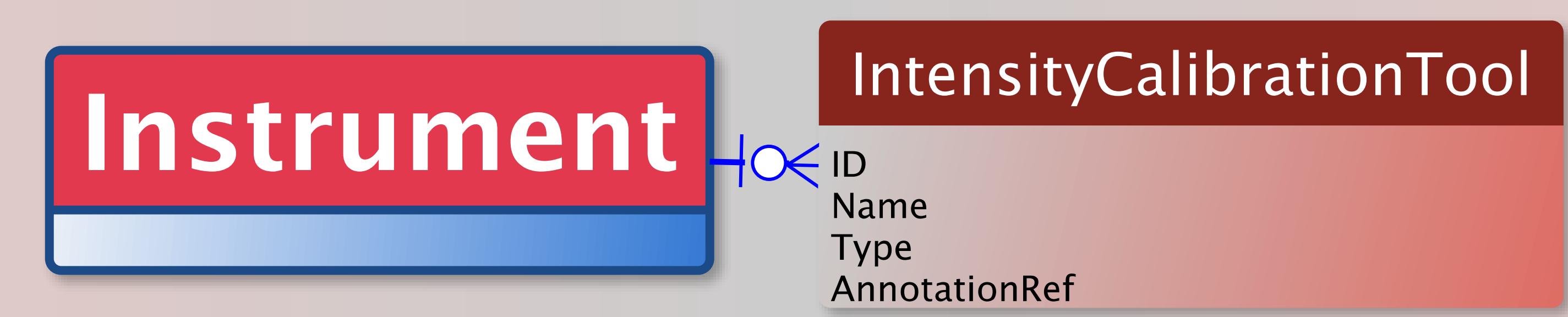# 4DN-BINA-OME Calibration & Performance Extension Microscope HARDWARE Specifications
