

# SONiC 201811 Release Note

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## 1. Branch Location

<https://github.com/Azure/sonic-buildimage/tree/201811>

## 2. Dependency Version

<b>Component</b>	<b>Version</b>
<i>Linux kernel version</i>	4.9.110-3+deb9u2
<i>SAI version</i>	SAI 1.3
<i>Quagga</i>	0.99.24.1-2.1
<i>LLDPD</i>	0.9.6-0
<i>TeamD</i>	1.26-1
<i>SNMPD</i>	5.7.3+dfsg-1.5
<i>Python</i>	3.6

## 3. Feature List

Big Feature List and Design Doc Link
<a href="#">Debian Kernel Upgrade to 4.9</a>
<a href="#">Warm Reboot</a>
<a href="#">Asymmetric PFC</a>
<a href="#">Routing Stack Graceful Restart</a>

<a href="#"><u>Incremental Config (IP, LAG, Port shut/unshut)</u></a>
<a href="#"><u>Basic VRF and L3 VXLAN</u></a>
<a href="#"><u>PFC Watermark</u></a>

## 4. Security Updates

1. [security] Fixes for DSA-4314-1 net-snmp

<https://security-tracker.debian.org/tracker/CVE-2018-18065>

2. [security] patch the code for DSA-4133-1 isc-dhcp -- security update

<https://security-tracker.debian.org/tracker/CVE-2017-3144>

<https://security-tracker.debian.org/tracker/CVE-2018-5732>

<https://security-tracker.debian.org/tracker/CVE-2018-5733>

3. [security] Fix double free of unknown attribute (Quagga-2018-1114)

<https://www.quagga.net/security/Quagga-2018-1114.txt>

4. [security] debug print of received NOTIFY data can over-read msg array (Quagga-2018-1550)

<https://www.quagga.net/security/Quagga-2018-1550.txt>

5. [security] Fix infinite loop on certain invalid OPEN messages (Quagga-2018-1975)

<https://www.quagga.net/security/Quagga-2018-1975.txt>

6. [security] Patch for DDoS attack with low rates of specially modified packets targeting IP fragment re-assembly

<https://security-tracker.debian.org/tracker/CVE-2018-5391>

## 5. SAI APIs used in this release

### *SAI Attributes Used in SONiC 201811 Release*

1	SAI_ACL_COUNTER_ATTR_BYTES
2	SAI_ACL_COUNTER_ATTR_ENABLE_BYTE_COUNT
3	SAI_ACL_COUNTER_ATTR_ENABLE_PACKET_COUNT
4	SAI_ACL_COUNTER_ATTR_PACKETS
5	SAI_ACL_COUNTER_ATTR_TABLE_ID
6	SAI_ACL_ENTRY_ATTR_ACTION_ACL_DTEL_FLOW_OP
7	SAI_ACL_ENTRY_ATTR_ACTION_COUNTER

