

new/usr/src/man/man1m/iiadm.1m

1

30436 Thu Mar 6 20:17:21 2014

new/usr/src/man/man1m/iiadm.1m

2052 iiadm(1M) incorrectly describes group removal

```
1  '\" te
2  .\" Copyright (c) 2007, Sun Microsystems, Inc. All rights reserved.
3  .\" The contents of this file are subject to the terms of the Common Development
4  .\" You can obtain a copy of the license at usr/src/OPENSOLARIS.LICENSE or http:
5  .\" When distributing Covered Code, include this CDDL HEADER in each file and in
6  .TH IIADM 1M "Mar 6, 2014"
7  .TH IIADM 1M "Oct 2, 2007"
8  .SH NAME
9  iiadm \- command-line interface to control Sun StorageTek Availability Suite
10 Point-in-Time Copy operations
11 .SH SYNOPSIS
12 .LP
13 .nf
14 \fBiiadm\fR \fB-e\fR {ind | shd} \fImaster_vol\fR \fIshadow_vol\fR \fIbitmap_vol
15 .fi
16 .LP
17 .nf
18 \fBiiadm\fR \fB-ne\fR ind \fImaster_vol\fR \fIshadow_vol\fR \fIbitmap_vol\fR
19 .fi
20 .LP
21 .nf
22 \fBiiadm\fR [\fB-p\fR] [\fB-n\fR] {\fB-c\fR | \fB-u\fR} {s | m} \fIvolume_set\fR
23 .fi
24 .LP
25 .nf
26 \fBiiadm\fR [\fB-adDilR\fR] \fIvolume_set\fR
27 .fi
28 .LP
29 .nf
30 \fBiiadm\fR [\fB-p\fR] [\fB-n\fR] \fB-w\fR \fIvolume_set\fR
31 .fi
32 .LP
33 .nf
34 \fBiiadm\fR [\fB-hilLv\fR]
35 .fi
36 .LP
37 .nf
38 \fBiiadm\fR \fB-P\fR \fIdelay\fR \fIunits\fR \fIvolume_set\fR
39 .fi
40 .LP
41 .nf
42 \fBiiadm\fR \fB-A\fR \fIoverflow_vol\fR \fIvolume_set\fR
43 .fi
44 .LP
45 .nf
46 \fBiiadm\fR [\fB-OQ\fR] \fIoverflow_vol\fR
47 .fi
48 .LP
49 .nf
50 \fBiiadm\fR [\fB-OQ\fR] \fIoverflow_vol\fR
51 .fi
```

