

TIMES FOR IMS WAVEFORM DATA REQUESTED/QUERIED FROM THE CTBT SECURE WEB PORTAL (SWP) DIFFERENT FROM THE TIME SPECIFIED IN THE QUERY/REQUEST



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Introduction

In November 2014 during routine access of IMS waveform data from the CTBT secure web-portal (swp) at the Kenyan NDC (N090), it was noted that the times of IMS waveform data requested/queried was different from that displayed on the actual waveforms. Figure 1 shows a request of IMS waveform data for primary seismic station KMBO from which the time shifts between the request and actual waveforms was observed.

This was rather perplexing since the understanding is that, for all IMS stations of the CTBT network, the times are in Coordinated Universal Time (UTC). In addition, this posed a challenge to access of the correct waveform data for specific seismic events of interest. This problem was raised to CTBT Support and a Support Ticket ID SHD-29357 created on 11/11/2014. The duration of nine months before this problem was resolved demonstrates the complexity of the same since the error was not being replicated at IDC.

Steps towards resolving problem: Below is an excerpt of two-way communication between Kenyan NDC and CTBT Support section as well as screenshots showing time shifts.

DATE AND TIME	KE-NDC	PTS (CTBT SUPPORT)
11/11/2014 2:04 PM	Problem of shift timing on IMS waveform data raised with CTBT Support section and screen shot in Figure 1 send.	
11/11/2014 5:03 PM		Acknowledged receipt of message and Support Ticket ID SHD-29357 created
13/11/2014 6:54 PM		Error not replicated at IDC. Problem detected in February but fixed at the time. Suggested: More screenshots requested
18/11/2014 12:24 PM		Enquiry of whether error is persistent and if not, the Ticket ID SHD-29357 be closed.
19/11/2014 9:02 PM	Error still persistent. The times specified for waveforms do not match the actual times on the displayed waveforms.	
20/11/2014 9:36 PM		Several time spans and long time frames always return the correct waveforms. As error is not replicated at IDC, it would help to send more screen shots. Suggested: Log out of swp.ctbto.org and restart the browser.
01/12/2014 11:56 AM		Enquiry of persistence of problem. Further response AS ABOVE
05/05/2015 5:03 PM	More waveform screen shots send to CTBT Support	
11/05/2015 1:00 PM		Error related to local time setting on Linux machine. Suggested: Set time to GMT. Further investigation as to whether error is related to how server handles requests coming from Linux clients which have non-GMT time settings.
14/05/2015 7:53 AM	Doubt whether error is related to time setting on Linux machine. This confirmed by setting time on PC to UTC and requested waveforms for 20150425 06:05:00 but time on waveforms was one hour less i.e. 05:05:00.	
07/07/2015 4:31 PM	Issue still pending and error persistent on waveforms despite changing PC time to GMT.	
27/07/2015 2:20 PM		Problem with shift timing in waveform fixed. Suggested: Test and respond so that Ticket ID SHD-29357 is closed.
31/07/2015 7:31 AM	Confirmed fixing of problem of shift timing in waveforms regardless of whichever seismic station, time span and time frames chosen.	
31/07/15 at 10:35 AM		Issue (raised on 11/11/2014) resolved and the Ticket (SHD-29357) closed. Resolution details: "Reported problem was not possible to reproduce. Similar observations have been reported earlier, but the issue was fixed. I currently reported case was considered as temporary glitch in the system" (Svetlana for CTBT Support group).

