schc/rule/entry/matching-operator
   2660    data /ietf-schc:schc/rule/entry/matching-operator-value
    2661   data /ietf-schc:schc/rule/entry/matching-operator-value/index
    2662   data /ietf-schc:schc/rule/entry/matching-operator-value/value
   2663    data /ietf-schc:schc/rule/entry/target-value
    2664   data /ietf-schc:schc/rule/entry/target-value/index
    2665   data /ietf-schc:schc/rule/entry/target-value/value
  2666     data /ietf-schc:schc/rule/fcn-size
  2667     data /ietf-schc:schc/rule/fragmentation-mode
  2668     data /ietf-schc:schc/rule/inactivity-timer
   2669    data /ietf-schc:schc/rule/inactivity-timer/ticks-duration
   2670    data /ietf-schc:schc/rule/inactivity-timer/ticks-numbers
  2671     data /ietf-schc:schc/rule/l2-word-size
  2672     data /ietf-schc:schc/rule/max-ack-requests
  2673     data /ietf-schc:schc/rule/max-interleaved-frames
  2674     data /ietf-schc:schc/rule/maximum-packet-size
  2675     data /ietf-schc:schc/rule/rcs-algorithm
  2676     data /ietf-schc:schc/rule/retransmission-timer
   2677    data /ietf-schc:schc/rule/retransmission-timer/ticks-duration
   2678    data /ietf-schc:schc/rule/retransmission-timer/ticks-numbers
  2679     data /ietf-schc:schc/rule/rule-id-length
  2680     data /ietf-schc:schc/rule/rule-id-value
  2681     data /ietf-schc:schc/rule/rule-nature
  2682     data /ietf-schc:schc/rule/tile-in-all-1
  2683     data /ietf-schc:schc/rule/tile-size
  2684     data /ietf-schc:schc/rule/w-size
  2685     data /ietf-schc:schc/rule/window-size

File ietf-schc@2023-03-01.sid created
Number of SIDs available : 400
Number of SIDs used : 136
```

```
SID        Assigned to
---------  ---------------------------------------------------
2550       module ietf-schc
2645       data /ietf-schc:schc
 +1        data /ietf-schc:schc/rule
  2647     data /ietf-schc:schc/rule/ack-behavior
  2648     data /ietf-schc:schc/rule/direction
  2649     data /ietf-schc:schc/rule/dtag-size
  2650     data /ietf-schc:schc/rule/entry
   2651    data /ietf-schc:schc/rule/entry/comp-decomp-action
   2652    data /ietf-schc:schc/rule/entry/comp-decomp-action-value
    2653   data /ietf-schc:schc/rule/entry/comp-decomp-action-value/index
    2654   data /ietf-schc:schc/rule/entry/comp-decomp-action-value/value
   2655    data /ietf-schc:schc/rule/entry/direction-indicator
   2656    data /ietf-schc:schc/rule/entry/field-id
   2657    data /ietf-schc:schc/rule/entry/field-length
   2658    data /ietf-schc:schc/rule/entry/field-position
   2659    data /ietf-schc:schc/rule/entry/matching-operator
   2660    data /ietf-schc:schc/rule/entry/matching-operator-value
    2661   data /ietf-schc:schc/rule/entry/matching-operator-value/index
    2662   data /ietf-schc:schc/rule/entry/matching-operator-value/value
   2663    data /ietf-schc:schc/rule/entry/target-value
    2664   data /ietf-schc:schc/rule/entry/target-value/index
    2665   data /ietf-schc:schc/rule/entry/target-value/value
  2666     data /ietf-schc:schc/rule/fcn-size
  2667     data /ietf-schc:schc/rule/fragmentation-mode
  2668     data /ietf-schc:schc/rule/inactivity-timer
   2669    data /ietf-schc:schc/rule/inactivity-timer/ticks-duration
   2670    data /ietf-schc:schc/rule/inactivity-timer/ticks-numbers
  2671     data /ietf-schc:schc/rule/l2-word-size
  2672     data /ietf-schc:schc/rule/max-ack-requests
  2673     data /ietf-schc:schc/rule/max-interleaved-frames
  2674     data /ietf-schc:schc/rule/maximum-packet-size
  2675     data /ietf-schc:schc/rule/rcs-algorithm
  2676     data /ietf-schc:schc/rule/retransmission-timer
   2677    data /ietf-schc:schc/rule/retransmission-timer/ticks-duration
   2678    data /ietf-schc:schc/rule/retransmission-timer/ticks-numbers
  2679     data /ietf-schc:schc/rule/rule-id-length
  2680     data /ietf-schc:schc/rule/rule-id-value
  2681     data /ietf-schc:schc/rule/rule-nature
  2682     data /ietf-schc:schc/rule/tile-in-all-1
  2683     data /ietf-schc:schc/rule/tile-size
  2684     data /ietf-schc:schc/rule/w-size
  2685     data /ietf-schc:schc/rule/window-size

