

# TR-064 Support – WLANConfiguration

*Supported by AVM*

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## **1 urn:WLANConfiguration-com:serviceId:WLANConfiguration1**

For details please refer the TR-064 document at

<https://www.broadband-forum.org/technical/trlist.php>.

For the support of device with more than one access point more than one WLANConfiguration services are listed in the TR-064 service description. If the device supports WLAN one service is listed (service #1). If the device additionally supports a second physical access point support 2.4 GHz and 5 GHz, one more service is listed (service #2). If a third physical access point is supported, an additional service is listed (service #3). If the device supports a logical Access Point for guests, one more service is listed (service #2, #3 or #4).

## 1.1 History

Date	Version	Changes
2014-07-28	18	Change names for actions: X_AVM-DE_GetWPSInfo and X_AVM-DE_SetWPSConfig.
2015-11-20	19	Add action SetBasBeaconSecurityProperties add action X_AVM-DE_GetWLANHybridMode add action X_AVM-DE_SetWLANHybridMode add variables to Service State Table:ManualSpeed, MaxSpeedDS, MaxSpeedUS, TrafficMode
2016-02-17	20	Behavior changed: GetTotalAssociations GetGenericAssociatedDeviceInfo GetSpecificAssociatedDeviceInfo now only connected WLAN clients are shown and only at the WLANConfiguration where they connected
2016-03-23	21	<a href="https://www.broadband-forum.org/technical/trlist.php">https://www.broadband-forum.org/technical/trlist.php</a> added
2016-05-18	22	Action added : X_AVM-DE_GetSpecificAssociatedDeviceInfoByIp
2018-03-23	23	Action added: X_AVM-DE_SetWLANGlobalEnable
2018-08-08	24	Added possible values for X_AVM-DE_APTYPE
2018-12-10	25	Added new Action X_AVM-DE_GetWLANDeviceListPath
2018-12-19	26	Service description: third WLAN access point added
2019-03-04	27	Edited the allowed values for state variable Standard
2019-03-12	28	WLAN encryption mode WEP removed and WPA3 added. Variable "BeaconType" allowed values changed: - "Basic" (WEP) removed - "11andWPA3" (WPA2 and WPA3) added (only accepted on hardware which supports WPA3) Variable "BasicEncryptionModes" allowed values changed: - "WEPEncryption" removed Actions changed: SetSecurityKeys and GetSecurityKeys - WEPKey variables are ignored Actions deprecated: SetDefaultWEPKeyIndex, GetDefaultWEPKeyIndex and SetBasBeaconSecurityProperties - always return 401 – invalid action.

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## 2 Action List

This chapter contains the supported actions of the service WLAN configuration which are listed incl. arguments.

### 2.1 SetEnable

Argument name	Direction	Related state variable	Remarks
NewEnable	in	Enable	

Table 1: Argument list of action SetEnable

### 2.2 GetInfo

Argument name	Direction	Related state variable	Remarks
NewEnable	out	Enable	
NewStatus	out	Status	
NewMaxBitRate	out	MaxBitRate	Not supported. Returns default string.
NewChannel	out	Channel	
NewSSID	out	SSID	
NewBeaconType	out	BeaconType	
NewMACAddressControlEnabled	out	MACAddressControlEnabled	
NewStandard	out	Standard	Only the highest of the active modes is returned.
NewBSSID	out	BSSID	
NewBasicEncryptionModes	out	BasicEncryptionModes	
NewBasicAuthenticationMode	out	BasicAuthenticationMode	Returns fixed string "none".
NewMaxCharsSSID	out	MaxCharsSSID	
NewMinCharsSSID	out	MinCharsSSID	
NewAllowedCharsSSID	out	AllowedCharsSSID	
NewMinCharsPSK	out	MinCharsPSK	
NewMaxCharsPSK	out	MaxCharsPSK	
NewAllowedCharsPSK	out	AllowedCharsPSK	

