Supported Flow Standards Specification

Table of Contents

Column **Database Field Name** in tables below refers to the configuration in *Flowmon Configuration Center – FMC Configuration – Flow Database Fields*. Fields storing in the collector is enabled by checking all required fields names in *Flow Database Fields*. The fields must be also present in flow data exported to the collector.

NetFlow v5/7

Field	Description	Input Length (B)	Database Field Name
srcaddr	Source IP address.	4	Default
dstaddr	Destination IP address.	4	Default
nexthop	IP address of next hop router.	4	Next HOP IP address
input	SNMP index of input interface.	2	Default
output	SNMP index of output interface.	2	Default
dPkts	Packets in the flow.	4	Default
dOctets	Total number of Layer 3 bytes in the packets of the flow.	4	Default
First	SysUptime at start of flow.	4	Default
Last	SysUptime at the time the last packet of the flow was received.	4	Default
srcport	TCP/UDP source port number or equivalent.	2	Default
dstport	TCP/UDP destination port number or equivalent.	2	Default
tcp_flags	Cumulative OR of TCP flags.	1	Default
prot	IP protocol type (for example, TCP = 6; UDP = 17).	1	Default
tos	IP type of service (ToS).	1	Default
src_as	Autonomous system number of the source, either origin or peer.	2	Default
dst_as	Autonomous system number of the destination, either origin or peer.	2	Default
src_mask	Source address prefix mask bits.	1	SRC/DST mask, (dst) TOS, Direction
dst_mask	Destination address prefix mask bits.	1	SRC/DST mask, (dst) TOS, Direction
router_sc (**NetFlow v7 only**)	IP address of the router that is bypassed by the Catalyst 5000 series switch. This is the same address the router uses when it sends NetFlow export packets. This IP address is propagated to all switches bypassing the router through the FCP protocol.	4	Default (**NetFlow v7 only**)

NetFlow v9

ID	Field	Description	Input Length (B)	Database Field Name
1	NF9_IN_BYTES	Incoming counter with length N x 8 bits for number of bytes associated with an IP Flow.	4/8	Default
2	NF9_IN_PACKETS	Incoming counter with length N x 8 bits for the number of packets associated with an IP Flow.	4/8	Default
3	NF9_FLOWS_AGGR	Number of flows that were aggregated; default for N is 4.	4/8	Counter aggregated flows
4	NF9_IN_PROTOCOL	IP protocol byte.	1	Default
5	NF9_SRC_TOS	Type of Service byte setting when entering incoming interface.	1	Default
6	NF9_TCP_FLAGS	Cumulative of all the TCP flags seen for this flow.	1	Default
7	NF9_L4_SRC_PORT	TCP/UDP source port number i.e.: FTP, Telnet, or equivalent.	2	Default
8	NF9_IPV4_SRC_ADDR	IPv4 source address.	4	Default
9	NF9_SRC_MASK	The number of contiguous bits in the source address subnet mask i.e.: the submask in slash notation.	1	SRC/DST mask, (dst) TOS, Direction
10	NF9_INPUT_SNMP	Input interface index; default for N is 2 but higher values could be used.	4/2	Default
11	NF9_L4_DST_PORT	TCP/UDP destination port number i.e.: FTP, Telnet, or equivalent.	2	Default
12	NF9_IPV4_DST_ADDR	IPv4 destination address.	4	Default
13	NF9_DST_MASK	The number of contiguous bits in the destination address subnet mask i.e.: the submask in slash notation.	1	SRC/DST mask, (dst) TOS, Direction
14	NF9_OUTPUT_SNMP	Output interface index; default for N is 2 but higher values could be used.	4/2	Default
15	NF9_V4_NEXT_HOP	IPv4 address of next-hop router.	4	Next HOP IP address
16	NF9_SRC_AS	Source BGP autonomous system number where N could be 2 or 4.	4/2	Default
17	NF9_DST_AS	Destination BGP autonomous system number where N could be 2 or 4.	4/2	Default
18	NF9_BGP_V4_NEXT_HOP	Next-hop router's IP in the BGP domain.	4	BGP next HOP IP address
21	NF9_LAST_SWITCHED	System uptime at which the last packet of this flow was switched.	4	Default
22	NF9_FIRST_SWITCHED	System uptime at which the first packet of this flow was switched.	4	Default
23	NF9_OUT_BYTES	Outgoing counter with length N x 8 bits for the number of bytes associated with an IP Flow.	4/8	Counter output bytes
24	NF9_OUT_PKTS	Outgoing counter with length N x 8 bits for the number of packets associated with an IP Flow.	4/8	Counter output packets
27	NF9_IPV6_SRC_ADDR	IPv6 Source Address.	16	Default
28	NF9_IPV6_DST_ADDR	IPv6 Destination Address.	16	Default

29	**NF9_IPV6_SRC_MASK**	Length of the IPv6 source mask in contiguous bits.	1	SRC/DST mask, (dst) TOS, Direction
30	**NF9_IPV6_DST_MASK**	Length of the IPv6 destination mask in contiguous bits.	1	SRC/DST mask, (dst) TOS, Direction
31	**NF9_IPV6_FLOW_LABEL**	IPv6 flow label as per RFC 2460 definition.	4	Default
32	**NF9_ICMP_TYPE**	Internet Control Message Protocol (ICMP) packet type; reported as ((ICMP Type*256) + ICMP code).	2	Default
34	**NF9_SAMPLING_INTERVAL**	When using sampled NetFlow, the rate at which packets are sampled i.e.: a value of 100 indicates that one of every 100 packets is sampled.	4	Default
35	**NF9_SAMPLING_ALGORITHM**	The type of algorithm used for sampled NetFlow: 0x01 Deterministic Sampling ,0x02 Random Sampling.	1	Default
38	**NF9_ENGINE_TYPE**	Type of flow switching engine: RP = 0, VIP/Linecard = 1.	1	Default
39	**NF9_ENGINE_ID**	ID number of the flow switching engine.	1	Default
48	**NF9_FLOW_SAMPLER_ID**	Identifier shown in "show flow-sampler".	1/2/4	Default
49	**FLOW_SAMPLER_MODE**	The type of algorithm used for sampling data: 0x02 random sampling. Use in connection with FLOW_SAMPLER_MODE.	1	Default
50	**NF9_FLOW_SAMPLER_RANDOM_INTERVAL**	Packet interval at which to sample. Use in connection with FLOW_SAMPLER_MODE.	2/4	Default
55	**NF9_DST_TOS**	Type of Service byte setting when exiting outgoing interface.	1	Default
56	**NF9_IN_SRC_MAC**	Incoming source MAC address.	6	In SRC/out DST MAC address
57	**NF9_OUT_DST_MAC**	Outgoing destination MAC address.	6	In SRC/out DST MAC address
58	**NF9_SRC_VLAN**	Virtual LAN identifier associated with ingress interface.	2	SRC/DST VLAN ID labels
59	**NF9_DST_VLAN**	Virtual LAN identifier associated with egress interface.	2	SRC/DST VLAN ID labels
61	**NF9_DIRECTION**	Flow direction: 0 - ingress flow, 1 - egress flow.	1	SRC/DST mask, (dst) TOS, Direction
62	**NF9_V6_NEXT_HOP**	IPv6 address of the next-hop router.	16	Next HOP IP address
63	**NF9_BPG_V6_NEXT_HOP**	Next-hop router in the BGP domain.	16	BGP next HOP IP address
70	**NF9_MPLS_LABEL_1**	MPLS label at position 1 in the stack. This comprises 20 bits of MPLS label, 3 EXP (experimental) bits and 1 S (end-of-stack) bit.	3	MPLS labels 1-10
71	**NF9_MPLS_LABEL_2**	MPLS label at position 2 in the stack. This comprises 20 bits of MPLS label, 3 EXP (experimental) bits and 1 S (end-of-stack) bit.	3	MPLS labels 1-10
72	**NF9_MPLS_LABEL_3**	MPLS label at position 3 in the stack. This comprises 20 bits of MPLS label, 3 EXP (experimental) bits and 1 S (end-of-stack) bit.	3	MPLS labels 1-10
73	**NF9_MPLS_LABEL_4**	MPLS label at position 4 in the stack. This comprises 20 bits of MPLS label, 3 EXP (experimental) bits and 1 S (end-of-stack) bit.	3	MPLS labels 1-10
74	**NF9_MPLS_LABEL_5**	MPLS label at position 5 in the stack. This comprises 20 bits of MPLS label, 3 EXP (experimental) bits and 1 S (end-of-stack) bit.	3	MPLS labels 1-10
75	**NF9_MPLS_LABEL_6**	MPLS label at position 6 in the stack. This comprises 20 bits of MPLS label,	3	MPLS labels 1-10

