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Adding a System to My BRMS NetworkThis example shows how to establish a BRMS network between two IBM® i platforms, SYSTEM01 and SYSTEM02. To achieve the best performance, follow the steps in the order in which they appear, and complete each step before you move on to the next step. Be sure that you perform all of the steps when you set up your network. Complete all the steps on one system before adding additional systems to the BRMS network.Save library QUSRBRM on SYSTEM01. Save library QUSRBRM on SYSTEM02. Ensure that the communications link on SYSTEM01 for SYSTEM02 is active. (PING and DDM) Designate SYSTEM01 to be your initial system. Ensure that there is no BRMS activity on either system. On SYSTEM01, type WRKPCYBRM *SYS to get to the system policy menu. Then, take the following steps:Select option 4 (Change Network Group) and press Enter.Set the Communication method field to *RDB. If you want BRMS to use a different communication method, then change it to the appropriate value.To add SYSTEM02 to the master system to create the network, type SYSTEM02 in the Remote location field. Then, type the name of the remote network in the Remote Network ID column. Change Network Group SYSTEM01 APPN Network group . . . . : *MEDINV Position to . . . . : FlashCopy state . . . : *ENDPRC Communication method : *RDB *AVAIL, *IP, *SNA, *NONE, *RDB Notify period . . . . : 30 30-99999 seconds Type options, press Enter. 1=Add 4=Remove Remote Local Remote System Network Opt Location Name Network ID Status Status 1 SYSTEM02 APPN Offline Inactive More... F3=Exit F5=Refresh F11=BRMS Media Information F12=Cancel Press Enter. BRMS searches the network for the system name that you specified. Depending on the network configuration and the number of systems in the network, this can take a few minutes. When BRMS finds the system name (in this example, SYSTEM02), BRMS adds it to *MEDINV (the BRMS network group name). SYSTEM02 is still an inactive member of the network group and does not share its media inventory with other active systems in the network. To change the inactive status to active, media inventory must be copied to the system that is being added to the network group. The process to copy the media inventory and media history information occurs in Step 9. On SYSTEM02, use the CPYMEDIBRM OPTION(*TOFILE) (Copy Media Information to file) command to copy the contents of the media inventory file. You can copy the information to a temporary file (QA1AMED) or to a file name you create. BRMS creates this temporary file in your Current Library. Use the default value of *NO for the Copy media information parameter. Now activate SYSTEM01 in the BRMS network with SYSTEM02. Enter the following command from SYSTEM02:INZBRM OPTION(*NETSYS) FROMSYS(APPN.SYSTEM01)BRMS clears the media management files on the inactive system (SYSTEM02) during the copy process and replaces them with the network media management files. BRMS sends a message when it overwrites the SYSTEM02 files with files that come from SYSTEM01. Display Program Messages Job 047122/A960103D/QPADEV0001 started on 05/31/99 at 09:15:55 in subsystem: Entries exist for Media. (R I C) Entries exist for Media policy. (R I C) Entries exist for Media class. (R I C) Entries exist for Location. (R I C) Entries exist for Move policy. (R I C) Type reply, press Enter. Reply . . . _____ BRMS copies the following media management files to the inactive system:QA1ACN: Container status inventoryQA1ACT: Container classQA1ADXR: Media duplication referenceQA1AMM: Media inventoryQA1AMP: Move policiesQA1AME: Media policy attributesQA1AMT: Media class attributesQA1ASL: Storage locationsQA1ARMT: Network groupQA1A1MP: Move policy entriesQA1A1RMT: Remote system name entries After BRMS copies the network media inventory to the inactive system (SYSTEM02), the status of the inactive system changes to active. Then, its media inventory becomes part of the network media inventory. On SYSTEM02, select the option to ignore all of the messages by replying with an "I." These messages indicate that you are about to overwrite files on SYSTEM02. NOTES:After you add the new system to the network, the Network Status for SYSTEM01 shows active status indicating that it has been activated on the network, and the System Status for SYSTEM01 shows online status after a few minutes if SYSTEM02 and SYSTEM01 are communicating. Because this example uses only two systems, you can only see the status for the system you are currently adding, in this case SYSTEM01. This display does not show an entry for the system you are on. Change Network Group SYSTEM02 APPN Network group . . . . : *MEDINV Position to . . . . : FlashCopy state . . . : *ENDPRC Communication method : *RDB *AVAIL, *IP, *SNA, *NONE, *RDB Notify period . . . . : 30 30-99999 seconds Type options, press Enter. 