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Managing Application Backup and Recovery without using ABARS

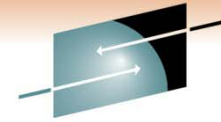
Ron Ratcliffe

Rocket Mainstar

Ron.Ratcliffe@RocketSoftware.com

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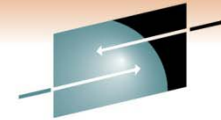
Agenda

- Application Attributes
- Critical Dataset Determination
- Backup Job Tracking
- Application Backup Validation
- Recovery Options
- Critical Dataset Determination Scenario
- Backup Job Tracking Scenario
- Application Backup Validation Scenario
- Recovery Scenarios
- Summary



Application Attributes

- Application Production Jobs
 - Submitted by application scheduler product
 - Adhoc or periodic
 - On demand
 - Weekly, monthly, quarterly, etc.
 - Multiple cycles
 - Daily, weekly, monthly, etc.
 - Maintained by development and scheduling staffs
 - Jobs added/deleted/modified based on application requirements



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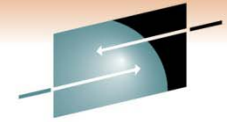
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Application Attributes

- Application Backup Jobs or Steps
 - Submitted by application scheduler product
 - At specific processing points in application cycle
 - At application cycle end point
 - Adhoc or periodic
 - On demand
 - Weekly, monthly, quarterly, etc.
 - Maintained by development and scheduling staffs
 - Jobs/steps added/deleted/modified based on application requirements
 - Various backup utilities used
 - DFSMSdss, FDR, IDCAMS, IEBCOPY, IEBGENER, SORT, etc.
 - Multiple copies often created
 - Local, off site, stacked tape, duplexed, etc.

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Critical Dataset Determination

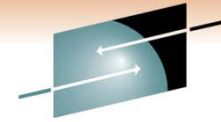
- Datasets Required for Application Execution
 - Rerun last cycle or run next cycle
 - Referenced by application jobs
 - Regular application execution cycle
 - Adhoc
 - Periodic
 - Not always referenced by application jobs
 - Tools
- Automation and Filtering
 - Automatically discover datasets used by application jobs
 - Discard/add specific datasets
 - Create critical dataset list

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Backup Job Tracking

- Application Dataset Backups
 - Steps within scheduled application processing jobs
 - Jobs within scheduled application processing
 - Application post-cycle end backup jobs
 - Other general backups
- Tracking Automation
 - Monitor backup jobs and steps
 - Record backup information in inventory
 - Backup inventory reporting



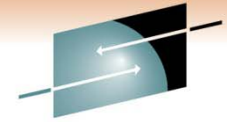
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Application Backup Validation

- Verify Application Critical Datasets Have Backups
 - Ensure recoverability
 - Prove compliance
 - Support audits
- Compare Critical Dataset List to Backup Inventory
 - Cycle end critical dataset list
 - Tracked backups
 - Identify datasets without backups
 - Identify specific cycle end point backups for recovery

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Recovery Options

- Selective Dataset Restore
 - Choose most appropriate backup from inventory
 - Automatically generate restore jobs
 - Local or remote site
- Complete Application Restore
 - Choose most appropriate cycle point
 - Current, -1, etc.
 - Automatically generate restore jobs
 - Local or remote site

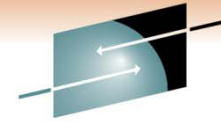


Critical Dataset Determination Scenario

- Define Application
 - Application name
 - Number of cycle point backups to retain
 - Support for application rerun cycle or run next cycle
 - Critical dataset list name and format
 - DFDSS, FDR, ABARS, CA-Disk, etc.
 - Application job names
 - List and/or masks
 - Extract from scheduler product database
 - Dataset name filters
 - Include and/or exclude
 - *Based on SYSID, DSN, VOL, JOB OR UNIT*

Backup and Recovery Manager (BRM)

- Automated Selection and Audit Process (ASAP) Function
 - Application registration
 - Application job tracking
 - Application critical dataset name discovery
 - Critical dataset backup control card creation



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Use ASAP to Define Application MYAPPL

S1 - TST - TST - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: TST Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences Utilities Amin

Backup & Recovery Manager V6.2
Main Menu

Command ==> 3

Enter an option from the list below:

- 1 Setup and Configuration
- 2 Backup and Recovery Management
- 4 Automatic selection and Audit Processing (ASAP)
- Features
- 0 Miscellaneous Functions
- 1 Search for Dataset
- 2 Reports
- 3 Monitor
- 4 History
- X Exit

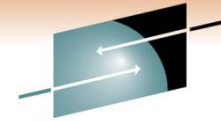
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**Trademark of Mainstar Software Corporation

*BRMMAIN

S1 Ready (1) 192.168.55.74 SC0TCP06 12:50:41 2/2/2011 NUM 03:08:50 05.015

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Define Application MYAPPL

S1 - TST - TST - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: TST

Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences

```
Backup & Recovery Manager
SELECT Current/NEW Application Name

Command ==>

SPECIFY Application Name Selection:

Use Current/OLD Application Name:          <=
-OR- specify NEW Application Name: MYAPPL <=
-OR- Select From Application List: N ( Y=List )

supply input; Use ENTER To Continue
Use PF1 For HELP ; Use PF3 To Terminate
```

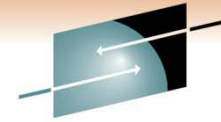
st
New or select
Records
bal Filters

*BRMSLAP

S1	Ready (1)	192.168.55.74	SC0TCP06	12:55:13 2/2/2011	NUM	03:13:22	12.050
----	-----------	---------------	----------	-------------------	-----	----------	--------

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Define MYAPPL Attributes

```
S1 - TST - TST - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: TST
Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

      --- Application Autobuild options ---
option ==> 0

                                     Application ==> MYAPPL

-- PRIMARY COLLECTION SEQUENCE (PCS) ----
0 - SETUP                               : Setup Application Options.
1 - JOB COLLECT                          : Collect Application Job Structure.
4 - BACKUP JOB LIST                       : Create/Edit List of Backup Jobs.
4 - FILTERS                               : Application Filters.
4 - CYCLE CONTROL                         : Application Notification function.

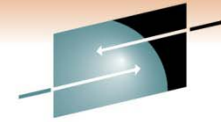
-- APPLICATION POST-PROCESSING OPTIONS ----
5 - VERIFICATION                         : Determine Final SEL Dataset Entries.
6 - STATUS                               : Display current Application's Status.

*BRMAPPL

S1 | Ready (1) | 192.168.55.74 | SC0TCP06 | 12:56:45 2/2/2011 | NUM | 03:14:54 | 03.016
```

