Spirit of PDS4

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Problem

- There has been concern expressed within DDWG that approval of Array_1D opens the door to potential ‘abuse’ by data providers of the goals behind our having four base structures:
  - Table_Base
  - Array_Base
  - Parsable_Byte_Stream
  - Encoded_Byte_Stream

For example ...

A PDS3 image with line prefixes:

Line Prefix 1	Pixel 11	Pixel 12	Pixel 13	Pixel 14
Line Prefix 2	Pixel 21	Pixel 22	Pixel 23	Pixel 24
Line Prefix 3	Pixel 31	Pixel 32	Pixel 33	Pixel 34

-- which we would prefer to be REFORMATTED as a PDS4 vector of prefixes and (separately) an Array_2D_Image --

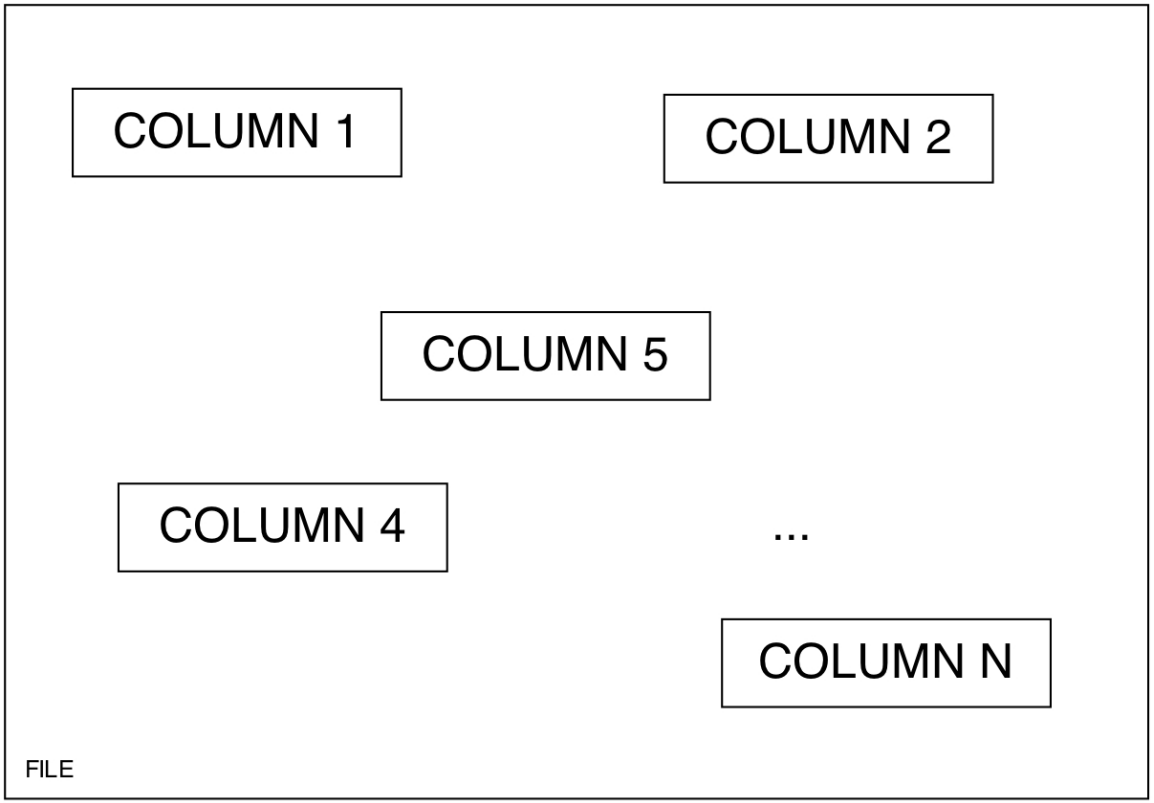
could be described as a repeating structure:

Array_1D line prefix, followed by Array_1D pixel row
Array_1D line prefix, followed by Array_1D pixel row
...

thereby losing its 'natural' image characteristics.

Example 2: CDF

This CDF is a ‘logical’ table, stored under PDS4 constraints as a set of non-overlapping column vectors:



Questions for Discussion

- Is there such a ‘Spirit of PDS4’?
- If so, how do we express it in ways that
  - are unambiguous to data providers, and
  - can be enforced

Potential Problems

- Phrasing of ‘spirit’ statement will be difficult
- Has our approval of Array_1D already opened the door to ‘abuse’?
- Enforcement of the ‘natural structure requirement’ at peer review will be uneven and difficult to predict
- We have little control over raw data formats (*e.g.*, CDF in the MAVEN telemetry stream)

Personal Recommendation

- MC discussion:
  - is this worth pursuing?
  - if so, in what general direction?
- If to be pursued, assignment to a task force to
  - consider in more detail
  - return with actionable recommendations