CPI-C Implementers' Workshop Procedures Manual

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Preface

This manual describes the CPI-C Implementers Workshop (CIW) and documents the procedures it uses to accomplish its objectives. The CIW is sponsored by IBM.

Intellectual property rights are governed by an agreement between IBM and each CIW member. Information as to the terms and conditions of the standard member agreement may be obtained from:

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Approval Status

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Chapter 1. Purpose

CPI Communications (CPI-C) is an API for communication between programs using the conversational model that provides access to the services of Advanced Program-To-Program Communications (APPC) and the Open Systems Interconnection Distributed Transaction Processing standard (OSI TP).

The CPI-C Implementers' Workshop (CIW) is a forum of architects, implementers, and users of CPI-C. Its objectives are to enhance CPI-C, to promote the implementation and use of CPI-C, and to move CPI-C toward consideration for standardization.

The CIW provides a forum for:

- the exchange of non-confidential information between users, implementers, and architects regarding requirements for CPI-C extensions
- the definition of CPI-C extensions
- the definition of CPI-C conformance classes, language bindings, and the execution environment for CPI-C programs
- activities that promote the implementation and use of CPI-C, such as exchange of non-confidential implementation information and development of testing facilities.

A specific early objective of the CIW is to define CPI-C extensions that allow programs: 1) to use more fully the services and protocol support of APPC and OSI TP, 2) to take advantage of distributed services such as transaction management, directory, and security, and 3) to use system services such as program-startup processing and context management in a coordinated way.

The widespread implementation and use of CPI-C will facilitate the development of distributed applications. The anticipated benefits of the CIW activities are:

- for the computing industry, an enhanced industry-standard API for development of distributed applications using the conversational model
- for CPI-C users, easier development of distributed applications, improved program portability, and increased programmer productivity
- for CPI-C implementers, products that are earlier to market, less costly to develop, and more closely conformant to the CPI-C architecture.

Chapter 2. CIW Operation

2.1 Overview

The CIW meets regularly to conduct business and to pursue its technical and non-technical objectives. The overall management of the CIW operation is provided by the CIW Chair. Technical activities are guided by the CIW Technical Plan. The CIW establishes Special Interest Groups (SIGs) to address work areas of interest to the CIW and to produce proposals for approval by the CIW. Approval is by consensus.

2.2 Participation and Membership

Participation in the CIW is open to any person that has an interest in CPI-C as implementer or user. A person participates in the CIW by contributing to the activities of the CIW, for example, by attending CIW meetings or taking part in the work of the SIGs. The CIW maintains a distribution list of participants; anyone may ask to be added to the distribution list by contacting the CIW Chair.

An organization or individual becomes a **CIW member** by signing the agreement governing intellectual property rights. (See “Preface” on page iii.) Only active CIW members have a voice in the determination of consensus on matters under consideration for approval by the CIW. A CIW member is **active** if it has been represented at one of the last two CIW meetings. A CIW member designates one representative as its spokesperson on matters of consensus.

2.3 CIW Meetings

The CIW conducts its business at regularly scheduled meetings. Four meetings are held each year in public locations. A meeting fee of $200 is charged for each individual that attends any portion of any CIW meeting.

The structure of a CIW meeting includes both plenary sessions of the CIW and working meetings of the SIGs. There is a concluding CIW plenary session to hear reports from the SIGs and to act upon requests for CIW approval.

2.4 CIW Chair and Editor

The CIW has a Chair and an Editor that are responsible for its operation.

2.4.1 CIW Chair

The reponsibilities of the Chair are to

conduct the business of the CIW

develop and maintain the Technical Plan, with the approval of the CIW

determine the CIW meeting schedule and venue

chair the CIW plenary sessions

declare whether CIW consensus exists on matters under consideration for approval

appoint SIG chairs

coordinate the work of the SIGs and the CIW to ensure that the objectives of the CIW Technical Plan are achieved

keep the CIW participants informed of the activities of the CIW.

The CIW Chair is appointed by IBM.