Table 2: Argument list of action GetInfo

## 2.3 SetConfig

Argument name	Direction	Related state variable	Remarks
NewMaxBitRate	in	MaxBitRate	
NewChannel	in	Channel	
NewSSID	in	SSID	
NewBeaconType	in	BeaconType	Determines WLAN-encryption to be used. WPA, WPA2, WPA and WPA2, WPA2 and WPA3.
NewMacAddressControlEnabled	in	MacAddressControlEnabled	
NewBasicEncryptionModes	in	BasicEncryptionModes	
NewBasicAuthenticationMode	in	BasicAuthenticationMode	

Table 3: Argument list of action SetConfig

## 2.4 SetSecurityKeys

Since WEP is deprecated, the WEPKey variables are ignored.

Argument name	Direction	Related state variable	Remarks
NewWEPKey0	in	WEPKey0	
NewWEPKey1	in	WEPKey1	
NewWEPKey2	in	WEPKey2	
NewWEPKey3	in	WEPKey3	
NewPreSharedKey	in	PreSharedKey	
NewKeyPassphrase	in	KeyPassphrase	

Table 4: Argument list of action SetSecurityKeys

## 2.5 GetSecurityKeys

Since WEP is deprecated, the WEPKey variables are always empty.

Argument name	Direction	Related state variable	Remarks
NewWEPKey0	out	WEPKey0	
NewWEPKey1	out	WEPKey1	
NewWEPKey2	out	WEPKey2	
NewWEPKey3	out	WEPKey3	
NewPreSharedKey	out	PreSharedKey	
NewKeyPassphrase	out	KeyPassphrase	

Table 5: Argument list of action GetSecurityKeys

## 2.6 SetDefaultWEPKeyIndex

Since WEP is deprecated, this action always returns 401 (invalid action).

Argument name	Direction	Related state variable	Remarks
NewDefaultWEPKeyIndex	in	WEPKeyIndex	

Table 6: Argument list of action SetDefaultWEPKeyIndex

## 2.7 GetDefaultWEPKeyIndex

Since WEP is deprecated, this action always returns 401 (invalid action).

Argument name	Direction	Related state variable	Remarks
NewDefaultWEPKeyIndex	out	WEPKeyIndex	

Table 7: Argument list of action GetDefaultWEPKeyIndex

## 2.8 SetBasBeaconSecurityProperties

The action is deprecated, this action always returns 401 (invalid action).

Argument name	Direction	Related state variable	Remarks
NewBasicEncryptionModes	in	BasicEncryptionModes	
NewBasicAuthenticationMode	in	BasicAuthenticationMode	

Table 8: Argument list of action SetBasBeaconSecurityProperties

## 2.9 GetBasBeaconSecurityProperties

Argument name	Direction	Related state variable	Remarks
NewBasicEncryptionModes	out	BasicEncryptionModes	
NewBasicAuthenticationMode	out	BasicAuthenticationMode	

Table 9: Argument list of action GetBasBeaconSecurityProperties

## 2.10 GetBSSID

Argument name	Direction	Related state variable	Remarks
NewBSSID	out	BSSID	

Table 10: Argument list of action GetBSSID

## 2.11 GetSSID

Argument name	Direction	Related state variable	Remarks
NewSSID	out	SSID	

Table 11: Argument list of action GetSSID

**2.12 SetSSID**

Argument name	Direction	Related state variable	Remarks
NewSSID	in	SSID	

Table 12: Argument list of action SetSSID

**2.13 GetBeaconType**

Argument name	Direction	Related state variable	Remarks
NewBeaconType	out	BeaconType	

Table 13: Argument list of action GetBeaconType

**2.14 SetBeaconType**

Argument name	Direction	Related state variable	Remarks
NewBeaconType	in	BeaconType	

Table 14: Argument list of action SetBeaconType

**2.15 GetChannelInfo**

Argument name	Direction	Related state variable	Remarks
NewChannel	out	Channel	
NewPossibleChannels	out	PossibleChannels	

