(DOI®)

The Digital Object Identifier (DOI®) System is for identifying content objects in the digital environment. DOI® names are assigned to any entity for use on digital networks. They are used to provide current information, including where they (or information about them) can be found on the Internet. Information about a digital object may change over time, including where to find it, but its DOI name will not change.

The DOI System provides a framework for persistent identification, managing intellectual content, managing metadata, linking customers with content suppliers, facilitating electronic commerce, and enabling automated management of media. DOI names can be used for any form of management of any data, whether commercial or non-commercial. The DOI System is an ISO International Standard.

The system is managed by the International DOI Foundation, an open membership consortium including both commercial and non-commercial partners. Over 50 million DOI names have been assigned by DOI System Registration Agencies in the US, Australasia, and Europe.

Using DOI names as identifiers makes managing intellectual property in a networked environment much easier and more convenient, and allows the construction of automated services and transactions.

To learn more about DOI names, see the Overviews, and begin with the Introductory Overview and Introductory Slide Presentation. The Factsheets, including the most recent, "Managing Data Relationships Using DOI Resolution" and "DOI System and Standard Identifier Schemes" discuss key topics about the system. For the most complete description of all aspects of DOI System technology and policy, consult the DOI® Handbook.

A **digital object identifier** (**DOI**) is a [character string](#) (a "digital identifier") used to uniquely identify an object such as an [electronic document](#). [Metadata](#) about the object is stored in association with the DOI name and this metadata may include a location, such as a [URL](#), where the object can be found. The DOI for a document is permanent, whereas its location and other metadata may change. Referring to an online document by its DOI provides more stable linking than simply referring to it by its URL, because if its URL changes, the publisher need only update the metadata for the DOI to link to the new URL.[1][2][3] However, unlike URLs, the DOI system is not open to all comers; only organizations that can meet the contractual obligations of the DOI system and that are willing to pay to become a member of the system can assign DOIs.[4] The DOI system is implemented through a federation of registration agencies coordinated by the International DOI Foundation,[5] which developed and controls the system. The DOI system has been developed and implemented in a range of publishing applications since 2000; by late April 2011 more than 50 million DOI names had been assigned by some 4,000 organizations.[6]

DOI names

A DOI name takes the form of a [character string](#) divided into two parts: a prefix and a suffix. The prefix identifies the registrant of the name, and the suffix is chosen by the registrant and identifies the specific object associated with that DOI. Most legal [Unicode](#) characters are allowed in these strings, which are interpreted in a [case-insensitive](#) manner. For example, in the DOI name `10.1000/182`, the prefix is `10.1000` and the suffix is `182`. The "10." part of the prefix identifies the DOI registry,[7] and the characters `1000` in the prefix identify the registrant; in this case the registrant is the International DOI Foundation itself. `182` is the suffix, or item ID, identifying a single object (in this case, the latest version of the *DOI Handbook*). Citations using DOI names should be printed as `doi:10.1000/182`. When the citation is a hypertext link, it is recommended to embed the link as a [URL](#) by [concatenating](#) "http://dx.doi.org/" to the DOI name, omitting its "doi:" prefix; e.g., the DOI name `doi:10.1000/182` is linked as http://dx.doi.org/10.1000/182. This URL provides the location of an [HTTP proxy](#) server which will redirect web accesses to the correct online location of the linked item.[4][8] DOI names can identify creative works (such as texts, images, audio or video items, and software) in both electronic and physical forms, [performances](#), and abstract works[9] such as licenses,

parties to a transaction, etc. They can be applied to objects at varying levels of detail: DOI names can identify a journal, an individual issue of a journal, an individual article in the journal, or a single table in that article. The choice of level of detail is left to the assigner, but in the DOI system it must be declared as part of the metadata that is associated to a DOI name, using a data dictionary based on the indecs Content Model.

Applications

Major applications of the DOI system currently include:

- persistent citations in scholarly materials (journal articles, books, etc.) through CrossRef, a consortium of around 3,000 publishers;
- scientific data sets through DataCite, a consortium of leading research libraries, technical information providers, and scientific data centers;
- European Union official publications through the EU publications office.

