struct request\_queue {

struct request \*last\_merge;

struct elevator\_queue \*elevator;

};

struct elevator\_queue {

DEACLARE\_HASHTABLE(hash,ELV\_HASH\_BITS);

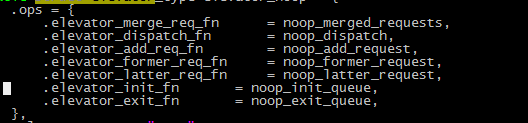
};

struct noop\_data {

struct list\_head queue;

};

blk\_peek\_request调用elavator\_dispatch\_fn是从elevator内部的queue转移到struct request\_queue的list上。



## 和plug list合并-blk\_attempt\_plug\_merge

bio进入blk\_queue\_bio，首先会判断是否和plug list能够合并,调用blk\_attempt\_plug\_merge

blk\_attempt\_plut\_merge(q,bio,&request\_count,NULL)

{

}

## elv\_merge尝试合并

elv\_merge会通过指针返回对应的struct request，并通过返回值告知是否能合并。

blk\_queue\_bio {

int el\_ret;

struct request \*req;

el\_ret = elv\_merge(q,&req,bio);

if(el\_ret == ELEVATOR\_BACK\_MERGE) {

/\*

bio\_attempt\_back\_merge如果合并成功，则返回true

\*/

if(bio\_attempt\_back\_merge(q,req,bio)) {

/\*

elv\_bio\_merged调用elevator的回调elevator\_bio\_merged\_fn

\*/

elv\_bio\_merged(q,req,bio);

if(!attempt\_back\_merge(q,req))

elv\_merged\_request(q,req,el\_ret);

}

}

}

/\*

attempt\_back\_merge，当前struct request尝试和elevator队列里面后面的request合并

\*/

attempt\_back\_merge(q,req) {

struct request \*next = elv\_latter\_request(q,rq);

if(next)

return attempt\_merge(q,rq,next);

return 0;

}

elv\_latter\_request(q,rq)

{

struct elevator\_queue \*e = q->elevator;

/\*

如果是noop-iosched.c,elevator\_latter\_req\_fn的实现如下:

noop\_latter\_request(q,rq)

{

if(rq->queuelist.next ==&nq->queue)

return NULL;

return list\_next\_entry(rq,queuelist);

}

\*/

if(e->type->ops.elevator\_latter\_req\_fn)

return e->type->ops.elevator\_latter\_req\_fn(q,req);

return NULL;

}

/\*

如果合并成功，则返回1，否则返回0

\*/

attempt\_merge(q,rq,next)

{

}

elv\_merged\_request(q,req,el\_ret)

{

struct elevator\_queue \*e = q->elevator;

if(e->type->ops.elevator\_merged\_fn)

e->type->ops.elevator\_merged\_fn(q,rq,type);

if(type == ELEVATOR\_BACK\_MERGE)

elv\_rqhash\_reposition(q,rq);

q->last\_merge = q;

}

elv\_rqhash\_reposition(q,rq)

{

}

### 和struct request\_queue的last\_merge合并

blk\_queue\_bio->

elv\_merge

### 遍历struct elevator\_queue的hash表，尝试合并

blk\_queue\_bio->

elv\_merge

### 调用elevator的elevator\_merge\_fn，尝试合并

get\_request