new/usr/src/man/man1m/iiadm.1m

2

```
61 .LP
62 .nf
63 \fBiiadm\fR \fB-E\fR \fIvolume_set\fR
64 .fi
65 .LP
66 .nf
67 \fBiiadm\fR [\fB-IJ\fR] \fIvolume_set\fR \fIbitmap\fR
68 .fi
69 .LP
70 .nf
71 \fBiiadm\fR \fB-g\fR \fIgroup_name\fR [\fB-aAcDeilLmPRuw\fR]
72 .fi
73 .LP
74 .nf
75 \fBiiadm\fR [\fB-C\fR] \fIcluster_tag\fR [\fIoptions\fR]
76 .fi
77 .LP
78 .nf
79 \fBiiadm\fR [\fB-C\fR] \fIcluster_tag\fR [\fIoptions\fR]
80 .fi
81 .SH DESCRIPTION
82 .sp
83 .LP
84 Point-in-Time Copy software is a point-in-time snapshot feature of the Solaris
85 operating system.
86 .sp
87 .LP
88 A Point-in-Time Copy snapshot is an instantly-available, time-fixed, replicated
89 view of a momentarily quiesced volume. Once a snapshot is taken, Point-in-Time
90 Copy software allows immediate read/write access to both the master and shadow
91 volume data.
92 .sp
93 .LP
94 Point-in-Time Copy software tracks the differences between the master and
95 shadow volumes (caused by writes) from the moment that the snapshot was
96 established. This capability allows applications accessing the master volume's
97 data to move forward in time independently of applications accessing the shadow
98 volume's data, and vice-versa.
99 .sp
100 .LP
101 The Point-in-Time Copy software's tracking of differences between the master
102 and shadow volumes facilitates a fast resynchronization or a full copy at a
103 later time. The volume resynchronization can occur from either shadow to master
104 or master to shadow.
105 .sp
106 .LP
107 Instantly after the point-in-time is (re-)established (either when the CLI
108 prompt returns or the next shell script command is read), the master volume can
109 be remounted or the applications using them can be resumed. Also, the shadow
110 volume can be mounted and immediately accessed.
111 .sp
112 .LP
113 The \fBiiadm\fR command line utility performs only one action per command
114 invocation. Because of this, you cannot combine multiple options, except in
115 combination with the following overall command modifiers:
116 .RS +4
117 .TP
118 .ie t \ (bu
119 .el o
120 If no action item is entered, \fBiiadm\fR displays the list of Point-in-Time
121 Copy sets (non-suspended) currently configured. If more than one action item,
122 or an incorrectly specified action item is entered, \fBiiadm\fR displays the
123 specific error message to stderr, followed by a brief usage summary.
124 .RE
125 .RS +4
126 .TP
```

```

127 .ie t \(\bu
128 .el o
129 For the Point-in-Time Copy options ENABLE (\fB-e\fR), COPY (\fB-c\fR) and
130 UPDATE (\fB-u\fR), there are two associated shadow volume selection qualifiers,
131 \fB{ind|dep}\fR, that are used to specify the type of Point-in-Time Copy volume
132 set to create.
133 .RE
134 .sp
135 .LP
136 An independent (\fBind\fR) snapshot causes Point-in-Time Copy software to
137 perform a full volume copy operation from the master to the shadow. When the
138 copy completes, the shadow volume data is identical to the master volume data
139 at the moment that it was established. Create an independent shadow if you
140 require two physical copies of the data. An independent shadow volume must be
141 the same size or greater than the size of the master volume. Sun recommends
142 that the master and shadow volumes be the same size for environments where
143 resynchronization from shadow to master is a consideration.
144 .sp
145 .LP
146 A dependent (\fBdep\fR) snapshot causes Point-in-Time Copy software not to
147 perform a full volume copy. The resulting shadow volume relies on the master
148 volume for all unmodified data blocks, which are not copied until requested.
149 Create a dependent shadow when you do not require two physical copies of the
150 data. A dependent shadow volume can be either the same size or smaller than the
151 master volume. A smaller shadow volume is called a \fBCompact Dependent Shadow
152 Volume\fR, and is typically used when the amount of change that occurs to a
153 Point-in-Time Copy volume set is small compared to the entire size of the
154 master volume.
155 .sp
156 .LP
157 The following syntax allows you to create an exportable independent shadow
158 volume in a Sun Cluster environment:
159 .sp
160 .in +2
161 .nf
162 # iidm -ne ind master shadow bitmap
163 .fi
164 .in -2
165 .sp

167 .sp
168 .LP
169 An issue arises when using a Compact Dependent Shadow Volume in that its size
170 is established at the time that the Point-in-Time Copy volume set is enabled.
171 If the amount of change to the entire volume set over the duration of its usage
172 exceeds the space allocated for the shadow volume, the shadow volume is marked
173 as out of space. It is possible to read from the shadow volume even after it is
174 out of space, until a portion of the data for which there was no room is
175 requested. Once that happens, the read fails and the shadow volume is marked
176 offline.
177 .sp
178 .LP
179 To address this issue, Point-in-Time Copy supports the ability to associate an
180 \fBoverflow\fR volume to an existing Point-in-Time Copy dependent volume set.
181 Thus, if the size of the Compact Dependent Shadow Volume is too small, or an
182 unscheduled amount of change occurs to the volume set, changed data can be
183 redirected to the associated overflow volume. To facilitate efficient usage of
184 this overflow volume, it can be associated with multiple Point-in-Time Copy
185 volume sets on an as-needed basis.
186 .SS "Considerations"
187 .sp
188 .LP
189 Prior to invoking an Point-in-Time Copy \fBenable\fR, \fBcopy\fR or
190 \fBupdate\fR operation, Point-in-Time Copy assures that the shadow volume is
191 not mounted, to prevent a file system panic from occurring. Also, it is
192 suggested that you either unmount or suspend (quiesce) all applications using

```

```

193 the master volume, for only the instant when the point-in-time snapshot is
194 taken. This assures that an atomically consistent point-in-time snapshot is
195 taken.
196 .sp
197 .LP
198 It is suggested that, if the master volume was suspended rather than unmounted,
199 the new point-in-time shadow volume's integrity be validated using volume
200 validation utilities, such as \fBfsck\fR(1M). The reason is that Point-in-Time
201 Copy has made a point-in-time copy of a \fBmounted\fR master volume to an
202 \fBunmounted\fR shadow volume. During the mounting of the shadow volume, the
203 file system detects that it is in the \fBmounted\fR state. Typically this state
204 occurs only when a system crashes, so the file system attempts to validate the
205 integrity of the volume assuming a system failure occurred, not an
206 Point-in-Time Copy.
207 .SS "ENVIRONMENT OPTIONS"
208 .sp
209 .LP
210 The \fBii_bitmap\fR variable in the \fB/usr/kernel/drv/ii.conf\fR configuration
211 file determines the bitmap volume operational semantics as follows:
212 .sp
213 .ne 2
214 .na
215 \fB\fB0\fR\fR
216 .ad
217 .RS 13n
218 Indicates that the bitmap is maintained in memory only or resume operation.
219 .RE

221 .sp
222 .ne 2
223 .na
224 \fB\fB1\fR\fR
225 .ad
226 .RS 13n
227 Indicates that the bitmap is maintained in memory and on disk. This is the
228 default value.
229 .RE

231 .sp
232 .LP
233 If a system failure occurs while using \fBii_bitmap=0\fR, the shadow volume
234 might be inconsistent and fast resynchronization would not be possible.
235 .sp
236 .LP
237 If Point-in-Time Copy is used in conjunction with the Network Storage component
238 Remote Mirror or in a Sun Cluster, set \fBii_bitmap=1\fR.
239 .sp
240 .LP
241 The \fBii_debug\fR variable in the \fB/usr/kernel/drv/ii.conf\fR configuration
242 file determines the amount of information logging that is output to the system
243 console \fB/dev/console\fR during Point-in-Time Copy processing.
244 .sp
245 .ne 2
246 .na
247 \fB\fB0\fR\fR
248 .ad
249 .RS 13n
250 Indicates that no logging is sent to the system console.
251 .RE

253 .sp
254 .ne 2
255 .na
256 \fB\fB1\fR\fR
257 .ad
258 .RS 13n