Table 15: Argument list of action GetChannelInfo

**2.16 SetChannel**

Argument name	Direction	Related state variable	Remarks
NewChannel	in	Channel	

Table 16: Argument list of action SetChannel

**2.17 GetBeaconAdvertisement**

Argument name	Direction	Related state variable	Remarks
NewBeaconAdvertisementEnabled	out	BeaconAdvertisementEnabled	

Table 17: Argument list of action GetBeaconAdvertisement

**2.18 SetBeaconAdvertisement**

Argument name	Direction	Related state variable	Remarks
NewBeaconAdvertisementEnabled	in	BeaconAdvertisementEnabled	

Table 18: Argument list of action SetBeaconAdvertisement

## 2.19 GetTotalAssociations

Argument name	Direction	Related state variable	Remarks
NewTotalAssociations	out	TotalAssociations	

Table 19: Argument list of action GetTotalAssociations

## 2.20 GetGenericAssociatedDeviceInfo

Argument name	Direction	Related state variable	Remarks
NewAssociatedDeviceIndex	in	TotalAssociations	
NewAssociatedDeviceMACAddress	out	AssociatedDeviceMACAddress	
NewAssociatedDeviceIPAddress	out	AssociatedDeviceIPAddress	
NewAssociatedDeviceAuthState	out	AssociatedDeviceAuthState	
NewX_AVM-DE_Speed	out	X_AVM-DE_Speed	22.01.10
NewX_AVM-DE_SignalStrength	out	X_AVM-DE_SignalStrength	22.01.10

Table 20: Argument list of action GetGenericAssociatedDeviceInfo

## 2.21 GetSpecificAssociatedDeviceInfo

Argument name	Direction	Related state variable	Remarks
NewAssociatedDeviceMACAddress	in	AssociatedDeviceMACAddress	
NewAssociatedDeviceIPAddress	out	AssociatedDeviceIPAddress	
NewAssociatedDeviceAuthState	out	AssociatedDeviceAuthState	
NewX_AVM-DE_Speed	out	X_AVM-DE_Speed	19.09.11
NewX_AVM-DE_SignalStrength	out	X_AVM-DE_SignalStrength	19.09.11

Table 21: Argument list of action GetSpecificAssociatedDeviceInfo

## 2.22 X\_AVM-DE\_GetSpecificAssociatedDeviceInfoByIp

Argument name	Direction	Related state variable	Remarks
NewAssociatedDeviceIPAddress	in	AssociatedDeviceIPAddress	
NewAssociatedDeviceMACAddress	out	AssociatedDeviceMACAddress	
NewAssociatedDeviceAuthState	out	AssociatedDeviceAuthState	
NewX_AVM-DE_Speed	out	X_AVM-DE_Speed	
NewX_AVM-DE_SignalStrength	out	X_AVM-DE_SignalStrength	

Table 22: Argument list of action GetSpecificAssociatedDeviceInfoByIp

Return code	Description	Related argument
714	NoSuchEntryInArray	AssociatedDeviceIPAddress
402	Invalid Args	AssociatedDeviceIPAddress

Table 23: Return codes of action GetSpecificAssociatedDeviceInfoByIp



## 2.23 X\_AVM-DE\_GetWLANDeviceListPath

Returns an URL path to fetch a WIFI device list of all connected devices as an XML document.

