

MOST

Media Oriented Systems Transport

Multimedia and Control
Networking Technology

MOST FBlock NetBlock

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MOSTCO CONFIDENTIAL

See page 3 for the terms of disclosure



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Bibliography

All documents, which this MOST document has references to, are listed here with the actual revision this document is referring to.

Number	Document	Revision
[1]	MOST Specification	3.1

Document History

Changes FBlock NetBlock 3.0.3 to FBlock NetBlock 3.1.0

Change Ref.	FktID	Changes
3.1.0-001	General	– Modified FBlock description so that it refers to nodes. (WGDA D123_4_1)
3.1.0-002	0x000	FBlockIDs: – Modified description of so that it refers to a node. (WGDA D123_4_1) – Excluded 0xFF from FBlockID value range. – Excluded 0x00 and 0xFF from InstID value range.
3.1.0-003	0x002	– Deleted function NodePositionAddress. (WGDA D119_7).
3.1.0-004	0x003	– Deleted function NodeAddress. (WGDA D119_7).
3.1.0-005	0x004	GroupAddress: – Modified description of so that it refers to a node. (WGDA D123_4_1) – Limited value range to 0x0300...0x03C7 and 0x03C9...0x03FE.
3.1.0-006	0x006	Shutdown: – Renamed ShutDown to Shutdown. (WGDA D120_9). – Split Control parameter into distinct parameters for commands and reports. (Draft preparation)
3.1.0-007	0x007	– Deleted function RetryParameters. (WGDA D123_9).
3.1.0-008	0x008	– Deleted function SamplingFrequency. (WGDA D123_9).
3.1.0-009	0x009	ShutdownReason: – Renamed ShutDownReason to ShutdownReason. (WGDA D107_4). – Reduced ShutDownReason function description to avoid redundancies and conflicts. (WGDA D107_7). – Changed parameter DiagID from Stream to Word in ShutDownReason. (WGDA D123_9). – Changed occurrence from mandatory to optional.
3.1.0-010	0x012	ImplFBlockIDs: – Reduced function and parameter description to avoid redundancies and conflicts. (WGDA D107_7). – Excluded 0xFF from FBlockID value range. – Excluded 0x00 and 0xFF from InstID value range.
3.1.0-011	0x405	– RBDResult: Changed parameter DiagID from Stream to Unsigned Word. (WGDA D123_9).
3.1.0-012	0xA03	– Deleted function Boundary. (WGDA D119_7).

Changes FBlock NetBlock 3.0.2 to FBlock NetBlock 3.0.3

Change Ref.	FktID	Changes
3.0.3-001	General	<ul style="list-style-type: none"> – Removed reference to GeneralFBlock Template because no functions from the GeneralFBlock are required anymore. – Removed reference to GeneralFBlock.Version and GeneralFBlock.FBlockInfo. (WGDA D116_5)
3.0.3-002	0x001	– DeviceInfo: Removed function. (WGDA D113_5_1)
3.0.3-003	0x003	– NodeAddress: Removed OPType SetGet. (WGDA D97_2, D113_9)
3.0.3-004	0x004	– GroupAddress: Removed OPTypes Set and SetGet. (WGDA D113_9)
3.0.3-005	0x007	<ul style="list-style-type: none"> – RetryParameters: Removed OPTypes Set and SetGet. (WGDA D113_9) – RetryParameters: Introduced upper range limit for RetryTime and RetryNumbers.
3.0.3-006	0x012	– ImplFBlockIDs: Modified description of parameter ImplFBlockIDs. (WGDA D110_4)
3.0.3-007	0x014	– MOSTVersionInfo: New function. (WGDA D101_25_2, D116_5)
3.0.3-008	0x401	– Notification: Removed function. (WGDA D113_9)
3.0.3-009	0x402	– NotificationCheck: Removed function. (WGDA D113_9)

Changes FBlock NetBlock 3.0.1 to FBlock NetBlock 3.0.2

Change Ref.	FktID	Changes
3.0.2-001	General	<ul style="list-style-type: none"> – Corrected invalid exponent and step values. – Filled the SymbolicName attribute for all Enums.
3.0.2-002	0x007	RetryParameters: <ul style="list-style-type: none"> – Modified description of parameter RetryTime.
3.0.2-003	0x401	Notification: <ul style="list-style-type: none"> – Removed blank after ClearAll Enum value of parameter Control.

