

TR-064 Support – AppSetup

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1 urn:X_AVM-DE_AppSetup-com:serviceld:X_AVM-DE_AppSetup1

For details please refer the SCPD files on the device.

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2 History

Date	Version	Changes
2015-02-02	7	Change RegisterApp description. Remove action parameters ConfigRight and DialRight of action RegisterApp Rename SmarthomeRight to HomeautoRight
2015-02-23	8	Parameter Port and DynDNSName only in action GetDynDNS
2015-03-13	9	Remove out parameter ReturnCode from Action RegisterApp Add ReturnCodes for Action RegisterApp Remove Action GetDynDns Remove Action SetAppVoIP
2015-04-02	10	Add ReturnCodes for Action RegisterApp Add Service State Table
2015-06-11	11	Action SetAppMessageReceiver added
2015-06-22	12	Action SetAppMessageReceiver changed
2015-07-06	13	Move chapter Fehler: Verweis nicht gefunden Fehler: Verweis nicht gefunden to 3 Action List Add parameters of SetAppMessageReceiver to chapter 5 Service States Table Change format
2015-07-17	14	Add ReturnCodes for action SetAppVPN
2015-07-17	15	SetAppMessageReceiver: Updated description, parameter and return codes
2015-10-01	16	Add description to delete VPN configuration with action SetAppVPN in chapter 3.9 SetAppVPN .
2016-01-04	17	SetAppMessageReceiver – AppAVMPasswordHash has to be base64url encoded without padding
2016-10-27	18	Add action ResetEvent and parameter EventId
2017-11-09	19	RegisterApp() → add new ReturnCodes (841) RegisterApp() → corrected rights in documentation
2018-03-21	20	New action SetAppVPNwithPFS added. New action SetAppMessageFilter and GetAppMessageFilter added. Sort actions in alphabetic order. Add return code for action GetConfig.
2018-04-10	21	Add parameters MinCharsFilter, MaxCharsFilter and AllowedCharsFilter.
2019-02-08	22	New action GetAppRemoteInfo() New Statevariables: SubnetMask, IPAddress, ExternalIPAddress, ExternalIPv6Address, RemoteAccessDDNSEnabled, RemoteAccessDDNSDomain, MyFritzDynDNSEnabled, MyFritzDynDNSName
2019-04-08	23	Added return codes to action RegisterApp, GetAppMessageFilter
2020-09-03	24	Added Legacy vs Changed behavior description for action GetAppRemoteInfo()
2022-02-02	25	Add GetBoxSenderId()
2022-10-17	26	Added allowed values for ConfigRight, AppRight, NasRight, PhoneRight, DialRight, HomeautoRight

3 Action List

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

The name of the argument name always uses the 'New' prefix.

3.1 GetAppMessageFilter

Returns a list of all message-filters configured for an app instance.

- Required rights: any
- The security context of this action **must belong to an app instance**. The app instance of the security context must be the same as the one identified by the parameter AppId.

Argument name	Direction	Meaning	Data type
AppId	In	Identifier of the app instance	string
FilterList	out	The result of action in a XML format	string

Table 1: Argument list of action GetAppMessageFilter

Return code	Description	Related argument
402	Invalid arguments	Any
501	Action failed	
603	Device is out of memory	Any
606	Unauthorized. Wrong security context	AppId
714	App with AppId not found	AppId
801	String too short	AppId
802	String too long	AppId
803	Argument contains invalid characters	AppId
820	Internal error	

Table 2: Return codes of action GetAppMessageFilter

3.2 GetAppRemoteInfo

Return information which is needed for apps to have access to the FRITZ!Box via WAN.

Legacy behavior:

Either ExternalIPAddress or ExternalIPv6Address has returned a valid address. If WAN interface has both addresses, only IPv4 was returned.

Changed behavior:

If WAN interface has IPv4 and IPv6 addresses, both parameter return a valid address.

E.g. to create and handle a vpn connection.

- Required rights: Config or App

Argument name	Direction	Meaning	Data type
SubnetMask	out	Subnetmask of the local CPE network	string
IPAddress	out	Local IP address of the CPE device	string
ExternalIPAddress	out	IP address of the WAN interface	string
ExternalIPv6Address	out	IPv6 address of the WAN interface	string
RemoteAccessDDNSEnabled	out	Shows if a specific DynDNS is activated	boolean
RemoteAccessDDNSDomain	out	Domain of the DynDNS	string
MyFritzDynDNSEnabled	out	Shows if the MyFritz of AVM GmbH is activated	boolean
MyFritzDynDNSName	out	MyFritz URL	string

Table 3: Argument list of action GetAppRemoteInfo

Return code	Description	Related argument
402	Invalid arguments	Any
820	Internal error	

Table 4: Return codes of action GetAppRemoteInfo

3.3 GetConfig

This action queries the current access rights of the current TR-064 security context. This security context results from the authentication of a box user or an app instance.