		3 EXP (experimental) bits and 1 S (end-of-stack) bit.		
76	**NF9_MPLS_LABEL_7**	MPLS label at position 7 in the stack. This comprises 20 bits of MPLS label, 3 EXP (experimental) bits and 1 S (end-of-stack) bit.	3	MPLS labels 1-10
77	**NF9_MPLS_LABEL_8**	MPLS label at position 8 in the stack. This comprises 20 bits of MPLS label, 3 EXP (experimental) bits and 1 S (end-of-stack) bit.	3	MPLS labels 1-10
78	**NF9_MPLS_LABEL_9**	MPLS label at position 9 in the stack. This comprises 20 bits of MPLS label, 3 EXP (experimental) bits and 1 S (end-of-stack) bit.	3	MPLS labels 1-10
79	**NF9_MPLS_LABEL_10**	MPLS label at position 10 in the stack. This comprises 20 bits of MPLS label, 3 EXP (experimental) bits and 1 S (end-of-stack) bit.	3	MPLS labels 1-10
80	**NF9_IN_DST_MAC**	Incoming destination MAC address.	6	In DST/out SRC MAC address
81	**NF9_OUT_SRC_MAC**	Outgoing source MAC address.	6	In DST/out SRC MAC address
89	**NF9_FORWARDING_STATUS**	Forwarding status is encoded on 1 byte with the 2 left bits giving the status and the 6 remaining bits giving the reason code.	1	Default
128	**NF9_BGP_ADJ_NEXT_AS**	The autonomous system (AS) number of the first AS in the AS path to the destination IP address. The path is deduced by looking up the destination IP address of the Flow in the BGP routing information base. If AS path information for this Flow is only available as an unordered AS set (and not as an ordered AS sequence), then the value of this Information Element is 0.	4	BGP adjacent prev/next AS
129	**NF9_BGP_ADJ_PREV_AS**	The autonomous system (AS) number of the last AS in the AS path from the source IP address. The path is deduced by looking up the source IP address of the Flow in the BGP routing information base. If AS path information for this Flow is only available as an unordered AS set (and not as an ordered AS sequence), then the value of this Information Element is 0. In case of BGP asymmetry, the bgpPrevAdjacentAsNumber might not be able to report the correct value.	4	BGP adjacent prev/next AS
95	**NF9_NBAR2_APP_TAG**	8 bits of engine ID, followed by n bits of classification.	4	NBAR2 application tag
85	**NF_F_FLOW_BYTES**	Running byte counter for a permanent flow.	4/8	NSEL Common block NSEL Common block
148	**NF_F_CONN_ID**	An identifier of a unique flow for the device.	4	NSEL Common block
152	**NF_F_FLOW_CREATE_TIME_MSEC**	The time that the flow was created, which is included in extended flow-teardown events in which the flow-create event was not sent earlier. The flow duration can be determined with the event time for the flow-teardown and flow-create times.	8	NSEL Common block
153	**NF_F_FLOW_END_TIME_MSEC**	The time when the flow ended.	8	Default
176	**NF_F_ICMP_TYPE**	ICMP type value.	1	NSEL Common block
177	**NF_F_ICMP_CODE**	ICMP code value.	1	NSEL Common block
178	**NF_F_ICMP_TYPE_IPV6**	ICMP IPv6 type value.	1	NSEL Common block
179	**NF_F_ICMP_CODE_IPV6**	ICMP IPv6 code value.	1	NSEL Common block
231	**NF_F_FWD_FLOW_DELTA_BYTES**	The delta number of bytes from source to destination.	4/8	NSEL Common block

232	**NF_F_REV_FLOW_DELTA_BYTES**	The delta number of bytes from destination to source.	4/8	Counter output bytes
233	**NF_F_FW_EVENT84**	Indicates a firewall event.	1	NSEL Common block
323	**NF_F_EVENT_TIME_MSEC**	The time that the event occurred, which comes from IPFIX. Use 324 for time in microseconds, and 325 for time in nanoseconds.	8	Default
33000	**NF_F_INGRESS_ACL_ID**	The input ACL that permitted or denied the flow. All ACL IDs are composed of the following three, four-byte values: - Hash value or ID of the ACL name - Hash value, ID, or line of an ACE within the ACL - Hash value or ID of an extended ACE configuration.	12	NSEL ACL ingress/egress acl ID
33001	**NF_F_EGRESS_ACL_ID**	The output ACL that permitted or denied a flow.	12	NSEL ACL ingress/egress acl ID
33002	**NF_F_FW_EXT_EVENT**	Extended event code. These values provide additional information about the event.	2	NSEL Common block
40000	**NF_F_USERNAME**	AAA username.	20/65	NSEL username
40001	**NF_F_XLATE_SRC_ADDR_IPV4**	Source IPv4 address.	4	NSEL xlate IPv4 address
40002	**NF_F_XLATE_DST_ADDR_IPV4**	Destination IPv4 address.	4	NSEL xlate IPv4 address
40003	**NF_F_XLATE_SRC_PORT**	Post NATT Source Transport Port.	2	NSEL xlate ports
40004	**NF_F_XLATE_DST_PORT**	Post NATT Destination Transport Port.	2	NSEL xlate ports
40005	**NF_F_FW_EVENT**	High-level event code. Values are as follows: 0-Default (ignore),1-Flow created,2-Flow deleted, 3-Flow denied, 4-Flow alert, 5-Flow update.	1	NSEL Common block
230	**NF_N_NAT_EVENT**	Indicates a NAT event.	1	NEL Common block
234	**NF_N_INGRESS_VRFID**	An unique identifier of the VRF name where the packets of this flow are being received. This identifier is unique per Metering Process.	4	NEL Common block
225	**NF_N_NAT_INSIDE_GLOBAL_IPV4**	The definition of this Information Element is identical to the definition of Information Element 'sourceIPv4Address', except that it reports a modified value caused by a NAT middlebox function after the packet passed the Observation Point.	4	NEL global IPv4 address
226	**NF_N_NAT_OUTSIDE_GLOBAL_IPV4**	The definition of this Information Element is identical to the definition of Information Element 'destinationIPv4Address', except that it reports a modified value caused by a NAT middlebox function after the packet passed the Observation Point.	4	NEL global IPv4 address
227	**NF_N_POST_NAPT_SRC_POR**	The definition of this Information Element is identical to the definition of Information Element 'sourceTransportPort', except that it reports a modified value caused by a Network Address Port Translation (NAPT) middlebox function after the packet passed the Observation Point.	2	NEL Common block
228	**NF_N_POST_NAPT_DST_PORT**	The definition of this Information Element is identical to the definition of Information Element 'destinationTransportPort', except that it reports a modified value caused by a Network Address Port Translation (NAPT) middlebox function after the packet passed the Observation Point.	2	NEL Common block