2.4.2 CIW Editor

The reponsibilities of the Editor are to

maintain the architecture of record

maintain the document library

publish the CPI-C architecture of record as indicated in the Technical Plan.

The CIW Editor is appointed by IBM.

2.5 Technical Plan

The technical goals of the CIW are set out in the Technical Plan. It describes the technical activities of the CIW, provides the schedule for their completion and approval by the CIW, and contains the schedule for publication of the CPI-C architecture. It is developed and maintained by the CIW Chair with the approval of the CIW.

The Technical Plan currently includes the items listed below. Others may be added to the Technical Plan as the need arises.

CPI-C Level 2 extensions

conformance classes for CPI-C Level 2

language bindings

CPI-C execution environment

2.6 Architecture of Record

The architecture of record is the official definition of CPI-C as maintained by the Editor. Changes are made to the architecture of record through the architecture approval process described in 2.8, “Architecture Approval” on page 2-3.

Before the CIW was created, the CPI-C architecture was published in the *SAA Common Programming Interface: Communications Reference*, SC26-4399. The initial architecture of record for the CIW was defined in a new publication, *Common Programming Interface Communications Specification*, SC31-6180, dated March 1993.

2.7 Approval Process

Approval generally occurs at regularly scheduled CIW plenary meetings and is by consensus among the active CIW members present at the meeting. A provision for approval of CPI-C extensions between CIW meetings is described below. Consensus is determined by the CIW Chair when there is little or no substantive objection to the proposal under consideration.

2.7.1 Matters Requiring Approval

The following is a list of matters requiring the approval of the CIW. Additional matters may be added as deemed necessary by the CIW Chair.

the Technical Plan

establishment of SIGs to address work areas of interest to the CIW

establishment of liaison relationships with other organizations

extensions to the CPI-C architecture

language bindings

conformance classes for CPI-C Level 2

the CPI-C execution environment

2.7.2 Approval Levels

The approval of CPI-C extensions is a more formal process than is required for other matters and is described below. The approval levels and the level of documentation required for other matters is determined on a case by case basis by the CIW Chair in consultation with the responsible SIG. However, the following levels are defined.

Approved Direction (AD): the approved document represents the CIW's direction.

Approved: the approved document has final CIW approval.

2.8 Architecture Approval

The architecture approval process governs the addition of extensions to the CPI-C architecure of record. In addition, CIW-established guidelines for extensions to CPI-C are listed in Appendix, “Guidelines for CPI-C Extensions” on page A-1.

No architecture extension is approved without its description in a written contribution to the CIW, a **submission**. Submissions to be considered for progression to the next level of approval must be available in the document library at least two weeks in advance of the CIW meeting at which the approval is to be requested, and the CIW must be notified at least two weeks in advance of the intent to request approval at that meeting.

2.8.1 Approval between Meetings

While typically CIW approval occurs at the CIW meetings, a SIG can request approval of a CPI-C extension between CIW meetings. Approval between meetings is granted if there is consensus among active CIW members as determined by the CIW Chair.

2.8.2 Approval Levels for CPI-C Extensions

CPI-C extensions under consideration for addition to the architecture of record progress through three levels of approval.

Approved Direction (AD): the approved submission represents the CIW's direction for addition of the new function to CPI-C.

Approved Pages (AP): the approved submission contains the CIW's approved specific changes to the architecture of record for the new function.

After AP is achieved, the editor incorporates the changes into the architecture document and makes the architecture document available to the CIW identifying the

changes. The updated architecture of record receives its last examination by the CIW.

Closed Pages (CP): the new function as incorporated into the architecture of record, with any subsequent modifications identified, has final CIW approval and becomes part of the architecture of record.

After CP is achieved, the Editor may make editorial (non-technical) changes to the document as required for publication. Such changes may include art work, minor wording changes for clarity, indexing, etc.

2.8.3 Submission Requirements

A submission is subject to the provisions of an agreement between IBM and the submitting member. The CIW does not accept submissions not covered by such an agreement. See 2.8.4, “Intellectual Property Rights in Submissions” on page 2-5 for a statement of intellectual property rights in submissions that applies to all CIW members.

