IEEE P802.19
Wireless Coexistence

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| Proposed update to procedures |
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Abstract

This document is a submission to IEEE 802.19 TG1 proposing update to procedures.

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# Proposed update

*It is proposed to update Section 6.3 Procedures using the text below.*

# WSO/RLSS subscription procedure

A CE shall perform the WSO/RLSS subscription procedure when it has received a request to start operation. The WSO/RLSS shall subscribe to either information service or management service. An illustrative example of this procedure is shown in Figure 10. ***SubscriptionRequest*** and ***SubscriptionResponse*** messages are defined in (reference).



Figure 10. WSO/RLSS subscription procedure

After the CE has received a request to start operation, it shall obtain WSO/RLSS subscription information. After the WSO/RLSS subscription information has been obtained, the CE shall generate a ***SubscriptionRequest*** message and shall send this ***SubscriptionRequest*** message to the CM that serves this CE. CE operation related to generating and sending a ***SubscriptionRequest*** message is specified in (reference).

After the CM has received the ***SubscriptionRequest*** message from the CE, the CM shall perform WSO/RLSS subscription, shall generate a ***SubscriptionResponse*** message and shall send this ***SubscriptionResponse*** message to the CE. CM operation related to WSO/RLSS subscription, generating and sending a ***SubscriptionResponse*** message is specified in (reference).

After the CE has received the ***SubscriptionResponse*** message from the CM, the CE shall process the ***SubscriptionResponse*** message. CE operation related to processing the ***SubscriptionResponse*** message is specified in (reference).

# WSO/RLSS subscription update procedure

A CE shall perform the WSO/RLSS subscription update procedure when it has received new WSO/RLSS subscription information indicating that the WSO/RLSS has changed the type of coexistence service provided by the coexistence system or the RLSS is stopping operation. An illustrative example of this procedure is shown in Figure 11. ***SubscriptionRequest*** and ***SubscriptionResponse*** messages are defined in (reference).



Figure 11. WSO/RLSS subscription update procedure

After a CE has received new WSO/RLSS subscription information, the CE shall generate a ***SubscriptionRequest*** message and shall send this ***SubscriptionRequest*** message to the CM that serves this CE. CE operation related to generating and sending a ***SubscriptionRequest*** message is specified in (reference).

After the CM has received the ***SubscriptionRequest*** message from the CE, the CM shall perform WSO/RLSS subscription, shall generate a ***SubscriptionResponse*** message and shall send this ***SubscriptionResponse*** message to the CE. CM operation related to WSO/RLSS subscription, generating and sending a ***SubscriptionResponse*** message is specified in (reference).

After the CE has received the ***SubscriptionResponse*** message from the CM, the CE shall process the SubscriptionResponse message. CE operation related to processing the ***SubscriptionResponse*** message is specified in (reference).

# WSO registration procedure

A CE shall perform the WSO registration procedure when it has successfully finished the WSO/RLSS subscription procedure. An illustrative example of this procedure is shown in Figure 12. ***CERegistrationRequest***, ***RegistrationResponse***, and ***CMRegistrationResponse*** messages are defined in (reference).



Figure 12. WSO registration procedure

After a CE has successfully finished a WSO/RLSS subscription procedure, it shall obtain WSO registration information. After the WSO registration information has been obtained, the CE shall generate a ***CERegistrationRequest*** message and shall send this ***CERegistrationRequest*** message to the CM that serves this CE. CE operation related to generating and sending a ***CERegistrationRequest*** message is specified in (reference).

After the CM has received the ***CERegistrationRequest*** message from the CE, the CM shall perform WSO registration, shall generate a ***RegistrationResponse*** message, and shall send this ***RegistrationResponse*** message to the CE. CM operation related to WSO registration, generating and sending a ***RegistrationResponse*** message is specified in (reference).

