



To: Whom It May Concern

From: Michael W. Goettsch, Business Analyst, Repair and Overhaul

Subject: MSS International Reference

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A little over a year ago, AAR Corp. was looking at ways to upgrade UNIX based LINC systems to make them Y2K compliant. These systems support our Aircraft Component Repair and Overhaul facilities in New York and Amsterdam and our Airframe Repair and Overhaul facility in Oklahoma City. At that time we knew the servers, the version of the LINC compiler, and the applications were not Y2K compliant.

Having utilized the services of MSS International to migrate a LINC application to Oracle in 1998, we contacted them again and asked if they would be willing to take on 3 more migrations. This time however, in addition to migrating the applications from LINC to Oracle, we also wanted MSS to make the applications Y2K compliant. We knew that in addition to their migration software, that MSS had developed automated tools to identify the non-compliant code. In the end, AAR felt MSS was best suited for the project, and awarded them the contract.

The 2 systems utilized by our Aircraft Component Repair and Overhaul facilities were sent to MSS first. AAR provided MSS with a "seed list" of known dates that was used to scan the two systems for potential problems. The first deliverable from MSS to AAR was a list of other potential fields that AAR verified should or should not be checked for Y2K problems. Once all the dates were identified, MSS reviewed the code, identified all Y2K problems, and fixed the code. MSS provided AAR with a summary, by program, of all the code that was changed. Once the Y2K problems were resolved, MSS migrated the two systems from LINC to Oracle.

The New York system was returned to AAR for testing in early May 1999. The Amsterdam system was returned to AAR for testing in late May 1999. Having managed the previous migration, I knew exactly what and how to test the migrated systems. It was obvious from the first day of testing that both the on-line and batch migrator had matured significantly since our first migration. The code that was returned was quite clean. Testing went quickly and was painless. The New York system went live on August 1st and the Amsterdam system went live on September 13th.

The system utilized by our Airframe Repair and Overhaul facility in Oklahoma City was sent to MSS separately. The same process was used to validate dates and migrate the code. This system presented a unique problem because the system stored most dates in YYMMDD format, and a number of indexes ordered the data by date. MSS had to expand these dates from 6 to 8 numeric and add century. In addition all the code in the

on-line and batch system had to be changed to deal with dates that were now being stored as CCYYMMDD. The system was returned to AAR in August 1999. With the help of Tom Moohan, the programmer who made the Y2K changes, and 2 other resources, we verified that all the changed code worked correctly. The Oklahoma system went live on November 1, 1999.

From start to finish the performance of two MSS employees stood out as "second to none". First off, I would like to thank Steve Rainbird for the outstanding job he did supporting the database and on-line migration. No matter what challenge we faced, Steve tackled the issue and implemented a well thought out solution. To this day, Steve is helpful whenever I have a question regarding the migrated Oracle code. In addition, I would like to thank Peter Colman for the outstanding job he did supporting the batch migration. The SQC batch compiler has matured significantly since our first migration in 1998. Pete's dedication to the migration at all hours of the day went beyond what I could have hoped for. To this day, Pete helps by quickly responding to my questions.

I know there are other people at MSS who played a significant role in the migration. I would like to thank Ken Arris and his team for the work that was done to correct the Y2K problems. Your efforts made Y2K a "non-event" at AAR. In addition, my thanks go out to Tina Vlok and Nick Wnekowski for their part in the migration.

I cannot say enough about the effort MSS put into migrating the remaining LINC systems at AAR. I would highly recommend MSS to any potential customer. Please do not hesitate to call me if you have any questions.

Sincere Regards,

Michael W. Goettsch
Business Analyst, Repair and Overhaul