F2FS Functions in fs/f2fs/f2fs.h

```
1932 /*
1933  * file.c
1934  */
1935 int f2fs_sync_file(struct file *, loff_t, loff_t, int);
1936 void truncate_data_blocks(struct dnode_of_data *);
1937 int truncate_blocks(struct inode *, u64, bool);
1938 int f2fs_truncate(struct inode *);
1939 int f2fs_getattr(struct vfsmount *, struct dentry *, struct kstat *);
1940 int f2fs_setattr(struct dentry *, struct iattr *);
1941 int truncate_hole(struct inode *, pgoff_t, pgoff_t);
1942 int truncate_data_blocks_range(struct dnode_of_data *, int);
1943 long f2fs_ioctl(struct file *, unsigned int, unsigned long);
1944 long f2fs_compat_ioctl(struct file *, unsigned int, unsigned long);
1945
```

```
1946 /*
1947  * inode.c
1948  */
1949 void f2fs_set_inode_flags(struct inode *);
1950 struct inode *f2fs_iget(struct super_block *, unsigned long);
1951 struct inode *f2fs_iget_retry(struct super_block *, unsigned long);
1952 int try_to_free_nats(struct f2fs_sb_info *, int);
1953 int update_inode(struct inode *, struct page *);
1954 int update_inode_page(struct inode *);
1955 int f2fs_write_inode(struct inode *, struct writeback_control *);
1956 void f2fs_evict_inode(struct inode *);
1957 void handle_failed_inode(struct inode *);
1958
```

```
1959 /*
1960  * namei.c
1961  */
1962 struct dentry *f2fs_get_parent(struct dentry *child);
1963
```

```
2008 /*
2009  * super.c
2010  */
2011 int f2fs_inode_dirtied(struct inode *);
2012 void f2fs_inode_synced(struct inode *);
2013 int f2fs_commit_super(struct f2fs_sb_info *, bool);
2014 int f2fs_sync_fs(struct super_block *, int);
2015 extern __printf(3, 4)
2016 void f2fs_msg(struct super_block *, const char *, const char *, ...);
2017 int sanity_check_ckpt(struct f2fs_sb_info *sbi);
```

```
1964 /*
1965  * dir.c
1966  */
1967 void set_de_type(struct f2fs_dir_entry *, umode_t);
1968 unsigned char get_de_type(struct f2fs_dir_entry *);
1969 struct f2fs_dir_entry *find_target_dentry(struct fscrypt_name *,
1970                         f2fs_hash_t, int *, struct f2fs_dentry_ptr *);
1971 bool f2fs_fill_dentries(struct dir_context *, struct f2fs_dentry_ptr *,
1972                         unsigned int, struct fscrypt_str *);
1973 void do_make_empty_dir(struct inode *, struct inode *,
1974                         struct f2fs_dentry_ptr *);
1975 struct page *init_inode_metadata(struct inode *, struct inode *,
1976                 const struct qstr *, const struct qstr *, struct page *);
1977 void update_parent_metadata(struct inode *, struct inode *, unsigned int);
1978 int room_for_filename(const void *, int, int);
1979 void f2fs_drop_nlink(struct inode *, struct inode *);
1980 struct f2fs_dir_entry *__f2fs_find_entry(struct inode *, struct fscrypt_name *,
1981                                                 struct page **);
1982 struct f2fs_dir_entry *f2fs_find_entry(struct inode *, const struct qstr *,
1983                                                 struct page **);
1984 struct f2fs_dir_entry *f2fs_parent_dir(struct inode *, struct page **);
1985 ino_t f2fs_inode_by_name(struct inode *, const struct qstr *, struct page **);
1986 void f2fs_set_link(struct inode *, struct f2fs_dir_entry *,
1987                                 struct page *, struct inode *);
1988 int update_dent_inode(struct inode *, struct inode *, const struct qstr *);
1989 void f2fs_update_dentry(nid_t ino, umode_t mode, struct f2fs_dentry_ptr *,
1990                         const struct qstr *, f2fs_hash_t , unsigned int);
1991 int f2fs_add_regular_entry(struct inode *, const struct qstr *,
1992                         const struct qstr *, struct inode *, nid_t, umode_t);
