More TWAMP – proposed features

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2008, The year of TWAMP

- Lots of people implementing now
- New readers = clarific. to base spec
- New readers = New Ideas
- Need a place to collect the ideas that have merit as extensions
- draft-morton-more-twamp-00.txt

Security Modes Extension

- RFC4656 OWAMP requires TEST to match the CONTROL protocol.
- “All OWAMP-Test sessions that are spawned by an OWAMP-Control session inherit its mode.”
- Seems that a MUST is missing there…

Security Modes: Mandatory to Implement

- Secure modes may see more widespread use on the Control Protocol IF
  - Test protocol can run Unauthenticated
  - Priority on accuracy and scale when resources are limited

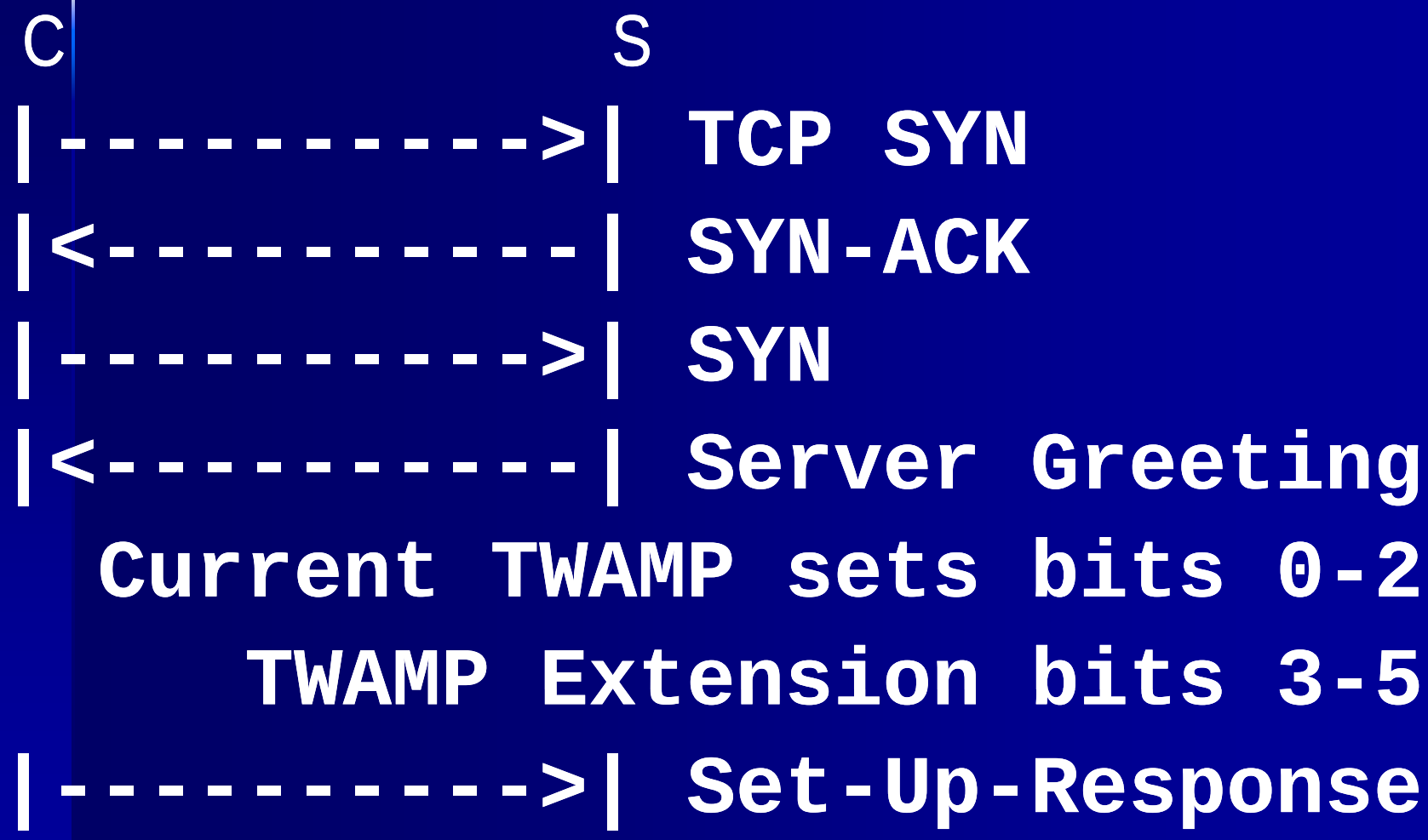
Mode Field Extension (new registry needed)

Value	Description	Reference/Explanation
0	Reserved	
1	Unauthenticated	RFC4656, Section 3.1
2	Authenticated	RFC4656, Section 3.1
4	Encrypted	RFC4656, Section 3.1
8	Unauth. TEST protocol, Auth. CONTROL	new bit position (3)
16	Unauth. TEST protocol, Encrypted CONTROL	new bit position (4)
32	Auth. TEST protocol, Encrypted CONTROL	new bit position (5)

Mode Field Extension

Protocol	Permissible Mode Combinations		
Control	Unauth.	Auth.	Encrypted
	Unauth.	**Unauth.**	**Unauth.**
Test		Auth.	**Auth.**
			Encrypted

Mode Field Extension Compatibility (easy!)