1=Add 4=Remove Remote Local Remote System Network Opt Location Name Network ID Status Status SYSTEM01 APPN Online Active Bottom In addition, the process of connecting the two systems automatically starts a new subsystem that is called Q1ABRMNET. You can find a description of Q1ABRMNET in library QBRM. BRMS also adds an autostart job entry for this subsystem to the QSYSWRK library on both systems. When BRMS networking is working, these physical files are journaled to QUSRBRM/QJ1ACM *JRN. These files should never be journaled to any other library or journal.You need to ensure that the QBRMS and QUSER user profiles are not in a *DISABLED state. Communication entries in subsystem Q1ABRMNET use the QBRMS user profile, and if it is disabled, you cannot establish a DDM connection. Go to SYSTEM02. Now you can merge the media inventory data that BRMS saved prior to adding the system to the network under Step 9. Enter the following command on SYSTEM02: CPYMEDIBRM OPTION(*FROMFILE)IMPORTANT: You must perform this step if the old system contained BRMS media inventory. Enter the WRKMEDBRM command on SYSTEM02. There you can see the media inventory for SYSTEM01 and SYSTEM02. Enter the WRKMEDBRM command on SYSTEM01. There you can see the media inventory for SYSTEM02 and SYSTEM01. BRMS •BRMS offers a set of functions for defining and performing a few tasks. 1.Backup 2.Recovery 3.Archiving 4.Retrival 5.Media Management Lists of Commands •SAVSTG : The complete data would be saved sector by sector. It is the quietest form of saving data. •SAVSYS : This cmd saves the licensed internal code used by our AS400 system • •SAVLIB : It saves user libraries as well as default libraries given by IBM. •SAVSECDATA (Save security data) It saves the security information such user profiles and Authorization lists. •SAVCFG(Save configuration) This saves the information of configuration objects like lines, devices, controllers. • SAVDLO(Save document library object) This saves documents that are stored in folder. •SAVCHGOBJ(Save changed object) This saves only the objects which are recently changed by the user. 2.RECOVERY : It is used to recover the lost data by using back up data. 3.ARCHIVING : It is nothing but compressing the data or archiving the large amount of data to small amount. 4.RETRIVAL : It is used to retrieve required amount of data from server where as recovery is used to recover the whole data. 5.Media Management : To manage the media tapes or libraries using the command WRLMLBSTS,WRKLIB. Tape initialization •In order to perform a back up first we need to initialize the tape. •To initialize take ops 10 on main menu and then take ops 1.disply tape info •When you give ops 1 we can see the tape name and whether it is in mounted state or not. •If not in mounted state we need to initialize the tape by taking ops2.intialize the tape. •To go back previous screen take F3 and to main menu take F12. STEPS FOR BACK UP USING BRMS •To do back up we need to make the sub system in to restricted state. •Then we should connect to BRMS through console.(follow console steps) • Then give cmd GO BRMS and take ops 20. Now backup will start. •To check the tapes that are used by brms for back up give cmd WRKMEDBRM. •To check log of brms give cmd DSPLOGBRM. Thus we can perform backup of a system using BRMS BRMS is a backup and recovery software that is installed on most IBM i (AS/400) systems around the globe, but many administrators and operations staff are afraid to use it. Your IBM i backups are too important to be ignored, which is why we will be exploring the many features of BRMS to help you get started.Watch this webinar series from Sarah Jacob of Agile Technology and Fortra's Tom Huntington so that you can manage and prepare your company for any disaster by having sound reliable backups.Topics: Day 1: Beginner LevelVerifying BRMS is installed and initializedHow to get startedPoliciesControl groupsMedia management componentsHow to run a BRMS backup Day 2: AdvancedSetting up list of backupsHow to network BRMSUsing SQL to manage BRMSAnd more advanced feature demonstrationsThis session does not require any BRMS background, but it is a good to understand IBM i Save commands and the libraries and IFS that you might want to backup with BRMS. Let us help you get started with a solid back up plan. You cannot afford to take a risk with your backups! BRMS is a backup and recovery software that is installed on most IBM i (iSeries, AS/400) systems around the globe. Despite its prevalence, many administrators and operations staff are afraid to use it. But your IBM i backups are too important to be ignored and properly administered! Watch this webinar where BRMS experts from Fortra explore the many features of BRMS that can help you manage and prepare your company for any disaster by having sound, reliable backups. You'll learn important tips on how to get started with BRMS, including: How to tell if BRMS been initialized How to setup Policies How Control groups work Media management components How to run a BRMS backup How to monitor BRMS backup This session does not require any BRMS background, but it is a good to understand IBM i save commands, as well as the libraries and IFS that you might want to backup with BRMS. Let's get started with a solid backup plan! Watch now! This document lists the necessary steps to add a system to a BRMS network, remove a system from a BRMS network, or rename a BRMS system. Adding a System to a BRMS Network This example shows how to establish a BRMS network between two IBM System i systems, SYSTEM01 and SYSTEM02. For best results, follow the steps in the order in which they appear, and complete each step before moving on to the next. Ensure that all of the steps are completed when setting up your network. Do the following: 1. Save library QUSRBRM on all SYSTEM01. 2. Save library QUSRBRM on SYSTEM02. 3. Ensure that the communications link on SYSTEM01 for SYSTEM02 is active. 4. Perform the following: For TCP/IP - Use the WRKTCPSTS OPTION(*IFC) command to determine the status of the TCP/IP interfaces. For APPC - Use the WRKCFGSTS command to determine the status for line (*LIN), controller (*CTL), and device description (*DEV). 5. Designate SYSTEM01 to be your master system. Note: Once two or more systems are in a BRMS network, there is no longer the concept of a master system. The BRMS network is now a PEER network. 6. Ensure there is no BRMS activity on either system. 7. On SYSTEM01, run the WRKPCYBRM *SYS command to get to the system policy menu. Once there, do the following: a Select Option 4 (Change Network Group), and press the Enter key. b If you are using TCP/IP to communicate with other systems in the network change the Enable for TCP/IP field from *NO to *YES (R540 and below) or Communication method to *IP or *AVAIL (R610 and above). c To add SYSTEM02 to the master system to create the network, type SYSTEM02 in the Remote location field. Then, type the name of the remote network in the Remote Network ID column, and press the Enter key. BRMS searches the network for the specified system name. When BRMS finds the system name (in our example, SYSTEM02), BRMS adds it to *MEDINV (the BRMS network group name). SYSTEM02 is still an inactive member of the network group. 8. Note: Step 8 is not required if the system you want to add to the network does not contain media information (no BRMS activity has occurred on the system). On SYSTEM02, use the Work with Media (WRKMEDBRM) command to determine if any media information exists. If media information does not exist, go to Step 9. Because BRMS is fully operational, media information exists on SYSTEM02. To copy the media information from the SYSTEM02, run the following command, and press the Enter key: CPYMEDIBRM OPTION(*TOFILE) 9. Activate SYSTEM01 in the BRMS network with SYSTEM02. On SYSTEM02, run the following command: INZBRM OPTION(*NETSYS) FROMSYS(APPN.SYSTEM01) 10. Select an I for each of these messages received: Entries exist for Media. (R I C) Entries exist for Media policy. (R I C) Entries exist for Media class. (R I C) Entries exist for Location. (R I C) Entries exist for Move policy. (R I C) 11. If the CPYMEDIBRM OPTION(*TOFILE) was run in Step 8, run a CPYMEDIBRM OPTION(*FROMFILE) on SYSTEM02 now. 12. To add additional systems repeat Steps 2 through 11 for each additional system. Notes: 1. If adding multiple systems to a BRMS network, follow the above steps one time for each system, BRMS will propagate all information to other systems already in the BRMS network. 