[MS-RRASM]: Routing and Remote Access Server (RRAS) Management Protocol

This topic lists the Errata found in [MS-RRASM] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.

NRSS Atom

Errata are subject to the same terms as the Open Specifications documentation referenced.

Errata below are for Protocol Document Version <u>V23.0 – 2018/09/12</u>.

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Errata Published			
*	Description		
2019/10/28	In Section 2.2.1.2.45, MIB_IPMCAST_OIF_STATS, changed dwIfNextHopIPAddr to dwNextHopAddr in the dwNextHopAddr field description.		
	Changed from:		
	dwNextHopAddr: Specifies the address of the next hop that corresponds to dwOutIfIndex. The dwOutIfIndex and dwIfNextHopIPAddr members uniquely identify a next hop on point-to-multipoint interfaces, where one interface connects to multiple networks. Examples of point-to-multipoint interfaces include non-broadcast multiple-access (NBMA) interfaces, and the internal interface on which all dial-up clients connect. For Ethernet and other broadcast interfaces, specify zero (0). Also specify zero (0) for point-to-point interfaces, which are identified by only dwOutIfIndex.		
	Changed to:		
	dwNextHopAddr: Specifies the address of the next hop that corresponds to dwOutIfIndex. The dwOutIfIndex and dwNextHopAddr members uniquely identify a next hop on point-to-multipoint interfaces, where one interface connects to multiple networks. Examples of point-to-multipoint interfaces include non-broadcast multiple-access (NBMA) interfaces, and the internal interface on which all dial-up clients connect. For Ethernet and other broadcast interfaces, specify zero (0). Also specify zero (0) for point-to-point interfaces, which are identified by only dwOutIfIndex.		
	In Section 2.2.1.2.130, PPP_PROJECTION_INFO_1, changed dwAuthenticatedData to dwAuthenticationData in the dwAuthenticationData field description.		
	Changed from:		
	dwAuthenticationData: The same as dwAuthenticatedData in PPP LCP INFO.		
	Changed to:		
	dwAuthenticationData: The same as dwAuthenticationData in PPP_LCP_INFO (see section 2.2.1.2.71).		

Errata Published *

Description

In Section 2.2.1.2.176, IGMP_MIB_GROUP_INFO, changed interface types RAS_SERVER to IGMP IF RAS SERVER and RAS CLIENT to IGMP IF RAS CLIENT.

Changed from:

The IGMP_MIB_GROUP_INFO structure is used in the IGMP_MIB_IF_GROUPS_LIST (section 2.2.1.2.176) structure. If the interface is of type RAS_SERVER then the group membership of all the RAS clients is summarized, and the GroupUpTime and GroupExpiryTime is the maximum over all member RAS clients, while the V1HostPresentTimeLeft is set to 0. If the interface is of type RAS_CLIENT, the IpAddr is the next hop IP address of the RAS client. The membership is summarized over the RAS clients unless the IGMP_ENUM_FOR_RAS_CLIENTS_ID flag is set in Flags.

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Changed to:

The IGMP_MIB_GROUP_INFO structure is used in the IGMP_MIB_IF_GROUPS_LIST (section 2.2.1.2.175) structure. If the interface is of type IGMP_IF_RAS_SERVER then the group membership of all the RAS clients is summarized, and the GroupUpTime and GroupExpiryTime is the maximum over all member RAS clients, while the V1HostPresentTimeLeft is set to 0. If the interface is of type IGMP_IF_RAS_CLIENT, the IpAddr is the next hop IP address of the RAS client. The membership is summarized over the RAS clients unless the IGMP_ENUM_FOR_RAS_CLIENTS_ID flag is set in Flags.

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In Section 2.2.1.2.181, IP_NAT_MIB_QUERY, changed instances of RMIBGetEntryFirst to RMIBEntryGetFirst.

