

EIGER and EIGER2 output formats Stream and File Writer

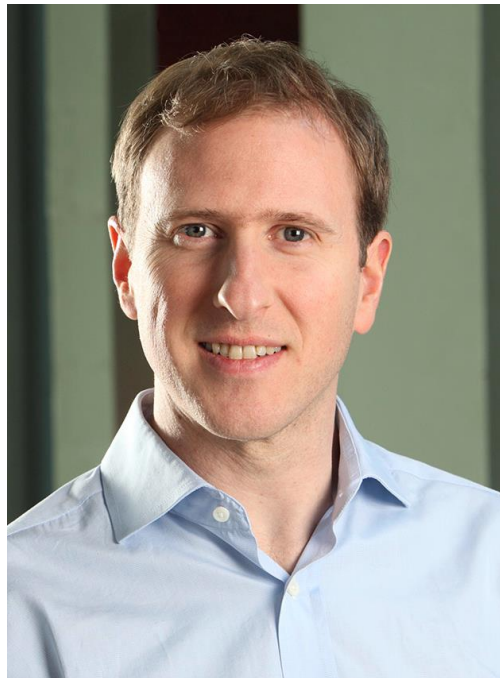
Andy Moesch | Product Owner System Software

Stefan Brandstetter | Head of Product Management

Andreas Förster | Application Scientist MX

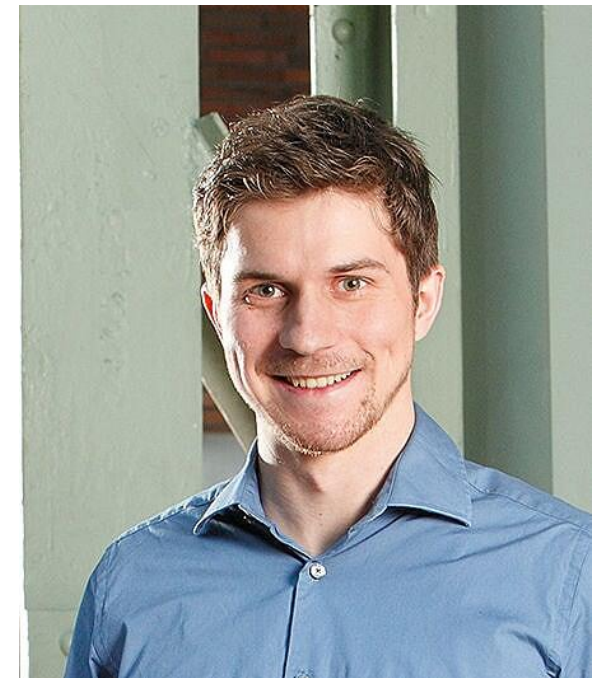
People attending from DECTRIS

Stefan Brandstetter
Head of Product Management



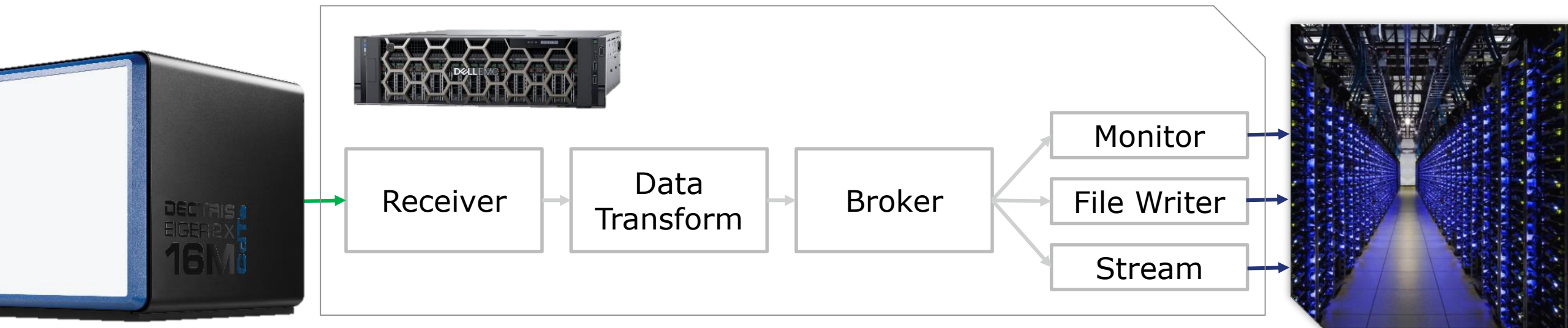
Andreas Förster
Application Scientist MX

Andy Moesch
Product Owner System SW



Data Interfaces

- Data interfaces enable access to image series
- Multiple data interfaces are available
 - different requirements
- Multiple data interfaces can be active simultaneously
 - no more than 2 high performance interfaces active at any given time



Design Goals for the Data Interfaces

DECTRIS wants to provide data interfaces that enable:

1. easy integration of EIGER2 into existing EIGER set ups.
2. progressive approaches.
3. be consistent over all EIGER related products.
4. stick and contribute to proven open source standards.