In the Organisation for Economic Co-operation and Development's publication service SourceOECD, each table or graph in an OECD publication is shown with a DOI name that leads to an Excel file of data underlying the tables and graphs. Further development of such services is planned.[10] A multilingual European DOI registration agency activity, mEDRA, and a Chinese registration agency, Wanfang Data, are active in non-English language markets. Expansion to other sectors is planned by the International DOI Foundation.[citation needed]

Features and benefits

The DOI system was designed to provide a form of persistent identification, in which each DOI name unequivocally and permanently identifies the object to which it is associated. And, it associates metadata with objects, allowing it to provide users with relevant pieces of information about the objects and their relationships. Included as part of this metadata are network actions that allow DOI names to be resolved to web locations where the objects they describe can be found. To achieve its goals, the DOI system combines the Handle System and the indecs Content Model with a social infrastructure. The Handle System ensures that the DOI name for an object is not based on any changeable attributes of the object such as its physical location or ownership, that the attributes of the object are encoded in its metadata rather than in its DOI name, and that no two objects are assigned the same DOI name. Because DOI names are short character strings, they are human-readable, may be copied and pasted as text, and fit into the URI specification. The DOI name resolution mechanism acts behind the scenes, so that users communicate with it in the same way as with any other web service; it is built on open architectures, incorporates trust mechanisms, and is engineered to operate reliably and flexibly so that it can be adapted to changing demands and new applications of the DOI system. DOI name resolution may be used with OpenURL to select the most appropriate among multiple locations for a given object, according to the location of the user making the request.[11] However, despite this ability, the DOI system has drawn criticism from librarians for directing users to non-free copies of documents that would

have been available for no additional fee from alternative locations.[12] The indecs Content Model is used within the DOI system to associate metadata with objects. A small kernel of common metadata is shared by all DOI names and can be optionally extended with other relevant data, which may be public or restricted. Registrants may update the metadata for their DOI names at any time, such as when publication information changes or when an object moves to a different URL. The International DOI Foundation (IDF) oversees the integration of these technologies and operation of the system through a technical and social infrastructure. The social infrastructure of a federation of independent registration agencies offering DOI services was modelled on existing successful federated deployments of identifiers such as GS1 and ISBN.

Comparison with other identifier schemes

A DOI name differs from commonly used Internet pointers to material, such as the Uniform Resource Locator (URL), in that it identifies an object as a first-class entity,[clarification needed] not simply the place where the object is located. It implements the Uniform Resource Identifier (Uniform Resource Name) concept and adds to it a data model and social infrastructure.[13] A DOI name also differs from standard identifier registries such as the ISBN, ISRC, etc. The purpose of an identifier registry is to manage a given collection of identifiers, whereas the primary purpose of the DOI system is to make a collection of identifiers actionable and interoperable, where that collection can include identifiers from many other controlled collections.[14] The DOI system offers persistent, semantically interoperable resolution to related current data, and is best suited to material that will be used in services outside the direct control of the issuing assigner (e.g., public citation, or managing content of value). It uses a managed registry (providing social and technical infrastructure). It does not assume any specific business model for the provision of identifiers or services, and enables other existing services to link to it in defined ways. Several approaches for making identifiers persistent have been proposed. The comparison of persistent identifier approaches is difficult because they are not all doing the same thing. Imprecisely referring to a set of schemes as "identifiers" doesn't mean that they can be compared easily. Other "identifier systems" may be enabling technologies with low barriers to entry, providing an easy to use labeling mechanism that allows anyone to set up a new instance (examples include Persistent Uniform Resource Locator (PURL), URLs, Globally Unique Identifiers (GUIDs), etc.), but may lack some of the functionality of a registry-controlled scheme and will usually lack accompanying metadata in a controlled scheme. The DOI system does not have this approach and should not be compared directly to such identifier schemes. Various applications using such enabling technologies with added features have been devised that meet some of the features offered by the DOI system for specific sectors (e.g., ARK). A DOI name does not depend on the object's location and, in this way, is similar to a Uniform Resource Name (URN) or PURL but differs from an ordinary URL. URLs are often used as substitute identifiers for documents on the Internet (better characterised as Uniform Resource Identifiers) although the same document at two different locations has two

URLs. By contrast, persistent identifiers such as DOI names identify objects as first class entities: two instances of the same object would have the same DOI name.