File ietf-schc@2023-03-01.sid created
Number of SIDs available : 400
Number of SIDs used : 136
```

```
SID        Assigned to
---------  ---------------------------------------------------
2550       module ietf-schc
2645       data /ietf-schc:schc
 +1        data /ietf-schc:schc/rule
  +1       data /ietf-schc:schc/rule/ack-behavior
  +2       data /ietf-schc:schc/rule/direction
  +3       data /ietf-schc:schc/rule/dtag-size
  +4       data /ietf-schc:schc/rule/entry
   2651    data /ietf-schc:schc/rule/entry/comp-decomp-action
   2652    data /ietf-schc:schc/rule/entry/comp-decomp-action-value
    2653   data /ietf-schc:schc/rule/entry/comp-decomp-action-value/index
    2654   data /ietf-schc:schc/rule/entry/comp-decomp-action-value/value
   2655    data /ietf-schc:schc/rule/entry/direction-indicator
   2656    data /ietf-schc:schc/rule/entry/field-id
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   2659    data /ietf-schc:schc/rule/entry/matching-operator
   2660    data /ietf-schc:schc/rule/entry/matching-operator-value
    2661   data /ietf-schc:schc/rule/entry/matching-operator-value/index
    2662   data /ietf-schc:schc/rule/entry/matching-operator-value/value
   2663    data /ietf-schc:schc/rule/entry/target-value
    2664   data /ietf-schc:schc/rule/entry/target-value/index
    2665   data /ietf-schc:schc/rule/entry/target-value/value
  +20      data /ietf-schc:schc/rule/fcn-size
  +21      data /ietf-schc:schc/rule/fragmentation-mode
  +22      data /ietf-schc:schc/rule/inactivity-timer
   2669    data /ietf-schc:schc/rule/inactivity-timer/ticks-duration
   2670    data /ietf-schc:schc/rule/inactivity-timer/ticks-numbers
  +25      data /ietf-schc:schc/rule/l2-word-size
  +26      data /ietf-schc:schc/rule/max-ack-requests
  +27      data /ietf-schc:schc/rule/max-interleaved-frames
  +28      data /ietf-schc:schc/rule/maximum-packet-size
  +29      data /ietf-schc:schc/rule/rcs-algorithm
  +30      data /ietf-schc:schc/rule/retransmission-timer
   2677     data /ietf-schc:schc/rule/retransmission-timer/ticks-duration
   2678     data /ietf-schc:schc/rule/retransmission-timer/ticks-numbers
  +33      data /ietf-schc:schc/rule/rule-id-length
  +34      data /ietf-schc:schc/rule/rule-id-value
  +35      data /ietf-schc:schc/rule/rule-nature
  +36      data /ietf-schc:schc/rule/tile-in-all-1
  +37      data /ietf-schc:schc/rule/tile-size
  +38      data /ietf-schc:schc/rule/w-size
  +39      data /ietf-schc:schc/rule/window-size

File ietf-schc@2023-03-01.sid created
Number of SIDs available : 400
Number of SIDs used : 136
```