2. Add only one system at a time. Complete all steps before starting on the next system. 3. Once Step 11 is complete, there is no longer the concept of a master system. BRMS runs in a peer system environment indicating that movement and adding media can be run on any system. (refer to the BRMS manual SC41-5345 for more information on BRMS networking and how it works). Always run maintenance on each system. 4. If a system is already in a BRMS network, it must be removed from the existing BRMS network before it can be added to another BRMS network. (See section on removing a system from a BRMS network). 5. Ensure all required RDB directory entries exist and are correct: BRMS Networking: Relational Database Directory Entries 6. If using TCP/IP, refer to the BRMS website: TCPIP Networking 7. When using TCP/IP for BRMS networking, all systems in the BRMS network have to be able to PING all other systems by name (or BRMS name, if used). 8. When adding a system to a BRMS network, if the Receive Media Info parameter in the system policy is set to *LIB, it will be changed back to *NONE when the INZBRM *NETSYS is run. This is because BRMS gets the info from the system specified in the FROMSYS parameter and it would be set to *NONE. Because of this, saved history from the other system(s) is not copied over to the new system being added. Saved history from the other systems in the BRMS network will only be synched to the new system from the time it is added onwards once Receive Media Info changed to *LIB. To sync the saved history information, users can follow document Adding Saved History to a System That Has Just Been Added to a BRMS Network: Removing a System from a BRMS Network This example shows how to remove a system from a BRMS network. For this example, we have servers SYSTEM01, SYSTEM02, SYSTEM03, and SYSTEM04. In this example, SYSTEM03 is removed from the BRMS network. For best results, follow the steps in the order in which they appear, and complete each step before moving on to the next. Perform all of the steps when removing a system from the BRMS network. Note: It is recommended that only one system is removed at a time. Complete the following steps for one system before removing the next system. 1. Save QUSRBRM on SYSTEM03. 2. On SYSTEM03, run the WRKPCYBRM *SYS command to get to the system policy menu. Once there, do the following: a Select Option 4 (Change Network Group), and press the Enter key. b Type 4 next to all systems listed at the same time, and press the Enter key. c On the next screen , select *YES for Remove media information. Press the Enter key. 3. Depending on what you want to happen to the media owned by SYSTEM03, depends on which system you do this step on. A. For another system to take ownership of the media currently owned by SYSTEM03, do the following on that system: a Type the WRKPCYBRM *SYS command to get to the system policy. b Select Option 4 (Change Network Group), and press the Enter key. c Select Option 4 on SYSTEM03, and press the Enter key. d Change Remove Media information to *RENAME, and press the Enter key. B. If you do not want any system remaining in the BRMS network to take ownership of the media currently owned by SYSTEM03, do the following on any one of the other systems: a Type the WRKPCYBRM *SYS command to get to the system policy. b Select Option 4 (Change Network Group), and press the Enter key. c Select Option 4 on SYSTEM03, and press the Enter key. d Change Remove Media information to *YES, and press the Enter key. SYSTEM03 has now been removed from the BRMS network. Renaming a BRMS System or setting a BRMS name In order to define BRMS media ownership, you can use a BRMS user defined name or Network attributes - Network ID (NETID) and Default local location name (LCLLOCNAME). If you are changing the BRMS user defined name or the network attributes, this change will affect BRMS. 1. If a system is in a BRMS network, first follow the Steps to 1, 2 and 3 B) in the process on Removing a System from a BRMS Network 2. A. change the BRMS user defined name (if there is one). Procedure to Use a BRMS System Name is documented in Using a BRMS User-Defined System Name in a High Availability Environment B. if using Network attributes, run CHGNETA to make necessary changes to information. Note: If the local system name is changed during CHGNETA then an IPL is required to implement that change. It is preferred that IPL be performed before proceeding with the command below to rename the media. 