

AIC lab

Windows Setup

- Install Cadence SMV from [here](#)
- Save examples and edit using Notepad.
- Run SMV like this:

```
> example1.smv
```

Fedora Setup

- Download tar file from [here](#)
- Expand like this:

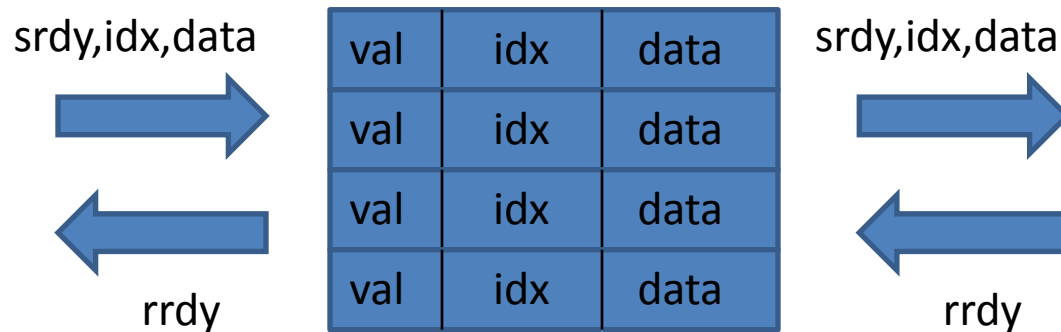
```
$ tar xzvf smv_summerformal2011.tar.gz
```

- Follow instructions in INSTALL
- Run SMV on examples like this:

```
$ vw example1.smv
```

Example 1: unordered buffer

- Objective: transmit a sequence of bytes.

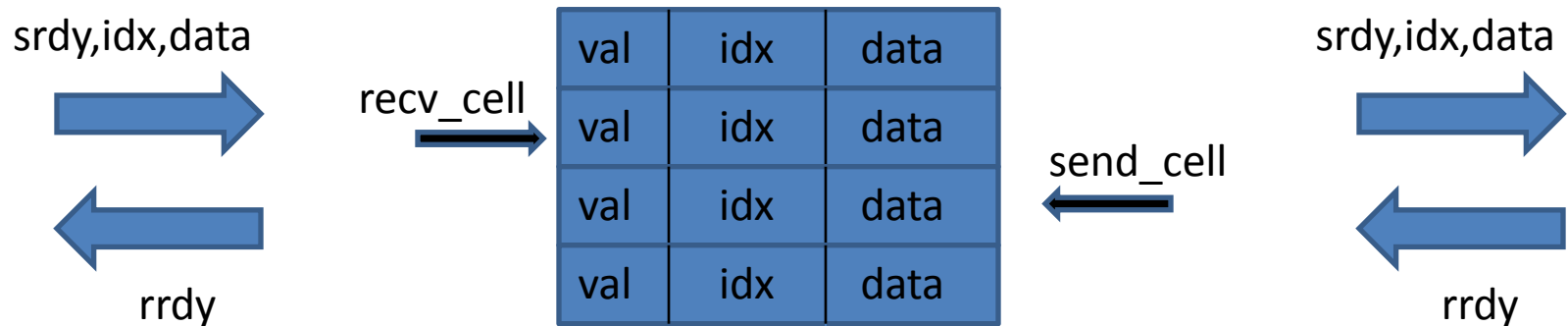


- Protocol: xfer when both srdy rrdy true

[smv file](#)

Example 2: circular buffer

- Objective: transmit a sequence of bytes in order.

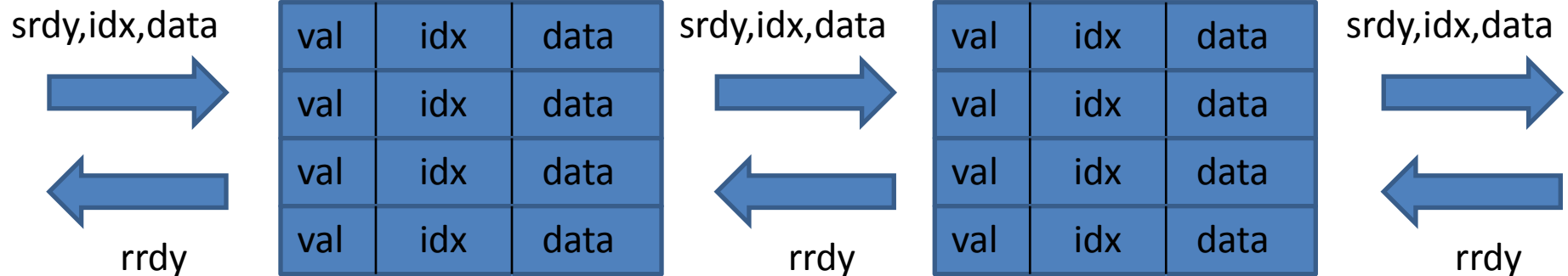


- Circular buffer with read/write ptrs.

[smv file](#)

Problem 1: two circular buffers

- Put two circular buffers in sequence



- Prove correct in-order delivery
- Hint: use an intermediate specification
 - can you do it without?

[problem file](#)

[solution file](#)

Problem 2: eight circular buffers

- Put eight circular buffers in sequence



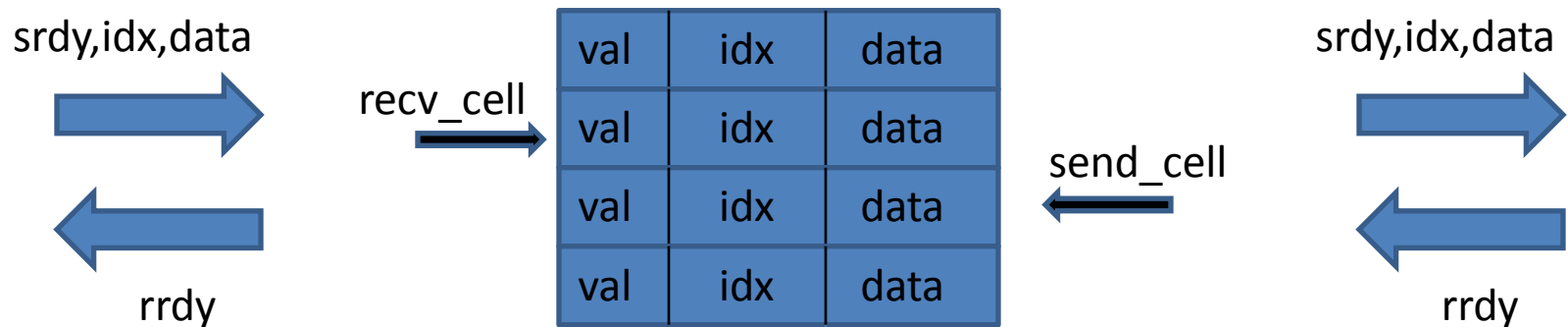
- Prove correct in-order delivery
- How does it scale?

[problem file](#)

[solution file](#)

Problem 3: liveness

- Show every byte received is eventually transmitted
 - Assume environment is fair



- Hint: what can you assume when proving byte i?

[problem file](#)

[solution file](#)