

UnifiedPOS Administrative Process

UnifiedPOS Development Process

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1. ABSTRACT

This document specifies the mission, operational rules and procedures and organizational structure, of the Unified Point of Service initiative of the Association for Retail Technology Standards (ARTS).

2. INTRODUCTION

Unified Point of Service (UnifiedPOS) was established in 1999 to develop a single standard's based specification for OPOS and JavaPOS, two different implementations of POS (Point of Service) Terminal peripheral device drivers. UnifiedPOS is an API specification. This document describes the rules for participation, maintenance and review approval required to be recognized as a legitimate public standard.

2.1 Mission

The mission of UnifiedPOS is to create and maintain a standard API (Application Programming Interface) specification for developing hardware and connectivity software that enables devices from any manufacturer developed in conformance with the standard to operate in a consistent manner without application program modification. The Specification defines the API that is portable across compliant hardware implementations.

2.2 Scope

This document will define the operating procedures for the UnifiedPOS Technical Committee including the development process, the participants in the process and the work products that result from the execution of the process.

2.3 Administration:

ARTS will provide overall management and administrative and technical services to UnifiedPOS.

2.4 Outstanding Issues

1. None.

3. ORGANIZATION

3.1 Membership Rules

The Technical committee shall be composed of 12 representatives from ARTS member companies in good standing and OPOS-J and other OPOS, JavaPOS and/or other world-wide regional associations approved by the ARTS Board. Only one voting representative is allowed from any one company including subsidiaries. The number of Committee members may be expanded by vote of the ARTS Board of Directors. The initial Committee shall be comprised of Fujitsu Transaction Solutions, IBM, Microsoft, NCR, OPOS-J, Marconi, Seiko Epson, SUN Microsystems, Triversity and Wincor Nixdorf. Any committee member (company) that misses two of three consecutive meetings or whose company discontinues ARTS membership will be removed from the Technical Committee. Removal from the Technical Committee for any other reason must be initiated by the Chair or by a motion from a committee member and seconded by another committee member. The initiator must submit the reason for suggesting removal in writing to the Chair of the Technical Committee who will then notify the member in question of their impending removal. The member in question will be given the opportunity to address the reason for suggested removal with the Technical Committee. The Technical Committee will vote on removal of the member. The vote must be two thirds of the attending, non-abstaining committee members.

ARTS members may apply for membership on the Technical Committee by submitting a request to the Committee chair or the ARTS Executive Director. The request will be reviewed by the ARTS Board and if approved, returned to the Committee for confirmation by a majority vote. Requests not approved by the Board or the Technical Committee will be returned to the requester by the Executive Director. Guidelines for qualifications for representatives serving on the Committee include:

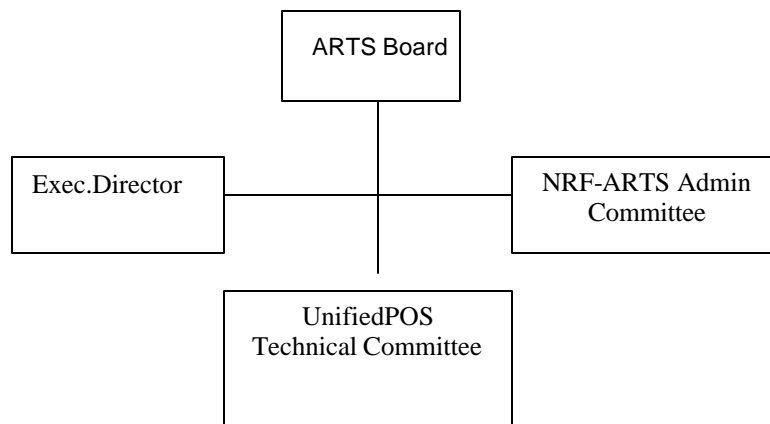
1. Retail systems design experience; working knowledge of POS hardware and software, engineering background.
2. Have access to the Internet and be able to commit at least 20 hours a month to UnifiedPOS.
- 3.