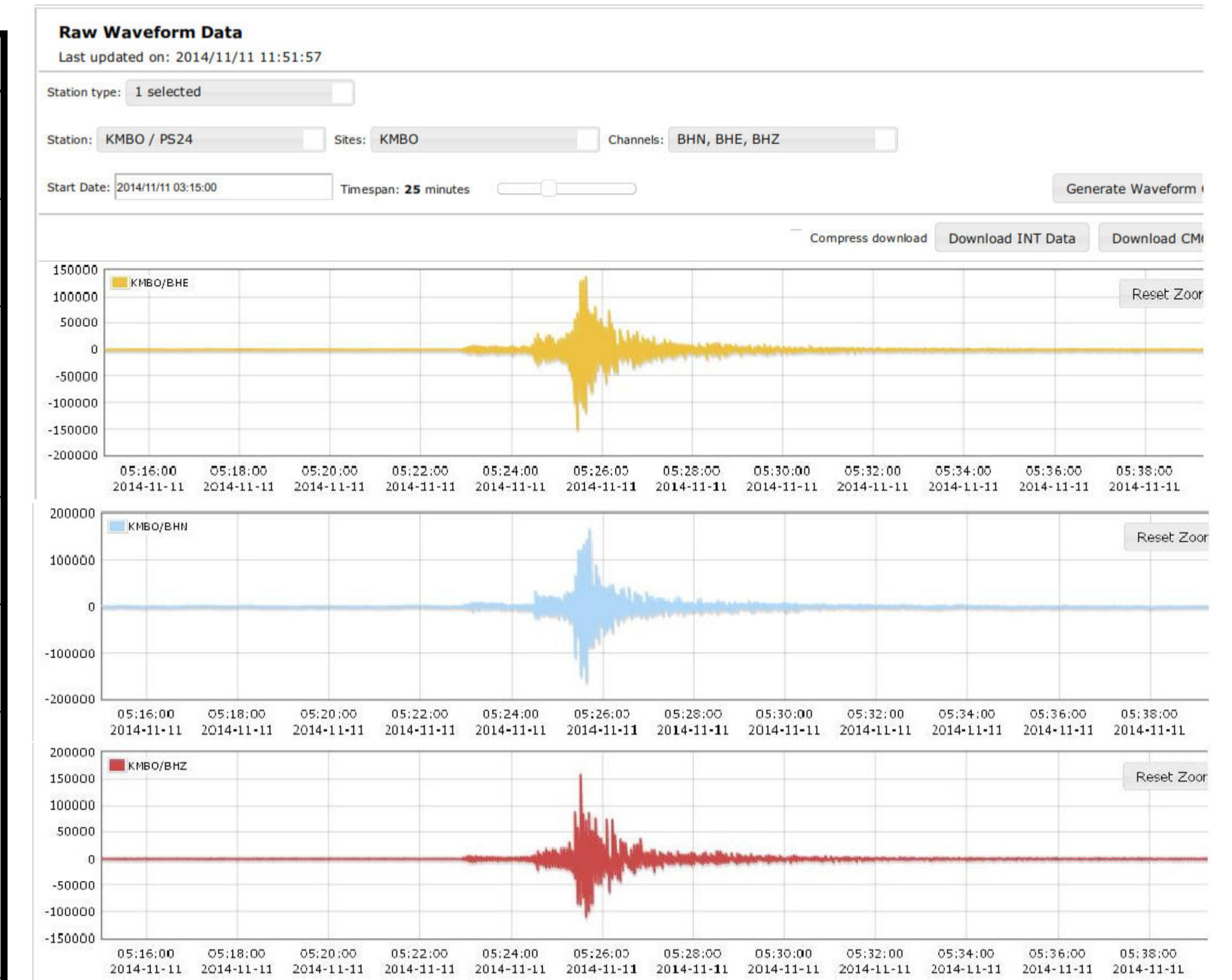


Figure 1: IMS waveform data showing a two (2) hours time shift between requested/queried and actual waveforms.