Changed from:

The IP_NAT_MIB_QUERY structure is used to retrieve Network Address Translator (NAT) information and is passed to the following methods:

- RMIBEntryGet (section 3.1.4.30)
- RMIBGetEntryFirst (section 3.1.4.31)
- RMIBEntryGetNext (section 3.1.4.32)

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Oid: This is an index of the NAT MIB. It MUST be one of the following values.

Value	Meaning
IP_NAT_INTERFACE_STATISTICS_OID 0x000000000	NAT interface statistics information is retrieved. When RMIBEntryGet, RMIBGetEntryEirst, and RMIBEntryGetNext return pMibQutEntry or plafoStruct it MUST be typecast to IP_NAT_INTERFACE_STATISTICS (section 2.2.1.2.185).
IP_NAT_INTERFACE_MAPPING_TABLE_OID 0x00000001	NAT interface mapping table information. When RMIBEntryGet, RMIBGetEntryEirst, and RMIBEntryGetNext return pMihOutEntry or pInfoStruct it MUST be typecast to IP_NAT_ENUMERATE_SESSION_MAPPINGS (section 2.2.1.2. 183).
IP_NAT_MAPPING_TABLE_OID 0x00000002	NAT mapping table information. Retrieves the session mappings of an interface. When RMIBEntryGet, RMIBGetEntryFirst, and RMIBEntryGetNext return pMibQutEntry or pInfoStruct it

Errata Published * Description Changed to:

The IP_NAT_MIB_QUERY structure is used to retrieve Network Address Translator (NAT) information and is passed to the following methods:

- RMIBEntryGet (section 3.1.4.30)
- RMIBEntryGetFirst (section 3.1.4.31)
- RMIBEntryGetNext (section 3.1.4.32)

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Oid: This is an index of the NAT MIB. It MUST be one of the following values.

Value	Meaning
IP_NAT_INTERFACE_STATISTICS_OID 0x000000000	NAT interface statistics information is retrieved. When RMIBEntryGet, RMIBEntryGetFirst, and RMIBEntryGetNext return pMibOutEntry or pInfoStruct it MUST be typecast to IP_NAT_INTERFACE_STATISTICS (section 2.2.1.2.184).
IP_NAT_INTERFACE_MAPPING_TABLE_O ID 0x00000001	NAT interface mapping table information. When RMIBEntryGet, RMIBEntryGetFirst, and RMIBEntryGetNext return pMibOutEntry or pInfoStruct it MUST be typecast to IP_NAT_ENUMERATE_SESSION_MAPPINGS (section 2.2.1 .2.182).
IP_NAT_MAPPING_TABLE_OID 0x00000002	NAT mapping table information. Retrieves the session mappings of an interface. When RMIBEntryGet, RMIBEntryGetEirst, and RMIBEntryGetNext return pMibOutEntry or pInfoStruct it MUST be typecast to IP_NAT_ENUMERATE_SESSION_MAPPINGS.

In Section 2.2.1.2.260, BGP_POLICY, changed eType value from MatchMaxPrefix to MatchMaxPrefixes. And changed eAttrType values ModifyLocalPref to NewLocalPref, ModifyNextHop to NewNextHop, and ModifyMed to NewMed.

Changed from:

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A BGP policy:

- MUST NOT have more than one Match clause with eType in BGP_POLICY_MATCH set to MatchASNRange (0x3).
- MUST NOT have more than one Match clause with eType in BGP_POLICY_MATCH set to MatchMaxPrefix (0x5).
- MUST NOT have more than one modify Action clause with eAttrType in BGP_POLICY_MODIFY (section 2.2.1.2.259) set to ModifyLocalPref (0x3).
- MUST NOT have more than one modify Action clause with eAttrType in BGP_POLICY_MODIFY set to ModifyNextHop (0x4).
- MUST NOT have more than one modify Action clause with eAttrType in BGP_POLICY_MODIFY set to ModifyMed (0x5).
- MUST have only one Action clause with bDeny in BGP_POLICY_ACTION set to TRUE when a Match clause with eType in BGP_POLICY_MATCH is specified as MatchMaxPrefix (0x5). Changed to:

