



IPSec Site-to-Site VPN (SVTI)

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The REST API client can use the default IOS isakmp profile and IOS ipsec policy. If the defaults are not used, the REST API client must define an IKE policy and/or IPSec policy before configuring the IPSec site-to-site VPN.

Resource Summary for IPSec VPN

Resource	URL (BaseURL)	HTTP Method			
		GET	POST/ Create	PUT	DELETE
IPSec VPN site-to-site	/api/v1/vpn-svc/site-to-site	Y	Y	N	N
IPSec VPN site-to-site interface	/api/v1/vpn-svc/site-to-sitevpn-interface-id}	Y	N	Y	Y
Global keyrings	/api/v1/vpn-svc/global/keyrings	Y	Y	N	N
Keyring ID	/api/v1/vpn-svc/global/keyrings/{keyring-id}	Y	N	Y	Y
IKE policies	/api/v1/vpn-svc/ike/policies	N	N	N	N

		HTTP Method			
IKE policy	/api/v1/vpn-svc/ike/policies/{policy-id}	N	N	N	N
IPsec policies	/api/v1/vpn-svc/ipsec/policies	Y	Y	N	N
IPsec policy	/api/v1/vpn-svc/ipsec/policies/{policy-id}	Y	N	Y	Y
Active sessions	/api/v1/vpn-svc/site-to-site/active/sessions	Y	N	N	N
Site-to-site statistics	/api/v1/vpn-svc/site-to-site/statistics	Y	N	N	N

The VPN URL is /api/v1/vpn-svc/{vpn-type}.

IKE Crypto Key Ring Resource

JSON Representation for REST API IKE Profile (IOS Crypto Keyring)

```
{
  "kind" : "object#ike-keyring",
  "keyring-id": "{string}",
  "pre-shared-key-list":
    [
      {
        "key": "{string}",
        "peer-address": "{string}"
      }
    ]
}
```

Property	Type	Description
kind	string	Must be object#ike-keyring.
keyring-id	string	IKE key ring name. This cannot be changed once it is configured.
pre-shared-key-list	array	List of pre-shared-key information. This is equivalent to the IOS “crypto keyring” with one or more (key, remote-address) pairs.
key	string	Pre-shared-key value
peer-address	string	Host name or IP address in CIDR format x.x.x.x/nn

Retrieve an IKE Keyring

Verb	URI
GET	/api/v1/vpn-svc/ike/keyrings/{keyring-id}

Sample JSON Request

```
GET /api/v1/vpn-svc/ike/keyrings/myKeyring
Accept: application/json
```

Sample JSON Response

```
200 OK

Content-type: application/json

{
  "kind": "object#ike-policy"
  "keyring-id": "myKeyring",
  "pre-shared-key-list":
    [
      {
        "key": "cisco123",
        "peer-address": "pepsi-1"
      }
    ]
}
```

Update an IKE Keyring

Verb	URI
PUT	/api/v1/vpn-svc/ike/keyrings/{keyring-id}

Sample JSON Request to Add Another Key and Peer-address

```
POST /api/v1/vpn-svc/ike/myIkeKeyring
```

```
Content-type: application/json
Accept: application/json
```

```
{
  "keyring-id": "myIkeKeyring",
  "pre-shared-key-list":
    [
      {"key": "cisco123", "peer-address": "pepsi-1"},
      {"key": "root123", "peer-address": "coke"},
    ]
}
```

Sample JSON Response

```
201 Created
Location: http://http/host/api/v1/vpn-svc/ike/myIkeKeyring
```

Delete an IKE Keyring

Verb	URI
DELETE	/api/v1/vpn-svc/ike/keyrings/{keyring-id}

Sample JSON Request

```
DELETE /api/v1/vpn-svc/ike/profiles/myIkeKeyring
Accept: application/json
```

Sample JSON Response

```
204 No Content
```

IKE Keyring Collection Resource

JSON Representation

```
{
  "kind": "collection#ike-keyring",
  "items": [
    { IKE keyring JSON object } *
  ]
}
```

Property	Type	Description
kind	string	Object#ike-keying
items	array	List of IKE keyring objects.

