

# ISO/IEC 29341-8-21:2008-11 (E)

## Information technology\_ - UPnP Device Architecture\_ - Part\_8-21: Internet Gateway Device Control Protocol\_ - Wireless Local Area Network Configuration Service

---

### CONTENTS

FOREWORD .....	6
ORIGINAL UPNP DOCUMENTS (informative) .....	8
<b>1. Overview and Scope .....</b>	<b>10</b>
<b>2. Service Modeling Definitions .....</b>	<b>10</b>
2.1. ServiceType .....	10
2.2. State Variables .....	10
2.2.1. InsecureOOBAccessEnabled .....	12
2.2.2. SSID .....	12
2.2.3. BSSID .....	12
2.2.4. BeaconType .....	13
2.2.5. BeaconAdvertisementEnabled .....	13
2.2.6. RadioEnabled .....	13
2.2.7. LocationDescription .....	13
2.2.8. RegulatoryDomain .....	14
2.2.9. TotalPSKFailures .....	14
2.2.10. TotalIntegrityFailures .....	14
2.2.11. Channel .....	14
2.2.12. PossibleChannels .....	14
2.2.13. ChannelsInUse .....	14
2.2.14. DeviceOperationMode .....	15
2.2.15. DistanceFromRoot .....	15
2.2.16. PeerBSSID .....	15
2.2.17. BasicDataTransmitRates .....	15
2.2.18. OperationalDataTransmitRates .....	15
2.2.19. PossibleDataTransmitRates .....	16
2.2.20. AutoRateFallbackEnabled .....	16
2.2.21. TotalBytesSent .....	16
2.2.22. TotalBytesReceived .....	16
2.2.23. TotalPacketsSent .....	16
2.2.24. TotalPacketsReceived .....	16
2.2.25. TotalAssociations .....	16
2.2.26. AssociatedDeviceMACAddress .....	16
2.2.27. AssociatedDeviceIPAddress .....	16
2.2.28. AssociatedDeviceAuthState .....	17
2.2.29. AuthenticationServiceMode .....	17
2.2.30. WEPKeyIndex .....	17
2.2.31. WEPKey .....	17
2.2.32. KeyPassphrase .....	17
2.2.33. WEPEncryptionLevel .....	18
2.2.34. PreSharedKey .....	18
2.2.35. PreSharedKeyIndex .....	18
2.2.36. BasicEncryptionModes .....	18
2.2.37. BasicAuthenticationMode .....	19
2.2.38. WPAEncryptionModes .....	19
2.2.39. WPAAuthenticationMode .....	19
2.2.40. IEEE11iEncryptionModes .....	20
2.2.41. IEEE11iAuthenticationMode .....	20
2.2.42. LastRequestedUnicastCipher .....	20
2.2.43. LastRequestedMulticastCipher .....	20
2.2.44. LastPMKId .....	21
2.3. Eventing and Moderation .....	21
2.3.1. Event Model .....	21
2.4. Actions .....	21
2.4.1. SetInsecureOutOfBandAccessMode .....	23
2.4.2. GetInsecureOutOfBandAccessMode .....	23

2.4.3.	SetSSID .....	24
2.4.4.	GetSSID .....	24
2.4.5.	GetBSSID .....	25
2.4.6.	SetBeaconType.....	25
2.4.7.	GetBeaconType .....	26
2.4.8.	SetBeaconAdvertisement .....	26
2.4.9.	GetBeaconAdvertisement .....	27
2.4.10.	SetRadioMode.....	27
2.4.11.	GetRadioMode .....	28
2.4.12.	SetLocationDescription .....	28
2.4.13.	GetLocationDescription .....	29
2.4.14.	SetRegulatoryDomain .....	29
2.4.15.	GetRegulatoryDomain .....	30
2.4.16.	GetFailureStatusInfo .....	30
2.4.17.	SetChannel.....	31
2.4.18.	GetChannelInfo .....	31
2.4.19.	GetChannelsInUse .....	32
2.4.20.	SetDeviceOperationMode .....	32
2.4.21.	GetDeviceOperationMode .....	33
2.4.22.	SetDataTransmitRates .....	34
2.4.23.	GetDataTransmitRateInfo .....	35
2.4.24.	SetAutoRateFallBackMode .....	35
2.4.25.	GetAutoRateFallBackMode .....	36
2.4.26.	GetByteStatistics .....	36
2.4.27.	GetPacketStatistics .....	37
2.4.28.	GetByteStatsForAssociatedDev .....	37
2.4.29.	GetPacketStatsForAssociatedDev .....	38
2.4.30.	GetTotalAssociations .....	38
2.4.31.	GetGenericAssociatedDeviceInfo .....	39
2.4.32.	GetSpecificAssociatedDeviceInfo .....	39
2.4.33.	GetSpecificAssociatedDev11iInfo .....	40
2.4.34.	SetAuthenticationServiceMode .....	41
2.4.35.	GetAuthenticationServiceMode .....	41
2.4.36.	SetSecurityKeys .....	42
2.4.37.	GetSecurityKeys .....	43
2.4.38.	SetDefaultWEPKeyIndex .....	43
2.4.39.	GetDefaultWEPKeyIndex .....	44
2.4.40.	SetPreSharedKey .....	44
2.4.41.	GetPreSharedKey .....	45
2.4.42.	SetBasBeaconSecurityProperties .....	45
2.4.43.	GetBasBeaconSecurityProperties .....	46
2.4.44.	SetWPABeaconSecurityProperties .....	46
2.4.45.	GetWPABeaconSecurityProperties .....	47
2.4.46.	Set11iBeaconSecurityProperties .....	48
2.4.47.	Get11iBeaconSecurityProperties .....	48
2.4.48.	FactoryDefaultReset .....	49
2.4.49.	ResetAuthentication .....	49
2.4.50.	Non-Standard Actions Implemented by a UPnP Device Vendor .....	49
2.4.51.	Common Error Codes .....	50
2.5.	Theory of Operation .....	51
2.5.1.	Initialization of the AP Device.....	51
2.5.2.	Operation of the AP Device .....	51
<b>3.</b>	<b>XML Service Description .....</b>	<b>58</b>
<b>4.</b>	<b>Test .....</b>	<b>71</b>

