



Book Industry Study Group

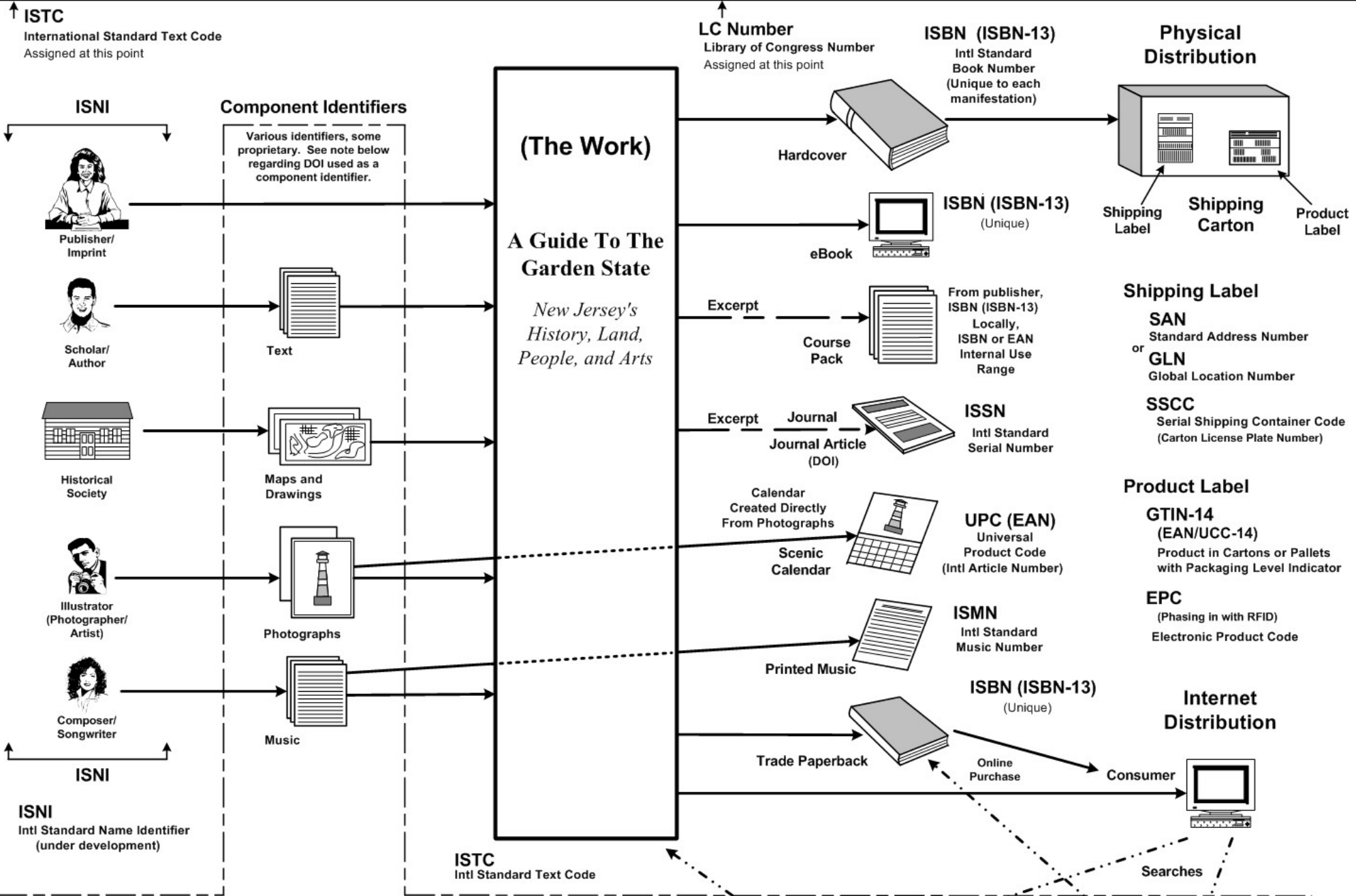
ROADMAP OF IDENTIFIERS

INCLUDING AN EXPLANATION OF IDENTIFIERS

Version 2.4 | May 2007

Developed as an educational tool portraying the relationships between key identifiers used by the book industry, this Roadmap provides a graphic presentation of the various identifiers as they are assigned to the spectrum of intellectual properties – digital, physical and abstract.

**This document is complementary to, and should be viewed with,
[BISG's Roadmap of Organizational Relationships.](#)**



Various identifiers are assigned to the spectrum of intellectual properties (digital, physical, abstract). Some of these identifiers are widely accepted standards (e.g., ISBN); some are proprietary or even internal. DOI provides a means to resolve all these identifiers as URLs for internet access. In cases where no other identifier is available, a DOI can be assigned directly to an entity for internet access.