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A BGP policy:

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*	Description	
	• MUST NOT have more than one Match clause with eType in BGP_POLICY_MATCH set to MatchASNRange (0x3).	
	• MUST NOT have more than one Match clause with eType in BGP_POLICY_MATCH set to MatchMaxPrefixes (0x5).	
	• MUST NOT have more than one modify Action clause with eAttrType in BGP_POLICY_MODIFY (section 2.2.1.2.258) set to NewLocalPref (0x3).	
	• MUST NOT have more than one modify Action clause with eAttrType in BGP_POLICY_MODIFY set to NewNextHop (0x4).	
	• MUST NOT have more than one modify Action clause with eAttrType in BGP_POLICY_MODIFY set to NewMed (0x5).	
	• MUST have only one Action clause with bDeny in BGP_POLICY_ACTION set to TRUE when a Match clause with eType in BGP_POLICY_MATCH is specified as MatchMaxPrefixes (0x5).	
	In Section 3.1.4.44, RMprAdminServerSetInfo (Opnum 43), changed return value ERROR_REBOOT_REQUIRED to ERROR_SUCCESS_REBOOT_REQUIRED when the RRAS server completes the processing successfully.	
	Changed from:	
	When processing this call, the RRASM server MUST do the following:	
	 If the RRAS server completes the processing successfully return either ERROR_SUCCESS or ERROR_REBOOT_REQUIRED<316> based on the impact of the configuration change as indicated by the RRAS server. Otherwise return the error status. 	
	Changed to:	
	When processing this call, the RRASM server MUST do the following:	
	 If the RRAS server completes the processing successfully return either ERROR_SUCCESS or ERROR_SUCCESS_REBOOT_REQUIRED<316> based on the impact of the configuration change as indicated by the RRAS server. Otherwise return the error status. 	
		
	In Section 3.1.4.48, RMprAdminServerSetInfoEx (Opnum 47), changed return value ERROR_REBOOT_REQUIRED to ERROR_SUCCESS_REBOOT_REQUIRED when the RRAS server completes the processing successfully.	
	Changed from:	
	When processing this call, the RRASM server MUST do the following:	
	 If the RRAS server completes the processing successfully, it MUST return either ERROR_SUCCESS, ERROR_REBOOT_REQUIRED<321>, or ERROR_RESTART_REQUIRED<322> based on the impact of the configuration change. Otherwise return the error status. 	
	•••	
	Changed to:	
	When processing this call, the RRASM server MUST do the following:	

Errata **Published Description** • If the RRAS server completes the processing successfully, it MUST return either ERROR SUCCESS, ERROR SUCCESS REBOOT REQUIRED<321>, or ERROR_RESTART_REQUIRED<322> based on the impact of the configuration change. Otherwise return the error status. In Section 3.4.4.5 RasRpcSubmitRequest (Opnum 12), changed instances of GetDevConfig to GetDevConfigStruct when describing client behavior for the RegType REQTYPE_GETDEVCONFIG. Changed from: REQTYPE GETDEVCONFIG Before calling the method, the client MUST set the GetDevConfig.size value to the size of the GetDevConfig.config buffer. If the returned GetDevConfig.retcode is set to ERROR BUFFER TOO SMALL (0x0000025B), the buffer that was passed in was not big enough to hold the device configuration information. The client SHOULD again call the API with GetDevConfig.size set to the size of returned GetDevConfig.size. Changed to: REQTYPE GETDEVCONFIG Before calling the method, the client MUST set the GetDevConfigStruct.size value to the size of the GetDevConfigStruct.config buffer. If the returned GetDevConfigStruct.retcode is set to ERROR_BUFFER_TOO_SMALL (0x0000025B), the buffer that was passed in was not big enough to hold the device configuration information. The client SHOULD again call the API with GetDevConfigStruct.size set to the size of returned GetDevConfigStruct.size. In Section 7, Appendix B: Product Behavior, changed the return value ERROR REBOOT REQUIRED to ERROR SUCCESS REBOOT REQUIRED in product behavior note <316> when the configuration change requires a reboot of the machine for the settings to be applied. Changed from: <316> Section 3.1.4.44: Windows will return the error value ERROR_REBOOT_REQUIRED when the configuration change requires a reboot of the machine for the settings to be applied. One such implementation requirement is when the number of ports configured is more than the maximum number of ports that the tunneling protocols are configured to support initially. Changed to: <316> Section 3.1.4.44: Windows will return the error value ERROR_SUCCESS_REBOOT_REQUIRED when the configuration change requires a reboot of the machine for the settings to be applied. One such implementation requirement is when the number of ports configured is more than the maximum number of ports that the tunneling protocols are configured to support initially.