Changes FBlock NetBlock 3.0.0 to FBlock NetBlock 3.0.1

Change Ref.	FktID	Changes
3.0.1-001	General	– Removed obsolete FunctionSection attributes.
3.0.1-002	0x001	DeviceInfo: <ul style="list-style-type: none"> – Changed CapabilityToWake to "Reserved". – Extended range of parameter ID to 0xBA.
3.0.1-003	0x005	– PermissionToWake: Deleted function PermissionToWake.
3.0.1-004	0x006	ShutDown: <ul style="list-style-type: none"> – Removed all OPTypes that were using the SenderHandle parameter. – Corrected inconsistent function class reference.
3.0.1-005	0x007	– RetryParameters: Changed description; RetryNumbers is the number of transmission attempts.
3.0.1-006	0x111	– Boundary: Distinguished between MOST50 and MOST150 ranges for Boundary.

Changes FBlock NetBlock 2.5.1 - Speed Grade MOST50 to FBlock NetBlock 3.0.0

Change Ref.	FktID	Changes
3.0.0-001	General	<ul style="list-style-type: none"> - Corrected ParamPos from 1 to 0 for parameterless OPTypes. - Modified boundary descriptor range--now 0..93. - Unified descriptions of identical parameters and corrected clerical errors. - Added Occurrence attribute to all functions.
3.0.0-002	0x006	<ul style="list-style-type: none"> - Changed function class for function ShutDown from Unclassified Method to Sequence Method. - Added OPTypes StartAck, ResultAck, and ErrorAck to function ShutDown.
3.0.0-003	0x007	<ul style="list-style-type: none"> - Changed function class for function RetryParameters from Unclassified Property to Sequence Property.
3.0.0-004	0x008	<ul style="list-style-type: none"> - Removed blank from function name of "Sampling Frequency".
3.0.0-005	0x009	<ul style="list-style-type: none"> - Added function ShutDownReason.
3.0.0-006	0x012	<ul style="list-style-type: none"> - Added function ImplFBlockIDs.
3.0.0-007	0x013	<ul style="list-style-type: none"> - Added function EUI48.
3.0.0-008	0x401	<ul style="list-style-type: none"> - Removed remarkt that Notification messages must not be segmented. This is already described in more detail in the MOST Specification. - Notification marked as deprecated.
3.0.0-009	0x402	<ul style="list-style-type: none"> - NotificationCheck marked as deprecated.
3.0.0-010	0x405	<ul style="list-style-type: none"> - Added function RBDResult.

Changes FBlock NetBlock 2.5.1 - Speed Grade MOST25 to FBlock NetBlock 2.5.1 - Speed Grade MOST50

Change Ref.	FktID	Changes
2.5.1-001	-	- Created NetBlock for speed grade MOST50, based on NetBlock 2.5.1 (speed grade MOST25).
2.5.1-002	0x100	- Removed function SourceHandles.
2.5.1-003	0xA03	- Modified range of Boundary Descriptor - previously 6-15, now 0-29.

1 Introduction

This document contains the specification of an FBlock. MOST FBlocks are standardized and maintained by MOST workgroup Device Architecture (WG_DA). In order to speed up the process of making new FBlocks available, every FBlock will be updated individually as required.

2 Function Catalog

2.1 NetBlock (FBlockID = 0x01)

The NetBlock provides functions that affect a whole MOST node or remote controlled node.

Function Overview		
FktID	Name	Occurrence
0x000	FBlockIDs	Mandatory
0x004	GroupAddress	Mandatory
0x006	Shutdown	Mandatory
0x009	ShutdownReason	Optional
0x012	ImplFBlockIDs	Optional
0x013	EUI48	Conditional
0x014	MOSTVersionInfo	Mandatory
0x405	RBDResult	Mandatory

2.1.1 FBlockIDs (0x000)

Occurrence: Mandatory

Property for querying the FBlocks that are implemented in a node and for setting the InstID.