ISTC: [0A920021223F3320](http://dx.doi.org/10.1000/0A920021223F3320)
DOI: [10.1000/0A920021223F3320](http://dx.doi.org/10.1000/0A920021223F3320)

ISBN: [0-87854-863-X](http://dx.doi.org/10.1000/0-87854-863-X)
DOI: [10.1000/0-87854-863-X](http://dx.doi.org/10.1000/0-87854-863-X)

The ISTC is made actionable (able to be located via the Internet) by assigning a DOI that encompasses it. The consumer locates the work via a search enabled by the DOI.

The ISBN is made actionable by assigning a DOI encompassing it. The consumer locates the desired manifestation of the work (Trade Paperback) via a search enabled by the DOI.

Book Industry Study Group (BISG) – Roadmap of Identifiers

Explanation of Identifiers

Version 2.4

Introduction

The creation and assembly of textual works can involve a number of creators or contributors and a number of created elements.

In a similar way, the distribution of these works can involve a variety of manifestations and distribution methods.

Over the past few decades, identifiers have been defined to allow consistent reference to these contributors, elements, manifestations, and distribution processes. It is increasingly useful to establish linkages between these identifiers where there are relationships that can be exploited, either commercially or for intellectual benefit.

The various identifiers shown on the accompanying graphic differ in nature depending both on their function and origin. As a group, though, they enable, or potentially enable establishment of the linkages.

The administration of the identifiers differs also. In some cases, each individual identifier is assigned or registered by the indicated agency. In other cases, the agency assigns unique prefixes or ranges and the using community manages the specific identifiers.

DOI – Digital Object Identifier

A Higher Level Identifier

Purpose

Identifies “objects” of intellectual property of any kind; it is a digital identifier of objects, not an identifier of digital objects only

Serves a dual role:

First, provides Internet resolution for identifier strings of any kind, making actionable for Internet search existing identifiers of elements or objectives

Second, a DOI may be assigned directly to any entity, thereby making that entity actionable (searchable) for Internet purposes

Managing/Registering Agency

Several registering agencies under the auspices of the DOI Foundation, a not-for-profit organization that supports the needs of the intellectual property community in the digital environment

URL:

<http://www.doi.org/>

Commercial Opportunities

Makes any other identifier actionable (searchable) via the Internet

Could provide links to different works by the same creator through a Party Identifier (if implemented) associated with the DOI

Can provide Internet resolution for any string

Influences search engine results through volume of links

Provides a mechanism for keeping links fresh by shielding queries from URL changes

Provides a means for assembling original and subsequent products from intellectual property objects

EAN – International Article Number

A Manifestation Identifier

Purpose

Identifies a specific product, though not a specific unit of that product

Is a 13-digit identifier (EAN-13), though some occurrences or formats can be expressed with fewer digits (See Comments)

Managing/Registering Agency

GS1 Internationally; GS1 US manages EAN/UPC in the United States

URL:

<http://barcodes.gs1us.org/Default.aspx?tabid=81>

Click on: Global Trade Item Number (GTIN)

Commercial opportunities

Provides a unique product identifier for standardized processing throughout the supply chain

Enables global capture of point of sale data

Is a member of the GTIN family and can be expressed in 14-digit format

Comments

Provides UPC inclusion by reserving identifier numbers with the leading digit ‘0’ for UPC

Provides ISBN-13 inclusion by reserving identifier numbers with leading digits ‘978’ and ‘979’ (979-0 is reserved for printed music, see ISMN)

Provides a shorter visible number for small products in the compressed form of EAN-8

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EPC – Electronic Product Code

A Manifestation Identifier

Purpose

Identifies a specific product, and can identify a specific unit of that product as well

Also identifies packaging level and a specific package (see Distribution Identifiers)

Managing/Registering Agency

EPC Global, Inc.

URL:

<http://www.epcglobalus.org/>

Commercial opportunities

Enables processing and individual tracking of a specific unit all through the supply chain

Enables unit tracking of high ticket items

Comment

Privacy issues are a paramount factor in the possible application of EPC to specific copies of books or other intellectual property

GLN – Global Location number

A Distribution Identifier

Purpose

Identifies a specific physical location, legal entity, or functional entity

Managing/Registering Agency

GS1 Internationally; GS1 US manages specification and promotion of GLN in the United States

URL:

<http://barcodes.gs1us.org/Default.aspx?tabid=81>

Click on: Global Location Number (GLN)

Commercial Opportunities

Provides identification of physical and mailing addresses (street addresses, dock doors, and Post Office boxes)

Also provides identification of corporate entities independent of their address, corporate divisions, ledger accounts, internal departments, or any other identifiable entity

Provides an efficient standardized system of identifying locations or entities globally

Is widely used to identify locations, including book industry locations, outside the US

Comment

The GLN is very powerful, since each individual GLN is assigned by an organization building on their own GS1 Company Prefix.