To accomplish the UnifiedPOS objectives the Technical Committee may create standing or temporary sub-committees. Membership on sub-committees is not restricted to Technical Committee members, but the ARTS membership requirement applies. Guests may participate in technical committee meetings but may not vote.

The Committee will elect a chair from its membership to schedule and conduct meetings, represent the Committee in Administrative and Board meetings, prepare minutes and create and monitor project schedules. The chair will serve for two years and may not serve two consecutive terms except by unanimous vote of the Committee with approval by the ARTS Board.

3.2 Organization Chart

The following chart depicts the UnifiedPOS organization:



3.3 ARTS Board

The ARTS Board provides industry guidance to the UnifiedPOS Technical Committee by establishing priorities for new devices and enhancements.

3.4 ARTS Executive Director

The Executive Director provides overall administration and coordination to the Technical committee by approving meeting schedules, preparing press releases, coordinating activities with ARTS chapters and presenting UnifiedPOS information to the ARTS Board.

3.5 Meeting Guidelines

Meetings of the UnifiedPOS Technical Committee are to accomplish tasks necessary to enhance and maintain the UnifiedPOS specification. Sub-committees and individual assignments are to be accomplished through conference call and the Internet as much as practical between meetings of the Technical Committee. The goal is to devote the majority of the Technical Committee meeting to setting direction and reviewing suggested additions and/or changes.

3.5.1 Scheduling and Venue

The following meeting guidelines are to be followed to encourage attendance: (Key word is guidelines)

- Meetings should be held quarterly (approximately).
- At each meeting the next meeting date and location will be confirmed and the subsequent meeting will be tentatively scheduled. In no case shall the next meeting be confirmed less than 6 weeks in advance.
- Meetings should avoid conflicts with retail industry events and other ARTS committee meetings.
- UnifiedPOS meetings normally will last a full two days dependent on workload. JavaPOS and/or OPOS meetings may be scheduled immediately before or after the UnifiedPOS meeting.
- Meetings should be scheduled to minimize the required travel time for all participants (for example, avoid Fridays for US West Coast meetings and Mondays for US East Coast meetings).
- Meetings should alternate locations between East Coast and West Coast or a mutually equidistant location with international meetings left to the discretion of the Committee.
- Member companies will be invited to host meetings of the Committee. No one company should host two meetings until all wishing to host, have been afforded the opportunity.
- Meetings should be held in cities with major airports, with ease of access from international and US cities.

3.5.2 Format

The standard agenda for Technical Committee meetings will be:

First day - the total Committee will meet to discuss new assignments or directions from the ARTS Board, review/resolve follow-ups from previous meeting, review documents and new material under consideration, and address issues from the Executive Director of ARTS or Sub-committees.

Second day will be devoted to working on enhancements or meetings of sub-committees as determined necessary to advance the standard. Technical Committee meetings are open to the public. Non-Committee members must be recognized by the meeting chair to participate in a meeting. The minutes of all Technical Committee meetings will be posted in the public section of the ARTS web site.

3.6 Voting Rules

The following voting rules apply to the Technical Committee and all Sub-committees.

Voting rights are granted to organizations upon the attendance of their representative at their second meeting within a span of three consecutive meetings or the completion of three consecutive months of active work participation on the Committee.

Organizations, companies and their subsidiaries may only have one vote within a sub-committee.

For the standard to be successful, it is important for many companies to be advocates for it. Normal meeting procedures will be to entertain discussion intended to reach consensus by making technical compromises as appropriate to gain wide support. Technical Committee unresolved issues may be decided by a 2/3 majority vote of the non-abstaining members of the committee in attendance at any meeting in which a quorum (**simple majority**) of the Technical Committee is present. Non-committee members may not vote on committee issues. Sub-committee issues will be decided by a simple majority

Matters of policy or approval of a work product for publication by the Technical Committee require all members of the committee be provided the opportunity to vote. These votes will be taken via email with a 14-day response deadline. Votes not received within 14 days will be considered affirmative votes in determining the 2/3 majority needed for approval.