- Required rights: any

Argument name	Direction	Meaning	Data type
ConfigRight	out	FRITZ!OS configuration right.	RightEnum
AppRight	out	FRITZ!OS app specific configuration right.	RightEnum
NasRight	out	FRITZ!OS NAS specific right.	RightEnum
PhoneRight	out	FRITZ!OS phone specific right.	RightEnum
DialRight	out	FRITZ!OS dial specific right.	RightEnum
HomeautoRight	out	FRITZ!OS home automation specific right.	RightEnum
InternetRights	out	Are access rights from the internet configured?	boolean
AccessFromInternet	out	Is the current access coming from the internet?	boolean

Table 5: Argument list of action GetConfig

Return code	Description	Related argument
501	Action failed	

Table 6: Return codes of action GetConfig

3.4 GetInfo

Read restrictive values for action parameters.

- Required rights: any

Argument name	Direction	Meaning	Data type
MinCharsAppId	out	Minimum number of characters for AppId	ui2
MaxCharsAppId	out	Maximum number of characters for AppId	ui2
AllowedCharsAppId	out	Allowed characters for AppId	string
MinCharsAppDisplayName	out	Minimum number of characters for AppDisplayName	ui2
MaxCharsAppDisplayName	out	Maximum number of characters for AppDisplayName	ui2
MinCharsAppUsername	out	Minimum number of characters for AppUsername	ui2
MaxCharsAppUsername	out	Maximum number of characters for AppUsername	ui2
AllowedCharsAppUsername	out	Allowed characters for AppUsername	string
MinCharsAppPassword	out	Minimum number of characters for AppPassword	ui2
MaxCharsAppPassword	out	Maximum number of characters for AppPassword	ui2
AllowedCharsAppPassword	out	Allowed characters for AppPassword	string
MinCharsIPSecIdentifier	out	Minimum number of characters for IPSecIdentifier	ui2
MaxCharsIPSecIdentifier	out	Maximum number of characters for IPSecIdentifier	ui2
AllowedCharsIPSecIdentifier	out	Allowed characters for IPSecIdentifier	string
MinCharsIPSecPreSharedKey	out	Minimum number of characters for IPSecPreSharedKey	ui2
MaxCharsIPSecPreSharedKey	out	Maximum number of characters for IPSecPreSharedKey	ui2
AllowedCharsIPSecPreSharedKey	out	Allowed characters for IPSecPreSharedKey	string
MinCharsIPSecXauthUsername	out	Minimum number of characters for IPSecXauthUsername	ui2
MaxCharsIPSecXauthUsername	out	Maximum number of characters for IPSecXauthUsername	ui2
AllowedCharsIPSecXauthUsername	out	Allowed characters for IPSecXauthUsername	string
MinCharsIPSecXauthPassword	out	Minimum number of characters for IPSecXauthPassword	ui2
MaxCharsIPSecXauthPassword	out	Maximum number of characters for IPSecXauthPassword	ui2
AllowedCharsIPSecXauthPassword	out	Allowed characters for IPSecXauthPassword	string
AllowedCharsCryptAlgos	out	Allowed characters for CryptAlgos	string
AllowedCharsAppAVMAddress	out	Allowed characters for AppAVMAddress	String

Argument name	Direction	Meaning	Data type
MinCharsFilter	out	Minimum number of characters for Filter.	ui2
MaxCharsFilter	out	Maximum number of characters for Filter.	ui2
AllowedCharsFilter	out	Allowed characters for Filter.	string

Table 7: Argument list of action GetInfo

3.5 RegisterApp

This action registers a new app instance. A new app instance is created if an app instance with identifier AppId does not already exist. Otherwise the existing app instance is overwritten (any VoIP and VPN configuration of this app instance is deleted).

- Required rights: C or P or N or H (only allowed from home network)
- The security context of this action must belong to a box user (no app instance allowed).
- In case AppInternetRights is true and the app instance will get access rights from the internet and new port forwardings must be (automatically) activated (e.g. for HTTPS and FTP) configuration rights (write access) are required.
- This action must be called from within the home network (from internet not allowed).
- The effective access rights of the app instance are determined by the intersection of these rights and the rights of the box user of the security context this action was called in. Specific NAS directory access rights are not included in this parameter but determined by the box user only.

