IBM UNVEILS WATER-COOLED SERVERS TO REDUCE CARBON BY 85%

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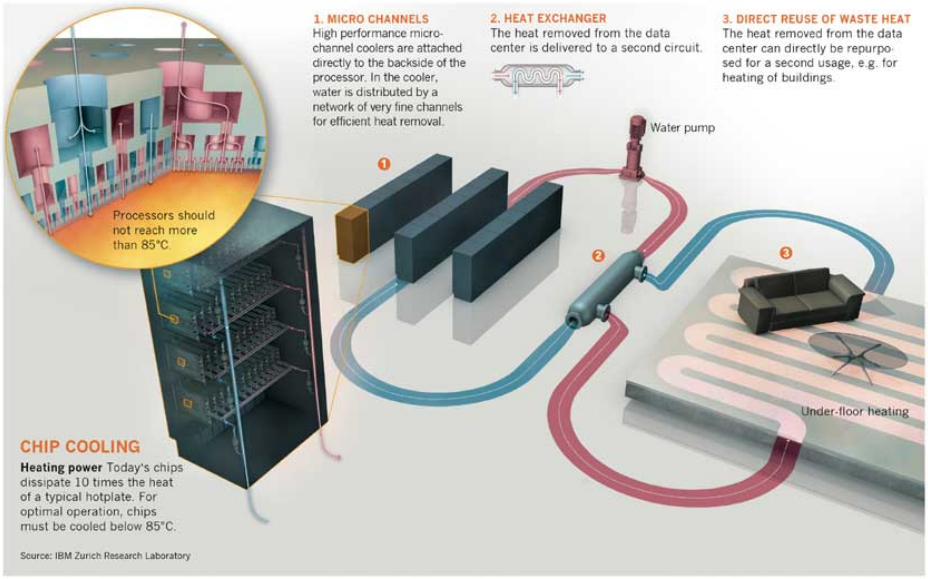
IBM RESEARCHERS HAVE **DELIVERED A BREAKTHROUGH** THAT COULD HAVE A MAJOR IMPACT ON THE POWER CONSUMPTION AND CARBON FOOTPRINT OF DATA CENTERS, AND EVEN THE WAY COMPANIES HEAT THEIR OFFICES.

THE PROJECT, CALLED AQUASAR, IS A WATER-COOLED SUPERCOMPUTER THAT CONSUMES 40% LESS ENERGY THAN A COMPARABLE SYSTEM USING TODAY'S AIR-CONDITIONED METHODS. PLUS, THE SYSTEM TAKES THE WASTE HEAT THAT IT PULLS FROM THE SERVERS AND FEEDS IT INTO THE BUILDING'S HEATING SYSTEM TO HELP WARM NEARBY OFFICES. WHEN YOU COMBINE THESE TWO DEVELOPMENTS, THE RESULT IS A CARBON FOOTPRINT THAT IS REDUCED BY UP TO 85%.

THE DIAGRAM BELOW SHOWS HOW AQUASAR WORKS:



ANNOUNCED A YEAR AGO, THE PROJECT IS NOW FULLY OPERATIONAL USING SPECIAL WATER-COOLED IBM BLADECENTER SERVERS AT THE SWISS FEDERAL INSTITUTE OF TECHNOLOGY ZURICH (ETH ZURICH). THE WORK ITSELF IS PART OF A THREE-YEAR COLLABORATION BETWEEN SCIENTISTS AND ENGINEERS FROM IBM AND ETH ZURICH. THE OFFICIAL NAME OF THE STUDY IS "DIRECT USE OF WASTE HEAT FROM LIQUID-COOLED SUPERCOMPUTERS: THE PATH TO ENERGY SAVING, EMISSION-HIGH PERFORMANCE COMPUTERS AND DATA CENTERS."

THERE IS NO COMMERCIAL PRODUCT THAT IBM IS MARKETING WITH AQUASAR YET, BUT WE SHOULD REASONABLY EXPECT THE COMPANY TO INTEGRATE THIS DEVELOPMENT INTO ITS DATA CENTER PORTFOLIO IN THE YEARS AHEAD.

DR. BRUNO MICHEL, MANAGER OF ADVANCED THERMAL PACKAGING AT IBM RESEARCH-ZURICH, SAID, “WITH AQUASAR WE ACHIEVED AN IMPORTANT MILESTONE ON THE WAY TO CO2-NEUTRAL DATA CENTERS. THE NEXT STEP IN OUR RESEARCH IS TO FOCUS ON THE PERFORMANCE AND CHARACTERISTICS OF THE COOLING SYSTEM WHICH WILL BE MEASURED WITH AN EXTENSIVE SYSTEM OF SENSORS, IN ORDER TO OPTIMIZE IT FURTHER.”

PROF. DIMOS POULIKAKOS, HEAD OF THE LABORATORY OF THERMODYNAMICS IN NEW TECHNOLOGIES AT ETH ZURICH, SAID, “WITH AQUASAR, WE MAKE AN IMPORTANT CONTRIBUTION TO THE DEVELOPMENT OF SUSTAINABLE HIGH PERFORMANCE COMPUTERS AND COMPUTER SYSTEM. IN THE FUTURE IT WILL BE IMPORTANT TO MEASURE HOW EFFICIENTLY A COMPUTER IS PER WATT AND PER GRAM OF EQUIVALENT CO2 PRODUCTION.”