4. UNIFIEDPOS DEVELOPMENT PROCESSES

The development of a new release of the specification must follow the following process.

4.1 Overview

The key development processes required to publish and maintain the UnifiedPOS Specifications are described in this section.

4.2 Responsibilities

The following chart summarizes the responsibilities of each committee/group/team associated with the UnifiedPOS development process:

<i>Organization</i>	<i>Inputs</i>	<i>Activities</i>	<i>Internal Output</i>	<i>External Output</i>
Administrative Committee	Requests for additions and changes from retailers and vendors Submissions for inclusion in UnifiedPOS standard.	Prioritize work Define releases Approve work products	Internal work plan Release schedule Meeting minutes / status / plan	Prioritized list Release Information
UnifiedPOS Technical Committee	Proposed enhancements from the public and ARTS Board. Comments from the public on drafts for future release.	Review proposals. Generate new content. Prepare modifications to the specification. Review all public comments and address.	Meeting minutes/status/plan UML diagrams and supporting narratives.	Revised specification.

4.3 In-Process Reviews

All deliverables that require review prior to a vote for publication must be reviewed by the indicated organization. Reviews must result in a review report that indicates the artifact (including version) that was reviewed, the parties that performed the review, the date of the review, issues raised by the reviewers, and the results of the review. The result of the review will be either:

- Approved: the deliverable may proceed to the next step in the process without modification.
- Approved with Recommended Rework: the deliverable may proceed to the next step in the process with the inclusion of the recommended corrections to conclude with a successful rework review.
- Rejected: the deliverable cannot proceed without rework to address the documented issues followed by another review.

Issues identified within the report must be numbered and include the page and section of the work product, the type of comment, reason that change is needed, and suggested change.

4.4 Technical Specification Development Process

4.4.1 Overview

This process is used by the Committee for development of new releases of the Specification.

4.4.2 Process Flow

The following summarizes the main process flow for creating a version of the UnifiedPOS specification:

Preconditions: The ARTS Board has reviewed proposed enhancements and or additions to the specification and suggested a scope for work for the next Release.

- The Executive Director will gather all suggestions for UnifiedPOS enhancements from the Website and/or other sources and call a meeting of the ARTS Board to review and document a proposed scope for the next Release.
- The ARTS Board will review and document a proposed scope.
- The ARTS Board will approve and pass to the Technical Committee.

- D. The Technical Committee will review the proposed scope and within 60 days draft a complete Scope Document to include: Narrative of the objective(s) for the new Release, reasons for modifying or rejecting any part of the proposed scope, list of any new devices to be added with brief description of the to be provided functionality, and a plan for completing the Release with schedule containing dates and person(s)/company/organization assigned to each task. **The ARTS Executive director, using technical committee meeting documentation, will help in the preparation of the Scope Document to meet the needs of the Board.** Within 30 days the Draft Scope will be approved as submitted or with modification.
- E. The Technical Committee will modify the schedule if required and proceed to create a Working Draft of the new Release. Sub-committees may be appointed to segment the work effort.
- F. The Working Draft version of the specification will be reviewed by email vote of the Technical Committee and if approved, updated to the status of Last Call Working Draft and submitted to the Executive Director for review and approval by the Board. Within 15 days the Last Call Working Draft will be approved or returned to the Technical Committee for modification. If major modifications are required, the process will be iterative.
- G. The approved Last Call Working Draft will be promoted to the status of Candidate Recommendation and be posted to the Public area of the ARTS Website for review and comments for a period of no less than 30 days.
- H. All comments are to be recorded and acknowledged by the Chair of the Technical Committee or his/her designee. Comments do not require action by the Committee except to acknowledge receipt.
- I. At the end of the comment period, all comments are to be considered by the Committee and a new version of the Specification is produced.
- J. When the Technical Committee approves, the new Version Specification is forwarded to the Board for approval.
- K. When the Board approves the new Version, it is posted to the public ARTS web site as the current Version.

4.4.3 Deliverables

The Technical Specification Development Process results in one or more Technical Specifications adhering to the rules defined in Section 4.5.2.

