

FOUNDATION™ Policy

DD/CF Revision Policy

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REVISION: 1.0
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Foreword

Open Issue List		
No.	Description of Issue	Affected Documents
1	Revision handling for devices that do not contain a FBAP.	2.2

Resolution List		
No.	Description of Resolution	Affected Sections

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1. Introduction

The purpose of this document is to define the Fieldbus Foundation Device description (DD) and Capability File (CF) revision policy. It provides policies to field equipment manufacturers who apply for DD/CF re-registration for an existing registered device. It also provides guidelines to host system vendors on how to handle multiple DD/CF revisions for a single device.

2. Device Description and Capability File Identification

While the Fieldbus Foundation does not mandate how a DD or CF are stored in a host system, the Fieldbus Foundation does utilize a standard naming and directory convention which allows host systems to properly identify and import such files.

For those devices that contain a Function Block Application Process (FBAP), they will contain a DD that describes the block and block parameters found within that VFD. Each of these VFDs require a Resource Block that contains four mandatory parameters:

Offset	Name	Data Type
10	MANUFAC ID	Unsigned32 (**)
11	DEV_TYPE	Unsigned16
12	DEV_REV	Unsigned8
13	DD_REV	Unsigned8

(**) The Fieldbus Foundation registers the valid 24-bit MANUFAC_IDs from 0x000101 – 0x7ffff. These are stored in the Resource Block as an Unsigned32.

The MANUFAC_ID is registered with the Fieldbus Foundation to ensure uniqueness among manufacturers. DEV_TYPE, DEV_REV and DD_REV are chosen by the manufacturer. All parameters are defined as Read Only, and cannot be changed by the user.

To distribute a DD and CF for any device, the following directory structure is used:

```

mmmmmm
  → dddd
     aabb.ffa
     aabb.sym
     aabbcc.cff

```

Where

- mmmmmm is the MANUFAC_ID (24-bit) as found in the Resource Block represented in hexadecimal.
- dddd is the DEV_TYPE as found in the Resource Block represented in hexadecimal.
- aa is the DEV_REV as found in the Resource Block represented in hexadecimal.
- bb is the initial DD_REV as found in the Resource Block represented in hexadecimal.. This value may be greater than that found in the Resource Block if this DD has been revised.
- cc is the CF Revision. This value is not found in the device.

The FF Tokenizer will automatically generate the above directory structure for a given DD source file. The CF naming convention is described in FF-103 Common File Format Specification.

2.1 DD Revision Rules

For an initial release of a device revision, the DD Revision (bb) should match that value found in the Resource Block (DD_REV). The DD_REV parameter shall specify the minimum DD Revision (bb) that should be used for a device. It is possible for a manufacturer to release an updated version of the DD for an existing device. DD Services provides functions for identifying the most recent version of a DD files for a given device revision (ds_dd_file_search in dds_cm.c)

These new files are required to be 100% compatible with the existing device revision (DEV_REV), and therefore limit the types of changes that can occur within the DD. The Fieldbus Foundation DD/CF Re-Registration process validates the new DD/CF is compatible with the existing registered device. DD files for newer device revisions are not necessarily compatible with earlier device revision.

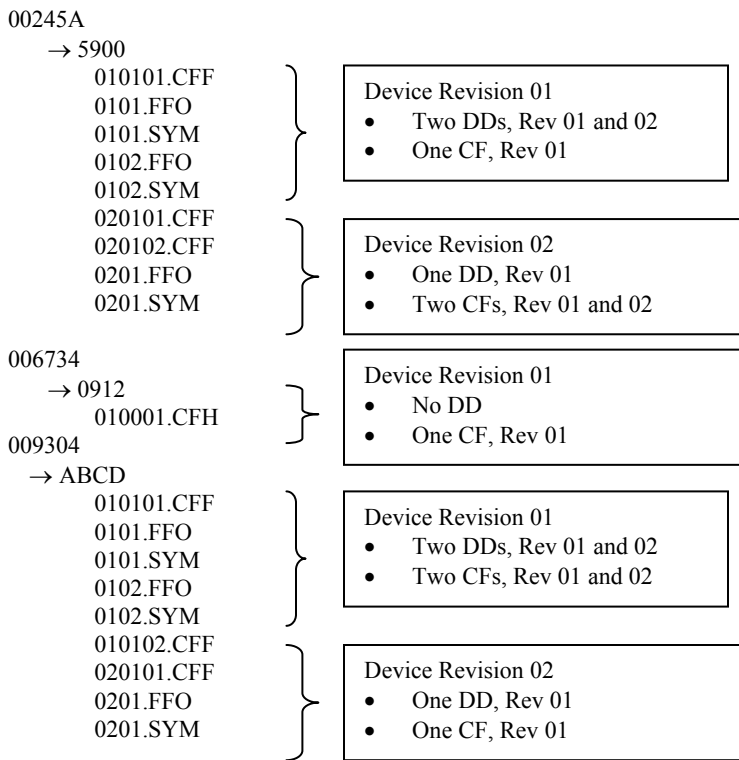
Those DD files that are re-registered must use the existing MANUFAC_ID, DEV_TYPE and DEV_REV from the current device. The value of the DD revision (bb) shall be incremented to indicate a more recent version. Due to size limitations, a manufacturer will be limited to no more than 255 DD revisions for a single device revision. All DD Revision (bb) for a device revision should be 100% compatible with the device. It is required that for any device revision (aa), the initial DD revision (bb) should be 01. Devices that predate this policy may contain a initial DD Revision greater than 01.

2.2 CF Revision Rules

Along with a DD, the manufacturer will release a CF that describes communication details about the device. CF are used to describe the capabilities of the device, and work in conjunction with a device description to provide information a host needs to properly access and configure the device. CF also permit offline tools to display templates of devices without needing direct access to the device. A manufacturer may release a new CF file, which may be revised to fix errors or add additional items. The CF Revision (cc) shall increment to show a more recent version. The Device Revision (aa) and DD Revision (bb) of the CF name shall always reflect the values of DEV_REV and DD_REV found within the Resource Block, regardless of any DD updates. It is required for any device revision (aa), the initial CF Revision (cc) should be 01.

Within the CF, there is a section [VFD x Resource Block Defaults] that will contain values of MANUFAC_ID, DEV_TYPE, DD_REV, DEV_REV. These values should always match the value of the device, regardless if the DD or CF has been revised. For devices that contain no FBAP, the DD Revision (bb) of the CF naming convention shall be coded 00.

3. Example



In the above example file set, Manufacturer 0x00245A released a device of type 0x5900. There are two revision of the device. For device revision 0x01, the most recent DD files set is 0102.SYM, 0102.FFO. Device revision 0x02 has only one DD version (0201.FFO, 0201.SYM) and contains an updated CF file, revision 0x02. (020102.CFF)

Manufacturer 0x006734 has released a device of type 0x0912. There is no DD associated with this device and only one CF (010001.CFH)

Manufacturer 0x009304 has released a device of type 0xABCD. The initial set of files released were 0101.FFO, 0101.SYM and 010101.CFF. Next, the vendor released updated DD files: 0102.FFO, 0102.SYM. Next, the CF is updated, perhaps due to an error: 010102.CFF. Finally, the vendor introduces a new version of the device and releases the files set 0201.SYM, 0201.FFO and 020101.CFF