```

```

259 Indicates that informational logging is sent to the system console.
260 .RE

262 .sp
263 .ne 2
264 .na
265 \fB\fB2\fR\fR
266 .ad
267 .RS 13n
268 Indicates that developmental logging is sent to the system console.
269 .RE

271 .SH OPTIONS
272 .sp
273 .LP
274 The \fBiiadm\fR utility supports the following options.
275 .sp
276 .ne 2
277 .na
278 \fB\fB-e\fR\fB{ind|dep}\fR \fBImaster_vol shadow_vol bitmap_vol\fR\fR
279 .ad
280 .sp .6
281 .RS 4n
282 Enable Point-in-Time Copy for the specified master, shadow, and bitmap volumes.
283 .sp
284 The enable shadow set processing assures that the specified volumes are
285 accessible, that the \fBshadow_vol\fR is not mounted, and that the
286 \fBbitmap_vol\fR is correctly sized for the type of shadow set being created.
287 Additionally, it assures that the volumes are under control of the SV driver (
288 if they are not, it puts them there), initializes the bitmap volume, and, if
289 the volume set is an independent shadow set, a full copy operation is
290 initiated.
291 .sp
292 On a successful enable, Point-in-Time Copy stores the specified
293 \fBImaster_vol\fR, \fBshadow_vol\fR and \fBbitmap_vol\fR names, plus the
294 enabling type (\fBBind\fR or \fBDep\fR), into the Point-in-Time Copy
295 configuration store. The configuration store contains all currently configured
296 Point-in-Time Copy Volume Sets and their associated configuration attributes.
297 (See discussion above on independent and dependent shadow volume semantics.)
298 .sp
299 \fBImaster_vol\fR is the volume from which a point-in-time snapshot is made.
300 .sp
301 \fBshadow_vol\fR is the volume that contains the point-in-time snapshot.
302 .sp
303 \fBbitmap_vol\fR is used for tracking differences between the shadow and master
304 volumes. When Point-in-Time Copy shadow operations are suspended or resumed,
305 the bitmap volume (maintained in kernel memory) can be stored in or retrieved
306 from permanent storage. The storage associated with the bitmap volume should be
307 as redundant as that of the shadow volume storage.
308 .sp
309 The \fBshadow_vol\fR name is the name that the Point-in-Time Copy Shadow Set is
310 known by for all \fBiiadm\fR options requiring specification of a
311 \fBivolume_set\fR name.
312 .RE

314 .sp
315 .ne 2
316 .na
317 \fB\fB-d\fR \fBivolume_set\fR\fR
318 .ad
319 .sp .6
320 .RS 4n
321 Disable the Point-in-Time Copy volume set associated with the specified
322 \fBivolume_set\fR.
323 .sp
324 If Point-in-Time Copy was running in \fBIndependent\fR mode as specified in the