Retrieve All IKE Keyrings

Verb	URI
GET	/api/v1/vpn-svc/ike/keyrings

Sample JSON Request

```
GET /api/v1/vpn-svc/ike/keyrings
Accept: application/json
```

Sample JSON Response

```
200 OK
```

```
Content-type: application/json
```

```
{
  "kind": "collection#ike-keyring",
  "items": [
    {
      "kind": "object#ike-keyring",
      "keyring-id": "myIkeKeyring",
      "pre-shared-key-list":
        [
          {
            "key": "cisco123",
            "peer-address": "pepsi-1"
          }
        ]
    },
  ]
}
```

```

    {
      "kind": "object#ike-keyring",
      "keyring-id": "myOtherIkeKeyring",
      "pre-shared-key-list":
        [
          {
            "key": "mag33ks",
            "peer-address": "marketing"
          }
        ]
    }
  }
}

```

Create an IKE Keyring

Verb	URI
POST	/api/v1/vpn-svc/ike/keyrings

Sample JSON Request

```
POST /api/v1/vpn-svc/ike/keyrings
```

```
Content-type: application/json
```

```
Accept: application/json
```

```

{
  "keyring-name": "myIkeKeyring",
  "pre-shared-key-list":
    [
      {
        "key": "XnX1B0I9Z4CWNCGzeEhlNuTFxWBD1vng",
        "peer-address": "10.0.149.217/32"
      }
    ]
}

```

Sample JSON Response

```
201 Created
```

```
Location: http://host/api/v1/vpn-svc/ike/keyrings/myIkeKeyring
```

IKE Policy Resource

An IKE policy resource must be created before creating a VPN site-to-site tunnel. The policy is a global configuration and can be applied to more than one VPN tunnel.

JSON Representation for REST API IKE Policy (IOS ISAKMP Policy)

```

{
  "kind" : "object#ike-policy",
  "priority-id": "{string}",
  "version": "{string}",
  "local-auth-method": "{string}",
  "encryption": "{string}",
  "hash": "{string}",
  "dhGroup": {number},

```

```

    "lifetime":{number}
  }

```

IKE Policy

Property	Type	Description
kind	string	Must be object#ike-policy.
priority-id	string	This is the ISAKMP policy priority number, so it must be a number in IKEv1 (it is different for ikev2).
version	string	IKE version: "v1" or "v2". In IOS-XE 3.10, it is only "v1". Optional.
local-auth-method	string	"pre-share" for pre-shared key (default). "rsa-sig" and "rsa-encr" are not supported. Optional.
encryption	string	Optional. The values are <ul style="list-style-type: none"> • "3des"- triple DES • "aes": AES - Advanced Encryption Standard. • "des": DES - Data Encryption Standard (56 bit keys)
hash	string	<ul style="list-style-type: none"> • md5: Message Digest 5 • sha: Secure Hash Standard There is a default. Optional.
dhGroup	number	<ul style="list-style-type: none"> • 1 Diffie-Hellman group 1 (768 bit) • 2 Diffie-Hellman group 2 (1024 bit) • 5 Diffie-Hellman group 5 (1536 bit) There is a default. Optional.
lifetime	number	<60-86400> lifetime in seconds. There is a default. Optional.

Retrieve an IKE Policy

Verb	URI
GET	api/v1/vpn-svc/ike/policies/{policy-id}

Sample JSON Request

```

GET /api/v1/vpn-svc/ike/policies/2
Accept: application/json

```

Sample JSON Response

```

200 OK

Content-type: application/json

{

```

```

"kind": "object#ike-policy"
"priority-id": "2",
"version": "v1",
"local-auth-method": "pre-share",
"encryption": "aes128",
"hash": "sha",
"dhGroup": 2,
"lifetime": 600
}

```

Update an IKE Policy

Verb	URI
PUT	/api/v1/vpn-svc/ike/policies/{policy-id}

Sample JSON Request to Modify the Protection-suite Encryption from 3DES to AES128

```
PUT /api/v1/vpn-svc/ike/2
```

```
Content-type: application/json
```

```
Accept: application/json
```

```

{
  "priority-id": "2",
  "version": "v1",
  "local-auth-method": "pre-share",
  "encryption": "aes128",
  "hash": "sha",
  "dhGroup": 2,
  "lifetime": 600
}

