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Development of "MARS 105" Seat Reservation System

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The Japanese National Railways seat reservation system "MARS" has rapidly developed since the Japan's first online system "MARS1" started its operation in 1960, and in 1970, the three systems "MARS102", "MARS103" and "MARS104" were selling a total of 500,000 seats per day. Furthermore, in September 1972, "MARS105" was developed, and its operations was begun with a capacity of 700,000 seats per day. In October 1974, anticipating the expansion of the Shinkansen line to Hakata, the system was upgraded to a capacity of 1.4 million seats per day. In addition, the telephone reservation system "MARS150" and reservation system for group passengers "MARS202" were also developed in parallel, and began operating in the spring of 1975. Here, we will outline the features of the large-scale, high-traffic online system "MARS105", including its processing capacity and reliability.

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1 Introduction

The Japanese National Railways' seat reservation system (Magnetic Electronic Automatic Reservation System, hereafter abbreviated to MARS) has undergone rapid development since MARS1, the first online system in Japan, was introduced in 1960, and by 1970, the three systems MARS102, MARS103 and MARS104 were selling a total of 500,000 seats per day.

However, with the expansion of the Shinkansen network, including the San-yo Shinkansen, the number of reserved seats increased dramatically, and when the Tohoku and Joetsu Shinkansen lines opened, it was expected that the number of seats would reach 1.4 million per day, so it was necessary to deal with this quantitative expansion.

In addition, since the development of the conventional MRAS was focused on the large-scale sale of reserved tickets, it was possible to sell large numbers of reserved tickets, but the system lacked flexibility in terms of its functions. Therefore, it was necessary to add functions such as increasing the number of people handled and selling tickets in bulk, and to make it possible to easily reserve reserved tickets from home or the office using a push-button phone, and to respond to the diversification of travel by providing products such as the “Economy coupon”, travel package series, and to expand the quality of the service.

In order to deal with this expansion in both quality and quantity, a new reserved ticket sales system, “MARS105”, was developed. This system began operating in September 1972 with a capacity of 700,000 seats per day, and in October 1974 it was upgraded to handle 1.4 million seats per day in preparation for the extension of the Shinkansen line to Hakata (the initial capacity was 1 million seats per day).

In March 1975, the telephone reservation system “MRAS150” was also developed and began operating at the same time. The existing group reservation system “MARS201” was also expanded in terms of both quality and quantity, and became “MARS202”, which began operating in May 1975. In this way, the MARS system that had been initially planned was completed in its entirety.