```
SID        Assigned to
---------  ---------------------------------------------------
2550       module ietf-schc
2645       data /ietf-schc:schc
 +1        data /ietf-schc:schc/rule
  +1       data /ietf-schc:schc/rule/ack-behavior
  +2       data /ietf-schc:schc/rule/direction
  +3       data /ietf-schc:schc/rule/dtag-size
  +4       data /ietf-schc:schc/rule/entry
   +1      data /ietf-schc:schc/rule/entry/comp-decomp-action
   +2      data /ietf-schc:schc/rule/entry/comp-decomp-action-value
    2653   data /ietf-schc:schc/rule/entry/comp-decomp-action-value/index
    2654   data /ietf-schc:schc/rule/entry/comp-decomp-action-value/value
   +5      data /ietf-schc:schc/rule/entry/direction-indicator
   +6      data /ietf-schc:schc/rule/entry/field-id
   +7      data /ietf-schc:schc/rule/entry/field-length
   +8      data /ietf-schc:schc/rule/entry/field-position
   +9      data /ietf-schc:schc/rule/entry/matching-operator
   +10     data /ietf-schc:schc/rule/entry/matching-operator-value
    2661   data /ietf-schc:schc/rule/entry/matching-operator-value/index
    2662   data /ietf-schc:schc/rule/entry/matching-operator-value/value
   +13     data /ietf-schc:schc/rule/entry/target-value
    2664   data /ietf-schc:schc/rule/entry/target-value/index
    2665   data /ietf-schc:schc/rule/entry/target-value/value
  +20      data /ietf-schc:schc/rule/fcn-size
  +21      data /ietf-schc:schc/rule/fragmentation-mode
  +22      data /ietf-schc:schc/rule/inactivity-timer
   +1      data /ietf-schc:schc/rule/inactivity-timer/ticks-duration
   +2      data /ietf-schc:schc/rule/inactivity-timer/ticks-numbers
  +25      data /ietf-schc:schc/rule/l2-word-size
  +26      data /ietf-schc:schc/rule/max-ack-requests
  +27      data /ietf-schc:schc/rule/max-interleaved-frames
  +28      data /ietf-schc:schc/rule/maximum-packet-size
  +29      data /ietf-schc:schc/rule/rcs-algorithm
  +30      data /ietf-schc:schc/rule/retransmission-timer
   +1      data /ietf-schc:schc/rule/retransmission-timer/ticks-duration
   +2      data /ietf-schc:schc/rule/retransmission-timer/ticks-numbers
  +33      data /ietf-schc:schc/rule/rule-id-length
  +34      data /ietf-schc:schc/rule/rule-id-value
  +35      data /ietf-schc:schc/rule/rule-nature
  +36      data /ietf-schc:schc/rule/tile-in-all-1
  +37      data /ietf-schc:schc/rule/tile-size
  +38      data /ietf-schc:schc/rule/w-size
  +39      data /ietf-schc:schc/rule/window-size

File ietf-schc@2023-03-01.sid created
Number of SIDs available : 400
Number of SIDs used : 136
```

