**Advisory:** 

# Seismogram viewing

in IMS Trace



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## Contents

1	Overview	3
2	Installation of seismogram plugin	3
3	Enable specific seismogram buckets	4
	3.1 Enabling seismograms for viewing	5
4	Description of seismograms	6

#### Table 1: Change record

Date	Author	Description	Revision
2019/04/01	RE	Original document	0

#### **1** Overview

This document describes the process to enable viewing of seismograms in the event tree of Trace.

#### 2 Installation of seismogram plugin

To view seismograms, a specific plugin is required, called IMS Trace Extras Seismogram Tree.

This plugin can be installed from the "Available Plugins" sections of the plugin manager.

Browse to the Tools menu and open the Plugins window.

In the "Available plugins" tab, search (top right of window) for Seismogram Tree and install the plugin (see example below). Remember to restart the software after installation.



Figure 1: IMS Trace Extras Seismogram Tree Plugin

## 3 Enable specific seismogram buckets

The IMS seismic system contains a number of different seismogram directories that can be viewed. These seismogram directories are commonly referred to as "seismogram buckets".

Some of the buckets are described below:

- **assoc**: Seismograms from sensors that reached trigger threshold and include all seismograms from associated event triggers.
- **merged**: Additional triggered seismograms that were merged into existing events after event creation or split associated events merged together.
- **postassoc**: Seismograms created from triggers recorded on non-realtime stations or data recovered from realtime station flashdrives through the process of post-association.
- **trig**: Non-associated triggered seismograms that were not used for event creation during the association process.
- **untrig**: Seismograms that did not meet the triggered seismogram criteria (example background noise between triggers)
- **xgm**: Seismograms from the digital XGM (eXtreme Ground Motion) sensor from IMS sensors that include internal XGM electronics.
- **onebit**: One-bit normalised seismograms are continuous seismograms, but with amplitude information removed (e.g. 1 is positive, 0 if negative). These provide insight into the frequency content of background noise, but with a much reduced size than standard continuous data (e.g. untrig).

#### 3.1 Enabling seismograms for viewing

To enable the above-mentioned seismograms, seismogram views and buckets will need to be enabled.

1. Open the properties of the database in the database window (right click on database name).



 In the Seismograms tab, set only the required seismogram bucket. For example only set "xgm" to see the seismograms from XGM sensors. Multiple buckets can be enabled simultaneously but comma separated, example: assoc,trig,xgm

smograms	Advanced	Tools	
	xgm		
	smograms	smograms Advanced	smograms Advanced Tools

3. In the Advanced tab, enable the option to view seismograms in between the event entries.



4. Optional: When enabling seismogram buckets like assoc, trig, untrig and onebit, the number of seismograms per day might take a long time to load. It is then recommended to enable "Per Hour" view in the "Tools" tab for faster loading times.

Properties	Seismograms	Advanced	Tools	
Tools				
Automatic Refrest	i			
Recent Refresh				
Emphasis on wee	kdays	$\checkmark$		
Day Display		WHOLE_DA	Υ.	~
		WHOLE_DA	Y	
		PER_HOUR		

## 4 Description of seismograms

Seismograms are differentiated from seismic event entries like events, blasts, test pulses, etc with a specific icon. Each seismogram can be opened individually and with the exception of onebit sgrams, can be merged into existing events.

- **assoc/merged/postassoc** (associated triggered seismograms): Blank or yellow annotated sgram icon [■ or ■]
- trig (non-associated triggered seismograms): Orange annotated sgram icon [5]
- untrig (non-triggered sgrams): Red annotated sgram icon [5]
- xgm (XGM seismograms): Green X annotated sgram icon [5]
- onebit (Onebit normalised seismograms): Grey annotated sgram icon [5]



Figure 2: Seismograms in database window (Database window)