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Define MYAPPL Attributes

```

S1 - TST - TST - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: TST
Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

                SETUP OPTIONS

Command ==>

                APPLICATION ==> MYAPPL
                More:      +
                ON 02/02/2011  <=
                <= ( ABARS Usage )

                --- Backup End options ---
                Backup End Required: N

                Backup Cycles to Retain: 001
                Application Only Backup:
                Include ISM Backups: ZZZZZZ
                Include Physical Backups:
                Exclude Accompany:
                Exclude Allocate: ZZZZZZ
                Bad Backup RCD:
                No Backup RCD:
                Check changed since Last Bkup: Y
                Changed since Last Backup RCD: 8

                --- Collection options ---
                COLLECT DATA VIA SMF OR JCL: M

                CYCLE CONTROL: A

                --- RSP options ---
                Next RSP cycle number: 000000001
                Number of RSP cycles to retain: 0001
                AUTOMATICALLY DELETE OLD CYCLES: Y

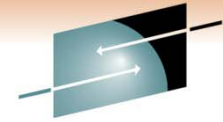
                --- JCL options ---
                Next JCL cycle number: 000000001

                *BRMSETU

                <= ( M = Minimum )
                <= ( A = Future Release )
                <= ( Z = NO )
                <= ( A = APPLEND )
                <= ( J = JOB )
                <= ( Y/N )
  
```

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Define MYAPPL Attributes

```

S1 - DVLP - DVLP - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: DVLP
Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

                                SETUP OPTIONS

Command ==> █

                                APPLICATION ==> MYAPPL

Use PF3/Save To save and End, or Cancel to Return without saving
                                More:      - +

Number of JCL cycles to retain: 0001
AUTOMATICALLY DELETE OLD CYCLES: Y      <= ( Y/N )

--- Batch SMF scan Options ---
Next SMF cycle number: 000000001
Number of SMF cycles to retain: 0001
AUTOMATICALLY DELETE OLD CYCLES: Y      <= ( Y/N )

--- Current VERIFICATION Options ---
APPLY FILTERING DURING VERIFICATION: Y
RE-EVALUATE DATASET ENTRIES: Y
USER TAPE DATASETS AS ACCOMPANY: N
CATEGORY IF 1ST REF. DELETE: E
CATEGORY IF 1ST REF. RENAME OLD DSN: E
CATEGORY IF 1ST REF. RENAME NEW DSN: E
USE SMF DATA IN SELECTION DATASET: Y
USE JCL DATA IN SELECTION DATASET: Y
SELECTION DSN Format: DSS

RSP cycles to include in sel. DS: 0001
EVALUATE ALL DATASETS AS CRITICAL: Y
DETAILED COMMENTS IN SEL. DATASET: Y

----- VERIFICATION GDG Options -----
GDS NAMES IN SELECTION DATASET: B

EVALUATE GDG ENTRIES FROM JCL DATA: Y
EVALUATE GDG ENTRIES FROM SMF DATA: Y
EXPAND BASE ONLY REFERENCES: M
ADD ENTRIES FOR MISSING GDSES: M

For forward recovery ONLY

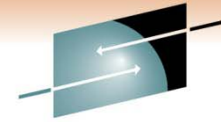
                                <= ( R = Relative
                                A = Absolute
                                B = Both )

                                <= ( Y = Yes
                                N = No
                                Z = In for rerun
                                M = Forward recovery
                                A = All cataloged )

```

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Define MYAPPL Attributes

```
S1 - TST - TST - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: TST
Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

                SETUP OPTIONS

Command ==>

                APPLICATION ==> MYAPPL
                More:      -

Use PF3/Save to save and End, or Cancel to Return without saving
USE JCL DATA IN SELECTION DATASET: Y          <== ( YES/NO )
                SELECTION Dsn Format: DSS      <== ( ABARS, DSS )
                <== ( LIST, DMS )
                <== ( FDR, DSSL )

RSP cycles to include in sel. DS: 0001
EVALUATE ALL DATASETS AS CRITICAL: ZZ        <== ( Y/N )
DETAILED COMMENTS IN SEL. DATASET: Z        <== ( Y/N )

----- VERIFICATION GDG options -----
GDS NAMES IN SELECTION DATASET: B          <== ( R = Relative
                <== ( A = Absolute
                <== ( B = Both )
                <== ( Y/ZZ )
                <== ( Y/ZZZ )
                <== ( Y/ZZZZ )
                <== ( Z = No
                <== ( M = Min for rerun
                <== ( F = Forward recovery
                <== ( A = All cataloged )

For forward recovery ONLY
Category for new GDS if new GDS
IS ONLY REFERENCE TO GDG: I              <== ( I = Include
                <== ( E = Exclude
                <== ( A = Allocate )

ABARS CATEGORY FOR MISSING GDSES: I        <== ( I = Include
                <== ( A = Allocate )
ABARS CATEGORY FOR NEW GENERATIONS: E      <== ( I = Include
                <== ( E = Exclude
                <== ( A = Allocate )

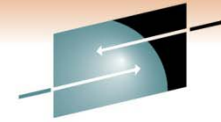
                --- SELECTION DATASETS ---
VERIFY ==> RR02.MYAPPL.SELECT
RSP/BATCH ==> RR02.MYAPPL.SELECT

*BRMSETU

S1 | Ready (1) | 192.168.55.74 | SC0TCP06 | 12:59:47 2/2/2011 | NUM | 03:17:56 | 03.014
```

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Define MYAPPL Application Job Names

```
S1 - TST - TST - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: TST
Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

      --- Application Autobuild options ---
option ==> 1

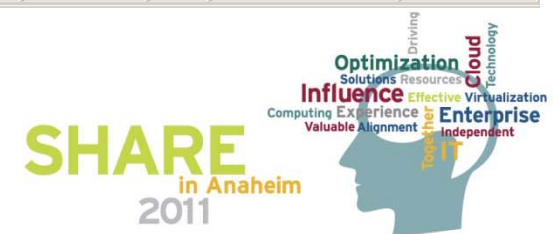
                                     Application ==> MYAPPL

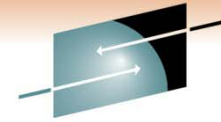
-- PRIMARY COLLECTION SEQUENCE (PCS) ----
0 - SETUP                               : Setup Application Options.
1 - JOB COLLECT                          : Collect Application Job Structure.
4 - BACKUP JOB LIST                       : Create/Edit List of Backup Jobs.
4 - FILTERS                               : Application Filters.
4 - CYCLE CONTROL                         : Application Notification function.

-- APPLICATION POST-PROCESSING OPTIONS ----
5 - VERIFICATION                         : Determine Final SEL Dataset Entries.
6 - STATUS                               : Display current Application's Status.

*BRMAPPL

S1 | Ready (1) | 192.168.55.74 | SC0TCP06 | 13:22:47 2/2/2011 | NUM | 03:40:56 | 03.016
```





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Obtain MYAPPL Job Names from CA7

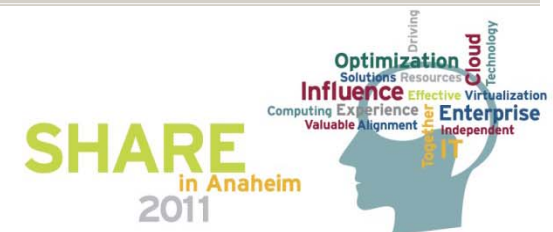
```
S1 - TST - TST - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: TST
Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

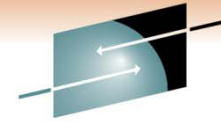
COMMAND ==>      APPLICATION JOB COLLECTION OPTIONS      APPLICATION NAME ==> MYAPPL
1

T - CAZ
N - CONTROL-M
N - JES
N - JOBTRAC
N - TWS (COPC)
N - ZEKI (MVS)
N - JES
N - ISPF EDIT MODE
N - JOB PRE-STAGED DATA SET (BATCH MODE)
N - USER SUPPLIED DATA SET

*BRMJBCO

S1 | Ready (1) | 192.168.55.74 | SC0TCP06 | 13:09:18 2/2/2011 | NUM | 03:27:27 | 02.016
```