Easy Integration

– *compatibility, minor bug fixing and changes*

Progressive Approaches

– *assist in the challenging task of handling ever increasing data rates*

– *enable low latency data analysis*

– *multiple threshold data*

Open Source

– *actively promote and contribute to open source standards*

Data Interfaces

Monitor

monitoring interface

- HTTP pull
- very limited meta data
- low-medium performance
- medium latency
- no compression*
- pull interface

File Writer

high performance hdf5 file writer

- WebDAV pull
- meta data
- high performance
- high latency
 - *multiple images / file*
- high overhead
- compression
- data safety

Stream

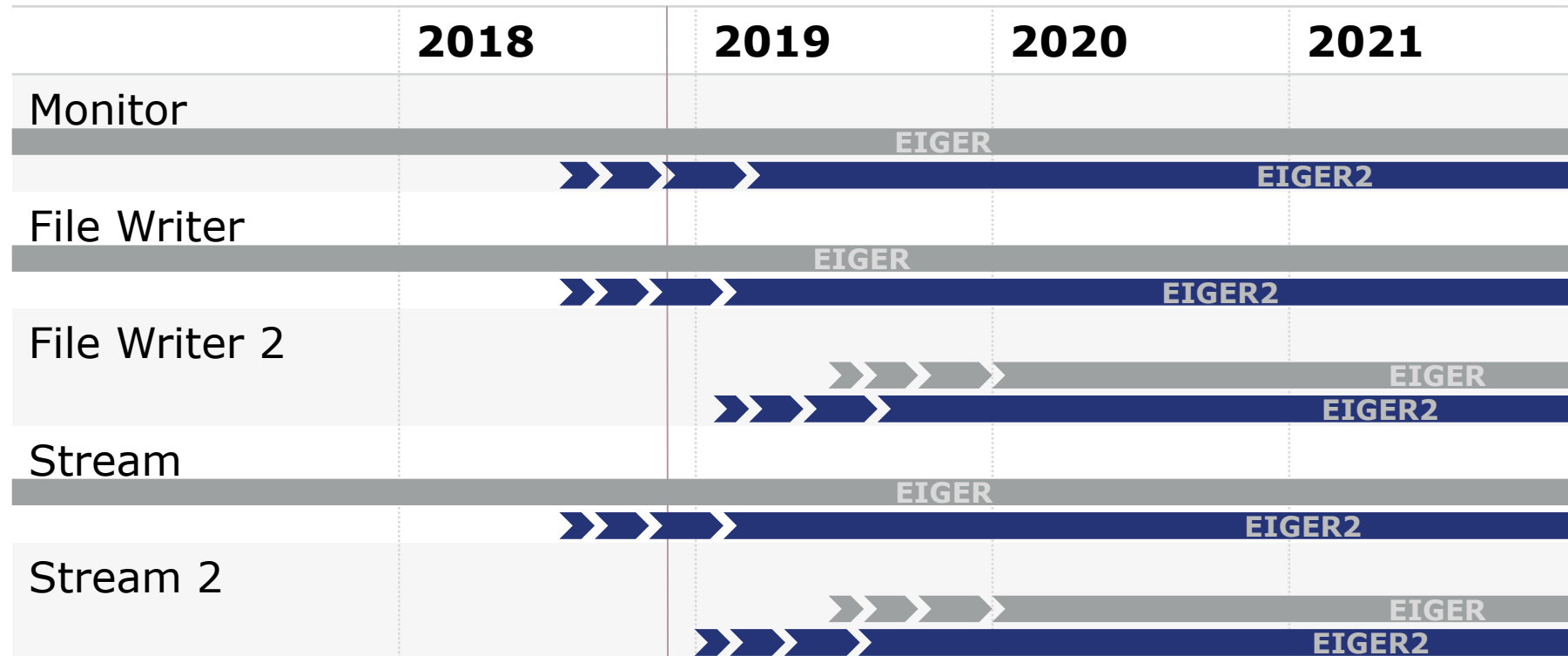
high Performance OMQ data interface

- OMQ push-pull
- meta data
- high performance
- low latency
- adjustable overhead
- compression

* experimental tiff compression available

Overview

05.12.2018



➤ EIGER
➤ EIGER2

EIGER (now)

Monitor

- 1 Threshold
- json, tiff
- Documentation available on the dectris [homepage](#)

FileWriter

- 1 Threshold
- HDF5 1.8
- data sets available on the access restricted [download area](#)

