Introduction to the evaluation methods used

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9.1 METHOD 1 – QUESTIONNAIRES

Once the Task Force had decided that the major elements of its technical charge involved an evaluation of how well the three candidate architectures (CIMOSA, GRAI-GIM and Purdue) fulfilled the needs for ‘integrating manufacturing activities and enterprises’, the major task facing them was to choose the method(s) of evaluation to be used.

An extensive questionnaire was developed to cover all important ramifications of the requirements for this architectures. This would then be completed by the groups developing each separate architecture and reviewed by the Task Force before being adopted for this report. After several reviews Version Number 3 was adopted and used. Copies of the Version 3 Questionnaire itself and the corresponding answers for each of the candidate architectures are presented here in the next Chapter.

Since the Questionnaire is quite extensive, it was suggested that a shorter questionnaire be developed and used. This suggestion was accepted and the attached Short Form Evaluation Questionnaire for Integration Reference Models was prepared and completed for all three candidate architectures. They are presented at the end of the next Chapter.

9.2 METHOD 2 – MAPPINGS, ONE ON ONE

One possibility to find how the candidate architectures correspond to one another is to ‘map’ the characteristics and capabilities of each of the architectures onto a suitable representation of the corresponding characteristics and capabilities of the others (a total of six, hopefully graphical presentations, to cover the full spectrum of characteristics and capabilities). To be able to do this it was proposed that a diagram representing the life-cycle for

each architecture be used for the framework desired. These would be suitably modified to include any capabilities missing in that particular architecture if necessary. Representations of CIMOSA on Purdue and vice versa were developed first, followed by the related GRAI-GIM representations (these are recorded here in Chapters 11–13).

9.3 METHOD 3 – MAPPING AGAINST A SET OF REQUIREMENTS

A second possibility to find the correspondances is to develop a different form of a mapping diagram, based on a Matrix of Requirements or Needs. The first version of this was developed as of July 1992 and critiqued by correspondence at subsequent Meetings. The final form was then given a set of trial mappings for each architecture. These latter were then presented to representatives of CIMOSA and GRAI-GIM during December 1992.

The results are included in this report in Chapter 17.