```
SID        Assigned to
---------  ---------------------------------------------------
2550       module ietf-schc
2645       data /ietf-schc:schc
 +1        data /ietf-schc:schc/rule
  +1       data /ietf-schc:schc/rule/ack-behavior
  +2       data /ietf-schc:schc/rule/direction
  +3       data /ietf-schc:schc/rule/dtag-size
  +4       data /ietf-schc:schc/rule/entry
   +1      data /ietf-schc:schc/rule/entry/comp-decomp-action
   +2      data /ietf-schc:schc/rule/entry/comp-decomp-action-value
    +1     data /ietf-schc:schc/rule/entry/comp-decomp-action-value/index
    +2     data /ietf-schc:schc/rule/entry/comp-decomp-action-value/value
   +5      data /ietf-schc:schc/rule/entry/direction-indicator
   +6      data /ietf-schc:schc/rule/entry/field-id
   +7      data /ietf-schc:schc/rule/entry/field-length
   +8      data /ietf-schc:schc/rule/entry/field-position
   +9      data /ietf-schc:schc/rule/entry/matching-operator
   +10     data /ietf-schc:schc/rule/entry/matching-operator-value
    +1     data /ietf-schc:schc/rule/entry/matching-operator-value/index
    +2     data /ietf-schc:schc/rule/entry/matching-operator-value/value
   +13     data /ietf-schc:schc/rule/entry/target-value
    +1     data /ietf-schc:schc/rule/entry/target-value/index
    +2     data /ietf-schc:schc/rule/entry/target-value/value
  +20      data /ietf-schc:schc/rule/fcn-size
  +21      data /ietf-schc:schc/rule/fragmentation-mode
  +22      data /ietf-schc:schc/rule/inactivity-timer
   +1      data /ietf-schc:schc/rule/inactivity-timer/ticks-duration
   +2      data /ietf-schc:schc/rule/inactivity-timer/ticks-numbers
  +25      data /ietf-schc:schc/rule/l2-word-size
  +26      data /ietf-schc:schc/rule/max-ack-requests
  +27      data /ietf-schc:schc/rule/max-interleaved-frames
  +28      data /ietf-schc:schc/rule/maximum-packet-size
  +29      data /ietf-schc:schc/rule/rcs-algorithm
  +30      data /ietf-schc:schc/rule/retransmission-timer
   +1      data /ietf-schc:schc/rule/retransmission-timer/ticks-duration
   +2      data /ietf-schc:schc/rule/retransmission-timer/ticks-numbers
  +33      data /ietf-schc:schc/rule/rule-id-length
  +34      data /ietf-schc:schc/rule/rule-id-value
  +35      data /ietf-schc:schc/rule/rule-nature
  +36      data /ietf-schc:schc/rule/tile-in-all-1
  +37      data /ietf-schc:schc/rule/tile-size
  +38      data /ietf-schc:schc/rule/w-size
  +39      data /ietf-schc:schc/rule/window-size

File ietf-schc@2023-03-01.sid created
Number of SIDs available : 400
Number of SIDs used : 136
```

Example