Define MYAPPL CA7 Anchor Job Names

```
S1 - TST - TST - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: TST Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

COMMAND ==> 1 APPLICATION JOB COLLECTION OPTIONS APPLICATION NAME ==> MYAPPL

Supply Application CA7 Information

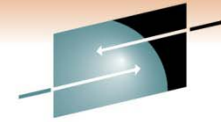
Command ==>
SPECIFY CA7 job structure information:
Current Application Name ==> MYAPPL ==
Current (Default) SCHID ==> U ==
CA7 User ID Name ==> UCC07JOBS ==
CA7 Password ==> UCC07JOB ==

Supply ANCHOR job Names below:
==> MYAPPLJ1 ==> MYAPPLJ9 ==
==> ==> ==>
==> ==> ==>
==> ==> ==>
==> ==> ==>

Supply Input; Use ENTER To Continue
Use PF1 For HELP ; Use PF3 To Terminate

*BRMNAOM

S1 Ready (1) 192.168.55.74 SC0TCP06 13:10:50 2/2/2011 NUM 03:28:59 16.048
```

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Define Application Filters for MYAPPL

```
S1 - TST - TST - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: TST
Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

      --- Application Autobuild options ---
option ==> 3
                                         Application ==> MYAPPL

-- PRIMARY COLLECTION SEQUENCE (PCS) ----
0 - SETUP                : Setup Application Options.
1 - JOB COLLECT          : Collect Application Job Structure.
4 - BACKUP JOB LIST      : Create/Edit List of Backup Jobs.
4 - FILTERS              : Application Filters.
4 - CYCLE CONTROL        : Application Notification function.

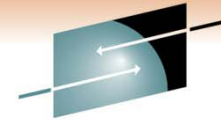
-- APPLICATION POST-PROCESSING OPTIONS ----
5 - VERIFICATION        : Determine Final SEL Dataset Entries.
6 - STATUS              : Display current Application's Status.

*BRMAPPL

S1 | Ready (1) | 192.168.55.74 | SC0TCP06 | 13:18:42 2/2/2011 | NUM | 03:36:51 | 03.016
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Define Filters for MYAPPL

```
S1 - TST - TST - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: TST
Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

--- Application Autobuild options ---
option ==> 3
APPLICATION FILTER EDIT/BROWSE

Command ==>
Application: MYAPPL
Supply input; use ENTER to change entries.
Use PF1 for HELP; Use PF3 to Return.

MODIFY JOB COLLECTION FILTERS/CONTROLS ==> N (Y/N)
APPLICATION EVALUATION FILTERS(S) ==> E (E)DIT/(B)ROWSE/(O)VERVIEW
APPLICATION RETENTION FILTERS(S) ==> (E)DIT/(B)ROWSE/(O)VERVIEW

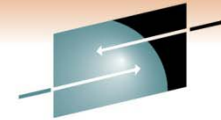
Current Filter status:
GLOBAL DSN RETENTIONS? ==> ZZ GLOBAL DSN EVALUATIONS? ==> ZZ
GLOBAL VOL RETENTIONS? ==> ZZ GLOBAL VOL EVALUATIONS? ==> ZZ
GLOBAL UNIT RETENTIONS? ==> ZZ GLOBAL UNIT EVALUATIONS? ==> ZZ
GLOBAL SYSID RETENTIONS? ==> ZZ GLOBAL SYSID EVALUATIONS? ==> ZZ
GLOBAL JOB RETENTIONS? ==> ZZ GLOBAL JOB EVALUATIONS? ==> ZZ
GLOBAL DSORG EVALUATIONS? ==> ZZ

*BRMAFIL

S1 | Ready (1) | 192.168.55.74 | SC0TCP06 | 13:41:35 2/2/2011 | NUM | 03:59:44 | 14.048
```

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INCLUDE/EXCLUDE Filters for MYAPPL

```

S1 - TST - TST - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: TST Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

File Edit Edit_settings Menu utilities compilers test Help
EDIT Command ==> SYS11035.T120751.RA000.RR02.R0313565 Columns 0001 0072
***** ==> Scroll ==> CSR
***** Top of Data *****
ENTER KEYWORDS AND VALUES, FIRST MATCH TAKES PRECEDENCE
EVAL_DSN(VOL|SYSID|UNIT|JOB(DISCRETE NAME OR MASK)
FORCES EVALUATION IF OTHERWISE WOULD HAVE BEEN EXCLUDED
EXCL_DSN(VOL|SYSID|UNIT|JOB(DISCRETE NAME OR MASK)
FORCES EXCLUSION OF DATASET FROM ANY SDS CATEGORY
EXCL_BUT CRITICAL(DISCRETE DSN OR MASK)
FORCES EXCLUSION OF DATASET BUT HAS A SPECIAL STATUS
INCL_DSN(VOL|SYSID|UNIT|JOB(DISCRETE NAME OR MASK)
FORCES COPY TO ABARS INCLUDE
ALLOC_DSN(VOL|SYSID|UNIT|JOB(DISCRETE NAME OR MASK)
FORCES CATEGORY TO ABARS ALLOCATE
ACCOMP_DSN(VOL|SYSID|UNIT|JOB(DISCRETE NAME OR MASK)
FORCES CATEGORY TO ABARS ACCOMPANY
GLOBAL_SYSHD
GLOBAL_DSN
GLOBAL_VOL
GLOBAL_UNIT
GLOBAL_JOB
GLOBAL KEYWORDS SPECIFY GLOBALS WILL BE PROCESSED AND
ORDER OF PRECEDENCE RELATIVE TO OTHER KEYWORDS
FOLLOWING KEYWORDS ALWAYS PROCESSED FIRST
INCL_EXTDSN(DISCRETE NAME OR MASK)
INCLUDE A DSN NOT NECESSARILY FOUND IN APPLICATION
ALLOC_EXTDSN(DISCRETE NAME OR MASK)
ALLOCATE A DSN NOT NECESSARILY FOUND IN APPLICATION
ACCOMP_EXTDSN(DISCRETE NAME OR MASK)
ACCOMPANY A DSN NOT NECESSARILY FOUND IN APPLICATION
INCL_EXTDSN(MYAPPL.TOOLKIT)
EXCL_DSN(SYS1.***)
EXCL_VOL(MIGRAT)
EXCL_UNIT(TAPE)
***** Bottom of Data *****

*ISREDEDE

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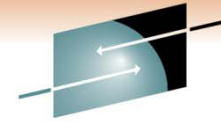