```

Sample JSON Response

```
201 Created
```

```
Location: http://http/host/api/v1/vpn-svc/ike/2
```

Delete an IKE Policy

Verb	URI
DELETE	/api/v1/vpn-svc/ike/policies/{policy-id}

Sample JSON Request

```
DELETE /api/v1/vpn-svc/ike/policies/2
```

```
Accept: application/json
```

Sample JSON Response

```
204 No Content
```

IKE Policy Collection Resource

JSON Representation

```
{
  "kind": "collection#ike-policy",
  "items": [
    { IKE policy JSON object } *
  ]
}
```

Property	Type	Description
kind	string	Must be "collection#ike-policy"
items	array	List of IKE policy objects.

Retrieve All IKE Policies

Verb	URI
GET	/api/v1/vpn-svc/ike/policies

Sample JSON Request

```
GET /api/v1/vpn-svc/ike/policies
Accept: application/json
```

Sample JSON Response

```
200 OK

Content-type: application/json

{
  "kind": "collection#ike-policy",
  "items": [
    {
      "kind": "object#ike-policy",
      "priority-id": "2",
      "version": "v1",
      "local-auth-method": "pre-share",
      "encryption": "3des",
      "hash": "sha",
      "dhGroup": 2,
      "lifetime": 600
    },
    {
      "kind": "object#ike-policy",
      "priority-id": "3",
      "version": "v1",
      "local-auth-method": "pre-share",
      "encryption": "3des",
      "hash": "md5",
      "dhGroup": 2,
      "lifetime": 600
    }
  ]
}
```


}

Create an IKE Policy

Verb	URI
POST	/api/v1/vpn-svc/ike/policies

Sample JSON Request

```
POST /api/v1/vpn-svc/ike/policies
```

```
Content-type: application/json
Accept: application/json
```

```
{
  "priority-id": "2",
  "version": "v1",
  "local-auth-method": "pre-share",
  "encryption": "3des",
  "hash": "sha",
  "dhGroup": 2,
  "lifetime": 600
}
```

Sample JSON Response

```
201 Created
```

```
Location: http://host/api/v1/vpn-svc/ike/policies/2
```

IPsec Policy Resource

An IPsec policy resource must be created before creating a VPN site-to-site tunnel. The policy is a global configuration and can be applied to more than one VPN tunnel.

Property	Type	Description
df-bit	string	Indicates whether the IPsec tunnel mode outer IP header has the DF bit set, cleared, or copied from the original packet: "Set", "Clear", or "Copy". Optional. Not supported in Cisco IOS XE 3.10.
fragment-before-encrypt	string	"Enable" or "Disable" the pre-fragmentation of the outgoing packet (fragment first, then encrypt). Optional.
udp-encapsulation	string	Not supported in Cisco IOS-XE 3.10 release. After the IPsec packet is encrypted, a UDP header and a non-IKE marker (which is 8 bytes in length) are inserted between the outer IP header and ESP header. This is for NAT transparency. Optional.

JSON Representation

```
{
```

```

"kind": "object#ipsec-policy",
"policy-id": "{string}",
"protection-suite":
{
    "esp-encryption": "{string}",
    "esp-authentication": "{string}",
    "ah": "{string}"
},
"anti-replay-window-size": "{string}",
"lifetime-sec": {number},
"lifetime-kb": {number},
"idle-time": {number},
"pfs": "{string}"
}

```

Property	Type	Description
kind	string	Object#ipsec-policy
policy-id	string	IPsec policy name
protection-suite		Optional as there is a default protection suite (IOS transform-set).
esp-encryption	string	ESP encryption transform. There is a default. <ul style="list-style-type: none"> esp-3des: ESP transform using 3DES(EDE) cipher (168 bits) esp-aes: ESP transform using AES cipher. Default. esp-des: ESP transform using DES cipher (56 bits) esp-null: ESP transform w/o cipher esp-seal: ESP transform using SEAL cipher (160 bits)
Esp-authentication	string	ESP authentication transform (Optional). <ul style="list-style-type: none"> esp-md5-hmac: ESP transform using HMAC-MD5 auth esp-sha-hmac: ESP transform using HMAC-SHA auth. Default.
ah	string	AH transform (Optional): <ul style="list-style-type: none"> ah-md5-hmac: AH-HMAC-MD5 transform ah-sha-hmac: AH-HMAC-SHA transform
Anti-replay-window-size	string	“Disable” or one of these numbers <ul style="list-style-type: none"> 1024: Window size of 1024 128: Window size of 128 256: Window size of 256 512: Window size of 512 64: Window size of 64 (default).