## LIST OF TABLES

Table 1: State Variables .....	11
Table 2: Event Moderation.....	21
Table 3: Actions .....	22
Table 4: Arguments for SetInsecureOutOfBandAccessMode.....	23
Table 5: Arguments for SetInsecureOutOfBandAccessMode.....	23
Table 6: Arguments for SetSSID .....	24
Table 7: Arguments for GetSSID.....	24
Table 8: Arguments for GetBSSID .....	25
Table 9: Arguments for SetBeaconType .....	25
Table 10: Arguments for GetBeaconType.....	26
Table 11: Arguments for SetBeaconAdvertisement .....	26
Table 12: Arguments for GetBeaconAdvertisement.....	27
Table 13: Arguments for SetRadioMode .....	27
Table 14: Arguments for GetRadioMode.....	28
Table 15: Arguments for SetLocationDescription .....	28
Table 16: Arguments for GetLocationDescription.....	29
Table 17: Arguments for SetRegulatoryDomain.....	29
Table 18: Arguments for GetRegulatoryDomain .....	30
Table 19: Arguments for GetFailureStatusInfo.....	30
Table 20: Arguments for SetChannel .....	31
Table 21: Arguments for GetChannelInfo.....	31
Table 22: Arguments for GetChannelsInUse.....	32
Table 23: Arguments for SetDeviceOperationMode.....	33
Table 24: Arguments for GetDeviceOperationMode .....	34
Table 25: Arguments for SetDataTransmitRates .....	34
Table 26: Arguments for GetDataTransmitRateInfo.....	35
Table 27: Arguments for SetAutoRateFallBackMode.....	35
Table 28: Arguments for GetAutoRateFallBackMode .....	36
Table 29: Arguments for GetByteStatistics.....	36
Table 30: Arguments for GetPacketStatistics.....	37
Table 31: Arguments for GetByteStatsForAssociatedDev .....	37
Table 32: Arguments for GetPacketStatsForAssociatedDev .....	38
Table 33: Arguments for GetTotalAssociations .....	38
Table 34: Arguments for GetGenericAssociatedDeviceInfo.....	39
Table 35: Arguments for GetSpecificAssociatedDeviceInfo.....	40
Table 36: Arguments for GetSpecificAssociatedDeviceInfo.....	40
Table 37: Arguments for SetAuthenticationServiceMode.....	41
Table 38: Arguments for GetAuthenticationServiceMode .....	41
Table 39: Arguments for SetSecurityKeys.....	42

Table 40: Arguments for GetSecurityKeys .....	43
Table 41: Arguments for SetDefaultWEPKeyIndex .....	43
Table 42: Arguments for GetDefaultWEPKeyIndex .....	44
Table 43: Arguments for SetPreSharedKey .....	44
Table 44: Argument for GetPreSharedKey.....	45
Table 45: Arguments for SetBasBeaconSecurityProperties .....	45
Table 46: Arguments for GetBasBeaconSecurityProperties .....	46
Table 47: Arguments for SetWPABeaconSecurityProperties.....	47
Table 48: Arguments for GetWPABeaconSecurityProperties .....	47
Table 49: Arguments for Set11iBeaconSecurityProperties .....	48
Table 50: Arguments for Get11iBeaconSecurityProperties.....	48
Table 51: Common Error Codes for all actions .....	50