

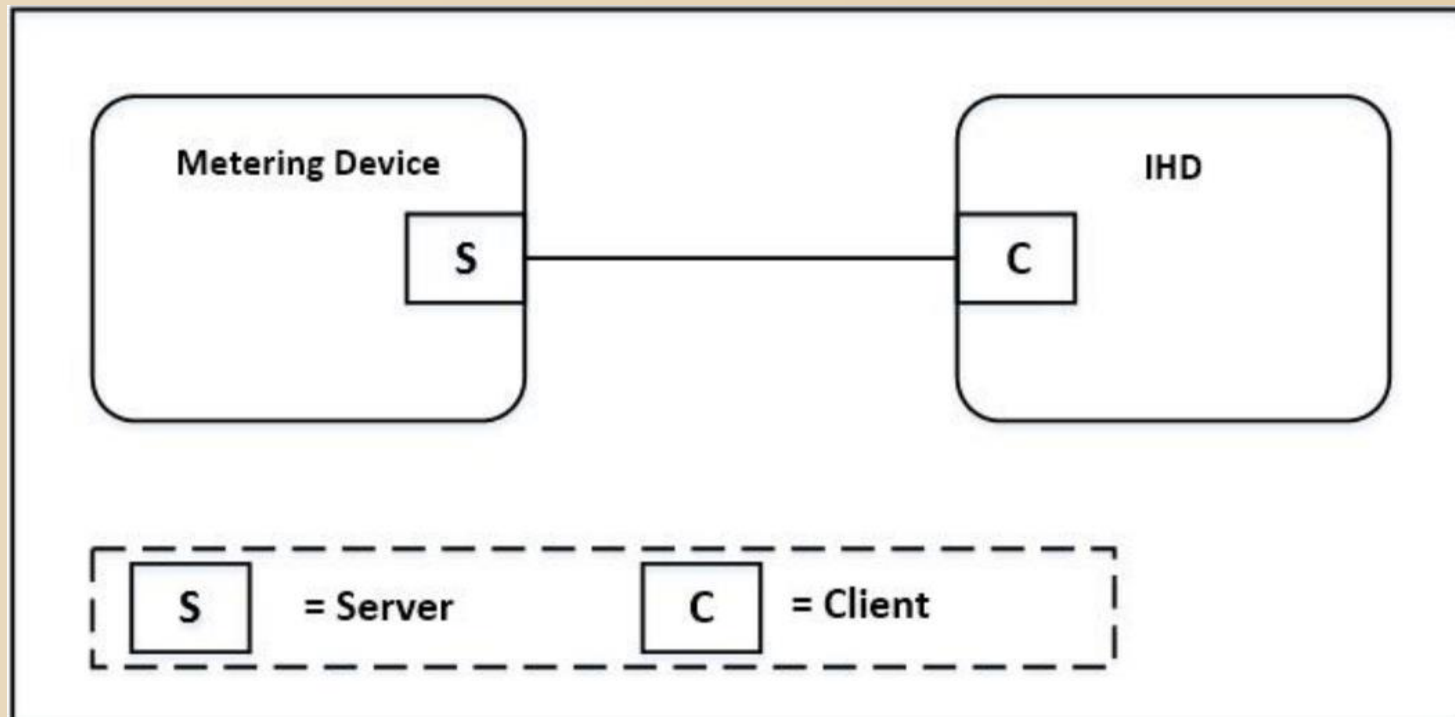
Event Cluster



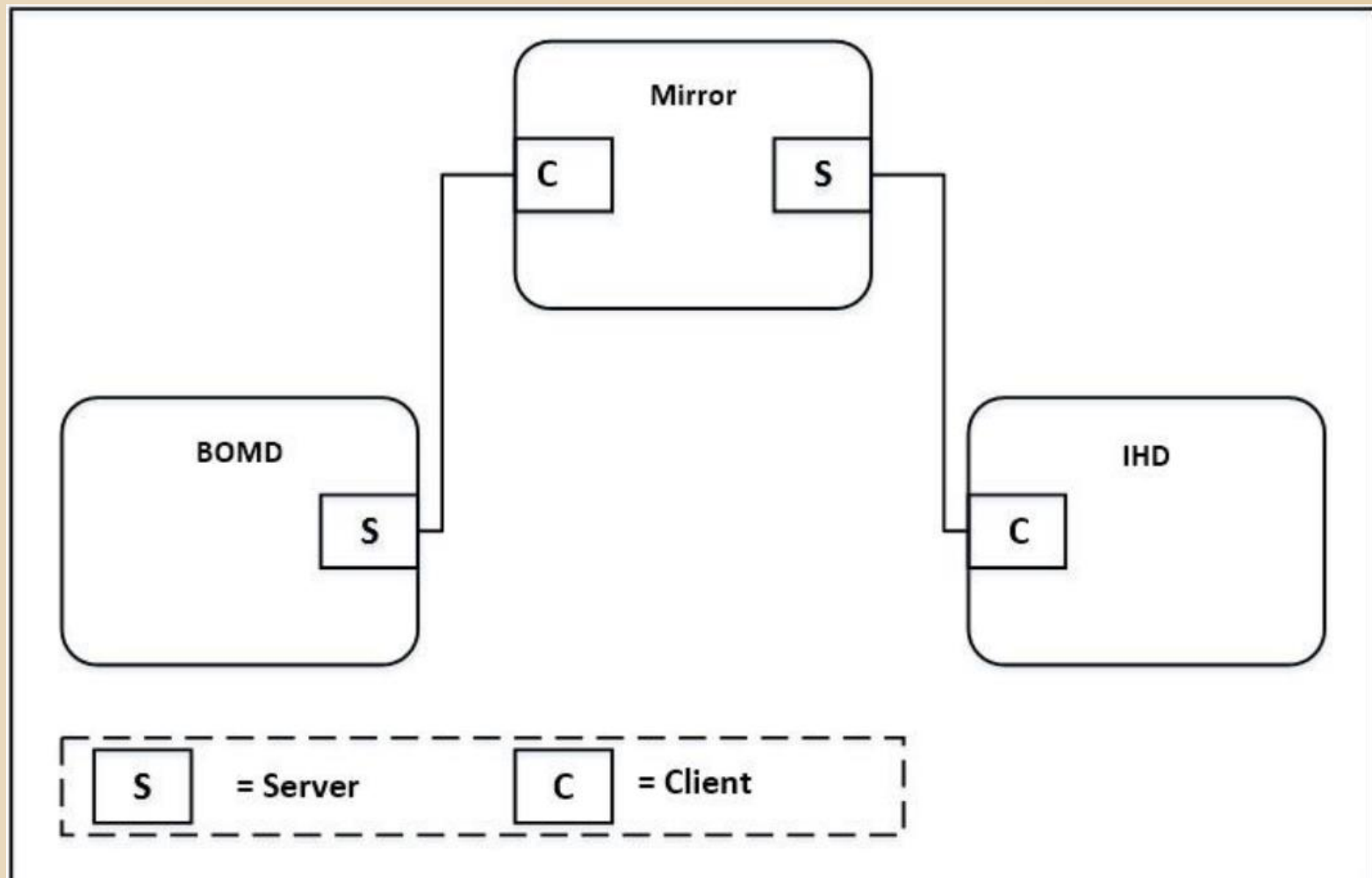
- ◆ This cluster provides an interface for passing event information between ZigBee devices.
- ◆ Events are generated and logged by a server device and read by a client device.



Event Cluster Client Server Example



Mirrored BOMD Event Cluster Client Server Example



Dependencies

- Events carried using this cluster include a timestamp with the assumption that target devices maintain a real time clock.
- A server device supporting this cluster should also support the Device Management Cluster in order to allow events to be configured over the air.
- BOMD mirror should support both an Events cluster client and server.
- Events Cluster client devices wishing to receive events published from a BOMD shall bind to the Events Cluster server on the BOMD mirror.

Commands

◆ Commands Received

Command Identifier Field Value	Description	Mandatory / Optional
0x00	GetEventLog	O
0x01	Clear Event Log Request	O

◆ Commands Generated

Command Identifier Field Value	Description	Mandatory / Optional
0x00	Publish Event	O
0x01	Publish EventLog	O
0x02	Clear Event Log Response	O

Publish Event Command

- This command is generated upon an event trigger from within the reporting device and if enabled by the associated Event Configuration attribute in the Device Management cluster

Octets	1	2	4	1	1..255
Data Type	8-bit Bitmap	Unsigned 16-bit Integer	UTC Time	8-bit Bitmap	Octet String
Field Name	Log ID (M)	Event ID (M)	Event Time (M)	Event Control (M)	Event Data (M)



Bit	Description (if set)
0	Report Event to HAN devices – this flag indicates that the event is intended for the HAN; the event should be published to all bound Events cluster client devices. If the event is generated by a BOMD and received by a mirror, the mirror should publish this event to all bound Events cluster clients.
1	Report Event to the WAN – this flag indicates that the event is intended for the WAN; if the receiving device is capable, it should report this event to the WAN.
2-7	Reserved

Get Event Log Command

- The GetEventLog command allows a client to request events from a server's event logs.
- One or more PublishEventLog commands are returned on receipt of this command.