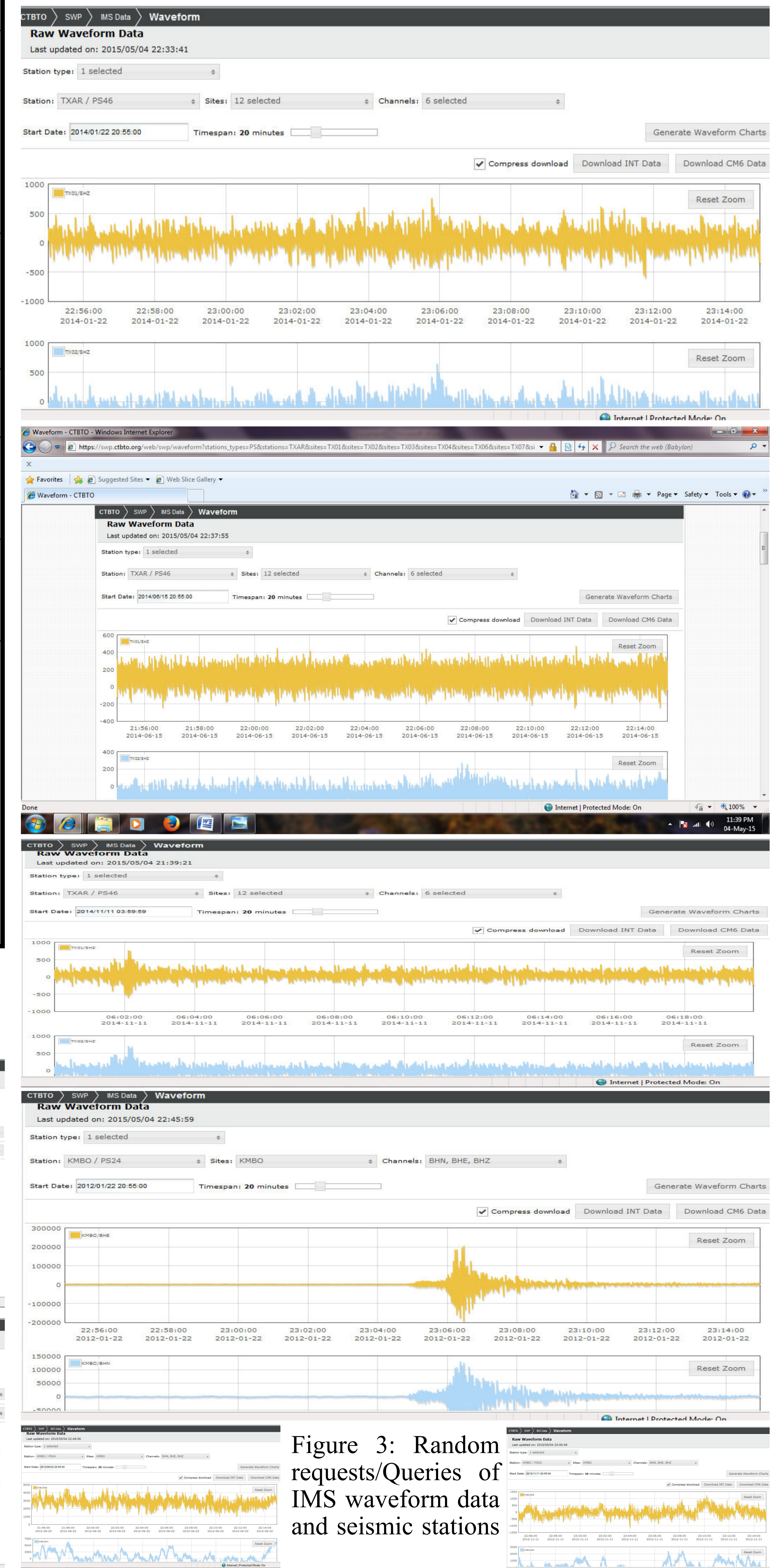


Figure 3: Random requests/Queries of IMS waveform data and seismic stations

Figure 2 below shows screenshots of IMS waveform data from different seismic stations as requested by CTBT Support on the 13/11/2014 6:54 PM. The waveform data shows a systematic two hours time shift.

