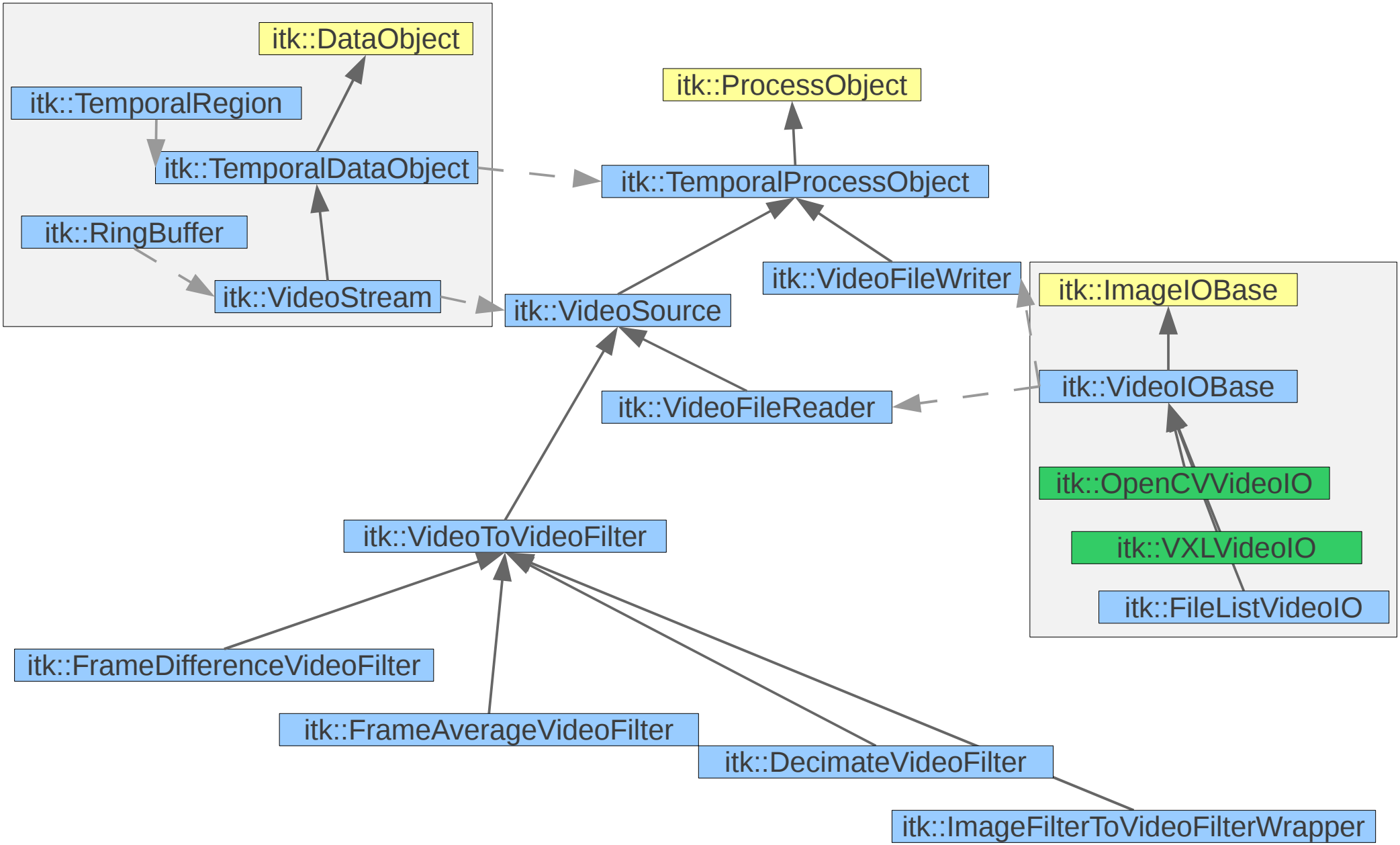
ITK Video A2D2

Amitha Parera, Patrick Reynolds, Matt Leotta,
Luis Ibanez, Gabe Hart

New Classes

Class Hierarchy



itk::VideoStream

itk::VideoStream

itk::TemporalRegion

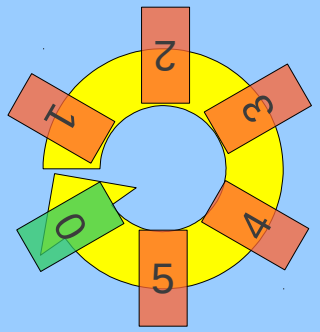
- FrameStart
- FrameDuration
- RealStart
- RealDuration

itk::VideoStream

itk::TemporalRegion

- FrameStart
- FrameDuration
- RealStart
- RealDuration

itk::RingBuffer



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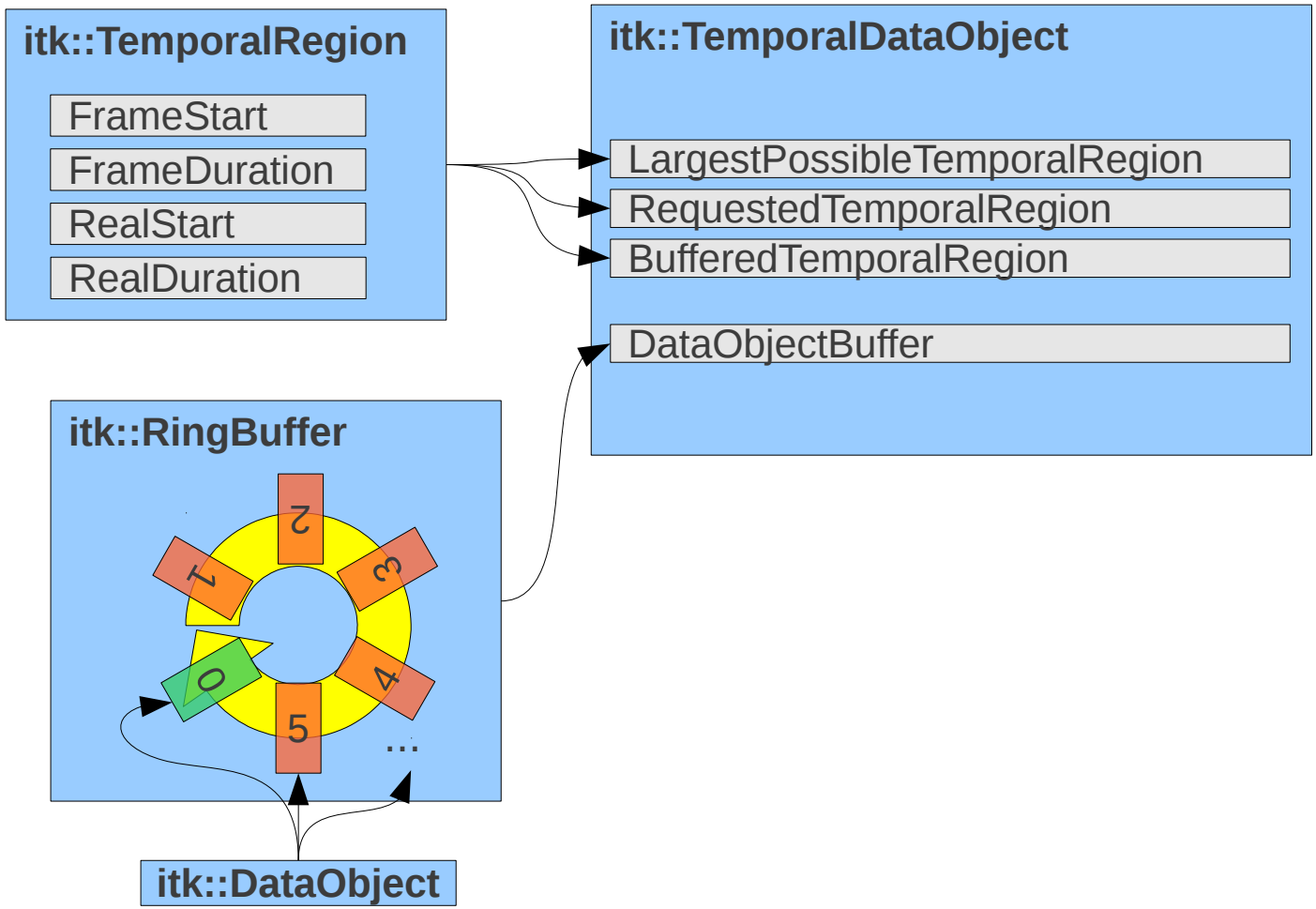

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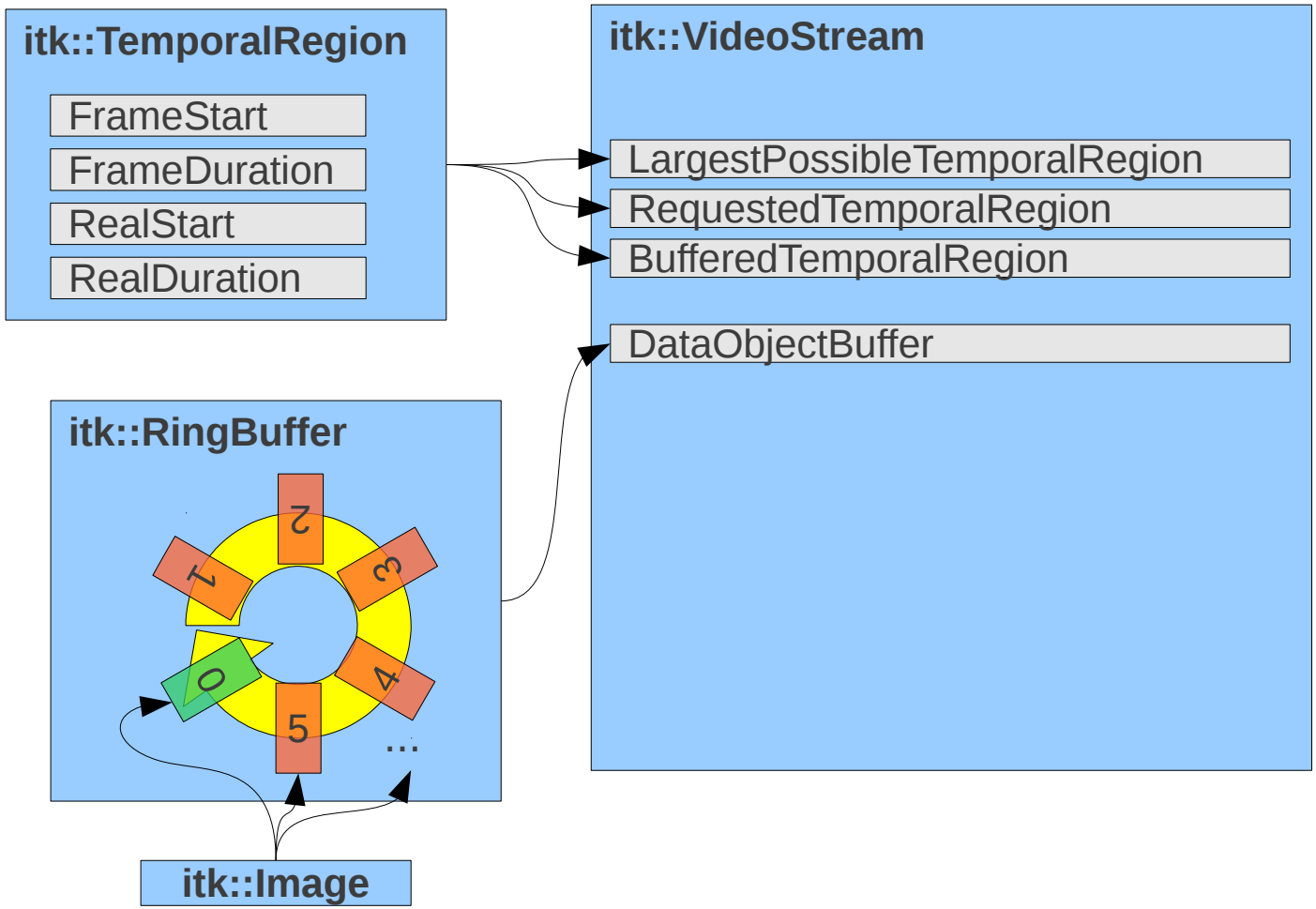

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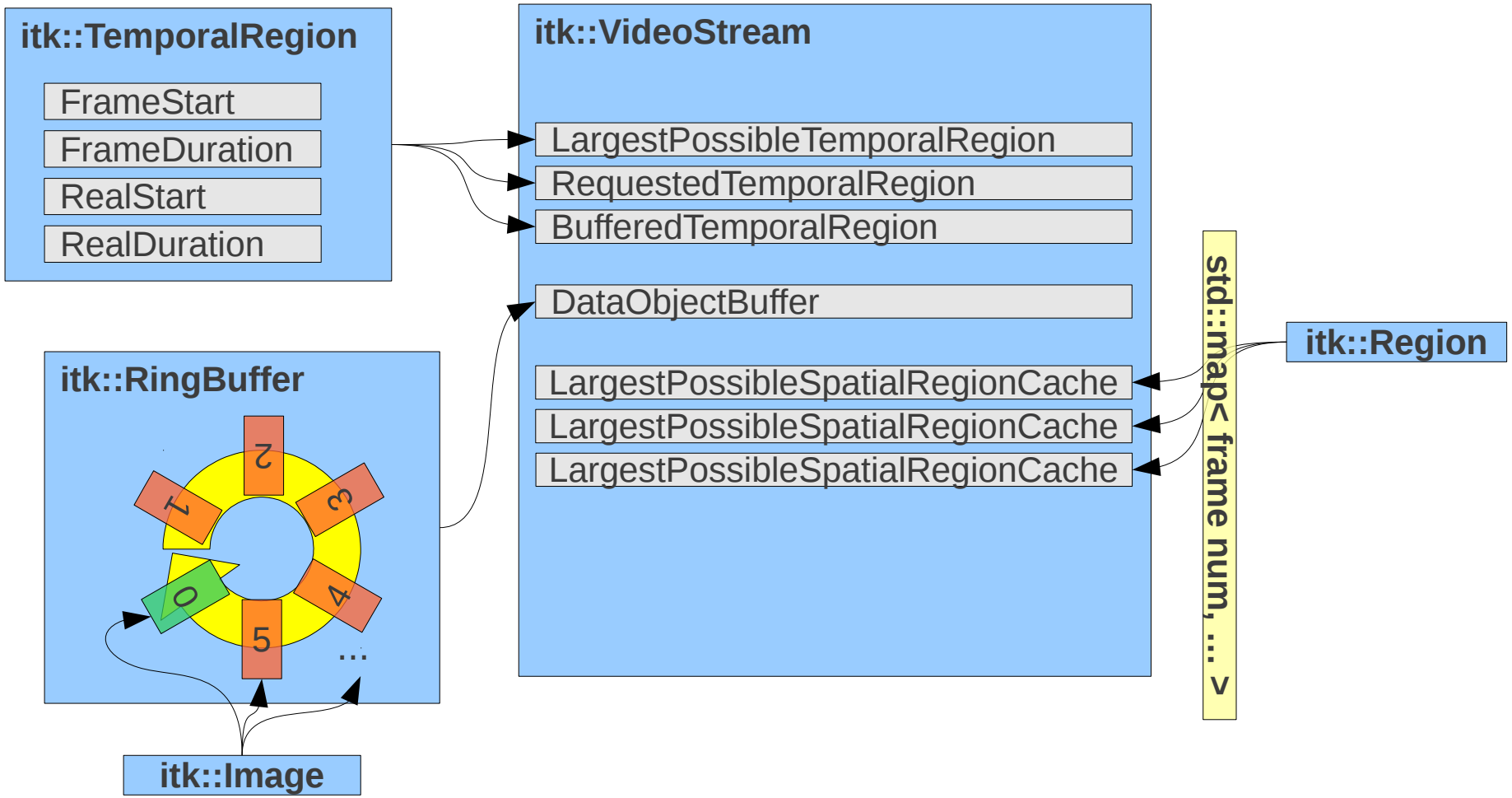

