Written by Marco Attard 25 July 2013

Intel outlines ambitions to "re-architect" the infrastructure of humble datacentres as it gives more details on the C2000 family (codenamed "Avoton" and "Rangeley") of next generation Atom processors.

Making part of such a grand plan is Rack Scale Architecture (RSA), a design promising to "dramatically increase the utilization and flexibility of the datacenter to deliver new services." Already in use by Rackspace, RSA combines Xeon processors, ethernet controllers and SSD storage built into compact, low-power cards.

Low Power Product Direction					
	2011	2012	2013	2014+	
(intel) inside xeon	Xeon E3 Sandy Bridge 32nm As low as 20W	Xeon E3 Ivy Bridge 22nm As low as 17W	Xeon E3 Haswell 22nm As low as 13W	14nm "Broadwell"	
				^{14nm} "Broadwell" SoC	
inside ATDM		Centerton 32nm As low as 6W	Avoton Rangeley 22nm	14nm "Denverton"	

"Datacenters are entering a new era of rapid service delivery," Intel says. "Across network, storage and servers we continue to see significant opportunities for growth."

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The next generation of Atom processors will power such hardware-- specifically Avoton (aimed at low-energy, high-density microservers and storage) and Rangeley (network devices). Based on Intel SoC technology, the 64-bit SoCs feature up to 8 cores with integrated ethernet and up to 64GB of memory.

Intel claims the chips deliver up to X4 the energy efficiency and X7 the performance of 1st generation Atom-based server SoCs.

As for the future, Intel should release microserver, storage and networking products based on 14nm microarchitecture during 2014-- namely the next generation of Xeon ("Broadwell") and Atom ("Denverton") processors, both promising high performance within high density, energy efficient systems.

Go Intel Aims to "Re-Architect" Datacentres