As a result, GLNs can identify any entity pertinent to an organization's existence or operation

GTIN – Global Trade Item Number

A Manifestation Identifier

Purpose

Encompasses a family of identifiers, all unique and all expressible in a 14-digit field

Identifies (through family members) a specific product or the packaging level of a product, but not a specific unit or a specific package

Managing/Registering Agency

GS1 Internationally; GS1 US manages specification and promotion of GTIN in the United States

URL:

<http://barcodes.gs1us.org/Default.aspx?tabid=81>

Click on: Global Trade Item Number (GTIN)

Commercial Opportunities

Provides a standardized system of identifying products or packaging levels of products

Enables efficient and standardized processing throughout the global supply chain

Comment

UPC, EAN -13, and GTIN-14 are all members of the GTIN family

The GTIN-14 (formerly EAN/UCC-14) identifies the packaging level (unit, carton, pallet) of products

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IPI – Interested Party Identifier A Creator (Contributor) Identifier

Purpose

Identifies individually the author, artist, or rights holder of a specific element of music

Managing/Registering Agency

Nearly 100 agencies in a proprietary arrangement under the auspices of the International Confederation of Societies of Authors and Composers (CISAC)

URL:

<http://www.cisac.org/>

Enter 'IPI' in the search provided and on the results list click on:

CIS: Common Tools
or

CIS Tools: Visual, Plastic and Graphic Domain

Commercial Opportunities

Provides identification for royalty funds transfers and rights determination

ISBN – Intl Standard Book Number A Manifestation Identifier

Purpose

Identifies a specific physical manifestation of the book, though not a specific unit of the book

Managing/Registering Agency

International and national ISBN Agencies; RR Bowker manages the US ISBN Agency

URL:

<http://www.isbn.org/standards/home/isbn/us/>

Commercial opportunities

Provides a unique product identifier for books

Enables standardized processing for book distribution and bookselling worldwide

By encapsulation in the Bookland EAN or transition to ISBN-13, enables standardized processing throughout the global supply chain

Enables capture of point of sale data

Comment

The ISBN, for nearly four decades a 10-digit identifier, becomes a 13-digit identifier and fully compatible with EAN-13 in January 2007 (see Comments under EAN).

ISMN – Intl Standard Music Number A Manifestation Identifier

Purpose

Identifies all international printed music publications, whether available for sale, hire or free

Managing/Registering Agency

International and national ISMN Agencies; RR Bowker manages the US ISMN Agency

URL:

<http://www.ismn-international.org/>

Commercial Opportunities

Provides a unique product identifier for printed music

Enables standardized processing for distribution and sale of printed music worldwide

By encapsulation in the EAN, the ISMN enables standardized processing throughout the global supply chain

For representation as an EAN, the ISMN prefix of 'M' is replaced by '979-0' and the check digit is recalculated

Enables capture of point of sale data

The ISMN is not used for sound, audiotapes, CDs, video recordings or for books on music

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ISNI – Intl Standard Name Identifier

(Formerly known as ISPI - In Development)

A Creator (Contributor) Identifier

Purpose

Will enable more efficient identification and administration of parties involved in the intellectual property chain across media worldwide.

May include authors, illustrators, artists, editors, publishers, collecting agencies, community groups, service organizations, etc.

Managing/Registering Agency

A consortium to manage the ISNI will be formed as a part of the development process of the ISNI

Expected to incorporate and build upon the foundation established by the IPI

URL:

<http://www.collectionscanada.ca/iso/tc46sc9/wg6/sc9wg6n1.pdf>

Commercial Opportunities

Will provide unique identification for natural and corporate parties in databases and other sources and will support the exchange of information between organizations dealing with them.

Will provide a means of distinguishing between parties with similar or even identical names

Will also provide a means of linking to the same party operating under different names (e.g., pseudonyms, d/b/a's, etc.)