```

```

325 \fB-e\fR \fBBind\fR options, above, the shadow volume data contains the same
326 data as it did before it was disabled (assuming no writes have occurred). Users
327 can access the master and shadow volumes, as they are now standalone
328 point-in-time copies.
329 .sp
330 During the time that the full copy is active, an \fBIndependent\fR volume
331 operates as though it is a \fBDependent\fR volume. To assure that the volume is
332 no longer in full copy mode, issue the following command to wait for the full
333 copy to complete:
334 .sp
335 .in +2
336 .nf
337 # iadm -w \fBivolume_set\fR
338 .fi
339 .in -2
340 .sp

342 .RE

344 .sp
345 .ne 2
346 .na
347 \fB\fB-p\fR \fB-u\fR \fBs\fR \fBivolume_set\fR\fR
348 .ad
349 .sp .6
350 .RS 4n
351 Update the shadow volume from the master.
352 .sp
353 Updates a point-in-time copy of the master volume to the shadow volume.
354 \fBivolume_set\fR is the Point-in-Time Copy shadow set containing the master and
355 shadow volumes. This option provides a fast resynchronization of the shadow
356 volume, creating an incremental copy of the master. This update copies all 32KB
357 segments flagged as different between the master and shadow volumes. It does
358 not copy all master volume data, only changed data. While the data is being
359 copied, the shadow is dependent upon the master volume.
360 .sp
361 Before using this option, momentarily quiesce the workload to the volumes; stop
362 the host application from writing to the volumes. This ensures that the
363 point-in-time data is consistent. You can visually check the status of this
364 copy or update operation with \fBiiadm\fR \fB-i\fR \fBivolume_set\fR, or
365 interactively (by means of a shell or script) with \fBiiadm\fR \fB-w\fR
366 \fBivolume_set\fR, before using the target volume for any other operations.
367 .sp
368 This command supports PID (Process Identifier) locking, by using the option
369 \fB-p\fR, \fBiiadm\fR \fB-p\fR \fB-u\fR \fBs\fR. Enabling this option prevents
370 other processes from taking a new point-in-time snapshot, thus invalidating
371 prior point-in-time data.
372 .RE

374 .sp
375 .ne 2
376 .na
377 \fB\fB-p\fR [\fB-n\fR] \fB-u\fR \fBm\fR \fBivolume_set\fR\fR
378 .ad
379 .sp .6
380 .RS 4n
381 Updates a point-in-time copy of the master volume from the shadow.
382 \fBivolume_set\fR is the Point-in-Time Copy volume set containing the master and
383 shadow. This option provides a fast resynchronization of the master volume,
384 creating an incremental copy of the shadow. This update copies all 32KB
385 segments flagged as different between the master and shadow volumes. It does
386 not copy all shadow volume data, only changed data. While the data is being
387 copied, the master is dependent upon the shadow volume.
388 .sp
389 Before using this option, momentarily quiesce the workload to the volumes; stop
390 the host application from writing to the volumes. This ensures that the

```

```

391 point-in-time data is consistent. You can visually check the status of this
392 copy or update operation with \fBiiadm\fR \fB-i\fR \fIvolume_set\fR, or
393 interactively (by means of a shell or script) with \fBiiadm\fR \fB-w\fR
394 \fIvolume_set\fR, before using the target volume for any other operations.
395 .sp
396 This command is query enabled to prevent accidentally overwriting the data on a
397 master volume. When this command option is used in scripts, add the \fB-n\fR
398 option to prevent the query from occurring.
399 .sp
400 This command supports PID (Process Identifier) locking, by using the option
401 \fB-p\fR, \fBiiadm\fR \fB-p\fR \fB-u\fR \fBm\fR. Enabling this option prevents
402 other processes from taking a new point-in-time snapshot, thus invalidating
403 prior point-in-time data.
404 .RE

406 .sp
407 .ne 2
408 .na
409 \fB[\fB-p\fR] \fB-c\fR s \fIvolume_set\fR\fR
410 .ad
411 .sp .6
412 .RS 4n
413 Copy the master volume to the shadow.
414 .sp
415 Creates a point-in-time copy of the master volume to the shadow volume.
416 \fIvolume_set\fR is the Point-in-Time Copy volume set containing the master and
417 shadow. This option writes all data in the point-in-time copy of the master
418 volume to the shadow volume. While the data is being copied from master to
419 shadow, the shadow is dependent on the master volume.
420 .sp
421 This option performs a full volume copy. Use \fBiiadm\fR \fB-u\fR \fBs\fR
422 unless the integrity of the data on the independent shadow volume is in doubt.
423 Otherwise, use this option to synchronize the master and shadow volumes; that
424 is, make the data on each volume match.
425 .sp
426 Before using this option, momentarily quiesce the workload to the volumes; stop
427 the host application from writing to the volumes. This ensures that the
428 point-in-time data is consistent. You can visually check the status of this
429 copy or update operation with \fBiiadm\fR \fB-i\fR \fIvolume_set\fR, or
430 interactively (by means of a shell or script) with \fBiiadm\fR \fB-w\fR
431 \fIvolume_set\fR, before using the target volume for any other operations.
432 .sp
433 This command supports PID (Process Identifier) locking, by using the \fB-p\fR
434 option, \fBiiadm\fR \fB-p\fR \fB-c\fR \fBs\fR. Enabling this option prevents
435 other processes from taking a new point-in-time snapshot, thus invalidating
436 prior point-in-time data.
437 .RE

439 .sp
440 .ne 2
441 .na
442 \fB\fB-c\fR \fBm\fR \fIvolume_set\fR\fR
443 .ad
444 .sp .6
445 .RS 4n
446 Copy the shadow volume to the master.
447 .sp
448 Creates a point-in-time copy of the shadow volume to the master volume.
449 \fIvolume_set\fR is the Point-in-Time Copy volume set containing the master and
450 shadow volumes. This option writes all data in the point-in-time copy of the
451 shadow volume to the master volume. While the data is being copied from the
452 shadow to the master, the master is dependent upon the shadow volume.
453 .sp
454 This option performs a full volume copy. Use \fBiiadm\fR \fB-u\fR \fBm\fR
455 unless the integrity of the data on the independent master is in doubt.
456 Otherwise, use this option to synchronize the master and shadow volumes; that

