

Candidate:	Joe Bloggs	Assessor:	Jane Smith
IMCA role:	Surveyor Grade II		
Competence ID:	S/S31/000/07/b		
Vessel/ Installation:	CSV Vessel	Date:	01/04/2018
The following is a record of questioning to demonstrate the candidate's knowledge and understanding of the competence task:			
Brief description of the task			
Understanding the importance of time synchronisation within the online system			
Why is time synchronisation important?			
Time synchronisation ensures that all PCs within the online system are synchronised to each other and it also ensures that all sensor data is timestamped correctly when it is logged.			
Which time sources can we utilise to achieve high accuracy time synchronisation?			
The most commonly used high accuracy time sources are 1PPS/ZDA and NTP.  Other sources are available, such as NMEA, but they are of a lower accuracy as they don't utilise 1PPS.			
Explain to me the different ways in which sensor data can be time stamped			
Some sensors are time stamped at source, for example GNSS receivers and Multibeam Echo Sounders. A time stamp applied at source is referred to as a "time of applicability". Other sensor types, for example a TSS Meridian gyrocompass or a Valeport SVS, have no absolute time reference and therefore output data with no associated time stamp (time of applicability) and thus the online navigation system must time stamp the data on receipt.			
Why do we have to time stamp data?			
We generally log data to individual files. When the time comes to merge these individual datasets in post processing the only common link we have between them all is the time stamp associated with each record. If there are time stamping issues errors will arise when the data sets are merged. Time stamping errors can also result in the online navigation system rejecting data as it can be classed as either too old or in the future depending on which way the bust lies.			
Feedback:			
Joe displayed a good level of knowledge of the importance of time synchronisation within the online navigation system and I am happy that this satisfies the specified criteria.			
I, the Candidate, agree that the above record is a true reflection of the questioning session that took place			
Candidate:	Joe Bloggs	Date:	01/04/2018
I, the Assessor, confirm that the Candidate has demonstrated competence in the knowledge and understanding of the task in question			
Assessor:	Jane Smith	Date:	01/04/2018
Assessor Role:	Party Chief	Assessor Company:	Ocean Ltd