2.1.1.1 Format of Function

Function class: Unclassified Property

FBlock	Function	OPType	Parameter
NetBlock (0x01)	FBlockIDs (0x000)	Get	
		SetGet	FBlockID , OldInstID , NewInstID
		Status	FBlockIDList
		Error	ErrorCode, ErrorInfo

2.1.1.2 Parameter

FBlockID

Functional address of an FBlock.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	0 . . . 254	

OldInstID

Old InstID of the FBlock that is identified by FBlockID.

Basis data type	Unit	Exp.	Step
Unsigned Byte	none	0	1

NewInstID

New InstID for the FBlock that is identified by FBlockID.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	1 . . . 254	

FBlockIDList

List of FBlockID/InstID pairs for the FBlocks that are implemented in the node.

Basis data type	Length	Description
Stream		Content: FBlockID , InstID [repeated]

FBlockIDList.FBlockID

Functional address of an FBlock.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	0 . . . 254	

FBlockIDList.InstID

Distinction of identical FBlocks in a system.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	1 . . . 254	

2.1.2 GroupAddress (0x004)

Occurrence: Mandatory

With this property, the group address of the node can be queried.

2.1.2.1 Format of Function

Function class: Number

FBlock	Function	OPType	Parameter
NetBlock (0x01)	GroupAddress (0x004)	Get	
		Status	GroupAddress
		Error	ErrorCode, ErrorInfo

2.1.2.2 Parameter

GroupAddress

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Word	none	0	1	768 . . . 967	0x0300...0x03C7
				969 . . . 1022	0x03C9...0x03FE

2.1.3 Shutdown (0x006)

Occurrence: Mandatory

In normal operation mode, only the PowerMaster switches off the network.

2.1.3.1 Format of Function

Function class: Sequence Method

FBlock	Function	OPType	Parameter
NetBlock (0x01)	Shutdown (0x006)	Start	ControlCommand
		Result	ControlResult
		Error	ErrorCode, ErrorInfo

2.1.3.2 Parameter

ControlCommand

Enumeration of available values for Control commands.

Basis data type	Code	Name	Description
Enum (1 byte)	0x0	Query	Query
	0x2	Execute	Execute
	0x4	DeviceShutdown	Device Shutdown
	0x5	WakeFromDeviceShutdown	Wake from Device Shutdown

ControlResult

Enumeration of available values for Control reports.

Basis data type	Code	Name	Description
Enum (1 byte)	0x1	Suspend	Suspend
	0x3	Temperature	Temperature Shutdown

2.1.4 ShutdownReason (0x009)

Occurrence: Optional

This function is used by a unique controller to query all nodes for stored faults.

2.1.4.1 Format of Function

Function class: Unclassified Property

FBlock	Function	OPType	Parameter
NetBlock (0x01)	ShutdownReason (0x009)	Set	SSOCUStatus
		Get	
		Status	SSOCUStatus , DiagID
		Error	ErrorCode, ErrorInfo

2.1.4.2 Parameter

SSOCUStatus

Only 0x00 is allowed on OPType Set.

Basis data type	Code	Name	Description
Enum (1 byte)	0x0	NoResultAvailable	No result available
	0x1	NoFaultSaved	No fault saved
	0x2	SuddenSignalOff	Sudden Signal Off
	0x3	CriticalUnlock	Critical Unlock

DiagID

The diagnostic identifier of the device. The content is defined by the system integrator.

Basis data type	Unit	Exp.	Step
Unsigned Word	none	0	1

2.1.5 ImplFBlockIDs (0x012)

Occurrence: Optional

This function provides a static list of all implemented FBlocks.

