

Moore's law and its problems.

Moore's law states that transistor density in a given chip surface will double every two years. It no longer applies today, because a power wall has been hit. This means that we can no longer increase the frequency at which transistors switch, as that increases dynamic power, and we also cannot reduce further the voltage swing (that means the difference between which analog voltage is considered 0 and which is considered 1), due to noise tolerance and also because it is close to the transistor voltage threshold. Finally, because the size of the transistors is much smaller, we also have current leakage which is reflected on the increased power consumption.