IPFIX

PEN	ID	Field	Description	Input Length (B)	Database Field Name
-	1	**IPFIX_octetDeltaCount**	The number of octets since the previous report (if any) in incoming packets for this Flow at the Observation Point. The number of octets includes IP header(s) and IP payload.	8/4	Default
-	2	**IPFIX_packetDeltaCount**	The number of incoming packets since the previous report (if any) for this Flow at the Observation point.	8/4	Default
-	4	**IPFIX_protocolIdentifier**	The value of the protocol number in the IP packet header. The protocol number identifies the IP packet payload type. Protocol numbers are defined in the IANA Protocol Numbers registry. In Internet Protocol version 4 (IPv4), this is carried in the Protocol field. In Internet Protocol version 6 (IPv6), this is carried in the Next Header field in the last extension header of the packet.	1	Default
-	5	**IPFIX_ipClassOfService**	For IPv4 packets, this is the value of the TOS field in the IPv4 packet header. For IPv6 packets, this is the value of the Traffic Class field in the IPv6 packet header.	1	Default
-	6	**IPFIX_tcpControlBits**	TCP control bits observed for packets of this Flow. The information is encoded in a set of bit fields. For each TCP control bit, there is a bit in this set. A bit is set to 1 if any observed packet of this Flow has the corresponding TCP control bit set to 1. A value of 0 for a bit indicates that the corresponding bit was not set in any of the observed packets of this Flow.	1	Default
-	7	**IPFIX_SourceTransportPort**	The source port identifier in the transport header. For the transport protocols UDP, TCP, and SCTP, this is the source port number given in the respective header. This field MAY also be used for future transport protocols that have 16-bit source port identifiers.	2	Default
-	8	**IPFIX_SourceIPv4Address**	The IPv4 source address in the IP packet header.	4	Default
-	9	**IPFIX_SourceIPv4PrefixLength**	The number of contiguous bits that are relevant in the sourceIPv4Prefix Information Element.	1	SRC/DST mask, (dst) TOS, Direction
-	10	**IPFIX_ingressInterface**	The index of the IP interface where packets of this Flow are being received. The value matches the value of managed object 'ifIndex' as defined in RFC 2863. Note that ifIndex values are not assigned statically to an interface and that the interfaces may be renumbered every time the device's management system is re-initialized, as specified in RFC 2863.	4/2	Default

-	11	**IPFIX_DestinationTransportPort**	The destination port identifier in the transport header. For the transport protocols UDP, TCP, and SCTP, this is the destination port number given in the respective header. This field MAY also be used for future transport protocols that have 16-bit destination port identifiers.	2	Default
-	12	**IPFIX_DestinationIPv4Address**	The IPv4 destination address in the IP packet header. Abstract Data Type: ipv4Address.	4	Default
-	13	**IPFIX_DestinationIPv4PrefixLength**	The number of contiguous bits that are relevant in the destinationIPv4Prefix Information Element.	1	SRC/DST mask, (dst) TOS, Direction
-	14	**IPFIX_egressInterface**	The index of the IP interface where packets of this Flow are being sent. The value matches the value of managed object 'ifIndex' as defined in RFC 2863. Note that ifIndex values are not assigned statically to an interface and that the interfaces may be renumbered every time the device's management system is re-initialized, as specified in RFC 2863.	4/2	Default
-	15	**IPFIX_ipNextHopIPv4Address**	The IPv4 address of the next IPv4 hop.	4	Next HOP IP address
-	16	**IPFIX_bgpSourceAsNumber**	The autonomous system (AS) number of the source IP address. If AS path information for this Flow is only available as an unordered AS set (and not as an ordered AS sequence), then the value of this Information Element is 0.	4/2	Default
-	17	**IPFIX_bgpDestinationAsNumber**	The autonomous system (AS) number of the destination IP address. If AS path information for this Flow is only available as an unordered AS set (and not as an ordered AS sequence), then the value of this Information Element is 0.	4/2	Default
-	18	**IPFIX_bgpNextHopIPv4Address**	The IPv4 address of the next (adjacent) BGP hop.	4	BGP next HOP IP address
-	21	**IPFIX_flowEndSysUpTime**	The relative timestamp of the last packet of this Flow. It indicates the number of milliseconds since the last (re-)initialization of the IPFIX Device (sysUpTime).	4	Default
-	22	**IPFIX_flowStartSysUpTime**	The relative timestamp of the first packet of this Flow. It indicates the number of milliseconds since the last (re-)initialization of the IPFIX Device (sysUpTime).	4	Default
-	23	**IPFIX_postOctetDeltaCount**	The definition of this Information Element is identical to the definition of Information Element 'octetDeltaCount', except that it reports a potentially modified value caused by a middlebox function after the packet passed the Observation Point.	8/4	Counter output bytes
-	24	**IPFIX_postPacketDeltaCount**	The definition of this Information Element is identical to the definition of Information Element 'packetDeltaCount', except that it reports a potentially modified value caused by a middlebox function after the packet passed the Observation Point.	8/4	Counter output packets
-	27	**IPFIX_SourceIPv6Address**	The IPv6 source address in the IP packet header.	16	Default

-	28	**IPFIX_DestinationIPv6Address**	The IPv6 destination address in the IP packet header.	16	Default
-	29	**IPFIX_SourceIPv6PrefixLength**	The number of contiguous bits that are relevant in the sourceIPv6Prefix Information Element.	1	SRC/DST mask, (dst) TOS, Direction
-	30	**IPFIX_DestinationIPv6PrefixLength**	The number of contiguous bits that are relevant in the destinationIPv6Prefix Information Element.	1	SRC/DST mask, (dst) TOS, Direction
-	31	**IPFIX_flowLabelIPv6**	The value of the IPv6 Flow Label field in the IP packet header.	4	Default
-	32	**IPFIX_icmpTypeCodeIPv4**	Type and Code of the IPv4 ICMP message. The combination of both values is reported as (ICMP type * 256) + ICMP code.	2	Default
-	34	**NF9_SAMPLING_INTERVAL**	When using sampled NetFlow, the rate at which packets are sampled i.e.: a value of 100 indicates that one of every 100 packets is sampled.	4	Default
-	35	**NF9_SAMPLING_ALGORITHM**	The type of algorithm used for sampled NetFlow: 0x01 Deterministic Sampling, 0x02 Random Sampling.	1	Default
-	48	**NF9_FLOW_SAMPLER_ID**	Identifier shown in "show flow-sampler".	1/2/4	Default
-	49	**NF9_FLOW_SAMPLER_MODE**	The type of algorithm used for sampling data: 0x02 random sampling. Use in connection with FLOW_SAMPLER_MODE.	4	Default
-	50	**NF9_FLOW_SAMPLER_RANDOM_INTERVAL**	Packet interval at which to sample. Use in connection with FLOW_SAMPLER_MODE.	2/4	Default
-	55	**IPFIX_postIpClassOfService**	The definition of this Information Element is identical to the definition of Information Element 'ipClassOfService', except that it reports a potentially modified value caused by a middlebox function after the packet passed the Observation Point.	1	SRC/DST mask, (dst) TOS, Direction
-	56	**IPFIX_SourceMacAddress**	The IEEE 802 source MAC address field.	6	In SRC/out DST MAC address
-	57	**IPFIX_postDestinationMacAddress**	The definition of this Information Element is identical to the definition of Information Element 'destinationMacAddress', except that it reports a potentially modified value caused by a middlebox function after the packet passed the Observation Point.	6	In SRC/out DST MAC address
-	58	**IPFIX_vlanId**	The IEEE 802.1Q VLAN identifier (VID) extracted from the Tag Control Information field that was attached to the IP packet.	2	SRC/DST VLAN ID labels
-	59	**IPFIX_postVlanId**	The definition of this Information Element is identical to the definition of Information Element 'vlanId', except that it reports a potentially modified value caused by a middlebox function after the packet passed the Observation Point.	2	SRC/DST VLAN ID labels
-	61	**IPFIX_flowDirection**	The direction of the Flow observed at the Observation Point. There are only two values defined.	1	SRC/DST mask, (dst) TOS, Direction
-	62	**IPFIX_ipNextHopIPv6Address**	The IPv6 address of the next IPv6 hop.	16	Next HOP IP address