After the CE has received the ***RegistrationResponse*** message from the CM, the CE shall process the ***RegistrationResponse*** message. CE operation related to processing the ***RegistrationResponse*** message is specified in (reference).

After the CE has processed the ***RegistrationResponse*** message, the CE shall confirm registration status to WSO/RLSS. CE operation related to confirming registration status to WSO/RLSS is specified in (reference).

After the CM has sent the ***RegistrationResponse*** message to the CE, the CM shall generate a ***CMRegistrationRequest*** message and shall send this ***CMRegistrationRequest*** message to the CDIS that serves this CM. CM operation related to generating and sending a ***CMRegistrationRequest*** message is specified in (reference).

After the CDIS has received the ***CMRegistrationRequest*** message from the CM, the CDIS shall perform CM registration, shall generate a ***RegistrationResponse*** message, and shall send this ***RegistrationResponse*** message to the CM. CDIS operation related to CM registration, generating and sending a ***RegistrationResponse*** message is specified in (reference).

After the CM has received the ***RegistrationResponse*** message from the CDIS, the CM shall process the ***RegistrationResponse*** message. CM operation related to processing the ***RegistrationResponse*** message is specified in (reference).

# WSO registration update procedure

A CE shall perform the WSO registration update procedure when it has received new WSO registration information or the WSO is stopping operation. An illustrative example of this procedure is shown in Figure 13. ***CERegistrationRequest***, ***RegistrationResponse***, and ***CMRegistrationRequest*** messages are defined in (reference).



Figure 13. WSO registration update procedure

After a CE has received new WSO registration information, the CE shall generate a ***CERegistrationRequest*** message and shall send this ***CERegistrationRequest*** message to the CM that serves this CE. CE operation related to generating and sending a ***CERegistrationRequest*** message is specified in (reference).

After the CM has received the ***CERegistrationRequest*** message from the CE, the CM shall perform WSO registration, shall generate a ***RegistrationResponse*** message, and shall send this ***RegistrationResponse*** message to the CE. CM operation related to WSO registration, generating and sending a ***RegistrationResponse*** message is specified in (reference).

After the CE has received the ***RegistrationResponse*** message from the CM, the CE shall process the ***RegistrationResponse*** message. CE operation related to processing the ***RegistrationResponse*** message is specified in (reference).

After the CM has sent the ***RegistrationResponse*** message to the CE, the CM shall generate a ***CMRegistrationRequest*** message and shall send this ***CMRegistrationRequest*** message to the CDIS that serves this CM. CM operation related to generating and sending a ***CMRegistrationRequest*** message is specified in (reference).

After the CDIS has received the ***CMRegistrationRequest*** message from the CM, the CDIS shall perform CM registration, shall generate a ***RegistrationResponse*** message, and shall send this ***RegistrationResponse*** message to the CM. CDIS operation related to CM registration, generating and sending a ***RegistrationResponse*** message is specified in (reference).

After the CM has received the ***RegistrationResponse*** message from the CDIS, the CM shall process the ***RegistrationResponse*** message. CM operation related to processing the ***RegistrationResponse*** message is specified in (reference).

# Providing coexistence report procedure

A CM shall perform the providing coexistence report procedure when coexistence report information has been changed for one or several WSOs subscribed to information service and served by this CM. An illustrative example of this procedure is shown in Figure 15. ***CoexistenceReportAnnouncement*** message is defined in (reference).



Figure 15. Providing coexistence report procedure

After coexistence report information has been changed for one or several WSOs subscribed by information service and served by a CM, the CM shall generate one or several ***CoexistenceReportAnnoucement*** messages. Number of the generated ***CoexistenceReportAnnoucement*** messages is equal to the number of the WSOs which coexistence report information has been changed. If several WSOs are managed by the same RLSS, only one ***CoexistenceReportAnnoucement*** message is sent to RLSS. After the ***CoexistenceReportAnnoucement*** messages has been generated, the CM shall send these ***CoexistenceReportAnnoucement*** messages to the WSOs/RLSSs which coexistence report information has been changed. CM operation related to generating and sending a ***CoexistenceReportAnnoucement*** message is specified in (reference).