8	SAI_ACL_ENTRY_ATTR_ACTION_DTEL_DROP_REPORT_ENABLE
9	SAI_ACL_ENTRY_ATTR_ACTION_DTEL_FLOW_SAMPLE_PERCENT
10	SAI_ACL_ENTRY_ATTR_ACTION_DTEL_INT_SESSION
11	SAI_ACL_ENTRY_ATTR_ACTION_DTEL_REPORT_ALL_PACKETS
12	SAI_ACL_ENTRY_ATTR_ACTION_DTEL_TAIL_DROP_REPORT_ENABLE
13	SAI_ACL_ENTRY_ATTR_ACTION_MIRROR_INGRESS
14	SAI_ACL_ENTRY_ATTR_ACTION_PACKET_ACTION
15	SAI_ACL_ENTRY_ATTR_ACTION_REDIRECT
16	SAI_ACL_ENTRY_ATTR_ACTION_SET_PACKET_COLOR
17	SAI_ACL_ENTRY_ATTR_ADMIN_STATE
18	SAI_ACL_ENTRY_ATTR_FIELD_ACL_IP_TYPE
19	SAI_ACL_ENTRY_ATTR_FIELD_ACL_RANGE_TYPE
20	SAI_ACL_ENTRY_ATTR_FIELD_DSCP
21	SAI_ACL_ENTRY_ATTR_FIELD_DST_IP
22	SAI_ACL_ENTRY_ATTR_FIELD_DST_IPV6
23	SAI_ACL_ENTRY_ATTR_FIELD_ETHER_TYPE
24	SAI_ACL_ENTRY_ATTR_FIELD_INNER_ETHER_TYPE
25	SAI_ACL_ENTRY_ATTR_FIELD_INNER_IP_PROTOCOL
26	SAI_ACL_ENTRY_ATTR_FIELD_INNER_L4_DST_PORT
27	SAI_ACL_ENTRY_ATTR_FIELD_INNER_L4_SRC_PORT
28	SAI_ACL_ENTRY_ATTR_FIELD_IN_PORTS
29	SAI_ACL_ENTRY_ATTR_FIELD_IP_PROTOCOL
30	SAI_ACL_ENTRY_ATTR_FIELD_L4_DST_PORT
31	SAI_ACL_ENTRY_ATTR_FIELD_L4_SRC_PORT
32	SAI_ACL_ENTRY_ATTR_FIELD_OUT_PORTS
33	SAI_ACL_ENTRY_ATTR_FIELD_SRC_IP
34	SAI_ACL_ENTRY_ATTR_FIELD_SRC_IPV6
35	SAI_ACL_ENTRY_ATTR_FIELD_TC
36	SAI_ACL_ENTRY_ATTR_FIELD_TCP_FLAGS
37	SAI_ACL_ENTRY_ATTR_FIELD_TUNNEL_VNI
38	SAI_ACL_ENTRY_ATTR_PRIORITY
39	SAI_ACL_ENTRY_ATTR_TABLE_ID
40	SAI_ACL_RANGE_ATTR_LIMIT
41	SAI_ACL_RANGE_ATTR_TYPE
42	SAI_ACL_TABLE_ATTR_ACL_ACTION_TYPE_LIST
43	SAI_ACL_TABLE_ATTR_ACL_BIND_POINT_TYPE_LIST
44	SAI_ACL_TABLE_ATTR_ACL_STAGE
45	SAI_ACL_TABLE_ATTR_AVAILABLE_ACL_COUNTER
46	SAI_ACL_TABLE_ATTR_AVAILABLE_ACL_ENTRY
47	SAI_ACL_TABLE_ATTR_FIELD_ACL_IP_TYPE
48	SAI_ACL_TABLE_ATTR_FIELD_ACL_RANGE_TYPE
49	SAI_ACL_TABLE_ATTR_FIELD_DSCP
50	SAI_ACL_TABLE_ATTR_FIELD_DST_IP
51	SAI_ACL_TABLE_ATTR_FIELD_DST_IPV6
52	SAI_ACL_TABLE_ATTR_FIELD_ECN