To be considered for approval, a submission must contain information at a level of detail appropriate to the approval level requested. The specific requirements for each level are described below.

AD: the submission must contain

- requirements for the new function
- description of the solution, specifically the changes to CPI-C, including new or changed
  - terms and concepts
  - calls (description, parameters)
  - variables and characteristics
  - states
- rationale for the selected solution, including major alternatives considered but not selected

AP: the submission must contain a clear and complete specification of all necessary changes (text, figures, examples, tables, etc.) to the architecture of record. In addition to the materials required for AD, the following information is required:

- new or changed values of existing variables and characterstics
- mapping of the new function to APPC and OSI TP (or local function).
- relationship of the new function to the CPI-C execution environment, such as dependencies on and interaction with distributed or system services.

Changes to the pseudonym files are made after AP status is achieved, based on the information in the AP-level document.

CP: the architecture of record must be updated with the changes for the new function and be accompanied by a clear and complete description of any subsequent modifications to be applied.

2.8.4 Intellectual Property Rights in Submissions

2.8.4.1 Copyrights and Trade Secrets

As the CIW is a forum aimed at promoting CPI-C and extensions to CPI-C as industry standards, members must assume that material included in submissions will enter the public domain. Therefore, submissions must not include confidential materials or materials subject to copyright restrictions.

2.8.4.2 Trademarks

It seems unlikely that trademark issues are likely to arise in the course of consideration and use of submissions by the CIW, its members, or any other organization receiving the submission through the CIW or a CIW member. A CIW member making a submission must agree that it will not attempt to restrict consideration or use of the submission on any theory that such consideration or use is contrary to the member's trademark rights.

2.8.4.3 Patents

A submitter does not waive patent rights in inventions included in its submissions. However, it is expected to identify any known patents (its own or others) which would have to be taken into account in implementing the submission and/or to indicate whether it intends to seek patent protection on any invention included in the submission.

Where implementation of a submission may require license(s) under patent(s) of a CIW member, that member must offer to make such license(s) available under reasonable and non-discriminatory terms unless:

1. the submission originated with a party other than the patent owner; and
2. the patent owner expressly objected to adoption of the submission during its consideration by the CIW.

2.8.4.4 Proposals to Standards Organizations

Standards organizations, such as X/Open, may have legal criteria for consideration of proposals that are more stringent than the above. For example, X/Open's Procedures Manual obligates a submitter to provide an assurance that any person developing a product in accordance with X/Open's Portability Guide shall be immune from liability to the submitter in respect of the use by the developer or his customers of any submission material incorporated into the Portability Guide. The CIW Member must be prepared to accept requirements such as the above from standards organizations with whom the CIW elects to work. It is anticipated that any unusual requirements will be discussed during consideration of a submission in a SIG or plenary session.

2.9 Architecture Interpretation

In the event of the discovery during development of an ambiguity in the architecture, an implementer may request an interpretation by the CIW Chair. The CIW Chair will issue an interpretation, circulating it to the CIW. The requester of the interpretation may, if not satisfied with the decision, appeal the interpretation, in which case it will be considered at the next CIW meeting and a decision reached by consensus. An appeal must be made at least two weeks in advance of the CIW meeting at which the matter will be decided.

Chapter 3. Special Interest Groups

The CIW establishes Special Interest Groups (SIGs) to address work areas of interest to the CIW. For example, the SIG's work may be the definition of a CPI-C extension to meet a requirement for new CPI-C function or the definition of conformance classes. This section describes the operation of the SIGs.

3.1 Overview

3.1.1 Scope of Work

A SIG is established to address a particular work area. A statement of the SIG's scope of work is approved by the CIW.

3.1.2 Schedule

A schedule for completion of the SIG's work is established by agreement between the SIG and the CIW chair.

3.1.3 Responsibilities

It is the responsibility of the SIG to produce, on the agreed schedule, a documented proposal for CIW approval that addresses the SIG's work area. The SIG maintains responsibility through the approval process until final consensus is reached.