```
b'a1190a55a10182a4048ca706190a2d0702080105190a0809190a4901190a050d81a20100024101a606190a2c0702
080105190a0809190a4a01190a06a606190a2a0704080105190a0809190a4a01190a06a606190a0d0708080105190a
0809190a4a01190a06a606190a100710080105190a0809190a4a01190a06a606190a2b07d82d190a42080105190a08
09190a4a01190a06a706190a2707d82d190a43080105190a0a09190a4901190a050d81a201000243666f6fa706190a
2707d82d190a43080205190a0a09190a4b01190a040d82a201000243626172a201010244746f746fa606190a2707d8
2d190a43080305190a0a09190a4a01190a06a606190a2707d82d190a43080405190a0a09190a4a01190a06a806190a
2907d82d190a43080105190a0a09190a4c0a81a2010002411001190a030d81a2010002426b3da706190a1507d82d19
0a43080105190a0909190a4901190a050d81a2010002411e18220518210318231 90a4ea818220318210318231 90a4f
02190a09181d190a520302140315190a47'
```

392 Bytes

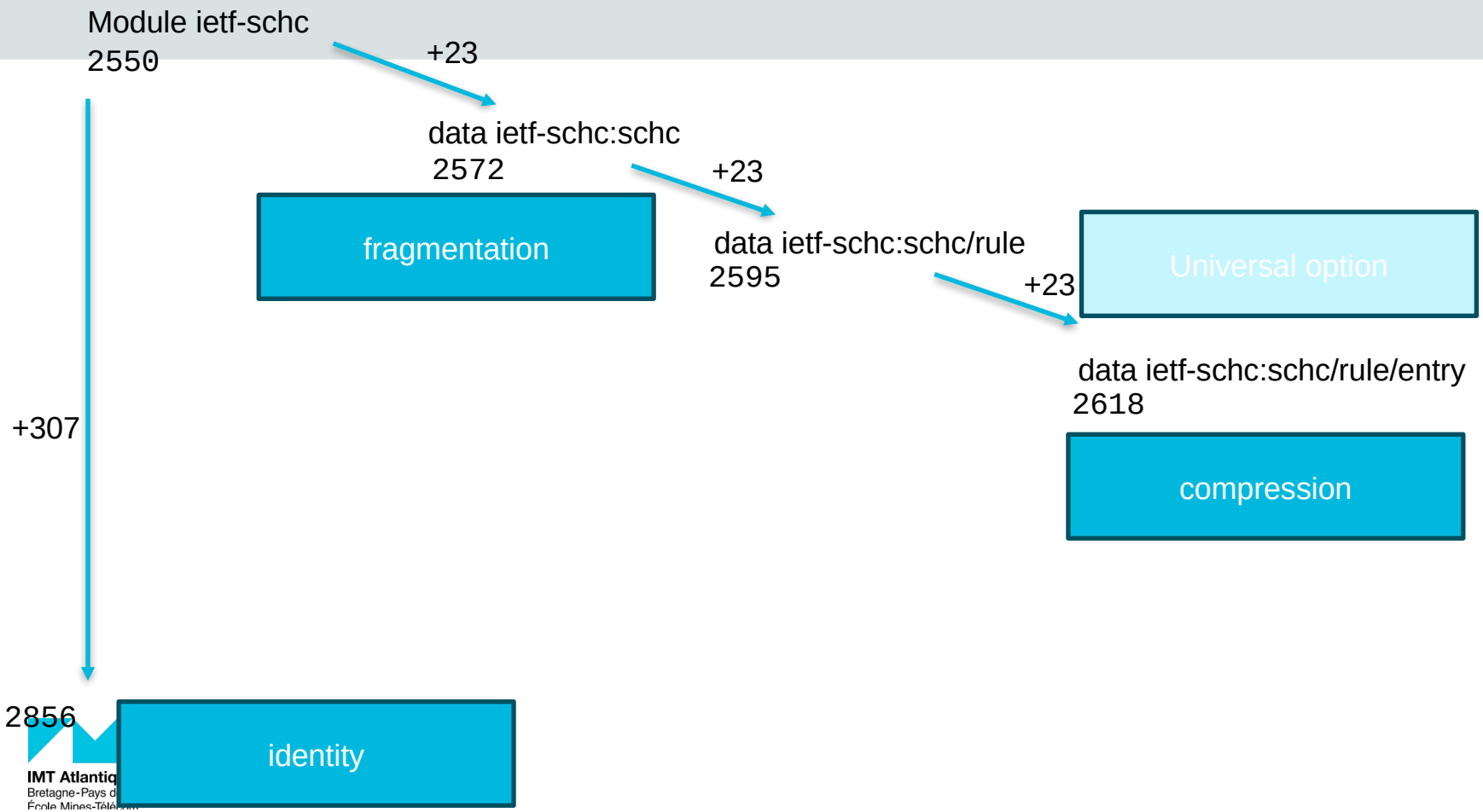
```
{2645: {1: [{4: [{1: 2565, 5: 2568, 6: 2605, 7: 2, 8: 1, 9: 2633,
                  13: [{1: 0, 2: b'\x01'}]},
                 {1: 2566, 5: 2568, 6: 2604, 7: 2, 8: 1, 9: 2634},
                 {1: 2566, 5: 2568, 6: 2602, 7: 4, 8: 1, 9: 2634},
…
                 {1: 2565, 5: 2569, 6: 2581, 7: CBORTag(45, 2627), 8: 1, 9: 2633,
                  13: [{1: 0, 2: b'\x1e'}]}],
             33: 3,
             34: 5,
             35: 2638},
            {2: 2569,
             3: 2,
             20: 3,
             21: 2631,
             29: 2642,
             33: 3,
             34: 3,
             35: 2639}]}}
```

JSON:
7583 Bytes

3423 Bytes