In this document, numerous editorial fixes have also been made, e.g., changed instances of "Ipv6" and "Ipv6" to "IPV6"; changed instances of "GetDevConfig" to "GetDevConfigStruct";

Errata Published	
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	updated hexadecimal syntax to USHORT 16-bit format; and also added section numbers to programming elements where applicable.
	Sections updated:
	2.2.1.2.103
	2.2.1.2.104
	2.2.1.2.134 2.2.1.2.136
	2.2.1.2.156
	2.2.1.2.158
	2.2.2.2.79
	2.2.5.1.1
	3.1.4.30
	3.1.4.31
	3.1.4.33
	3.1.4.38
	3.1.4.44
	3.3.4.5
	7 - the following product behavior notes were upated:
	<266>
	<268>
	<272>
	<290>
	<293>
	<298>
	<305>
2019/10/28	In Section 2.2.1.2.37 MIB_IPMCAST_BOUNDARY, added names of dwStatus values in the table.
	Changed from:
	dwStatus: A status value that describes the current status of this entry in a mullticast forwarding entry (MFE) boundary table.
	Value Meaning
	0x00000001 The entry has an active status.
	0x00000002 The entry has a notInService status.
	0x00000003 The entry has a notReady status.
	0x00000004 The entry has a createAndGo status.
	0x00000005 The entry has a createAndWait status.
	0x0000006 The entry has a destroy status.
	Changed to:

Description		
dwStatus: A status value that describes the current status of this entry in a multicast forwarding entry (MFE) boundary table. Value Meaning		
ROWSTATUS_ACTIVE		
0x00000001 The entry has an active status.		
ROWSTATUS_NOTINSERVICE		
0x00000002 The entry has a notInService status.		
ROWSTATUS_NOTREADY		
0x00000003 The entry has a notReady status.		
ROWSTATUS_CREATEANDGO		
0x00000004 The entry has a createAndGo status.		
ROWSTATUS_CREATEANDWAIT		
0x00000005 The entry has a createAndWait status.		
ROWSTATUS_DESTROY 0x00000006 The entry has a destroy status.		
Section 2.2.1.2.105 IPX_MIB_INDEX, added missing value 3 in the table.		
Changed from: TableId: Specifies the type of table. Values MUST be one of the following values. Value Meaning		
IPX_BASE_ENTRY		
0x00000000 IPX base. See IPXMIB_BASE (section 2.2.1.2.107).		
IPX_INTERFACE_TABLE		
0x00000001 IPX interface table. See IPX_INTERFACE (section 2.2.1.2.109).		
IPX_DEST_TABLE		
0x00000002 IPX destination table. See IPX_ROUTE (section 2.2.1.2.110).		
IPX_SERV_TABLE		