Critical Dataset Determination Scenario

- Monitor Application Jobs
 - Real-time as application jobs execute throughout cycle
 - Started task inspects JCL when jobs initiated
 - Started task inspects SMF OPEN records as they occur
 - Referenced dataset information written to database
 - As application jobs execute throughout cycle
 - Critical dataset list created at application end point
 - End of current cycle and start of next cycle
 - Batch job added to application schedule
 - List can be passed to a data mover utility to perform backup

Backup and Recovery Manager (BRM)

- Automated Selection and Audit Process (ASAP) Function
 - Application registration
 - Application job tracking
 - Application critical dataset name discovery
 - Critical dataset backup control card creation



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Application End Job for MYAPPL

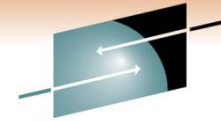
```
S1 - TST - TST - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: TST Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

--- Application Autobuild options ---
' File ' Edit ' Edit_settings ' Menu ' utilities ' Compilers ' Test ' Help '
EDIT Command ==> RR02.$DEMO.BRMV62.CNTL(BRMAPLEN) - 01.14 Columns 00001 00072
***** SUB ***** Scroll ==> CSR
***** Top of Data *****
0000001 //APPLEND JOB (ACCT),'BRM V6.2 DEMO',CLASS=A,MSGCLASS=X,
0000002 // NOTIFY=&SYSUID,REGION=8M
0000003 //PROCLIB JCLLIB ORDER=BRM0602X.QABETA.JCL
0000004 //
0000005 // APPLICATION END JOB TO BE RUN AFTER LAST APPLICATION JOB
0000006 // - CLOSSES OUT CURRENT CYCLE AND STARTS NEXT CYCLE
0000007 // - BUILDS CRITICAL DATASET NAME LIST
0000008 //
0000009 //APPLEND EXEC BRMAPLEP,APPL=MYAPPL
***** Bottom of Data *****

-BRMAPPL *DSLIST

S1 | Ready (1) | 192.168.55.74 | SC0TCP50 | 12:38:09 2/4/2011 | NUM | 05:24:45 | 07.018
```





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Critical Dataset List for MYAPPL

```

S1 - DVLP - DVLP - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: DVLP Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Utilities Compilers Help
BROWSE      RR02.MYAPPL.SELECT                               Line 0000000 Col 001 080
Command ==> [ ]                                         Scroll ==> CSR
***** Top of Data *****
/*
/*          LAST UPDATE: ***** 02/04/2011 13:01:08
/*          SELECTION DATASET UPDATE:
/*          COPYRIGHT 1997-2007 MAINSTAR SOFTWARE CORPORATION
/*
/*  APPL NAME: MYAPPL
/*  DESC: APPLICATION CREATED BY: RR02      ON 02/02/2011
/*
/*          DSN FORMAT: DSS
/*          SYSID: *****
/*          EXEC MODE: AUTO SELECT UPDATE (ASU)
/*  RE-EVALUATE DATASET ENTRIES: YES
/*  DATASETS EVALUATED FROM: SMF AND JCL
/*  TAPE DATASET AS ACCOMPANY: NO
/*  USE SIZE FOR INC/ACC TAPES: NO
/*          CTLG CHK: ENABLED
/*          PROCESS FILTERS: YES
/*          NAME TYPE FOR GDSEs: REL AND ABS
/*          GDSEs EVALUATED FROM: SMF AND JCL
/*  EXPAND BASE GDG REFERENCES: NO
/*          ADD MISSING GDSEs: MINIMUM FOR RERUN
/*  CATEGORY FOR MISSING GDSEs: INCLUDE
/*  CATEGORY FOR NEW GDSEs: EXCLUDE
/*
/*          DUMP DATASET(INCLUDE( -
RR02.BRM.APPLJ1.DC.G0005V00          /* DASD (TS0003) */ -
RR02.BRM.APPLJ1.DC(0)                /* DASD (TS0003) */ -
RR02.BRM.APPLJ2.LISTC.G0005V00       /* DASD (TS0002) */ -
RR02.BRM.APPLJ2.LISTC(0)             /* DASD (TS0002) */ -
RR02.BRM.APPLJ3.DC.SORTED.G0005V00  /* DASD (TS0004) */ -
RR02.BRM.APPLJ3.DC.SORTED(0)        /* DASD (TS0004) */ -
RR02.BRM.APPLJ4.AUTODUMP.G0005V00   /* DASD (TS0003) */ -
RR02.BRM.APPLJ4.AUTODUMP(0)         /* DASD (TS0003) */ -
/*          )
/*          OUTDD(TAPE) TOL(ENQF)
/*
/*          UNCATALOGUED DATASET ENTRIES EXCLUDED:
/*
/*
S1 | Ready (1) | 192.168.55.72 | SC0TCP09 | 13:02:37 2/4/2011 | NUM | 00:19:17 | 04.015

```

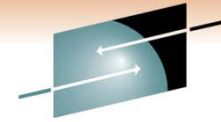


Backup Job Tracking Scenario

- Register Backup Jobs
 - Specific job names and/or masks
 - Specific JCL step names and/or masks
 - Specific utility program names
 - ADRDSSU, CAT00010, FDR, ICETOOL, IDCAMS, etc.
- Monitor Backup Jobs
 - Real-time as jobs execute
 - Started task inspects JCL when backup step completes
 - Started task inspects results when backup step completes
 - Dataset backup information written to inventory

Backup and Recovery Manager (BRM)

- All/Star Functions
 - Backup job tracking
 - Dataset backup inventory management and reporting
 - Critical dataset backup validation
 - Automated selective dataset restore
 - Automated application cycle point restore



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Register Backup Jobs

S1 - DVLP - DVLP - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: DVLP

Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences Utilities Admin

Backup & Recovery Manager V6.2
Main Menu

Command ==> 1

Enter an option from the list below:

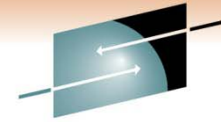
- 1- Setup and Configuration
- 2- Backup and Recovery Management
- 4- Automatic selection and Audit Processing (ASAP) Features
- M- Miscellaneous Functions
 - 5- Search for Dataset
 - 0- Reports
 - 0- Monitor
 - 0- History
- X- Exit

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**Trademark of Mainstar Software Corporation

S1 | Ready (1) | 192.168.55.72 | SC0TCP09 | 13:07:22 2/4/2011 | NUM | 00:24:03 | 05.015

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Register Backup Jobs to be Tracked

```
S1 - DVLP - DVLP - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: DVLP
Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

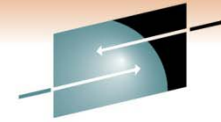
Menu Diagnostics Preferences

Command ==> 3 setup and configuration

Enter an option from the list below:
ABARS Manager
1 Aggregate Management with SMS Interface
2 Group Filter Management
A11/star
3 Browse/Edit Backup Tracking INCLUDE Filters
4 Browse/Edit Backup Tracking EXCLUDE Filters
5 Test Backup Tracking Filters
6 Build Batch Intercept File and Refresh AST
7 DAD Jobname Management
8 User Defined Backup Utilities Management

S1 Ready (1) 192.168.55.72 SC0TCP09 13:08:46 2/4/2011 NUM 00:25:27 05.015
```





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Specify Backup Job Attributes