Argument name	Direction	Meaning	Data type
AppId	in	Unique identifier of the app instance (unique within the single box).	string
AppDisplayName	in	User friendly display name of the app instance.	string
AppDeviceMAC	in	MAC address of the device (or device interface). Empty string means: unknown	string (MAC address)
AppUsername	in	Username for the app instance. This must be unique (case insensitive) among all usernames used for authentication at the box (e.g. name and email addresses of box users and usernames of other app instances). Allowed characters: a-z, A-Z, 0-9 Must not begin with a digit. Length: 1-32 characters	string
AppPassword	in	Password for the app instance. Username and password can be used by the app as credentials to authenticate at the following services of the box: HTTPS, TR-064, FTPS. Allowed characters: ASCII 32 – ASCII 126 Length: 8-32 characters Strength: must contain at least one digit, one uppercase letter, one lowercase letter and one other (special) character. OPEN	string
AppRight	in	FRITZ!OS app specific configuration right.	RightEnum
NasRight	in	FRITZ!OS NAS specific right.	RightEnum

Argument name	Direction	Meaning	Data type
PhoneRight	in	FRITZ!OS phone specific right.	RightEnum
HomeautoRight	in	FRITZ!OS home automation specific right.	RightEnum
AppInternetRights	in	Does the app instance want access the box from the internet?	boolean

Table 8: Argument list of action RegisterApp

Return code	Description	Related argument
402	Invalid arguments	Any
606	Action not authorized	
803	Argument contains invalid characters	Any input parameter
820	Internal error	
821	AppID is too short	NewAppId
822	AppID is too long	NewAppId
823	AppID contains invalid characters	NewAppId
824	AppDisplayName is too short	NewAppDisplayName
825	AppDisplayName is too long	NewAppDisplayName
826	AppDisplayName contains invalid characters	NewAppDisplayName
827	Invalid MAC-Address	NewAppDeviceMac
828	AppUserName is too short	NewAppUsername
829	AppUserName is too long	NewAppUsername
830	AppUserName contains invalid characters	NewAppUsername
831	AppUserName already exists	NewAppUsername
832	AppPassword is too short	NewAppPassword
833	AppPassword is too long	NewAppPassword
834	AppPassword contains invalid characters	NewAppPassword
835	Maximum numbers of apps has been reached	
836	No allowed right value	NewAppRight NewNasRight NewPhoneRight NewHomeautoRight NewAppInternetRights
837	Security context	
838	App may not register app	
839	App may not register from internet	
840	App no rights	
841	Enable HTTPS failed by register app Does not have to be interpreted as an error. The app instance is created. But HTTPS is inactive.	

Table 9: Return codes of action RegisterApp

3.6 ResetEvent

Reset an event specified by a event ID. If more than one event with the same ID exist, only one event is reset.

- Required rights: configuration
- This action must be called from within the home network (from internet not allowed).

Argument name	Direction	Meaning	Data type
EventId	in		ui4

Table 10: Argument list of action ResetEvent

Return code	Description	Related argument
402	Invalid arguments	Any
603	Device is out of memory	Any
606	Unauthorized. Wrong security context	
501	Event with EventId not found	EventId
820	Internal error	

Table 11: Return codes of action ResetEvent

3.7 SetAppMessageFilter

Multiple message filters of different types can be added to each app instance. If an app instance already contains a filter with the same type, it is overwritten. A filter consists of the type and a list of filter criteria. If an empty list of filter criteria is passed, the filter of this type is completely removed from the app configuration.

So far, the following filter criteria are specified:

Type: aha_ident (blacklist filter)
 Filter: Comma-separated list of AHA identifiers
 (eg. ain, aha_group_id, mac or vendor specific identifier)

Type: tel_local_number (blacklist filter)
 Filter: Comma-separated list of phone numbers

- Required rights: any
- The security context of this action **must belong to an app instance**. The app instance of the security context must be the same as the one identified by the parameter AppId.