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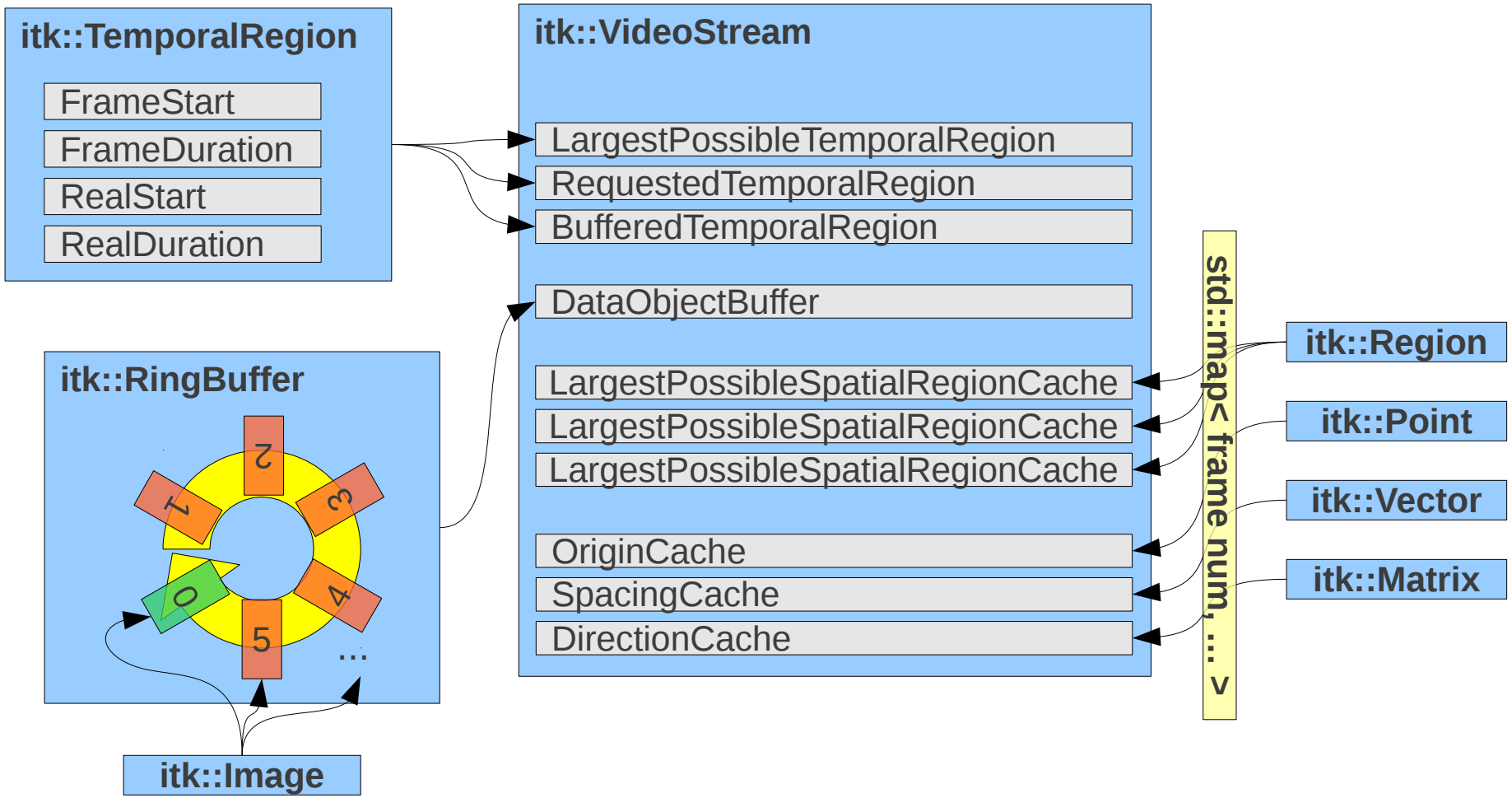

itk::VideoToVideoFilter

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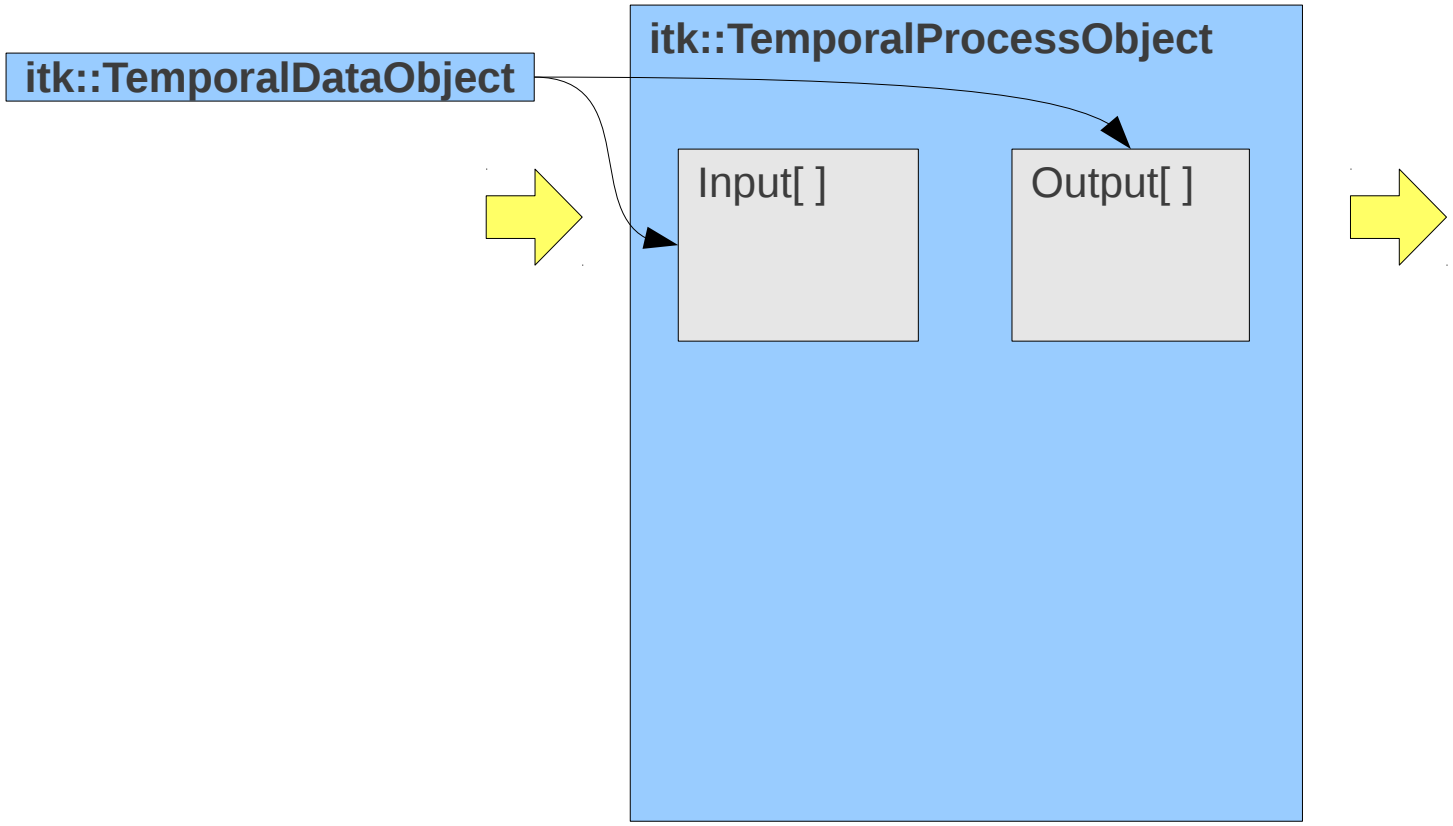

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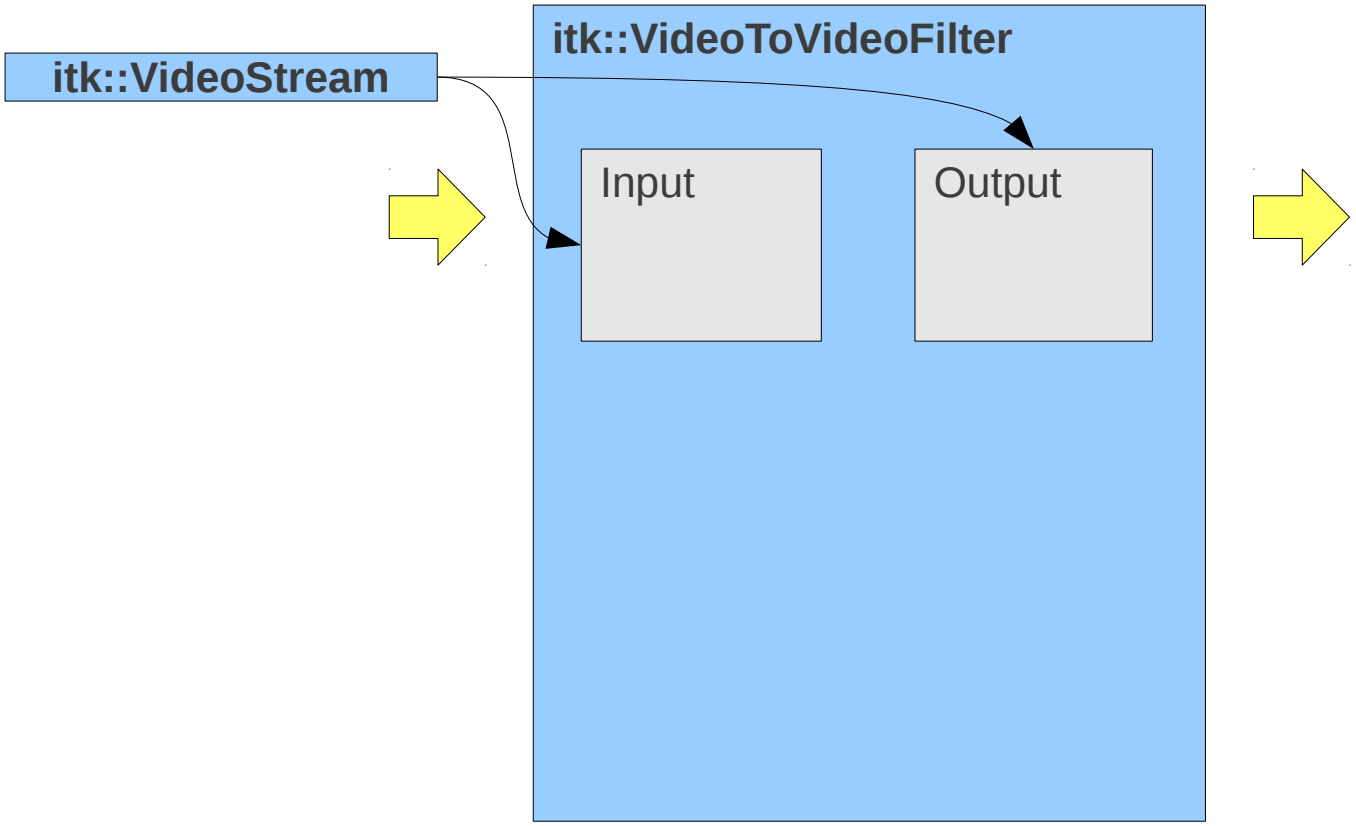

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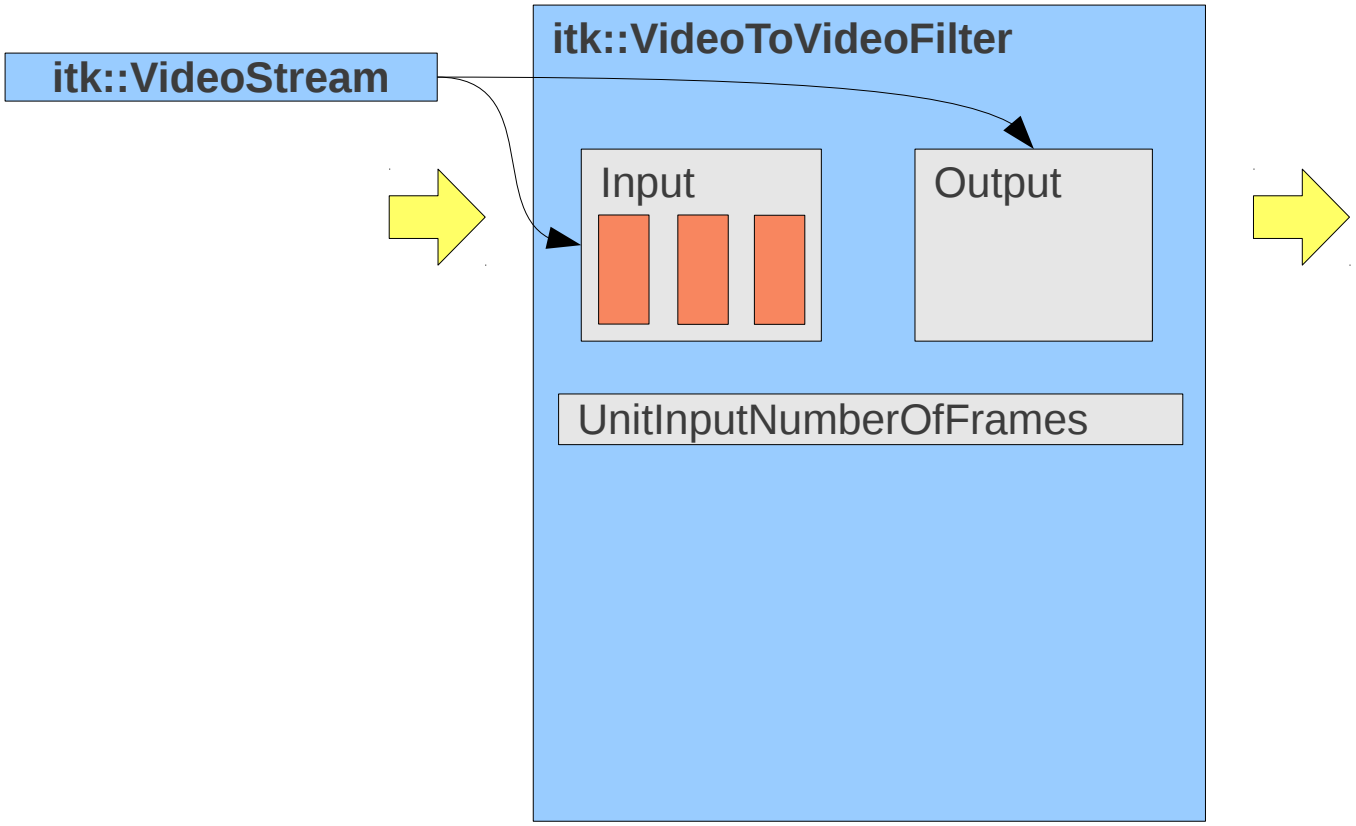

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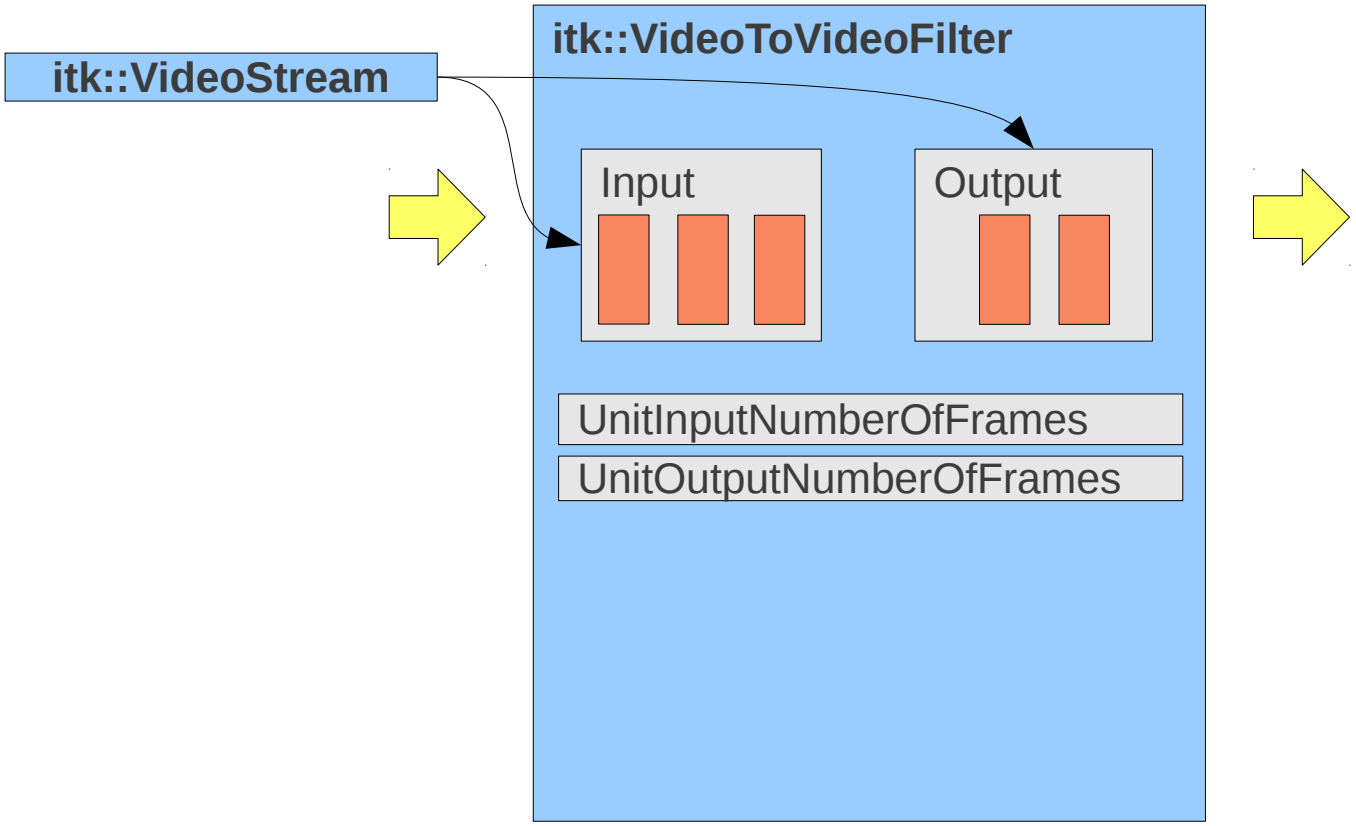

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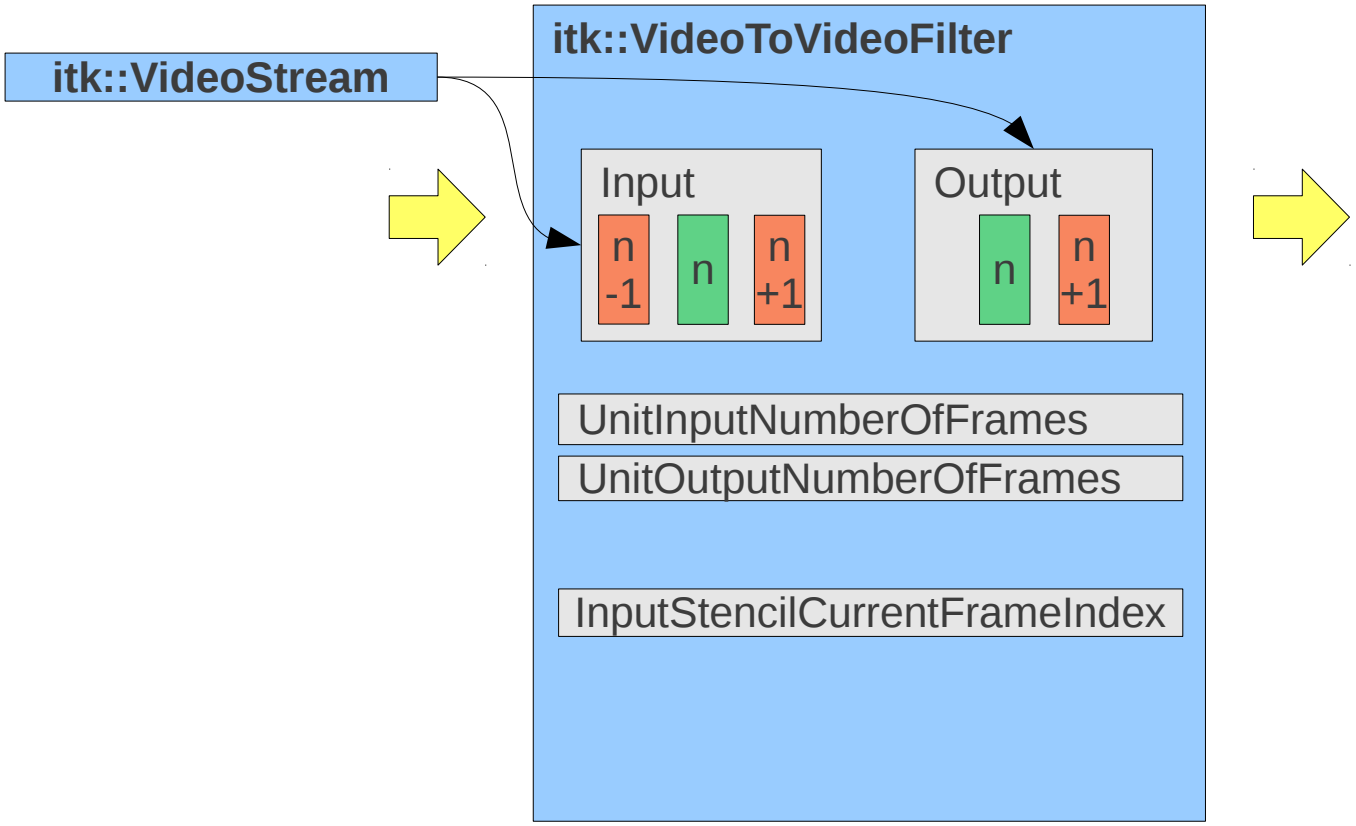