4.5 Technical Specification Submission Process

4.5.1 Overview;

The process for documenting and submitting recommended changes to the specification is documented on the ARTS web site in the UnifiedPOS section.

Go to www.nrf-arts.org, click on the UnifiedPOS red button on the left side, then Request a Change on the top row menu.

4.5.2 Technical Specifications

Technical Specifications are the output of the Technical Specification Development process. Technical Specifications must follow the document format indicated in the UnifiedPOS Document Template. See attachment

A. The content of a Technical Specification includes:

- Abstract of the architecture
- Chapters defining the operational model of the devices documented
- Appendices for specific platform / language implementations
- Revision history
- Referenced documents

4.6 Development Tools

All artifacts and deliverables must be published in a format usable by the majority of the membership base. To this end, the following tools are recommended for use in creating and maintaining deliverables:

Deliverable/Artifact	Format	Preferred Tool
Working Documents	Adobe .FM	Adobe Framemaker 7.0
Working UML Models	Rose .mdl	Rational Rose 2000
Externally Published Documents	.PDF	Adobe Acrobat 5.0 Adobe Framemaker 7.0

4.7 Work Product Posting Rules

All work products are to be posted on the ARTS web board at <http://nrfweb.nrf.com/>. Deliverables that have matured beyond the working draft status must also be posted on the public section of the ARTS web site for public comment. No deliverable may be posted on the public web site without approval from the Technical Committee.

5. REFERENCES

The Unified Modeling Language Reference Guide – Rumbaugh, Jacobson, and Booch

6. GLOSSARY

The following terms are used in this document and their intended definitions are given below.

Term	Definition
Application	An integrated grouping of one or more application units that provide a business service.
Class Diagram	A UML diagram used to illustrate the static relationships between classes of objects within a system.
Common Data	Standardized, reusable data definitions that may be use within context specific messages.
Device controls Control object	The control class provides the interface between the application and the service.
Device service Service object	The service provides the functionality to the device in response to calls from the control class for the device.
Event	An event is an asynchronous mechanism for a device to respond to the application.
JavaPOS	JavaPOS is a standard API for retail peripherals for Java applications and cross platform environments. It is one of the implementations of the UnifiedPOS standard.
Method	A method is an executable routine which performs the service to activate device function.
OPOS	A standard API for retail peripherals for Win32 applications. It is one of the implementations of the UnifiedPOS standard.
Services Loader	The services loader function finds and instantiates a device service for the request to open the device.
Property	A property is a data element that represents the characteristics or readable/settable options for a device.
UML	Unified Modeling Language. UML is a collection of interrelated standard notations for modeling organizations, processes, systems, objects and application behavior.

Attachment A:

Specification change requests:

UnifiedPOS Request for Modification Procedure November 16, 1999

UnifiedPOS is the architectural specification for OPOS and JavaPOS. By agreement of all parties, all new devices and their associated behavior must be defined within UnifiedPOS before they are implemented in OPOS or JavaPOS. This procedure will define the method to request, define and obtain approval for new devices and modifications to existing devices within the UnifiedPOS specification.

Requests are to be documented on the [attached form](#) and submitted to the ARTS Board. Additional documents may be submitted with the Form, including a complete OPOS, JavaPOS or UnifiedPOS specifications. Providing detail specifications will expedite the request process. Forms and examples of UnifiedPOS specification will be available on www.NRF-ARTS.org. Requests may be submitted directly to UnifiedPOS or forwarded through the respective OPOS or JavaPOS organizations for internal agreement before providing them to UnifiedPOS.

It is intended that the version levels of OPOS, JavaPOS and UnifiedPOS remain consistent. Accordingly, each year at the January NRF Annual Convention, a joint meeting of the Administrative and Technical Committees of UnifiedPOS will be convened to plan and schedule new versions for the year. The planned number of new versions, estimated release dates and new devices or functions to be included in each will be published to the industry. All requests approved by the ARTS Board will be assigned to a future version release. UnifiedPOS will determine contents, finalize documentation, prepare detailed specification, and announce availability of new releases.