Argument name	Direction	Related state variable	Remarks
NewX_AVM-DE_WLANDeviceListPath	out	X_AVM-DE_WLANDeviceListPath	

Table 24: Argument list of action X\_AVM-DE\_GetWLANDeviceListPath

The following listing is an XML example of the generated list:

```
<?xml version="1.0" encoding="UTF-8"?>
<List>
  <TotalAssociations>13</TotalAssociations>
  <Item>
    <AssociatedDeviceIndex>1</AssociatedDeviceIndex>
    <AssociatedDeviceMACAddress>aa:bb:cc:11:11:11</AssociatedDeviceMACAddress>
    <AssociatedDeviceIPAddress>192.168.192.11</AssociatedDeviceIPAddress>
    <AssociatedDeviceAuthState>1</AssociatedDeviceAuthState>
    <X_AVM-DE_Speed>866</X_AVM-DE_Speed>
    <X_AVM-DE_SignalStrength>98</X_AVM-DE_SignalStrength>
    <AssociatedDeviceChannel>1</AssociatedDeviceChannel>
    <AssociatedDeviceGuest>0</AssociatedDeviceGuest>
  </Item>
  <Item>
    ...
  </Item>
</List>
```

Devices with AssociatedDeviceChannel set to 0 are not listed in this list, because these are not connected to any access point of this CPE.

The “TotalAssociations” list element shows the number of all connected WIFI devices which are listed in the file independent from the current access point or WLANConfiguration service.

Return code	Description	Related argument
501	Action Failed	
402	Invalid Args	

Table 25: Return codes of action X\_AVM-DE\_GetWLANDeviceListPath

## 2.24 X\_AVM-DE\_SetStickSurfEnable

Argument name	Direction	Related state variable	Remarks
NewStickSurfEnable	in	StickSurfEnable	

Table 26: Argument list of action X\_AVM-DE\_SetStickSurfEnable

## 2.25 X\_AVM-DE\_GetIPTVOptimized

Argument name	Direction	Related state variable	Remarks
NewX_AVM-DE_IPTVoptimize	out	X_AVM-DE_IPTVoptimize	

Table 27: Argument list of action X\_AVM-DE\_GetIPTVOptimized

### 2.26 X\_AVM-DE\_SetIPTVOptimized

Argument name	Direction	Related state variable	Remarks
NewX_AVM-DE_IPTVoptimize	in	X_AVM-DE_IPTVoptimize	

Table 28: Argument list of action X\_AVM-DE\_SetIPTVOptimized

### 2.27 GetStatistics

Argument name	Direction	Related state variable	Remarks
NewTotalPacketsSent	out	TotalPacketsSent	
NewTotalPacketsReceived	out	TotalPacketsReceived	

Table 29: Argument list of action GetStatistics

### 2.28 GetPacketStatistics

Argument name	Direction	Related state variable	Remarks
NewTotalPacketsSent	out	TotalPacketsSent	
NewTotalPacketsReceived	out	TotalPacketsReceived	

Table 30: Argument list of action GetPacketStatistics

### 2.29 X\_AVM-DE\_GetNightControl

Argument name	Direction	Related state variable	Remarks
NewNightControl	out	NightControl	
NewNightTimeControlNoForcedOff	out	NightTimeControlNoForcedOff	

Table 31: Argument list of action X\_AVM-DE\_GetNightControl

### 2.30 X\_SetHighFrequencyBand

The action is listed in the WLAN configuration service but only supported on certain OEM devices. Please see WLAN configuration service 2 on FRITZ!Box 7390 for reading and writing 5 GHz WLAN settings.

Argument name	Direction	Related state variable	Remarks
NewEnableHighFrequency	in	EnableHighFrequency	

Table 32: Argument list of action X\_SetHighFrequencyBand

### 2.31 X\_AVM-DE\_GetWLANHybridMode

This action delivers informations about the WLAN-Mode access.

Argument name	Direction	Related state variable	Remarks
NewEnable	out	Enable	
NewBeaconType	out	BeaconType	
NewKeyPassphrase	out	KeyPassphrase	
NewSSID	out	SSID	
NewBSSID	out	BSSID	
NewTrafficMode	out	TrafficMode	
NewManualSpeed	out	ManualSpeed	
NewMaxSpeedDS	out	MaxSpeedDS	
NewMaxSpeedUS	out	MaxSpeedUS	

Table 33: Argument list of action X\_AVM-DE\_GetWLANHybridMode

### 2.32 X\_AVM-DE\_SetWLANHybridMode

This action delivers informations about the WLAN-Mode access.