53	SAI_ACL_TABLE_ATTR_FIELD_ETHER_TYPE
54	SAI_ACL_TABLE_ATTR_FIELD_INNER_DST_IP
55	SAI_ACL_TABLE_ATTR_FIELD_INNER_ETHER_TYPE
56	SAI_ACL_TABLE_ATTR_FIELD_INNER_SRC_IP
57	SAI_ACL_TABLE_ATTR_FIELD_IP_PROTOCOL
58	SAI_ACL_TABLE_ATTR_FIELD_L4_DST_PORT
59	SAI_ACL_TABLE_ATTR_FIELD_L4_SRC_PORT
60	SAI_ACL_TABLE_ATTR_FIELD_SRC_IP
61	SAI_ACL_TABLE_ATTR_FIELD_SRC_IPV6
62	SAI_ACL_TABLE_ATTR_FIELD_TC
63	SAI_ACL_TABLE_ATTR_FIELD_TCP_FLAGS
64	SAI_ACL_TABLE_ATTR_FIELD_TUNNEL_VNI
65	SAI_ACL_TABLE_GROUP_ATTR_ACL_BIND_POINT_TYPE_LIST
66	SAI_ACL_TABLE_GROUP_ATTR_ACL_STAGE
67	SAI_ACL_TABLE_GROUP_ATTR_TYPE
68	SAI_ACL_TABLE_GROUP_MEMBER_ATTR_ACL_TABLE_GROUP_ID
69	SAI_ACL_TABLE_GROUP_MEMBER_ATTR_ACL_TABLE_ID
70	SAI_ACL_TABLE_GROUP_MEMBER_ATTR_PRIORITY
71	SAI_BRIDGE_ATTR_PORT_LIST
72	SAI_BRIDGE_PORT_ATTR_ADMIN_STATE
73	SAI_BRIDGE_PORT_ATTR_FDB_LEARNING_MODE
74	SAI_BRIDGE_PORT_ATTR_PORT_ID
75	SAI_BRIDGE_PORT_ATTR_TYPE
76	SAI_BUFFER_POOL_ATTR_SIZE
77	SAI_BUFFER_POOL_ATTR_THRESHOLD_MODE
78	SAI_BUFFER_POOL_ATTR_TYPE
79	SAI_BUFFER_POOL_ATTR_XOFF_SIZE
80	SAI_BUFFER_PROFILE_ATTR_BUFFER_SIZE
81	SAI_BUFFER_PROFILE_ATTR_POOL_ID
82	SAI_BUFFER_PROFILE_ATTR_SHARED_DYNAMIC_TH
83	SAI_BUFFER_PROFILE_ATTR_SHARED_STATIC_TH
84	SAI_BUFFER_PROFILE_ATTR_THRESHOLD_MODE
85	SAI_BUFFER_PROFILE_ATTR_XOFF_TH
86	SAI_BUFFER_PROFILE_ATTR_XON_OFFSET_TH
87	SAI_BUFFER_PROFILE_ATTR_XON_TH
88	SAI_DTEL_ATTR_DROP_REPORT_ENABLE
89	SAI_DTEL_ATTR_FLOW_STATE_CLEAR_CYCLE
90	SAI_DTEL_ATTR_INT_ENDPOINT_ENABLE
91	SAI_DTEL_ATTR_INT_L4_DSCP
92	SAI_DTEL_ATTR_INT_TRANSIT_ENABLE
93	SAI_DTEL_ATTR_LATENCY_SENSITIVITY
94	SAI_DTEL_ATTR_POSTCARD_ENABLE
95	SAI_DTEL_ATTR_QUEUE_REPORT_ENABLE
96	SAI_DTEL_ATTR_SINK_PORT_LIST
97	SAI_DTEL_ATTR_SWITCH_ID

98	SAI_DTEL_EVENT_ATTR_DSCP_VALUE
99	SAI_DTEL_EVENT_ATTR_REPORT_SESSION
100	SAI_DTEL_EVENT_ATTR_TYPE
101	SAI_DTEL_INT_SESSION_ATTR_COLLECT_EGRESS_TIMESTAMP
102	SAI_DTEL_INT_SESSION_ATTR_COLLECT_INGRESS_TIMESTAMP
103	SAI_DTEL_INT_SESSION_ATTR_COLLECT_QUEUE_INFO
104	SAI_DTEL_INT_SESSION_ATTR_COLLECT_SWITCH_ID
105	SAI_DTEL_INT_SESSION_ATTR_COLLECT_SWITCH_PORTS
106	SAI_DTEL_INT_SESSION_ATTR_MAX_HOP_COUNT
107	SAI_DTEL_QUEUE_REPORT_ATTR_BREACH_QUOTA
108	SAI_DTEL_QUEUE_REPORT_ATTR_DEPTH_THRESHOLD
109	SAI_DTEL_QUEUE_REPORT_ATTR_LATENCY_THRESHOLD
110	SAI_DTEL_QUEUE_REPORT_ATTR_QUEUE_ID
111	SAI_DTEL_QUEUE_REPORT_ATTR_TAIL_DROP
112	SAI_DTEL_REPORT_SESSION_ATTR_DST_IP_LIST
113	SAI_DTEL_REPORT_SESSION_ATTR_SRC_IP
114	SAI_DTEL_REPORT_SESSION_ATTR_TRUNCATE_SIZE
115	SAI_DTEL_REPORT_SESSION_ATTR_UDP_DST_PORT
116	SAI_DTEL_REPORT_SESSION_ATTR_VIRTUAL_ROUTER_ID
117	SAI_FDB_ENTRY_ATTR_BRIDGE_PORT_ID
118	SAI_FDB_ENTRY_ATTR_PACKET_ACTION
119	SAI_FDB_ENTRY_ATTR_TYPE
120	SAI_HOSTIF_ATTR_NAME
121	SAI_HOSTIF_ATTR_OBJ_ID
122	SAI_HOSTIF_ATTR_OPER_STATUS
123	SAI_HOSTIF_ATTR_TYPE
124	SAI_HOSTIF_ATTR_VLAN_TAG
125	SAI_HOSTIF_TABLE_ENTRY_ATTR_CHANNEL_TYPE
126	SAI_HOSTIF_TABLE_ENTRY_ATTR_TYPE
127	SAI_HOSTIF_TRAP_ATTR_PACKET_ACTION
128	SAI_HOSTIF_TRAP_ATTR_TRAP_GROUP
129	SAI_HOSTIF_TRAP_ATTR_TRAP_PRIORITY
130	SAI_HOSTIF_TRAP_ATTR_TRAP_TYPE
131	SAI_HOSTIF_TRAP_GROUP_ATTR_POLICER
132	SAI_HOSTIF_TRAP_GROUP_ATTR_QUEUE
133	SAI_INGRESS_PRIORITY_GROUP_ATTR_BUFFER_PROFILE
134	SAI_LAG_ATTR_EGRESS_ACL
135	SAI_LAG_ATTR_INGRESS_ACL
136	SAI_LAG_ATTR_PORT_VLAN_ID
137	SAI_LAG_MEMBER_ATTR_LAG_ID
138	SAI_LAG_MEMBER_ATTR_PORT_ID
139	SAI_MIRROR_SESSION_ATTR_DST_IP_ADDRESS
140	SAI_MIRROR_SESSION_ATTR_DST_MAC_ADDRESS
141	SAI_MIRROR_SESSION_ATTR_ERSPAN_ENCAPSULATION_TYPE
142	SAI_MIRROR_SESSION_ATTR_GRE_PROTOCOL_TYPE