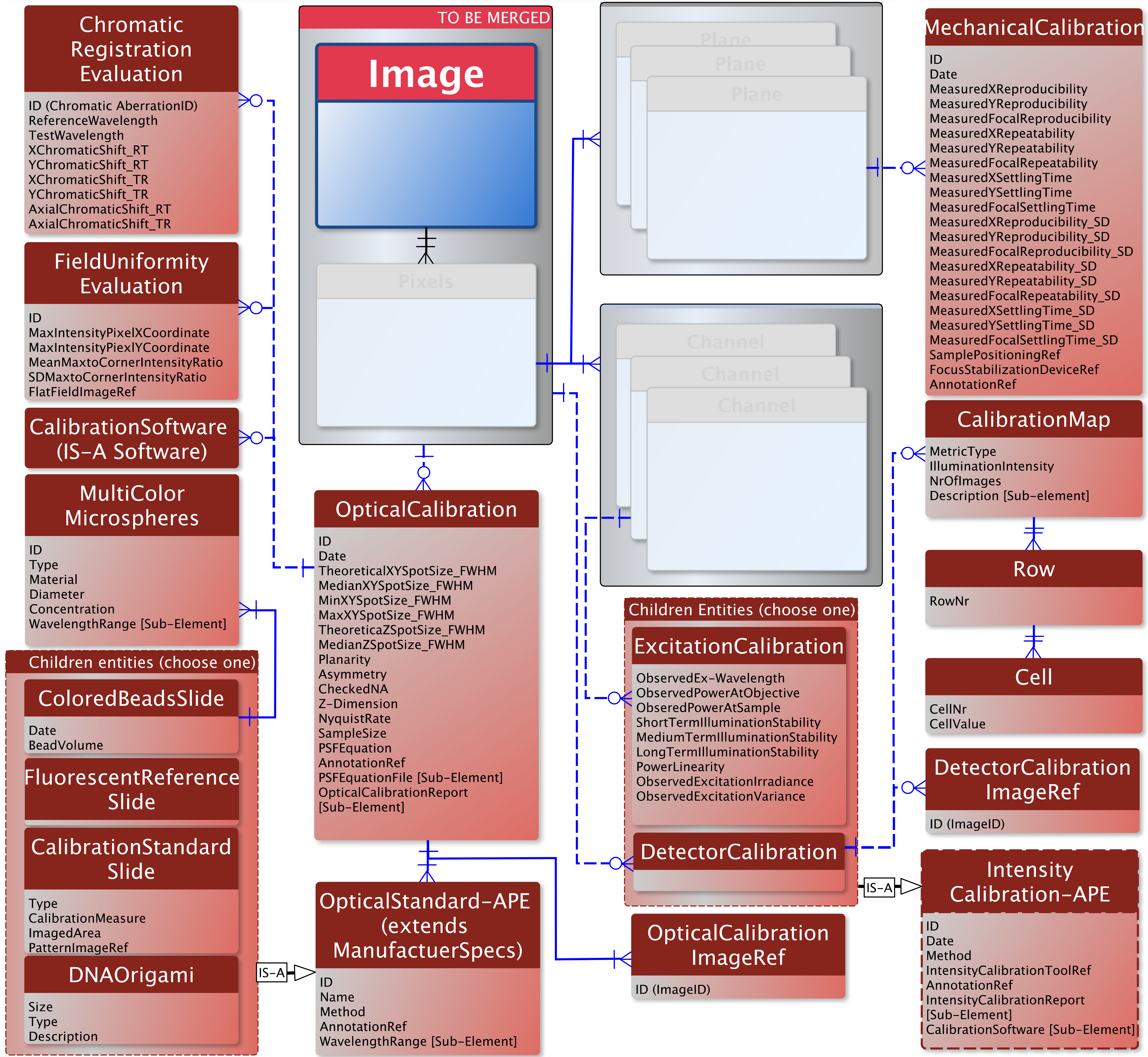
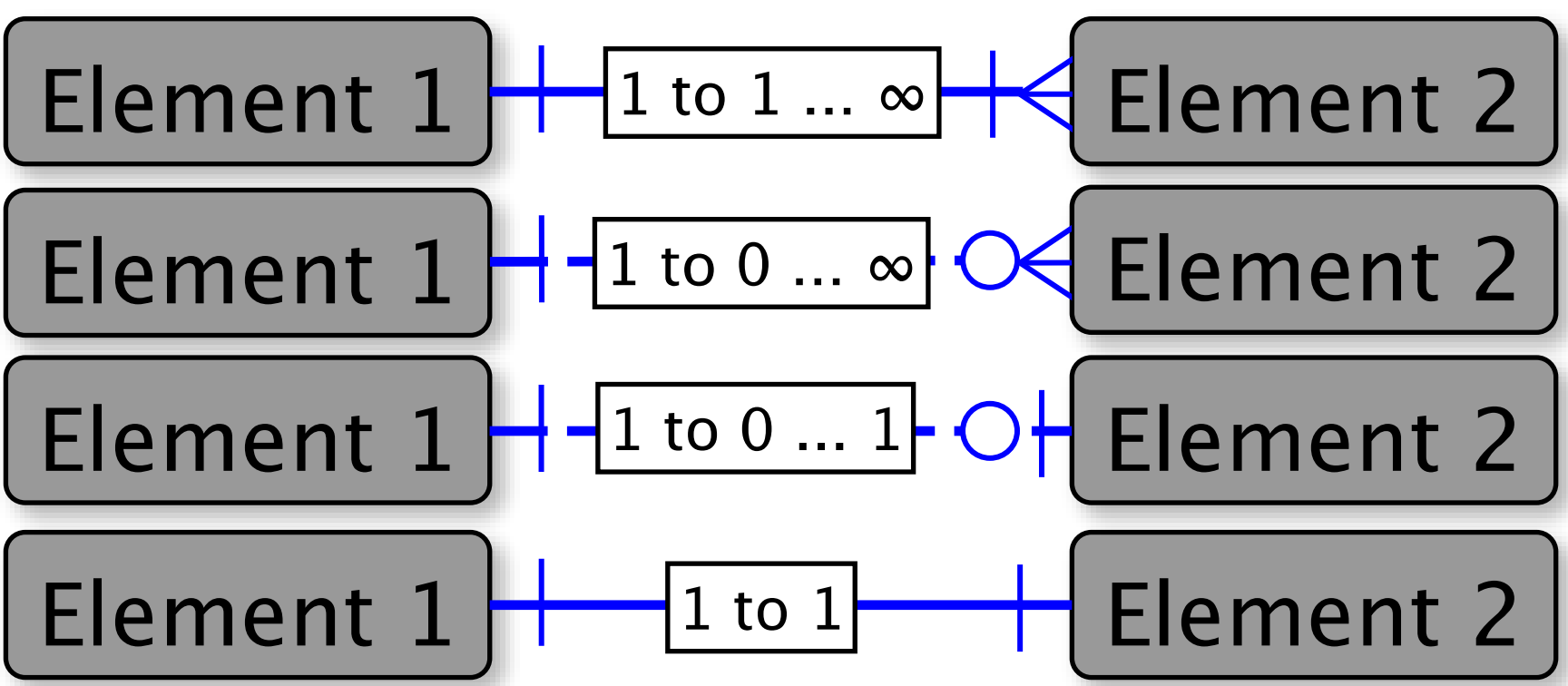# 4DN-BINA-OME Calibration & Performance Extension Image ACQUISITION Settings