-	63	**IPFIX_bgpNextHopIPv6Address**	The IPv6 address of the next (adjacent) BGP hop.	16	BGP next HOP IP address
-	70	**IPFIX_mplsTopLabelStackSection**	The Label, Exp, and S fields from the top MPLS label stack entry, i.e., from the last label that was pushed. The size of this Information Element is 3 octets.	3	MPLS labels 1-10
-	71	**IPFIX_mplsLabelStackSection2**	The Label, Exp, and S fields from the label stack entry that was pushed immediately before the label stack entry that would be reported by mplsTopLabelStackSection. See the definition of mplsTopLabelStackSection for further details. The size of this Information Element is 3 octets.	3	MPLS labels 1-10
-	72	**IPFIX_mplsLabelStackSection3**	The Label, Exp, and S fields from the label stack entry that was pushed immediately before the label stack entry that would be reported by mplsLabelStackSection2. See the definition of mplsTopLabelStackSection for further details. The size of this Information Element is 3 octets.	3	MPLS labels 1-10
-	73	**IPFIX_mplsLabelStackSection4**	The Label, Exp, and S fields from the label stack entry that was pushed immediately before the label stack entry that would be reported by mplsLabelStackSection3. See the definition of mplsTopLabelStackSection for further details. The size of this Information Element is 3 octets.	3	MPLS labels 1-10
-	74	**IPFIX_mplsLabelStackSection5**	The Label, Exp, and S fields from the label stack entry that was pushed immediately before the label stack entry that would be reported by mplsLabelStackSection4. See the definition of mplsTopLabelStackSection for further details. The size of this Information Element is 3 octets.	3	MPLS labels 1-10
-	75	**IPFIX_mplsLabelStackSection6**	The Label, Exp, and S fields from the label stack entry that was pushed immediately before the label stack entry that would be reported by mplsLabelStackSection5. See the definition of mplsTopLabelStackSection for further details. The size of this Information Element is 3 octets.	3	MPLS labels 1-10
-	76	**IPFIX_mplsLabelStackSection7**	The Label, Exp, and S fields from the label stack entry that was pushed immediately before the label stack entry that would be reported by mplsLabelStackSection6. See the definition of mplsTopLabelStackSection for further details. The size of this Information Element is 3 octets.	3	MPLS labels 1-10
-	77	**IPFIX_mplsLabelStackSection8**	The Label, Exp, and S fields from the label stack entry that was pushed immediately before the label stack entry that would be reported by mplsLabelStackSection7. See the definition of mplsTopLabelStackSection for further details. The size of this Information Element is 3 octets.	3	MPLS labels 1-10
-	78	**IPFIX_mplsLabelStackSection9**	The Label, Exp, and S fields from the label stack entry that was pushed immediately before the label stack entry that would be reported by mplsLabelStackSection8. See the definition of mplsTopLabelStackSection for further details.	3	MPLS labels 1-10

			The size of this Information Element is 3 octets.		
-	79	**IPFIX_mplsLabelStackSection10**	The Label, Exp, and S fields from the label stack entry that was pushed immediately before the label stack entry that would be reported by mplsLabelStackSection9. See the definition of mplsTopLabelStackSection for further details. The size of this Information Element is 3 octets.	3	MPLS labels 1-10
-	80	**IPFIX_DestinationMacAddress**	The IEEE 802 destination MAC address field.	6	In DST/out SRC MAC address
-	81	**IPFIX_postSourceMacAddress**	The definition of this Information Element is identical to the definition of Information Element 'sourceMacAddress', except that it reports a potentially modified value caused by a middlebox function after the packet passed the Observation Point.	6	In DST/out SRC MAC address
-	85	**IPFIX_octetTotalCount**	The total number of octets in incoming packets for this Flow at the Observation Point since the Metering Process (re-)initialization for this Observation Point. The number of octets includes IP header(s) and IP payload.	8/4	Default
-	86	**IPFIX_packetTotalCount**	The total number of incoming packets for this Flow at the Observation Point since the Metering Process (re-)initialization for this Observation Point.	8/4	Default
-	90	**IPFIX_mplsVpnRouteDistinguisher**	The value of the VPN route distinguisher of a corresponding entry in a VPN routing and forwarding table. Route distinguisher ensures that the same address can be used in several different MPLS VPNs and that it is possible for BGP to carry several completely different routes to that address, one for each VPN. According to RFC 4364, the size of mplsVpnRouteDistinguisher is 8 octets. However, in RFC 4382 an octet string with flexible length was chosen for representing a VPN route distinguisher by object MplsL3VpnRouteDistinguisher. This choice was made in order to be open to future changes of the size. This idea was adopted when choosing octetArray as abstract data type for this Information Element. The maximum length of this Information Element is 256 octets.	8	MPLS VPN Route Distinguisher
-	95	**IPFIX_applicationId**	Specifies an Application ID.	4	NBAR2 application tag
-	128	**IPFIX_bgpAdjNextAs**	The autonomous system (AS) number of the first AS in the AS path to the destination IP address. The path is deduced by looking up the destination IP address of the Flow in the BGP routing information base. If AS path information for this Flow is only available as an unordered AS set (and not as an ordered AS sequence), then the value of this Information Element is 0.	**4**	BGP adjacent prev/next AS
-	129	**IPFIX_bgpAdjPrevAs**	The autonomous system (AS) number of the last AS in the	4	BGP adjacent prev/next AS

			AS path from the source IP address. The path is deduced by looking up the source IP address of the Flow in the BGP routing information base. If AS path information for this Flow is only available as an unordered AS set (and not as an ordered AS sequence), then the value of this Information Element is 0. In case of BGP asymmetry, the bgpPrevAdjacentAsNumber might not be able to report the correct value.		
-	150	IPFIX_flowStartSeconds	The absolute timestamp of the first packet of this Flow.	4	Default
-	151	IPFIX_flowEndSeconds	The absolute timestamp of the last packet of this Flow.	4	Default
-	152	IPFIX_flowStartMilliseconds	The absolute timestamp of the first packet of this Flow.	8	Default
-	153	IPFIX_flowEndMilliseconds	The absolute timestamp of the last packet of this Flow.	8	Default
-	302	IPFIX_selectorId	A unique identifier of the application for a specific Classification Engine ID. Note that the Selector ID length varies depending on the Classification Engine ID.	8	Default
-	304	IPFIX_selectorAlgorithm	This Information Element identifies the Intermediate Flow Selection Process technique (e.g., Filtering, Sampling) that is applied by the Intermediate Flow Selection Process. Most of these techniques have parameters. Its configuration parameter(s) MUST be clearly specified.	2	Default
-	305	IPFIX_samplingPacketInterval	Interval of packet sampling.	4	Default
-	306	IPFIX_samplingPakcetSpace	Packet space sampling.	4	Default
39499	1	IPFIX_INVEA_HOST	HTTP Hostname string (last 32 bytes).	32	HTTP Hostname
39499	2	IPFIX_INVEA_URL	HTTP URL string (first 64 bytes).	64	HTTP URL
39499	4	IPFIX_INVEA_HTTP_METHOD_ID	HTTP Method	2	HTTP method and result
39499	12	IPFIX_INVEA_HTTP_STATUS_CODE	HTTP Status Code	2	HTTP method and result
39499	22	IPFIX_INVEA_USER_AGENT_OS	Identifies version of host operation system.	2	HTTP OS & Application info
39499	23	IPFIX_INVEA_USER_AGENT_OS_MAJ	Identifies major version of used host operation system.	2	HTTP OS & Application info
39499	24	IPFIX_INVEA_USER_AGENT_OS_MIN	Identifies minor version of used host operation system.	2	HTTP OS & Application info
39499	25	IPFIX_INVEA_USER_AGENT_OS_BLD	Identifies build version of used host operation system.	2	HTTP OS & Application info
39499	26	IPFIX_INVEA_USER_AGENT_APP	Identifies version of used applications.	2	HTTP OS & Application info
39499	27	IPFIX_INVEA_USER_AGENT_APP_MAJ	Identifies major version of used applications.	2	HTTP OS & Application info
39499	28	IPFIX_INVEA_USER_AGENT_APP_MIN	Identifies minimal version of used applications.	2	HTTP OS & Application info
39499	29	IPFIX_INVEA_USER_AGENT_APP_BLD	Identifies build version of application build.	2	HTTP OS & Application info
39499	33	IPFIX_INVEA_SIP_CALL_ID	The value of the SIP Call-ID.	64	VoIP SIP basic
39499	34	IPFIX_INVEA_SIP_CALLING_PARTY	Parameter that distinguishes the station used to originate a call.	48	VoIP SIP basic
39499	35	IPFIX_INVEA_SIP_CALLED_PARTY	The addr-spec URI, including any URI parameters, of the SIP	48	VoIP SIP basic