S1 - DVLP - DVLP - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: DVLP

Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences Filter Mgmt

AST - Backup Tracking INCLUDE Filters Row 1 to 31 of 119
 Command ==> scroll ==> CSR

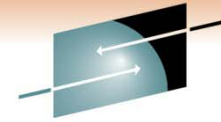
Primary Commands: END(PF3)/SAVE - to save record and return
 CAN - to Return without saving
 REF - to Refresh filter list from IDS

Line Commands: D,I,R

C	Job Name	Job step	Proc step	Program	Utility	UserID	Filter Error
	MYAPPLB*	*	*	*			
	AE2*	*	*	FDRABR	FDRABR	AE2	
	AE2*	*	*	IEBGENER	IEBGENER	AEN	
	AE2*	*	*	IDCAMS	IDCAMS	AEN	
	AE2*	*	*	ICEGENER	ICEGENER	AEN	
	AE2*	*	*	IEBCOPY	IEBCOPY	AEN	
	AE2*	*	*	SORT	SORT	JHL	
	AE2*	*	*	CKM00010	ACM	AEN	
	AE2*	*	*	ADRSSU	DSS	AEN	
	APPLB*	*	*	*	ALL	RRON	
	APPLMWB*	*	*	*	ALL	MW01	
	APPLMWD*	*	*	*	ALL	MW01	
	ASTBJ*	*	*	FDRABR	FDRABR	EDG	
	ASTBJ*	*	*	FDRDSF	FDRDSF	IM	
	ASTBJ*	*	*	IEBGENER	IEBGENER	EDP1	
	ASTBJ*	*	*	FDR	FDR	IM	
	ASTBJ*	*	*	FDRCPK	FDRCPK	IM	
	ASTBJ*	*	*	IDCAMS	IDCAMS	MW01	
	ASTBJA10*	*	*	*	ALL	JC01	
	ASTBJA20*	*	*	IEBGENER	IEBGENER	EDG1	
	ASTBJA30*	*	*	*	ALL	JC01	
	ASTBJA30*	*	*	IDCAMS	IDCAMS	EDG1	
	ASTBJA30*	*	*	*	ALL	JC01	
	ASTBJ0*	*	*	ADRSSU	DSS	IM	
	ASTBJ1*	*	*	IDCAMS	IDCAMS	IM	
	ASTBJ2*	*	*	ICEGENER	ICEGENER	IM	
	ASTBJ3*	*	*	IEBGENER	IEBGENER	IM	
	ASTBJ4*	*	*	SORT	SORT	IM	
	ASTBJ5*	*	*	IEBCOPY	IEBCOPY	IM	
	ASTBJ9*	*	*	ARCINBAK	ARCINBAK	IM	
	BDAPL*	*	*	*	ALL	BDO1	

S1 | Ready (1) | 192.168.55.72 | SC0TCP09 | 13:10:05 2/4/2011 | NUM | 00:26:46 | 13.036





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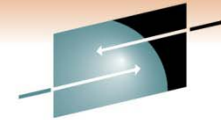
Update All/Star Job Name Table

The screenshot shows a terminal window titled "S1 - DVLP - DVLP - BlueZone Mainframe Display". The menu is titled "Menu Diagnostics Preferences" and "setup and configuration". The command prompt shows "Command ==> 6". The menu options are:

```
Enter an option from the list below:
ABARS Manager
1 Aggregate Management with SMS Interface
2 Group Filter Management
All/star
3 Browse/Edit Backup Tracking INCLUDE Filters
4 Browse/Edit Backup Tracking EXCLUDE Filters
5 Test Backup Tracking Filters
6 Build Batch Intercept File and Refresh AST
7 DAD Jobname Management
8 User Defined Backup Utilities Management
```

The terminal footer shows: S1 | Ready (1) | 192.168.55.72 | SC0TCP09 | 13:11:27 2/4/2011 | NUM | 00:28:08 | 05.015





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View Backup Job Results

S1 - DVLP - DVLP - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: DVLP

Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences Utilities Admin

Backup & Recovery Manager V6.2
Main Menu

Command ==> 2

Enter an option from the list below:

- 1 Setup and Configuration
- 2 Backup and Recovery Management
- 3 Automatic selection and Audit Processing (ASAP)
- 4 Features

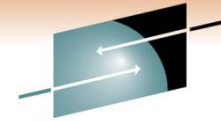
Miscellaneous Functions

- 5 Search for Dataset
- 6 Reports
- 7 Monitor
- 8 History

X Exit

S1 Ready (1) 192.168.55.72 SC0TCP09 13:22:14 2/4/2011 NUM 00:38:55 05.015





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View Backup Jobs Results

S1 - DVLP - DVLP - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: DVLP

Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences

Backup & Recovery Manager
Backup and Recovery Management

Command ==> 4

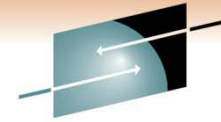
Enter an option from the list below:

- ABARS Manager
- 1 ABARS Events
- 2 Logical Aggregates
- All/star
- 3 Full Volume Dumps
- 4 Jobs
- 5 Job Groups
- 6 Applications (Requires ASAP)

S1 Ready (1) 192.168.55.72 SC0TCP09 13:23:07 2/4/2011 NUM 00:39:48 05.015

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View Specific Backup Job Results

S1 - DVLP - DVLP - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: DVLP Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences

All/Star Jobname List Row 1 to 3 of 3

Command ==> scroll ==> CSR

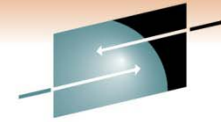
Primary Cnds: REfresh,H,SD,SE,SJ Date => 2011/02/04 13:24
 Line Cnds: GL,N,R,S,+,- Sort => J D,E,J

C	Jobname	+ -	Gen	RC	RCB	Date	Time
S	MYAPPLB1		000	000	00	2011/02/04	13:14:47
	MYAPPLB2		000	000	00	2011/02/04	13:15:36
	MYAPPLB3		000	000	00	2011/02/04	13:15:56

***** Bottom of data *****

S1 Ready (1) 192.168.55.72 SC0TCP09 13:24:21 2/4/2011 NUM 00:41:02 14.003





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Backup Job Summary Information

S1 - DVLP - DVLP - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: DVLP Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences

AST - View Backup Detail Row 1 to 1 of 1
 Command ==> scroll ==> CSR

```

Jobname           => MYAPPLB1 (0)           Run Date/Time    => 2011/02/04 13:14:47
Stepname/Task     => BACKUP / 1           Step Date/Time   => 2011/02/04 13:14:47
Procname          => N/A                 Type             => HEBGENER
RC ( GNR /AST))  => 0 / 0                     Program Name     => HEBGENER
  
```

Input File: RR02.BRM.APPLJ1.DC.G0005V00 Volser: Tso003

Output File(s) - Use Line Command S To select:

CPY S	DSNAME	Date	Time	Volser
01	RR02.BRM.APPLJ1.DC.BACKUP.G0008V00	2011/02/04	13:14:47	Tso001

***** Bottom of data *****

S1 | Ready (1) | 192.168.55.72 | SC0TCP09 | 13:25:22 2/4/2011 | NUM | 00:42:03 | 04.015