Instrument

IntensityCalibrationTool
ID
Name
Type
AnnotationRef

Chromatic Registration Evaluation
ID (Chromatic AberrationID)
ReferenceWavelength
TestWavelength
XChromaticShift_RT
YChromaticShift_RT
XChromaticShift_TR
YChromaticShift_TR
AxialChromaticShift_RT
AxialChromaticShift_TR

FieldUniformity Evaluation
ID
MaxIntensityPixelXCoordinate
MaxIntensityPixelYCoordinate
MeanMaxtoCornerIntensityRatio
SDMaxtoCornerIntensityRatio
FlatFieldImageRef

CalibrationSoftware (IS-A Software)

MultiColor Microspheres
ID
Type
Material
Diameter
Concentration
WavelengthRange [Sub-Element]

Children entities (choose one)

ColoredBeadsSlide
Date
BeadVolume

FluorescentReference Slide

CalibrationStandard Slide
Type
CalibrationMeasure
ImagedArea
PatternImageRef

DNAOrigami
Size
Type
Description

TO BE MERGED

Image

Pixels

Plane
Plane
Plane

Channel
Channel
Channel

OpticalCalibration
ID
Date
TheoreticalXYSpotSize_FWHM
MedianXYSpotSize_FWHM
MinXYSpotSize_FWHM
MaxXYSpotSize_FWHM
TheoreticaZSpotSize_FWHM
MedianZSpotSize_FWHM
Planarity
Asymmetry
CheckedNA
Z-Dimension
NyquistRate
SampleSize
PSFEquation
AnnotationRef
PSFEquationFile [Sub-Element]
OpticalCalibrationReport
[Sub-Element]

OpticalStandard-APE (extends ManufactuerSpecs)
ID
Name
Method
AnnotationRef
WavelengthRange [Sub-Element]

IS-A

Children Entities (choose one)

ExcitationCalibration
ObservedEx-Wavelength
ObservedPowerAtObjective
OberedPowerAtSample
ShortTermIlluminationStability
MediumTermIlluminationStability
LongTermIlluminationStability
PowerLinearity
ObservedExcitationIrradiance
ObservedExcitationVariance

DetectorCalibration

IS-A

OpticalCalibration ImageRef
ID (ImageID)

MechanicalCalibration
ID
Date
MeasuredXReproducibility
MeasuredYReproducibility
MeasuredFocalReproducibility
MeasuredXRepeatability
MeasuredYRepeatability
MeasuredFocalRepeatability
MeasuredXSettlingTime
MeasuredYSettlingTime
MeasuredFocalSettlingTime
MeasuredXReproducibility_SD
MeasuredYReproducibility_SD
MeasuredFocalReproducibility_SD
MeasuredXRepeatability_SD
MeasuredYRepeatability_SD
MeasuredFocalRepeatability_SD
MeasuredXSettlingTime_SD
MeasuredYSettlingTime_SD
MeasuredFocalSettlingTime_SD
SamplePositioningRef
FocusStabilizationDeviceRef
AnnotationRef

CalibrationMap
MetricType
IlluminationIntensity
NrOfImages
Description [Sub-element]

Row
RowNr

Cell
CellNr
CellValue

DetectorCalibration ImageRef
ID (ImageID)

Intensity Calibration-APE
ID
Date
Method
IntensityCalibrationToolRef
AnnotationRef
IntensityCalibrationReport
[Sub-Element]
CalibrationSoftware [Sub-Element]