The ARTS Executive Director will forward received requests the ARTS Board within 3 working days for review. The Chairman may ask that the UnifiedPOS Technical Committee review the request. The originator of the request will be contacted within 10 working days for more information or be notified of the disposition of their request.

Potential dispositions are:

- Accepted and distributed to the Committee for comments/approval.
- Accepted but additional documentation required.
- Rejected for the reasons documented.

All accepted requests will be posted to the "Open Requests" section of the UnifiedPOS area of the NRF-ARTS.org web site to permit progress tracking by any concerned party. Requests will remain in the "Open Requests" area until concluded, along with the then appropriate status indication. Status conditions, which describe the flow of this procedure, are:

- Accepted, not distributed pending additional information from requestor.
- Accepted and distributed to the ARTS Board for review.
- Approved and priority assigned by the ARTS Board and forwarded to the Technical Committee for documentation.
- Rejected by the ARTS Board or Retracted by the submitter and the request closed.
- Documentation completed and distributed to the Technical Committee for review.
- Review completed and Specification being updated.
- Updated Specification distributed to OPOS and JavaPOS for implementation.
- Implemented in OPOS.
- Implemented in JavaPOS.
- Request Completed.

Timeframes, **expressed in working days**, will be assigned to the above steps to ensure timely action. Most work will be accomplished via the web. NRF-ARTS.org will assign special access to UnifiedPOS to allow collaborative processing.

Accepted, not distributed pending additional information from requestor.

This status indicates that the Administrative and Technical Committee chairmen have accepted the request as a potential update to the Specification but require additional information from the requestor to confirm acceptance and assign a priority. **The requestor will be given 10 days to provide the additional information.**

Accepted and distributed to the ARTS Board for review.

This status indicates that the request is properly documented and has been circulated to the ARTS Board for comments, suggested modification, approval and assigning a priority for inclusion into the Specification. Priorities will be assigned by allocating the request to planned release. **The Committee will be given 15 days to reply; no reply from a Committee member to the Chair concerning the request will be considered a vote for approval from that committee member.**

Rejected by the ARTS Board and request closed.

This status indicates that the ARTS Board has rejected the request because of duplication, being outside the scope of UnifiedPOS, or other comparable reasons. **The requestor will be given the opportunity to provide new information and re-initiate the request.**

Approved and priority assigned by the ARTS Board and forwarded to the Technical Committee for documentation.

This status indicates that the ARTS Board has approved the request and sent it to the Technical Committee to document in the standard format. New devices will always require complete documentation. Modification requests will require new documentation if inclusion into the UnifiedPOS specification requires changes to the existing UML. The Technical Committee is composed of representatives from both OPOS and JavaPOS. The request will be assigned as appropriate to ensure equal understanding by both implementations. The Technical Committee will be given 15 days to prepare a work plan for completing the documentation. **The time required will vary by the complexity of the request and the documentation provided.**

Documentation completed and distributed to the Technical Committee for review.

This status indicates that the assignee of the Technical Committee has completed the standard documentation and has distributed it to the Committee for review. These reviews will normally be accomplished in meetings but can be accomplished via the web if time requirements do not permit a meeting. **If a Committee meeting is not scheduled within the next 45 days, 15 days will be allotted to complete the review.**

Review completed and Specification being updated.

This status indicates that the Technical Committee has approved the documentation and it has been assigned for incorporation into the Specification. **The ARTS/NRF staff will be given 15 days receive the final specification from the Technical Committee representative, post the update to the website and distribute as required.**

Updated Specification distributed to OPOS and JavaPOS for implementation.

This status indicates that the UnifiedPOS ARTS Board has approved the new release of the Standard and distributed the specification to OPOS and Java POS for implementation. **There is no time specified for completion of this task.**

Specified in OPOS.

When notified by the OPOS Core Team, ARTS will post availability of the new release to their web site

Specified in JavaPOS.

When notified by the JavaPOS Technical Committee, ARTS will post availability of the new release to their web site.

Attachment B:

UnifiedPOS Document Template sample: