

The ILL Protocol Standard: Interlibrary Loan in an Open Networked Environment

IFLA Conference Session 100: September 2, 1997, 9:00 - 11:40

AGENDA

- 9:00-9:10 Welcome and Introductions - Fay Turner
- 9:10-9:50 Overview of the ILL Protocol Standard - Fay Turner
- 9:50-10:30 Overview of North American Activities - Mary Jackson
- 10:30-10:45 Break
- 10:45-11:15 Overview of European and Australian Activities -
Ruth Moulton
- 11:15-11:40 The Application of the ILL Protocol to Existing ILL
Scenarios - Mary Jackson

THE INTERLIBRARY LOAN PROTOCOL STANDARD

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WHAT IS THE ILL PROTOCOL?

- INTERNATIONAL STANDARD FOR INTERLIBRARY LOAN (ILL) COMMUNICATIONS
- APPROVED IN 1991
- 1st EDITION:1993, 2nd EDITION: 1997
 - » ISO 10160: SERVICE DEFINITION
 - » ISO 10161-1: PROTOCOL SPECIFICATION

WHY WAS IT DEVELOPED?

- TO OVERCOME THE BARRIER TO ILL COMMUNICATIONS
 - PROLIFERATION OF INCOMPATIBLE ILL SYSTEMS: DIFFERENT MESSAGE SETS AND MESSAGE FORMATS
 - » PROTOCOL STANDARDIZES MESSAGE SET AND MESSAGE FORMAT
 - » PERMITS COMMUNICATION BETWEEN SYSTEMS THAT USE DIFFERENT HARDWARE AND SOFTWARE

WHY WAS IT DEVELOPED?

- TO FACILITATE ILL AUTOMATION
 - MANUAL RECORDING, PROCESSING AND TRACKING CUMBERSOME AND TIME CONSUMING
 - » PROTOCOL PROVIDES BASIS FOR AUTOMATING ILL REQUESTING, SUPPLYING, AND TRACKING

WHY WAS IT DEVELOPED?

- TO SUPPORT RESOURCE SHARING

- » ILL A BUILDING BLOCK FOR RESOURCE SHARING

- » PROTOCOL OFFERS STANDARDIZED ILL COMMUNICATIONS ACROSS BOUNDARIES

ILL PROTOCOL

- STANDARDIZES FOUR ASPECTS OF ILL COMMUNICATIONS:
 1. NUMBER AND TYPE OF MESSAGES
 2. DATA ELEMENTS WITHIN THE MESSAGES
 3. CORRECT SEQUENCE FOR THE COMMUNICATION OF MESSAGES
 4. TRANSFER SYNTAX

ILL PROTOCOL ROLES

- PROTOCOL SPECIFIES THE BEHAVIOUR OF SYSTEMS, NOT END-USERS
- SYSTEM ROLES:
 - » REQUESTER (BORROWING LIBRARY)
 - » RESPONDER (LENDER)
 - » INTERMEDIARY (REQUESTER & RESPONDER)

ILL SERVICES

- DEFINES A FULL SUITE OF SERVICES FOR ALL STAGES OF AN ILL TRANSACTION
 - » 21 SERVICES: MANDATORY OR OPTIONAL
 - » MESSAGES (APDU_s): MANDATORY OR OPTIONAL

REQUESTER SERVICES

ILL-REQUEST (*loan,
location, copy, estimate,
responder-specific*)

CONDITIONAL -
REPLY

CANCEL

RECEIVED

RENEW

RETURNED

STATUS-QUERY
STATUS-OR-
ERROR-REPORT
LOST

DAMAGED
MESSAGE

RESPONDER SERVICES

FORWARD
FORWARD-
NOTIFICATION,
CANCEL-REPLY
SHIPPED

ILL-ANSWER
*(conditional, retry,
unfilled, locations-
provided, will supply,
hold placed, estimate)*

RENEW ANSWER
RECALL

OVERDUE
CHECKED-IN
STATUS-QUERY
STATUS-OR-
ERROR-REPORT
LOST

DAMAGED
MESSAGE

DATA ELEMENTS

- SPECIFIES DATA ELEMENTS WITHIN EACH SERVICE/MESSAGE

ILL-REQUEST:

TRANSACTION ID, REQUESTER ID, RESPONDER ID, CLIENT ID, DELIVERY & BILLING ADDRESSES, EXPIRY AND NEEDED BY DATES, MEDIUM TYPE DESIRED, COST INFO, COPYRIGHT COMPLIANCE, PERMISSIONS

AUTHOR, TITLE, SUBTITLE, PLACE OF PUBLICATION, PUBLISHER, SERIES TITLE AND NUMBER, EDITION, VOLUME, ARTICLE TITLE, ARTICLE AUTHOR, ISSN, ISBN, SYSTEM NO., CALL NUMBER, ADDITIONAL NUMBERS

TRANSACTION STATES

- **PROTOCOL STATE ASSOCIATED WITH EACH SERVICE/MESSAGE**
 - e.g. requester has sent request: PENDING state
 - responder has shipped doc.: SHIPPED state
 - requester has received doc.: RECEIVED state
- » **CONTROLS CORRECT SEQUENCE OF EVENTS: STATE MACHINE**
- » **PROVIDES TRACKING INFORMATION**

TRANSFER SYNTAX

- ENCODING OF MESSAGE TO PERMIT COMPUTER PROCESSING OF THE DATA
 - » ASN.1 BASIC ENCODING RULES (BER)
 - » EDIFACT

MANAGEMENT INFORMATION

- FACILITATES PROVISION OF ILL MANAGEMENT INFO:
 - » REQUESTER, RESPONDER, MESSAGE TYPE, DATE OF MESSAGE, TRANS. ID, STATE OF TRANSACTION, ETC.
 - » ITEMS REQUESTED AND SUPPLIED, CLIENTS, BORROWERS, SUPPLIERS, RESPONSE TIME, SUCCESS RATE, COSTS, ETC.

