z14 Capacity Planning – Part 1

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1 Introduction

On July 17th IBM announced its new generation of the mainframe. The new system is simply called IBM z14 while the family model is 3906.

Experienced capacity planners know that every new generation of machines provides a major challenge to their skills. They also know that their best friends are the IBM LSPR benchmarks, the IBM zPCR tool, the Measurement Facility counters provided in SMF 113 and an up to date performance database.

In the first part of this paper we'll have a first look at the most important capacity characteristics of the IBM z14. Starting from the IBM LSPR benchmarks we'll then estimate the MIPS capacity of each IBM z14 processor model.
Finally we will compare z14 single CP capacity and workload variability with previous machine generations.

In the second part we'll compare z13 and z14 processor cache architecture. Then we'll analyse in more detail the new z14 Measurement Facility extended counters provided in SMF 113, using them to calculate the RNI index.