143	SAI_MIRROR_SESSION_ATTR_IPHDR_VERSION
144	SAI_MIRROR_SESSION_ATTR_MONITOR_PORT
145	SAI_MIRROR_SESSION_ATTR_SRC_IP_ADDRESS
146	SAI_MIRROR_SESSION_ATTR_SRC_MAC_ADDRESS
147	SAI_MIRROR_SESSION_ATTR_TC
148	SAI_MIRROR_SESSION_ATTR_TOS
149	SAI_MIRROR_SESSION_ATTR_TTL
150	SAI_MIRROR_SESSION_ATTR_TYPE
151	SAI_MIRROR_SESSION_ATTR_VLAN_CFI
152	SAI_MIRROR_SESSION_ATTR_VLAN_HEADER_VALID
153	SAI_MIRROR_SESSION_ATTR_VLAN_ID
154	SAI_MIRROR_SESSION_ATTR_VLAN_PRI
155	SAI_MIRROR_SESSION_ATTR_VLAN_TPID
156	SAI_NEIGHBOR_ENTRY_ATTR_DST_MAC_ADDRESS
157	SAI_NEXT_HOP_ATTR_IP
158	SAI_NEXT_HOP_ATTR_ROUTER_INTERFACE_ID
159	SAI_NEXT_HOP_ATTR_TUNNEL_ID
160	SAI_NEXT_HOP_ATTR_TUNNEL_MAC
161	SAI_NEXT_HOP_ATTR_TUNNEL_VNI
162	SAI_NEXT_HOP_ATTR_TYPE
163	SAI_NEXT_HOP_GROUP_ATTR_TYPE
164	SAI_NEXT_HOP_GROUP_MEMBER_ATTR_NEXT_HOP_GROUP_ID
165	SAI_NEXT_HOP_GROUP_MEMBER_ATTR_NEXT_HOP_ID
166	SAI_POLICER_ATTR_CBS
167	SAI_POLICER_ATTR_CIR
168	SAI_POLICER_ATTR_COLOR_SOURCE
169	SAI_POLICER_ATTR_GREEN_PACKET_ACTION
170	SAI_POLICER_ATTR_METER_TYPE
171	SAI_POLICER_ATTR_MODE
172	SAI_POLICER_ATTR_PBS
173	SAI_POLICER_ATTR_PIR
174	SAI_POLICER_ATTR_RED_PACKET_ACTION
175	SAI_POLICER_ATTR_YELLOW_PACKET_ACTION
176	SAI_PORT_ATTR_ADMIN_STATE
177	SAI_PORT_ATTR_ADVERTISED_SPEED
178	SAI_PORT_ATTR_AUTO_NEG_MODE
179	SAI_PORT_ATTR_EGRESS_ACL
180	SAI_PORT_ATTR_FEC_MODE
181	SAI_PORT_ATTR_HW_LANE_LIST
182	SAI_PORT_ATTR_INGRESS_ACL
183	SAI_PORT_ATTR_INGRESS_PRIORITY_GROUP_LIST
184	SAI_PORT_ATTR_MTU
185	SAI_PORT_ATTR_NUMBER_OF_INGRESS_PRIORITY_GROUPS
186	SAI_PORT_ATTR_OPER_STATUS
187	SAI_PORT_ATTR_PORT_VLAN_ID