Errata	
Published *	Description
	0x00000004 IPX service table. See IPX_SERVICE (section 2.2.1.2.121).
	IPX_STATIC_SERV_TABLE 0x00000005 IPX static service table. See IPX_STATIC_SERVICE_INFO (section 2.2.1.2.95).
	Changed to: TableId: Specifies the type of table. Values MUST be one of the following values.
	Value Meaning
	IPX_BASE_ENTRY
	0x00000000 IPX base. See IPXMIB_BASE (section 2.2.1.2.106).
	IPX_INTERFACE_TABLE
	0x00000001 IPX interface table. See IPX_INTERFACE (section 2.2.1.2.108).
	IPX_DEST_TABLE
	0x00000002 IPX destination table. See IPX_ROUTE (section 2.2.1.2.109).
	IPX_STATIC_ROUTE_TABLE
	0x00000003 IPX Static Route Table. See IPX_STATIC_ROUTE_INFO (section 2.2.1.2.93).
	IPX_SERV_TABLE
	0x00000004 IPX service table. See IPX_SERVICE (section 2.2.1.2.120).
	IPX_STATIC_SERV_TABLE
	0x00000005 IPX static service table. See IPX_STATIC_SERVICE_INFO (section 2.2.1.2.94).
	Section 2.2.1.2.177 IGMP_MIB_GROUP_INFO, updated names of values in the introduction: RAS_SERVER to IGMP_IF_RAS_SERVER, RAS_CLIENT to IGMP_IF_RAS_CLIENT, and IGMP_ENUM_FOR_RAS_CLIENTS_ID to IGMP_ENUM_FOR_RAS_CLIENTS.
	Changed from: The IGMP_MIB_GROUP_INFO structure is used in the IGMP_MIB_IF_GROUPS_LIST (section 2.2.1.2.176) structure. If the interface is of type RAS_SERVER then the group membership of all the RAS clients is summarized, and the GroupUpTime and GroupExpiryTime is the maximum over all member RAS clients, while the V1HostPresentTimeLeft is set to 0. If the interface is of type RAS_CLIENT, the IpAddr is the next hop IP address of the RAS client. The membership is summarized over the RAS clients unless the IGMP_ENUM_FOR_RAS_CLIENTS_ID flag is set in Flags.
	Changed to: The IGMP_MIB_GROUP_INFO structure is used in the IGMP_MIB_IF_GROUPS_LIST (section 2.2.1.2.175) structure. If the interface is of type IGMP_IF_RAS_SERVER then the group membership of all the RAS clients is summarized, and the GroupUpTime and GroupExpiryTime is the maximum over all member RAS clients, while the

Errata			
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	V1HostPresentTimeLeft is set to 0. If the interface is of type IGMP_IF_RAS_CLIENT, the IpAddr is the next hop IP address of the RAS client. The membership is summarized over the RAS clients unless the IGMP_ENUM_FOR_RAS_CLIENTS_ID flag is set in Flags.		
	Section 2.2.1.2.178 IGMP_MIB_IF_STATS, in the LastQuerierChangeTime description changed member name from igmpInterfaceQuerier to QuerierIpAddr.		
	Changed from:		
	LastQuerierChangeTime: The number of seconds since igmpInterfaceQuerier was last changed.		
	Changed to: LastQuerierChangeTime: The number of seconds since QuerierIpAddr was last changed.		
	Section 2.2.1.2.179 IGMP_MIB_GROUP_SOURCE_INFO_V3, added section. Adjusted references and reference numbers 2.2.1.2.180 to 2.2.1.2.271 throughout to compensate for section number changes.		
	Changed from:		
	(missing section)		
	Changed to:		
	The IGMP_MIB_GROUP_SOURCE_INFO_V3 structure provides information about each source IP endpoint.		
	typedef struct _IGMP_MIB_GROUP_SOURCE_INFO_V3 {		
	DWORD Source;		
	DWORD SourceExpiryTime;		
	DWORD SourceUpTime;		
	DWORD Flags;		
	} IGMP_MIB_GROUP_SOURCE_INFO_V3, *PIGMP_MIB_GROUP_SOURCE_INFO_V3;		
	Source: IP endpoint address of a source.		
	SourceExpiryTime: The time, in seconds, that remains before source expires. Not valid for exclusion mode.		
	SourceUpTime: The time, in seconds since the source was up. Flags: Reserved. This is unused and SHOULD be NULL, or MAY be set to 0x00000000.		
	Section 2.2.1.2.180 IGMP_MIB_GROUP_INFO_V3, for Sources array of IGMP_MIB_GROUP_SOURCE_INFO_V3 added reference to 2.2.1.2.179.		

