EIGER2 Release Notes

**2021-03-01**  release-2020.2.3

Bugfix Version based on 2020.2.2. Will only be used for XE systems!

EIGER2 XE:

- Added new server configuration for XE systems

**2021-02-12**  release-2020.2.2

Bugfix Version based on 2020.2.1

EIGER2 R 500K-S:

- Fixed readout issues
- Update to latest firmware version

General:

- Fixed **bit_depth** issue without auto_summation. In certain conditions, it is possible to get 32 bit images even when auto_summation is off (i.e. counrate_correction) but the **bit_depth** value didn't change accordingly.
- In **inte** and **exte** modes, **nimages** can only be set to 1 (required configuration for those modes).
- Add human readable error for trigger series exceeding maximal duration (max. duration 1 week). This is checked during **arm** and returns an appropriate error message.
- Improved logs for debugging
- Support for new hardware
- Don't allow negative TH sensor readings (value is always >= 0)

API (1.8.0) additions and fixes:

- Added **unit** to **filewriter status** **buffer_free**
- Added **allowed_values** to **detector status**
- Detector status now properly changes to error when detector is no longer powered or connected.
- Fixed issue where **photon_energy** wouldn’t always return list of changed values.
- Re-added **detector/status/link_x** for backwards compatibility
• *bit_depth_readout* and *bit_depth_image* read rights are now properly available for EIGER(1) systems (see also “Legacy Server Support”)

**SIMPON 1.6.0 changes:**

- Only active when sending API request with “.../api/1.6.0/...” instead of “.../api/1.8.0/...”

- *monitor_image_number* and *next_image_number* re-added

- Key error now visible in *monitor/status/state*

**2020-10-23 release-2020.2.1**

**Bugfix Version based on 2020.2**

**Additions:**

- Added rollback feature for board firmwares

**Fixes:**

- Increased module flashing wait time

- Return *series end* message when using cancel or abort

- Added min. value for *detector_readout_time*

- Fixed counter reset issues with lines ROI

- *nil* value in network configurations no longer breaks communication with detector

- Initialize no longer fails after power cycling detector during operation

- Filewriter now properly calculates total number of images in *inte* and *exte* mode
  - Only *ntrigger* is to be used in those modes. Since total number of images is calculated with *nimages * ntrigger* this could yield too many data files if *nimages* was not set to 1 as required.

- Improved E2 R 500K initialization stability

**2020-09-18 release-2020.2**

**Features:**

- CdTe Support

- New high voltage status key available (see SIMPON API documentation)

- High voltage reset command available (see SIMPON API documentation)

- Updates and uses latest firmware versions

- Support for XE systems using fiber
Fixes & Changes:

- `detector/state/error` changed back to type `string` instead of `list` to match API 1.8.0 documentation and keep 1.6.0 backwards compatibility. This was an unwanted change and therefore classified as a bug in release-2020.1.

- FileWriter and Monitor mode changes (enable / disabled) are only affected while the detector is in the idle stage (after disarm / end of series or before arm).

- Fixed HDF5 data file path if `name_pattern` contains path structure.

- Unified "empty" return values (e.g initialize, trigger, hv_reset) to return `{}` instead of `""` and `{}`. Generally, return values should not be parsed for nonspecific returns.

- Added `incident energy` to tiff header.

- Changing `photon_energy` didn’t return all changed values in return.

- Changing `count_time` didn’t return all changed values in return.

- Sending trigger before `arm` no longer requires re-initialize.

- Corrected reported minimal times in all ROI and full readout modes on `GET` requests.

- Countrate correction table didn’t match SIMPLON 1.6.0 implementation (transposed table).

- Missing links now properly reported.

- `detector_readout_time` now shows minimal possible value.

- Restored `frame_time` and `count_time` interaction of SIMPLON 1.6.0.
  - Setting `frame_time < existing count_time` now automatically adjusts `count_time` to “`frame_time - (minus) detector_readout_time`”
  - Setting `count_time > existing frame_time` now automatically adjusts `frame_time` to “`count_time + (plus) detector_readout_time`”

- Improved log files for debugging.

- Monitor buffer fill behavior changed due to multi-threshold usage. The fill level decreases only after getting all the thresholds of a single exposure.

- Countrate correction cutoff now properly shown for the E2 R 500K-S.

- WebUI now shows properly rounded values and updates readings after initialize.

- Fixed bug report behavior where download link would be reported before file being available.

- Bug report link will now only be returned after the file has been written.

API changes:

<table>
<thead>
<tr>
<th>parameter</th>
<th>comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>detector config</td>
<td>reordered to match SIMPLON 1.6.0 order ['lz4', 'bslz4', 'none']</td>
</tr>
</tbody>
</table>
### Features:
- Use latest firmware versions
- Latest DCUs supported

### Fixes:
- Goniometer parameters of null won’t be written in the metadata. Valid float values (e.g. 0.0) will be written
- Fix `cable_check` and `initialize` in webUI
- Added missing 1.6.0 and 1.7.0 SIMPLON keys for:
  - `monitor/…/images`
  - `system/…/config/`
- Fixed custom flatfield and pixel_mask issue with lines ROI mode
- Fixed meta data issue when using ROI mode
- Improved initialization in case of errors
- Added possibility to disable TH sensor
- System command `restart` now blocking (returns after container has restarted)


**Legacy Server Support**

Note, this is in an experimental feature for listed EIGER(1) servers. Contact DECTRIS support for additional information.

- DELL PowerEdge R220
- DELL PowerEdge R230
- DELL PowerEdge R820
- DELL PowerEdge R820 – with additional user card (1 port) in slot 6

**General Information**

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