Property	Type	Description
lifetime-sec	number	Default of 3600 seconds. Optional.
lifetime-kb	number	Default is 4608000. Optional.
idle-time	number	IPsec idle timer in seconds. Optional.
pfs	string	Default is Disable. If enable, specifies DH group. Optional. <ul style="list-style-type: none"> group1: D-H Group1 (768-bit modp) group14: D-H Group14 (2048-bit modp) group15: D-H Group15 (3072-bit modp) group16: D-H Group16 (4096-bit modp) group19: D-H Group19 (256-bit ecp) group2: D-H Group2 (1024-bit modp) group20: D-H Group20 (384-bit ecp) group24: D-H Group24 (2048-bit modp, 256 bit subgroup) group5: D-H Group5 (1536-bit modp)

Retrieve an IPsec Policy

Verb	URI
GET	/api/v1/vpn-svc/ipsec/policies/{policy-id}

Sample JSON Request

```
GET /api/v1/vpn-svc/ipsec/policies/myIpsecPolicy
Accept: application/json
```

Sample JSON Response

```
200 OK
```

```
Content-type: application/json
```

```
{
  "kind": "object#ipsec-policy",
  "policy-id": "myIpsecPolicy",
  "protection-suite":
    {
      "esp-encryption": "esp-3des",
      "esp-authentication": "esp-sha-hmac"
    },
  "anti-replay-window-size": 64,
  "lifetime-sec": 3600,
  "lifetime-kb": 4068000,
  "idle-time": 10000000,
  "pfs": "disable"
}
```

Modify an IPsec Policy

Verb	URI
PUT	/api/v1/vpn-svc/ipsec/policies/{policy-id}

Sample JSON Request

```
PUT /api/v1/vpn-svc/ipsec/policies/myIpsecPolicy
```

```
Content-type: application/json
Accept: application/json
```

```
{
  "policy-id": "myIpsecPolicy",
  "protection-suite": {
    "esp-encryption": "esp-3des",
    "esp-authentication": "esp-sha-hmac"
  },
  "anti-replay-window-size": 64,
  "lifetime-sec": 3600,
  "lifetime-kb": 4068000,
  "idle-time": 10000000,
  "pfs": "disable"
}
```

Sample JSON Response

```
204 No Content
```

Delete an IPsec Policy

Verb	URI
DELETE	/api/v1/vpn-svc/ipsec/policies/{policy-id}

Sample JSON Request

```
DELETE /api/v1/vpn-svc/ipsec/policies/myIpsecPolicy
Accept: application/json
```

Sample JSON Response

```
204 No Content
```

IPsec Policy Collection Resource

JSON Representation

```
{
  "kind": "collection#ipsec-policy",

```

```

    "items": [
      { IPsec policy JSON object } *
    ]
  }

```

Property	Type	Description
kind	string	Must be "collection#ipsec-policy"
Items	array	List of IPsec policy objects.

Retrieve All IPsec Policies

Verb	URI
GET	/api/v1/vpn-svc/ipsec/policies

Sample JSON Request

```

GET /api/v1/vpn-svc/ipsec/policies
Accept: application/json