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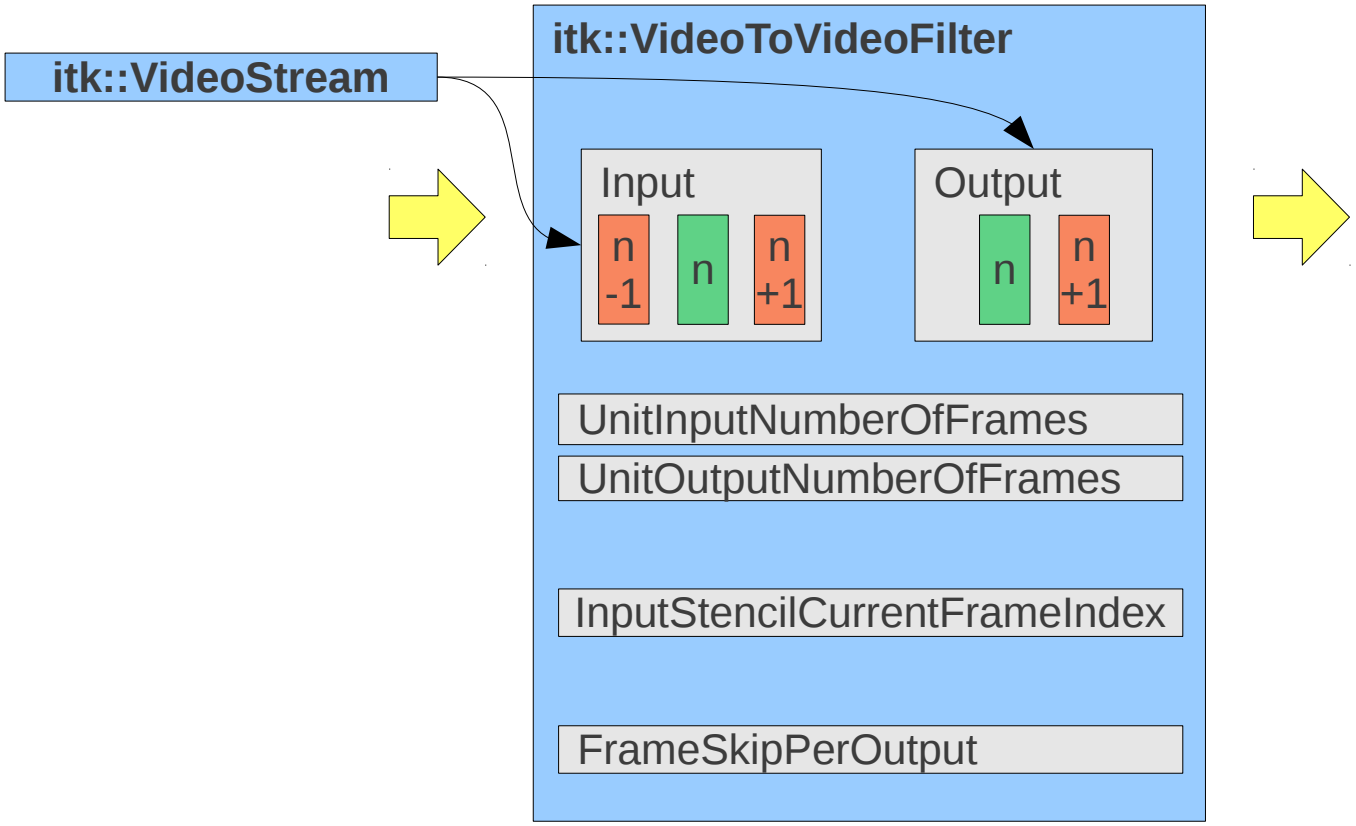

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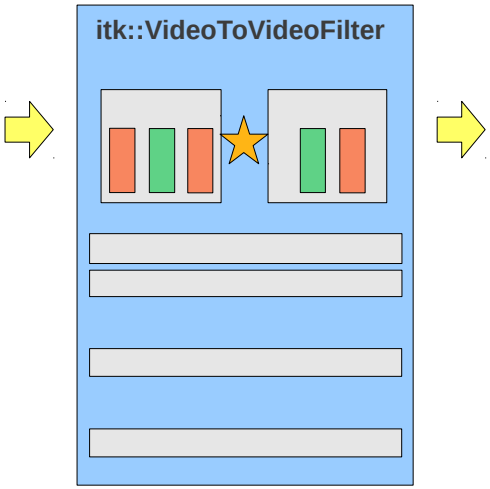
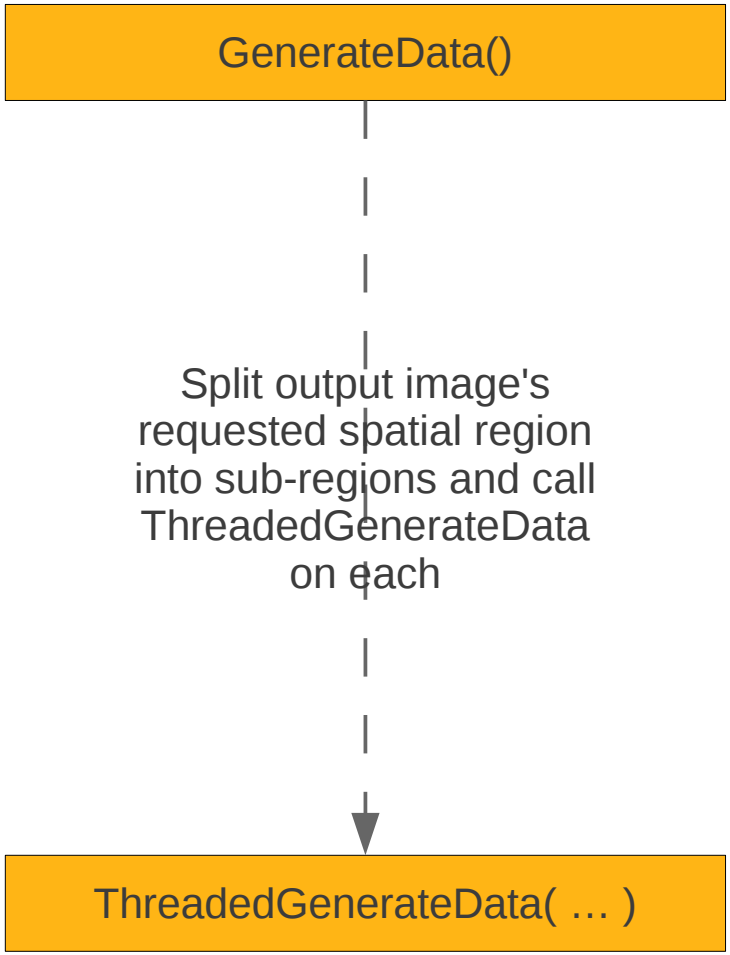


itk::ImageToImageFilter → **GenerateData** Process



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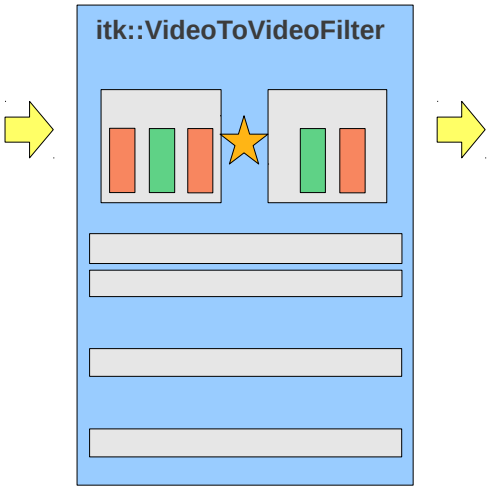
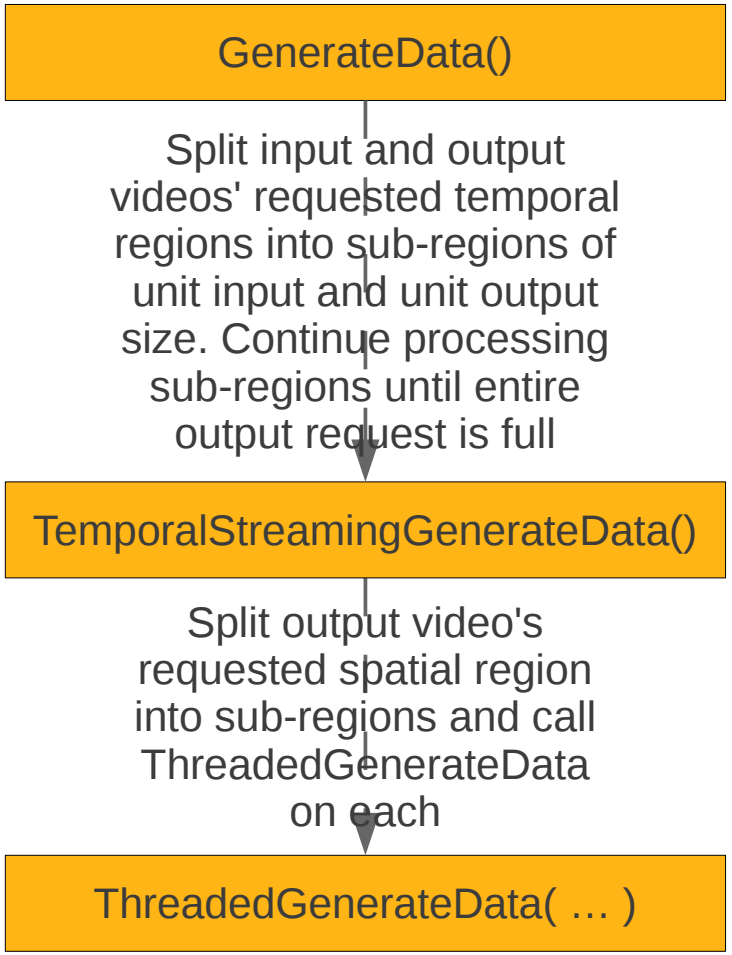


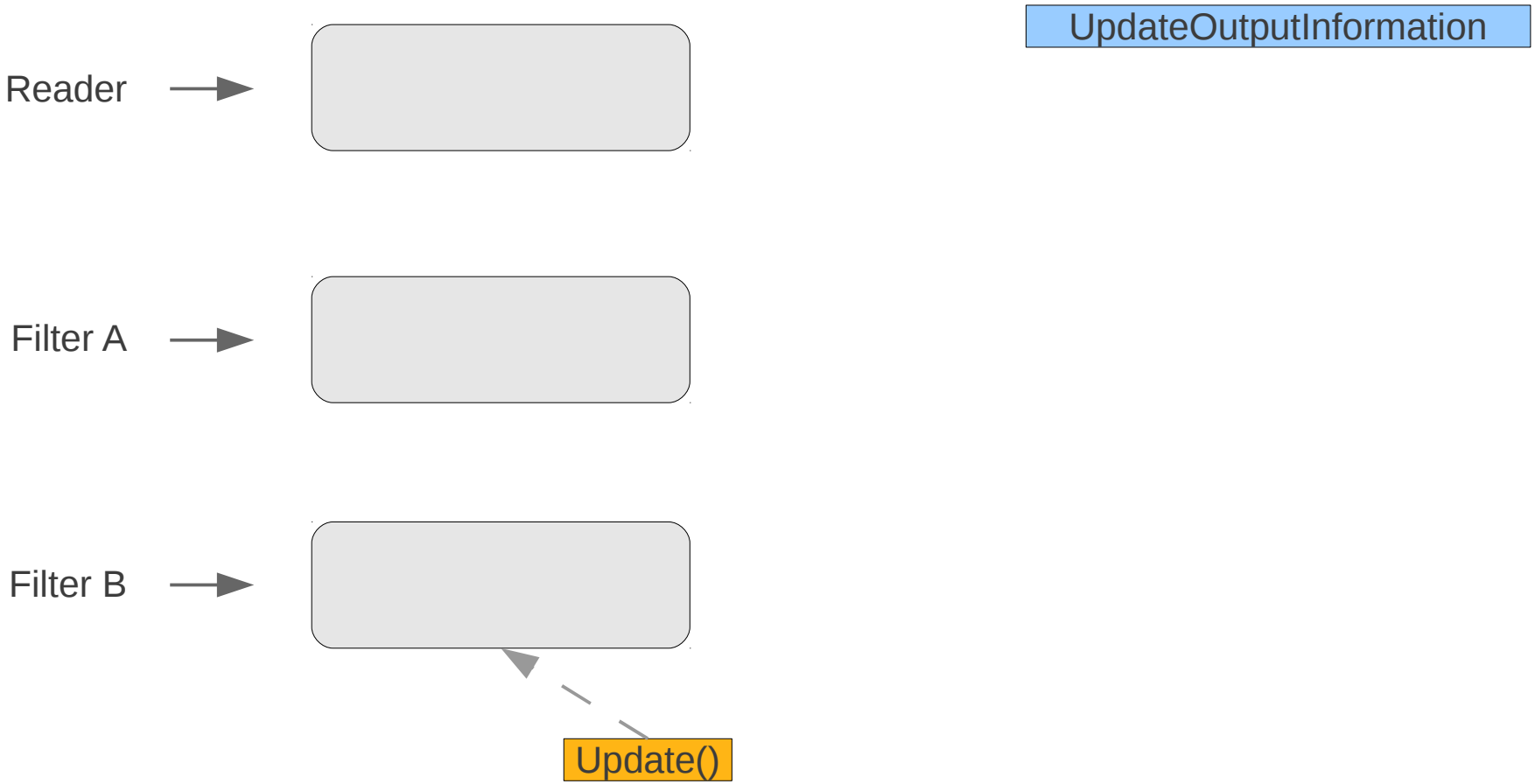
itk::ImageToImageFilter → **GenerateData** Process