Octets	1	2	4	4	1	2
Data Type	8-bit Bitmap	Unsigned 16-bit Integer	UTC Time	UTC Time	Unsigned 8-bit Integer	Unsigned 16-bit Integer
Field Name	Event Control/ Log ID (M)	Event ID (M)	Start Time (M)	End Time (M)	Number of Events (M)	Event Offset (M)

Event Control/Log ID (mandatory)

- The least significant nibble is an enumeration indicating the Log ID.

Bit	Description	
0-3	Enumerated Value	Description
	0x0	All logs
	0x1	Tamper Log
	0x2	Fault Log
	0x3	General Event Log
	0x4	Security Event Log
	0x5	Network Event Log
	0x6-0xF	Reserved

- The most significant nibble is a bitmap indicating control options.

Bit	Description
4	0- retrieve the minimal information per event (Event ID and Time) 1- retrieve the full information per event (Event ID, Time and Octet string, if available)
5-7	Reserved

Cont...

- **Event ID:** specifies a particular event to be queried; a value of 0x0000 is reserved to indicate all Event Ids.
- **Start Time:** specifies the start time of the range of events to be returned. Events that match the search criteria and have a timestamp **greater than or equal to** the start time shall be returned.
- **End Time:** specifies the end time of the range of events to be reported in the response. Events that match the search criteria and have a timestamp **less than** the specified end time **shall be returned**. Events with a timestamp **equal to** that of the End

Cont...

- The Log ID sub-field, in conjunction with the Event ID field, shall provide the filtering to enable the desired event(s) to be identified. The following examples show the usage of these 2 fields:
 - Get all events from the Security Event Log (Log ID = Security (4), Event ID = 0x0000)
 - Get all events from all logs (Log ID = 0, Event ID = 0x0000)
 - Get all occurrences of a specific event 0x1111 from all logs (Log ID = 0, Event ID = 0x1111)
 - Get all occurrences of a specific event 0x1111 from the Security Event log (Log ID = Security (4), Event ID = 0x1111).

Effect on Receipt: On receipt of this command, the device shall respond with a PublishEventLog command A ZCL Default Response with status NOT_FOUND shall be returned if no events match the given search criteria.

Publish Event Log Command

- This command is generated on receipt of a Get Event Log command. The command shall return the most recent event first, up to the number of events requested.

Octets	2	1	1	1..xx
Data Type	Unsigned 16-bit Integer	Unsigned 8-bit Integer	Unsigned 8-bit Integer	
Field Name	Total Number of Matching Events (M)	Command Index (M)	Total Commands (M)	Log Payload (M)

Octets	1	1	2	4	1..255	...	1	2	4	1..255
Data Type	8-bit Bitmap	8-bit Bitmap	Unsigned 16-bit Integer	UTC Time	Octet String	...	8-bit Bitmap	Unsigned 16-bit Integer	UTC Time	Octet String
Field Name	Number of Events / Log Payload Control(M)	Log ID (M)	Event ID (M)	Event Time (M)	Event Data (M)	...	Log ID (O)	Event ID n (O)	Event Time n (O)	Event Data n (O)

Clear Event Log Request Command

- This command requests that an Events server device clear the specified event log(s). The Events server device SHOULD clear the requested events logs.

Octets	1
Data Type	8-bit BitMap
Field Name	Log ID (M)

- **Effect on Receipt:** On receipt of this command, a device supporting the Events cluster as a server should clear the specified event logs. A **Clear Event Log Response command shall be generated**, indicating which event logs have been successfully cleared.

Clear Event Log Response Command

- This command is generated on receipt of a Clear Event Log Request command.
- **Cleared Events Logs:** This 8-bit BitMask indicates which logs have been cleared

Octets	1
Data Type	8 Bit Bitmask
Field Name	ClearedEventsLogs (M)

Bit	Description
0	0 – All Logs NOT Cleared 1 - All Logs Cleared
1	0 - Tamper Log NOT Cleared 1 - Tamper Log Cleared
2	0 - Fault Log NOT Cleared 1 - Fault Log Cleared
3	0 - General Event Log NOT Cleared 1 - General Event log Cleared
4	0 - Security Event Log NOT Cleared 1 - Security Log Cleared
5	0 - Network Event Log NOT cleared 1 - Network Event Log cleared
6-7	Reserved