```
SID        Assigned to
---------  ---------------------------------------------------
2550       module ietf-schc
2645       data /ietf-schc:schc
 +1        data /ietf-schc:schc/rule
  +1       data /ietf-schc:schc/rule/ack-behavior
  +2       data /ietf-schc:schc/rule/direction
  +3       data /ietf-schc:schc/rule/dtag-size
  +4       data /ietf-schc:schc/rule/entry
   +1      data /ietf-schc:schc/rule/entry/comp-decomp-action
   +2      data /ietf-schc:schc/rule/entry/comp-decomp-action-value
    +1     data /ietf-schc:schc/rule/entry/comp-decomp-action-value/index
    +2     data /ietf-schc:schc/rule/entry/comp-decomp-action-value/value
   +5      data /ietf-schc:schc/rule/entry/direction-indicator
   +6      data /ietf-schc:schc/rule/entry/field-id
   +7      data /ietf-schc:schc/rule/entry/field-length
   +8      data /ietf-schc:schc/rule/entry/field-position
   +9      data /ietf-schc:schc/rule/entry/matching-operator
   +10     data /ietf-schc:schc/rule/entry/matching-operator-value
    +1     data /ietf-schc:schc/rule/entry/matching-operator-value/index
    +2     data /ietf-schc:schc/rule/entry/matching-operator-value/value
   +13     data /ietf-schc:schc/rule/entry/target-value
    +1     data /ietf-schc:schc/rule/entry/target-value/index
    +2     data /ietf-schc:schc/rule/entry/target-value/value
  +20      data /ietf-schc:schc/rule/fcn-size
  +21      data /ietf-schc:schc/rule/fragmentation-mode
  +22      data /ietf-schc:schc/rule/inactivity-timer
   +1      data /ietf-schc:schc/rule/inactivity-timer/ticks-duration
   +2      data /ietf-schc:schc/rule/inactivity-timer/ticks-numbers
  +25      data /ietf-schc:schc/rule/l2-word-size
  +26      data /ietf-schc:schc/rule/max-ack-requests
  +27      data /ietf-schc:schc/rule/max-interleaved-frames
  +28      data /ietf-schc:schc/rule/maximum-packet-size
  +29      data /ietf-schc:schc/rule/rcs-algorithm
  +30      data /ietf-schc:schc/rule/retransmission-timer
   +1      data /ietf-schc:schc/rule/retransmission-timer/ticks-duration
   +2      data /ietf-schc:schc/rule/retransmission-timer/ticks-numbers
  +33      data /ietf-schc:schc/rule/rule-id-length
  +34      data /ietf-schc:schc/rule/rule-id-value
  +35      data /ietf-schc:schc/rule/rule-nature
  +36      data /ietf-schc:schc/rule/tile-in-all-1
  +37      data /ietf-schc:schc/rule/tile-size
  +38      data /ietf-schc:schc/rule/w-size
  +39      data /ietf-schc:schc/rule/window-size

File ietf-schc@2023-03-01.sid created
Number of SIDs available : 400
Number of SIDs used : 136
```


Module ietf-schc
2550
+23
data ietf-schc:schc
2572
fragmentation
+23
data ietf-schc:schc/rule
2595
+23
Universal option
data ietf-schc:schc/rule/entry
2618
compression
+307
2856
identity

Example

```
b'a1190a0ca11782a4178ca706190b5e0702080105190b5209190b7a01190b4f0d81a20100024101a606190b5d07020801
05190b5209190b7b01190b50a606190b5b0704080105190b5209190b7b01190b50a606190b5707080801051 90b5209190b
7b01190b50a606190b5a0710080105190b5209190b7b01190b50a606190b5c07d82d190b73080105190b5209190b7b0119
0b50a706190b3e07d82d190b74080105190b5409190b7a01190b4f0d81a201000243666f6fa706190b3e07d82d190b7408
0205190b5409190b7c01190b4e0d82a201000243626172a201010244746f746fa606190b3e07d82d190b74080305190b54
09190b7b01190b50a606190b3e07d82d190b74080405190b5409190b7b01190b50a806190b4007d82d190b74080105190b
5409190b7d0a81a2010002411001190b4d0d81a2010002426b3da706190b2c07d82d190b74080105190b5309190b7a0119
0b4f0d81a2010002411e0205010303190b7fa80203010303190b8034190b5329190b833302320331190b78'
```

385 Bytes

392 Bytes

