

A pair of credits:

Vladimir Saveliyev started as the most junior programmer on the team, and became the lead programmer. He is now an experienced highly productive programmer. He wrote the extent handling code for Reiser4, plus parts of the balancing code and file write and file read.

Nikita Danilov wrote most of the core balancing code, plugin infrastructure, and directory code. He steadily worked long hours, and is the reason so much of the Reiser4 plugin infrastructure is well abstracted in its details. The carry function, and the use of non-recursive balancing, are his idea.

Guessing about desired format.. Kernel 2.6.21.7-2.fc8xen is running.

Format 3.6 with standard journal

Count of blocks on the device: 19543040

Number of blocks consumed by mkreiserfs formatting process: 10578

Blocksize: 1024

Hash function used to sort names: "r5"

Journal Size 8126 blocks (first block 66)

Journal Max transaction length 256

inode generation number: 0

UUID: 237f6b82-fb9b-4ab2-8e3b-64001f31fbd3

Initializing journal - 0%....20%....40%....60%....80%....100%

Syncing..ok

Tell your friends to use a kernel based on 2.4.18 or later, and especially not a kernel based on 2.4.9, when you use reiserFS. Have fun.

ReiserFS is successfully created on /dev/sda5.

/dev/mapper/VolGroup00-LogVol00 on / type ext3 (rw)

proc on /proc type proc (rw)

sysfs on /sys type sysfs (rw)

devpts on /dev/pts type devpts (rw,gid=5,mode=620)

/dev/sda1 on /boot type ext3 (rw)

tmpfs on /dev/shm type tmpfs (rw)

none on /proc/sys/fs/binfmt\_misc type binfmt\_misc (rw)

sunrpc on /var/lib/nfs/rpc\_pipefs type rpc\_pipefs (rw)

/dev/sda5 on /mnt/xfstype reiserfs (rw)

Starting large file throughput test...

Issue command: tiotest -d /mnt/xfstype -f 100 -t 1 -b 256

Tiotest results for 1 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write 100 MBs	5.2 s	19.302 MB/s	6.9 %	78.3 %
Random Write 0 MBs	1.2 s	0.199 MB/s	0.0 %	0.3 %
Read 100 MBs	1.1 s	93.994 MB/s	26.7 %	72.9 %
Random Read 0 MBs	0.0 s	54.740 MB/s	89.7 %	0.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.011 ms	134.762 ms	0.00000	0.00000
Random Write	0.005 ms	0.031 ms	0.00000	0.00000

Read	0.002 ms	0.080 ms	0.00000	0.00000
Random Read	0.003 ms	0.021 ms	0.00000	0.00000
Total	0.007 ms	134.762 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 100 -t 1 -b 8192

Tiotest results for 1 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write 100 MBs	2.2 s	46.447 MB/s	0.7 %	20.8 %
Random Write 8 MBs	1.3 s	6.133 MB/s	0.0 %	0.9 %
Read 100 MBs	0.1 s	1483.834 MB/s	5.9 %	89.0 %
Random Read 8 MBs	0.0 s	1236.938 MB/s	0.0 %	63.3 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.125 ms	317.739 ms	0.00000	0.00000
Random Write	0.011 ms	0.038 ms	0.00000	0.00000
Read	0.005 ms	0.047 ms	0.00000	0.00000
Random Read	0.005 ms	0.054 ms	0.00000	0.00000
Total	0.061 ms	317.739 ms	0.00000	0.00000

Starting multi-thread throughput test ...

Issue command: tiotest -d /mnt/xfstest -f 10 -t 8 -b 256

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write 80 MBs	75.3 s	1.062 MB/s	5.2 %	1372.4 %
Random Write 2 MBs	4.5 s	0.437 MB/s	1.4 %	16.6 %
Read 80 MBs	0.7 s	110.763 MB/s	205.5 %	835.8 %
Random Read 2 MBs	0.0 s	75.782 MB/s	124.2 %	667.4 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	1.604 ms	20925.680 ms	0.01373	0.00275
Random Write	0.029 ms	34.355 ms	0.00000	0.00000
Read	0.007 ms	300.118 ms	0.00000	0.00000
Random Read	0.007 ms	13.931 ms	0.00000	0.00000
Total	0.787 ms	20925.680 ms	0.00670	0.00134

Issue command: tiotest -d /mnt/xfstest -f 10 -t 8 -b 8192

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	80 MBs   1.7 s	47.257 MB/s	4.7 %	205.1 %
Random Write	62 MBs   2.4 s	25.982 MB/s	3.3 %	47.9 %
Read	80 MBs   0.0 s	1800.585 MB/s	45.0 %	486.2 %
Random Read	62 MBs   0.0 s	1534.269 MB/s	49.1 %	540.1 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.741 ms	550.584 ms	0.00000	0.00000
Random Write	0.036 ms	30.534 ms	0.00000	0.00000
Read	0.011 ms	22.120 ms	0.00000	0.00000
Random Read	0.008 ms	0.293 ms	0.00000	0.00000
Total	0.221 ms	550.584 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 256

Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs   33.3 s	4.807 MB/s	27.0 %	1856.2 %
Random Write	4 MBs   10.8 s	0.362 MB/s	5.3 %	23.4 %
Read	160 MBs   1.5 s	110.286 MB/s	294.5 %	1236.1 %
Random Read	4 MBs   0.1 s	77.957 MB/s	439.1 %	790.3 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.562 ms	21375.837 ms	0.00137	0.00137
Random Write	0.041 ms	49.729 ms	0.00000	0.00000
Read	0.012 ms	700.263 ms	0.00000	0.00000
Random Read	0.005 ms	6.326 ms	0.00000	0.00000
Total	0.281 ms	21375.837 ms	0.00067	0.00067

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 8192

Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs   3.4 s	47.550 MB/s	2.3 %	283.8 %
Random Write	125 MBs   4.0 s	30.882 MB/s	11.9 %	143.1 %
Read	160 MBs   0.1 s	1819.960 MB/s	72.8 %	459.6 %
Random Read	125 MBs   0.1 s	1551.061 MB/s	158.8 %	814.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	1.460 ms	1006.722 ms	0.00000	0.00000
Random Write	0.078 ms	97.273 ms	0.00000	0.00000
Read	0.011 ms	43.848 ms	0.00000	0.00000
Random Read	0.007 ms	0.200 ms	0.00000	0.00000
Total	0.432 ms	1006.722 ms	0.00000	0.00000

A pair of credits:

Many persons came to [www.namesys.com/support.html](http://www.namesys.com/support.html), and got a question answered for \$25, or just gave us a small donation there.

Continuing core development of ReiserFS is mostly paid for by Hans Reiser from money made selling licenses in addition to the GPL to companies who don't want it known that they use ReiserFS as a foundation for their proprietary product. And my lawyer asked 'People pay you money for this?'. Yup. Life is good. If you buy ReiserFS, you can focus on your value add rather than reinventing an entire FS.

Guessing about desired format.. Kernel 2.6.21.7-2.fc8xen is running.

Format 3.6 with standard journal

Count of blocks on the device: 9771520

Number of blocks consumed by mkreiserfs formatting process: 8824

Blocksize: 2048

Hash function used to sort names: "r5"

Journal Size 8193 blocks (first block 34)

Journal Max transaction length 512

inode generation number: 0

UUID: 8777c2be-18b2-4521-908d-ac2ebb542533

Initializing journal - 0%....20%....40%....60%....80%....100%

Syncing..ok

Tell your friends to use a kernel based on 2.4.18 or later, and especially not a kernel based on 2.4.9, when you use reiserFS. Have fun.

