

FACTSHEET

A rapid data transmission protocol that dramatically reduces latency, ideal for earthquake early warning systems.

GDI uses a flexible packetisation scheme for true, real-time transmission that can deliver waveforms, sample by sample, as they are acquired by the datalogger.

By adapting its transmission to the available communications bandwidth GDI achieves the fastest possible speed for data flow.

Traditional delays associated with protocols with fixed length packets such as SEEDlink (miniSEED packets) are overcome. In addition, as the packet header is significantly smaller than with SEEDlink (4 bytes as opposed to 64 bytes in SEEDlink), bandwidth requirements are reduced.

Unlike SEEDlink protocol, GDI also delivers per-channel metadata in SEED format and machine readable State of Health (SoH) information.

The greatest benefit of GDI is achieved when it is combined with low latency filtering, such as the causal filtering in the Güralp Minimus digitiser (see the [Minimus brochure](#) for more information). In this example, digitisation and transmission can be achieved in ~40 ms, significantly less than the data latencies of 1 s, typically achieved with SEEDlink.

GDI available as free-licence source code

GDI source code is available as a free download for further development or integration into existing EEW networks, visit www.guralp.com for further details.

In addition, through partnership with Gempa, GDI protocol is also supported via a plug-in to the CAPS module of SeisCompPro for simple integration into existing seismic monitoring infrastructure.

Key features

Free-licence source code for incorporation into your EEW network

Supported via a plug-in for the CAPS module of SeisCompPro

Rapid data transmission for earthquake early warning systems on all scales

Bandwidth-adaptive packetisation scheme drives efficient data flow

Responsive sample-by-sample streaming dispatches data instantly

Delivers per-channel metadata in SEED format and machine readable State of Health (SoH)

Significantly reduced packet headers for higher transmission efficiency

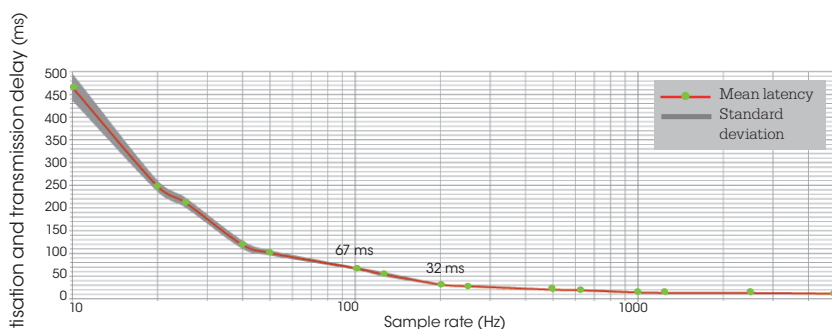
Already available, in combination with low latency causal filtering, in Güralp Minimus digitiser - for data latency of ~40 ms

Download the GDI source code here:

<http://git.guralp.com>

For more information see the GDI project wiki here:

http://git.guralp.com/open-source/gdi-simple_client/wikis/home



Measured data delivery times vs. sample rate using a LAN