```
{2572: {23: [{1: 3,
              2: 5,
              3: 2943,
              23: [{1: 2895, 5: 2898, 6: 2910, 7: 2, 8: 1, 9: 2938,
                    13: [{1: 0, 2: b'\x01'}]},
                   {1: 2896, 5: 2898, 6: 2909, 7: 2, 8: 1, 9: 2939},
                   {1: 2896, 5: 2898, 6: 2907, 7: 4, 8: 1, 9: 2939},
                   {1: 2896, 5: 2898, 6: 2903, 7: 8, 8: 1, 9: 2939},
                   {1: 2896, 5: 2898, 6: 2906, 7: 16, 8: 1, 9: 2939},
                   …
                   {1: 2895, 5: 2899, 6: 2860, 7: CBORTag(45, 2932), 8: 1, 9: 2938,
                    13: [{1: 0, 2: b'\x1e'}]}]},
             {-21: 2899,
              -20: 2,
              -19: 3,
              -18: 2936,
              -10: 2947,
              1: 3,
              2: 3,
              3: 2944}]}}
```

JSON:
7583 Bytes

3423 Bytes

Open points

- Do we allocate SID for coap-option ?
  - **Universal-option will change the representation**
  - **SID cannot be reallocated**

- Need a revision of RFC9363
  - **RFC8824bis**
  - **Compound Acknowledgement**
  - **ICMPv6**

- Next steps
  - **Double check current document**
  - **Provide SID allocation to IANA**

```
2550,module,ietf-schc
..
2572,data,/ietf-schc:schc
2573,data,/ietf-schc:schc/rule/ack-behavior
2574,data,/ietf-schc:schc/rule/direction
2575,data,/ietf-schc:schc/rule/dtag-size
2576,data,/ietf-schc:schc/rule/fcn-size
2577,data,/ietf-schc:schc/rule/fragmentation-mode
2578,data,/ietf-schc:schc/rule/inactivity-timer
2579,data,/ietf-schc:schc/rule/inactivity-timer/ticks-duration
2580,data,/ietf-schc:schc/rule/inactivity-timer/ticks-numbers
2581,data,/ietf-schc:schc/rule/l2-word-size
2582,data,/ietf-schc:schc/rule/max-ack-requests
2583,data,/ietf-schc:schc/rule/max-interleaved-frames
2584,data,/ietf-schc:schc/rule/maximum-packet-size
2585,data,/ietf-schc:schc/rule/rcs-algorithm
2586,data,/ietf-schc:schc/rule/retransmission-timer
2587,data,/ietf-schc:schc/rule/retransmission-timer/ticks-duration
2588,data,/ietf-schc:schc/rule/retransmission-timer/ticks-numbers
2589,data,/ietf-schc:schc/rule/tile-in-all-1
2590,data,/ietf-schc:schc/rule/tile-size
2591,data,/ietf-schc:schc/rule/w-size
2592,data,/ietf-schc:schc/rule/window-size
2593,,
2594,,
2595,data,/ietf-schc:schc/rule
2596,data,/ietf-schc:schc/rule/rule-id-length
2597,data,/ietf-schc:schc/rule/rule-id-value
2598,data,/ietf-schc:schc/rule/rule-nature
```

+23

```
2599,,
2600,,
2601,,
2602,,
2603,,
2604,,
2605,,
2606,,
2607,,
2608,,
2609,,
2610,,
2611,,
2612,,
2613,,
2614,,
2615,,
2616,,
2617,,
2618,data,/ietf-schc:schc/rule/entry
2619,data,/ietf-schc:schc/rule/entry/comp-decomp-action
2620,data,/ietf-schc:schc/rule/entry/comp-decomp-action-valu
2621,data,/ietf-schc:schc/rule/entry/comp-decomp-action-valu
2622,data,/ietf-schc:schc/rule/entry/comp-decomp-action-valu
2623,data,/ietf-schc:schc/rule/entry/direction-indicator
2624,data,/ietf-schc:schc/rule/entry/field-id
2625,data,/ietf-schc:schc/rule/entry/field-length
2626,data,/ietf-schc:schc/rule/entry/field-position
2627,data,/ietf-schc:schc/rule/entry/matching-operator
2628,data,/ietf-schc:schc/rule/entry/matching-operator-value
2629,data,/ietf-schc:schc/rule/entry/matching-operator-value
2630,data,/ietf-schc:schc/rule/entry/matching-operator-value
```