			P-Called-Party-ID header, as a UTF-8 string, escaped according to SIP rules as received by the metering process.		
39499	**36**	**IPFIX_INVEA_SIP_VIA**	The value of the first/top-most Via header as a UTF-8 string, escaped according to SIP rules as received by the metering process.	48	VoIP SIP basic
39499	**32**	**IPFIX_INVEA_VOIP_PACKET_TYPE**	Type of VoIP packets.	1	VoIP SIP advanced
39499	**37**	**IPFIX_INVEA_SIP_INVITE_RINGING_TIME**	SIP Ringing Time (microsec timestamp).	8	VoIP SIP advanced
39499	**38**	**IPFIX_INVEA_SIP_OK_TIME**	SIP OK Time (microsec timestamp).	8	VoIP SIP advanced
39499	**39**	**IPFIX_INVEA_SIP_BYE_TIME**	SIP Bye Time (microsec timestamp).	8	VoIP SIP advanced
39499	**40**	**IPFIX_INVEA_SIP_RTP_IP4**	IPv4 Real time protocol.	4	VoIP SIP advanced
39499	**41**	**IPFIX_INVEA_SIP_RTP_IP6**	IPv6 Real time protocol.	16	VoIP SIP advanced
39499	**42**	**IPFIX_INVEA_SIP_RTP_AUDIO**	Real time protocol audio quality.	2	VoIP SIP advanced
39499	**43**	**IPFIX_INVEA_SIP_RTP_VIDEO**	Real time protocol video quality.	2	VoIP SIP advanced
39499	**44**	**IPFIX_INVEA_SIP_STATS**	SIP statistic.	8	VoIP SIP advanced
39499	**45**	**IPFIX_INVEA_RTP_CODEC**	Type of codec.	1	VoIP RTP
39499	**46**	**IPFIX_INVEA_RTP_JITTER**	Jitter.	4	VoIP RTP
39499	**47**	**IPFIX_INVEA_RTCP_LOST**	Packet loss.	4	VoIP RTP
39499	**48**	**IPFIX_INVEA_RTCP_PACKETS**	Quantity of packets.	8	VoIP RTP
39499	**49**	**IPFIX_INVEA_RTCP_OCTETS**	Quantity of octets.	8	VoIP RTP
39499	**50**	**IPFIX_INVEA_RTCP_SOURCE_COUNT**	Real time control protocol source count.	1	VoIP RTP
39499	**69**	**IPFIX_INVEA_NPM_RTT**	Round trip time.	4	NPM Basic Metrics
39499	**70**	**IPFIX_INVEA_NPM_SRT**	Server response time.	4	NPM Basic Metrics
39499	**61**	**IPFIX_INVEA_NPM_JITTER_DEV**	Deviation jitter.	4	NPM Basic Metrics
39499	**62**	**IPFIX_INVEA_NPM_JITTER_AVG**	Average jitter.	4	NPM Basic Metrics
39499	**63**	**IPFIX_INVEA_NPM_JITTER_MIN**	Minimal jitter.	4	NPM Basic Metrics
39499	**64**	**IPFIX_INVEA_NPM_JITTER_MAX**	Maximal jitter.	4	NPM Basic Metrics
39499	**65**	**IPFIX_INVEA_NPM_DELAY_DEV**	Deviation time between packets.	4	NPM Basic Metrics
39499	**66**	**IPFIX_INVEA_NPM_DELAY_AVG**	Average time between packets.	4	NPM Basic Metrics
39499	**67**	**IPFIX_INVEA_NPM_DELAY_MIN**	Minimal time between packets.	4	NPM Basic Metrics
39499	**68**	**IPFIX_INVEA_NPM_DELAY_MAX**	Maximal time between packets.	4	NPM Basic Metrics
39499	**71**	**IPFIX_INVEA_NPM_RETRANSMISSION**	Retransmissions.	4	NPM Retransmission & Out of Order
39499	**72**	**IPFIX_INVEA_NPM_OUT_OF_ORDER**	Out of order packets.	4	NPM Retransmission & Out of Order

39499	80	IPFIX_INVEA_TCP_SYN_SIZE	TCP SYN Size	1	L3/L4 extended fields
39499	81	IPFIX_INVEA_TCP_SYN_TTL	TCP SYN TTL	1	L3/L4 extended fields
39499	110	IPFIX_INVEA_DNS_ID	DNS Identifier.	2	DNS Fields
39499	111	IPFIX_INVEA_DNS_FLAGS_CODES	DNS Flags (includes Operation Code, Response Code, Query/Response flag).	2	DNS Fields
39499	112	IPFIX_INVEA_DNS_QUESTION_COUNT	DNS Questions Count.	2	DNS Fields
39499	113	IPFIX_INVEA_DNS_ANSWREC_COUNT	DNS Answers Count.	2	DNS Fields
39499	114	IPFIX_INVEA_DNS_AUTHREC_COUNT	DNS Authority Count.	2	DNS Fields
39499	115	IPFIX_INVEA_DNS_ADDTREC_COUNT	DNS Additional Count.	2	DNS Fields
39499	116	IPFIX_INVEA_DNS_CRR_NAME	DNS Response Name.	64	DNS Fields
39499	117	IPFIX_INVEA_DNS_CRR_TYPE	DNS Response Type.	2	DNS Fields
39499	118	IPFIX_INVEA_DNS_CRR_CLASS	DNS Response Class.	2	DNS Fields
39499	119	IPFIX_INVEA_DNS_CRR_TTL	DNS Response TTL.	4	DNS Fields
39499	120	IPFIX_INVEA_DNS_CRR_RDATA	DNS Response Data.	64	DNS Fields
39499	121	IPFIX_INVEA_DNS_QNAME	DNS Question Name.	64	DNS Fields
39499	122	IPFIX_INVEA_DNS_QTYPE	DNS Question Type.	2	DNS Fields
39499	123	IPFIX_INVEA_DNS_QCLASS	DNS Question Class.	2	DNS Fields
39499	124	IPFIX_INVEA_DNS_CRR_RDATA_LEN	DNS Response Data Length.	2	DNS Fields
39499	150	IPFIX_INVEA_SMB_CMD	Samba operation code version 2	4	SMB Fields
39499	151	IPFIX_INVEA_SMB_TREE	Samba tree structure	128	SMB Fields
39499	152	IPFIX_INVEA_SMB_FILE	Samba file name	128	SMB Fields
39499	153	IPFIX_INVEA_SMB_FILE_TYPE	Samba file type	1	SMB Fields
39499	154	IPFIX_INVEA_SMB_OP	Samba file operation type	1	SMB Fields
39499	190	IPFIX_INVEA_ARP_HRD	ARP Hardware Type	2	Default
39499	191	IPFIX_INVEA_ARP_OP	ARP Operation Code	2	Default
39499	200	IPFIX_INVEA_DHCP_OFFERED_IP	DHCP offered IP address	4	DHCP Fields
39499	201	IPFIX_INVEA_DHCP_HOST_MAC_ADDR	DHCP MAC address of host	6	DHCP Fields
39499	202	IPFIX_INVEA_DHCP_TYPE	DHCP message type	1	DHCP Fields
39499	203	IPFIX_INVEA_DHCP_IP_LEASE_TIME	DHCP IP address lease time	4	DHCP Fields
39499	204	IPFIX_INVEA_DHCP_SERVER_IP	DCP server IP address	4	DHCP Fields
39499	205	IPFIX_INVEA_DHCP_DOMAIN_NAME	DHCP server domain name	32	DHCP Fields
39499	206	IPFIX_INVEA_DHCP_HOST_NAME	DHCP hostname	32	DHCP Fields
39499	207	IPFIX_INVEA_DHCP_IP_REQUEST	DHCP requested IP address	4	DHCP Fields