After a CE has received the ***CoexistenceReportAnnoucement*** message from the CM, the CE shall process the ***CoexistenceReportAnnoucement*** message and generate and send the ***CoexistenceReportConfirm*** message to the CM. CE operation related to processing the ***CoexistenceReportAnnoucement*** message, generating and sending ***CoexistenceReportConfirm*** message is specified in (reference).

After the CM has received the ***CoexistenceReportConfirm*** message from the CE, the CM shall process the ***CoexistenceReportConfirm*** message. CM operation related to processing the ***CoexistenceReportConfirm*** message is specified in (reference).

# WSO reconfiguration procedure

A CM shall perform the WSO reconfiguration procedure when it has generated new coexistence decision that requires reconfiguration of one or several WSOs subscribed to management service and served by this CM. An illustrative example of this procedure is shown in Figure 17. ***ReconfigurationRequest*** and ***ReconfigurationResponse*** messages are defined in (reference).



Figure 17. WSO reconfiguration procedure

After a CM has generated new coexistence decision that requires reconfiguration of one or several WSOs subscribed to management service and served by this CM, the CM shall generate one or several ***ReconfigurationRequest*** messages. The number of the ***ReconfigurationRequest*** messages is equal to the number of the WSOs that require reconfiguration. If several WSOs are managed by the same RLSS, only one ***ReconfigurationRequest*** message is sent to RLSS. After the CM has generated the ***ReconfigurationRequest*** messages, the CM shall send these ***ReconfigurationRequest*** messages to the CEs serving WSOs that require reconfiguration. CM operation related to generating and sending a ***ReconfigurationRequest*** message is specified in (reference).

After a CE has received the ***ReconfigurationRequest*** message from the CM, the CE shall perform requested reconfiguration of the WSO it serves, shall generate a ***ReconfigurationResponse*** message, and shall send this ***ReconfigurationResponse*** message to the CM. CE operation related to performing WSO reconfiguration, generating and sending ***ReconfigurationResponse*** message is specified in (reference).

After the CM has received the ***ReconfigurationResponse*** message from the CE, the CM shall process the ***ReconfigurationResponse*** message. CM operation related to processing the ***ReconfigurationResponse*** message is specified in (reference).

# CE stop operation procedure

A CE shall perform the CE stop operation procedure when it has received a request to stop operation. An illustrative example of this procedure is shown in Figure 19. ***StopOperationAnnouncement*** and ***StopOperationConfirm*** messages are defined in (reference).



Figure 19. CE stop operation procedure

After a CE has received a request to stop operation, the CE shall indicate this to the WSO/RLSS it serves, shall generate ***StopOperationAnnouncement*** message, and shall send this ***StopOperationAnnouncement*** message to the CM that serves this CE. CE operation related to generating and sending a ***StopOperationAnnouncement*** message is specified in (reference).

After the CM has received the ***StopOperationAnnouncement*** message from the CE, the CM shall process this message, shall generate a ***StopOperationConfirm*** message, and shall send this ***StopOperationConfirm*** message to the CE. CM operation related to processing the ***StopOperationAnnouncement*** message, generating and sending ***StopOperationConfirm*** message is specified in (reference).

After the CE has received the ***StopOperationConfirm*** message from the CM, the CE shall process this message. CE operation related to processing the ***StopOperationConfirm*** message is specified in (reference).

After the CM has sent the ***StopOperationConfirm*** message to the CE, the CM shall generate a ***CMRegistrationRequest*** message and shall send this ***CMRegistrationRequest*** message to the CDIS that serves this CM. CM operation related to generating and sending ***CMRegistrationRequest*** message is specified in (reference).