Question for IPPM WG

- Does this sound like a reasonable extension?

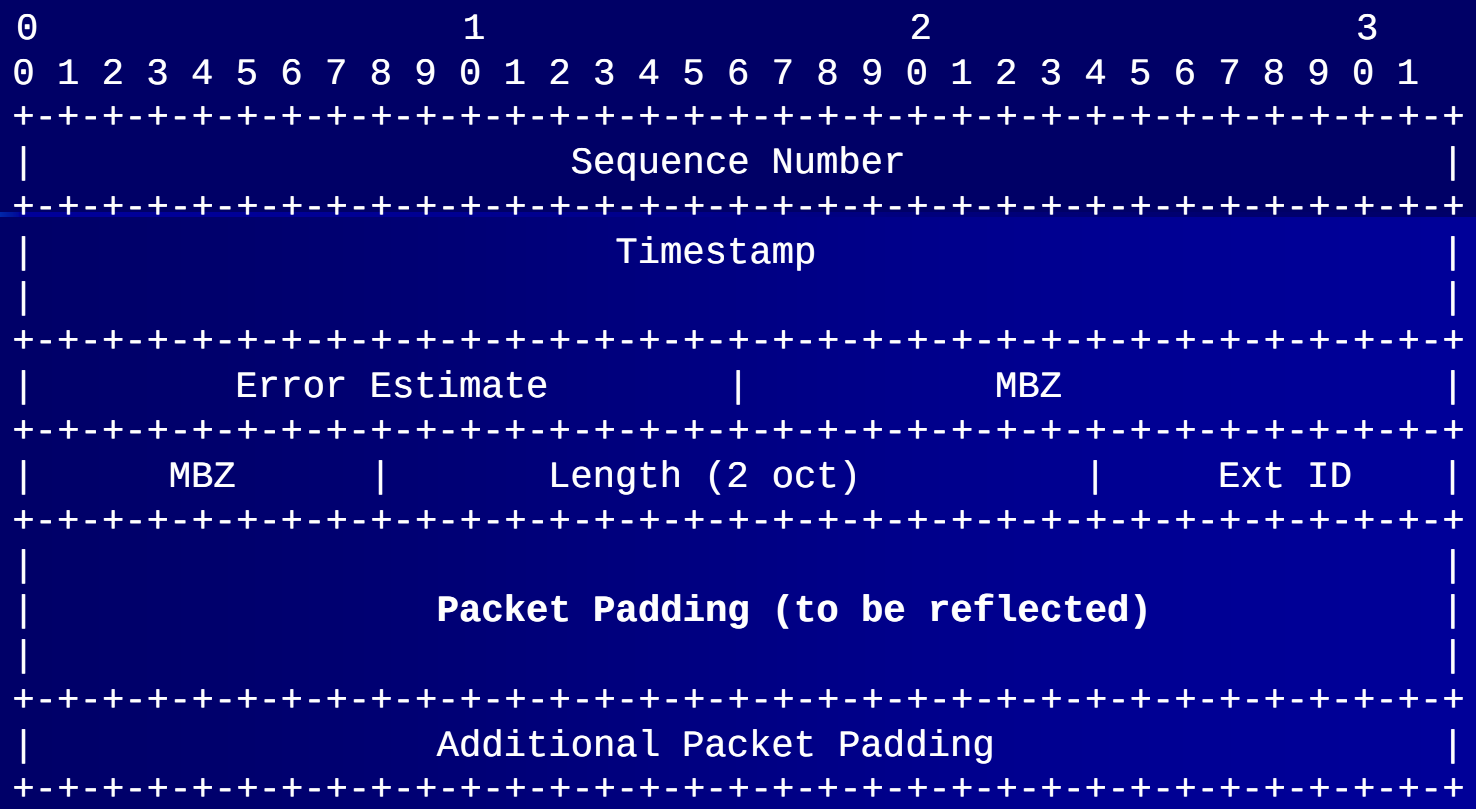
Another Suggestion: Reflect Packet Padding (Len Ciavattone)