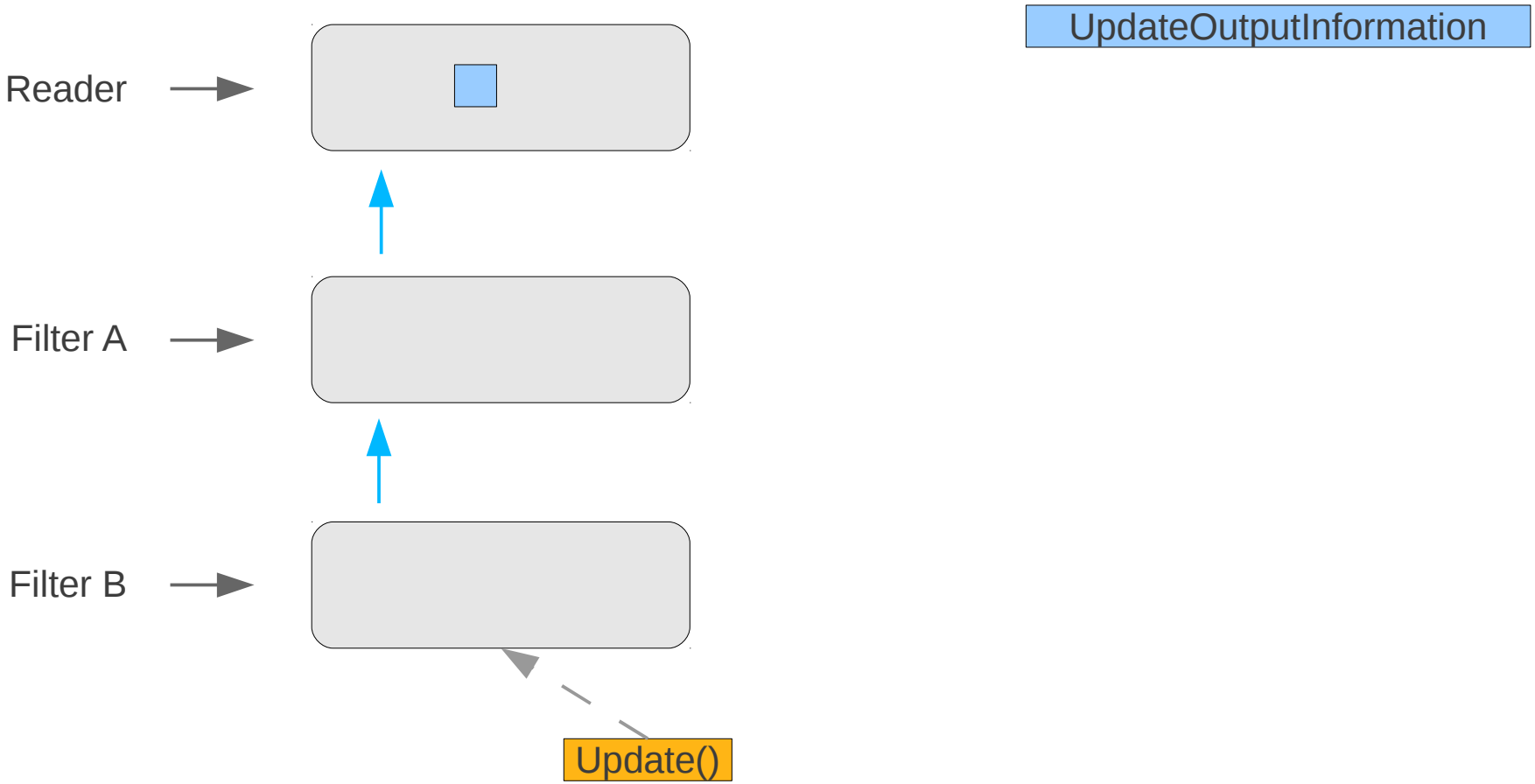
Pipeline Architecture

ITK Pipeline

ITK Pipeline



ITK Pipeline



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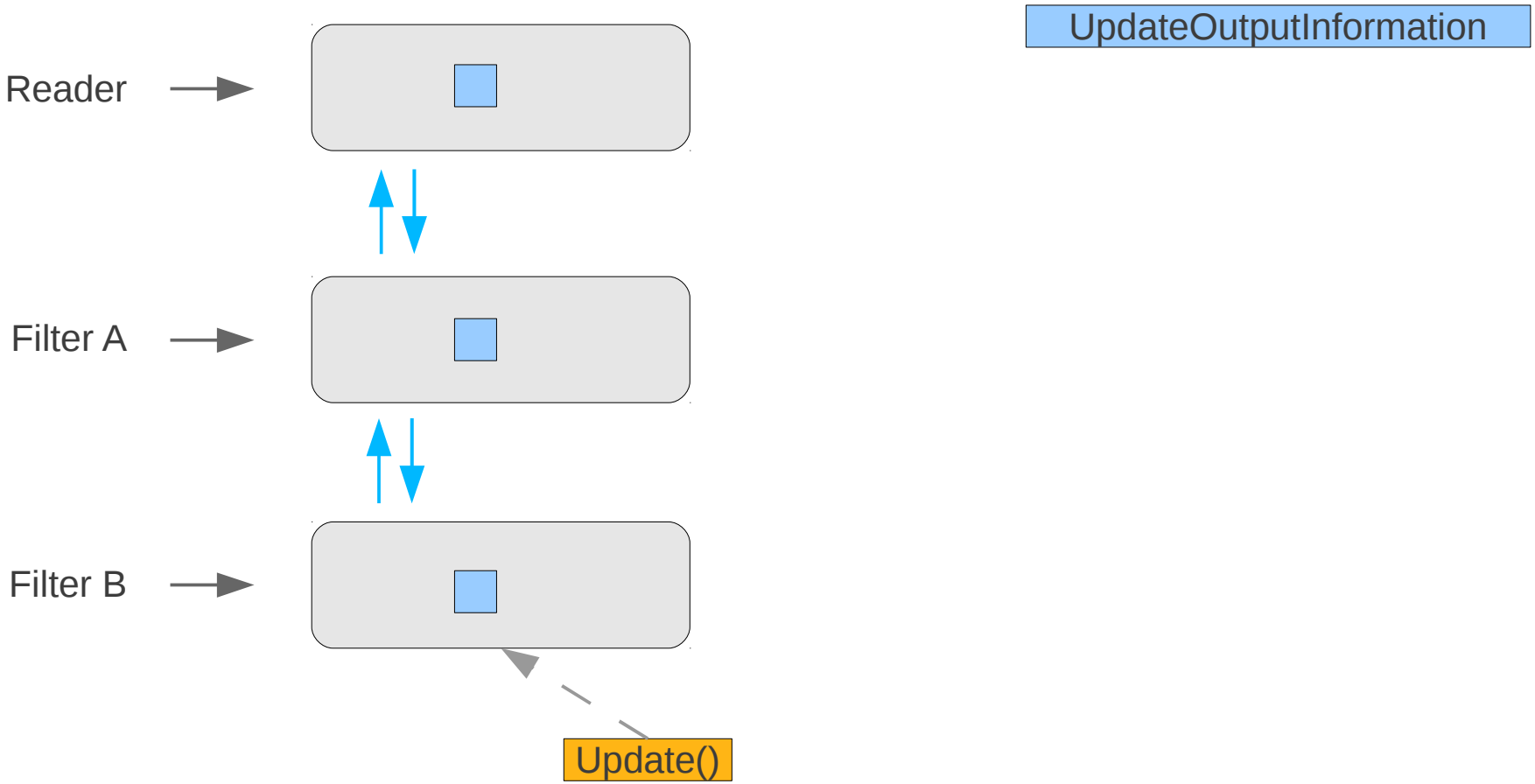

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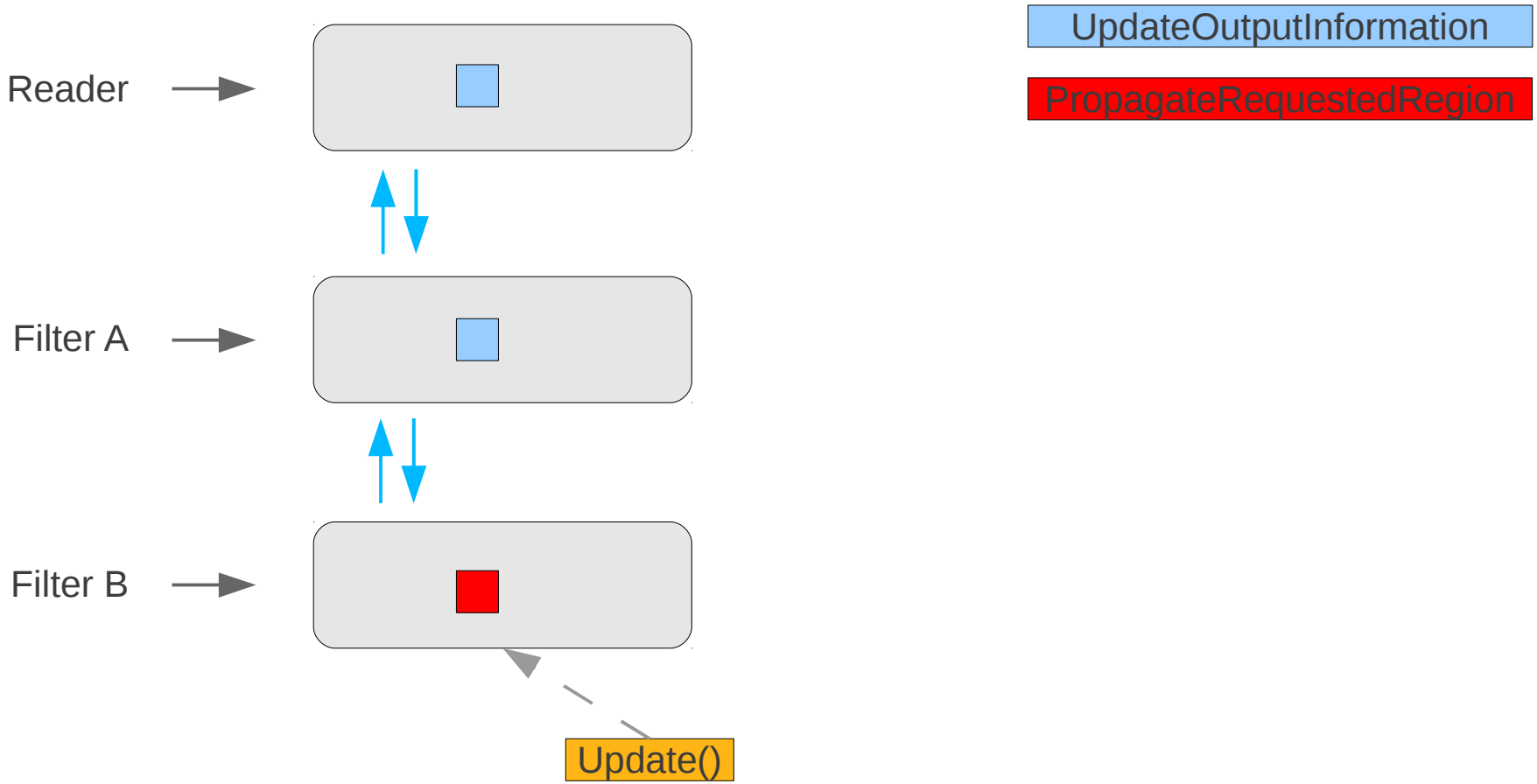

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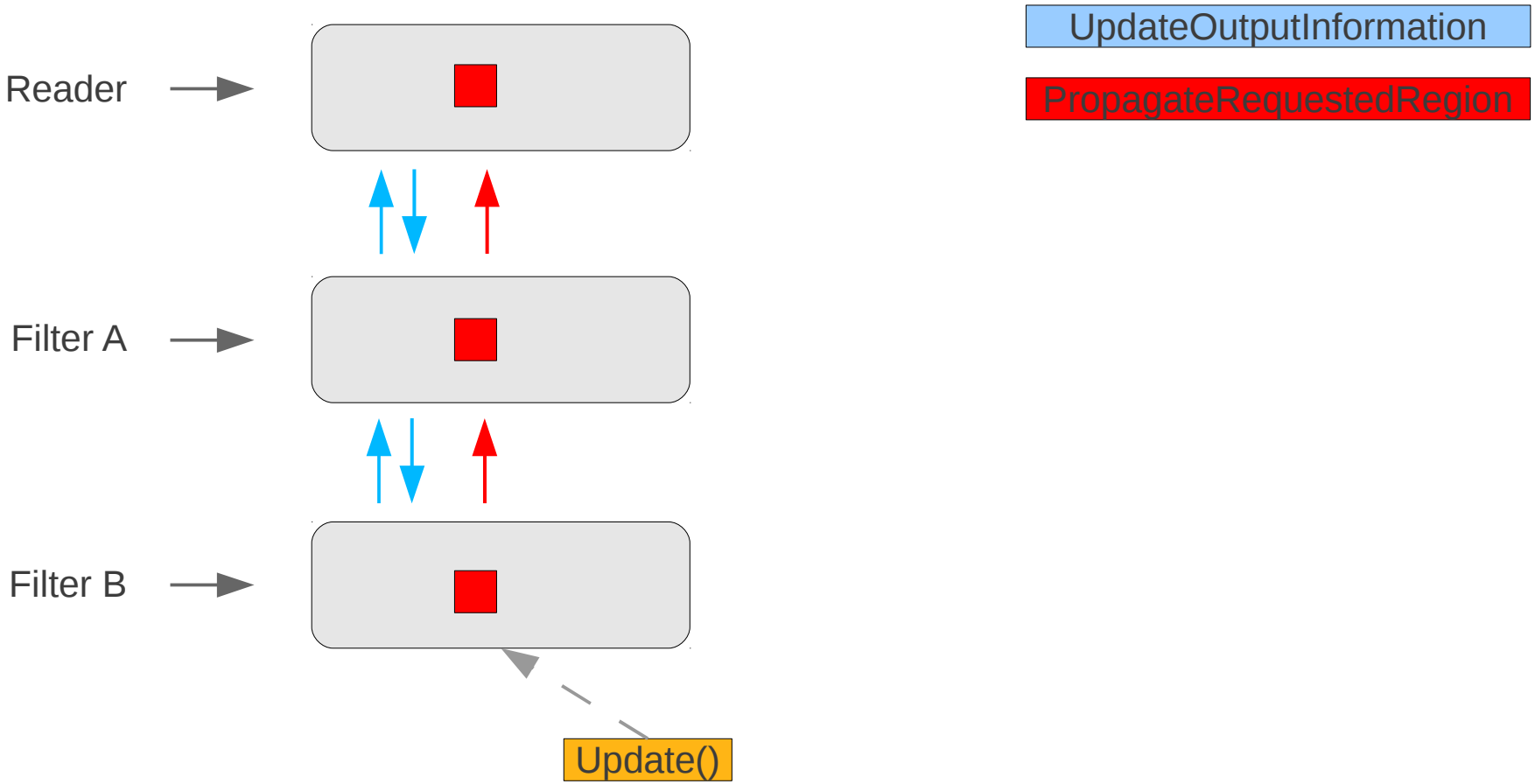

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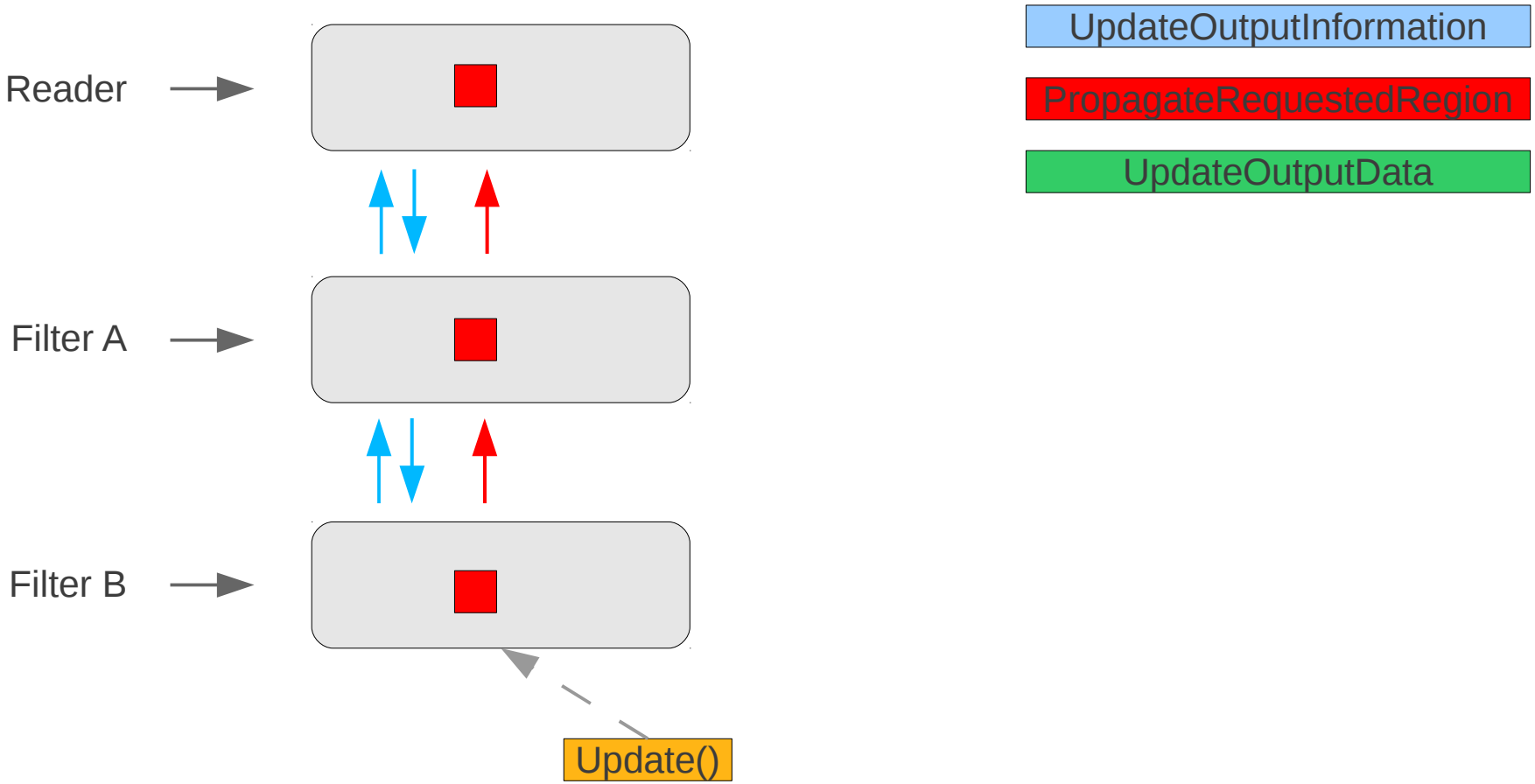

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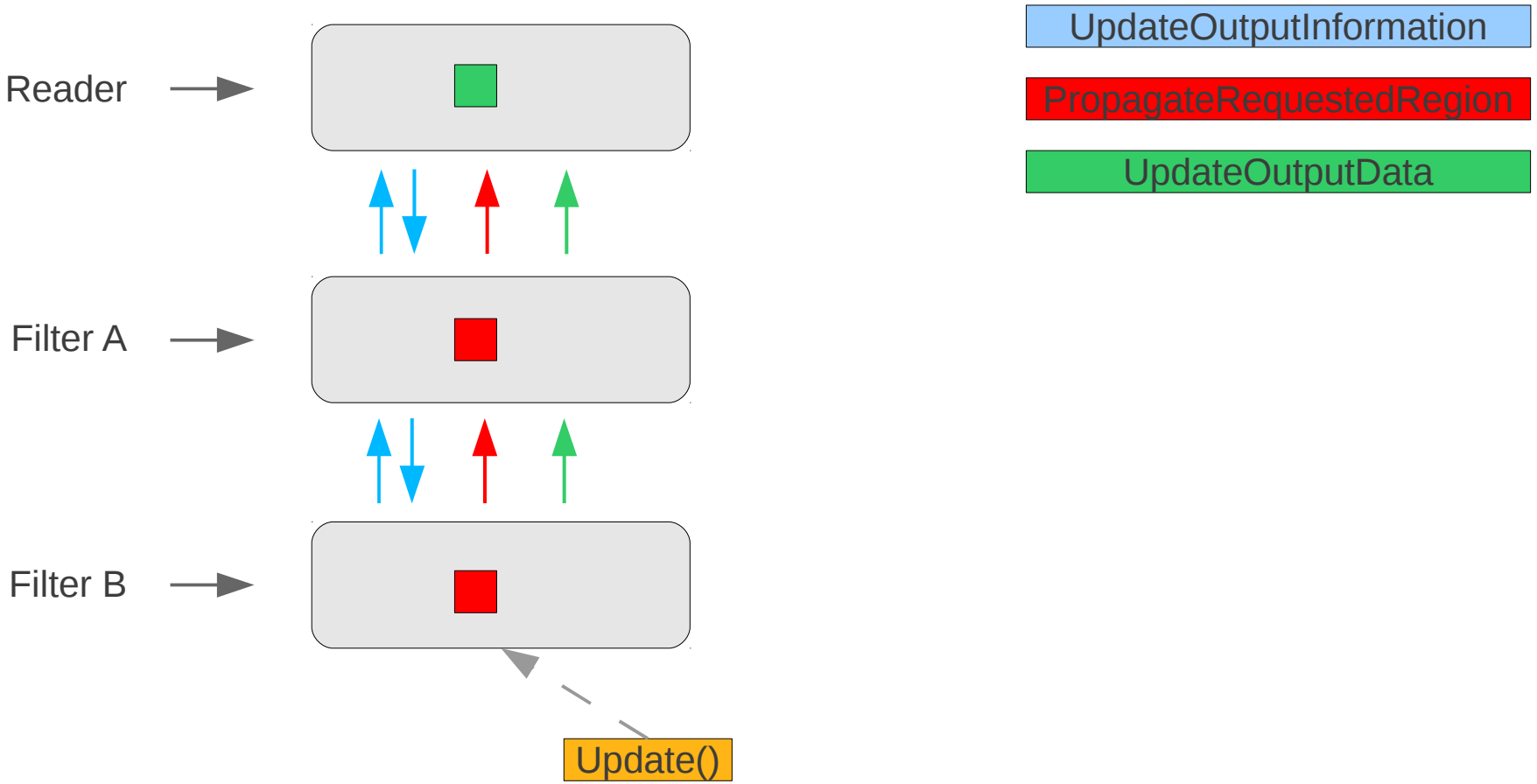