1993 int __f2fs_do_add_link(struct inode *, struct fscrypt_name*, struct inode *,
1994                         nid_t, umode_t);
1995 int __f2fs_add_link(struct inode *, const struct qstr *, struct inode *, nid_t,
1996                         umode_t);
1997 void f2fs_delete_entry(struct f2fs_dir_entry *, struct page *, struct inode *,
1998                                                 struct inode *);
1999 int f2fs_do_tmpfile(struct inode *, struct inode *);
2000 bool f2fs_empty_dir(struct inode *);
2001
2002 static inline int f2fs_add_link(struct dentry *dentry, struct inode *inode)
2003 {
2004         return __f2fs_add_link(d_inode(dentry->d_parent), &dentry->d_name,
2005                                 inode, inode->i_ino, inode->i_mode);
2006 }
```

```
2019 /*
2020  * hash.c
2021  */
2022 f2fs_hash_t f2fs_dentry_hash(const struct qstr *name_info,
2023                                 struct fscrypt_name *fname);
```

```
2025 /*
2026  * node.c
2027  */
2028 struct dnode_of_data;
2029 struct node_info;
2030
2031 bool available_free_memory(struct f2fs_sb_info *, int);
2032 int need_dentry_mark(struct f2fs_sb_info *, nid_t);
2033 bool is_checkpointed_node(struct f2fs_sb_info *, nid_t);
2034 bool need_inode_block_update(struct f2fs_sb_info *, nid_t);
2035 void get_node_info(struct f2fs_sb_info *, nid_t, struct node_info *);
2036 pgoff_t get_next_page_offset(struct dnode_of_data *, pgoff_t);
2037 int get_dnode_of_data(struct dnode_of_data *, pgoff_t, int);
2038 int truncate_inode_blocks(struct inode *, pgoff_t);
2039 int truncate_xattr_node(struct inode *, struct page *);
2040 int wait_on_node_pages_writeback(struct f2fs_sb_info *, nid_t);
2041 int remove_inode_page(struct inode *);
2042 struct page *new_inode_page(struct inode *);
2043 struct page *new_node_page(struct dnode_of_data *, unsigned int, struct page
*);
2044 void ra_node_page(struct f2fs_sb_info *, nid_t);
2045 struct page *get_node_page(struct f2fs_sb_info *, pgoff_t);
2046 struct page *get_node_page_ra(struct page *, int);
2047 void move_node_page(struct page *, int);
2048 int fsync_node_pages(struct f2fs_sb_info *, struct inode *,
2049                         struct writeback_control *, bool);
2050 int sync_node_pages(struct f2fs_sb_info *, struct writeback_control *);
2051 void build_free_nids(struct f2fs_sb_info *);
2052 bool alloc_nid(struct f2fs_sb_info *, nid_t *);
2053 void alloc_nid_done(struct f2fs_sb_info *, nid_t);
2054 void alloc_nid_failed(struct f2fs_sb_info *, nid_t);
2055 int try_to_free_nids(struct f2fs_sb_info *, int);
2056 void recover_inline_xattr(struct inode *, struct page *);
2057 void recover_xattr_data(struct inode *, struct page *, block_t);
2058 int recover_inode_page(struct f2fs_sb_info *, struct page *);
2059 int restore_node_summary(struct f2fs_sb_info *, unsigned int,
2060                                 struct f2fs_summary_block *);
2061 void flush_nat_entries(struct f2fs_sb_info *);
2062 int build_node_manager(struct f2fs_sb_info *);
2063 void destroy_node_manager(struct f2fs_sb_info *);
2064 int __init create_node_manager_caches(void);
2065 void destroy_node_manager_caches(void);
```

```
2067 /*
2068  * segment.c
2069  */
2070 void register_inmem_page(struct inode *, struct page *);
2071 void drop_inmem_pages(struct inode *);
2072 int commit_inmem_pages(struct inode *);
2073 void f2fs_balance_fs(struct f2fs_sb_info *, bool);
2074 void f2fs_balance_fs_bg(struct f2fs_sb_info *);
2075 int f2fs_issue_flush(struct f2fs_sb_info *);
2076 int create_flush_cmd_control(struct f2fs_sb_info *);
2077 void destroy_flush_cmd_control(struct f2fs_sb_info *);