188	SAI_PORT_ATTR_PRIORITY_FLOW_CONTROL
189	SAI_PORT_ATTR_PRIORITY_FLOW_CONTROL_MODE
190	SAI_PORT_ATTR_PRIORITY_FLOW_CONTROL_RX
191	SAI_PORT_ATTR_PRIORITY_FLOW_CONTROL_TX
192	SAI_PORT_ATTR_QOS_DSCP_TO_TC_MAP
193	SAI_PORT_ATTR_QOS_EGRESS_BUFFER_PROFILE_LIST
194	SAI_PORT_ATTR_QOS_INGRESS_BUFFER_PROFILE_LIST
195	SAI_PORT_ATTR_QOS_NUMBER_OF_QUEUES
196	SAI_PORT_ATTR_QOS_NUMBER_OF_SCHEDULER_GROUPS
197	SAI_PORT_ATTR_QOS_PFC_PRIORITY_TO_PRIORITY_GROUP_MAP
198	SAI_PORT_ATTR_QOS_PFC_PRIORITY_TO_QUEUE_MAP
199	SAI_PORT_ATTR_QOS_QUEUE_LIST
200	SAI_PORT_ATTR_QOS_SCHEDULER_GROUP_LIST
201	SAI_PORT_ATTR_QOS_TC_TO_PRIORITY_GROUP_MAP
202	SAI_PORT_ATTR_QOS_TC_TO_QUEUE_MAP
203	SAI_PORT_ATTR_SPEED
204	SAI_PORT_ATTR_SUPPORTED_SPEED
205	SAI_QOS_MAP_ATTR_MAP_TO_VALUE_LIST
206	SAI_QOS_MAP_ATTR_TYPE
207	SAI_QUEUE_ATTR_BUFFER_PROFILE_ID
208	SAI_QUEUE_ATTR_INDEX
209	SAI_QUEUE_ATTR_PAUSE_STATUS
210	SAI_QUEUE_ATTR_TYPE
211	SAI_QUEUE_ATTR_WRED_PROFILE_ID
212	SAI_REDIS_SWITCH_ATTR_FLUSH
213	SAI_REDIS_SWITCH_ATTR_NOTIFY_SYNCD
214	SAI_REDIS_SWITCH_ATTR_PERFORM_LOG_ROTATE
215	SAI_REDIS_SWITCH_ATTR_RECORD
216	SAI_REDIS_SWITCH_ATTR_RECORDING_OUTPUT_DIR
217	SAI_REDIS_SWITCH_ATTR_USE_PIPELINE
218	SAI_ROUTER_INTERFACE_ATTR_MTU
219	SAI_ROUTER_INTERFACE_ATTR_PORT_ID
220	SAI_ROUTER_INTERFACE_ATTR_SRC_MAC_ADDRESS
221	SAI_ROUTER_INTERFACE_ATTR_TYPE
222	SAI_ROUTER_INTERFACE_ATTR_VIRTUAL_ROUTER_ID
223	SAI_ROUTER_INTERFACE_ATTR_VLAN_ID
224	SAI_ROUTE_ATTR_PACKET_ACTION
225	SAI_ROUTE_ENTRY_ATTR_NEXT_HOP_ID
226	SAI_ROUTE_ENTRY_ATTR_PACKET_ACTION
227	SAI_SCHEDULER_ATTR_SCHEDULING_TYPE
228	SAI_SCHEDULER_ATTR_SCHEDULING_WEIGHT
229	SAI_SCHEDULER_GROUP_ATTR_CHILD_COUNT
230	SAI_SCHEDULER_GROUP_ATTR_CHILD_LIST
231	SAI_SCHEDULER_GROUP_ATTR_SCHEDULER_PROFILE_ID
232	SAI_STATUS_IS_ATTR_NOT_IMPLEMENTED