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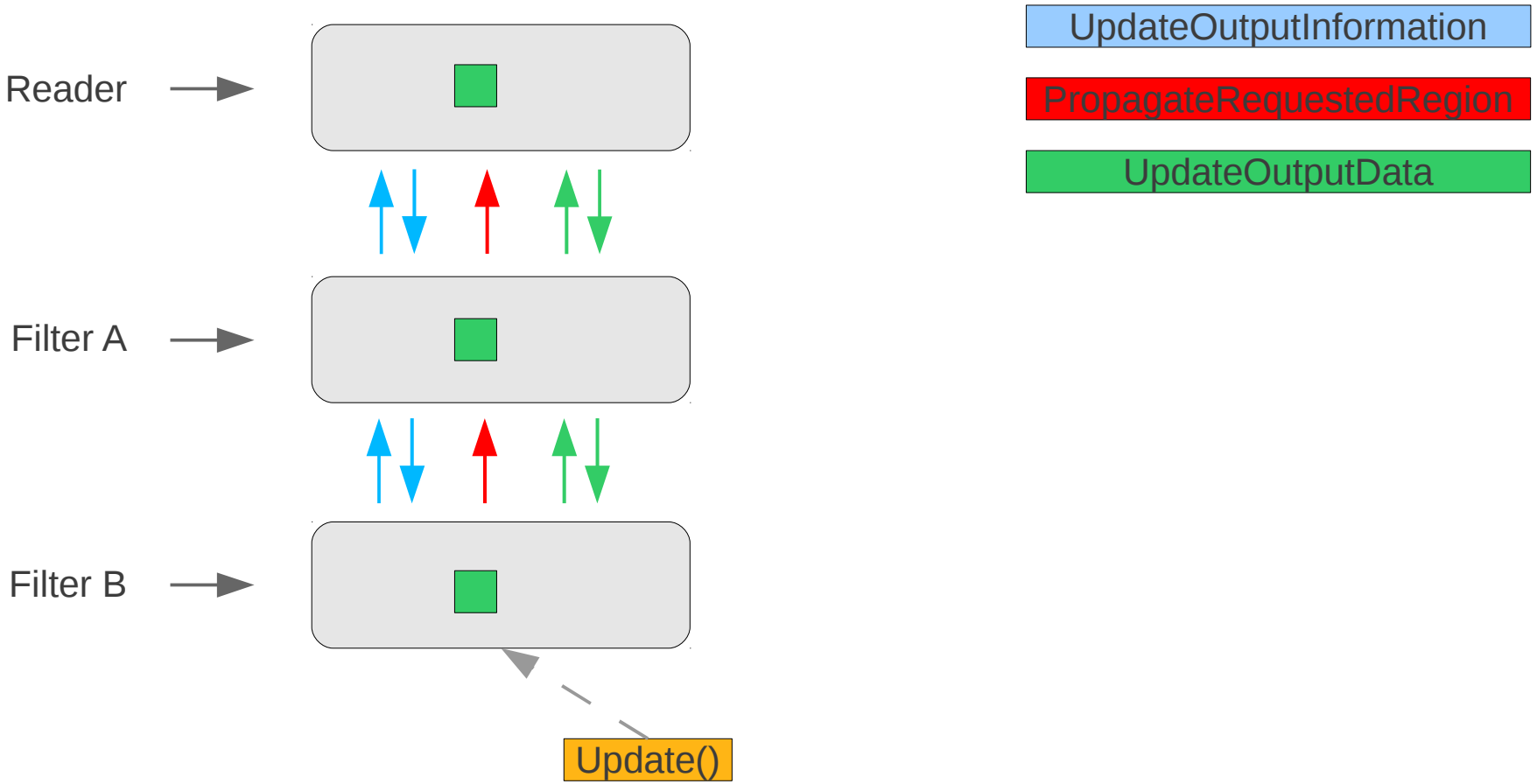
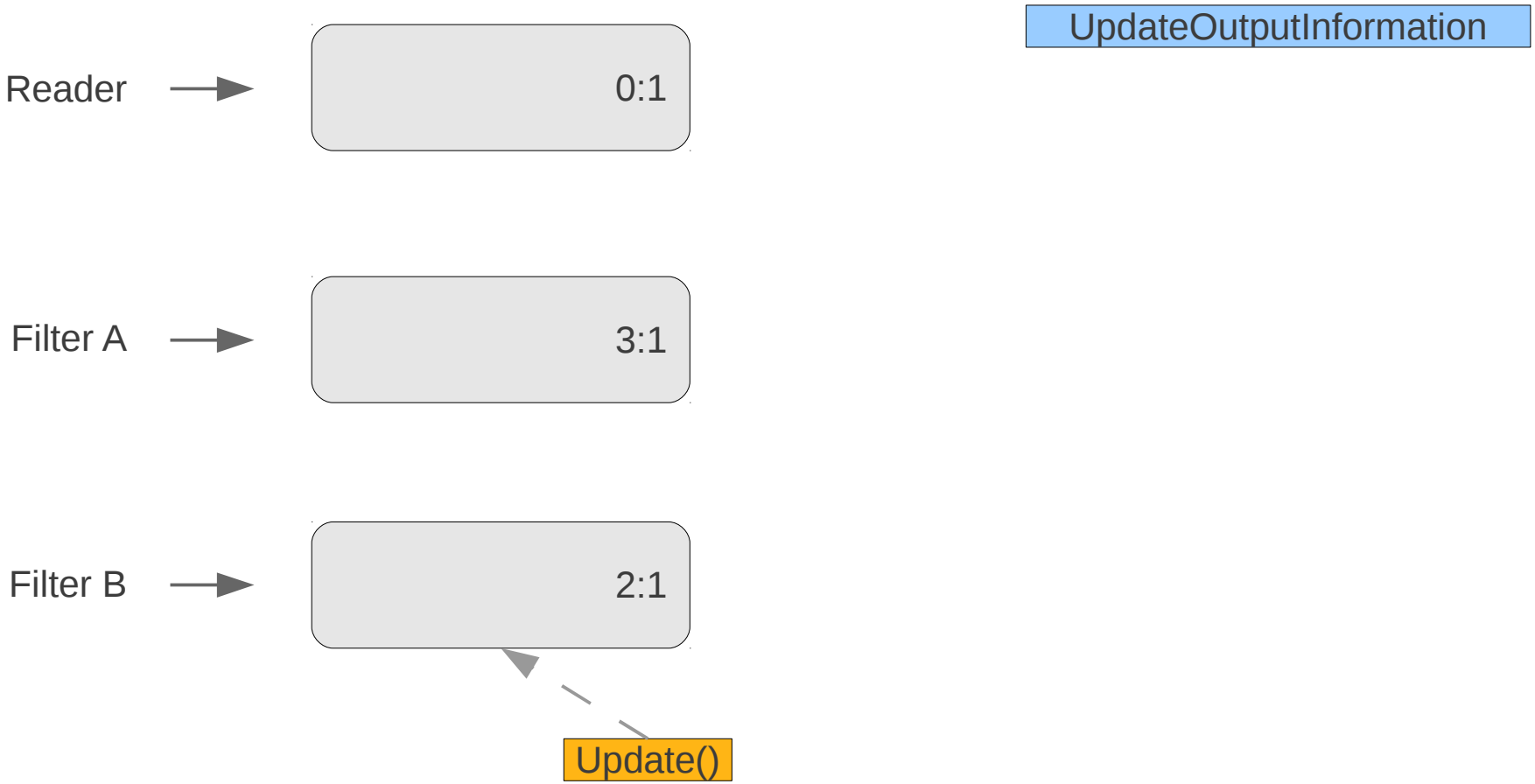


ITK Video Pipeline

ITK Video Pipeline



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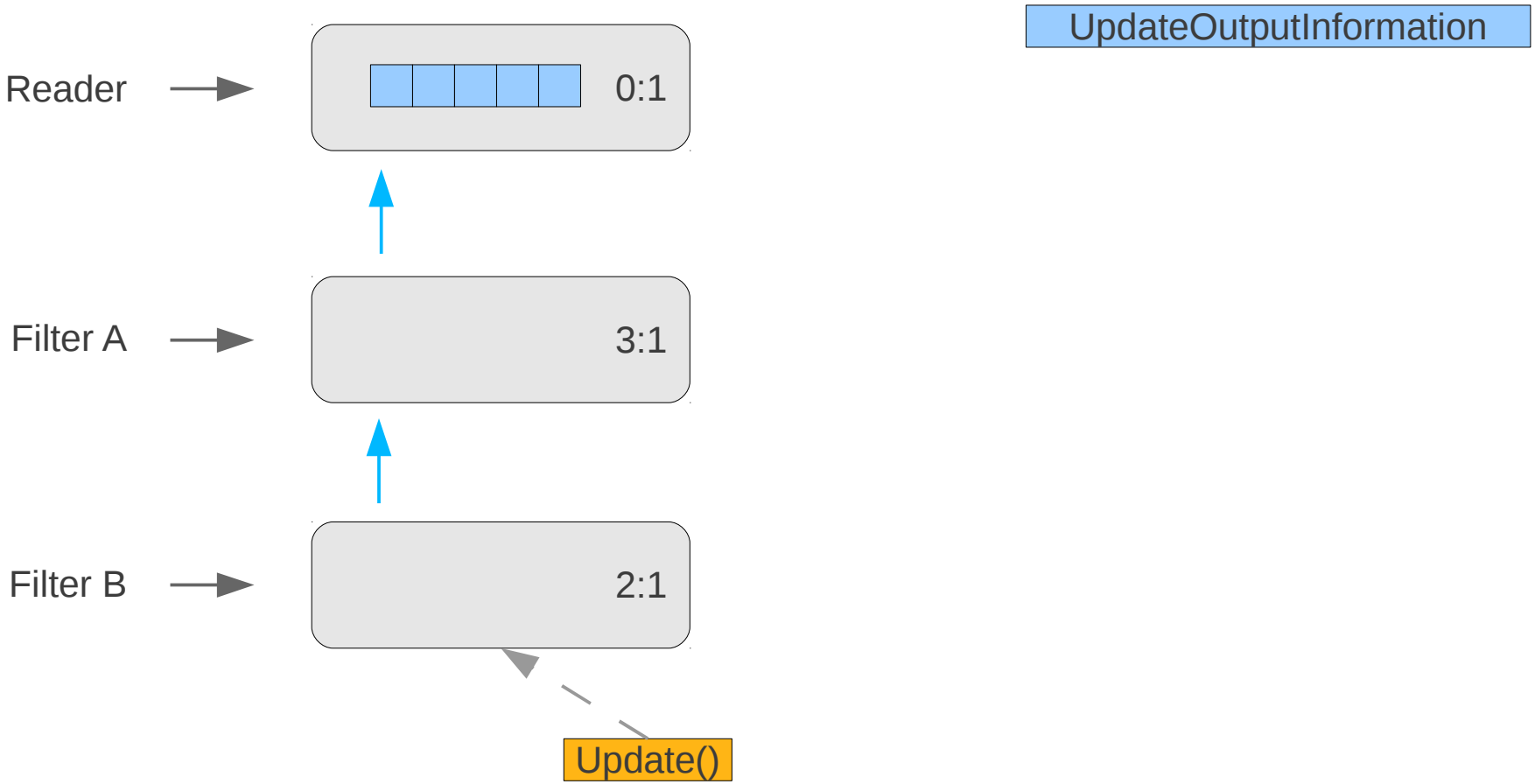

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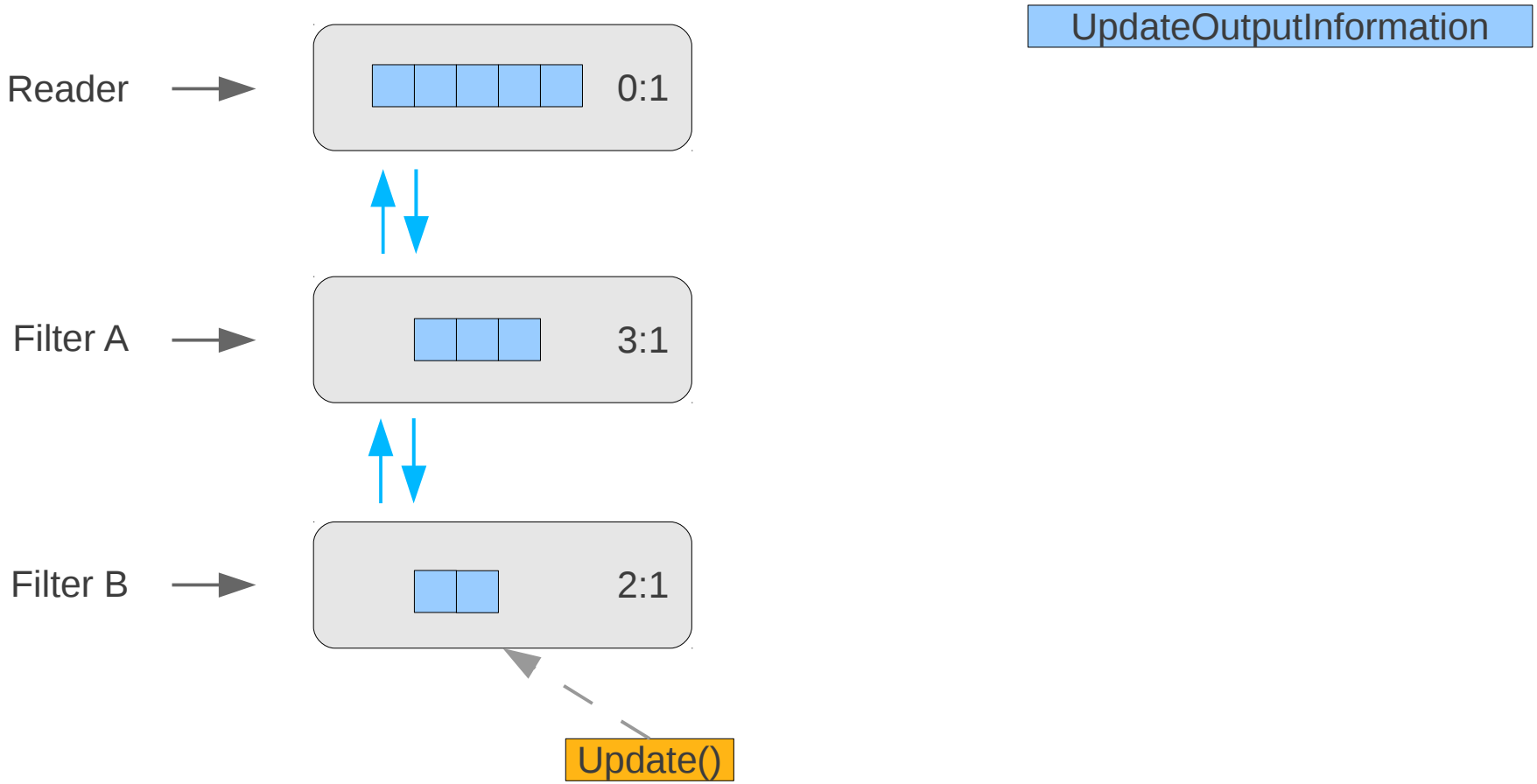

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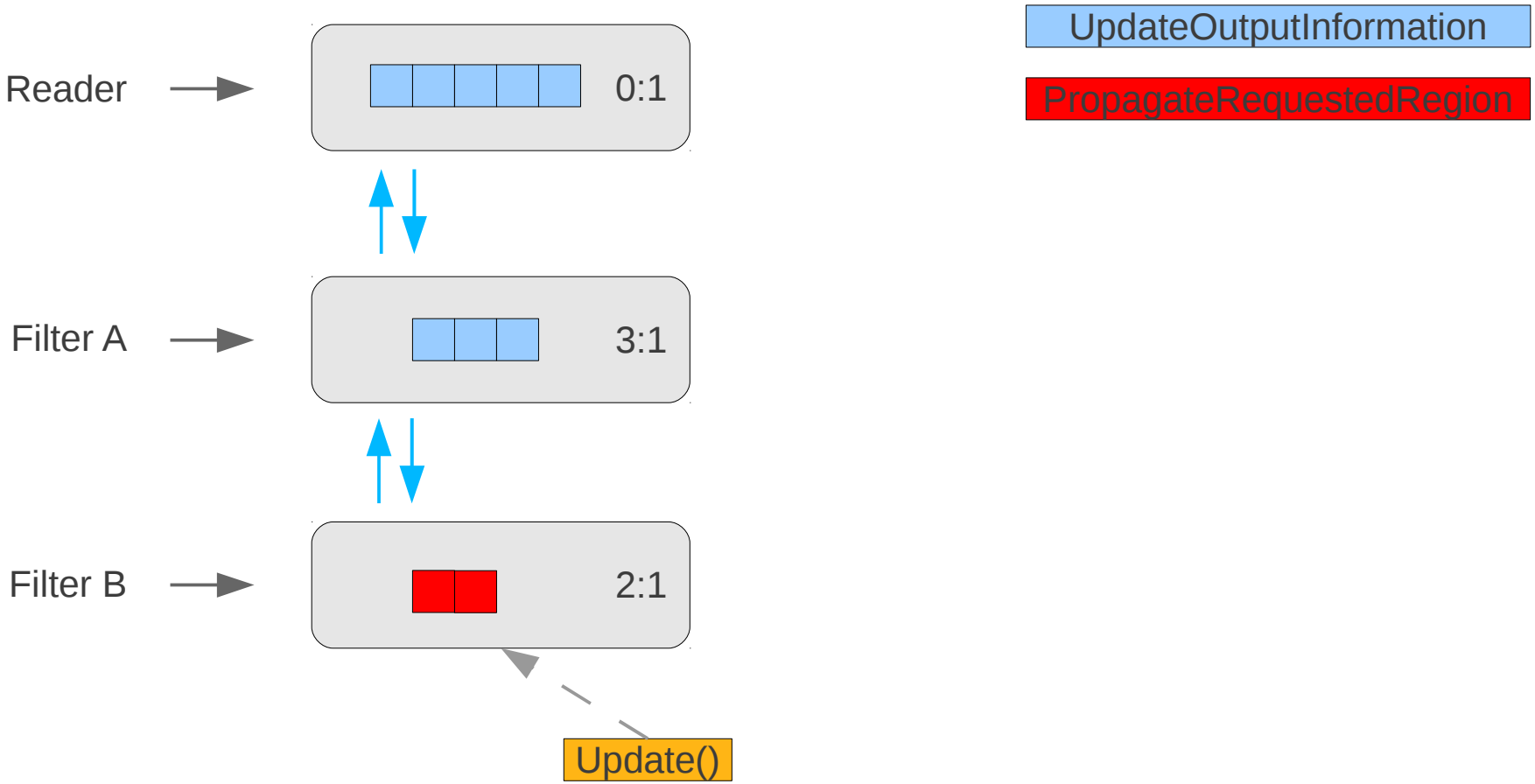

