VA Module General Description

The VA module contains the Vector Integer Add Functional unit and the logic for the Compress Iota Function. The VA module combines with the VB module to make up the Vector Integer Functional unit. The VA module receives Vector and Scalar data directly from the VR modules. All data sent back to the VR modules is merged, on the VB module, with data from the VB.

VA Module Vector Integer Adder Concepts

Vector Interger Add Instruction Summary

160ijk   Enter Vi with integer sum Sj + Vk
161ijk   Enter Vi with integer sum Vj + Vk

162ijk   Enter Vi with integer difference Sj - Vk
163ijk   Enter Vi with integer difference Vj - Vk

Hardware Implementation of Sum and Difference

Vi = Sj + Vk via normal add
Vi = Vj + Vk via normal add

Vi = Sj - Vk via two's complement add
Vi = Vj - Vk via two's complement add