2078 void invalidate_blocks(struct f2fs_sb_info *, block_t);
2079 bool is_checkpointed_data(struct f2fs_sb_info *, block_t);
2080 void refresh_sit_entry(struct f2fs_sb_info *, block_t, block_t);
2081 void f2fs_wait_all_discard_bio(struct f2fs_sb_info *);
2082 void clear_prefree_segments(struct f2fs_sb_info *, struct cp_control *);
2083 void release_discard_addrs(struct f2fs_sb_info *);
2084 int npages_for_summary_flush(struct f2fs_sb_info *, bool);
2085 void allocate_new_segments(struct f2fs_sb_info *);
2086 int f2fs_trim_fs(struct f2fs_sb_info *, struct fstrim_range *);
2087 struct page *get_sum_page(struct f2fs_sb_info *, unsigned int);
2088 void update_meta_page(struct f2fs_sb_info *, void *, block_t);
2089 void write_meta_page(struct f2fs_sb_info *, struct page *);
2090 void write_node_page(unsigned int, struct f2fs_io_info *);
2091 void write_data_page(struct dnode_of_data *, struct f2fs_io_info *);
2092 void rewrite_data_page(struct f2fs_io_info *);
2093 void __f2fs_replace_block(struct f2fs_sb_info *, struct f2fs_summary *,
2094                                         block_t, block_t, bool, bool);
2095 void f2fs_replace_block(struct f2fs_sb_info *, struct dnode_of_data *,
2096                                 block_t, block_t, unsigned char, bool, bool);
2097 void allocate_data_block(struct f2fs_sb_info *, struct page *,
2098                 block_t, block_t *, struct f2fs_summary *, int);
2099 void f2fs_wait_on_page_writeback(struct page *, enum page_type, bool);
2100 void f2fs_wait_on_encrypted_page_writeback(struct f2fs_sb_info *, block_t);
2101 void write_data_summaries(struct f2fs_sb_info *, block_t);
2102 void write_node_summaries(struct f2fs_sb_info *, block_t);
2103 int lookup_journal_in_cursum(struct f2fs_journal *, int, unsigned int, int);
2104 void flush_sit_entries(struct f2fs_sb_info *, struct cp_control *);
2105 int build_segment_manager(struct f2fs_sb_info *);
2106 void destroy_segment_manager(struct f2fs_sb_info *);
2107 int __init create_segment_manager_caches(void);
2108 void destroy_segment_manager_caches(void);
2109
```

```
2171 /*
2172  * gc.c
2173  */
2174 int start_gc_thread(struct f2fs_sb_info *);
2175 void stop_gc_thread(struct f2fs_sb_info *);
2176 block_t start_bidx_of_node(unsigned int, struct inode *);
2177 int f2fs_gc(struct f2fs_sb_info *, bool);
2178 void build_gc_manager(struct f2fs_sb_info *);
2179
2180 /*
2181  * recovery.c
2182  */
2183 int recover_fsync_data(struct f2fs_sb_info *, bool);
2184 bool space_for_roll_forward(struct f2fs_sb_info *);
2185
```

```
2110 /*
2111  * checkpoint.c
2112  */
2113 void f2fs_stop_checkpoint(struct f2fs_sb_info *, bool);
2114 struct page *grab_meta_page(struct f2fs_sb_info *, pgoff_t);
2115 struct page *get_meta_page(struct f2fs_sb_info *, pgoff_t);
2116 struct page *get_tmp_page(struct f2fs_sb_info *, pgoff_t);
2117 bool is_valid_blkaddr(struct f2fs_sb_info *, block_t, int);
2118 int ra_meta_pages(struct f2fs_sb_info *, block_t, int, int, bool);
2119 void ra_meta_pages_cond(struct f2fs_sb_info *, pgoff_t);
2120 long sync_meta_pages(struct f2fs_sb_info *, enum page_type, long);
2121 void add_ino_entry(struct f2fs_sb_info *, nid_t, int type);
2122 void remove_ino_entry(struct f2fs_sb_info *, nid_t, int type);
2123 void release_ino_entry(struct f2fs_sb_info *, bool);
2124 bool exist_written_data(struct f2fs_sb_info *, nid_t, int);
2125 int f2fs_sync_inode_meta(struct f2fs_sb_info *);
2126 int acquire_orphan_inode(struct f2fs_sb_info *);
2127 void release_orphan_inode(struct f2fs_sb_info *);
2128 void add_orphan_inode(struct inode *);
2129 void remove_orphan_inode(struct f2fs_sb_info *, nid_t);