39499	210	IPFIX_INVEA_TDS_REQUEST_TYPE	MSSQL (TDS) request type	1	MSSQL Fields
39499	211	IPFIX_INVEA_TDS_VERSION	MSSQL (TDS) version (protocol type)	4	MSSQL Fields
39499	212	IPFIX_INVEA_TDS_CLIENT_VERSION	MSSQL (TDS) client version	4	MSSQL Fields
39499	213	IPFIX_INVEA_TDS_SERVER_VERSION	MSSQL (TDS) server version	4	MSSQL Fields
39499	214	IPFIX_INVEA_TDS_DATABASE	MSSQL (TDS) database context	64	MSSQL Fields
39499	215	IPFIX_INVEA_TDS_USERNAME	MSSQL (TDS) username	64	MSSQL Fields
39499	216	IPFIX_INVEA_TDS_HOSTNAME	MSSQL (TDS) hostname	64	MSSQL Fields
39499	217	IPFIX_INVEA_TDS_RESPONSE_TYPE	MSSQL (TDS) response type	1	MSSQL Extended fields
39499	218	IPFIX_INVEA_TDS_TOKEN	MSSQL (TDS) token of response	1	MSSQL Extended fields
39499	219	IPFIX_INVEA_TDS_TMR_TYPE	MSSQL (TDS) transaction manager request type	2	MSSQL Extended fields
39499	220	IPFIX_INVEA_TDS_ERROR_CODE	MSSQL (TDS) error code	4	MSSQL Extended fields
39499	221	IPFIX_INVEA_TDS_ENVCHANGE_TYPE	MSSQL (TDS) environment change type	1	MSSQL Extended fields
39499	222	IPFIX_INVEA_TDS_SQL_QUERY	MSSQL (TDS) SQL query	64	MSSQL Extended fields
39499	223	IPFIX_INVEA_TDS_RPC_NAME	MSSQL (TDS) remote procedure name	64	MSSQL Extended fields
39499	224	IPFIX_INVEA_TDS_SERVER_NAME	MSSQL (TDS) server name	64	MSSQL Extended fields
39499	250	IPFIX_INVEA_SMTP_EHLO_HELO	SMTP HELO content	64	E-mail Fields
39499	251	IPFIX_INVEA_SMTP_MAIL_FROM	SMTP FROM content	64	E-mail Fields
39499	252	IPFIX_INVEA_MAIL_USERNAME	SMTP username	64	E-mail Fields
39499	253	IPFIX_INVEA_MAIL_FAILED_AUTHENTICATION_COUNT	SMTP failed authentication counter	1	E-mail Fields
39499	254	IPFIX_INVEA_MAIL_IS_ENCRYPTED	SMTP TLS flag	1	E-mail Fields
39499	290	IPFIX_FLOWMON_MYSQL_PROTOCOL_VERSION	MySQL protocol version	1	MySQL fields
39499	291	IPFIX_FLOWMON_MYSQL_SERVER_VERSION	MySQL server version	64	MySQL fields
39499	292	IPFIX_FLOWMON_MYSQL_USER_AUTH_STATUS	MySQL user authentication status	1	MySQL fields
39499	293	IPFIX_FLOWMON_MYSQL_USERNAME	MySQL username	64	MySQL fields
39499	294	IPFIX_FLOWMON_MYSQL_AUTH_METHOD	MySQL authentication method	64	MySQL fields
39499	295	IPFIX_FLOWMON_MYSQL_DATABASE	MySQL database	64	MySQL fields
39499	296	IPFIX_FLOWMON_MYSQL_CPBLT_SERVER	MySQL server capabilities	4	MySQL extended fields
39499	297	IPFIX_FLOWMON_MYSQL_CPBLT_CLIENT	MySQL client capabilities	4	MySQL extended fields
39499	298	IPFIX_FLOWMON_MYSQL_ERROR	MySQL error code	2	MySQL extended fields
39499	299	IPFIX_FLOWMON_MYSQL_COMMAND	MySQL command	1	MySQL extended fields
39499	300	IPFIX_FLOWMON_MYSQL_SQL_QUERY	MySQL SQL query	64	MySQL extended fields
39499	310	IPFIX_FLOWMON_PGSQL_PROTOCOL_VERSION	PostgreSQL protocol version	4	PostgreSQL fields

39499	311	IPFIX_FLOWMON_PGSQL_SERVER_VERSION	PostgreSQL server version	4	PostgreSQL fields
39499	312	IPFIX_FLOWMON_PGSQL_AUTH_METHOD	PostgreSQL authentication method	1	PostgreSQL fields
39499	313	IPFIX_FLOWMON_PGSQL_USERNAME	PostgreSQL username	64	PostgreSQL fields
39499	314	IPFIX_FLOWMON_PGSQL_DATABASE	PostgreSQL database	64	PostgreSQL fields
39499	315	IPFIX_FLOWMON_PGSQL_ERROR_SQLSTATE	PostgreSQL error code	5	PostgreSQL extended fields
39499	316	IPFIX_FLOWMON_PGSQL_ERROR_SEVERITY	PostgreSQL error severity	1	PostgreSQL extended fields
39499	317	IPFIX_FLOWMON_PGSQL_SQL_QUERY	PostgreSQL SQL query	64	PostgreSQL extended fields
39499	318	IPFIX_FLOWMON_PGSQL_MSG_TYPE_CLIENT	PostgreSQL client message type	4	PostgreSQL extended fields
39499	319	IPFIX_FLOWMON_PGSQL_MSG_TYPE_SERVER	PostgreSQL server message type	4	PostgreSQL extended fields
39499	330	IPFIX_FLOWMON_TLS_CONTENT_TYPE	TLS content type	1	TLS main fields
39499	331	IPFIX_FLOWMON_TLS_HANDSHAKE_TYPE	TLS handshake type	4	TLS main fields
39499	332	IPFIX_FLOWMON_TLS_SETUP_TIME	TLS setup time	8	TLS main fields
39499	333	IPFIX_FLOWMON_TLS_SERVER_VERSION	TLS server version	2	TLS main fields
39499	334	IPFIX_FLOWMON_TLS_SERVER_RANDOM	TLS server random ID	32	TLS main fields
39499	335	IPFIX_FLOWMON_TLS_SERVER_SESSION	TLS server session ID	32	TLS main fields
39499	336	IPFIX_FLOWMON_TLS_CIPHER_SUITE	TLS cipher suite	2	TLS main fields
39499	337	IPFIX_FLOWMON_TLS_ALPN	TLS application layer protocol negotiation	19	TLS main fields
39499	338	IPFIX_FLOWMON_TLS_SNI	TLS server name indication	64	TLS main fields
39499	339	IPFIX_FLOWMON_TLS_SNI_LENGTH	TLS server name indication length	2	TLS main fields
39499	340	IPFIX_FLOWMON_TLS_CLIENT_VERSION	TLS client version	2	TLS client fields
39499	341	IPFIX_FLOWMON_TLS_CIPHER_SUITES	TLS cipher suites	16	TLS client fields
39499	342	IPFIX_FLOWMON_TLS_CLIENT_RANDOM	TLS client random ID	32	TLS client fields
39499	343	IPFIX_FLOWMON_TLS_CLIENT_SESSION	TLS client session ID	32	TLS client fields
39499	344	IPFIX_FLOWMON_TLS_EXTENSION_TYPES	TLS extension types	56	TLS client fields
39499	345	IPFIX_FLOWMON_TLS_EXTENSION_LENGTHS	TLS extension lengths	56	TLS client fields
39499	346	IPFIX_FLOWMON_TLS_ELLIPTIC_CURVES	TLS elliptic curves	16	TLS client fields
39499	347	IPFIX_FLOWMON_TLS_EC_POINT_FORMATS	TLS elliptic curves point formats	4	TLS client fields
39499	348	IPFIX_FLOWMON_TLS_CLIENT_KEY_LENGTH	TLS client key length	4	TLS client fields
39499	349	IPFIX_FLOWMON_TLS_ISSUER_CN	TLS certificate issuer common name	64	TLS certificate fields
39499	350	IPFIX_FLOWMON_TLS_SUBJECT_CN	TLS subject common name	64	TLS certificate fields
39499	351	IPFIX_FLOWMON_TLS_SUBJECT_ON	TLS subject organization name	64	TLS certificate fields
39499	352	IPFIX_FLOWMON_TLS_VALIDITY_NOT_BEFORE	TLS certificate validity since	8	TLS certificate fields
39499	353	IPFIX_FLOWMON_TLS_VALIDITY_NOT_AFTER	TLS certificate validity until	8	TLS certificate fields

