

# LVL1 Muon RoI Builder Data Formats

Item:	Length (bits):	Comments:
* Start of Event (Header)	32	
* L1ID	32	24 bits
* BCID	32	12 bits
* RoI data (16 candidates maximum)		
Sector number	8	224 sectors
Sub-sector number	5	
Pt value	3	
* Error Word 1	32	
* Error Word 2	32	
* End of Event (Trailer)	32	

Word #	Content	
1	Header	
2	L1ID	00
3	BCID	00000
4	RoI data	

N+4	Error Word 1
N+5	Error Word 2
N+6	Trailer

N - number of muon RoIs

Ref.: Ph.Farthouat, ATLAS LVL2 Meeting, May 1997

# LVL1 Calorimeter RoI Data Formats

Item:	Length (bits):	Comments:
* Start of Event (Header)	32	
* L1ID	32	24 bits
* BCID	32	12 bits
* RoI data		
RoI Type	4	e.g. 1 = e/ $\gamma$
RoI eta-phi index	12	0.1 x 0.1
RoI Threshold set	8	
* Error Word 1	32	
* Error Word 2	32	
* End of Event (Trailer)	32	

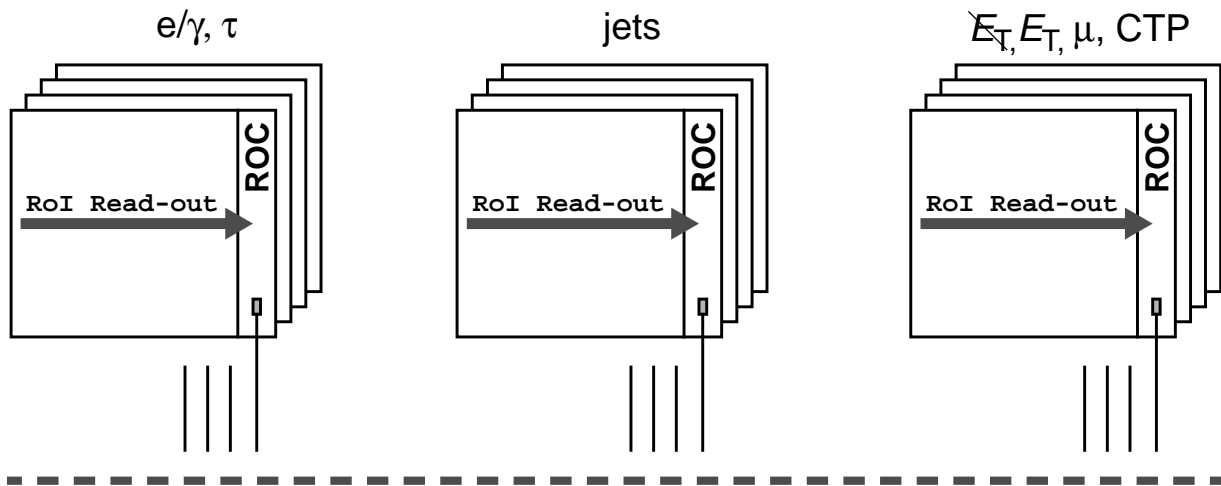
Word #	Content	
1	Header	
2	L1ID	00
3	BCID	00000
4	RoI data	

N+4	Error Word 1
N+5	Error Word 2
N+6	Trailer

N - number of RoIs

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## LVL1 ROI Read-out

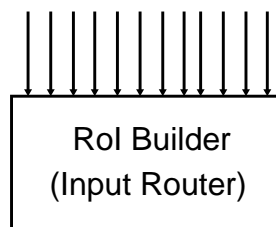


### Assumptions:

- LVL1 Trigger - LVL2 Supervisor border - ROI Links
  - ONE ROI Link per ONE crate in LVL1 Trigger system (~12)
  - Common ROI Links trough LVL1 Trigger System (Cal, Mu, CTP)
- LVL1 delivers zero-suppressed ROI data
  - Common Data format trough LVL1 Trigger System
  - Common ROI coordinates presentation

### Open Qs:

- Read-Out Controller (DAQ/ROI read-out) Contact-person
- ROI Link - physical implementation (S-Link, LVL1 link, Others)
- ROI Link - frame format
- ROI Link - zero-suppressed data format
- ROI coordinates conversion (LVL1 or LVL2)
- Data Flow Control (ROI Link, Separate path)



# LVL1/LVL2 Interface

## General (Logical) Layout