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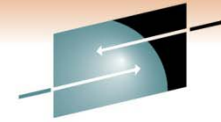


Application Backup Validation Scenario

- Performed After Application End and Backups Complete
 - Application End job creates cycle point critical dataset list
 - Backup job tracking inventories tracked backup results
 - Backup End process compares dataset list to backup results
 - Identifies critical datasets without backups
 - Identifies current backups for critical datasets
 - Records cycle point backups for critical datasets
 - *Used for automated application cycle point recovery*

Backup and Recovery Manager (BRM)

- All/Star Functions
 - Backup job tracking
 - Dataset backup inventory management and reporting
 - **Critical dataset backup validation**
 - Automated selective dataset restore
 - Automated application cycle point restore



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Technology • Connections • Results

Backup Validation Job for MYAPPL

```

S1 - DVLP - DVLP - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: DVLP Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

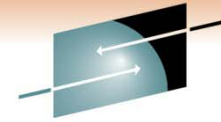
Menu Diagnostics preferences Utilities Admin
Backup & Recovery Manager V6.2
Main Menu
File Edit Edit_settings Menu utilities compilers Test Help

EDIT RR02.$DEMO.BRMV62.CNTL(BRMBKEND) - 01.15 Columns 00001 00072
Command ==> SUB scroll ==> CSR
***** Top of Data *****
0000001 //APPLKEND JOB (ACCT),'BRM V6.2 DEMO',CLASS=A,MSGCLASS=X,
0000002 // NOTIFY=&SYSUID,REGION=8M
0000003 //PROCLIB JCLLIB ORDER=BRM0602X.QABETA.JCL
0000004 //
0000005 // BACKUP VALIDATION PROCESSING
0000006 // RUN BKUPEND JOB
0000007 // VERIFY ALL CRITICAL DATASETS HAVE A BACKUP
0000008 //
0000009 //BRMBKEND EXEC BRMBPROC,BPARM='APPL(MYAPPL)'
0000010 //BRMBATCH.SYSIN DD *
0000011 BKUPEND RERUN
0000012 NOFLUSH
0000013 NO-BKUP-FOUND-RC(4)
0000014 BAD-BKUP-RC(8)
***** Bottom of Data *****

```

S1 Ready (1) 192.168.55.72 SC0TCP09 13:56:00 2/4/2011 NUM 01:12:41 09.018





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Backup Validation Job Results

S1 - DVLP - DVLP - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: DVLP Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences Utilities Admin

Backup & Recovery Manager V6.2
Main Menu

Command ==> 2

Enter an option from the list below:

- 1 Setup and Configuration
- 2 Backup and Recovery Management
- 3 Automatic selection and Audit Processing (ASAP)
- 4 Features

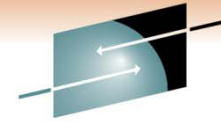
Miscellaneous Functions

- 5 Search for Dataset
- 6 Reports
- 7 Monitor
- 8 History
- X Exit

S1 Ready (1) 192.168.55.72 SC0TCP09 13:59:35 2/4/2011 NUM 01:16:16 05.015

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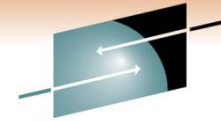
Backup Validation Job Results

```
S1 - DVLP - DVLP - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: DVLP
Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences
Backup & Recovery Manager
Backup and Recovery Management
Command ==> 6
Enter an option from the list below:
ABARS Manager
1 ABARS Events
2 Logical Aggregates
All/star
3 Full volume dumps
4 Jobs
5 Job Groups
6 Applications (Requires ASAP)

S1 Ready (1) 192.168.55.72 SC0TCP09 11/24/2011 NUM 01:16:52 05.015
AOL Mail - Spam - Windows Internet Explorer
```





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Backup Validation Status for MYAPPL

S1 - DVLP - DVLP - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: DVLP Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics preferences

Command ==> AST - Application List ROW 1 to 1 of 1
scroll ==> CSR

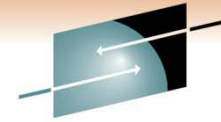
Primary Commands: REFRESH
Line Commands: +, -, D, N, R

C	APPL	+ -	Cycle	BKUPEND	BKUPEND	ASAP
	MY*	±	Date	Time	cycle #	
N	MYAPPL		0 2011/02/04	13:57:39		2

***** Bottom of data *****

S1 | Ready (1) | 192.168.55.72 | SC0TCP09 | 14:04:19 2/4/2011 | NUM | 01:21:00 | 12.004





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Technology • Connections • Results

Backup Status for Critical Datasets

```

S1 - DVLP - DVLP - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: DVLP
Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

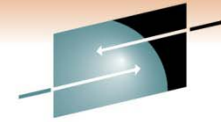
Menu Diagnostics Preferences
Command ==> AST - View Dataset Name List Row 1 to 4 of 4
scroll ==> CSR
  Applname: MYAPPL Date/Time: 2011/02/04 13:57:39 CYCLE: (0)
  Primary Commands: REFresh, R mask, X mask
  Line Commands: L,R,S,X

C DSN ----- PGM/Type Date Time -----
-- RR02 .BRM .APPLJ1 .DC .G0005V00 IEBGENER 2011/02/04 13:14:47
-- RR02 .BRM .APPLJ2 .LHSTC .G0005V00 DSS LD 2011/02/04 13:15:36
-- RR02 .BRM .APPLJ3 .DC .SORTED .G0005V00 SORT 2011/02/04 13:15:56
-- RR02 .BRM .APPLJ4 .AUTODUMP .G0005V00
***** Bottom of data *****

```

S1 | Ready (1) | 192.168.55.72 | SC0TCP09 | 14:05:53 2/4/2011 | NUM | 01:22:34 | 04.015





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Technology • Connections • Results

Backup Job Using Critical Dataset List

```

S1 - DVLP - DVLP - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: DVLP Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

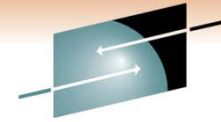
Menu Diagnostics Preferences
Backup & Recovery Manager
File Edit Edit_settings Menu utilities compilers Test Help

EDIT RR02.$DEMO.BRMV62.CNTL(APPLBSDS) - 01.12 columns 00001 00072
Command ==> SUB scroll ==> CSR
***** Top of Data *****
000001 //MYAPPLBS JOB (ACCT),'BRM V6.2 DEMO',CLASS=A,MSGCLASS=X,
000002 //          NOTIFY=&SYSUID,REGION=8M
000003 //PROCLIB JCLLIB ORDER=BRM0602X.QABETA.JCL
000004 //
000005 //  PASS THE CRITICAL DATASET LIST BUILT BY APPLEND TO DFSS
000006 //
000007 //BACKUP EXEC PGM=ADDRSSU,REGION=8M
000008 //SYSPRINT DD SYSOUT=*
000009 //TAPE DD DSN=RR02.BRM.BRMAPLEN.BACKUP(+1),
000010 //        DISP=(,CATLG),
000011 //        SPACE=(TRK,(5,5),RLSE)
000012 //SYSIN DD DSN=RR02.MYAPPL.SELECT,
000013 //        DISP=SHR
***** Bottom of Data *****