39499	**354**	**IPFIX_FLOWMON_TLS_SIGNATURE_ALG**	TLS signature algorithm	2	TLS certificate fields
39499	**355**	**IPFIX_FLOWMON_TLS_PUBLIC_KEY_ALG**	TLS public key algorithm	2	TLS certificate fields
39499	**356**	**IPFIX_FLOWMON_TLS_PUBLIC_KEY_LENGTH**	TLS public key length	4	TLS certificate fields
39499	**357**	**IPFIX_FLOWMON_TLS_JA3_FINGERPRINT**	TLS JA3 fingerprint	16	TLS JA3 fields
39499	**371**	**IPFIX_FLOWMON_IEC104_FRAME_FMT**	IEC104 frame format	1	IEC104
39499	**372**	**IPFIX_FLOWMON_IEC104_ASDU_TYPE**	IEC104 ASDU type	1	IEC104
39499	**373**	**IPFIX_FLOWMON_IEC104_ASDU_OBJ_COUNT**	IEC104 ASDU object count	1	IEC104
39499	**374**	**IPFIX_FLOWMON_IEC104_ASDU_COT**	IEC104 ASDU cause of transmission	1	IEC104
39499	**375**	**IPFIX_FLOWMON_IEC104_ASDU_ORG**	IEC104 ASDU originator address	1	IEC104
39499	**376**	**IPFIX_FLOWMON_IEC104_ASDU_ADDRESS**	IEC104 common ASDU address	2	IEC104
39499	**390**	**IPFIX_FLOWMON_COAP_VERSION**	CoAP version	1	COAP
39499	**391**	**IPFIX_FLOWMON_COAP_MID**	CoAP message ID	2	COAP
39499	**392**	**IPFIX_FLOWMON_COAP_CODE**	CoAP code	1	COAP
39499	**393**	**IPFIX_FLOWMON_COAP_OPTIONS_COUNT**	CoAP options count	2	COAP
39499	**394**	**IPFIX_FLOWMON_COAP_TYPE**	CoAP type	1	COAP
39499	**395**	**IPFIX_FLOWMON_COAP_ACCEPT**	CoAP accept	2	COAP
39499	**396**	**IPFIX_FLOWMON_COAP_CONTENT_FORMAT**	CoAP content format	2	COAP
39499	**397**	**IPFIX_FLOWMON_COAP_TOKEN_LENGTH**	CoAP token length	1	COAP
39499	**398**	**IPFIX_FLOWMON_COAP_TOKEN**	CoAP token	8	COAP
39499	**399**	**IPFIX_FLOWMON_COAP_URI_HOST**	CoAP URI host	64	COAP
39499	**400**	**IPFIX_FLOWMON_COAP_URI_PATH**	CoAP URI path	64	COAP
39499	**401**	**IPFIX_FLOWMON_COAP_URI_QUERY**	CoAP URI query	64	COAP
39499	**410**	**IPFIX_FLOWMON_GOOSE_APPID**	GOOSE application ID	2	GOOSE
39499	**411**	**IPFIX_FLOWMON_GOOSE_CB_REF**	GOOSE control block reference	64	GOOSE
39499	**412**	**IPFIX_FLOWMON_GOOSE_DATA_SET**	GOOSE data set	64	GOOSE
39499	**413**	**IPFIX_FLOWMON_GOOSE_ID**	GOOSE id	64	GOOSE
39499	**414**	**IPFIX_FLOWMON_GOOSE_ST_NUM**	GOOSE status number	4	GOOSE
39499	**420**	**IPFIX_FLOWMON_MMS_TYPE**	MMS message type	1	MMS
39499	**421**	**IPFIX_FLOWMON_MMS_CONF_SERVICE_REQ**	MMS confirmed service request type	1	MMS
39499	**422**	**IPFIX_FLOWMON_MMS_CONF_SERVICE_RESP**	MMS confirmed service response type	1	MMS
39499	**423**	**IPFIX_FLOWMON_MMS_UNCONF_SERVICE**	MMS unconfirmed service type	1	MMS
39499	**430**	**IPFIX_FLOWMON_DLMS_TYPE**	DLMS message type	1	DLMS
39499	**431**	**IPFIX_FLOWMON_DLMS_SUBTYPE**	DLMS message subtype	2	DLMS

39499	**432**	**IPFIX_FLOWMON_DLMS_CLASS_ID**	DLMS class id	2	DLMS
39499	**433**	**IPFIX_FLOWMON_DLMS_OBIS**	DLMS OBIS code	6	DLMS
39499	**434**	**IPFIX_FLOWMON_DLMS_ATTR_METHOD_ID**	DLMS attribute/method id	1	DLMS
39499	**435**	**IPFIX_FLOWMON_DLMS_DATA_TYPE**	DLMS data type	1	DLMS
39499	**436**	**IPFIX_FLOWMON_DLMS_DATA_LENGTH**	DLMS data length	2	DLMS
39499	**437**	**IPFIX_FLOWMON_DLMS_DATA_ACCESS_RESULT**	DLMS data access result	1	DLMS
39499	**438**	**IPFIX_FLOWMON_DLMS_ACTION_RESULT**	DLMS action result	1	DLMS

Other Vendors IPFIX Fields Support

Flowmon Collector support IPFIX data streams from the following vendors:

1. **Cisco**, PEN = 9.
2. **VMware**, PEN = 6876.
3. **Gigamon**, PEN = 26866.
4. **IXIA**, PEN = 3054.

Not all IPFIX fields of other vendors are supported. See table below with supported IPFIX fields.

PEN	ID	Field	Description	Input Length (B)	Database Field Name
9	**9316**	**IPFIX_CISCO_ART_CNT_SUM**	The round trip time between SYN-ACK & ACK. Collect art client network time sum.	4	AVC Metrics
9	**9317**	**IPFIX_CISCO_ART_CNT_MAX**	The round trip time between SYN-ACK & ACK. Collect art client network time maximum.	4	AVC Metrics
9	**9318**	**IPFIX_CISCO_ART_CNT_MIN**	The round trip time between SYN-ACK & ACK. Collect art client network time minimum.	4	AVC Metrics
9	**9319**	**IPFIX_CISCO_ART_SNT_SUM**	The round trip time between SYN & SYN-ACK and also called Server Network Delay (SND). Collect art server network time sum.	4	AVC Metrics
9	**9320**	**IPFIX_CISCO_ART_SNT_MAX**	The round trip time between SYN & SYN-ACK and also called Server Network Delay (SND). Collect art server network time maximum.	4	AVC Metrics
9	**9321**	**IPFIX_CISCO_ART_SNT_MIN**	The round trip time between SYN & SYN-ACK and also called Server Network Delay (SND). Collect art server network time minimum.	4	AVC Metrics
9	**9306**	**IPFIX_CISCO_ART_SRT_SUM**	The time taken by an application to respond to a request. It is also called Application Delay (AD) or Application Response Time. Collect art server response time sum.	4	AVC Metrics
9	**9307**	**IPFIX_CISCO_ART_SRT_MAX**	The time taken by an application to respond to a request. It is also called Application Delay (AD) or Application Response Time. Collect art server response time maximum.	4	AVC Metrics
9	**9308**	**IPFIX_CISCO_ART_SRT_MIN**	The time taken by an application to respond to a request. It is also called Application Delay (AD) or Application Response Time. Collect art server response time minimum.	4	AVC Metrics

