

25. ENCODING SCHEME TO OPTIMIZE ENERGY CONSUMPTION IN NETWORK-ON-CHIP

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Data encoding is a process that is used to convert a form of data into any desirable format so that information processing needs are satisfied. The major areas where data encoding technique is employed are the fields which deal with devices that require high speeds, security and high performances. While employing data encoding schemes in Network-on-Chips, we can expect high standardization and a good reduction in power consumption since the data encoding schemes will reduce the number of switching activities. The switching activities are generally of four Types which are Type1, Type2, Type3 and Type4. It is seen from previous works in data encoding schemes that Type1 constitute the major part in power dissipation. So an encoding scheme to convert the Type1 transitions into Type2 transitions is proposed and wormhole switching is implemented for ease of transmission of data.

Keywords -- Network-on-Chip, Data Encoding, Wormhole Switching, Network Interface, Flits, Type1, Type2, Type3, Type4, Odd Inversion.

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