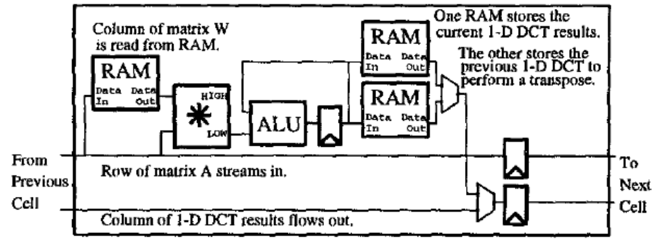
Asserted Claim of ’800 Patent	Exemplary Disclosure of RaPiD
[1A] A method for data processing in a reconfigurable computing system, the reconfigurable computing system comprising at least one reconfigurable processor, the reconfigurable processor comprising a plurality of functional units, said method comprising:	At least under Plaintiff’s apparent theories of infringement and interpretations of th alleging that any of Defendant’s accused products satisfy this claim limitation, RaP combination with one or more references, discloses: RaPiD at Abstract: “The goal of the RaPiD (Reconfigurable Pipelined Datapath) ar provide high performance configurable computing for a range of computationally-i applications that demand special-purpose hardware. This is accomplished by mapp computation into a deep pipeline using it configurable array of coarse-grained com RaPiD at 106: “Unfortunately, the promise of configurable computing has yet to be of some very successful examples [l, 9]. There are two main reasons for this.” RaPiD at 111: “Since a 2-D DCT performs two multiplies by the same weight matr only once: one column per cell in both the first 8 cells and last 8 cells. The transpos matrix multiplies is performed with two local memories per cell: one to store produ sub-image and the other to store the products of the previous sub-image. During th the current sub-image, the transpose of the previous sub-image computation is pass cells. The datapath for one RaPiD cell of a 2-D DCT is shown in Figure 10.”

	 Figure 10: *Netlist for one cell of 2-D DCT. The top pipelined bus streams in the* **A** *matrix while the bottom bus streams out resulting 1-D DCT, transposed. The top bus also streams the* **W** *columns into the local memories prior to the computation.* RaPiD at 115: "References [1] J. M. Arnold et al. The Splash 2 processor and applications. In Proceedings IEE Conference on Computer Design: VLSI in Computers and Processors, pages 482-5 Soc. Press, 1993." To the extent Plaintiff asserts this limitation is not expressly or inherently disclosed apparent claim construction, or any other claim construction, the claimed subject m been obvious to a person of ordinary skill in the art considering this reference in co the knowledge of one of ordinary skill in the art at the time of the alleged invention disclosures in one or more of the references identified in Section I.B.2 of the cover
[1B] transforming an algorithm into a data driven calculation that is implemented by said reconfigurable computing system at the at least one reconfigurable processor;	At least under Plaintiff's apparent theories of infringement and interpretations of th alleging that any of Defendant's accused products satisfy this claim limitation, RaP combination with one or more references, discloses: RaPiD at Equations 5 and 6:

$$z_{mj} = \sum_{n=0}^{N-1} a_{mn} w_{nj}, \qquad (5)$$

and thus

$$y_{ji} = \sum_{m=0}^{N-1} z_{mj} w_{mi} \qquad (6)$$

for $0 \leq i, j \leq N - 1$.

RaPiD at 111: “As seen in Equation 5 and Equation 6, both z_{mj} and y_{ji} are equivalen matrix multiplies. However, since the z_{mj} values are produced in row-major order bu column-major order, the results from the z_{mj} DCT must be transposed prior to comp illustrated in Figure 8. In addition, since both input streams are read in row-major or desirable to produce row-major output (potentially reducing memory stalls), requirin transform (i.e. output y_{ij} instead of y_{ji}). The resulting computation is $((A \times W)^T \times W$

To the extent Plaintiff asserts this limitation is not expressly or inherently disclosed apparent claim construction, or any other claim construction, the claimed subject ma been obvious to a person of ordinary skill in the art considering this reference in cor the knowledge of one of ordinary skill in the art at the time of the alleged invention disclosures in one or more of the references identified in Section I.B.2 of the cover p

[1C] forming at least two of said functional units at the at least one reconfigurable processor to perform said calculation	At least under Plaintiff's apparent theories of infringement and interpretations of th alleging that any of Defendant's accused products satisfy this claim limitation, RaP combination with one or more references, discloses: RaPiD at 110: "5.1 1-D DCT An N-point 1-D DCT partitions an input vector A into N-element sub-vectors, and subvector A_h computes $$y_{hi} = \sum_{n=0}^{N-1} a_{hn} \cos \frac{\pi i}{2N}(2n+1) \qquad (1)$$ for $0 \leq i \leq N - 1$, where a_{hn} is the n-th element of sub-vector A_h (and the (hN + n)-t vector A).[1] The N^2 cosine terms are constant over all subvectors and hence can be r precomputed weights W where $w_{ni} = \cos \pi i/2N(2n + 1)$. This reduces Equation 1 to $$y_{hi} = \sum_{n=0}^{N-1} a_{hn} w_{ni}, \qquad (2)$$ for $0 \leq i \leq N - 1$. By viewing input vector A and weights W as matrices A and W, reduces to the matrix multiply Y = A x W. Thus, to compute a 1-D DCT, RaPiD pe multiply. To implement an 8 point 1-D DCT on an 8 x 8 input matrix A (i.e. a 64-e the entire 8 x 8 weight matrix W is stored in RaPiD's local memories, one column p of the resulting pipeline is configured as shown in Figure 7. The A matrix is passed array in row-major order. Within each cell, the local memory address is incremente a register accumulates the dot product of the stored column and the incoming row. receives the last element of a row, the resulting product is passed down an output p address is cleared, and the cell is ready to compute the product of the next row on t This effectively computes the matrix multiply of A x W." RaPiD at Equations 5 and 6:

$$z_{mj} = \sum_{n=0}^{N-1} a_{mn} w_{nj}, \qquad (5)$$

and thus

$$y_{ji} = \sum_{m=0}^{N-1} z_{mj} w_{mi} \qquad (6)$$

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RaPiD at Figure 8:

Figure 8: *2-D N × N DCT*

RaPiD at 111: "We show the implementation of an 8 x 8 2-D DCT on a 16-cell RaP Consider an M x N image and an 8 x 8 weight matrix W. First, the image is divided images of size 8 x 8. The computation for each sub-image A is outlined in Figure 9.

RaPiD at 111: "Since a 2-D DCT performs two multiplies by the same weight matri only once: one column per cell in both the first 8 cells and last 8 cells. The transpose matrix multiplies is performed with two local memories per cell: one to store produc sub-image and the other to store the products of the previous sub-image. During the

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