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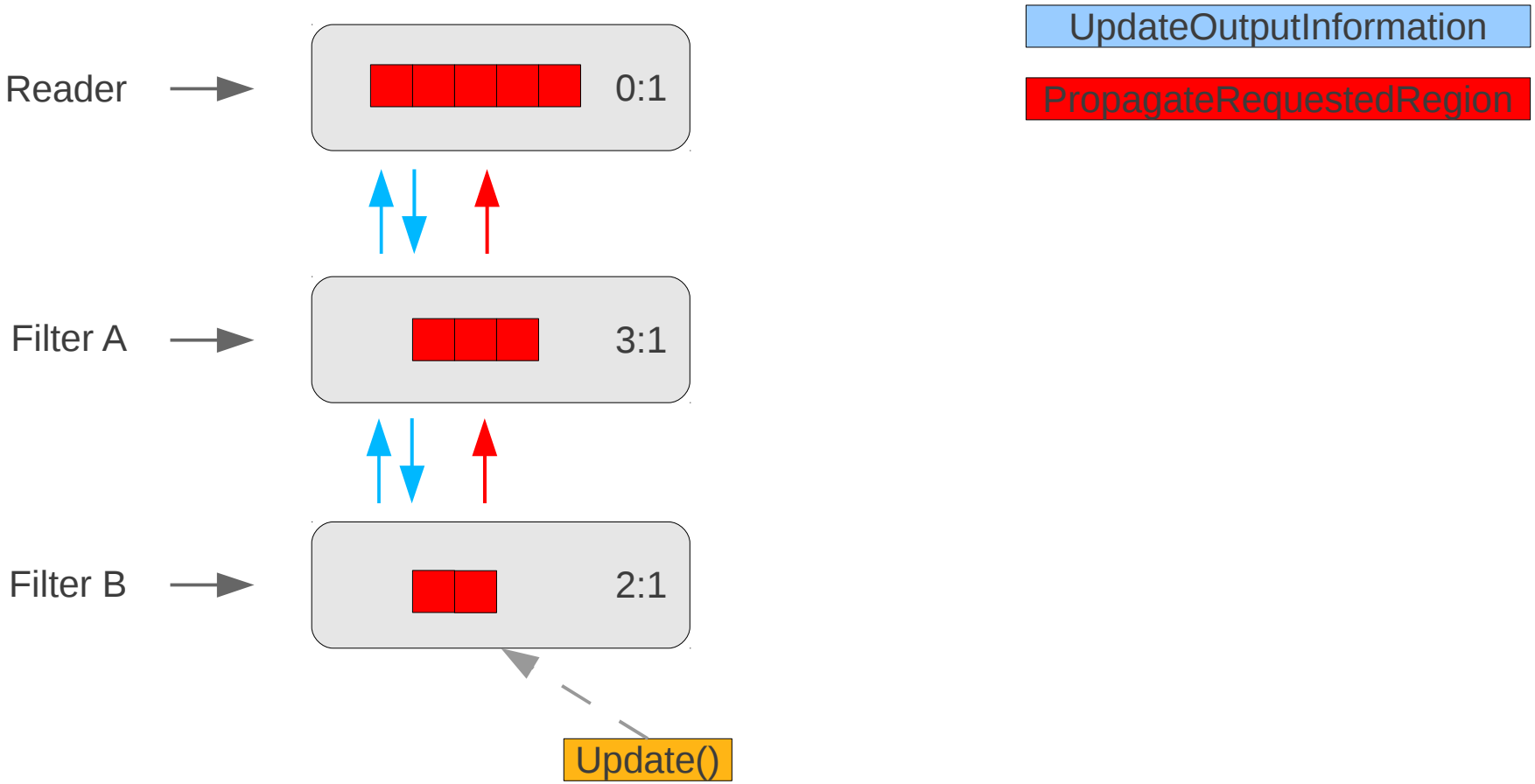

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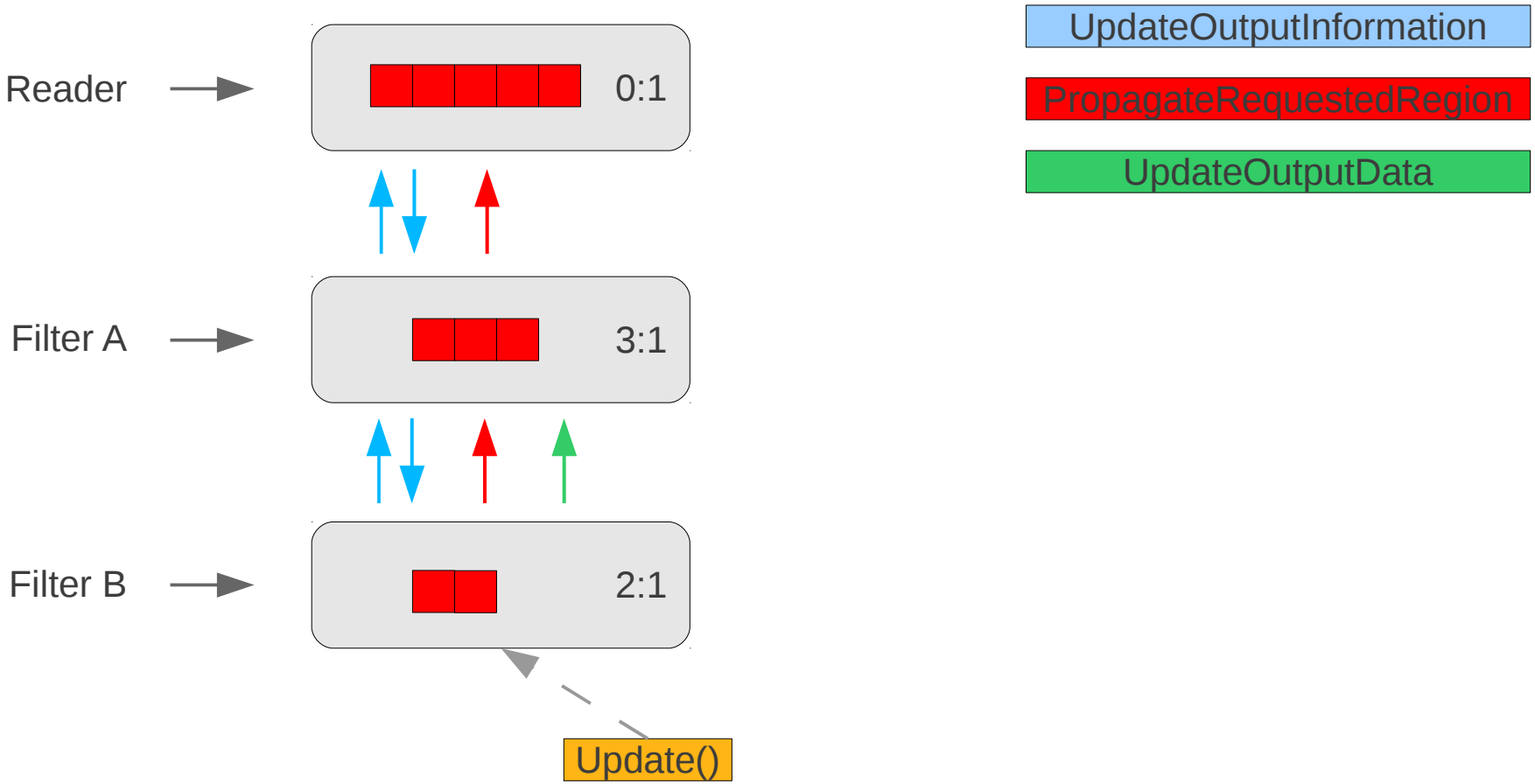

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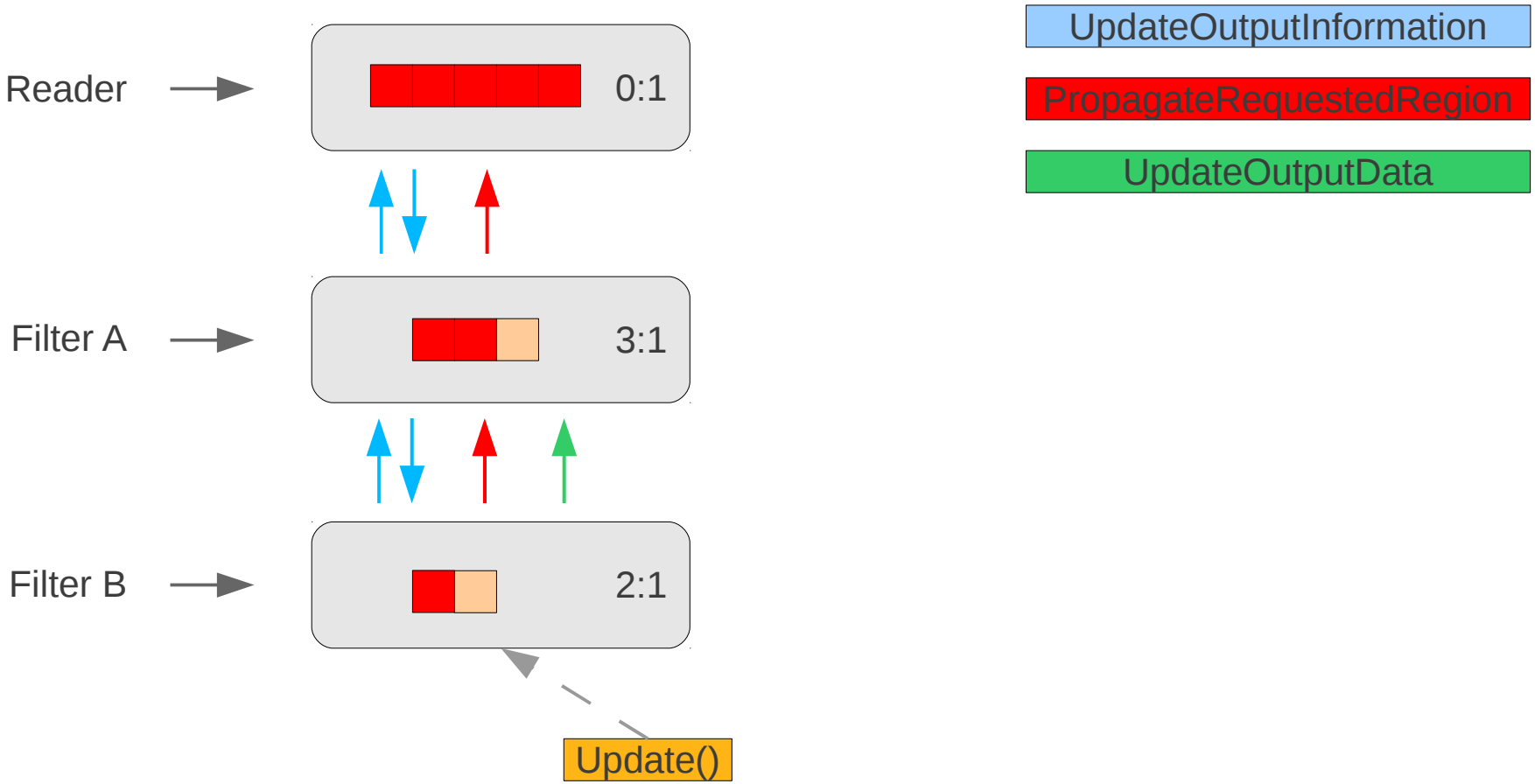

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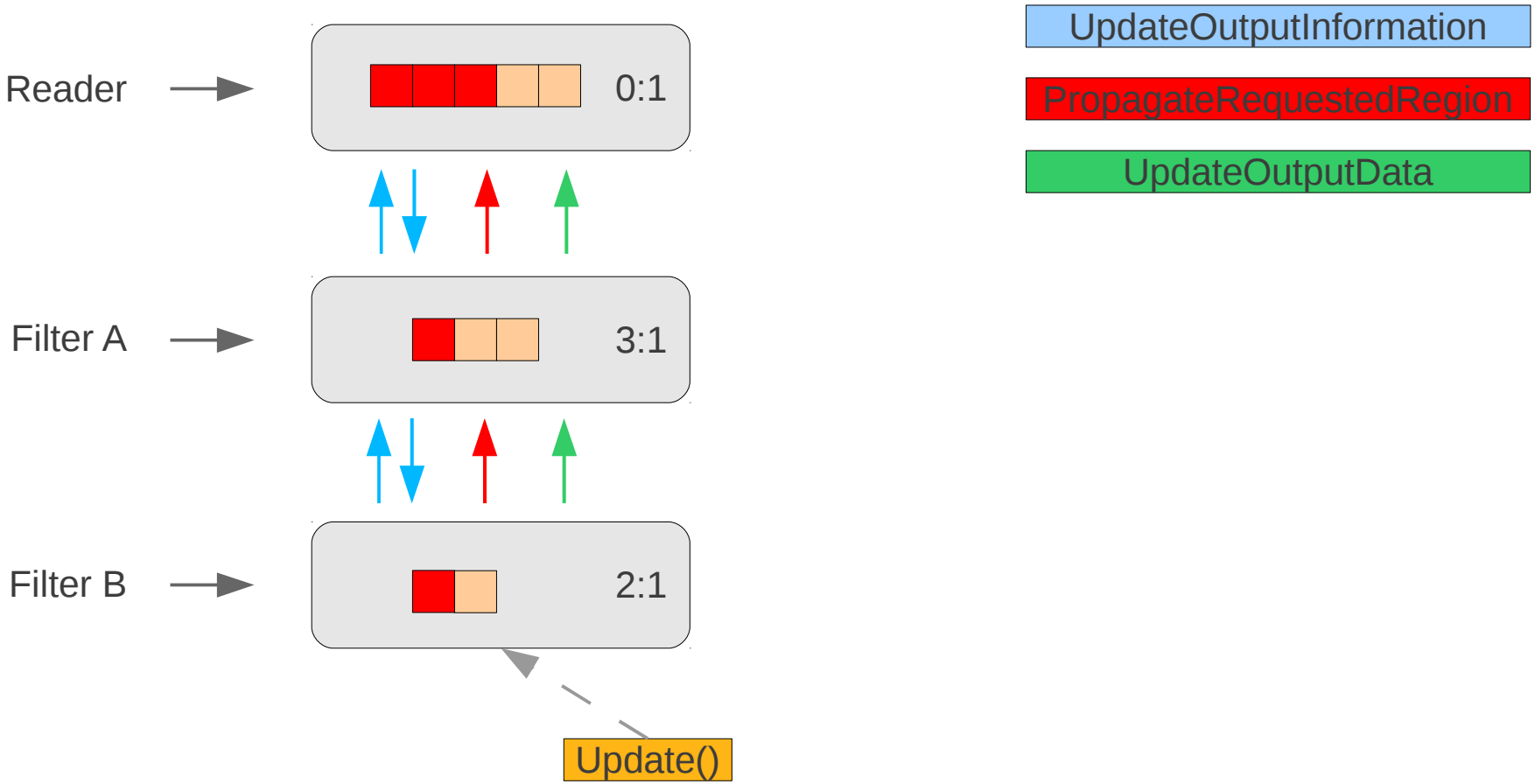

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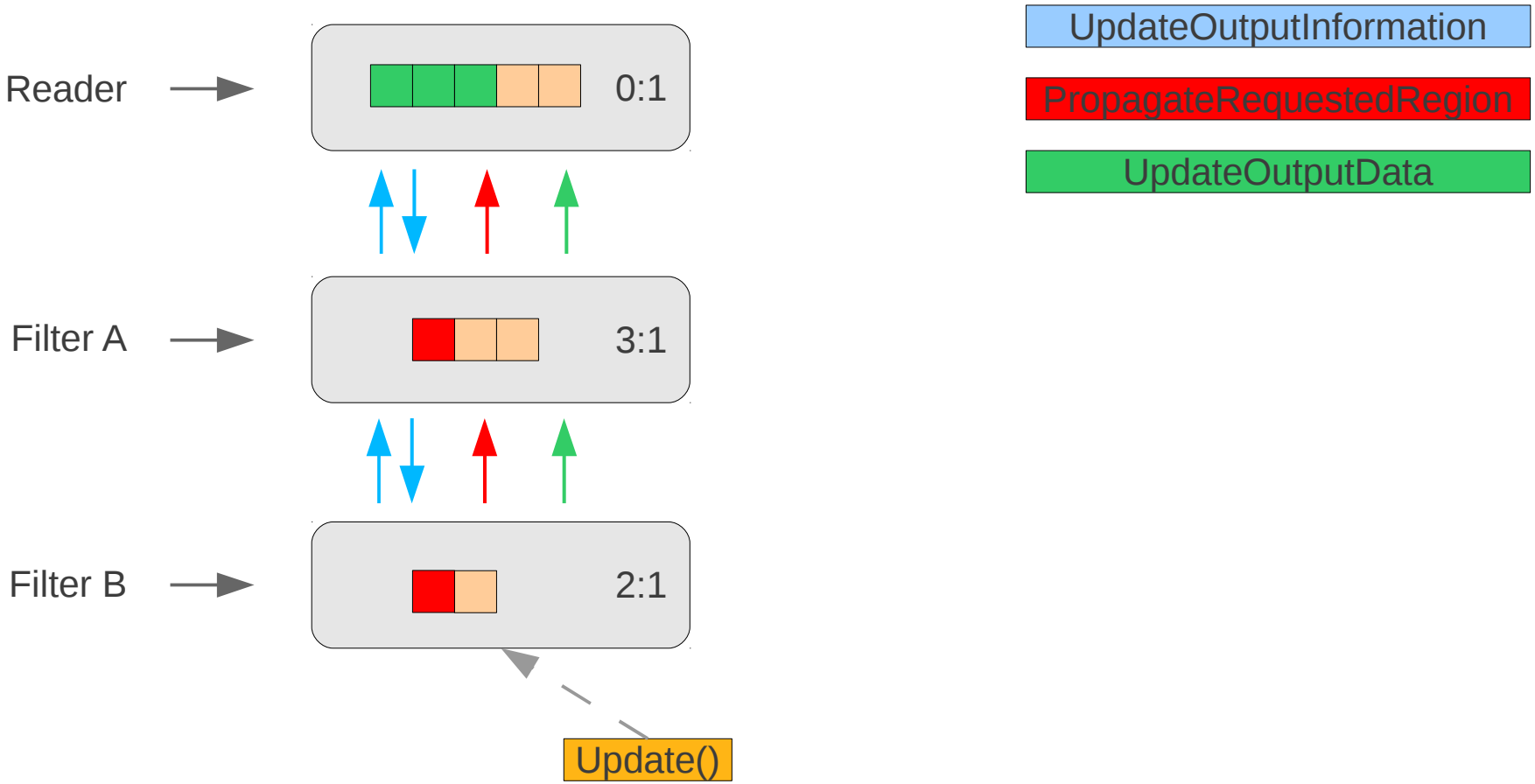