```

```

457 is, make the data on each volume match.
458 .sp
459 Before using this option, momentarily quiesce the workload to the volumes; stop
460 the host application from writing to the volumes. This ensures that the
461 point-in-time data is consistent. You can visually check the status of this
462 copy or update operation with \fBiiadm\fR \fB-i\fR \fIvolume_set\fR, or
463 interactively (by means of a shell or script) with \fBiiadm\fR \fB-w\fR
464 \fIvolume_set\fR, before using the target volume for any other operations.
465 .sp
466 This command is query-enabled to prevent accidentally overwriting the data on a
467 master volume. When this command option is used in scripts, add the \fB-n\fR
468 option to prevent the query from occurring.
469 .sp
470 This command supports PID (Process Identifier) locking, by using the \fB-p\fR
471 option, \fBiiadm\fR \fB-p\fR \fB-c\fR \fBm\fR. Enabling this option prevents
472 other processes from taking a new point-in-time snapshot, thus invalidating
473 prior point-in-time data.
474 .RE

476 .sp
477 .ne 2
478 .na
479 \fB\fB-a\fR \fIvolume_set\fR\fR
480 .ad
481 .sp .6
482 .RS 4n
483 Abort any current copy operation that might be active between the master and
484 shadow volumes. \fIvolume_set\fR is the Point-in-Time Copy volume set
485 containing the master and shadow volumes. After executing \fBiiadm\fR \fB-a\fR,
486 the update or copy to the target (master or shadow) volume is incomplete. The
487 target volume is now a dependent copy of the source volume. Reissue the update
488 or copy command option to resynchronize the volumes.
489 .RE

491 .sp
492 .ne 2
493 .na
494 \fB[\fB[\fB-p\fR\fB] [\fB-n\fR\fB] \fB-w\fR \fIvolume_set\fR\fR
495 .ad
496 .sp .6
497 .RS 4n
498 Wait until any in-progress copy or update operation completes or is aborted.
499 \fIvolume_set\fR is the Point-in-Time Copy volume set containing the master and
500 shadow volumes.
501 .sp
502 This option waits until the current Point-in-Time Copy operation is complete,
503 thus preventing a subsequent \fBiiadm\fR command (from a shell or script) from
504 executing. Use this command option when you need to be sure the copy or update
505 operation has completed.
506 .sp
507 This command supports PID (Process Identifier) unlocking. If a prior copy or
508 update, using a command \fBiiadm\fR \fB-p\fR \fB{\fR\fB-c\fR\fB}\fR\fB-u\fR\fB}
509 {m|s}\fR, was invoked with the \fB-p\fR option, upon completion of the wait
510 processing, if the current PID was the PID that locked the point-in-time data,
511 this option unlocks the data.
512 .RE

514 .sp
515 .ne 2
516 .na
517 \fB[\fB-i\fR \fIvolume_set\fR\fR
518 .ad
519 .sp .6
520 .RS 4n
521 Display status for the Point-in-Time Copy currently-enabled or -suspended
522 volume set. \fIvolume_set\fR is the Point-in-Time Copy volume set containing

```

```

523 the master and shadow volumes. If no \fIvolume_set\fR is specified, status is
524 displayed for all Point-in-Time Copy volume sets that are configured.
525 .RE

527 .sp
528 .ne 2
529 .na
530 \fB\fB-l\fR\fR
531 .ad
532 .sp .6
533 .RS 4n
534 List all currently configured Point-in-Time Copy volumes.
535 .RE

537 .sp
538 .ne 2
539 .na
540 \fB\fB-O\fR \fIoverflow_vol\fR\fR
541 .ad
542 .sp .6
543 .RS 4n
544 This option causes Point-in-Time Copy to initialize the specified
545 \fIoverflow_vol\fR for subsequent use as an overflow volume in conjunction with
546 Compact Dependent Shadow Volumes. To facilitate efficient, shared usage of this
547 overflow volume, it can be associated with multiple Point-in-Time Copy volume
548 sets on an as-needed basis.
549 .sp
550 During initialization of the \fIoverflow_vol\fR, the initiator of this option,
551 must answer the following question: "Initialize this overflow volume? yes/no" A
552 response of either "yes/no" is required before proceeding.
553 .sp
554 This option supports the \fB-n\fR option, so that the requested action is
555 performed without prompting. This option is useful for inclusion in a script.
556 The \fB-n\fR option must be specified first. For example, "\fBiiadm\fR
557 \fB-nO\fR \fBvol\fR" is valid; "\fBiiadm\fR \fB-On\fR \fBvol\fR" is not.
558 .sp
559 Make sure you want to initialize the data on the specified \fIoverflow_vol\fR,
560 especially when using the \fB-n\fR option.
561 .RE

563 .sp
564 .ne 2
565 .na
566 \fB\fB-A\fR \fIoverflow_vol\fR \fIvolume_set\fR\fR
567 .ad
568 .sp .6
569 .RS 4n
570 This option enables the specified \fIoverflow_vol\fR, for subsequent use as an
571 overflow volume in a situation where the size of the Compact Dependent Shadow
572 Volume is too small, or an unscheduled amount of change occurs to the volume
573 set. Overflow changed data would be redirected to the associated overflow
574 volume. \fIvolume_set\fR is the Point-in-Time Copy volume set containing the
575 master and shadow volumes.
576 .sp
577 If the \fIoverflow_vol\fR has not been initialized, this option initializes the
578 \fIoverflow_vol\fR (see \fB-O\fR option), then attaches the \fIoverflow_vol\fR
579 to the \fIvolume_set\fR.
580 .sp
581 If \fIoverflow_vol\fR was previously initialized, this option attaches the
582 \fIoverflow_vol\fR to the \fIvolume_set\fR.
583 .sp
584 This option supports the \fB-n\fR option, so that the requested action is
585 performed without prompting. This option is useful for inclusion in a script.
586 The \fB-n\fR option must be specified first. For example, "\fBiiadm\fR
587 \fB-nA\fR \fBvol\fR" is valid; "\fBiiadm\fR \fB-An\fR \fBvol\fR" is not.
588 .sp