Argument name	Direction	Meaning	Data type
AppId	in	Identifier of the app instance the message filter belongs to.	string
Type	in	Type of the message filter, eg. "aha_ident"	string
Filter	in	A stringlist of filter criteria (e.g. "08761 0000444,34:45:12:43:55" for type aha_ident) Allowed characters: a-Z,0-9, Space and ,+:-_	string (1024)

Table 12: Argument list of action SetAppMessageFilter

Return code	Description	Related argument
402	Invalid arguments	Any
603	Device is out of memory	Any
606	Unauthorized. Wrong security context	AppId
714	App with AppId not found	AppId
801	String too short	AppId
802	String too long	AppId, Filter
803	Argument contains invalid characters	AppId, Filter
820	Internal error	

Table 13: Return codes of action SetAppMessageFilter

3.8 SetAppMessageReceiver

Configuration of a message receiver for the app instance. Every app instance can have at most only one message receiver configuration. In case a message receiver already exists for the app instance, the old configuration is overwritten (deleted).

- Required rights: any
- The security context of this action **must belong to an app instance**. The app instance of the security context must be the same as the one identified by the parameter AppId.
- This action must be called from within the home network (from internet not allowed).

Argument name	Direction	Meaning	Data type
AppId	in	Identifier of the app instance the message belongs to.	string
CryptAlgos	in	Comma separated list of additional crypt algorithms the app understands beside AES128-CBC-HMAC-SHA-256. If no other crypt algorithms are supported this parameter can be left blank. Naming according to RFC7518 (JWA).	string
AppAVMAddress	in	“App-AVM-Address” of the app Instance. An empty string means that the app instance will no longer receive any messages from this box (message receiver delete operation). The app gets this value from the AVM message relay web service.	string
AppAVMPasswordHash	in	BASE64URL encoding (without padding) of first 16 Bytes of the SHA-256 hash of the app's “App-AVM-Password”. The app gets this value from the AVM message relay web service.	string
EncryptionSecret	out	Shared secret used to build the crypt key for encryption and authentication for messages from the box to the app.	string
BoxSenderId	out	Sender Id used in messages from this box to the app. The app can associate this BoxSenderId to the EncryptionKey to find the needed key to decrypt a received message from a box.	string

Table 14: Argument list of action SetAppMessageReceiver

Return code	Description	Related argument
402	Invalid arguments	Any
501	Action failed	
603	Device is out of memory	Any
606	Unauthorized. Wrong security context	AppId
714	App with AppId not found	AppId
801	String too short	AppId
802	String too long	AppId, CryptAlgos, AppAVMAddress
803	Argument contains invalid characters	AppId, CryptAlgos, AppAVMAddress
820	Internal error	

Table 15: Return codes of action SetAppMessageReceiver

3.9 SetAppVPN

Configuration of a VPN (IPsec) access for the app instance. Every app instance can have at most only one VPN access configuration. In case a VPN access already exists for the app instance, the old configuration is overwritten. In case a VPN access already exists and all IPsec parameter are empty, the existing VPN configuration will be deleted.

- Required rights: configuration (write access).
- NOTE that an app instance never has any configuration rights, so **box user credentials must be used** for TR-064 authentication to perform this action.

Argument name	Direction	Meaning	Data type
AppId	in	Identifier of the app instance where the VPN configuration belongs to.	string
IPSecIdentifier	in	IPSec identifier	string
IPSecPreSharedKey	in	IPSec pre-shared-key	string
IPSecXauthUsername	in	Username for xauth	string
IPSecXauthPassword	in	Password for xauth	string

Table 16: Argument list of action SetAppVPN

Return code	Description	Related argument
402	Invalid arguments	Any
714	App with AppId not found	AppId
801	String too short	Any input parameter
802	String too long	Any input parameter
803	Argument contains invalid characters	Any input parameter
820	Internal error	

Table 17: Return codes of action SetAppVPN

3.10 SetAppVPNwithPFS

Configuration of a VPN (IPsec) access for the app instance with PFS (Perfect Forward Secrecy) support. Every app instance can have at most only one VPN access configuration. In case a VPN access already exists for the app instance, the old configuration is overwritten. In case a VPN access already exists and all IPsec parameter are empty, the existing VPN configuration will be deleted.

- Required rights: configuration (write access).
- NOTE that an app instance never has any configuration rights, so **box user credentials must be used** for TR-064 authentication to perform this action.

Argument name	Direction	Meaning	Data type
AppId	in	Identifier of the app instance where the VPN configuration belongs to.	string
IPSecIdentifier	in	IPSec identifier	string
IPSecPreSharedKey	in	IPSec pre-shared-key	string
IPSecXauthUsername	in	Username for xauth	string
IPSecXauthPassword	in	Password for xauth	string

Table 18: Argument list of action SetAppVPNwithPFS

Return code	Description	Related argument
402	Invalid arguments	Any
714	App with AppId not found	AppId
801	String too short	Any input parameter
802	String too long	Any input parameter
803	Argument contains invalid characters	Any input parameter
820	Internal error	

Table 19: Return codes of action SetAppVPNwithPFS

3.11 GetBoxSenderId

Return the box sender id.