Argument name	Direction	Related state variable	Remarks
NewEnable	in	Enable	
NewBeaconType	in	BeaconType	
NewKeyPassphrase	in	KeyPassphrase	
NewSSID	in	SSID	
NewBSSID	in	BSSID	
NewTrafficMode	in	TrafficMode	
NewManualSpeed	in	ManualSpeed	
NewMaxSpeedDS	in	MaxSpeedDS	
NewMaxSpeedUS	in	MaxSpeedUS	

Table 34: Argument list of action X\_AVM-DE\_SetWLANHybridMode

### 2.33 X\_AVM-DE\_GetWLANExtInfo

This action delivers informations about the WLAN-Guest access.

Argument name	Direction	Related state variable	Remarks
NewX_AVM-DE_APEEnabled	out	X_AVM-DE_APEEnabled	
NewX_AVM-DE_APTType	out	X_AVM-DE_APTType	
NewX_AVM-DE_TimeoutActive	out	X_AVM-DE_TimeoutActive	
NewX_AVM-DE_Timeout	out	X_AVM-DE_Timeout	
NewX_AVM-DE_TimeRemain	out	X_AVM-DE_TimeRemain	
NewX_AVM-DE_NoForcedOff	out	X_AVM-DE_NoForcedOff	
NewX_AVM-DE_UserIsolation	out	X_AVM-DE_UserIsolation	
NewX_AVM-DE_EncryptionMode	out	X_AVM-DE_EncryptionMode	
NewX_AVM-DE_LastChangedStamp	out	X_AVM-DE_LastChangedStamp	

Table 35: Argument list of action X\_AVM-DE\_GetWLANExtInfo

### 2.34 X\_AVM-DE\_SetWLANGlobalEnable

Enables “1” or disables “0” WLAN as if pushing the “WLAN” button on the CPE device.

Argument name	Direction	Related state variable	Remarks
NewX_AVM-DE_WLANGlobalEnable	in	X_AVM-DE_WLANGlobalEnable	

Table 36: Argument list of action X\_AVM-DE\_SetWLANGlobalEnable

Code	Description
402	Invalid Arguments
801	String argument too short
802	String argument too long
803	Argument contains invalid characters
820	Internal Error

Table 37: Returncodes of action X\_AVM-DE\_SetWLANGlobalEnable

### 2.35 X\_AVM-DE\_GetWPSInfo

Argument name	Direction	Related state variable	Remarks
NewX_AVM-DE_WPSMode	out	X_AVM-DE_WPSMode	
NewX_AVM-DE_WPSStatus	out	X_AVM-DE_WPSStatus	

Table 38: Argument list of action X\_AVM-DE\_GetWPSInfo

### 2.36 X\_AVM-DE\_SetWPSConfig

WPS is supported in different ways:

- Push Button Configuration,
- PIN input; PIN can either be offered by the access point or by the client.

WPS is only supported for either access points or guest access points.

WPS is not supported for both types of access points in parallel.

Argument name	Direction	Related state variable	Remarks
NewX_AVM-DE_WPSMode	in	X_AVM-DE_WPSMode	
NewX_AVM-DE_WPSClientPIN	in	X_AVM-DE_WPSClientPIN	Needed for WPSMode pbc.
NewX_AVM-DE_WPSAPPIN	out	X_AVM-DE_WPSAPPIN	
NewX_AVM-DE_WPSStatus	out	X_AVM-DE_WPSStatus	

Table 39: Argument list of action X\_AVM-DE\_SetWPSConfig

WPS Mode	NewX_AVM-DE_WPSMode	NewX_AVM-DE_WPSClientPIN
Push Button Configuration	pbc	empty
PIN offered by AP	pin_ap	empty
PIN offered by client	pin_client	12345678 (valid 8 digit PIN)
Stop running WPS session	stop	empty