```

```

589 Make sure you want to initialize the data on the specified \fIoverflow_vol\fR,
590 especially when using the \fB-n\fR option.
591 .RE

593 .sp
594 .ne 2
595 .na
596 \fB\fB-D\fR \fIvolume_set\fR\fR
597 .ad
598 .sp .6
599 .RS 4n
600 This option removes the overflow volume currently associated with the specified
601 \fIvolume_set\fR. If the overflow volume is currently in use by the
602 \fIvolume_set\fR, this operation fails with an "Overflow volume still in use"
603 error message. To resolve this situation, perform one of the operations
604 described below on the \fIvolume_set\fR. These operations momentarily clear out
605 all overflow writes that are associated with this volume set.
606 .sp
607 .ne 2
608 .na
609 \fB\fB-Babort\fR(\fB-a\fR)\fR
610 .ad
611 .sp .6
612 .RS 4n
613 Abort copy operation.
614 .RE

616 .sp
617 .ne 2
618 .na
619 \fB\fB-Bdisable\fR(\fB-d\fR)\fR
620 .ad
621 .sp .6
622 .RS 4n
623 Dissolve the volume set.
624 .RE

626 .sp
627 .ne 2
628 .na
629 \fB\fB-Bupdate\fR(\fB-u\fR)\fR
630 .ad
631 .sp .6
632 .RS 4n
633 Update the volume set.
634 .RE

636 .RE

638 .sp
639 .ne 2
640 .na
641 \fB\fB-L\fR\fR
642 .ad
643 .sp .6
644 .RS 4n
645 This option lists all overflow volumes which are associated with one or more
646 volume sets.
647 .RE

649 .sp
650 .ne 2
651 .na
652 \fB\fB-Q\fR \fIoverflow_vol\fR\fR
653 .ad
654 .sp .6

```

```

655 .RS 4n
656 This option displays the current status of the \fIoverflow_vol\fR.
657 .RE

659 .sp
660 .ne 2
661 .na
662 \fB\fB-E\fR \fIvolume_set\fR\fR
663 .ad
664 .sp .6
665 .RS 4n
666 Export the independent shadow volume of the Point-in-Time Copy volume set
667 specified by \fIvolume_set\fR. The shadow volume is to be made available to
668 another host for read/write access, by means of an enabling technology, such as
669 multi-ported devices. This other host is responsible for maintaining a bitmap
670 of differences that is used to merge with locally recorded differences to the
671 master when the shadow volume is rejoined to its master volume. While a shadow
672 volume is exported it must not be subject to an update or copy operation.
673 Perform an \fBiiadm\fR \fB-w\fR \fIvolume_set\fR command prior to invoking an
674 export command.
675 .RE

677 .sp
678 .ne 2
679 .na
680 \fB\fB-I\fR \fIvolume_set\fR \fIbitmap_vol\fR\fR
681 .ad
682 .sp .6
683 .RS 4n
684 Import the independent shadow volume of the Point-in-Time Copy volume set
685 specified by \fIvolume_set\fR. The shadow volume must have been previously
686 exported from a host by means of an enabling technology, such as multi-ported
687 devices. The import operation causes this host to start maintaining a bitmap of
688 differences as the volume is modified. The \fIbitmap_vol\fR should not be the
689 same as that used when the shadow volume was originally formed into a shadow
690 group.
691 .sp
692 After the exported/imported independent shadow volume is no longer needed by
693 the other node, you must enter a disable command so that the \fIbitmap_vol\fR
694 and its associated \fIshadow_vol\fR are consistent, prior to performing a join
695 operation. For example,
696 .sp
697 .in +2
698 .nf
699 # iiadm -d \fIvolume_set\fR
700 .fi
701 .in -2
702 .sp

704 .RE

706 .sp
707 .ne 2
708 .na
709 \fB\fB-J\fR \fIvolume_set\fR \fIbitmap_vol\fR\fR
710 .ad
711 .sp .6
712 .RS 4n
713 Join the \fIvolume_set\fR, using the \fIbitmap_vol\fR, with the master volume
714 set of the Point-in-Time Copy volume set. The bitmap volume supplied is read
715 and merged with the original volume to reconstruct the original volume set
716 consisting of the master, shadow, and bitmap volumes. The \fIbitmap_vol\fR to
717 be merged is the one obtained on the node that had imported the independent
718 shadow volume. There must be no write activity to the shadow volume on the
719 importing machine from the time the bitmap is copied over until the shadow is
720 once again imported.

