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BACKGROUND INFORMATION7950 SYSTEM

- May 1957 -- The initial system presentation was made.
- April 1958 -- The original PD was submitted with a completion date of 30 September 1960.
- January 1960 -- The automated design program completed a first pass of all logic design.
- May 1960 -- All gates of the HARVEST (Streaming Unit) frames were wired. The original version of the high speed memories was abandoned in favor of the memories from the back-up program. The original version required redesign and improvements and thus would not have available within the deadline.
- June 1960 -- Sigma wiring was completed and the entire unit was moved from its assembly area to the 7950 area.
- July 1960 -- The December 1959 revisions of the PD were adopted as the specifications of equipment to be delivered.
- August 1960 -- Sigma and HARVEST were tied together and checkout begun.
- September 1960 -- Tractor and the High Speed Exchange were added and checkout begun. The Basic Exchange was also modified for 16 channels.
- November 1960 -- One box (32K words) of Low Speed Memories and two boxes of High Speed Memories were attached to the system.
- March 1961 -- Evaluation of the entire system showed that several simple basic computer programs would run, the special features of the HSM did work, and the diagnostics programs were defined and written.
- April 1961 -- The available diagnostic programs were assembled into a maintenance test package.
- July 1961 -- Agency programmers obtained 12 hours per week for debugging the acceptance test package.

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Declassified by D. Janosek,  
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on 13 Oct 2012 and by WMB

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- September 1961 -- The Agency machine time increased to 30 hours per week.
- October 1961 -- As much as 16 hours per day were available to the Agency.
- November 1961 -- IBM conducted a 72 hour System Status Test using the Agency acceptance package as a test vehicle. This test showed that the acceptance test package was logically correct.
- December 1961 -- The first official try to run the acceptance test was aborted 8 hours after starting. Three days later it was begun again and successfully completed on 19 December 1961.
- January 1962 -- The entire System was shipped on 5, 6, and 7 January 1962.

Reference: IBM 7950 Data Processing System, Final Report, Volume 1, Part 1.

- January 1962 -- Delivery of the System was completed on 7 January 1962 and the mechanical assembly on 13 January 1962. Power was introduced to all units on 14 January 1962 and preparation for the acceptance test continued through the remainder of January. A total of six factory engineers (plus 18 Customer Engineers) were sent to the machine site for the six months maintenance period. Only four of these actually participated in the machine maintenance.
- February 1962 -- Acceptance test began on 7 February 1962 and was successfully completed on 12 February 1962. From 13 February to 26 February 1962, the two additional memories were attached to the System and checked out. The six month maintenance period was begun on 27 February 1962.
- March 1962 -- Additional I/O units (Eight 729s and six TCUs) were installed and checked out by 20 March 1962. The four additional boxes of low speed memory successfully passed a 128 hour acceptance test on 30 March 1962. A large portion of time (both Agency and IBM) was consumed by the many troubles associated with the memory installation, thus the latter portion of March showed a steady decrease in Good Time per week.

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- April 1962 -- System performance continued to decrease throughout April. In early April troubles from the memories and memory bus logic continued to consume Good Time. In addition BX trouble began to cause additional maintenance and although several individual troubles were corrected the basically poor condition remained.
- May 1962 -- As existing memory, memory bus and basic exchange troubles were corrected machine Good Time increased throughout May. The last week in May produced the highest weekly Good Time percentage (90%) since installation of the system.
- June 1962 -- The general good condition of the machine remained throughout most of June. In late June troubles in the Central Processing Unit coupled with a sudden increase in memory, memory bus and basic exchange problems produced a sharp drop in reliability. In late June the engineering staff conducted a complete mechanical shakedown of the entire system. Although the shakedown was begun, existing troubles delayed expected progress and decreased the upgrading effort.
- July 1962 -- With the Agency programming effort increasing a larger number of logic errors became apparent. One of the more outstanding logic errors, the BX multi-read, caused considerable lost time to the programming effort. This error coupled with the effects of vibration test and an increase of Sigma errors produced the poorest month since machine delivery.
- August 1962 -- Early August remained poor as a result of continued Sigma troubles and effect from the vibration testing. Starting in mid August the engineering staff was steadily decreased although the vibration testing was not yet completed. During mid August the vibration testing was temporarily stopped and the Good Time percentage increased throughout the remainder of the month. On 27 August 1962 the six month maintenance period was ended and IBM Customer Maintenance took over.
- September 1962 -- With the increased usage of Tractor came an increase in Tractor and HX troubles. During this month a complete realignment of two Tractor complexes was performed. In mid September personnel from the engineering staff returned to complete the vibration testing of the system. The completion was premature according to early estimates of total effort to be

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placed in this area. Overall performance for September decreased slightly as the increase in Agency usage of the system again showed up logic troubles.

- October 1962 -- The first days of this month were troubled with numerous machine problems from HARVEST, SIGMA, and BX. Weekly figures began jumping from good to bad in an unpredictable manner. This was partly caused by lack of training of customer engineers in the location of some new troubles. Additional logic errors were discovered and some (the Sort problem) required redesign by a back-up staff in Poughkeepsie, N.Y. During this month the Customer Engineers underwent cross-training to familiarize them with different areas of the machine. The realignment of the remaining Tractor complex was completed.
- November 1962 -- Sigma troubles were again predominant and highly intermittent as weekly Good Time percentages continued to fluctuate in an unpredictable manner. Large portions of the scheduled maintenance time was expended on installation of routine engineering changes and the memory change for the SORT problem.
- December 1962 -- Early December produced more stable machine conditions but in mid month the system reached an all time weekly low. An engineering change installed on BX was in gross error and required almost an entire week to be corrected. Additional specialists were brought on board to help with the BX problem. Good Time increased steadily as the BX change was installed correctly. A yearly average showed no significant increase in the reliability of the system.
- January 1963 -- Operation for this month produced no large increase in machine improvement. Random troubles from BX, Tractor and Sigma continued to cause delays in Agency debug efforts. An engineering change was installed in late January for the purpose of increasing the BX reliability.
- February 1963 -- Machine status was improved and became more consistent during this month. The general variety of troubles decreased with only certain specific problem areas causing noticeable loss of Good Time.

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