```

Sample JSON Response

200 OK

```

Content-type: application/json
Accept: application/json

```

```

{
  "kind": "collection#ipsec-policy",
  "items": [
    {
      "kind": "object#ipsec-policy",
      "policy-id": "myIpsecPolicy",
      "protection-suite": {
        "esp-encryption": "esp-aes",
        "esp-authentication": "esp-md5-hmac",
        "ah": "ah-md5-hmac"
      },
      "mode": "tunnel",
      "anti-replay-window-size": 512,
      "lifetime-sec": 1000,
      "lifetime-kb": 1000000,
      "idle-time": 10000,
      "pfs": "group1"
    },
    {
      "kind": "object#ipsec-policy",
      "policy-id": "testPolicy",
      "protection-suite": {
        "esp-encryption": "esp-aes",
      },
      "mode": "tunnel",
      "anti-replay-window-size": "512",
      "lifetime-sec": 1000,
      "lifetime-kb": "",
    }
  ]
}

```

```

        "idle-time": 10000,
        "pfs": "group1"
    },
}

```

Create an IPsec Policy

Verb	URI
POST	/api/v1/vpn-svc/ipsec/policies

Sample JSON Request

POST /api/v1/vpn-svc/ipsec/policies

Content-type: application/json

Accept: application/json

```

{
  "policy-id": "myIpsecPolicy",
  "protection-suite":
    {
      "esp-encryption": "esp-aes",
      "esp-authentication": "esp-md5-hmac",
      "ah": "ah-md5-hmac"
    },
  "mode": "tunnel",
  "anti-replay-window-size": 512,
  "lifetime-sec": 1000,
  "lifetime-kb": 1000000,
  "idle-time": 10000,
  "pfs": "group1"
}

```

Sample JSON Response

201 Created

Location: http://host/api/v1/vpn-svc/ipsec/policies/myIpsecPolicy

IPsec VPN Collection Resource

JSON Representation

```

{
  "kind": "collection#vpn-site-to-site",
  "items" :
    [
      {vpn site-to-site json object}+
    ]
}

```

Property	Type	Description
kind	string	Must be "collection#vpn-site-to-site".
items	array	List of VPN objects.

Retrieve All Site-to-Site VPN Tunnels

Verb	URI
GET	/api/v1/vpn-svc/site-to-site

Sample JSON Request

```
GET /api/v1/vpn-svc/vpn/site-to-site
Accept: application/json
```

Sample JSON Response

200 OK

Content-type: application/json

```
{
  "kind": "collection#vpn-site-to-site",
  "items": [
    {
      "kind": "object#vpn-site-to-site",
      "vpn-type": "site-to-site",
      "vpn-interface-name": "tunnel100",
      "ip-version": "ipv4",
      "ipsec-policy-id": "myIpsecPolicy",
      "local-device": {
        "ip-address": "10.0.51.203/24",
        "tunnel-ip-address": "10.0.149.203",
      },
      "remote-device": {
        "tunnelIpAddress": "10.0.149.217"
      }
    },
    {
      "kind": "object#vpn-site-to-site",
      "vpn-type": "site-to-site",
      "vpn-interface-name": "tunnel133",
      "ip-version": "ipv4",
      "ipsec-policy-id": "ciscoIpsecPolicy",
      "local-device": {
        "ip-address": "100.0.51.203/24",
        "tunnel-ip-address": "100.0.149.203",
      },
      "remote-device": {
        "tunnelIpAddress": "100.0.149.217"
      }
    }
  ]
}
```

Configure a Site-to-Site VPN

Verb	URI
POST	/api/v1/vpn-svc/site-to-site

Sample JSON Request of the above tunnel example

POST /api/v1/vpn-svc/site-to-site

Content-type: application/json

Accept: application/json

```
{
  "vpn-type": "site-to-site",
  "vpn-interface-name": "tunnel100",
  "ip-version": "ipv4",
  "ipsec-policy-id": "myIpsecPolicy",
  "local-device": {
    "ip-address": "10.0.51.203/24",
    "tunnel-ip-address": "10.0.149.203"
  },
  "remote-device": {
    "tunnel-ip-address": "10.0.149.217"
  }
}
```

Sample JSON Response

204 No Content

Location: http://host/api/v1/vpn-svc/site-to-site/tunnel100

IPsec VPN Resource

JSON Representation

```
{
  "kind": "object#vpn-site-to-site"
  "vpn-type": "site-to-site",
  "vpn-interface-name": "{string}",
  "ip-version": "{string}",
  "ipsec-policy-id": "{string}",
  "local-device": {
    "ip-address": "{string}",
    "tunnel-ip-address": "{string}",
  },
  "remote-device": {
    "tunnel-ip-address": "{string}",
  }
}
```


