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**Architecture Study Group Report**  
**September 28, 2005**  
**Draft**

**Summary Conclusions:**

The architecture study group was established to assess how SC7 standards address architecture and architecture management issues and to investigate the possibility of additional standards or guidance in this area.

The study group recommends that:

1. SC7 establish a new working group to address architectural issues.
2. IEEE Std. 1471 be adopted as an ISO/IEC standard.
3. IEEE and ISO/IEC SC7 start an immediate revision to 1471 to establish a joint standard, based on the study group recommendations.
4. Other standards be updated as necessary for commonality.

Additional detail is provided later in this report.

**Background:**

The architecture study group met for the first time in conjunction with the SWG5 interim 2004 meeting in October 2004. Between October 2004 and April 2005, additional reviews were conducted by study group members.

This study group was established by resolution at the May 2004 plenary (resolution #789), and continued for another year at the May 2005 plenary (resolution #). The detailed plan and meeting notes are included in the file entitled "Arch SG Minutes and Plan" (v7 - Sept 2005).

**Next Steps:**

The architecture study group will meet during the Bari interim plenary meeting to continue this work. At this meeting, study group members will:

- Revise study group report based on additional inputs (due April 2006)
- Provide a draft resolution to establish a new working group to address architectural issues. Identify a chair and working group members. Potential members include:
  - a. Australia (Ovidiu Noran)
  - b. New Zealand (Alison Holt)
  - c. Finland (Timo Kakola)
  - d. Japanese rep?
  - e. Sweden (Mikael Gullberg)
  - f. US rep?
  - g. IEEE (Mark Maier)
- Provide a draft New Work Item and resolution to revise IEEE 1471 into a joint IEEE and ISO/IEC architecture standard (to be presented at May 2006 plenary)
- Review (and revise if necessary) recommended changes to IEEE 1471, to be made during the revision process (these will be attached to the NWI).
- Provide recommended changes to other IEEE and ISO/IEC standards, for commonality in the architecture area.

### **Detailed Recommendations:**

The study group makes the following recommendations:

1. Recommend that SC7 establish a new working group to address architecture issues.
2. Recommend that SC7 fast track 1471 as a standard (required since IEEE 1471 is an IEEE standard).
3. Recommend that after approval of the fast-track, SC7 start an immediate IEEE and ISO/IEC joint revision to 1471. The details of the recommended revisions are provided separately, but high-level recommendations are to:
  - Work for system architectural description (not just software-intensive)
  - Add annexes that provide the context of how to use this standard in relation to others
  - Consider changes to:
    - Ensure compatibility with 15288 and 12207 - the harmonized solution (in conjunction with WG7)
    - Ensure compatibility with other SC7 standards - e.g. 15504 and 25000
    - Remove discrepancies and conflicts with 10746 (in conjunction with WG19 changes to 10746)
    - Ensure compatibility with 15704 (in conjunction with SC5/TC184)
4. Recommend that after approval of the fast-track, the SC7 architectural working group make recommendations for updates to other standards for commonality, including:
  - Recommend revisions to 15704 for compatibility with 1471, 15288, 12207, 15504, and 25000 (to SC5/TC184).
  - Recommend new or additional changes to other standards/guides (e.g. 15288, 12207, 15504, 25000, 15704, MOF, etc.).

Study group members have completed reviews of identified documents, and prepared recommendations for changes that need to be made. At the Helsinki plenary meeting, consensus recommendations were established. These are detailed in the file entitled “1471 Revision Recommendations”.

### **References:**

- ASG0013 - Professor Azuma review of 1471 against Square (ISO/IEC 25000 series).
- ASG0014 - Professor Azuma review of 15704 against Square (ISO/IEC 25000 series).
- ASG0015 - Garbajosa - Spain contribution to architecture study group.
- ASG0016 - Maier – IEEE contribution - Compare of 1471 to 12207 and 15288
- ASG0017 - Noran and Bernus - Compare 1471\_15704\_19439\_19440-v1
- ASG0018 - Noran and Bernus - Compare 15704\_15288\_12207-v1
- ASG0019 - Wood - Comments on Study Group
- ASG0020 - Wood - IEEE 1471 - ISO-IEC 10746 comparison

## Architectural Study Group Members

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## **SC7 Resolution - May 2005 plenary**

Resolution number 859

JTC 1/SC7 instructs its Secretariat to extend the study group on Architectures (resolution #789) for an additional year.

The terms of reference of this Study Group are to:

- Investigate the possibility of additional standards or guidance in the area of Architectures.
- Assess how SC7 standards address architecture and architecture management issues and come with recommendations.

The Study Group shall take into consideration:

- IEEE Std 1471 - IEEE Recommended Practice for Architectural Description of Software Intensive Systems
- The ODP standards
- Other relevant ISO standards

The study group shall make recommendations on changes to existing standards/guidance and/or the creation of new standards or TR. Its membership will consist of: :

- Bud Lawson (Sweden)
- Stuart Arnold (UK)
- Motoei Azuma (Japan)
- Ovidiu Noran (Australia) – liaison with TC 184 SC5 WG1
- Mikael Gullberg (Sweden)
- Timo Kakola (Finland)
- Mark Maier (IEEE)
- Bryan Wood (UK)
- Juan Garbajosa (Spain)

Additional members can be added until 2005-09-15. Nominations must be sent to the SC7 secretariat.

IEEE-CS has already contributed IEEE 1471 standard for study purposes. TC184 SC5 will be asked to contribute the ISO 15704: 2000 standard for study purposes. TC184 SC5 will also be asked to participate in this study group.

This study group will be chaired by Mark Maier (IEEE) and co-chaired by Cheryl Jones (ISO) and will submit a report by 2006-04-15. The study group meetings will be co-located with WG7.