2130 int recover_orphan_inodes(struct f2fs_sb_info *);
2131 int get_valid_checkpoint(struct f2fs_sb_info *);
2132 void update_dirty_page(struct inode *, struct page *);
2133 void remove_dirty_inode(struct inode *);
2134 int sync_dirty_inodes(struct f2fs_sb_info *, enum inode_type);
2135 int write_checkpoint(struct f2fs_sb_info *, struct cp_control *);
2136 void init_ino_entry_info(struct f2fs_sb_info *);
2137 int __init create_checkpoint_caches(void);
2138 void destroy_checkpoint_caches(void);
```

```
2140 /*
2141  * data.c
2142  */
2143 void f2fs_submit_merged_bio(struct f2fs_sb_info *, enum page_type, int);
2144 void f2fs_submit_merged_bio_cond(struct f2fs_sb_info *, struct inode *,
2145                                 struct page *, nid_t, enum page_type, int);
2146 void f2fs_flush_merged_bios(struct f2fs_sb_info *);
2147 int f2fs_submit_page_bio(struct f2fs_io_info *);
2148 void f2fs_submit_page_mbio(struct f2fs_io_info *);
2149 void set_data_blkaddr(struct dnode_of_data *);
2150 void f2fs_update_data_blkaddr(struct dnode_of_data *, block_t);
2151 int reserve_new_blocks(struct dnode_of_data *, blkcnt_t);
2152 int reserve_new_block(struct dnode_of_data *);
2153 int f2fs_get_block(struct dnode_of_data *, pgoff_t);
2154 ssize_t f2fs_preallocate_blocks(struct kiocb *, struct iov_iter *);
2155 int f2fs_reserve_block(struct dnode_of_data *, pgoff_t);
2156 struct page *get_read_data_page(struct inode *, pgoff_t, int, bool);
2157 struct page *find_data_page(struct inode *, pgoff_t);
2158 struct page *get_lock_data_page(struct inode *, pgoff_t, bool);
2159 struct page *get_new_data_page(struct inode *, struct page *, pgoff_t, bool);
2160 int do_write_data_page(struct f2fs_io_info *);
2161 int f2fs_map_blocks(struct inode *, struct f2fs_map_blocks *, int, int);
2162 int f2fs_fiemap(struct inode *inode, struct fiemap_extent_info *, u64, u64);
2163 void f2fs_set_page_dirty_nobuffers(struct page *);
2164 void f2fs_invalidate_page(struct page *, unsigned int, unsigned int);
2165 int f2fs_release_page(struct page *, gfp_t);
2166 #ifdef CONFIG_MIGRATION
2167 int f2fs_migrate_page(struct address_space *, struct page *, struct page *,
2168                                 enum migrate_mode);
2169 #endif
```

```
2355 /*
2356  * inline.c
2357  */
2358 bool f2fs_may_inline_data(struct inode *);
2359 bool f2fs_may_inline_dentry(struct inode *);
2360 void read_inline_data(struct page *, struct page *);
2361 bool truncate_inline_inode(struct page *, u64);
2362 int f2fs_read_inline_data(struct inode *, struct page *);
2363 int f2fs_convert_inline_page(struct dnode_of_data *, struct page *);
2364 int f2fs_convert_inline_inode(struct inode *);
2365 int f2fs_write_inline_data(struct inode *, struct page *);
2366 bool recover_inline_data(struct inode *, struct page *);
2367 struct f2fs_dir_entry *find_in_inline_dir(struct inode *,
2368                                 struct fscrypt_name *, struct page **);
2369 int make_empty_inline_dir(struct inode *inode, struct inode *, struct page *);
2370 int f2fs_add_inline_entry(struct inode *, const struct qstr *,
2371                 const struct qstr *, struct inode *, nid_t, umode_t);
2372 void f2fs_delete_inline_entry(struct f2fs_dir_entry *, struct page *,
2373                                         struct inode *, struct inode *);
2374 bool f2fs_empty_inline_dir(struct inode *);
2375 int f2fs_read_inline_dir(struct file *, struct dir_context *,
2376                                         struct fscrypt_str *);
2377 int f2fs_inline_data_fiemap(struct inode *,
2378                 struct fiemap_extent_info *, __u64, __u64);
```