Property	Type	Description
vpn-interface-name	string	A unique name of the form “tunnel<number>”. For example, “tunnel1”.
vpn-type	string	Must be “site-to-site”.
ip-version	string	“ipv4” or “ipv6”. The default is IPv4. Optional.
ipsec-policy-id	string	IPsec policy name. Optional.
local-device <ul style="list-style-type: none"> ip-address tunnel-ip-address 	string	The local Cisco CSR 1000V device: <ul style="list-style-type: none"> Inner IP header’s source IP address in CIDR format x.x.x.x/nn. Required for svti and dvti. Interface name or IP address in x.x.x.x format.
remote-device <ul style="list-style-type: none"> tunnel-ip-address 	string	Remote peer IP address in x.x.x.x format.

Retrieve a Site-to-Site VPN Tunnel

Verb	URI
GET	/api/v1/vpn-svc/site-to-site/{vpn-interface-id}

Sample JSON Request

```
GET /api/v1/vpn-svc/site-to-site/tunnel100
Accept: application/json
```

Sample JSON Response

```
200 OK
```

```
Content-type: application/json
```

```
{
  "kind": "object#vpn-site-to-site",
  "vpn-interface-name": "tunnel100",
  "vpn-type": "site-to-site",
  "ip-version": "ipv4",
  "ipsec-policy-id": "myIpsecPolicy",
  "local-device": {
    "ip-address": "10.0.51.203/24",
    "tunnel-ip-address": "10.0.149.203",
  },
  "remote-device": {
    "tunnel-ip-address": "10.0.149.217"
  }
}
```

Modify a Site-to-Site VPN

Verb	URI
PUT	/api/v1/vpn-svc/site-to-site/{vpn-interface-id}

Sample JSON Request to Modify the Remote Tunnel IP Address

```
PUT /api/v1/vpn-svc/site-to-site/tunnel100
```

```
Content-type: application/json
Accept: application/json
```

```
{
  "vpn-interface-name": "tunnel100",
  "vpn-type": "site-to-site",
  "ip-version": "ipv4",
  "ipsec-policy-id": "myIpsecPolicy",
  "local-device": {
    "ip-address": "10.0.51.203/24",
    "tunnel-ip-address": "10.0.149.203",
  },
  "remote-device": {
    "tunnel-ip-address": "10.0.149.218"
  }
}
```

Sample JSON Response

```
204 No Content
```

HTTP DELETE a VPN Site-to-Site Tunnel

Verb	URI
DELETE	/api/v1/vpn-svc/site-to-site/{vpn-interface-id}

Sample JSON Request

```
DELETE /api/v1/vpn-svc/site-to-site/tunnel100
Accept: application/json
```

Sample JSON Response

```
204 No Content
```

VPN Active Sessions Collection Resource

JSON Representation

```
{
  "kind": "collection#vpn-active-session",
  "items": [
    {

```

```

    "kind": "object#vpn-active-session",
    "vpn-type": "site-to-site",
    "vpn-interface-name": "{string}",
    "status": "{string}",
    "local-address": "{ipaddress}",
    "remote-address": "{ipaddress}",
    "ike-remaining-lifetime": "hh:mm:ss",
    "ipsec-tx-remaining-lifetime-in-KB": {number},
    "ipsec-rx-remaining-lifetime-in-KB": {number},
    "ipsec-tx-remaining-lifetime-in-sec": {number},
    "ipsec-rx-remaining-lifetime-in-sec": {number}
  }
]
}

```

Property	Type	Description
kind	string	Must be collection#vpn-active-session
items	array	List of vpn-active-session JSON object
vpn-type	string	Must be "site-to-site".
vpn-interface-name	string	Unique number identifying the VPN tunnel.
status	string	See the next table for a description of the possible tunnel states.
local-address	ipaddress	Tunnel source IP address in x.x.x.x format.
remote-address	string	Tunnel destination IP address in x.x.x.x format.
ike-remaining-lifetime	number	IKE SA remaining lifetime in HH:MM:SS format.
ipsec-tx-remaining-lifetime-kb	number	IPSec outbound SA remaining lifetime in KB.
ipsec-rx-remaining-lifetime-kb	number	IPSec inbound SA remaining lifetime in KB.
ipsec-tx-remaining-lifetime-sec	number	IPSec outbound SA remaining lifetime in seconds.
ipsec-rx-remaining-lifetime-sec	number	IPSec inbound SA remaining lifetime in seconds.