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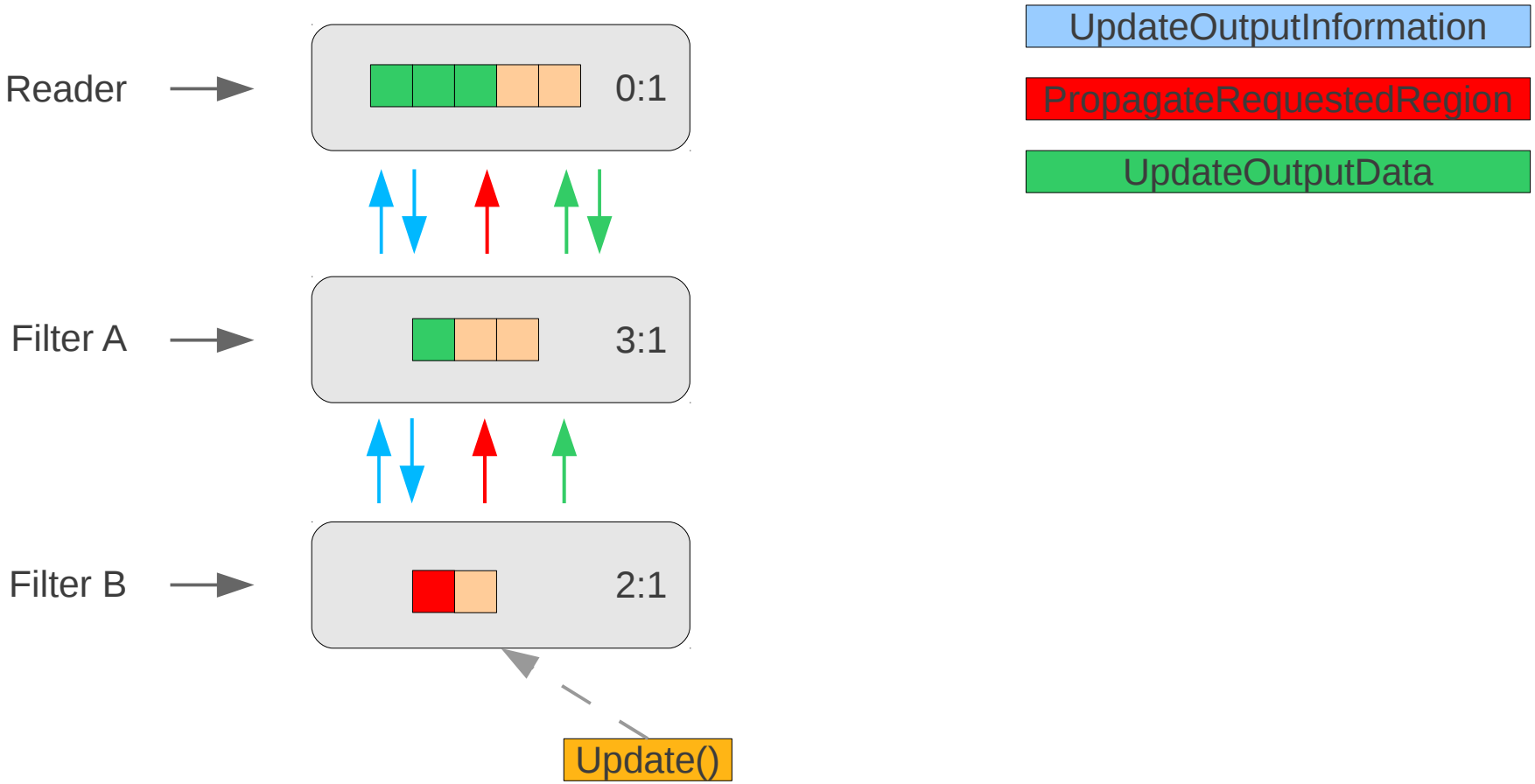

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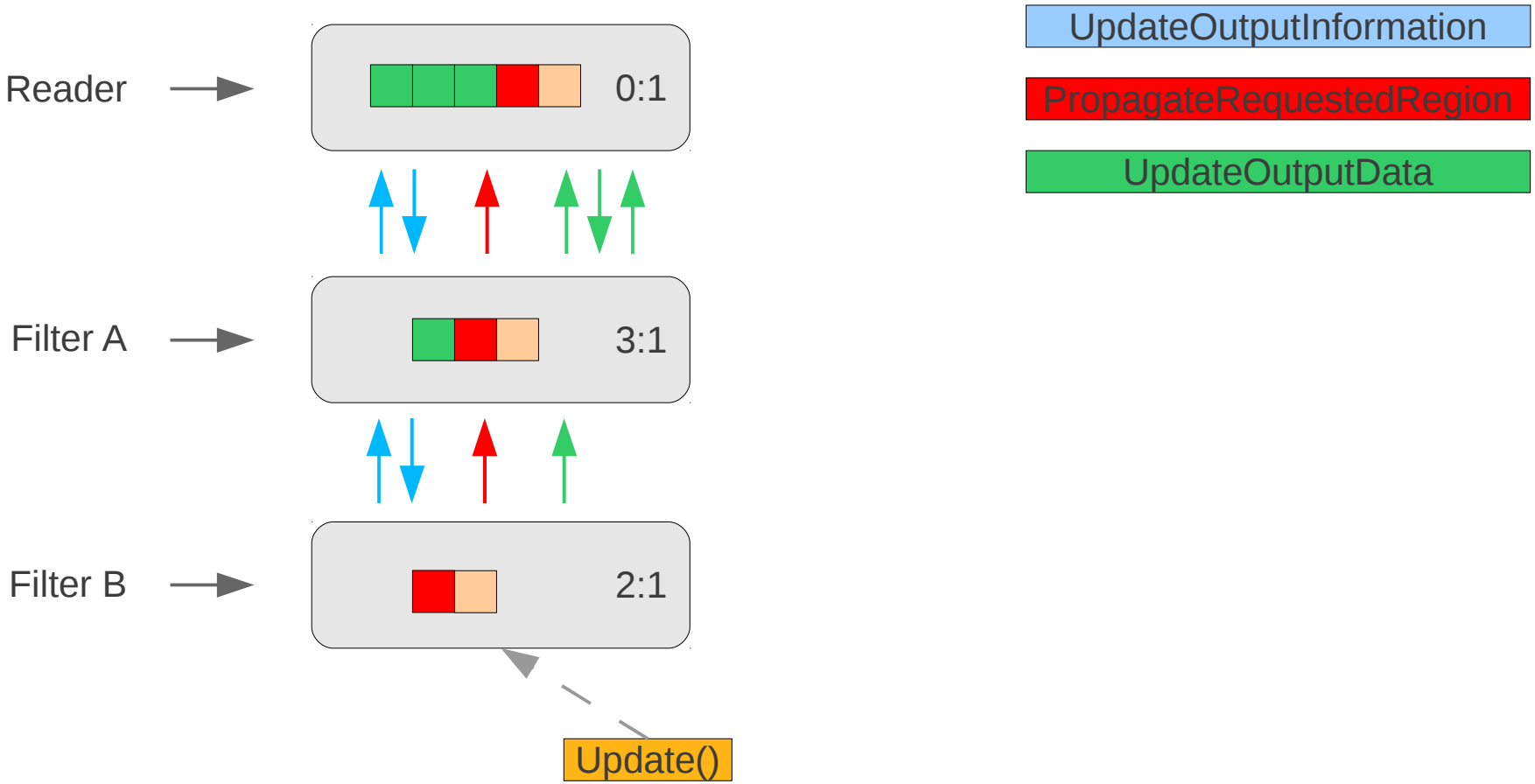

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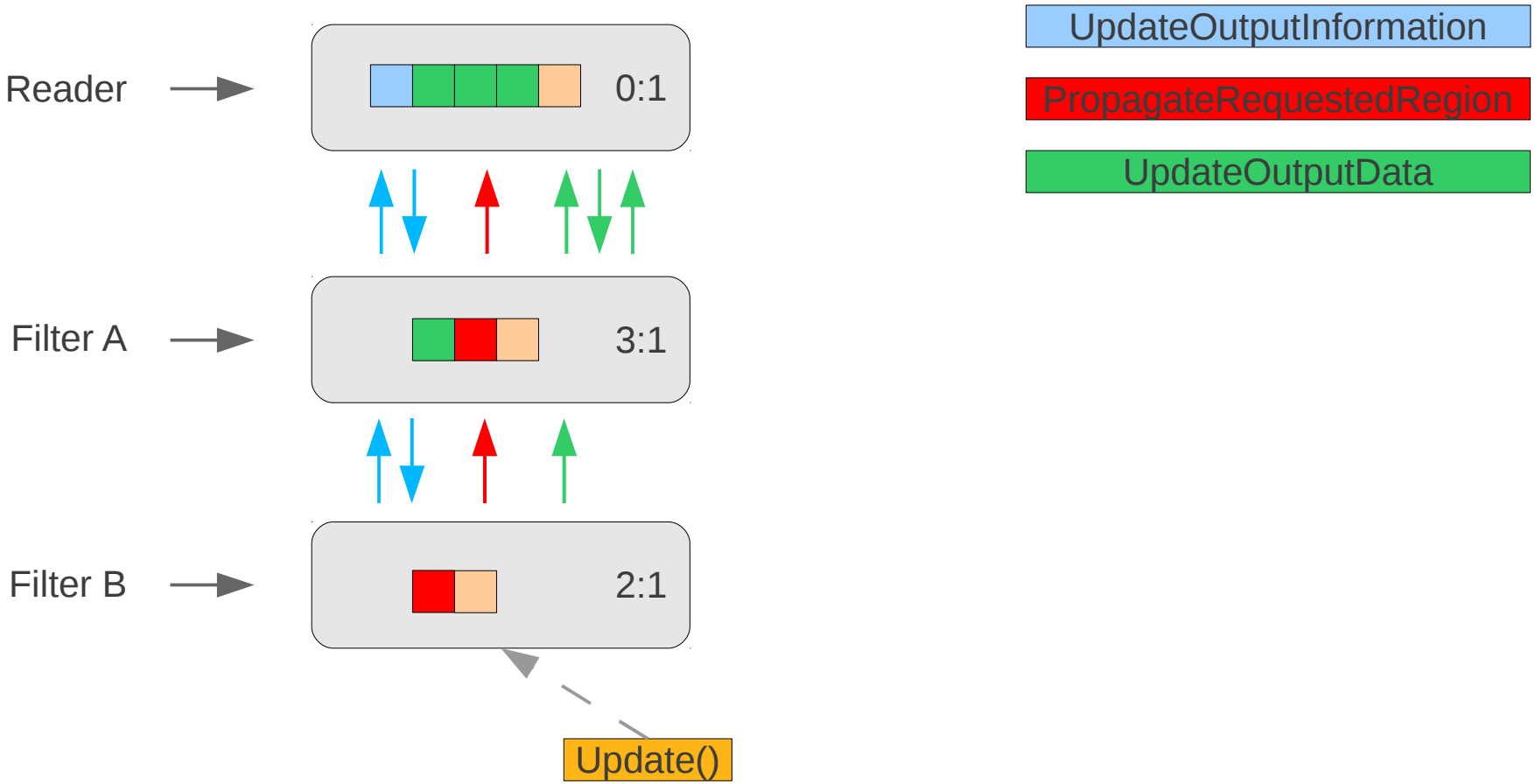

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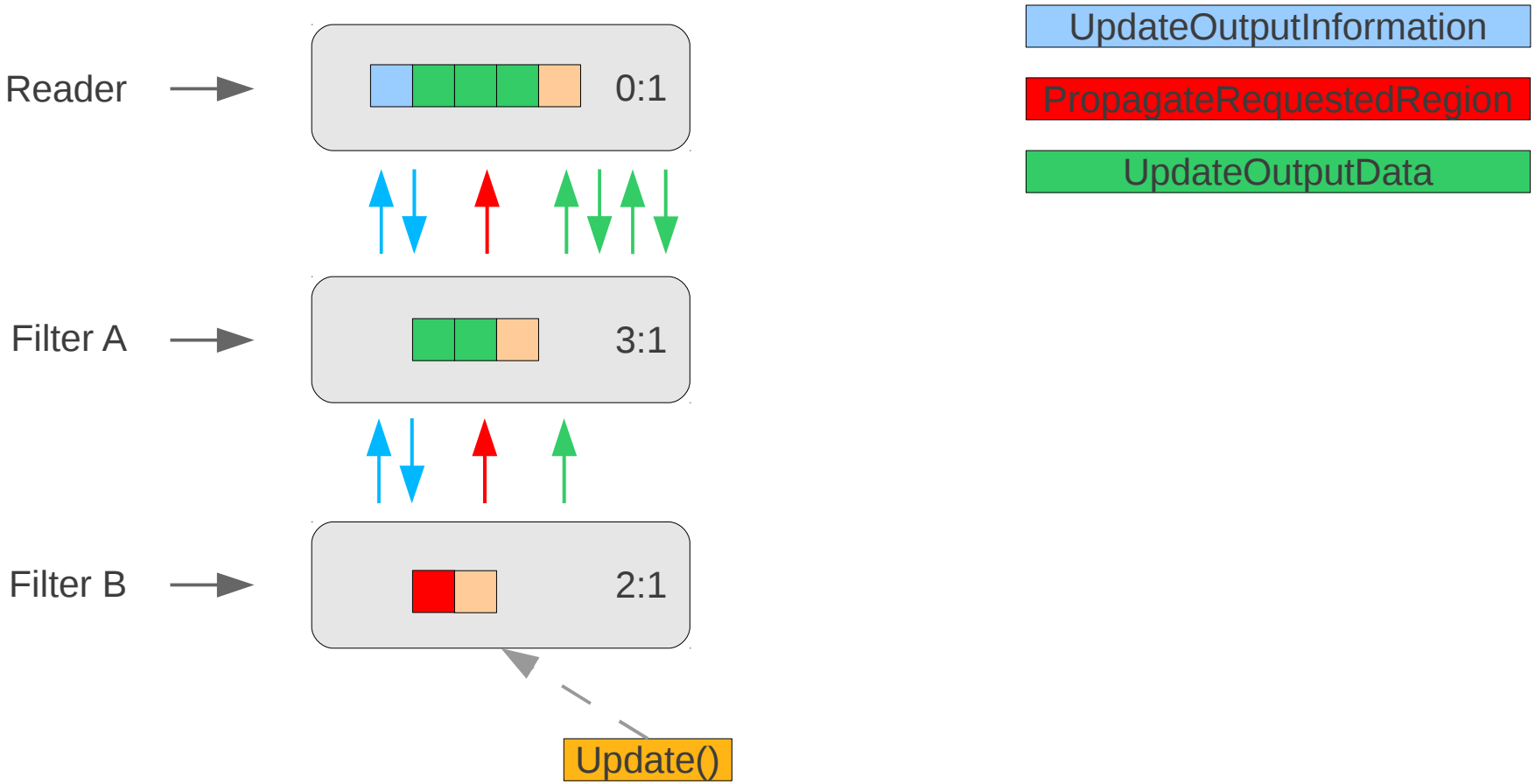

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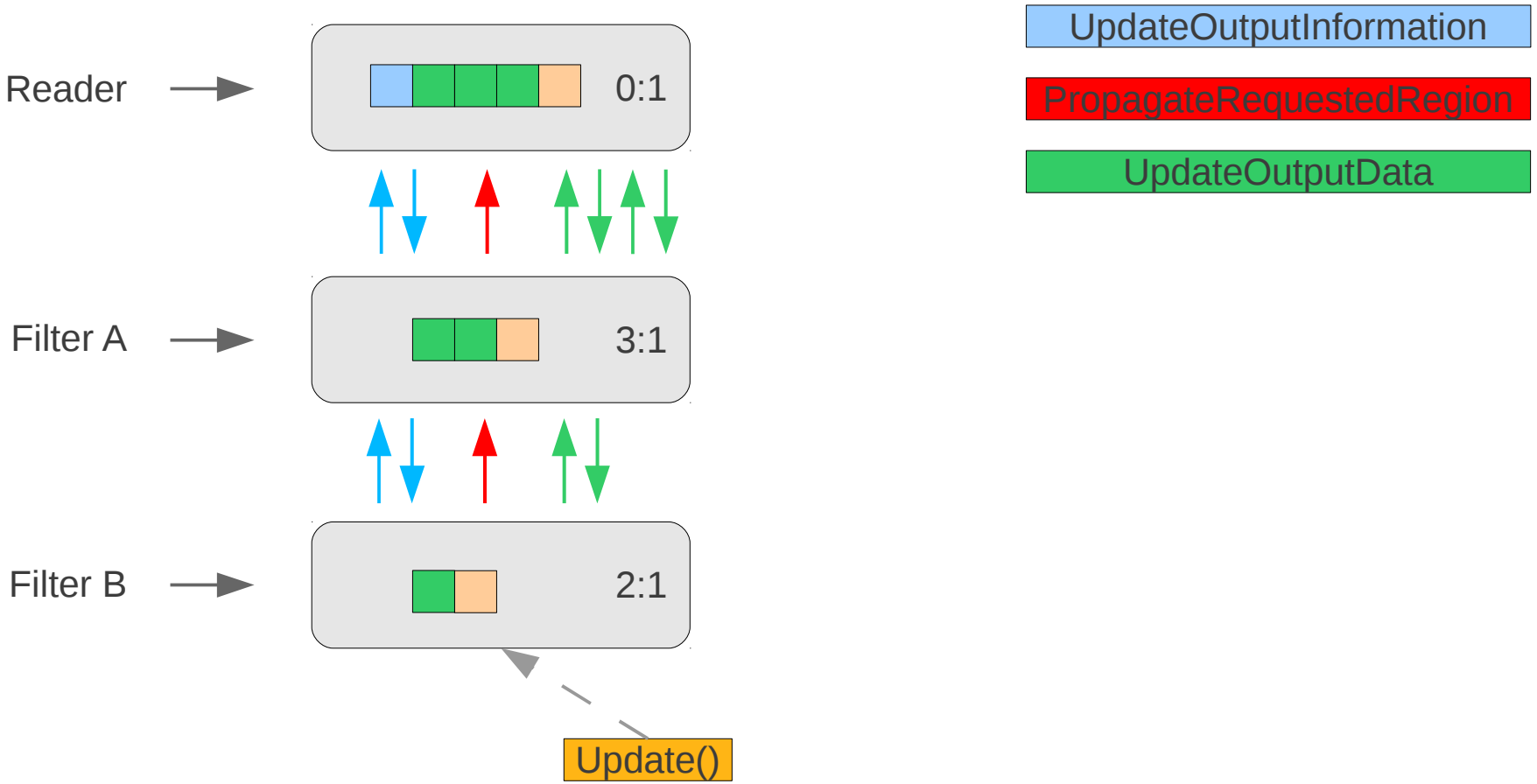