ReiserFS is successfully created on /dev/sda5.

/dev/mapper/VolGroup00-LogVol00 on / type ext3 (rw)

proc on /proc type proc (rw)

sysfs on /sys type sysfs (rw)

devpts on /dev/pts type devpts (rw,gid=5,mode=620)

/dev/sda1 on /boot type ext3 (rw)

tmpfs on /dev/shm type tmpfs (rw)

none on /proc/sys/fs/binfmt\_misc type binfmt\_misc (rw)

sunrpc on /var/lib/nfs/rpc\_pipefs type rpc\_pipefs (rw)

/dev/sda5 on /mnt/xfstype reiserfs (rw)

Starting large file throughput test...

=====  
Issue command: tiotest -d /mnt/xfstype -f 100 -t 1 -b 256

Tiotest results for 1 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
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Write	100 MBs	4.2 s	24.091 MB/s	6.9 %	72.5 %
Random Write	0 MBs	1.2 s	0.199 MB/s	0.0 %	0.3 %
Read	100 MBs	1.1 s	94.072 MB/s	23.0 %	76.8 %
Random Read	0 MBs	0.0 s	61.574 MB/s	0.0 %	0.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.007 ms	10.259 ms	0.00000	0.00000
Random Write	0.004 ms	0.032 ms	0.00000	0.00000
Read	0.002 ms	0.080 ms	0.00000	0.00000
Random Read	0.002 ms	0.019 ms	0.00000	0.00000
Total	0.005 ms	10.259 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 100 -t 1 -b 8192

Tiotest results for 1 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	1.9 s	53.006 MB/s	0.2 %	18.0 %
Random Write	1.3 s	6.196 MB/s	0.0 %	1.3 %
Read	0.1 s	1521.468 MB/s	18.3 %	85.2 %
Random Read	0.0 s	828.561 MB/s	0.0 %	84.8 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.076 ms	429.190 ms	0.00000	0.00000
Random Write	0.010 ms	0.035 ms	0.00000	0.00000
Read	0.004 ms	0.140 ms	0.00000	0.00000
Random Read	0.007 ms	0.035 ms	0.00000	0.00000
Total	0.038 ms	429.190 ms	0.00000	0.00000

Starting multi-thread throughput test ...

Issue command: tiotest -d /mnt/xfstest -f 10 -t 8 -b 256

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	17.1 s	4.675 MB/s	36.9 %	1399.1 %
Random Write	5.0 s	0.389 MB/s	1.9 %	13.5 %
Read	0.9 s	89.617 MB/s	181.5 %	676.6 %
Random Read	0.0 s	63.100 MB/s	38.8 %	348.9 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.352 ms	5025.325 ms	0.00397	0.00000
Random Write	0.027 ms	11.839 ms	0.00000	0.00000
Read	0.008 ms	567.320 ms	0.00000	0.00000
Random Read	0.005 ms	6.188 ms	0.00000	0.00000
Total	0.176 ms	5025.325 ms	0.00194	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 8 -b 8192  
 Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write 80 MBs	2.0 s	40.294 MB/s	4.6 %	158.2 %
Random Write 62 MBs	3.0 s	20.493 MB/s	8.4 %	34.0 %
Read 80 MBs	0.4 s	208.297 MB/s	9.4 %	46.9 %
Random Read 62 MBs	0.0 s	1534.910 MB/s	127.7 %	628.7 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.380 ms	413.722 ms	0.00000	0.00000
Random Write	0.060 ms	83.260 ms	0.00000	0.00000
Read	0.093 ms	178.599 ms	0.00000	0.00000
Random Read	0.008 ms	0.122 ms	0.00000	0.00000
Total	0.148 ms	413.722 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 256  
 Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write 160 MBs	60.6 s	2.638 MB/s	23.5 %	2208.2 %
Random Write 4 MBs	12.6 s	0.311 MB/s	3.8 %	15.9 %
Read 160 MBs	1.5 s	109.717 MB/s	372.8 %	1487.3 %
Random Read 4 MBs	0.1 s	77.685 MB/s	214.8 %	899.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	1.049 ms	11852.024 ms	0.00809	0.00076
Random Write	0.028 ms	34.590 ms	0.00000	0.00000
Read	0.017 ms	1121.428 ms	0.00000	0.00000
Random Read	0.005 ms	12.506 ms	0.00000	0.00000
Total	0.521 ms	11852.024 ms	0.00395	0.00037

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 8192

Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs   7.0 s	22.801 MB/s	9.7 %	1093.2 %
Random Write	125 MBs   9.7 s	12.927 MB/s	2.7 %	53.6 %
Read	160 MBs   9.0 s	17.812 MB/s	0.0 %	6.9 %
Random Read	125 MBs   20.2 s	6.198 MB/s	0.0 %	1.7 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	2.444 ms	984.037 ms	0.00000	0.00000
Random Write	0.087 ms	171.109 ms	0.00000	0.00000
Read	5.037 ms	1618.251 ms	0.00000	0.00000
Random Read	13.568 ms	1732.366 ms	0.00000	0.00000
Total	5.094 ms	1732.366 ms	0.00000	0.00000

A pair of credits:

Oleg Drokin was the debugger for V3 during most of the time that V4 was under development, and was quite skilled and fast at it. He wrote the large write optimization of V3.

SuSE (www.suse.com) pays for continuing work on journaling for version 3, paid for much of the previous version 3 work, and is paying for Chris and Jeff to do V3 maintenance. Reiserfs integration in their distro is consistently solid, and they were key to our becoming widely used.

Guessing about desired format.. Kernel 2.6.21.7-2.fc8xen is running.

Format 3.6 with standard journal

Count of blocks on the device: 4885760

Number of blocks consumed by mkreiserfs formatting process: 8361

Blocksize: 4096

Hash function used to sort names: "r5"

Journal Size 8193 blocks (first block 18)

Journal Max transaction length 1024

inode generation number: 0

UUID: a53deea4-7857-45f4-a7da-8e25e2b1994a

Initializing journal - 0%....20%....40%....60%....80%....100%

Syncing..ok

Tell your friends to use a kernel based on 2.4.18 or later, and especially not a kernel based on 2.4.9, when you use reiserFS. Have fun.

ReiserFS is successfully created on /dev/sda5.

/dev/mapper/VolGroup00-LogVol00 on / type ext3 (rw)

proc on /proc type proc (rw)

sysfs on /sys type sysfs (rw)

devpts on /dev/pts type devpts (rw,gid=5,mode=620)

```

/dev/sda1 on /boot type ext3 (rw)
tmpfs on /dev/shm type tmpfs (rw)
none on /proc/sys/fs/binfmt_misc type binfmt_misc (rw)
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw)
/dev/sda5 on /mnt/xfst type reiserfs (rw)
Starting large file throughput test...

```

```

=====
Issue command: tiotest -d /mnt/xfst -f 100 -t 1 -b 256
Tiotest results for 1 concurrent io threads:

```

Item	Time	Rate	Usr CPU	Sys CPU
Write 100 MBs	3.4 s	29.079 MB/s	7.6 %	74.2 %
Random Write 0 MBs	1.2 s	0.198 MB/s	0.0 %	0.3 %
Read 100 MBs	1.1 s	94.165 MB/s	23.7 %	76.1 %
Random Read 0 MBs	0.0 s	62.170 MB/s	0.0 %	0.0 %

```

Tiotest latency results:

```

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.006 ms	3.335 ms	0.00000	0.00000
Random Write	0.004 ms	0.028 ms	0.00000	0.00000
Read	0.002 ms	0.065 ms	0.00000	0.00000
Random Read	0.002 ms	0.020 ms	0.00000	0.00000
Total	0.004 ms	3.335 ms	0.00000	0.00000

```

Issue command: tiotest -d /mnt/xfst -f 100 -t 1 -b 8192
Tiotest results for 1 concurrent io threads:

```

Item	Time	Rate	Usr CPU	Sys CPU
Write 100 MBs	1.7 s	59.677 MB/s	0.7 %	18.9 %
Random Write 8 MBs	1.2 s	6.313 MB/s	0.0 %	0.6 %
Read 100 MBs	0.1 s	1541.093 MB/s	30.8 %	67.8 %
Random Read 8 MBs	0.0 s	1250.200 MB/s	0.0 %	64.0 %

```

Tiotest latency results:

```

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.027 ms	12.009 ms	0.00000	0.00000
Random Write	0.009 ms	0.034 ms	0.00000	0.00000
Read	0.004 ms	0.042 ms	0.00000	0.00000
Random Read	0.005 ms	0.024 ms	0.00000	0.00000
Total	0.015 ms	12.009 ms	0.00000	0.00000

```

Starting multi-thread throughput test ...

```

```

=====
Issue command: tiotest -d /mnt/xfst -f 10 -t 8 -b 256

```

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	80 MBs   12.1 s	6.602 MB/s	30.2 %	670.7 %
Random Write	2 MBs   6.1 s	0.319 MB/s	0.9 %	8.8 %
Read	80 MBs   0.7 s	108.681 MB/s	136.4 %	668.4 %
Random Read	2 MBs   0.0 s	76.840 MB/s	157.4 %	661.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.119 ms	4928.995 ms	0.00031	0.00000
Random Write	0.020 ms	10.651 ms	0.00000	0.00000
Read	0.006 ms	100.075 ms	0.00000	0.00000
Random Read	0.004 ms	0.108 ms	0.00000	0.00000
Total	0.061 ms	4928.995 ms	0.00015	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 8 -b 8192

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	80 MBs   3.5 s	22.821 MB/s	5.2 %	380.7 %
Random Write	62 MBs   3.3 s	19.060 MB/s	2.0 %	36.7 %
Read	80 MBs   0.0 s	1825.234 MB/s	73.0 %	310.3 %
Random Read	62 MBs   0.0 s	1555.229 MB/s	59.7 %	696.8 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.529 ms	512.722 ms	0.00000	0.00000
Random Write	0.043 ms	17.871 ms	0.00000	0.00000
Read	0.007 ms	0.083 ms	0.00000	0.00000
Random Read	0.010 ms	19.962 ms	0.00000	0.00000
Total	0.162 ms	512.722 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 256

Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs   23.2 s	6.886 MB/s	74.2 %	1843.3 %
Random Write	4 MBs   16.4 s	0.238 MB/s	1.6 %	12.7 %
Read	160 MBs   1.5 s	110.234 MB/s	363.0 %	1578.9 %
Random Read	4 MBs   0.1 s	77.676 MB/s	135.2 %	898.9 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.333 ms	1598.846 ms	0.00000	0.00000
Random Write	0.031 ms	45.304 ms	0.00000	0.00000
Read	0.016 ms	700.259 ms	0.00000	0.00000
Random Read	0.004 ms	6.426 ms	0.00000	0.00000
Total	0.171 ms	1598.846 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 8192  
 Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs   12.8 s	12.511 MB/s	4.5 %	636.3 %
Random Write	125 MBs   6.9 s	18.080 MB/s	5.2 %	63.6 %
Read	160 MBs   0.1 s	1804.728 MB/s	49.6 %	446.7 %
Random Read	125 MBs   0.1 s	1558.895 MB/s	64.9 %	698.4 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	1.908 ms	5929.702 ms	0.01465	0.00000
Random Write	0.056 ms	98.267 ms	0.00000	0.00000
Read	0.010 ms	33.325 ms	0.00000	0.00000
Random Read	0.007 ms	0.089 ms	0.00000	0.00000
Total	0.552 ms	5929.702 ms	0.00411	0.00000

A pair of credits:

Yury Umanets (aka Umka) developed libreiser4, userspace plugins, and all userspace tools (reiser4progs) except of fsck.

Edward Shushkin wrote the encryption and compression file plugins, and the V3 journal relocation code.

Guessing about desired format.. Kernel 2.6.21.7-2.fc8xen is running.

Format 3.6 with standard journal

Count of blocks on the device: 19543040

Number of blocks consumed by mkreiserfs formatting process: 10578

Blocksize: 1024

Hash function used to sort names: "r5"

Journal Size 8126 blocks (first block 66)

Journal Max transaction length 256

inode generation number: 0

UUID: 95fffc2f-d860-4d80-bcea-5da464e68f93

Initializing journal - 0%...20%...40%...60%...80%...100%

Syncing..ok

Tell your friends to use a kernel based on 2.4.18 or later, and especially not a kernel based on 2.4.9, when you use reiserFS. Have fun.

```
ReiserFS is successfully created on /dev/sda5.
/dev/mapper/VolGroup00-LogVol00 on / type ext3 (rw)
proc on /proc type proc (rw)
sysfs on /sys type sysfs (rw)
devpts on /dev/pts type devpts (rw,gid=5,mode=620)
/dev/sda1 on /boot type ext3 (rw)
tmpfs on /dev/shm type tmpfs (rw)
none on /proc/sys/fs/binfmt_misc type binfmt_misc (rw)
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw)
/dev/sda5 on /mnt/xfstype reiserfs (rw)
Starting large file throughput test...
```

```
=====  
Issue command: tiotest -d /mnt/xfstype -f 100 -t 1 -b 256  
Tiotest results for 1 concurrent io threads:
```

Item	Time	Rate	Usr CPU	Sys CPU	
Write	100 MBs	5.2 s	19.215 MB/s	5.8 %	78.5 %
Random Write	0 MBs	1.2 s	0.206 MB/s	0.0 %	0.7 %
Read	100 MBs	1.1 s	93.756 MB/s	23.6 %	76.5 %
Random Read	0 MBs	0.0 s	61.667 MB/s	0.0 %	0.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.011 ms	213.397 ms	0.00000	0.00000
Random Write	0.005 ms	0.030 ms	0.00000	0.00000
Read	0.002 ms	0.750 ms	0.00000	0.00000
Random Read	0.002 ms	0.025 ms	0.00000	0.00000
Total	0.007 ms	213.397 ms	0.00000	0.00000

```
Issue command: tiotest -d /mnt/xfstype -f 100 -t 1 -b 8192  
Tiotest results for 1 concurrent io threads:
```

Item	Time	Rate	Usr CPU	Sys CPU	
Write	100 MBs	2.1 s	46.550 MB/s	0.4 %	20.9 %
Random Write	8 MBs	1.2 s	6.340 MB/s	0.0 %	1.0 %
Read	100 MBs	0.1 s	1510.209 MB/s	6.0 %	90.6 %
Random Read	8 MBs	0.0 s	1253.007 MB/s	0.0 %	64.2 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.117 ms	352.697 ms	0.00000	0.00000
Random Write	0.011 ms	0.037 ms	0.00000	0.00000
Read	0.004 ms	0.047 ms	0.00000	0.00000
Random Read	0.005 ms	0.024 ms	0.00000	0.00000

Total	0.057 ms	352.697 ms	0.00000	0.00000
-------	----------	------------	---------	---------

Starting multi-thread throughput test ...

Issue command: tiotest -d /mnt/xfstest -f 10 -t 8 -b 256

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write 80 MBs	42.6 s	1.880 MB/s	10.2 %	851.2 %
Random Write 2 MBs	4.6 s	0.426 MB/s	1.9 %	15.6 %
Read 80 MBs	0.7 s	110.711 MB/s	120.7 %	565.8 %
Random Read 2 MBs	0.0 s	78.282 MB/s	176.4 %	497.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.545 ms	34539.651 ms	0.00244	0.00092
Random Write	0.025 ms	8.904 ms	0.00000	0.00000
Read	0.005 ms	179.600 ms	0.00000	0.00000
Random Read	0.005 ms	6.492 ms	0.00000	0.00000
Total	0.269 ms	34539.651 ms	0.00119	0.00045

Issue command: tiotest -d /mnt/xfstest -f 10 -t 8 -b 8192

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write 80 MBs	1.6 s	49.699 MB/s	3.5 %	318.1 %
Random Write 62 MBs	2.4 s	26.299 MB/s	1.3 %	62.4 %
Read 80 MBs	0.0 s	1817.769 MB/s	36.4 %	345.4 %
Random Read 62 MBs	0.0 s	1549.254 MB/s	327.2 %	416.5 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.552 ms	275.670 ms	0.00000	0.00000
Random Write	0.049 ms	27.188 ms	0.00000	0.00000
Read	0.007 ms	0.189 ms	0.00000	0.00000
Random Read	0.007 ms	1.116 ms	0.00000	0.00000
Total	0.169 ms	275.670 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 256

Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs	13.1 s	12.186 MB/s	64.3 %
Random Write	4 MBs	9.0 s	0.433 MB/s	4.9 %
Read	160 MBs	1.5 s	110.121 MB/s	411.9 %
Random Read	4 MBs	0.1 s	77.820 MB/s	207.2 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.262 ms	2688.744 ms	0.00198	0.00000
Random Write	0.044 ms	69.844 ms	0.00000	0.00000
Read	0.015 ms	824.765 ms	0.00000	0.00000
Random Read	0.004 ms	6.224 ms	0.00000	0.00000
Total	0.136 ms	2688.744 ms	0.00097	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 8192

Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs	4.0 s	39.923 MB/s	5.2 %
Random Write	125 MBs	3.9 s	31.865 MB/s	9.8 %
Read	160 MBs	0.1 s	1682.316 MB/s	37.9 %
Random Read	125 MBs	0.1 s	1567.457 MB/s	105.3 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	1.586 ms	1237.330 ms	0.00000	0.00000
Random Write	0.099 ms	100.440 ms	0.00000	0.00000
Read	0.010 ms	32.437 ms	0.00000	0.00000
Random Read	0.007 ms	0.077 ms	0.00000	0.00000
Total	0.471 ms	1237.330 ms	0.00000	0.00000

A pair of credits:

Continuing core development of ReiserFS is mostly paid for by Hans Reiser from money made selling licenses in addition to the GPL to companies who don't want it known that they use ReiserFS as a foundation for their proprietary product. And my lawyer asked 'People pay you money for this?'. Yup. Life is good. If you buy ReiserFS, you can focus on your value add rather than reinventing an entire FS.

Yury Umanets (aka Umka) developed libreiser4, userspace plugins, and all userspace tools (reiser4progs) except of fsck.

Guessing about desired format.. Kernel 2.6.21.7-2.fc8xen is running.

```

Format 3.6 with standard journal
Count of blocks on the device: 9771520
Number of blocks consumed by mkreiserfs formatting process: 8824
Blocksize: 2048
Hash function used to sort names: "r5"
Journal Size 8193 blocks (first block 34)
Journal Max transaction length 512
inode generation number: 0
UUID: a4f043f5-d26b-451f-aca1-10038604519b
Initializing journal - 0%....20%....40%....60%....80%....100%
Syncing..ok

```

Tell your friends to use a kernel based on 2.4.18 or later, and especially not a kernel based on 2.4.9, when you use reiserFS. Have fun.

```

ReiserFS is successfully created on /dev/sda5.
/dev/mapper/VolGroup00-LogVol00 on / type ext3 (rw)
proc on /proc type proc (rw)
sysfs on /sys type sysfs (rw)
devpts on /dev/pts type devpts (rw,gid=5,mode=620)
/dev/sda1 on /boot type ext3 (rw)
tmpfs on /dev/shm type tmpfs (rw)
none on /proc/sys/fs/binfmt_misc type binfmt_misc (rw)
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw)
/dev/sda5 on /mnt/xfstype reiserfs (rw)
Starting large file throughput test...

```

```

=====
Issue command: tiotest -d /mnt/xfstype -f 100 -t 1 -b 256
Tiotest results for 1 concurrent io threads:

```

Item	Time	Rate	Usr CPU	Sys CPU
Write 100 MBs	4.2 s	23.877 MB/s	6.7 %	71.7 %
Random Write 0 MBs	1.2 s	0.203 MB/s	0.0 %	0.3 %
Read 100 MBs	1.1 s	94.538 MB/s	25.3 %	74.9 %
Random Read 0 MBs	0.0 s	61.527 MB/s	0.0 %	0.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.008 ms	54.875 ms	0.00000	0.00000
Random Write	0.004 ms	0.033 ms	0.00000	0.00000
Read	0.002 ms	0.068 ms	0.00000	0.00000
Random Read	0.002 ms	0.022 ms	0.00000	0.00000
Total	0.005 ms	54.875 ms	0.00000	0.00000

```

Issue command: tiotest -d /mnt/xfstype -f 100 -t 1 -b 8192
Tiotest results for 1 concurrent io threads:

```

Item	Time	Rate	Usr CPU	Sys CPU
Write 100 MBs	1.8 s	55.629 MB/s	0.7 %	19.4 %

Random Write	8 MBs	1.3 s	6.071 MB/s	0.0 %	0.9 %
Read	100 MBs	0.1 s	1518.303 MB/s	6.1 %	91.1 %
Random Read	8 MBs	0.0 s	1257.646 MB/s	0.0 %	64.4 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.049 ms	166.740 ms	0.00000	0.00000
Random Write	0.010 ms	0.037 ms	0.00000	0.00000
Read	0.004 ms	0.052 ms	0.00000	0.00000
Random Read	0.005 ms	0.026 ms	0.00000	0.00000
Total	0.025 ms	166.740 ms	0.00000	0.00000

Starting multi-thread throughput test ...