233	SAI_STATUS_IS_ATTR_NOT_SUPPORTED
234	SAI_SWITCH_ATTR_ACL_ENTRY_MAXIMUM_PRIORITY
235	SAI_SWITCH_ATTR_ACL_ENTRY_MINIMUM_PRIORITY
236	SAI_SWITCH_ATTR_AVAILABLE_ACL_TABLE
237	SAI_SWITCH_ATTR_AVAILABLE_ACL_TABLE_GROUP
238	SAI_SWITCH_ATTR_AVAILABLE_FDB_ENTRY
239	SAI_SWITCH_ATTR_AVAILABLE_IPV4_NEIGHBOR_ENTRY
240	SAI_SWITCH_ATTR_AVAILABLE_IPV4_NEXTHOP_ENTRY
241	SAI_SWITCH_ATTR_AVAILABLE_IPV4_ROUTE_ENTRY
242	SAI_SWITCH_ATTR_AVAILABLE_IPV6_NEIGHBOR_ENTRY
243	SAI_SWITCH_ATTR_AVAILABLE_IPV6_NEXTHOP_ENTRY
244	SAI_SWITCH_ATTR_AVAILABLE_IPV6_ROUTE_ENTRY
245	SAI_SWITCH_ATTR_AVAILABLE_NEXT_HOP_GROUP_ENTRY
246	SAI_SWITCH_ATTR_AVAILABLE_NEXT_HOP_GROUP_MEMBER_ENTRY
247	SAI_SWITCH_ATTR_CPU_PORT
248	SAI_SWITCH_ATTR_CUSTOM_RANGE_BASE
249	SAI_SWITCH_ATTR_CUSTOM_RANGE_START
250	SAI_SWITCH_ATTR_DEFAULT_1Q_BRIDGE_ID
251	SAI_SWITCH_ATTR_DEFAULT_TRAP_GROUP
252	SAI_SWITCH_ATTR_DEFAULT_VIRTUAL_ROUTER_ID
253	SAI_SWITCH_ATTR_DEFAULT_VLAN_ID
254	SAI_SWITCH_ATTR_ECMP_DEFAULT_HASH_SEED
255	SAI_SWITCH_ATTR_FDB_AGING_TIME
256	SAI_SWITCH_ATTR_FDB_BROADCAST_MISS_PACKET_ACTION
257	SAI_SWITCH_ATTR_FDB_EVENT_NOTIFY
258	SAI_SWITCH_ATTR_FDB_MULTICAST_MISS_PACKET_ACTION
259	SAI_SWITCH_ATTR_FDB_UNICAST_MISS_PACKET_ACTION
260	SAI_SWITCH_ATTR_INIT_SWITCH
261	SAI_SWITCH_ATTR_LAG_DEFAULT_HASH_SEED
262	SAI_SWITCH_ATTR_NUMBER_OF_ECMP_GROUPS
263	SAI_SWITCH_ATTR_PORT_LIST
264	SAI_SWITCH_ATTR_PORT_NUMBER
265	SAI_SWITCH_ATTR_PORT_STATE_CHANGE_NOTIFY
266	SAI_SWITCH_ATTR_SHUTDOWN_REQUEST_NOTIFY
267	SAI_SWITCH_ATTR_SRC_MAC_ADDRESS
268	SAI_SWITCH_ATTR_VXLAN_DEFAULT_PORT
269	SAI_SWITCH_ATTR_VXLAN_DEFAULT_ROUTER_MAC
270	SAI_TUNNEL_ATTR_DECAP_DSCP_MODE
271	SAI_TUNNEL_ATTR_DECAP_ECN_MODE
272	SAI_TUNNEL_ATTR_DECAP_MAPPERS
273	SAI_TUNNEL_ATTR_DECAP_TTL_MODE
274	SAI_TUNNEL_ATTR_ENCAP_MAPPERS
275	SAI_TUNNEL_ATTR_ENCAP_SRC_IP
276	SAI_TUNNEL_ATTR_OVERLAY_INTERFACE
277	SAI_TUNNEL_ATTR_TYPE