ISSN – Intl Standard Serial Number

A Manifestation Identifier

Purpose

Identifies periodical publications, including electronic serials

Managing/Registering Agency

National Serials Data Program (NSDP) of the Library of Congress; internationally, there are 76 national centers coordinated by the International Centre in Paris

URL:

<http://www.issn.org/>

Commercial Opportunities

Provides a unique product identifier for serial publications

Enables standardized processing throughout the supply chain

Enables global capture of point of sale data and inventory management

ISTC – Intl Standard Text Code

An Assembly Identifier

Purpose

Identifies uniquely a textual work

Managing/Registering Agency

A consortium consisting of RR Bowker, Nielsen BookData, and CISAC (see IPI) has been formed to serve as the registration authority

URL:

<http://www.collectionscanada.ca/iso/tc46sc9/wq3.htm>

Commercial Opportunities

Provides an unambiguous connector to information about the work in different internal and external databases

Enables linkage to the objects and creators of the objects that comprise the work, and through these linkages to other objects and works

Enables linkage to various manifestations of the work

Facilitates royalty fund transfers

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LC Number – Library of Congress Number

An Assembly Identifier

Purpose

Identifies the catalog record created for a book by the Library of Congress

Managing/Registering Agency

Library of Congress

URL:

<http://www.loc.gov/catdir/>

Commercial Opportunities

Provides a key to databases of library catalog records

SAN – Standard Address Number A Distribution Identifier

Purpose

Identifies a specific US Book Industry physical location (including Post Office boxes)

Managing/Registering Agency

The SAN Agency assigns individual SANs on request. R R Bowker manages the SAN Agency.

URL:

<http://www.isbn.org/standards/home/isbn/us/san/>

Commercial Opportunities

Provides a unique and standard identifier for all physical addresses in the US book industry

Comment

Unlike ISBN or GLN, SANs are not assigned by the using organization under an issued prefix; thus the breadth of SAN application tends to be limited

SSCC – Serial Shipping Container Code

A Distribution Identifier

Purpose

Identifies a specific shipping container and relates it to the Advance Ship Notice sent via EDI (container includes pallets and cartons as well as other forms of enclosing shipments)

Managing/Registering Agency

GS1 Internationally; GS1 US manages specification and promotion of SSCC in the United States

URL:

<http://barcodes.gs1us.org/Default.aspx?tabid=81>

Click on: Serial Shipping Container Code (SSCC/Logistic units)

Commercial Opportunities

Provides unique identification of a specific individual container and enables associating an electronic packing list with the container

Enables standardized processing and individual tracking throughout the global supply chain

Comment

Often referred to as “License Plate Number” since it is analogous to the license plate on a motor vehicle in identifying a specific container

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UPC – Universal Product Code

A Manifestation Identifier

Purpose

Identifies a specific product, though not a specific unit of that product

Managing/Registering Agency

GS1 US

URL:

<http://barcodes.gs1us.org/Default.aspx?tabid=81>

Click on: Global Trade Item Number (GTIN)

Commercial opportunities

Unique product identifier for general retailing in the US and Canada over the past three decades

Enables standardized processing throughout the supply chain

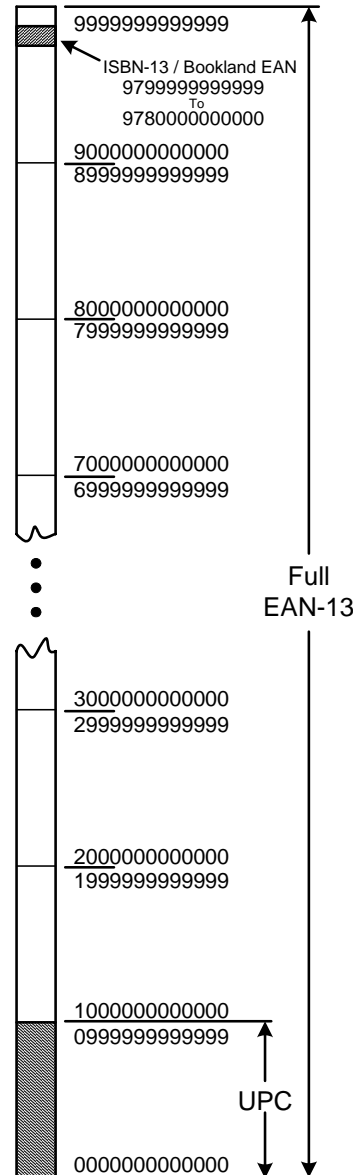
Enables capture of point of sale data

Comment

The UPC is included in the EAN identifier system by prefixing the UPC with '0'. The range of EAN identifiers with the leading digit '0' is reserved for UPC

The UPC is a member of the GTIN family and can be expressed in 14-digit format

Product Identifier Relationships



Notes:

The full theoretical numerical range of the International Article Number (EAN) is from 0000000000000 to 9999999999999.

Sub ranges of varying size are assigned to participating countries.

By virtue of its originating role, the UPC is assigned identifiers in the range from 0000000000000 to 0999999999999, or the lower 10% of the EAN range.

The Bookland prefixes are '978' and '979', so the Bookland EAN, and thus the ISBN-13, is assigned identifiers in the range from 9780000000000 to 9799999999999 with the exception below.

The International Standard Music Number (ISMN) is assigned identifiers in the range from 9790000000000 to 9790999999999 when the ISMN is represented as an EAN (in a bar code).