3. A. INZBRM OPTION(*CHGSYSNAM) PRVSYSNAM(oldBRMSname) NEWSYSNAM(newBRMSname) B. INZBRM OPTION(*CHGSYSNAM) PRVSYSNAM(NETID.OLSSYSNAME) NEWSYSNAM(*LCL) 4. If the system was in a BRMS network, add it back following the process in Adding a System to a BRMS Network Note: If the network attributes have already being changed while the system was in an active BRMS network, the following additional steps must be taken: 1. Type WRKPCYBRM *SYS to get to the system policy. 2. Select Option 4 (Change Network Group), and press the Enter key. 3. Select Option 4 on OLDSYSNAME, and press the Enter key. Important Note: Do this on only one system at this time. 4. Change Remove Media information to *RENAME, and press the Enter key. 5. Follow the section above - Removing a System from a BRMS Network 6. Follow the section above - Adding a System to a BRMS Network if wanting to have the system in a BRMS network Note: When you remove a system from the network, and you want to keep the active volumes created on that system you need to make sure that the media information present on the removed system is moved to target system as well. These are some options: 1) If system had Receive media info set to *LIB, they should remove it using *RENAME option 2) If system had Receive media info set to *NONE they can use these steps: A. On the source system, save QUSRBRM/QA1AHS file. B. On the target system, restore QUSRBRM/QA1AHS saved in Step A to a different library. C. On the target system, run the following commands INZBRM OPTION(*MERGE) FROMLIB(OLDLIB) TOLIB(QUSRBRM) MERGE(*HST) where OLDLIB is the library where QUSRBRM/QA1AHS was restored to in Step B. D. On the target system, rename media information just restored INZBRM OPTION(*CHGSYSNAM) PRVSYSNAM(old_LCLNETID.old_LCLLOCNAME) NEWSYSNAM(*LCL) Additional information about BRMS network can be found on the BRMS wiki Network Setup - IBM Partnership - Confluence BRMS Networking Videos We have created two videos that show how to prepare partitions for BRMS Networking and add them to a BRMS network. Part 1: System Preparation Part 2: Adding Partitions [{"Type":"MASTER","Line of Business":{"code":"LOB68","label":"Power HW"},"Business Unit":{"code":"BU070","label":"IBM Infrastructure"},"Product":{"code":"SWG60","label":"IBM i"},"ARM Category":[{"code":"a8m0z0000000CKTAA2","label":"Backup Recovery Install Migration-\u003EBRMS"}],"ARM Case Number":"","Platform":[{"code":"PF012","label":"IBM i"}],"Version":"All Versions"}] Backup, Recovery & Media Services for i is the IBM strategic solution for planning and managing the backup of your i server. For the full BRMS wiki, go here - BRMS provides the i Server with support for policy-oriented setup and execution of backup, recovery, archive, and other removable-media-related operations. BRMS uses a consistent set of intuitive concepts and operations that can be used to develop and implement a backup strategy tailored to your business requirements. BRMS facilitates centralized management of media by maintaining a consistent view of removable tape media, its contents, location, and availability across multiple i servers or partitions referred to as networked systems. This common media scratch pool contains shared tape volumes that are eligible for use by any participating networked system. When a networked system uses one of the shared volumes, that usage is broadcast to all networked systems so that each system has a current view of the active and expired media. For the full BRMS wiki, go here BRMS provides the following functions in the base product: Backup Backup planning interfaces Online backup of Lotus server and journaled objects Automated backup capabilities Media library support for both IBM and third-party media libraries Parallel save capabilities Unattended restricted state backup Maintain complete backup history Recovery