Table 40: Example WPS configuration

### 3 Service States Table

Variable name	Allowed values (* == default)	Send Events	Data type
AllowedChars KeyPassphrase	01234567890ABCDEFGHIJKLMNQRSTUUVW XYZabcdefghijklmnopqrstuvwxyz_!"#\$ %&'()*+,-./:;<=>@[ ]^_`{ }~(*)	no	String
AllowedCharsPSK	01234567890ABCDEFabcdef (*)	no	String
AllowedCharsSSID	01234567890ABCDEFGHIJKLMNQRSTUUVW XYZabcdefghijklmnopqrstuvwxyz_!"#\$ %&'()*+,-./:;<=>@[ ]^_`{ }~(*)	no	String
AssociatedDeviceAuthState	0 (*)	no	Boolean
AssociatedDeviceChannel		no	ui4
AssociatedDeviceGuest	0 (*)	no	Boolean
AssociatedDeviceIPAddress		no	String
AssociatedDeviceMACAddress	Lower case MAC address	no	String
BasicAuthenticationMode	None	no	String
BasicEncryptionModes	None	no	String
BeaconAdvertisementEnabled		no	Boolean
BeaconType	None, WPA, 11i, WPAand11i, <a href="#">11iandWPA3</a>	no	String
BSSID		no	String
Channel	0 means auto channel	no	ui1
Enable		no	Boolean
EnableHighFrequency		no	Boolean
KeyPassphrase		no	String
MACAddressControlEnabled		no	Boolean
ManualSpeed		no	Boolean
MaxBitRate	Auto	no	String
MaxCharsKeyPassphrase	63 (*)	no	ui1
MaxCharsPSK	64 (*)	no	ui1
MaxCharsSSID	32 (*)	no	ui1
MaxSpeedDS		no	ui4
MaxSpeedUS		no	ui4
MinCharsKeyPassphrase	8 (*)	no	ui1
MinCharsPSK	64 (*)	no	ui1
MinCharsSSID	3 (*)	no	ui1
NightControl	XML-String	no	String
NightTimeControlNoForcedOff		no	Boolean
PossibleChannels	depends on currently used standard	no	String
PreSharedKey		no	String
SSID		no	String

Variable name	Allowed values (* == default)	Send Events	Data type
Standard	b, g, n, ac, ""	no	String
Status		no	String
StickSurfEnable	0 (*)	no	Boolean
TrafficMode		no	String
TotalAssociations	0 (*)	no	ui2
TotalPacketsReceived		no	ui4
TotalPacketsSent		no	ui4
WEPKey0		no	String
WEPKey1		no	String
WEPKey2		no	String
WEPKey3		no	String
WEPKeyIndex		no	ui1
X_AVM-DE_APEEnabled		yes	String
X_AVM-DE_APTType	normal, guest	no	String
X_AVM-DE_EncryptionMode		no	String
X_AVM-DE_IPTVoptimize	0 (*)	no	Boolean
X_AVM-DE_LastChangedStamp	0 (*)	no	ui4
X_AVM-DE_NoForcedOff		no	String
X_AVM-DE_SignalStrength	0 (*), 0 ... 70	no	ui1
X_AVM-DE_Speed	0 (*), 0 ... 300	no	ui2
X_AVM-DE_Timeout		no	String
X_AVM-DE_TimeoutActive		no	String
X_AVM-DE_TimeRemain		no	String
X_AVM-DE_UserIsolation		no	String
X_AVM-DE_WLANGlobalEnable	0	no	Boolean
X_AVM-DE_WPSAPPIN	8 digits	no	String
X_AVM-DE_WPSCClientPIN	8 digits	no	String
X_AVM-DE_WPSMode	pin_client, pin_ap, pbc, stop	no	String
X_AVM-DE_WPSStatus	off, inactive, active, success, err_common, err_timeout, err_reconfig, err_internal, err_abort	no	String

Table 41: Variable list