Steam

- 1 Threshold
- 0MQ
- Documentation available on the dectris [homepage](#)

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EIGER2 (now)

- Multiple threshold support
- Compatible with EIGER data acquisition software*

- Data sets will be available on our homepage shortly
- Compatible with EIGER data acquisition software*

- Compatible with EIGER data acquisition software*

* smaller changes reserved

Monitor Interface

EIGER 2 || EIGER (Q2-Q3'19)

Multiple threshold support / minimal meta data / low performance

http://<DCU_IP>/monitor/api/1.8.0/images/next

series	1
image	1
th	1

series	1
image	1
th	2

series	1
image	2
th	1

series	1
image	2
th	2

series	1
image	3
th	1

http://<DCU_IP>/monitor/api/1.8.0/images/monitor

series	1
image	1
th	1

series	1
image	2
th	1

series	1
image	3
th	1

http://<DCU_IP>/monitor/api/1.8.0/images/x/y/z (under development)

series	x
image	y
th	z

Future Data Interfaces

EIGER2 || EIGER

File Writer 2

- HDF5 1.10.x
- «Gold Standard» NeXus meta data

development starts Q1'19
available by Q3'19

Stream 2

- Multiple threshold support
- Pull and later push option
- Object based
 - *Data (objects) will be independent of the transport layer*

development starts Q1'19
available by Q3'19

Upgrade Path

EIGER2 will be delivered with the File Writer and Stream
Firmware updates will be provided enabling File Writer 2 and Stream 2

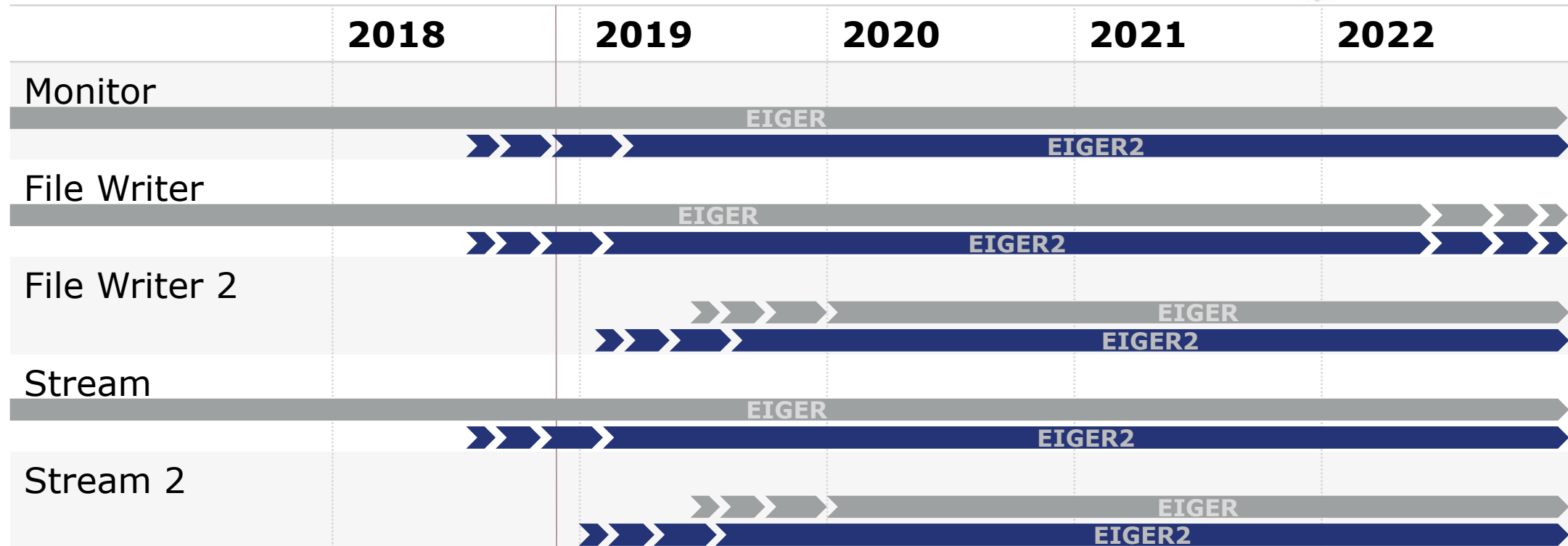
Update for EIGER (SIMPLON 1.8) systems will be available by Q2-Q3'19
File Writer 2 and Stream 2 will also be available for EIGER Systems through updates
Updates for EIGER might be available slightly later than for EIGER2

All interfaces will be available until at least 2021
You may use e.g. Steam and Stream to in parallel

File Writer and Stream might not be updated after 2021

Overview

05.12.2018



➤ EIGER
➤ EIGER2