- Required rights: any
- The security context of this action **must belong to an app instance**.

Argument name	Direction	Meaning	Data type
AppId	in	Identifier of the app instance the message belongs to.	string
BoxSenderId	out	Sender Id used in messages from this box to the app. The app can associate this BoxSenderId to the EncryptionKey to find the needed key to decrypt a received message from a box.	string

Table 20: Argument list of action GetBoxSenderId

Return code	Description	Related argument
402	Invalid arguments	Any
606	Unauthorized. Wrong security context	AppId
714	App with AppId not found	AppId
820	Internal error	

Table 21: Return codes of action GetBoxSenderId

4 Parameters

4.1 RightEnum

Value	Description
RW	Read and write access
RO	Read only access
NO	No access allowed
UNDEFINED	No specific right defined.

Table 22: Parameter type RightEnum

4.2 EventId

Value	Description
300	JASON message
500	SIP register failed
501	SIP failure
502	Possible fraud

Table 23: Parameter type EventId

5 Service States Table

Variable name	Allowed values (* == default)	Data type
AccessFromInternet	0	Boolean
AllowedCharsAppAVMAddress	0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ TUVWXYZabcdefghijklmnopqrstuvwxyz- _.	string
AllowedCharsAppId	0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz	string
AllowedCharsAppPassword	0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz !"#\$%&'()*+,-./:;<>?@[\\]^_`{ }	string
AllowedCharsAppUsername	0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz	string
AllowedCharsCryptAlgos	0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ TUVWXYZabcdefghijklmnopqrstuvwxyz- _.	string
AllowedCharsFilter	0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ TUVWXYZabcdefghijklmnopqrstuvwxyz, +:-_<SPACE>	string
AllowedCharsIPSecIdentifier	0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz	string
AllowedCharsIPSecPreSharedKey	0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz	string
AllowedCharsIPSecXauthPassword	0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz	string
AllowedCharsIPSecXauthUsername	0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz	string
AppAVMAddress		string
AppAVMPasswordHash		string
AppDeviceMAC		string (MAC address)
AppDisplayName		string
AppId		string
AppInternetRights	0	Boolean
AppPassword		string
AppRight	NO, RO, RW, UNDEFINED	RightEnum
AppUsername		string
BoxSenderId		string
ConfigRight	NO, RO, RW, UNDEFINED	RightEnum

Variable name	Allowed values (* == default)	Data type
CryptAlgos		string
DialRight	NO, RO, RW, UNDEFINED	RightEnum
EncryptionSecret		string
EventId	0	ui4
ExternalIPAddress		string
ExternalIPv6Address		string
Filter	a-Z,0-9, space and ,+:-_	string
FilterList		string
HomeautoRight	NO, RO, RW, UNDEFINED	RightEnum
InternetRights	0	Boolean
IPAddress		string
IPSecIdentifier		string
IPSecPreSharedKey		string
IPSecXauthPassword		string
IPSecXauthUsername		string
MaxCharsAppDisplayName	256	ui2
MaxCharsAppId	256	ui2
MaxCharsAppPassword	32	ui2
MaxCharsAppUsername	32	ui2
MaxCharsFilter	1024	ui2
MaxCharsIPSecIdentifier	256	ui2
MaxCharsIPSecPreSharedKey	16	ui2
MaxCharsIPSecXauthPassword	128	ui2
MaxCharsIPSecXauthUsername	256	ui2
MinCharsAppDisplayName	1	ui2
MinCharsAppId	1	ui2
MinCharsAppPassword	8	ui2
MinCharsAppUsername	1	ui2
MinCharsFilter	0	ui2
MinCharsIPSecIdentifier	1	ui2
MinCharsIPSecPreSharedKey	1	ui2
MinCharsIPSecXauthPassword	1	ui2
MinCharsIPSecXauthUsername	1	ui2
MyFritzDynDNSEnabled	0*	Boolean
MyFritzDynDNSDomain		string
NasRight	NO, RO, RW, UNDEFINED	RightEnum
PhoneRight	NO, RO, RW, UNDEFINED	RightEnum
RemoteAccessDDNSEnabled	0*	Boolean

Variable name	Allowed values (* == default)	Data type
RemoteAccessDDNSDomain		string
SubnetMask		string
Type	Allowed values: aha_ident, tel_local_number	string

Table 24: Variable list