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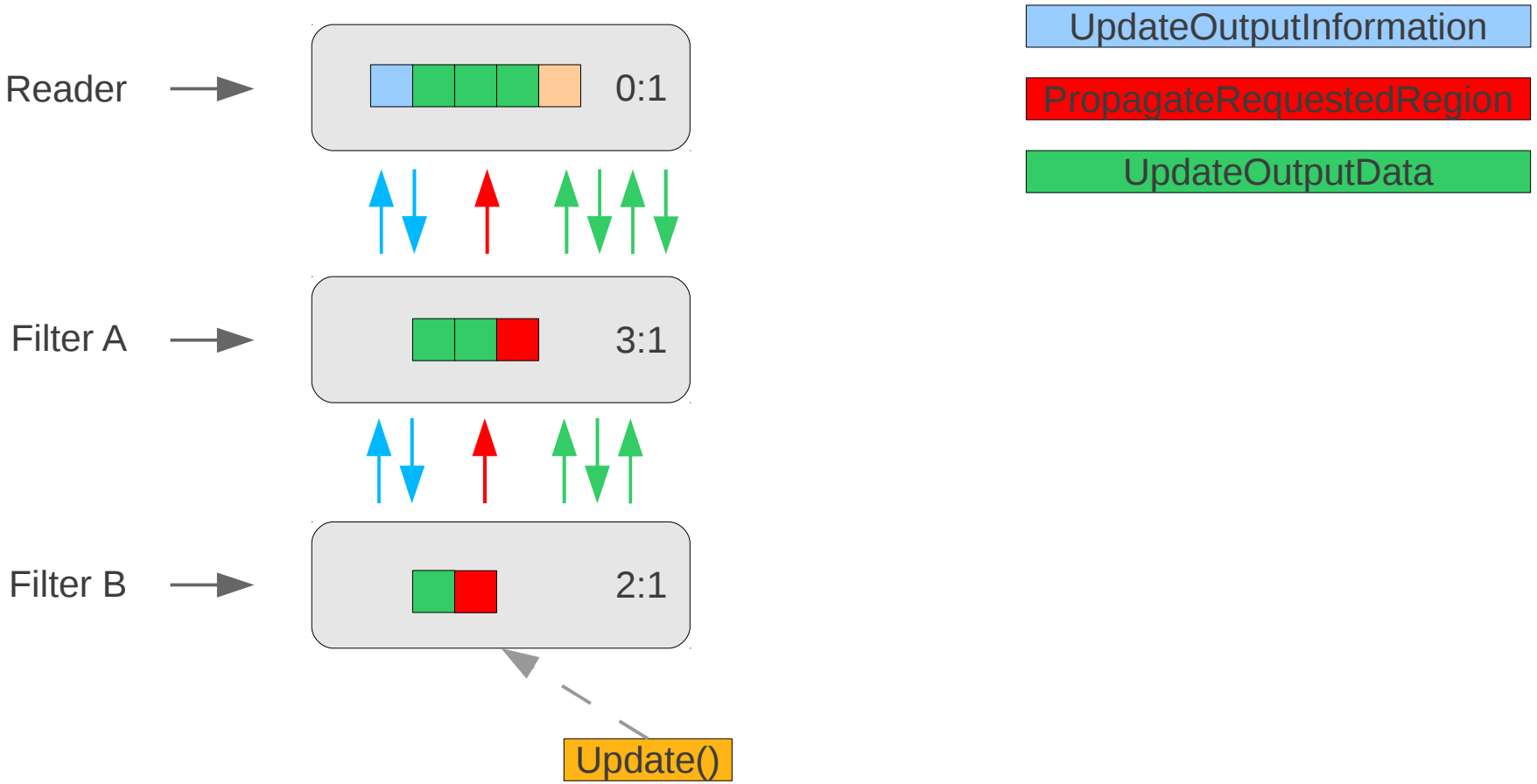

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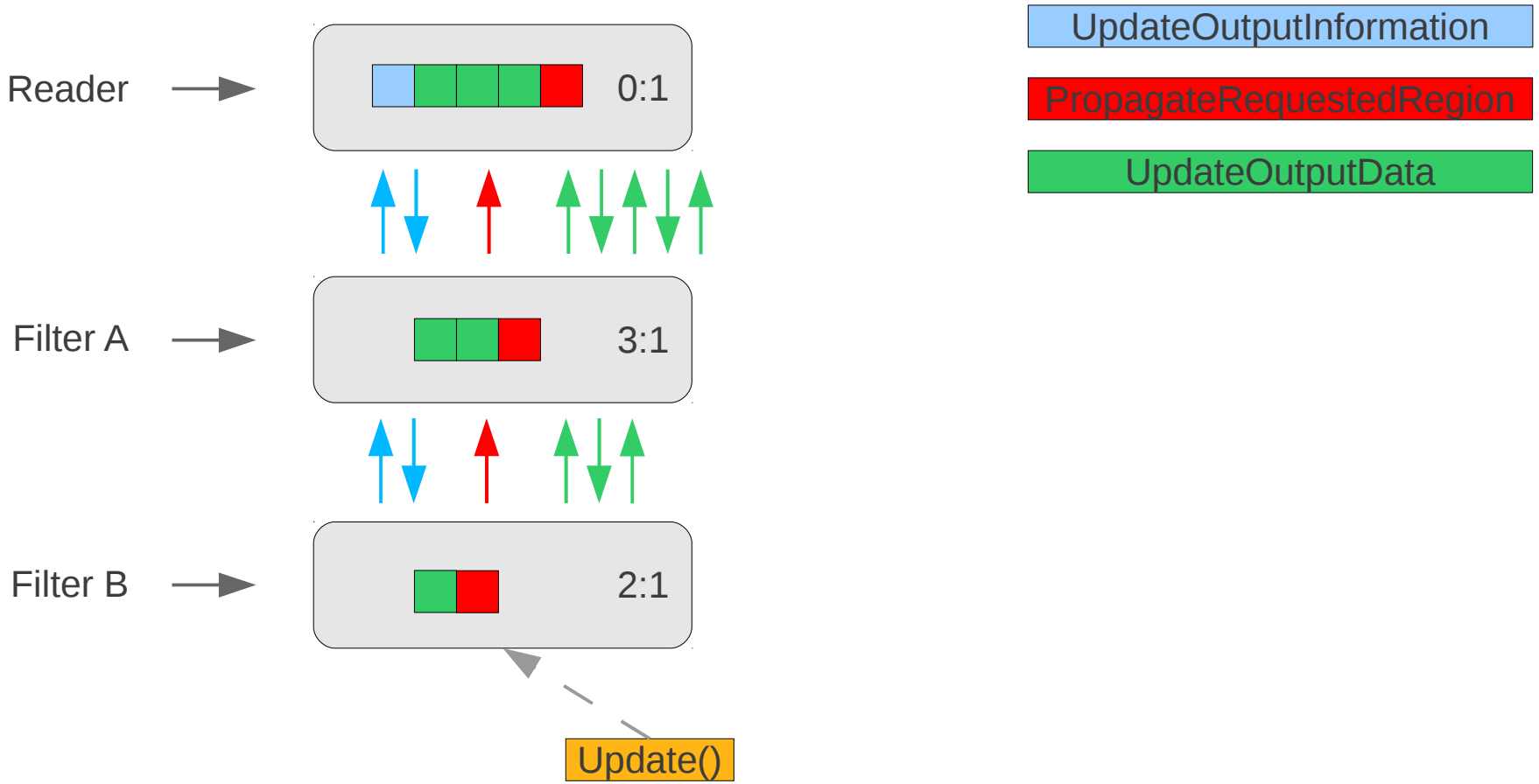

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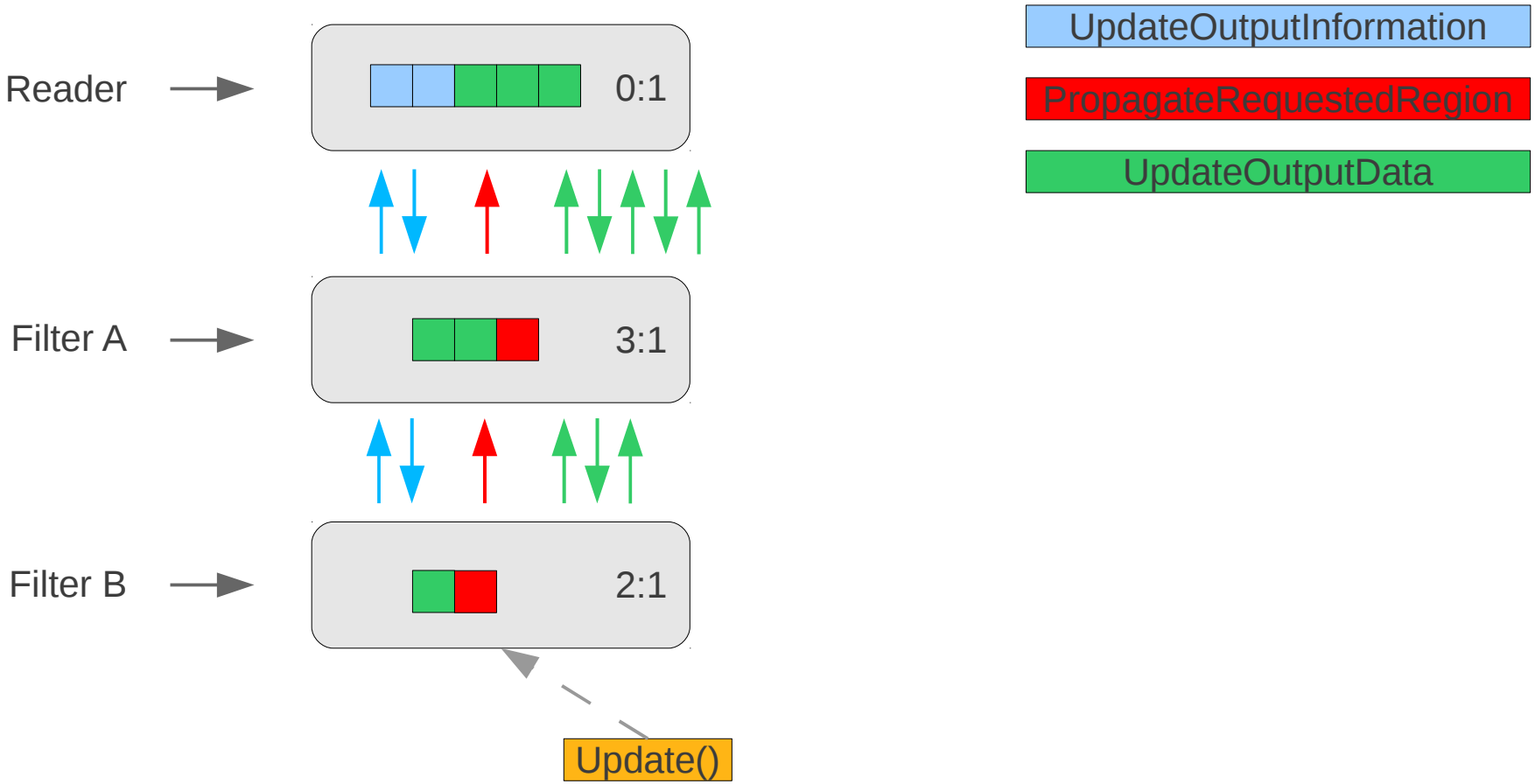

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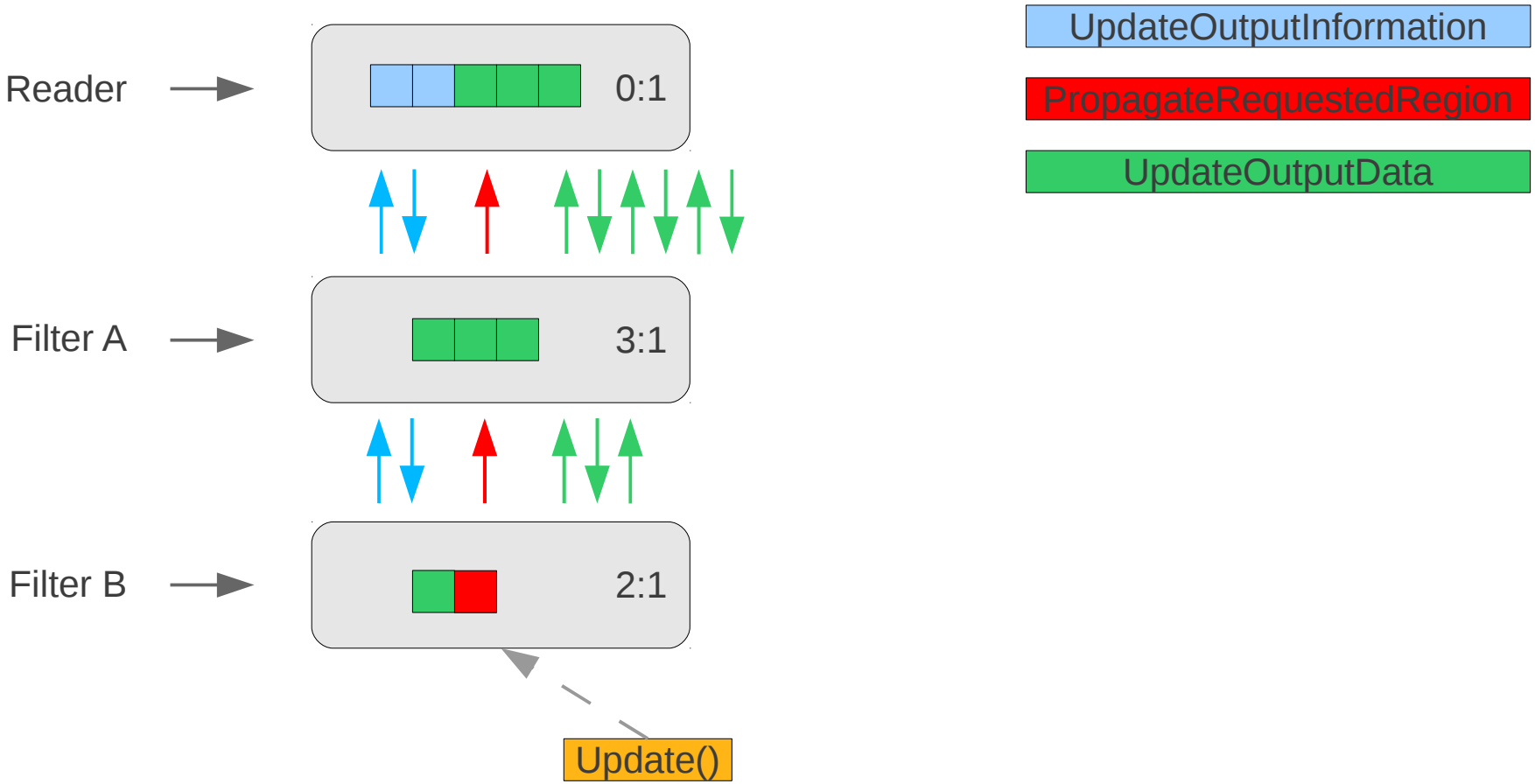

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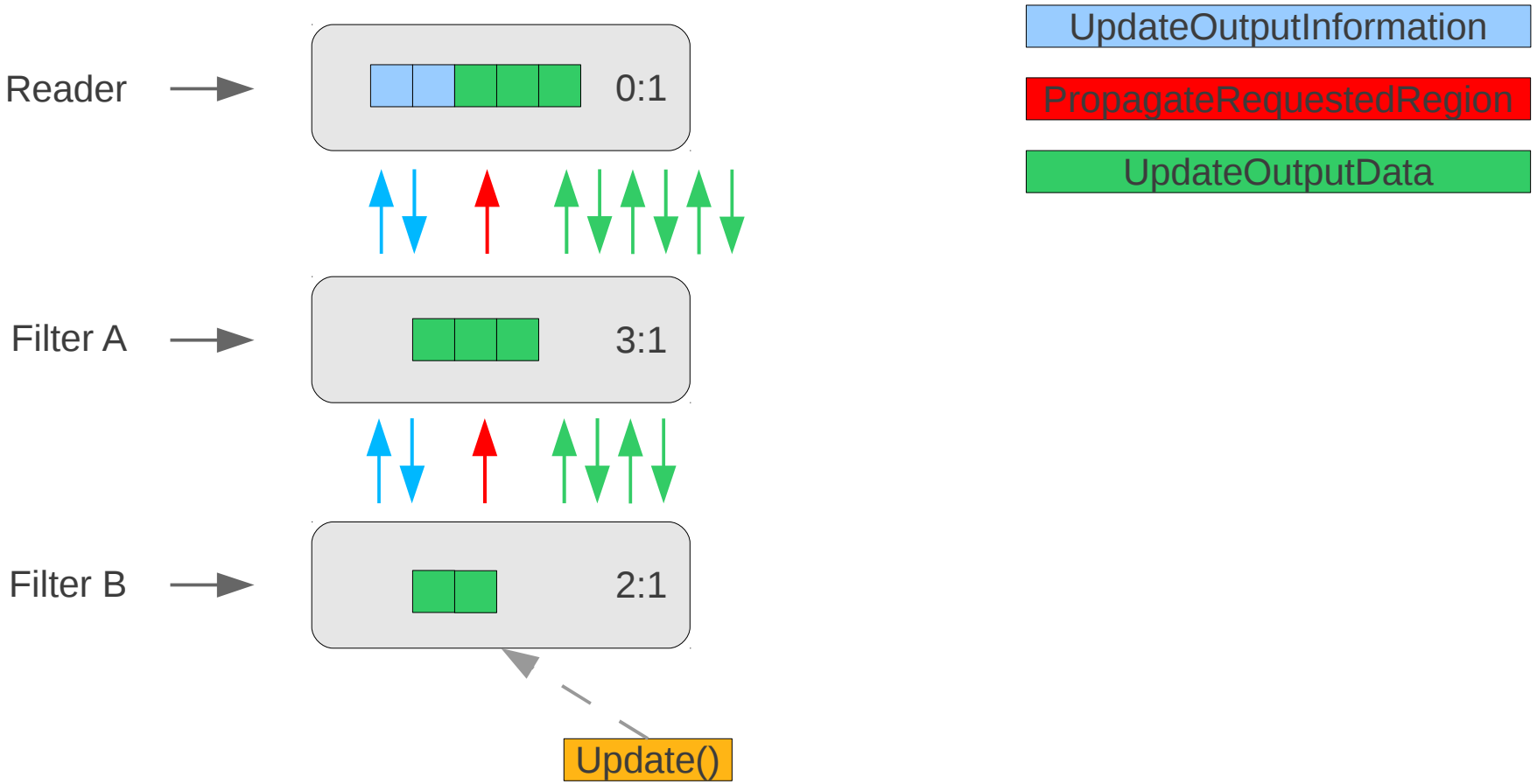

OpenCV / VXL Bridges

Single Image Bridges

- itk::OpenCVImageBridge
  - IplImage ↔ itk::Image
  - cv::Mat ↔ itk::Image

- itk::VXLImageBridge (forthcoming)
  - vil_image ↔ itk::Image
  - vidl_frame ↔ itk::Image

Video Bridges

- itk::OpenCVVideoCapture
  - Subclass of OpenCV's cv::VideoCapture
  - Takes itk::VideoStream as input
  - Triggers pipeline attached to input if necessary

- itk::vidl_itk_istream
  - Subclass of VXL's vidl_istream
  - Takes itk::VideoStream as input
  - Triggers pipeline attached to input if necessary

END