The following table lists the tunnel states.

IKE SA	IPSec SA	Tunnel Status
Exist, Active	Exist (flow exists)	UP-ACTIVE
Exist, active	None (flow exists)	UP-IDLE
Exist, inactive	Exist (flow exists)	UP-NO-IKE
Exist, inactive	None (flow exists)	DOWN-NEGOTIATING
Exist, inactive	None (no flow)	DOWN-NEGOTIATING
None	Exist (flow exists)	UP-NO-IKE
None	None (flow exists)	DOWN
None	None (no flow)	DOWN

Retrieve VPN Active Sessions

Verb	URI
GET	/api/v1/vpn-svc/site-to-site/active/sessions

Sample JSON Request

```
GET /api/v1/vpn-svc/site-to-site/active/sessions
Accept: application/json
```

Sample JSON Response

200 OK

Content-type: application/json

```
{
  "kind": "collection#vpn-active-session",
  "items": [
    {
      "kind": "object#vpn-active-session",
      "vpn-interface-name": "tunnel100",
      "vpn-type": "site-to-site",
      "status": "UP-ACTIVE",
      "local-address": "10.1.1.4",
      "remote-address": "10.1.1.3",
      "ike-remaining-lifetime": "22:03:24",
      "ipsec-tx-remaining-lifetime-in-KB": 4605665,
      "ipsec-rx-remaining-lifetime-in-KB": 4605400,
      "ipsec-tx-remaining-lifetime-in-sec": 2949,
      "ipsec-rx-remaining-lifetime-in-sec": 2949
    }
  ]
}
```

VPN Statistics Collection Resource

JSON Representation

```
{
  "kind": "collection#vpn-statistics",
  "items": [
    {
      "kind": "object#vpn-statistics",
      "vpn-type": "site-to-site",
      "vpn-interface-name": "{string}",
      "local-address": "{ipaddress}",
      "remote-address": "{ipaddress}",
      "encapsulated": {number},
      "decapsulated": {number},
      "encrypted": {number},
      "decrypted": {number},
      "send-errors": {number},
      "receive-errors": {number}
    }
  ]
}
```

}

Property	Type	Description
kind	string	Must be "collection#vpn-statistics".
items	array	List of object#vpn-statistics
vpn-type	string	Must be "site-to-site" in IOS-XE 3.10
vpn-interface-name	string	The IOS tunnel number in "tunnel<number>" format, such as "tunnel2".
local-address	ipaddress	Tunnel source IP address in x.x.x.x format.
remote-address	ipaddress	Tunnel destination IP address in x.x.x.x format.
encapsulated	number	Number of encapsulated packets.
decapsulated	number	Number of decapsulated packets.
encrypted	number	Number of encrypted packets.
decrypted	number	Number of decrypted packets.
send-errors	number	Number of transmit error packets.
receive-errors	number	Number of receive error packets.

Retrieve All VPN Session Statistics

Verb	URI
GET	/api/v1/vpn-svc/site-to-site/active/sessions

Sample JSON Request

```
GET /api/v1/vpn-svc/site-to-site/statistics
Accept: application/json
```

Sample JSON Response

```
200 OK

Content-type: application/json
{
  "kind": "collection#vpn-statistics",
  "items": [
    {
      "kind": "object#vpn-statistics",
      "vpn-type": "site-to-site",
      "vpn-interface-name": "tunnel100",
      "local-address": "10.10.10.1",
      "remote-address": "13.13.13.1",
      "encapsulated": 7767918,
      "decapsulated": 7760812,
      "encrypted": 7767918,
      "decrypted": 7760812,
      "send-errors": 0,
      "receive-errors": 0
    }
  ]
}
```

```
}  
]
```