2.1.5.1 Format of Function

Function class: Unclassified Property

FBlock	Function	OPType	Parameter
NetBlock (0x01)	ImplFBlockIDs (0x012)	Get	
		Status	ImplFBlockIDs
		Error	ErrorCode, ErrorInfo

2.1.5.2 Parameter

ImplFBlockIDs

List of FBlockID/InstID combinations that are implemented in this FBlock.

Basis data type	Length	Description
Stream		Content: { FBlockID , InstID }[repeated]

ImplFBlockIDs.FBlockID

Functional address of an FBlock.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	0 . . . 254	

ImplFBlockIDs.InstID

Instance ID of the FBlock.

Basis data type	Unit	Exp.	Step	Range of values	Range description
Unsigned Byte	none	0	1	1 . . . 254	

2.1.6 EUI48 (0x013)

Occurrence: Conditional

The presence of this function is conditional; it is required if the device supports Ethernet over MOST. The IEEE defined 48-bit extended unique identifier (EUI-48) is a concatenation of a 24-bit Organizationally Unique Identifier (OUI) value administered by the IEEE Registration Authority and a 24-bit extension identifier assigned by the organization with that OUI assignment.

2.1.6.1 Format of Function

Function class: Sequence Property

FBlock	Function	OPType	Parameter
NetBlock (0x01)	EUI48 (0x013)	Get	
		Status	EUI0 , EUI1 , EUI2 , EUI3 , EUI4 , EUI5
		Error	ErrorCode, ErrorInfo

2.1.6.2 Parameter

EUI0

The first byte of the OUI.

Basis data type	Unit	Exp.	Step
Unsigned Byte	none	0	1

EUI1

The second byte of the OUI.

Basis data type	Unit	Exp.	Step
Unsigned Byte	none	0	1

EUI2

The third byte of the OUI.

Basis data type	Unit	Exp.	Step
Unsigned Byte	none	0	1

EUI3

The first byte of the extension identifier.

Basis data type	Unit	Exp.	Step
Unsigned Byte	none	0	1

EUI4

The second byte of the extension identifier.

Basis data type	Unit	Exp.	Step
Unsigned Byte	none	0	1

EUI5

The third byte of the extension identifier.

Basis data type	Unit	Exp.	Step
Unsigned Byte	none	0	1

2.1.7 MOSTVersionInfo (0x014)

Occurrence: Mandatory

This function identifies the version of

- the underlying MOST Specification
- the NetBlock
- the MOST transceiver

2.1.7.1 Format of Function

Function class: Sequence Property

FBlock	Function	OPType	Parameter
NetBlock (0x01)	MOSTVersionInfo (0x014)	Get	
		Status	MOSTVersion , FBlockVersion , MOSTTransceiverVersion
		Error	ErrorCode, ErrorInfo

2.1.7.2 Parameter

MOSTVersion

The version of the underlying MOST Specification.

Basis data type	MaxSize
String	

FBlockVersion

The version of the NetBlock.

Basis data type	MaxSize
String	

MOSTTransceiverVersion

The version of the MOST transceiver.

Basis data type	MaxSize
String	

2.1.8 RBDResult (0x405)

Occurrence: Mandatory

The first device downstream the faulty network section (node in TimingMaster mode at the end of RBD phase 2) must transmit the result of the RBD test containing the status of the test and its diagnostic identifier via broadcast within RBD phase 3.

This information can be received by any device, where the information will be stored as the result of the RBD.

2.1.8.1 Format of Function

Function class: Unclassified Property

FBlock	Function	OPType	Parameter
NetBlock (0x01)	RBDResult (0x405)	Status	RBDStatus , DiagID
		Error	ErrorCode, ErrorInfo

2.1.8.2 Parameter

RBDStatus

Status of the RBD result.

Basis data type	Code	Name	Description
Enum (1 byte)	0x0	ActivityAndLock	Activity and lock
	0x1	ActivityButNoLock	Activity but no lock
	0x2	NoActivity	No activity

DiagID

The diagnostic identifier of the device. The content is defined by the system integrator.

Basis data type	Unit	Exp.	Step
Unsigned Word	none	0	1