```

S1 Ready (1) 192.168.55.72 SC0TCP09 14:10:33 2/4/2011 NUM 01:27:14 08.018





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Rerun Backup Validation Job

```

S1 - DVLP - DVLP - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: DVLP Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

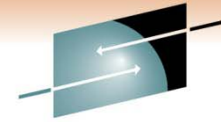
Menu Diagnostics preferences Utilities Admin
Backup & Recovery Manager V6.2
Main Menu
File Edit Edit_settings Menu utilities compilers Test Help

EDIT RR02.$DEMO.BRMV62.CNTL(BRMBKEND) - 01.15 Columns 00001 00072
Command ==> SUB scroll ==> CSR
***** Top of Data *****
0000001 //APPLKEND JOB (ACCT),'BRM V6.2 DEMO',CLASS=A,MSGCLASS=X,
0000002 //          NOTIFY=&SYSUID,REGION=8M
0000003 //PROCLIB JCLLIB ORDER=BRM0602X.QABETA.JCL
0000004 //
0000005 //  BACKUP VALIDATION PROCESSING
0000006 //  RUN BKUPEND JOB
0000007 //  VERIFY ALL CRITICAL DATASETS HAVE A BACKUP
0000008 //
0000009 //BRMBKEND EXEC BRMBPROC,BPARM='APPL(MYAPPL)'
0000010 //BRMBATCH.SYSIN DD *
0000011 //BKUPEND RERUN
0000012 //          NOFLUSH
0000013 //          NO-BKUP-FOUND-RC(4)
0000014 //          BAD-BKUP-RC(8)
***** Bottom of Data *****

```

S1 Ready (1) 192.168.55.72 SC0TCP09 13:56:00 2/4/2011 NUM 01:12:41 09.018





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Backup Validation Job Results

S1 - DVLP - DVLP - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: DVLP

Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics preferences

Command ==> AST - Application List ROW 1 to 1 of 1
scroll ==> CSR

Primary Commands: REFRESH
Line Commands: +,-,D,N,R

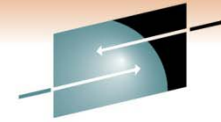
C	APPL	+ -	Cycle	BKUPEND	BKUPEND	ASAP
	MY*	±	Date	Time	cycle #	
N	MYAPPL		0	2011/02/04	13:57:39	2

***** Bottom of data *****

S1 | Ready (1) | 192.168.55.72 | SC0TCP09 | 14:04:19 2/4/2011 | NUM | 01:21:00 | 12.004

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Backup Status for Critical Datasets

S1 - DVLP - DVLP - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: DVLP

Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences

Command ==> AST - View Dataset Name List Row 1 to 4 of 4 scroll ==> CSR

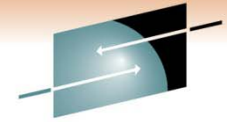
Applname: MYAPPL Date/Time: 2011/02/04 14:17:52 CYCLE: (0)
 Primary Commands: REFresh, R mask, X mask
 Line Commands: L,R,S,X

C	DSN	PGM/Type	Date	Time
—	RRON .BRM .APPLJ1 .DC .G0005V00	DS\$ LD	2011/02/04	14:13:51
—	RRON .BRM .APPLJ2 .LHSTC .G0005V00	DS\$ LD	2011/02/04	14:13:51
—	RRON .BRM .APPLJ3 .DC .SORTED .G0005V00	DS\$ LD	2011/02/04	14:13:51
—	RRON .BRM .APPLJ4 .AUTODUMP .G0005V00	DS\$ LD	2011/02/04	14:13:51
***** Bottom of data *****				

S1 | Ready (1) | 192.168.55.72 | SC0TCP09 | 14:21:30 2/4/2011 | NUM | 01:38:11 | 04.015

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Recovery Scenarios

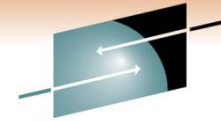
- Selective Dataset Recovery
 - Search for all backups for a specific name or mask
 - Tracked utility backups
 - Tracked Full Volume Dumps
 - DFSMSHsm Incremental Backups and AUTODUMPs
 - DFSMSHsm ABARS backups
 - Select appropriate backups
 - Generate restore job JCL
- Complete Application Recovery
 - Search for cycle point backups
 - Recorded by Backup End process
 - Select appropriate cycle point backup
 - Generate restore job JCL

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Backup and Recovery Manager (BRM)

- All/Star Functions
 - Backup job tracking
 - Dataset backup inventory management and reporting
 - Critical dataset backup validation
 - Automated selective dataset restore
 - Automated application cycle point restore



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Selective Dataset Restore

S1 - DVLP - DVLP - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: DVLP

Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences Utilities Admin

Backup & Recovery Manager V6.2
Main Menu

Command ==> 5

Enter an option from the list below:

- 1 Setup and Configuration
- 2 Backup and Recovery Management
- 3 Automatic selection and Audit Processing (ASAP)
- 4 Features

Miscellaneous Functions

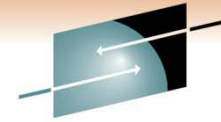
- 5 Search for Dataset
- 6 Reports
- 7 Monitor
- 8 History

X Exit

S1 Ready (1) 192.168.55.72 SC0TCP09 14:27:41 2/4/2011 NUM 01:44:22 05.015

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Search for Dataset Backups

S1 - DVLP - DVLP - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: DVLP Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences

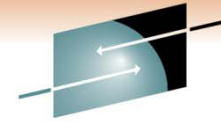
```
Command ==> search for Dataset setup
CO specify the criteria to use when searching for selected Dataset(s). +
DSN or Mask ==> *RO2.BRM.APPL*
Auto Expand List ==> Y 0 Y N
Sort by ==> N Dataset Name or D Date
Display:
DS Level Backups ==> Y Y 00 N
Overlaps only ==> Y 000 Y
HSM Incrementals ==> Y 0000 Y
Volume Level Dumps ==> Y 0000 Y
Date Format ==> Y yy/mm/dd or D dd/mm/yy

Enter "/" to select option
/ store values to be used as default for this USERID
_ don't show this panel again
```

S1 Ready (1) 192.168.55.72 SC0TCP09 14:32:07 2/4/2011 NUM 01:48:48 08.031

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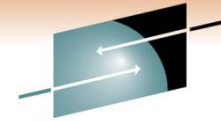
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Dataset Restore Job

```
S1 - DVLP - DVLP - BlueZone Mainframe Display
File Edit Edit_settings Menu Utilities Compilers Test Help
Connections: DVLP Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

VIEW RRO2.ASTREST.D0110207.T0075623(ASTREST) - 01.00 columns 0001 00072
Command ==> Scroll ==> CSR
*****
0000001 //RRO2RSTD JOB (ACCT), 'BRM BATCH',CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
0000002 //
0000003 //PROCLIB JCLLIB ORDER=BRM0602X.QABETA.JCL
0000004 //
0000005 //*****
0000006 // * DFDSS DATA SET RESTORE FROM LOGICAL DUMP TAKEN
0000007 // * ON 20110204 AT 14135148
0000008 // * BY JOB=MYAPPLBS AND STEP=BACKUP
0000009 // * *****
0000010 //LOGIC1 EXEC PGM=ADRDSU,REGION=OM
0000011 //SYSPRINT DD SYSOUT=*
0000012 //INFILE DD DSN=RRO2.BRM.BRMAPLEN.BACKUP.G001OV00,
0000013 // VOL=C,RETAIN,SER=(TS0003),
0000014 // UNIT=3390,
0000015 // DISP=OLD
0000016 //SYSIN DD *
0000017 // RESTORE DS(FILTERDD(FILTDD)) INDD(INFILE)
0000018 // REPLACE
0000019 // VOLCOUNT(SRC)
0000020 // TGTGDS(ACTIVE)
0000021 // CATALOG
0000022 // //FILTDD DD *
0000023 // INCLUDE(
0000024 // RRO2.BRM.APPLJ1.DC.G0005V00
0000025 // )
*****
***** Bottom of Data *****
```