System disaster recovery report Automated point-in-time recovery for Lotus server and journaled objects Individual object recovery Automated recovery capabilities Media Management Media reporting, tracking, and selection Manage media movement Protect and secure media Duplicate media Reclaim fragmented media In addition, there are two optional features that you can add to the base product to provide greater functional capability. BRMS Network Feature With the BRMS Network Feature, a BRMS system is connected to other BRMS systems in the network that uses native TCP/IP or APPN. A BRMS network system provides: Centralized media management The ability to restore data from another system The BRMS Advanced feature enables Hierarchical Storage Manager (HSM) archive with HSM dynamic retrieval and automated auxiliary storage pool (ASP) data migration. Some of the functions provided by HSM are: Automatic, transparent management of data across a storage hierarchy Migration of user libraries, folders, and spooled files between ASPs Archive (with storage free option) Dynamic retrieval Automatic movement of data, based on system policies In addition, the BRMS Advanced feature is required to use the following functions in BRMS: Media library management BRMS system defined name Tape media library status tool Software encryption High availability for I-ASPd in a BRMS network The software license agreements for IBM products are published here, where you can search for the product ID, Example 5770BR1 To help find BRMS (5770-BR1), here's the link for 7.4, 7.3 and 7.2. There are two licenses for each release: Option 1 has a separate license since it has a flat charge, and the rest is under a license for price based on processor group of machine. The "License information" and base license are both part of the terms. License Information Documents BRMS provides true online backup support for Lotus Servers such as Domino and Quickplace. These servers can be saved while they are in use with no save while active synchronization points. System recovery reports BRMS recovery provides for the orderly retrieval of lost or damaged data by providing comprehensive reports that take you step-by-step through the recovery of your entire system. Media management BRMS media management tracks all of your tapes and save files. Your media is tracked from tape creation to expiration. Virtual tape libraries IBM has also qualified DSI VTLs to work BRMS. TCP/IP Networking You can now use native TCP/IP for the BRMS Networking Feature. Supported Tape Drives BRMS officially supports and tests ONLY IBM Tape Media Libraries, IBM tape drives , IBM Virtual Tape Libraries (VTL), IBM optical drives, DSI VTLs . No testing occurs with any OEM Tape Media Libraries or OEM Virtual Tape Libraries (except DSI) or OEM tape and optical drives. IBM i and BRMS does NO testing and has no official support for ANY OEM tape devices. The only tape devices tested and officially supported are the ones that IBM sells and are listed as supported. Any claims of an OEM device being supported on IBM i and BRMS are exclusively those of the OEM vendor. The IBM i Removable Media and BRMS teams do not develop code to specifically support a particular OEM device nor do we put code in to try to block any OEM device. It is the sole responsibility of the OEM vendor to properly emulate the drive their inquiry data says they are emulating and to test that the drive really does work when connected to IBM i using BRMS. BRMS does have code to use some OEM tape media libraries that are not able to emulate IBM tape media libraries. This code allows the use of the stand-alone drives in the tape media library. However, it is still the responsibility of the OEM vendor to insure that their solution works with BRMS. Support for parallel saves Reduce your backup window by taking advantage of the parallel save (and restore) support in BRMS. For the full BRMS wiki, go here [{"Type":"MASTER","Line of Business":{"code":"LOB57","label":"Power"},"Business Unit":{"code":"BU058","label":"IBM Infrastructure w\/TPS"},"Product":{"code":"SSB2ES","label":"Backup Recovery and Media Services for IBM i"},"ARM Category":[{"code":"a8m0z0000000CKTAA2","label":"Backup Recovery Install Migration-\u003EBRMS"}],"Platform":[{"code":"PF012","label":"IBM i"}],"Version":"7.1.0;7.2.0;7.3.0;7.4.0;7.5.0"}]