- Applies to both Control and Test
- Session Reflector needs to move the first X octets of the Padding to the reflected or reply packet
- Session-Sender knows what was put in, the format used, etc.
- Adds to possibilities for extensions
  - Special processing key in some packets

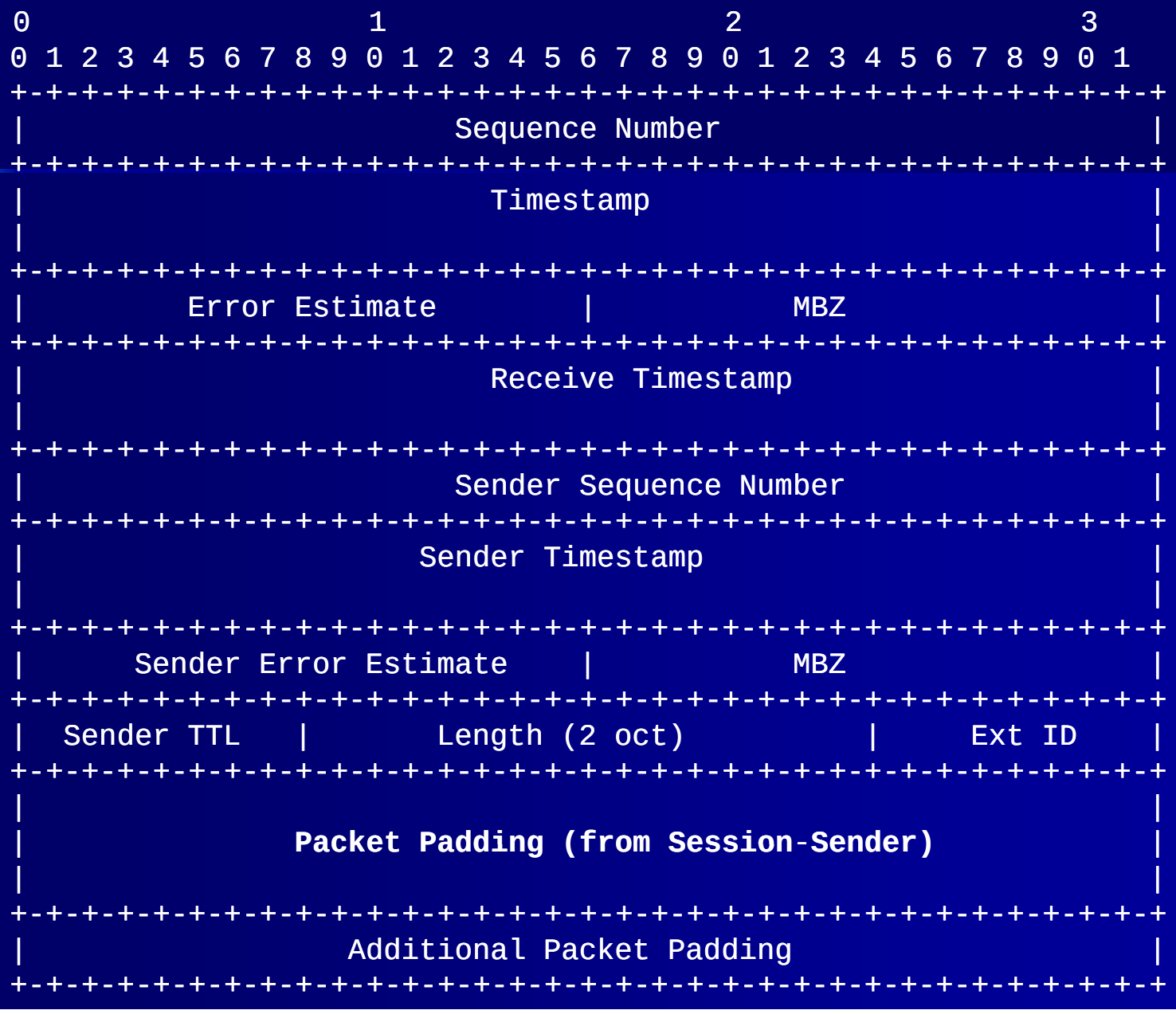
Reflect Packet Padding: Mode Field Extension

Value	Description	Reference/Explanation
...		
8	Unauth. TEST protocol, Auth. CONTROL	new bit position (3)
16	Unauth. TEST protocol, Encrypted CONTROL	new bit position (4)
32	Auth. TEST protocol, Encrypted CONTROL	new bit position (5)
64	Reflect Padding Capability	new bit position (6)
128	Reflect & Operate on Padding Bits	new bit position (7)

Reflect Packet Padding: TWAMP Test Sender packet



Reflect Packet Padding: TWAMP Test Reflector packet



Reflect Packet Padding: TWAMP Control