3.1.4 Output

Typically the output of the SIG is a document or set of documents describing the solution or proposed direction. The requirements for submissions for CPI-C extensions have been described above. For other matters, the required material to be described in the documentation is dependent on the matter being addressed. It is determined by the CIW Chair in consultation with the SIG.

3.2 Participation

Any person that has an interest in CPI-C may participate in the activities of a SIG. Participation includes contributing to E-Mail discussions, reviewing SIG proposals and documents, and attending SIG meetings. A representative of a CIW member may contribute submissions containing technical proposals.

3.3 SIG Meetings

Generally, SIGs hold work meetings during the CIW meetings; they may hold meetings at other times as required.

3.4 SIG Chair

The SIG chair is appointed by the CIW chair. The responsibilities of the SIG chair are listed below.

Prepare the statement of the SIG's scope of work for CIW approval and the schedule for the SIG's output and its approval by the CIW. This is by consultation with the SIG participants and with the CIW chair. The CIW chair should be informed of any changes to the SIG's schedules and objectives.

Manage the architecture process for the SIG. Ensure that the appropriate documentation is prepared. Arrange with the CIW chair the time needed on the CIW agenda for SIG meetings and for presentations to the CIW plenary. Report the SIG's progress to the CIW plenary. Inform the CIW Chair of intent to request approval of the SIG's output.

Chair the SIG meetings.

Achieve consensus within the SIG. Resolve issues. Report to the CIW any unresolved issues.

Manage the logistics of the SIG. Call SIG meetings as necessary. Keep the SIG informed of relevant information. Maintain the distribution list for the SIG. Put SIG documents in the document library.

3.5 Approval Process

The work within the SIG proceeds by consensus among participants. The SIG chair determines when consensus is reached.

Final approval of the SIG output is granted by the CIW.

3.6 Coordination with Other SIGs

The necessary coordination of the work of a SIG with the related work of other SIGs is the responsibility of the SIG chair and the CIW Chair.

Chapter 4. Liaison relationships

The CIW, recognizing that other organizations are pursuing related work or have an interest in the work of the CIW, will establish relationships with other organizations as needed.

With respect to the use of CPI-C as an API for access to OSI TP services, the following relationships have been established.

A liaison relationship with X/Open Company Ltd. for the definition of extensions to CPI-C for mapping to OSI TP.

A liaison relationship with the OSE Implementors' Workshop (OIW) for development of an API suitable for OSI TP implementations and users.

Chapter 5. Logistics

5.1 Communication Facilities

It is the intention of the CIW to use electronic means for communication and for conducting CIW business to the extent possible. Use of the following electronic facilities has been established.

Internet E-Mail will be used for

General CIW communications

Distribution of meeting notices and minutes

SIG communications.

The Internet File Transfer Program will be used for

Document distribution

Document library.

5.2 Documentation

The CIW Editor maintains a document library of materials contributed to the CIW. The documents may be obtained electronically.

5.2.1 CIW Documents

The CPI-C architecture of record is maintained by the Editor.

Electronic copies of contributed documents are stored in the document library. Maintenance of the document is the responsibility of the document owner, typically the person that contributed the document.

Appendix. Guidelines for CPI-C Extensions

The CIW recognizes that the addition of new function of the CPI-C architecture requires consensus among a variety of member companies whose interests may not be identical. In order to provide a basis for the development of consensus, the CIW has established the following guidelines for extensions to the CPI-C architecture.

Existing programs must continue to execute properly after new function has been added.

New function should have general applicability across platforms and environments.

The definition of multiple language bindings for CPI-C should be maintained.

CPI-C should be usable across multiple protocol stacks that provide sufficient protocol support. In particular, CPI-C will provide access to services of both APPC and OSI TP.

CPI-C should be implementable on multiple hardware/software platforms.

The addition of new function to CPI-C should be based on considerations of technical merit, including

- function
- ease of use
- efficiency
- implementability
- extendability.