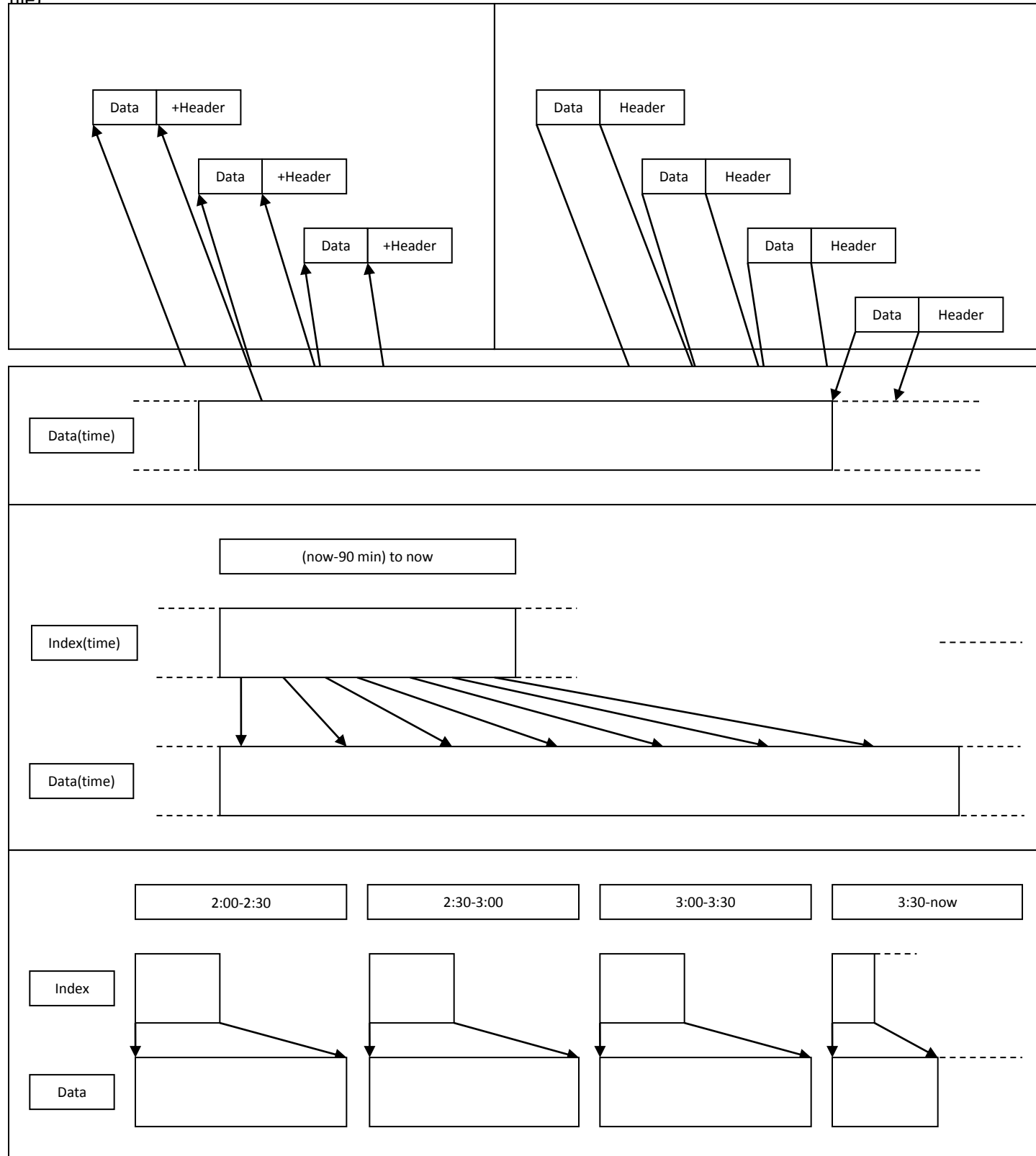# IFS (Indexing File System) Design Diagram

Each index entry consists of 16 bytes and contains the following information:

When: 8 bytes of GStreamer clock information

What: 4 bytes containing the events for the packet (8 bytes in debug mode)

Where: 4 byte packet pointer into the MPEG file (can address a 4 GiPackets x 188 = 752 GiByte file)

Data	+Header

Data	+Header

Data	+Header

Data	Header

Data	Header

Data	Header

Data	Header

Data(time)

(now-90 min) to now

Index(time)

Data(time)

2:00-2:30	2:30-3:00	3:00-3:30	3:30-now

Index

Data

IFS Utility Programs

IfsSim

The program can be found at: `$PLATFORMROOT/install/Win32/debug/bin/IfsSim.exe`

Instructions for running IfsSim:

    1) cd $PLATFORMROOT/install/Win32/debug/bin

    2) Execute the following command:

        IfsSim inpPath=$RICOMMONROOT/resources/tunedata outPath=.

    3) The IfsSim.exe program will run for a while, dump a lot of output to the screen and then return the number of failed tests. If all goes well the final line of output should read something like:

            Ran 47,817,374 tests, 47,817,374 passed, 0 failed

Notes:
- The IFS and Remap unit test suite is contained in the single executable program $PLATFORMROOT /install/Win32/debug/bin/IfsSim.exe
- This program takes two command line arguments inpPath and outPath
- inpPath needs to point to the location of the MPEG files that are used by the unit tests - these files are located at $RICOMMONROOT/resources/tunedata
- The output can be sent anywhere, in this example I simply used ".".

NdxDump

The RI platform build now produces a functional IFS indexing tool called NdxDump.exe that can be used to "look inside" of the index files produce by the IFS.

Another handy use of this tool is to have it actually index an SPTS or MPTS MPEG stream file. This gives you a lot of information about the MPEG stream file and allows you to see exactly what the IFS indexer will find in the MPEG stream.

The program can be found at: `$PLATFORMROOT/install/Win32/debug/bin/NdxDump.exe`

If you run the program without any parameters it gives you the following usage screen:

```
NdxDump.exe, version 7, at 1264183533 Fri Jan 22 18:05:33 2010

Usage:  NdxDump <input>
        Where <input> is one of the following three cases:
          1) an IFS index file such as 00000000.ndx
          2) an IFS directory containing .mpg and .ndx files
             such as 4B59D994_0029
          3) an MPEG file such as plain.mpg
```

For example:

```
        NdxDump $RICOMMONROOT/resources/tunedata/background.mpg
```