=====  
 Issue command: tiotest -d /mnt/xfp -f 10 -t 8 -b 256

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	80 MBs   16.9 s	4.731 MB/s	23.0 %	1328.4 %
Random Write	2 MBs   5.8 s	0.337 MB/s	2.2 %	9.4 %
Read	80 MBs   0.7 s	111.214 MB/s	221.3 %	1002.1 %
Random Read	2 MBs   0.0 s	78.344 MB/s	160.5 %	369.1 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.341 ms	6078.155 ms	0.00305	0.00000
Random Write	0.030 ms	2.471 ms	0.00000	0.00000
Read	0.012 ms	300.122 ms	0.00000	0.00000
Random Read	0.004 ms	0.053 ms	0.00000	0.00000
Total	0.172 ms	6078.155 ms	0.00149	0.00000

Issue command: tiotest -d /mnt/xfp -f 10 -t 8 -b 8192

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	80 MBs   4.6 s	17.535 MB/s	4.2 %	799.3 %
Random Write	62 MBs   3.5 s	17.948 MB/s	0.6 %	35.5 %
Read	80 MBs   0.0 s	1795.493 MB/s	44.9 %	359.1 %
Random Read	62 MBs   0.0 s	1551.215 MB/s	119.1 %	407.1 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
------	-----------------	-----------------	----------	-----------

Write	1.623 ms	2101.844 ms	0.01953	0.00000
Random Write	0.039 ms	23.602 ms	0.00000	0.00000
Read	0.009 ms	11.025 ms	0.00000	0.00000
Random Read	0.007 ms	0.112 ms	0.00000	0.00000
Total	0.468 ms	2101.844 ms	0.00548	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 256  
 Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write 160 MBs	135.1 s	1.184 MB/s	16.5 %	2779.4 %
Random Write 4 MBs	13.8 s	0.284 MB/s	2.9 %	14.6 %
Read 160 MBs	1.5 s	110.139 MB/s	357.1 %	1369.4 %
Random Read 4 MBs	0.1 s	76.173 MB/s	187.2 %	998.5 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	2.862 ms	58387.019 ms	0.02060	0.00793
Random Write	0.033 ms	46.838 ms	0.00000	0.00000
Read	0.013 ms	940.320 ms	0.00000	0.00000
Random Read	0.005 ms	25.067 ms	0.00000	0.00000
Total	1.404 ms	58387.019 ms	0.01005	0.00387

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 8192  
 Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write 160 MBs	9.5 s	16.808 MB/s	9.1 %	1715.5 %
Random Write 125 MBs	5.9 s	21.156 MB/s	2.3 %	89.6 %
Read 160 MBs	0.1 s	1823.050 MB/s	113.9 %	387.4 %
Random Read 125 MBs	0.1 s	1568.578 MB/s	110.4 %	732.9 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	3.669 ms	5171.688 ms	0.02930	0.00000
Random Write	0.066 ms	122.210 ms	0.00000	0.00000
Read	0.011 ms	43.552 ms	0.00000	0.00000
Random Read	0.007 ms	0.125 ms	0.00000	0.00000
Total	1.049 ms	5171.688 ms	0.00822	0.00000

A pair of credits:

Alexander Zarochentcev (zam) wrote the high low priority locking code, online resizer for V3 and V4, online repacker for V4, block allocation code, and major parts of the flush code, and maintains the transaction manager code. We give him the stuff that we know will be hard to debug, or needs to be very cleanly structured.

The Defense Advanced Research Projects Agency (DARPA, [www.darpa.mil](http://www.darpa.mil)) is the primary sponsor of Reiser4. DARPA does not endorse this project; it merely sponsors it.

```

Guessing about desired format.. Kernel 2.6.21.7-2.fc8xen is running.
Format 3.6 with standard journal
Count of blocks on the device: 4885760
Number of blocks consumed by mkreiserfs formatting process: 8361
Blocksize: 4096
Hash function used to sort names: "r5"
Journal Size 8193 blocks (first block 18)
Journal Max transaction length 1024
inode generation number: 0
UUID: ebb9ba50-578f-4424-a43a-5153d862bae2
Initializing journal - 0%...20%...40%...60%...80%...100%
Syncing..ok

```

Tell your friends to use a kernel based on 2.4.18 or later, and especially not a kernel based on 2.4.9, when you use reiserFS. Have fun.

```

ReiserFS is successfully created on /dev/sda5.
/dev/mapper/VolGroup00-LogVol00 on / type ext3 (rw)
proc on /proc type proc (rw)
sysfs on /sys type sysfs (rw)
devpts on /dev/pts type devpts (rw,gid=5,mode=620)
/dev/sda1 on /boot type ext3 (rw)
tmpfs on /dev/shm type tmpfs (rw)
none on /proc/sys/fs/binfmt_misc type binfmt_misc (rw)
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw)
/dev/sda5 on /mnt/xfstype reiserfs (rw)
Starting large file throughput test...

```

```

=====
Issue command: tiotest -d /mnt/xfstype -f 100 -t 1 -b 256
Tiotest results for 1 concurrent io threads:

```

Item	Time	Rate	Usr CPU	Sys CPU
Write 100 MBs	3.4 s	29.036 MB/s	7.1 %	74.0 %
Random Write 0 MBs	1.3 s	0.189 MB/s	0.0 %	0.3 %
Read 100 MBs	1.1 s	93.877 MB/s	28.5 %	71.4 %
Random Read 0 MBs	0.0 s	61.933 MB/s	0.0 %	0.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.006 ms	17.368 ms	0.00000	0.00000
Random Write	0.004 ms	0.027 ms	0.00000	0.00000
Read	0.002 ms	0.241 ms	0.00000	0.00000

Random Read	0.002 ms	0.019 ms	0.00000	0.00000
Total	0.004 ms	17.368 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 100 -t 1 -b 8192

Tiotest results for 1 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write 100 MBs	1.7 s	59.098 MB/s	0.5 %	20.3 %
Random Write 8 MBs	1.2 s	6.338 MB/s	0.0 %	0.6 %
Read 100 MBs	0.1 s	1511.442 MB/s	6.0 %	90.7 %
Random Read 8 MBs	0.0 s	1251.402 MB/s	0.0 %	64.1 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.026 ms	12.307 ms	0.00000	0.00000
Random Write	0.009 ms	0.038 ms	0.00000	0.00000
Read	0.004 ms	0.086 ms	0.00000	0.00000
Random Read	0.005 ms	0.067 ms	0.00000	0.00000
Total	0.015 ms	12.307 ms	0.00000	0.00000

Starting multi-thread throughput test ...

Issue command: tiotest -d /mnt/xfstest -f 10 -t 8 -b 256

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write 80 MBs	48.0 s	1.666 MB/s	5.8 %	1434.4 %
Random Write 2 MBs	5.6 s	0.350 MB/s	2.9 %	9.3 %
Read 80 MBs	0.7 s	108.197 MB/s	162.8 %	557.2 %
Random Read 2 MBs	0.0 s	77.462 MB/s	222.1 %	491.8 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	1.051 ms	40896.425 ms	0.00183	0.00183
Random Write	0.021 ms	7.484 ms	0.00000	0.00000
Read	0.006 ms	300.130 ms	0.00000	0.00000
Random Read	0.005 ms	6.451 ms	0.00000	0.00000
Total	0.516 ms	40896.425 ms	0.00089	0.00089

Issue command: tiotest -d /mnt/xfstest -f 10 -t 8 -b 8192

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	80 MBs	3.4 s	23.705 MB/s	3.8 %
Random Write	62 MBs	3.3 s	19.094 MB/s	1.5 %
Read	80 MBs	0.0 s	1812.374 MB/s	0.0 %
Random Read	62 MBs	0.0 s	1549.062 MB/s	29.7 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.467 ms	756.018 ms	0.00000	0.00000
Random Write	0.035 ms	9.282 ms	0.00000	0.00000
Read	0.013 ms	32.854 ms	0.00000	0.00000
Random Read	0.007 ms	0.117 ms	0.00000	0.00000
Total	0.144 ms	756.018 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 256

Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs	91.2 s	1.755 MB/s	16.8 %
Random Write	4 MBs	17.0 s	0.230 MB/s	1.9 %
Read	160 MBs	1.5 s	108.737 MB/s	386.3 %
Random Read	4 MBs	0.1 s	77.098 MB/s	213.2 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	2.117 ms	76642.779 ms	0.01266	0.00381
Random Write	0.027 ms	38.616 ms	0.00000	0.00000
Read	0.016 ms	700.255 ms	0.00000	0.00000
Random Read	0.006 ms	37.888 ms	0.00000	0.00000
Total	1.041 ms	76642.779 ms	0.00618	0.00186

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 8192

Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs	4.9 s	32.662 MB/s	6.5 %
Random Write	125 MBs	6.9 s	18.163 MB/s	2.3 %
Read	160 MBs	0.1 s	1800.443 MB/s	40.5 %
Random Read	125 MBs	0.1 s	1556.178 MB/s	209.2 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	1.071 ms	760.648 ms	0.00000	0.00000
Random Write	0.046 ms	21.907 ms	0.00000	0.00000
Read	0.011 ms	66.161 ms	0.00000	0.00000
Random Read	0.010 ms	39.607 ms	0.00000	0.00000
Total	0.316 ms	760.648 ms	0.00000	0.00000

A pair of credits:

Chris Mason wrote the journaling code for V3, which was enormously more useful to users than just waiting until we could create a wandering log filesystem as Hans would have unwisely done without him.

Jeff Mahoney optimized the bitmap scanning code for V3, and performed the big endian cleanups.

Vladimir Demidov wrote the parser for `sys_reiser4()`, the V3 alpha port, part of the V3 journal relocation code, and helped Hans keep the business side of things running.

Guessing about desired format.. Kernel 2.6.21.7-2.fc8xen is running.

Format 3.6 with standard journal

Count of blocks on the device: 19543040

Number of blocks consumed by mkreiserfs formatting process: 10578

Blocksize: 1024

Hash function used to sort names: "r5"

Journal Size 8126 blocks (first block 66)

Journal Max transaction length 256

inode generation number: 0

UUID: 46208190-786f-4d5f-ad60-c65ee1a855aa

Initializing journal - 0%...20%...40%...60%...80%...100%

Syncing..ok

Tell your friends to use a kernel based on 2.4.18 or later, and especially not a kernel based on 2.4.9, when you use reiserFS. Have fun.

ReiserFS is successfully created on /dev/sda5.

/dev/mapper/VolGroup00-LogVol00 on / type ext3 (rw)

proc on /proc type proc (rw)

sysfs on /sys type sysfs (rw)

devpts on /dev/pts type devpts (rw,gid=5,mode=620)

/dev/sda1 on /boot type ext3 (rw)

tmpfs on /dev/shm type tmpfs (rw)

none on /proc/sys/fs/binfmt\_misc type binfmt\_misc (rw)

sunrpc on /var/lib/nfs/rpc\_pipefs type rpc\_pipefs (rw)

/dev/sda5 on /mnt/xfs type reiserfs (rw)

Starting large file throughput test...

=====  
Issue command: tiotest -d /mnt/xfs -f 100 -t 1 -b 256

Tiotest results for 1 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU

Write	100 MBs	5.2 s	19.216 MB/s	4.8 %	80.3 %
Random Write	0 MBs	1.2 s	0.201 MB/s	0.0 %	0.3 %
Read	100 MBs	1.1 s	93.323 MB/s	26.1 %	73.5 %
Random Read	0 MBs	0.0 s	60.989 MB/s	0.0 %	0.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.011 ms	244.431 ms	0.00000	0.00000
Random Write	0.005 ms	0.033 ms	0.00000	0.00000
Read	0.002 ms	0.212 ms	0.00000	0.00000
Random Read	0.003 ms	0.022 ms	0.00000	0.00000
Total	0.007 ms	244.431 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 100 -t 1 -b 8192

Tiotest results for 1 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU	
Write	100 MBs	2.1 s	47.162 MB/s	0.8 %	20.8 %
Random Write	8 MBs	1.3 s	6.165 MB/s	0.3 %	0.9 %
Read	100 MBs	0.1 s	1472.450 MB/s	5.9 %	88.4 %
Random Read	8 MBs	0.0 s	1230.509 MB/s	63.0 %	0.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.118 ms	321.674 ms	0.00000	0.00000
Random Write	0.011 ms	0.033 ms	0.00000	0.00000
Read	0.005 ms	0.046 ms	0.00000	0.00000
Random Read	0.005 ms	0.026 ms	0.00000	0.00000
Total	0.057 ms	321.674 ms	0.00000	0.00000

Starting multi-thread throughput test ...

Issue command: tiotest -d /mnt/xfstest -f 10 -t 8 -b 256

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU	
Write	80 MBs	41.9 s	1.909 MB/s	8.6 %	1362.0 %
Random Write	2 MBs	4.8 s	0.409 MB/s	1.5 %	12.6 %
Read	80 MBs	0.7 s	108.981 MB/s	210.3 %	879.5 %
Random Read	2 MBs	0.0 s	76.710 MB/s	282.8 %	487.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
------	-----------------	-----------------	----------	-----------

Write	0.892 ms	23799.215 ms	0.00732	0.00244
Random Write	0.017 ms	2.953 ms	0.00000	0.00000
Read	0.010 ms	296.484 ms	0.00000	0.00000
Random Read	0.005 ms	12.767 ms	0.00000	0.00000
Total	0.440 ms	23799.215 ms	0.00357	0.00119

Issue command: tiotest -d /mnt/xfstest -f 10 -t 8 -b 8192

Tiotest results for 8 concurrent io threads:

Item		Time	Rate	Usr CPU	Sys CPU
Write	80 MBs	3.2 s	24.755 MB/s	1.2 %	751.3 %
Random Write	62 MBs	2.3 s	27.733 MB/s	5.7 %	73.7 %
Read	80 MBs	0.0 s	1780.944 MB/s	17.8 %	365.1 %
Random Read	62 MBs	0.0 s	1518.169 MB/s	48.6 %	583.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	1.210 ms	1943.251 ms	0.00000	0.00000
Random Write	0.048 ms	65.180 ms	0.00000	0.00000
Read	0.008 ms	0.086 ms	0.00000	0.00000
Random Read	0.009 ms	10.171 ms	0.00000	0.00000
Total	0.354 ms	1943.251 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 256

Tiotest results for 16 concurrent io threads:

Item		Time	Rate	Usr CPU	Sys CPU
Write	160 MBs	14.9 s	10.762 MB/s	60.9 %	1073.7 %
Random Write	4 MBs	9.3 s	0.422 MB/s	2.2 %	33.3 %
Read	160 MBs	1.5 s	109.912 MB/s	404.8 %	1553.4 %
Random Read	4 MBs	0.1 s	77.483 MB/s	388.8 %	960.1 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.238 ms	3442.501 ms	0.00031	0.00000
Random Write	0.038 ms	41.697 ms	0.00000	0.00000
Read	0.015 ms	664.278 ms	0.00000	0.00000
Random Read	0.005 ms	12.914 ms	0.00000	0.00000
Total	0.124 ms	3442.501 ms	0.00015	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 8192

Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs	3.5 s	46.251 MB/s	5.1 %
Random Write	125 MBs	4.1 s	30.246 MB/s	6.1 %
Read	160 MBs	0.1 s	1795.775 MB/s	53.9 %
Random Read	125 MBs	0.1 s	1556.643 MB/s	39.9 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	1.385 ms	627.492 ms	0.00000	0.00000
Random Write	0.068 ms	75.692 ms	0.00000	0.00000
Read	0.009 ms	22.270 ms	0.00000	0.00000
Random Read	0.007 ms	0.154 ms	0.00000	0.00000
Total	0.408 ms	627.492 ms	0.00000	0.00000

A pair of credits:

Alexander Zarochentcev (zam) wrote the high low priority locking code, online resizer for V3 and V4, online repacker for V4, block allocation code, and major parts of the flush code, and maintains the transaction manager code. We give him the stuff that we know will be hard to debug, or needs to be very cleanly structured.

Vladimir Saveliev started as the most junior programmer on the team, and became the lead programmer. He is now an experienced highly productive programmer. He wrote the extent handling code for Reiser4, plus parts of the balancing code and file write and file read.

Guessing about desired format.. Kernel 2.6.21.7-2.fc8xen is running.

Format 3.6 with standard journal

Count of blocks on the device: 9771520

Number of blocks consumed by mkreiserfs formatting process: 8824

Blocksize: 2048

Hash function used to sort names: "r5"

Journal Size 8193 blocks (first block 34)

Journal Max transaction length 512

inode generation number: 0

UUID: 12aae7d5-5741-43d4-8c94-20bc4a7f8dc8

Initializing journal - 0%...20%...40%...60%...80%...100%

Syncing..ok

Tell your friends to use a kernel based on 2.4.18 or later, and especially not a kernel based on 2.4.9, when you use reiserFS. Have fun.

ReiserFS is successfully created on /dev/sda5.

/dev/mapper/VolGroup00-LogVol00 on / type ext3 (rw)

proc on /proc type proc (rw)

sysfs on /sys type sysfs (rw)

```

devpts on /dev/pts type devpts (rw,gid=5,mode=620)
/dev/sda1 on /boot type ext3 (rw)
tmpfs on /dev/shm type tmpfs (rw)
none on /proc/sys/fs/binfmt_misc type binfmt_misc (rw)
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw)
/dev/sda5 on /mnt/xfst type reiserfs (rw)
Starting large file throughput test...

```

```

=====
Issue command: tiotest -d /mnt/xfst -f 100 -t 1 -b 256
Tiotest results for 1 concurrent io threads:

```

Item	Time	Rate	Usr CPU	Sys CPU
Write	100 MBs   4.2 s	24.020 MB/s	6.3 %	72.8 %
Random Write	0 MBs   1.2 s	0.198 MB/s	0.0 %	0.3 %
Read	100 MBs   1.1 s	93.843 MB/s	24.4 %	75.5 %
Random Read	0 MBs   0.0 s	61.558 MB/s	0.0 %	0.0 %

```
Tiotest latency results:
```

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.007 ms	17.407 ms	0.00000	0.00000
Random Write	0.004 ms	0.030 ms	0.00000	0.00000
Read	0.002 ms	0.316 ms	0.00000	0.00000
Random Read	0.002 ms	0.024 ms	0.00000	0.00000
Total	0.005 ms	17.407 ms	0.00000	0.00000

```

Issue command: tiotest -d /mnt/xfst -f 100 -t 1 -b 8192
Tiotest results for 1 concurrent io threads:

```

Item	Time	Rate	Usr CPU	Sys CPU
Write	100 MBs   1.8 s	55.628 MB/s	1.1 %	20.2 %
Random Write	8 MBs   1.3 s	6.211 MB/s	0.0 %	1.3 %
Read	100 MBs   0.1 s	1504.846 MB/s	24.1 %	72.2 %
Random Read	8 MBs   0.0 s	1248.003 MB/s	63.9 %	0.0 %

```
Tiotest latency results:
```

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.049 ms	166.112 ms	0.00000	0.00000
Random Write	0.010 ms	0.037 ms	0.00000	0.00000
Read	0.004 ms	0.083 ms	0.00000	0.00000
Random Read	0.005 ms	0.025 ms	0.00000	0.00000
Total	0.025 ms	166.112 ms	0.00000	0.00000

```
Starting multi-thread throughput test ...
```

Issue command: tiotest -d /mnt/xfstest -f 10 -t 8 -b 256

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	80 MBs   14.7 s	5.440 MB/s	26.0 %	964.4 %
Random Write	2 MBs   5.2 s	0.373 MB/s	2.3 %	11.7 %
Read	80 MBs   0.7 s	110.580 MB/s	211.2 %	904.0 %
Random Read	2 MBs   0.0 s	78.701 MB/s	0.0 %	709.2 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.217 ms	4726.233 ms	0.00183	0.00000
Random Write	0.022 ms	11.608 ms	0.00000	0.00000
Read	0.009 ms	258.584 ms	0.00000	0.00000
Random Read	0.004 ms	0.096 ms	0.00000	0.00000
Total	0.111 ms	4726.233 ms	0.00089	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 8 -b 8192

Tiotest results for 8 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	80 MBs   3.5 s	22.907 MB/s	4.6 %	134.1 %
Random Write	62 MBs   3.3 s	18.930 MB/s	4.5 %	31.1 %
Read	80 MBs   0.0 s	1777.541 MB/s	53.3 %	337.8 %
Random Read	62 MBs   0.0 s	1534.797 MB/s	58.9 %	481.3 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.278 ms	40.873 ms	0.00000	0.00000
Random Write	0.041 ms	33.451 ms	0.00000	0.00000
Read	0.008 ms	0.097 ms	0.00000	0.00000
Random Read	0.009 ms	10.140 ms	0.00000	0.00000
Total	0.091 ms	40.873 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 256

Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs   42.3 s	3.784 MB/s	45.9 %	2510.3 %
Random Write	4 MBs   14.6 s	0.268 MB/s	2.0 %	15.6 %
Read	160 MBs   1.4 s	110.524 MB/s	341.3 %	1434.4 %
Random Read	4 MBs   0.0 s	78.163 MB/s	184.1 %	1128.6 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.808 ms	9384.055 ms	0.00977	0.00000
Random Write	0.027 ms	13.561 ms	0.00000	0.00000
Read	0.013 ms	700.291 ms	0.00000	0.00000
Random Read	0.007 ms	34.200 ms	0.00000	0.00000
Total	0.401 ms	9384.055 ms	0.00477	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 8192

Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs   5.8 s	27.724 MB/s	6.9 %	1011.4 %
Random Write	125 MBs   5.8 s	21.587 MB/s	3.9 %	77.3 %
Read	160 MBs   0.1 s	1832.866 MB/s	77.9 %	380.3 %
Random Read	125 MBs   0.1 s	1561.251 MB/s	204.8 %	924.3 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	1.824 ms	1908.448 ms	0.00000	0.00000
Random Write	0.052 ms	32.310 ms	0.00000	0.00000
Read	0.009 ms	32.183 ms	0.00000	0.00000
Random Read	0.009 ms	30.226 ms	0.00000	0.00000
Total	0.528 ms	1908.448 ms	0.00000	0.00000

A pair of credits:

Continuing core development of ReiserFS is mostly paid for by Hans Reiser from money made selling licenses in addition to the GPL to companies who don't want it known that they use ReiserFS as a foundation for their proprietary product. And my lawyer asked 'People pay you money for this?'. Yup. Life is good. If you buy ReiserFS, you can focus on your value add rather than reinventing an entire FS.

Many persons came to [www.namesys.com/support.html](http://www.namesys.com/support.html), and got a question answered for \$25, or just gave us a small donation there.

Guessing about desired format.. Kernel 2.6.21.7-2.fc8xen is running.

Format 3.6 with standard journal

Count of blocks on the device: 4885760

Number of blocks consumed by mkreiserfs formatting process: 8361

Blocksize: 4096

Hash function used to sort names: "r5"

Journal Size 8193 blocks (first block 18)

Journal Max transaction length 1024

```
inode generation number: 0
UUID: 1ad84900-0e8d-4cdd-8e66-efbcee813804
Initializing journal - 0%...20%...40%...60%...80%...100%
Syncing..ok
```

Tell your friends to use a kernel based on 2.4.18 or later, and especially not a kernel based on 2.4.9, when you use reiserFS. Have fun.

```
ReiserFS is successfully created on /dev/sda5.
/dev/mapper/VolGroup00-LogVol00 on / type ext3 (rw)
proc on /proc type proc (rw)
sysfs on /sys type sysfs (rw)
devpts on /dev/pts type devpts (rw,gid=5,mode=620)
/dev/sda1 on /boot type ext3 (rw)
tmpfs on /dev/shm type tmpfs (rw)
none on /proc/sys/fs/binfmt_misc type binfmt_misc (rw)
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw)
/dev/sda5 on /mnt/xfs type reiserfs (rw)
Starting large file throughput test...
```

```
=====  
Issue command: tiotest -d /mnt/xfs -f 100 -t 1 -b 256  
Tiotest results for 1 concurrent io threads:
```

Item	Time	Rate	Usr CPU	Sys CPU
Write 100 MBs	3.5 s	28.866 MB/s	8.5 %	72.1 %
Random Write 0 MBs	1.3 s	0.193 MB/s	0.0 %	0.3 %
Read 100 MBs	1.1 s	94.290 MB/s	25.6 %	74.3 %
Random Read 0 MBs	0.0 s	62.012 MB/s	0.0 %	0.0 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.006 ms	12.632 ms	0.00000	0.00000
Random Write	0.004 ms	0.027 ms	0.00000	0.00000
Read	0.002 ms	0.041 ms	0.00000	0.00000
Random Read	0.002 ms	0.020 ms	0.00000	0.00000
Total	0.004 ms	12.632 ms	0.00000	0.00000

```
Issue command: tiotest -d /mnt/xfs -f 100 -t 1 -b 8192  
Tiotest results for 1 concurrent io threads:
```

Item	Time	Rate	Usr CPU	Sys CPU
Write 100 MBs	1.7 s	59.294 MB/s	0.7 %	19.7 %
Random Write 8 MBs	1.3 s	6.131 MB/s	0.0 %	0.6 %
Read 100 MBs	0.1 s	1502.743 MB/s	30.1 %	66.1 %
Random Read 8 MBs	0.0 s	1253.610 MB/s	0.0 %	64.2 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
------	-----------------	-----------------	----------	-----------

Write	0.025 ms	5.668 ms	0.00000	0.00000
Random Write	0.009 ms	0.030 ms	0.00000	0.00000
Read	0.005 ms	0.051 ms	0.00000	0.00000
Random Read	0.005 ms	0.024 ms	0.00000	0.00000
Total	0.014 ms	5.668 ms	0.00000	0.00000

Starting multi-thread throughput test ...

=====  
 Issue command: tiotest -d /mnt/xfp -f 10 -t 8 -b 256  
 Tiotest results for 8 concurrent io threads:

Item		Time	Rate	Usr CPU	Sys CPU
Write	80 MBs	9.6 s	8.339 MB/s	41.4 %	979.1 %
Random Write	2 MBs	5.1 s	0.383 MB/s	3.8 %	10.0 %
Read	80 MBs	0.7 s	109.576 MB/s	210.4 %	874.5 %
Random Read	2 MBs	0.0 s	76.228 MB/s	31.2 %	437.2 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.125 ms	5238.734 ms	0.00122	0.00000
Random Write	0.025 ms	8.763 ms	0.00000	0.00000
Read	0.008 ms	300.131 ms	0.00000	0.00000
Random Read	0.005 ms	6.465 ms	0.00000	0.00000
Total	0.065 ms	5238.734 ms	0.00060	0.00000

Issue command: tiotest -d /mnt/xfp -f 10 -t 8 -b 8192  
 Tiotest results for 8 concurrent io threads:

Item		Time	Rate	Usr CPU	Sys CPU
Write	80 MBs	3.4 s	23.197 MB/s	3.7 %	150.3 %
Random Write	62 MBs	3.5 s	17.779 MB/s	1.0 %	18.0 %
Read	80 MBs	0.0 s	1789.269 MB/s	89.5 %	581.5 %
Random Read	62 MBs	0.0 s	1541.725 MB/s	0.0 %	542.7 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.330 ms	28.812 ms	0.00000	0.00000
Random Write	0.020 ms	30.631 ms	0.00000	0.00000
Read	0.014 ms	33.509 ms	0.00000	0.00000
Random Read	0.008 ms	0.099 ms	0.00000	0.00000
Total	0.102 ms	33.509 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 256

Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs   20.0 s	8.013 MB/s	92.0 %	2158.0 %
Random Write	4 MBs   16.4 s	0.239 MB/s	1.0 %	14.5 %
Read	160 MBs   1.5 s	110.118 MB/s	351.8 %	1324.8 %
Random Read	4 MBs   0.1 s	77.537 MB/s	119.1 %	976.7 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	0.339 ms	1392.111 ms	0.00000	0.00000
Random Write	0.037 ms	47.491 ms	0.00000	0.00000
Read	0.016 ms	769.179 ms	0.00000	0.00000
Random Read	0.005 ms	12.791 ms	0.00000	0.00000
Total	0.173 ms	1392.111 ms	0.00000	0.00000

Issue command: tiotest -d /mnt/xfstest -f 10 -t 16 -b 8192

Tiotest results for 16 concurrent io threads:

Item	Time	Rate	Usr CPU	Sys CPU
Write	160 MBs   7.6 s	21.165 MB/s	6.8 %	1099.7 %
Random Write	125 MBs   7.1 s	17.525 MB/s	3.1 %	59.6 %
Read	160 MBs   0.1 s	1762.464 MB/s	70.5 %	361.3 %
Random Read	125 MBs   0.1 s	1562.109 MB/s	90.0 %	519.9 %

Tiotest latency results:

Item	Average latency	Maximum latency	% >2 sec	% >10 sec
Write	1.741 ms	1684.002 ms	0.00000	0.00000
Random Write	0.064 ms	137.982 ms	0.00000	0.00000
Read	0.009 ms	11.119 ms	0.00000	0.00000
Random Read	0.007 ms	0.120 ms	0.00000	0.00000
Total	0.507 ms	1684.002 ms	0.00000	0.00000