After the CDIS has received the ***CMRegistrationRequest*** message to the CM, the CDIS shall generate a ***CMRegistrationResponse*** message and shall send this ***CMRegistrationResponse*** message to the CM. CDIS operation related to generating and sending ***CMRegistrationResponse*** message is specified in (reference).

After the CM has received the ***CMRegistrationResponse*** message from the CDIS, the CM shall process this message. CM operation related to processing the ***CMRegistrationResponse*** message is specified in (reference).

# CM stop operation procedure

A CM shall perform the CM stop operation procedure when it received a request to stop operation. An illustrative example of this procedure is shown in Figure 19. ***StopOperationAnnouncement*** message is defined in (reference).



Figure 19. CM stop operation procedure

After a CM has received a request to stop operation, the CM shall generate several ***StopOperationAnnouncement*** messages. The number of the ***StopOperationAnnouncement*** messages is equal to the number of the CEs served by this CM plus one (for CDIS that serves this CM). After the CM has generated the ***StopOperationAnnouncement*** messages, the CM shall send these ***StopOperationAnnouncement*** messages to the CDIS that serves this CM and to the CEs that are served by this CM. CM operation related to generating and sending a ***StopOperationAnnouncement*** message is specified in (reference).

After a CDIS has received the ***StopOperationAnnouncement*** message from the CM, the CDIS shall process this message, shall generate a ***StopOperationConfirm*** message, and shall send this ***StopOperationConfirm*** message to the CM. CDIS operation related to processing the ***StopOperationAnnouncement*** message, generating and sending ***StopOperationConfirm*** message is specified in (reference).

After the CM has received the ***StopOperationConfirm*** message from the CDIS, the CM shall process the ***StopOperationConfirm*** message. CM operation related to processing the ***StopOperationConfirm*** message is specified in (reference).

After a CE has received the ***StopOperationAnnouncement*** message from the CM, the CE shall process this message, shall generate a ***StopOperationConfirm*** message, and shall send this ***StopOperationConfirm*** message to the CM. After the CE has sent the ***StopOperationConfirm*** message to the CM, the CE shall check whether this has been the last available CM. If there is any available CM, the CE shall select one of the available CMs and try to establish connection with the selected CM. If the CM has been the last available CM, the CE shall indicate this to the WSO/RLSS it serves. CE operation related to processing the ***StopOperationAnnouncement*** message, generating and sending ***StopOperationConfirm*** message is specified in (reference).

After the CM has received the ***StopOperationConfirm*** message from the CE, the CM shall process the ***StopOperationConfirm*** message. CM operation related to processing the StopOperationConfirm message is specified in (reference).

# CDIS stop operation procedure

A CDIS shall perform the CDIS stop operation procedure when it received a request to stop operation. An illustrative example of this procedure is shown in Figure 20. ***StopOperationAnnouncement*** message is defined in (reference).



Figure 20. CDIS stop operation procedure

After a CDIS has received a request to stop operation, the CDIS shall generate one or several ***StopOperationAnnouncement*** messages. The number of the ***StopOperationAnnouncement*** messages is equal to the number of the CMs served by this CDIS. After the CDIS has generated the ***StopOperationAnnouncement*** messages, the CDIS shall send these ***StopOperationAnnouncement*** messages to the CMs that are served by this CDIS. CDIS operation related to generating and sending a ***StopOperationAnnouncement*** message is specified in (reference).

After a CM has received the ***StopOperationAnnouncement*** message from the CDIS, the CM shall process this message, shall generate a ***StopOperationConfirm*** message, and shall send this ***StopOperationConfirm*** message to the CDIS. CM operation related to processing the ***StopOperationAnnouncement*** message, generating and sending ***StopOperationConfirm*** message is specified in (reference).

After the CDIS has received the ***StopOperationConfirm*** message from the CM, the CDIS shall process the ***StopOperationConfirm*** message. CDIS operation related to processing the ***StopOperationConfirm*** message is specified in (reference).