Errata Published *	Description		
	Changed from:		
	NumSources: T	The number of entries of IGMP_MIB_GROUP_SOURCE_INFO_V3.	
	Sources: The IC	GMP_MIB_GROUP_SOURCE_INFO_V3 structure.	
	Changed to:		
	NumSources: The number of entries of IGMP_MIB_GROUP_SOURCE_INFO_V3. Sources: The IGMP_MIB_GROUP_SOURCE_INFO_V3 structure (section 2.2.1.2.179).		
		Full IDL, moved location of struct IGMP_MIB_GROUP_SOURCE_INFO_V3 to GMP_MIB_GROUP_INFO_V3.	
	Changed from:		
	typedef struct _	_IPRIP_PEER_STATS {	
	DWORD	PS_LastPeerRouteTag;	
	DWORD	PS_LastPeerUpdateTickCount;	
	DWORD	PS_LastPeerUpdateVersion;	
	DWORD	PS_BadResponsePacketsFromPeer;	
	DWORD	PS_BadResponseEntriesFromPeer;	
	} IPRIP_PEER_S	STATS, *PIPRIP_PEER_STATS;	
	typedef struct _	_IGMP_MIB_GROUP_SOURCE_INFO_V3 {	
	DWORD	Source;	
	DWORD	SourceExpiryTime; //not valid for exclusion mode	
	DWORD	SourceUpTime;	
	DWORD	Flags;	
	} IGMP_MIB_G	ROUP_SOURCE_INFO_V3, *PIGMP_MIB_GROUP_SOURCE_INFO_V3;	
	typedef struct _	_IGMP_MIB_GET_INPUT_DATA {	
	DWORD	TypeId;	

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            Description
              USHORT
                         Flags;
              USHORT
                         Signature;
              DWORD
                         IfIndex;
              DWORD
                         RasClientAddr;
              DWORD
                         GroupAddr;
              DWORD
                         Count;
            } IGMP_MIB_GET_INPUT_DATA, *PIGMP_MIB_GET_INPUT_DATA;
            Changed to:
            typedef struct _IGMP_MIB_GROUP_IFS_LIST {
              DWORD
                         GroupAddr;
              DWORD
                         NumInterfaces;
              BYTE
                       Buffer[1];
            } IGMP_MIB_GROUP_IFS_LIST, *PIGMP_MIB_GROUP_IFS_LIST;
            typedef struct _IGMP_MIB_GROUP_SOURCE_INFO_V3 {
              DWORD
                         Source;
              DWORD
                         SourceExpiryTime; //not valid for exclusion mode
              DWORD
                         SourceUpTime;
              DWORD
                         Flags;
            } IGMP_MIB_GROUP_SOURCE_INFO_V3, *PIGMP_MIB_GROUP_SOURCE_INFO_V3;
            typedef struct _IGMP_MIB_GROUP_INFO_V3
            {
              union {
                DWORD
                            IfIndex;
                 DWORD
                            GroupAddr;
```

Errata Published *	Description	
	};	
	DWORD	IpAddr;
	DWORD	GroupUpTime;
	DWORD	GroupExpiryTime;
	DWORD	LastReporter;
	DWORD	V1HostPresentTimeLeft;
	DWORD	Flags;
	//v3 additio	ons
	DWORD	Version; //1/2/3
	DWORD	Size; //size of this struct
	DWORD	FilterType;//EXCLUSION/INCLUSION
	DWORD	V2HostPresentTimeLeft;
	DWORD	NumSources;
	//IGMP_MI	B_GROUP_SOURCE_INFO_V3 Sources[0];
	} IGMP_MIB_0	GROUP_INFO_V3, *PIGMP_MIB_GROUP_INFO_V3;

^{*}Date format: YYYY/MM/DD