NETWORKING MODELS SUPPORTED

- SIMPLE TRANSACTION

- » 2 PARTIES

- PATRON TO LIBRARY, LIBRARY TO LIBRARY, LIBRARY TO SUPPLIERS
- FORWARDING

- CHAINED TRANSACTION

- » 3 OR MORE PARTIES

- ALL MESSAGES PASS THROUGH AN INTERMEDIARY

NETWORKING MODELS SUPPORTED

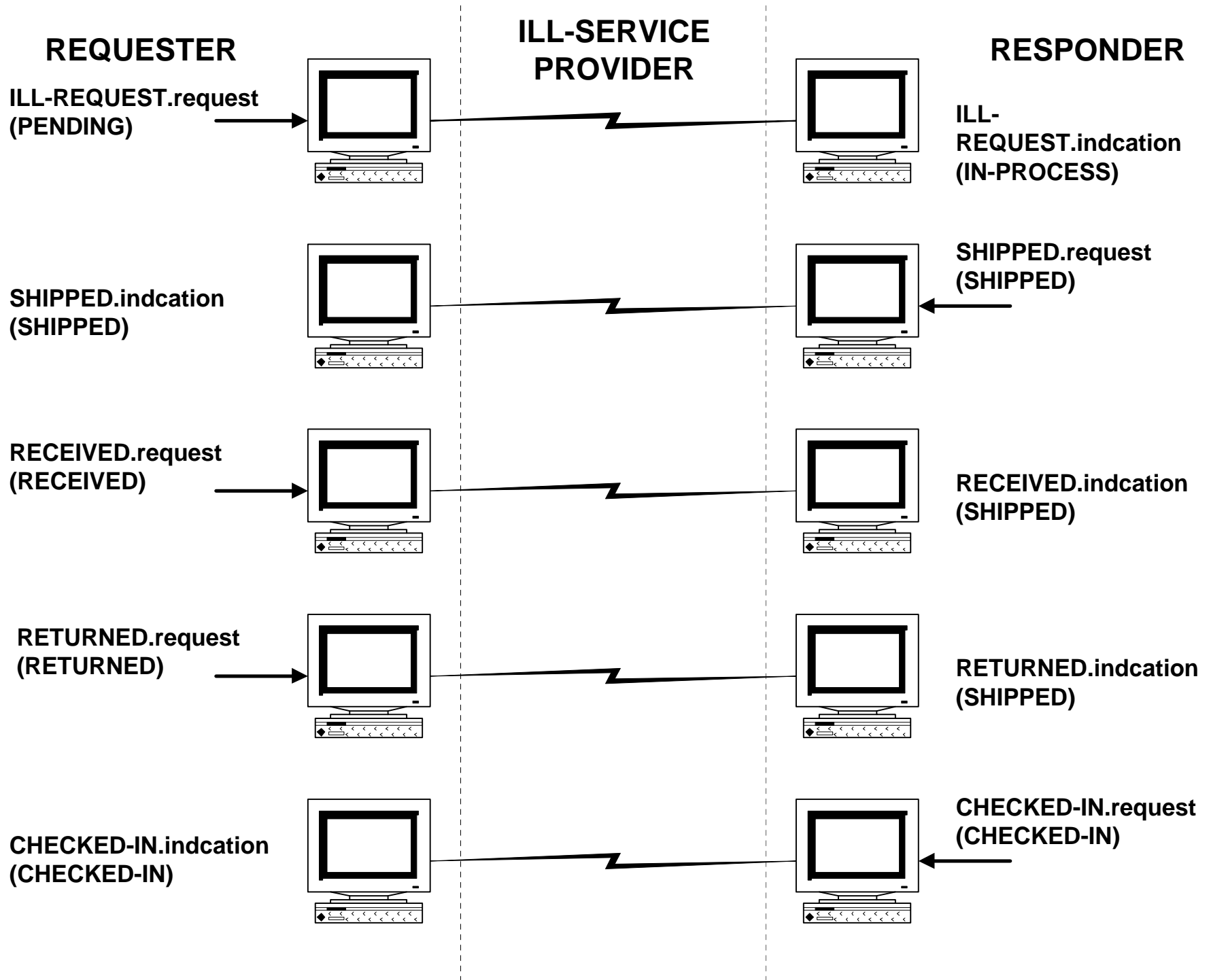
- PARTITIONED TRANSACTIONS

- » 3 OR MORE PARTIES

- ALL MESSAGES LEADING TO THE SUPPLY OF ITEM PASS THROUGH INTERMEDIARY
- TRACKING MESSAGES PASS BETWEEN REQUESTER AND SUPPLIER

HOW DOES THE PROTOCOL WORK?

- SERVICES ACTIVATED IN LOCAL SYSTEM
- MESSAGE MAY OR MAY NOT BE SENT
- STATE OF TRANSACTION UPDATED
- TERMINAL STATES: e.g. RECEIVED, RETURNED, SHIPPED, CHECKED-IN, NOT-SUPPLIED, CANCELLED, LOST

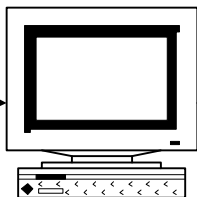
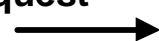


REQUESTER

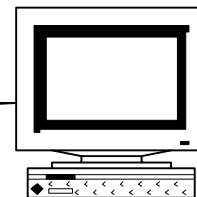
ILL-SERVICE PROVIDER

RESPONDER

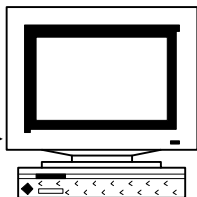
**ILL-REQUEST.request
(PENDING)**



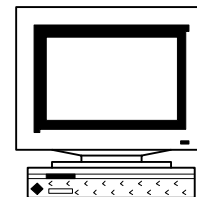
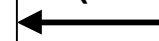
**ILL-REQUEST.indication
(IN-PROCESS)**



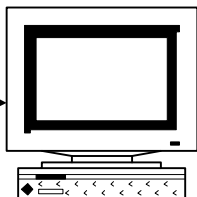
**RECEIVED.request
(RECEIVED)**



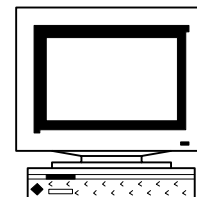
**SHIPPED.request
(SHIPPED)**



**RETURNED.request
(RETURNED)**



**CHECKED-IN.request
(CHECKED-IN)**



BENEFITS TO LIBRARIES

- ENABLES ILL SYSTEMS TO COMMUNICATE REGARDLESS OF HARDWARE OR SOFTWARE
- SUPPORTS LOCAL MANAGEMENT AND TRACKING OF INCOMING AND OUTGOING ILL REQUESTS

BENEFITS TO LIBRARIES

- PROVIDES FOUNDATION FOR DEVELOPMENT OF AUTOMATED SYSTEMS
- ENSURES THAT A COMMUNITY OF USERS SHARE A COMMON SET OF MESSAGES AND DATA ELEMENTS

IMPLEMENTATIONS

- CANADA (1987 -)
 - » NATIONAL LIBRARY OF CANADA
 - » UNIVERSITÉ DU QUÉBEC
 - » AVISO and INTERLEND
- EUROPE
 - » ION PROJECT: NETHERLANDS, UK, FRANCE (1992)
 - » GERMANY, IRELAND

IMPLEMENTATIONS

- UNITED STATES
 - » TRIANGLE RESEARCH LIBRARY NETWORK (1993 -)

- ILL PROTOCOL IMPLEMENTORS GROUP (IPIG) (1995 -)
 - » 40 ORGANIZATIONS, 10 COUNTRIES

WEB RESOURCES

- ILL APPLICATION STANDARDS
MAINTENANCE AGENCY

- » <http://www.nlc-bnc.ca/iso/ill/>

- ILL PROTOCOL IMPLEMENTORS
GROUP

- » <http://arl.cni.org/access/naildd/ipighome.html>