```
2631,data,/ietf-schc:schc/rule/entry/target-value
2632,data,/ietf-schc:schc/rule/entry/target-value/index
2633,data,/ietf-schc:schc/rule/entry/target-value/value
2634,,
2635,,
…
2850,,
2851,,
2852,,
2853,,
2854,,
2855,,
2856,identity,fid-coap-option
2857,identity,fid-coap-option-accept
2858,identity,fid-coap-option-block1
2859,identity,fid-coap-option-block2
2860,identity,fid-coap-option-content-format
2861,identity,fid-coap-option-etag
2862,identity,fid-coap-option-if-match
2863,identity,fid-coap-option-if-none-match
2864,identity,fid-coap-option-location-path
2865,identity,fid-coap-option-location-query
2866,identity,fid-coap-option-max-age
2867,identity,fid-coap-option-no-response
2868,identity,fid-coap-option-observe
2869,identity,fid-coap-option-oscore-flags
2870,identity,fid-coap-option-oscore-kid
2871,identity,fid-coap-option-oscore-kidctx
2872,identity,fid-coap-option-oscore-piv
2873,identity,fid-coap-option-proxy-scheme
2874,identity,fid-coap-option-proxy-uri
2875,identity,fid-coap-option-size1
2876,identity,fid-coap-option-size2
2877,identity,fid-coap-option-uri-host
2878,identity,fid-coap-option-uri-path
2879,identity,fid-coap-option-uri-port
2880,identity,fid-coap-option-uri-query
2881,identity,ack-behavior-after-all-0
2882,identity,ack-behavior-after-all-1
2883,identity,ack-behavior-base-type
2884,identity,ack-behavior-by-layer2
2885,identity,all-1-data-base-type
2886,identity,all-1-data-no
2887,identity,all-1-data-sender-choice
2888,identity,all-1-data-yes
2889,identity,cda-appiid
2890,identity,cda-base-type
2891,identity,cda-compute
2892,identity,cda-deviid
2893,identity,cda-lsb
2894,identity,cda-mapping-sent
2895,identity,cda-not-sent
2896,identity,cda-value-sent
2897,identity,di-base-type
2898,identity,di-bidirectional
2899,identity,di-down
2900,identity,di-up
2901,identity,fid-base-type
2902,identity,fid-coap-base-type
2903,identity,fid-coap-code
2904,identity,fid-coap-code-class
2905,identity,fid-coap-code-detail
```

```
2905,identity,fid-coap-code-detail
2906,identity,fid-coap-mid
2907,identity,fid-coap-tkl
2908,identity,fid-coap-token
2909,identity,fid-coap-type
2910,identity,fid-coap-version
2911,identity,fid-ipv6-appiid
2912,identity,fid-ipv6-appprefix
2913,identity,fid-ipv6-base-type
2914,identity,fid-ipv6-deviid
2915,identity,fid-ipv6-devprefix
2916,identity,fid-ipv6-flowlabel
2917,identity,fid-ipv6-hoplimit
2918,identity,fid-ipv6-nextheader
2919,identity,fid-ipv6-payload-length
2920,identity,fid-ipv6-trafficclass
2921,identity,fid-ipv6-trafficclass-ds
2922,identity,fid-ipv6-trafficclass-ecn
2923,identity,fid-ipv6-version
2924,identity,fid-oscore-base-type
2925,identity,fid-udp-app-port
2926,identity,fid-udp-base-type
2927,identity,fid-udp-checksum
2928,identity,fid-udp-dev-port
2929,identity,fid-udp-length
2930,identity,fl-base-type
2931,identity,fl-token-length
2932,identity,fl-variable
2933,identity,fragmentation-mode-ack-always
2934,identity,fragmentation-mode-ack-on-error
2935,identity,fragmentation-mode-base-type
2936,identity,fragmentation-mode-no-ack
2937,identity,mo-base-type
2938,identity,mo-equal
2939,identity,mo-ignore
2940,identity,mo-match-mapping
2941,identity,mo-msb
2942,identity,nature-base-type
2943,identity,nature-compression
2944,identity,nature-fragmentation
2945,identity,nature-no-compression
2946,identity,rcs-algorithm-base-type
2947,identity,rcs-crc32
2948,feature,compression
2949,feature,fragmentation
```