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Subject: i2o: CONFIG\_DEBUG\_SG compilation fixed  
Posted by [vaverin](#) on Mon, 29 Oct 2007 06:32:13 GMT  
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i2o crashed when CONFIG\_DEBUG\_SG is enabled because i2o\_block\_request structure includes array of scatterlists that should be initialised

Signed-off-by: Vasily Averin <vvs@sw.ru>

```
--- a/drivers/message/i2o/i2o_block.c
+++ b/drivers/message/i2o/i2o_block.c
@@ -1137,6 +1137,18 @@ static struct i2o_driver i2o_block_driver = {
 *
 * Returns 0 on success or negative error code on failure.
 */
+
+#ifdef CONFIG_DEBUG_SG
+static void i2o_block_req_ctor(struct kmem_cache *cachep, void *objp) {
+ sg_init_table(((struct i2o_block_request *) (objp))->sg_table,
+ I2O_MAX_PHYS_SEGMENTS);
+}
+
+#define I2O_BLK_CTOR &i2o_block_req_ctor
+#else
+#define I2O_BLK_CTOR NULL
+#endif
+
static int __init i2o_block_init(void)
{
    int rc;
@@ -1147,7 +1159,7 @@ static int __init i2o_block_init(void)
    /* Allocate request mempool and slab */
    size = sizeof(struct i2o_block_request);
    i2o_blk_req_pool.slab = kmem_cache_create("i2o_block_req", size, 0,
-    SLAB_HWCACHE_ALIGN, NULL);
+    SLAB_HWCACHE_ALIGN, I2O_BLK_CTOR);
    if (!i2o_blk_req_pool.slab) {
        osm_err("can't init request slab\n");
        rc = -ENOMEM;
```

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Subject: Re: i2o: CONFIG\_DEBUG\_SG compilation fixed  
Posted by [Jens Axboe](#) on Mon, 29 Oct 2007 08:58:44 GMT  
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On Mon, Oct 29 2007, Vasily Averin wrote:

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> includes array of scatterlists that should be initialised  
>

```

> Signed-off-by: Vasily Averin <vvvs@sw.ru>
> --- a/drivers/message/i2o/i2o_block.c
> +++ b/drivers/message/i2o/i2o_block.c
> @@ -1137,6 +1137,18 @@ static struct i2o_driver i2o_block_driver = {
> *
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> */
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> + #ifdef CONFIG_DEBUG_SG
> + static void i2o_block_req_ctor(struct kmem_cache *cachep, void *objp) {
> + sg_init_table(((struct i2o_block_request *) (objp))->sg_table,
> + I2O_MAX_PHYS_SEGMENTS);
> + }
> +
> + #define I2O_BLK_CTOR &i2o_block_req_ctor
> + #else
> + #define I2O_BLK_CTOR NULL
> + #endif
> +
> static int __init i2o_block_init(void)
> {
> int rc;
> @@ -1147,7 +1159,7 @@ static int __init i2o_block_init(void)
> /* Allocate request mempool and slab */
> size = sizeof(struct i2o_block_request);
> i2o_blk_req_pool.slab = kmem_cache_create("i2o_block_req", size, 0,
> - SLAB_HWCACHE_ALIGN, NULL);
> + SLAB_HWCACHE_ALIGN, I2O_BLK_CTOR);
> if (!i2o_blk_req_pool.slab) {
> osm_err("can't init request slab\n");
> rc = -ENOMEM;

```

This should already work, since Oct 24. Your `i2o_block_request_alloc()` should look like this:

```

static inline struct i2o_block_request *i2o_block_request_alloc(void)
{
    struct i2o_block_request *ireq;

    ireq = mempool_alloc(i2o_blk_req_pool.pool, GFP_ATOMIC);
    if (!ireq)
        return ERR_PTR(-ENOMEM);

    INIT_LIST_HEAD(&ireq->queue);
    sg_init_table(ireq->sg_table, I2O_MAX_PHYS_SEGMENTS);

    return ireq;
}

```

Note that I also don't like your solution, no need to change this to be a constructor setup and you definitely should not guard `sg_init_table()` with `CONFIG_DEBUG_SG`. It needs to be done always.

--

Jens Axboe

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