```

```

721 .RE

723 .sp
724 .ne 2
725 .na
726 \fB\fB-g\fR \fIgroup_name\fR \fB-m\fR \fIvolume_set [volume_set2 ...]\fR\fR
727 .ad
728 .sp .6
729 .RS 4n
730 Add one or more existing Point-in-Time Copy \fIvolume_set(s)\fR into a user
731 specified \fIgroup_name\fR. This association of one or more Point-in-Time Copy
732 volume sets in a group allows the list of \fBiiadm\fR options shown below to be
733 performed on all volume sets within the \fIgroup_name\fR as a whole.
734 .sp
735 Only the commands \fBCOPY\fR (\fB-c\fR) and \fBUPDATE\fR (\fB-u\fR) are
736 performed atomically across all Point-in-Time Copy sets within the group. All
737 other grouped, \fBiiadm\fR commands are performed sequentially on each member
738 of the group.
739 .sp
740 The syntax of an \fBiiadm\fR group command is as follows:
741 .sp
742 .in +2
743 .nf
744 iiadm -g \fIgroup_name\fR [\fIoptions\fR]
745 .fi
746 .in -2
747 .sp

749 The \fIoptions\fR are as follows:
750 .sp
751 .ne 2
752 .na
753 \fB\fB-a\fR\fR
754 .ad
755 .sp .6
756 .RS 4n
757 Abort copy operation on all sets within \fIgroup_name\fR.
758 .RE

760 .sp
761 .ne 2
762 .na
763 \fB\fB-A\fR\fR
764 .ad
765 .sp .6
766 .RS 4n
767 Attach \fIoverflow_vol\fR to all sets within \fIgroup_name\fR.
768 .RE

770 .sp
771 .ne 2
772 .na
773 \fB\fB-c\fR \fB{s | m}\fR\fR
774 .ad
775 .sp .6
776 .RS 4n
777 Copy shadow/master for all sets within \fIgroup_name\fR.
778 .RE

780 .sp
781 .ne 2
782 .na
783 \fB\fB-D\fR\fR
784 .ad
785 .sp .6
786 .RS 4n