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Application Cycle Point Recovery

The screenshot shows a mainframe terminal window titled "S1 - DVLP - DVLP - BlueZone Mainframe Display". The window has a menu bar with "File", "Edit", "Session", "Options", "Transfer", "View", "Macro", "Script", and "Help". Below the menu bar is a toolbar with various icons. The main display area shows the following text:

```
Connections: DVLP
Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences Utilities Admin
Backup & Recovery Manager V6.2
Main Menu

Command ==> 2

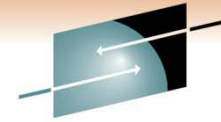
Enter an option from the list below:

1 Setup and Configuration
2 Backup and Recovery Management
3 Automatic selection and Audit Processing (ASAP)
4 Features

Miscellaneous Functions
5 Search for Dataset
6 Reports
7 Monitor
8 History
X Exit
```

At the bottom of the terminal window, there is a status bar with the following information: S1, Ready (1), 192.168.55.72, SC0TCP34, 8:04:59 2/7/2011, NUM, 00:22:06, 05.015.





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View Cycle Point Recovery Inventory

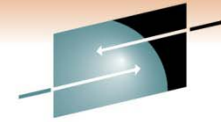
The screenshot shows a terminal window titled "S1 - DVLP - DVLP - BlueZone Mainframe Display". The window has a menu bar with "File", "Edit", "Session", "Options", "Transfer", "View", "Macro", "Script", and "Help". Below the menu bar is a toolbar with various icons. The main area of the terminal displays the following text:

```
Connections: DVLP
Menu Diagnostics Preferences
Backup & Recovery Manager
Backup and Recovery Management
Command ==> 6
Enter an option from the list below:
ABARS Manager
1 ABARS Events
2 Logical Aggregates
All/star
3 Full Volume Dumps
4 Jobs
5 Job Groups
6 Applications (Requires ASAP)
```

At the bottom of the terminal window, there is a status bar with the following information: S1, Ready (1), 192.168.55.72, SC0TCP34, 8:06:09 2/7/2011, NUM, 00:23:16, 05.015.

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Recover Application at Cycle Point

S1 - DVLP - DVLP - BlueZone Mainframe Display

File Edit Session Options Transfer View Macro Script Help

Connections: DVLP Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

Menu Diagnostics Preferences

AST - Application List Row 1 to 6 of 6
scroll ==> CSR

Command ==> _____

Primary Commands: REFresh
Line Commands: +, -, D, N, R

C	APPL	+-	Cycle	BKUPEND	BKUPEND	ASAP
*		±	Date	Date	Time	cycle #
---	APPLRR		000000	2011/01/25	10:30:32	4
---	DS6		000000	2006/02/22	16:12:35	157
---	EDG4		000000	2006/02/01	14:46:54	31
---	EDG66		000000	2006/09/22	13:56:35	4
---	KELLY		000000	2005/12/19	09:59:40	38
R	MYAPPL		000000	2011/02/07	08:10:03	2

***** Bottom of data *****

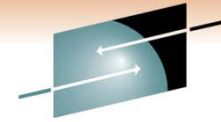
File Edit Edit_settings menu utilities compilers Test Help

EDIT RRO2.\$DEMO.BRMV62.CNTL(BRMBKEND) - 01.15 columns 0001 0072

S1 Ready (1) 192.168.55.72 SC0TCP34 8:12:52 2/7/2011 NUM 00:29:59 17.004

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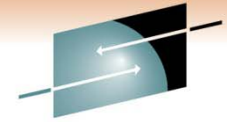
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Application Cycle Point Recovery Job

```
S1 - DVLP - DVLP - BlueZone Mainframe Display
File Edit Session Options Transfer View Macro Script Help
Connections: DVLP Attention PA1 PA2 PA3 Reset PF01 PF02 PF03 PF04 PF05 PF06 PF07 PF08 PF12 System Request

File Edit Edit_settings Menu Utilities Compilers Test Help
VIEW RRO2.ASTREST.D0110207.T0081344(ASTREST) - 01.00 columns 0001 00072
Command ==> Scroll ==> CSR
***** Top of Data *****
00000001 //RRO2RSTE JOB (ACCT), 'BRM BATCH',CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
00000002 *
00000003 //PROCLIB JCLLIB ORDER=BRM0602X.QABETA.JCL
00000004 *
00000005 *
00000006 * * DFDSS DATA SET RESTORE FROM LOGICAL DUMP TAKEN
00000007 * * ON 20110204 AT 14135148
00000008 * * BY JOB=MYAPPLBS AND STEP=BACKUP
00000009 * *
00000010 //LOGIC1 EXEC PGM=ADRDSU,REGION=OM
00000011 //SYSPRINT DD SYSOUT=*
00000012 //INFILE DD DSN=RRO2.BRM.BRMAPLEN.BACKUP.G0010V00,
00000013 // VOL=C,RETAIN,SER=(TS0003),
00000014 // UNIT=3390,
00000015 // DISP=OLD
00000016 //SYSIN DD *
00000017 // RESTORE DS(FILTERDD(FILTDD)) INDD(INFILE)
00000018 // REPLACE
00000019 // VOLCOUNT(SRC)
00000020 // TGTGDS(ACTIVE)
00000021 // CATALOG
00000022 // //FILTDD DD *
00000023 // INCLUDE(
00000024 // RRO2.BRM.APPLJ1.DC.G0005V00
00000025 // RRO2.BRM.APPLJ2.LISTC.G0005V00
00000026 // RRO2.BRM.APPLJ3.DC.SORTED.G0005V00
00000027 // RRO2.BRM.APPLJ4.AUTODUMP.G0005V00
00000028 // )
***** Bottom of Data *****
```





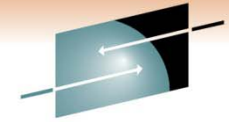
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Summary

- Backup and Recovery Manager (BRM) Functions
 - Automated Selection and Audit Process (ASAP)
 - Application registration
 - Application job tracking
 - Application critical dataset name discovery
 - Critical dataset list and backup control card creation
 - All/Star
 - Backup job tracking
 - Dataset backup inventory management and reporting
 - Critical dataset backup validation
 - Automated selective dataset restore
 - Automated application cycle point restore

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Questions?

