



CDM-IP 570/L: FW-0000358-
CDM-IP 570/L EN: FW-0000355-
CDD-564/L/562L: FW-0000364-
CDD-564/L/562L EN: FW-0000362-
Release 1.7.0

Software Release Notification

Streamline Encapsulation Support

Numerous encapsulation techniques exist for transporting packetized data including HDLC and GSM. Many of them perform well on large packet sizes, but produce excessive overhead on smaller packet sizes such as those found in VoIP or when Header and / or Payload compression techniques are utilized. Some, such as HDLC, are data dependent making it impossible to specify the amount of user bandwidth available and giving a lower bound of 3% in purely random data regardless of how large the packets are.

The Comtech Streamline Encapsulation method was developed to provide a low overhead method of transporting any size packetized data. It provides superior performance on small packets and performs well on large packets, with overhead performance approaching 1%. The table below provides comparison of the three basic encapsulation methodologies. As can be seen in the table, the large performance gain of over GSM and HDLC encapsulation on smaller packets far outweighs the 1% disadvantage on large packets. With respect to HDLC, Comtech Streamline Encapsulation outperforms the longtime industry standard on all packet sizes.

Payload Size	Streamlined Encapsulation	
	HDLC	Comtech Streamline
32	18.8%	7.4%
64	10.9%	4.3%
128	7.0%	2.7%
256	5.1%	2.0%
512	4.1%	1.6%
1024	3.6%	1.4%
2048	3.4%	1.3%

Additional advantages of Streamline Encapsulation include:

- HDLC addresses are removed to reduce overhead and deployment configuration complexity.
- HDLC addressing modes have been removed.
- Receive Header Compression is now automatically determined from the Streamline encapsulation information. This removes the need to configure the Rx Header Decompression feature (these options have been removed)
- The Vipersat STDMA ACK packet (one per burst) is much smaller (42 to 14 bytes)

Streamline Encapsulation is supported in the CDM-IP 570/L and CDD-564/2L in the non-encryption as well as the 3xDES encryption version starting in v1.7.0.