```

```
787 Detach \fIoverflow_vol\fR from all sets within \fIgroup_name\fR.
788 .RE

790 .sp
791 .ne 2
792 .na
793 \fB\fB-d\fR\fR
794 .ad
795 .sp .6
796 .RS 4n
797 Disable all sets within \fIgroup_name\fR.
798 .RE

800 .sp
801 .ne 2
802 .na
803 \fB\fB-E\fR\fR
804 .ad
805 .sp .6
806 .RS 4n
807 Export all volume sets within \fIgroup_name\fR.
808 .RE

810 .sp
811 .ne 2
812 .na
813 \fB\fB-i\fR\fR
814 .ad
815 .sp .6
816 .RS 4n
817 Status of all volume sets within \fIgroup_name\fR.
818 .RE

820 .sp
821 .ne 2
822 .na
823 \fB\fB-l\fR\fR
824 .ad
825 .sp .6
826 .RS 4n
827 List all volume sets within \fIgroup_name\fR.
828 .RE

830 .sp
831 .ne 2
832 .na
833 \fB\fB-L\fR\fR
834 .ad
835 .sp .6
836 .RS 4n
837 List all groups.
838 .RE

840 .sp
841 .ne 2
842 .na
843 \fB\fB-n\fR\fR
844 .ad
845 .sp .6
846 .RS 4n
847 Do not ask if an update of the master volume is what the user really intended.
848 .RE

850 .sp
851 .ne 2
852 .na
```

```
853 \fB\fB-P\fR\fR
854 .ad
855 .sp .6
856 .RS 4n
857 Set parameters on all volume sets within \fIgroup_name\fR.
858 .RE

860 .sp
861 .ne 2
862 .na
863 \fB\fB-R\fR\fR
864 .ad
865 .sp .6
866 .RS 4n
867 Reset all volume sets within \fIgroup_name\fR.
868 .RE

870 .sp
871 .ne 2
872 .na
873 \fB\fB-u\fR \fB{s | m}\fR\fR
874 .ad
875 .sp .6
876 .RS 4n
877 Update shadow/master for all sets within \fIgroup_name\fR.
878 .RE

880 .sp
881 .ne 2
882 .na
883 \fB\fB-w\fR\fR
884 .ad
885 .sp .6
886 .RS 4n
887 Wait for all volume sets within \fIgroup_name\fR.
888 .RE

890 .RE

892 .sp
893 .ne 2
894 .na
895 \fB\fB-g\fR \fB""\fR \fB-m\fR \fBIvolume_set\fR [\fBIvolume_set2 ... \fR]\fR
895 \fB\fB-g\fR \fB-" "\fR \fB-m\fR \fBIvolume_set\fR [\fBIvolume_set2 ... \fR]\fR
896 .ad
897 .sp .6
898 .RS 4n
899 Remove one or more existing Point-in-Time Copy \fBIvolume_set(s)\fR from their
900 currently associated \fIgroup_name\fR. By default, or until moved into a user
901 specified \fIgroup_name\fR, all Point-in-Time Copy \fBIvolume_set(s)\fR are in
902 the blank (\fB" "\fR) group. This association allows all the previously
903 documented \fBIadm\fR group commands to be performed against the blank (\fB"
904 "\fR) \fBIadm\fR \fIgroup_name\fR.
905 .RE

907 .sp
908 .ne 2
909 .na
910 \fB\fB-C\fR \fBIcluster_tag\fR\fR
911 .ad
912 .sp .6
913 .RS 4n
914 This Point-in-Time Copy option is a modifier that limits configuration
915 operations to only those volumes belonging to a Sun Cluster Resource Group, or
916 Disk Group.
917 .sp
```

```

918 In a Sun Cluster where the volume manager is Sun Cluster-aware, \fBiiadm\fR
919 automatically obtains the correct Disk Group information, therefore this option
920 is typically not required unless the volumes are part of an encompassing
921 Resource Group.
922 .sp
923 In a Sun Cluster where the volumes are accessible on the local node only, the
924 special \fIcluster_tag\fR of \fBlocal\fR is used to indicate volumes that are
925 not part of a Sun Cluster Resource Group or Disk Group.
926 .sp
927 If "\fB-L\fR" is given as a the \fIcluster_tag\fR argument, then \fBiiadm\fR
928 lists all cluster tags associated with Point-in-Time Copy.
929 .sp
930 This option is invalid when used on a Solaris system on which the Sun Cluster
931 package has not been installed or configured.
932 .RE

934 .sp
935 .ne 2
936 .na
937 \fB\fB-h\fR\fR
938 .ad
939 .sp .6
940 .RS 4n
941 Prints the \fBiiadm\fR usage summary.
942 .RE

944 .sp
945 .ne 2
946 .na
947 \fB\fB-v\fR\fR
948 .ad
949 .sp .6
950 .RS 4n
951 Display the current version of the Point-in-Time Copy software components.
952 .RE

954 .sp
955 .LP
956 Contact Sun Enterprise Services for assistance in using the remaining commands
957 in this section.
958 .sp
959 .ne 2
960 .na
961 \fB\fB-P\fR \fIdelay\fR \fIunit\fR \fIvolume_set\fR\fR
962 .ad
963 .sp .6
964 .RS 4n
965 Alter the Point-in-Time Copy volume set tuning parameters for the specified
966 \fIvolume_set\fR to \fIdelay\fR ticks, every \fIunit\fR I/O's. Delay ranges
967 from 2 to 10000 inclusive; unit ranges from 100 to 60000 inclusive.
968 .RE

970 .sp
971 .ne 2
972 .na
973 \fB\fB-R\fR \fIvolume\fR\fR
974 .ad
975 .sp .6
976 .RS 4n
977 After a volume has failed, Point-in-Time Copy places it offline. After
978 replacing the volume, place it back online using this option. Associated
979 dependent volumes in the Point-in-Time Copy volume set are also placed online.
980 After the volume is placed online, this command also starts any necessary
981 point-in-time volume updates.
982 .RE

```

```

984 .SH EXIT STATUS
985 .sp
986 .ne 2
987 .na
988 \fB\fB0\fR\fR
989 .ad
990 .RS 13n
991 Command completed successfully.
992 .RE

994 .sp
995 .ne 2
996 .na
997 \fB\fB>0\fR\fR
998 .ad
999 .RS 13n
1000 An error occurred.
1001 .RE

1003 .SH ATTRIBUTES
1004 .sp
1005 .LP
1006 See \fBattributes\fR(5) for descriptions of the following attributes:
1007 .sp

1009 .sp
1010 .TS
1011 box;
1012 c | c
1013 l | l .
1014 ATTRIBUTE TYPE ATTRIBUTE VALUE
1015 _
1016 Interface Stability Evolving
1017 .TE

1019 .SH SEE ALSO
1020 .sp
1021 .LP
1022 \fBbdsconfig\fR(1M), \fBbsvadm\fR(1M), \fBbds.log\fR(4), \fBbrdc.cf\fR(4),
1023 \fBattributes\fR(5), \fBbii\fR(7D), \fBbsv\fR(7D)

```