9	9292	IPFIX_CISCO_ART_CNT_RESPONSES	Number of Req-Rsp pair received within the monitoring interval.	4	AVC Metrics
9	9268	IPFIX_CISCO_ART_CLIENT_RETRANSMISSIONS	ART Count Retransmissions metric is the packet count for all the retransmitted client packets	4	AVC Metrics
9	9270	IPFIX_CISCO_ART_SERVER_RETRANSMISSIONS	ART Count Retransmissions metric is the packet count for all the retransmitted client packets.	4	AVC Metrics
9	9313	IPFIX_CISCO_NETWORK_TIME_SUM	Network Time is known as the round-trip time that is the summation of CND and SND. It is also called Network Delay (ND).	4	AVC Metrics
9	9293	IPFIX_CISCO_ART_RES_HIST_1	Number of responses by response time in 7-bucket histogram. Bucket 1, response time < 2 milliseconds.	4	AVC Histogram
9	9294	IPFIX_CISCO_ART_RES_HIST_2	Number of responses by response time in 7-bucket histogram. Bucket 2, response time is between 2-5 milliseconds.	4	AVC Histogram
9	9295	IPFIX_CISCO_ART_RES_HIST_3	Number of responses by response time in 7-bucket histogram. Bucket 3, response time is between 5-10 milliseconds.	4	AVC Histogram
9	9296	IPFIX_CISCO_ART_RES_HIST_4	Number of responses by response time in 7-bucket histogram. Bucket 4, response time is between 10-50 milliseconds.	4	AVC Histogram
9	9297	IPFIX_CISCO_ART_RES_HIST_5	Number of responses by response time in 7-bucket histogram. Bucket 5, response time is between 50-100 milliseconds.	4	AVC Histogram
9	9298	IPFIX_CISCO_ART_RES_HIST_6	Number of responses by response time in 7-bucket histogram. Bucket 6, response time is between 100-500 milliseconds.	4	AVC Histogram
9	9299	IPFIX_CISCO_ART_RES_HIST_7	Number of responses by response time in 7-bucket histogram. Bucket 7, response time is between 500 - 1000 milliseconds.	4	AVC Histogram
9	9300	IPFIX_CISCO_ART_RES_LATE	Number of responses received after the max Response Time. Current threshold of timeout is 1 second. Also called Number of late responses (timeouts).	4	AVC Histogram
9	12235	IPFIX_CISCO_HTTP_INFO	Cisco HTTP Host and URL	Variable	AVC HTTP
6876	950	IPFIX_VMWARE_RULEID	Firewall rule ID	4	NSX
6876	951	IPFIX_VMWARE_VMUUID	Uniquely identifies virtual machine	16	NSX
6876	952	IPFIX_VMWARE_VNICINDEX	Index of the VNIC for the specified virtual machine	4	NSX
26866	1	IPFIX_GIGAMON_HTTP_REQUEST_URL	Gigamon HTTP Request URL	128	HTTP Host and URL
26866	1	IPFIX_GIGAMON_HTTP_RESPONSE_CODE	Gigamon HTTP Response Code	2	HTTP Host and URL
26866	201	IPFIX_GIGAMON_DNS_IDENTIFIER	Gigamon DNS identifier generated by the device that creates DNS query	1	DNS
26866	202	IPFIX_GIGAMON_DNS_OP_CODE	Gigamon DNS Op code which specifies query type	1	DNS
26866	203	IPFIX_GIGAMON_DNS_DNS_RESPONSE_CODE	Gigamon DNS response code which specifies response	128	DNS
26866	204	IPFIX_GIGAMON_DNS_QUERY_NAME	Gigamon DNS query name	128	DNS

26866	**205**	**IPFIX_GIGAMON_DNS_REPONSE_NAME**	Gigamon DNS response name	128	DNS
26866	**206**	**IPFIX_GIGAMON_DNS_REPONSE_TTL**	Gigamon DNS response TTL	4	DNS
26866	**207**	**IPFIX_GIGAMON_DNS_REPONSE_IPV4_ADDR**	Gigamon DNS IPv4 address in the response	4	DNS
26866	**208**	**IPFIX_GIGAMON_DNS_REPONSE_IPV6_ADDR**	Gigamon DNS IPv6 address in the response	16	DNS
26866	**101**	**IPFIX_GIGAMON_SSL_CER_ISSUER_NAME**	Gigamon SSL certificate issuer name	Variable	SSL
26866	**102**	**IPFIX_GIGAMON_SSL_CER_SUBJECT_NAME**	Gigamon SSL certificate subject name	Variable	SSL
26866	**105**	**IPFIX_GIGAMON_SSL_CER_VALID_NOT_BEFORE**	Gigamon SSL certificate valid not before	13	SSL
26866	**106**	**IPFIX_GIGAMON_SSL_CER_VALID_NOT_AFTER**	Gigamon SSL certificate valid not after	13	SSL
26866	**107**	**IPFIX_GIGAMON_SSL_CER_SERIAL_NUMBER**	Gigamon SSL certificate serial number	20	SSL
26866	**108**	**IPFIX_GIGAMON_SSL_CER_SIG_ALG**	Gigamon SSL certificate signature algorithm	9	SSL
26866	**109**	**IPFIX_GIGAMON_SSL_CER_SUBJECT_PUB_ALG**	Gigamon SSL certificate subject public algorithm	9	SSL
26866	**110**	**IPFIX_GIGAMON_SSL_CER_SUBJECT_PUB_KEY_SIZE**	Gigamon SSL certificate subject public algorithm size	2	SSL
26866	**111**	**IPFIX_GIGAMON_SSL_CER_SUBJECT_ALT_NAMES**	Gigamon SSL certificate subject alternate names	Variable	SSL
26866	**112**	**IPFIX_GIGAMON_SSL_SERVER_NAME_INDICATION**	Gigamon SSL server name indication	Variable	SSL
26866	**113**	**IPFIX_GIGAMON_SSL_SERVER_VERSION**	Gigamon SSL server version	2	SSL
26866	**114**	**IPFIX_GIGAMON_SSL_SERVER_CIPHER**	Gigamon SSL server cipher	2	SSL
26866	**115**	**IPFIX_GIGAMON_SSL_SERVER_COMPRESSION_METHOD**	Gigamon SSL server compression method	1	SSL
26866	**116**	**IPFIX_GIGAMON_SSL_SERVER_SESSION_ID**	Gigamon SSL server session ID	32	SSL
3054	**183**	**IPFIX_IXIA_HTTP_HOSTNAME**	IXIA HTTP Hostname	32	HTTP Host and URL
3054	**184**	**IPFIX_IXIA_HTTP_URI**	IXIA HTTP URI	64	HTTP Host and URL

sFlow v2/4/5

Record	Description	Database Field Name
input	SNMP index of input interface.	Default
output	SNMP index of output interface.	Default
src_as	Autonomous system number of the source.	Default
dst_as	Autonomous system number of the destination.	Default
src_vlan	Source Virtual LAN.	SRC/DST VLAN ID labels
dst_vlan	Destination Virtual LAN.	SRC/DST VLAN ID labels

dst_tos	Destination type of service.	SRC/DST mask, (dst) TOS, Direction
dir	Direction / Directory.	SRC/DST mask, (dst) TOS, Direction
src_mask	Source address prefix mask bits.	SRC/DST mask, (dst) TOS, Direction
dst_mask	Destination address prefix mask bits.	SRC/DST mask, (dst) TOS, Direction
in_src_mac	Input source MAC address.	In SRC/out DST MAC address
out_dst_mac	Output destination MAC address.	In SRC/out DST MAC address
nexthop	IP address of next hop router.	Next HOP IP address
bgp_nexthop	BGP Next hop IP address.	BGP next HOP IP address
first	SysUptime at start of flow.	Default
last	SysUptime at the time the last packet of the flow was received.	Default
fwd_status	(sFlow data stored per record)	Default
tcp_flags	Cumulative OR of TCP flags	Default
prot	IP protocol type	Default
tos	IP type of service (TOS)	Default
srcport	TCP/UDP source port number or equivalent	Default
dstport	TCP/UDP destination port number of equivalent	Default
scr_ipaddr	Source IP address	Default
dst_ipaddr	Destination IP address	Default

jFlow

Supported – compatible with NetFlow v5/7/9.

Note: jFlow works with NetFlowStart attribute in a different way than traditional flow vendors. The original timestamp of the first packet preserve even when flow is exported due to active timeout expiration. That causes there can be timeframe of 16:10-16:15 which contains NetFlowStart 14:37. Flowmon handles described approach, but user needs to be aware of this behavior.

NetFlow Lite

Supported – compatible with NetFlow v5/7/9.

NetStream

Supported – compatible with NetFlow v5/7/9.

cflowd

Supported – compatible with NetFlow v5/7/9.

Flowmon Collector optional extra fields

Fields are automatically added by Flowmon Collector irrespective of flow standard used.

Field	Description	Database Field Name
Source country	Identification of source country	Default
Destination country	Identification of destination country	Default
Source AS number	Autonomous system source number	Default
Destination AS number	Autonomous system destination number	Default
Time packet received	Time packet received	Time stamp flow received by collector
User Identity Source Username	User name provided from source identity	*Data added to each flows from active directory syslogs*
User Identity Destination Username	User name provided from destination identity	*Data added to each flows from active directory syslogs*

User Identity is available from active directory syslogs and added to each flow records. See support portal for detailed information about configuration of user identity in Flowmon.