278	SAI_TUNNEL_ATTR_UNDERLAY_INTERFACE
279	SAI_TUNNEL_MAP_ATTR_TYPE
280	SAI_TUNNEL_MAP_ENTRY_ATTR_BRIDGE_ID_KEY
281	SAI_TUNNEL_MAP_ENTRY_ATTR_BRIDGE_ID_VALUE
282	SAI_TUNNEL_MAP_ENTRY_ATTR_TUNNEL_MAP
283	SAI_TUNNEL_MAP_ENTRY_ATTR_TUNNEL_MAP_TYPE
284	SAI_TUNNEL_MAP_ENTRY_ATTR_VIRTUAL_ROUTER_ID_KEY
285	SAI_TUNNEL_MAP_ENTRY_ATTR_VIRTUAL_ROUTER_ID_VALUE
286	SAI_TUNNEL_MAP_ENTRY_ATTR_VLAN_ID_KEY
287	SAI_TUNNEL_MAP_ENTRY_ATTR_VLAN_ID_VALUE
288	SAI_TUNNEL_MAP_ENTRY_ATTR_VNI_ID_KEY
289	SAI_TUNNEL_MAP_ENTRY_ATTR_VNI_ID_VALUE
290	SAI_TUNNEL_TERM_TABLE_ENTRY_ATTR_ACTION_TUNNEL_ID
291	SAI_TUNNEL_TERM_TABLE_ENTRY_ATTR_DST_IP
292	SAI_TUNNEL_TERM_TABLE_ENTRY_ATTR_SRC_IP
293	SAI_TUNNEL_TERM_TABLE_ENTRY_ATTR_TUNNEL_TYPE
294	SAI_TUNNEL_TERM_TABLE_ENTRY_ATTR_TYPE
295	SAI_TUNNEL_TERM_TABLE_ENTRY_ATTR_VR_ID
296	SAI_VIRTUAL_ROUTER_ATTR_ADMIN_V4_STATE
297	SAI_VIRTUAL_ROUTER_ATTR_ADMIN_V6_STATE
298	SAI_VIRTUAL_ROUTER_ATTR_SRC_MAC_ADDRESS
299	SAI_VIRTUAL_ROUTER_ATTR_UNKNOWN_L3_MULTICAST_PACKET_ACTION
300	SAI_VIRTUAL_ROUTER_ATTR_VIOLATION_IP_OPTIONS_PACKET_ACTION
301	SAI_VIRTUAL_ROUTER_ATTR_VIOLATION_TTL1_PACKET_ACTION
302	SAI_VLAN_ATTR_EGRESS_ACL
303	SAI_VLAN_ATTR_INGRESS_ACL
304	SAI_VLAN_ATTR_MEMBER_LIST
305	SAI_VLAN_ATTR_VLAN_ID
306	SAI_VLAN_MEMBER_ATTR_BRIDGE_PORT_ID
307	SAI_VLAN_MEMBER_ATTR_VLAN_ID
308	SAI_VLAN_MEMBER_ATTR_VLAN_TAGGING_MODE
309	SAI_WRED_ATTR_ECN_MARK_MODE
310	SAI_WRED_ATTR_GREEN_DROP_PROBABILITY
311	SAI_WRED_ATTR_GREEN_ENABLE
312	SAI_WRED_ATTR_GREEN_MAX_THRESHOLD
313	SAI_WRED_ATTR_GREEN_MIN_THRESHOLD
314	SAI_WRED_ATTR_RED_DROP_PROBABILITY
315	SAI_WRED_ATTR_RED_ENABLE
316	SAI_WRED_ATTR_RED_MAX_THRESHOLD
317	SAI_WRED_ATTR_RED_MIN_THRESHOLD
318	SAI_WRED_ATTR_WEIGHT
319	SAI_WRED_ATTR_YELLOW_DROP_PROBABILITY
320	SAI_WRED_ATTR_YELLOW_ENABLE
321	SAI_WRED_ATTR_YELLOW_MAX_THRESHOLD
322	SAI_WRED_ATTR_YELLOW_MIN_THRESHOLD