Resolution

DOI name resolution is provided through the Handle System, developed by Corporation for National Research Initiatives, and is freely available to any user encountering a DOI name. Resolution redirects the user from a DOI name to one or more pieces of typed data: URLs representing instances of the object, services such as e-mail, or one or more items of metadata. To the Handle System, a DOI name is a handle, and so has a set of values assigned to it and may be thought of as a record that consists of a group of fields. Each handle value must have a data type specified in its "<type>" field, that defines the syntax and semantics of its data. To resolve a DOI name, it may be input to a DOI resolver (e.g., at www.doi.org) or may be represented as an HTTP string by preceding the DOI name by the string

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http://dx.doi.org/
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For example, the DOI name `10.1000/182` can be resolved at the address "http://dx.doi.org/10.1000/182". Web pages or other hypertext documents can include hypertext links in this form. Some browsers allow the direct resolution of a DOI (or other handles) with an add-on, e.g., CNRI Handle Extension for Firefox. The CNRI Handle Extension for Firefox enables the browser to access handle or DOI URIs like hdl:4263537/4000 or doi:10.1000/1 using the native Handle System protocol. It will even replace references to web-to-handle proxy servers with native resolution.

Organizational structure

The International DOI Foundation (IDF), a non-profit organisation created in 1998, is the governance body of the DOI system.[15] It safeguards all intellectual property rights relating to the DOI system, manages common operational features, and supports the development and promotion of the DOI system. The IDF ensures that any improvements made to the DOI system (including creation, maintenance, registration, resolution and policymaking of DOI names) are available to any DOI registrant. It also prevents third parties from imposing additional licensing requirements beyond those of the IDF on users of the DOI system. The IDF is controlled by a Board elected by the members of the Foundation, with an appointed Managing Agent who is responsible for co-ordinating and planning its activities. Membership is open to all organizations with an interest in electronic publishing and related enabling technologies. The IDF holds annual open meetings on the topics of DOI and related issues: the 2010 meeting is provisionally scheduled to be held in Hannover, Germany in mid year. Registration agencies, appointed by the IDF, provide services to DOI registrants: they allocate DOI prefixes, register DOI names, and provide the necessary infrastructure to allow registrants to declare and maintain metadata and state data. Registration agencies are also expected to actively promote the widespread adoption of the DOI system, to cooperate with the IDF in the development of the DOI system as a whole, and to provide services on behalf of their

specific user community. A list of current RAs is maintained by the International DOI Foundation. Registration agencies generally charge a fee to assign a new DOI name; parts of these fees are used to support the IDF. The DOI system overall, through the IDF, operates on a not-for-profit cost recovery basis.

Standardization

The DOI system is currently being standardised through the International Organization for Standardization, in its technical committee on identification and description TC46/SC9. The Draft International Standard ISO/DIS 26324, Information and documentation - Digital Object Identifier System met the ISO requirements for approval. The relevant ISO Working Group had later submitted an edited version to ISO for distribution as an FDIS (Final Draft International Standard) ballot.[16], which was approved by 100% of those voting in a ballot closing on November 15, 2010.[17] DOI is a registered URI under the infoURI [18] specification (IETF RFC4452), "The "info" URI Scheme for Information Assets with Identifiers in Public Namespaces".[19] info:doi/ is the infoURI Namespace of Digital Object Identifiers. The DOI syntax is a NISO standard, first standardised in 2000, ANSI/NISO Z39.84-2005 Syntax for the Digital Object Identifier [20]

Notes and references

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DOI sistem u Srbiji

Razvojem Interneta naučno periodično izdavaštvo se značajno izmenilo. Većina svetskih izdavača naučnih časopisa, pored svoje papirne forme, istovremeno objavljuje i svoju elektronsku formu, čime značajno doprinosi vidljivosti i dostupnosti svojih izdanja. Dodatno, elektronska forma omogućava krajnjim korisnicima da za mnogo kraće vreme pročitaju sve objavljene radove na temu njihovog istraživanja. Pored članaka u celini, krajnjem korisniku je omogućeno i da pročita radove koji su citirani u svakom članku (naravno ukoliko je za te plaćena pretplata). Ta jednostavna "navigacija" od bibliografskog opisa reference do punog teksta obezbeđuje se preko DOI (Digital Object Identifier) brojeva.

Uobičajeno je da izdavači naučnih časopisa samostalno formiraju i deponuju meta-podatke prema zadatim standardima. To je opravdano kada jedan izdavač izdaje više desetina časopisa. Kako u Srbiji većinu časopisa izdaju asocijacije ili institucije, to se čini umesnim da se dodela DOI brojeva i priprema meta podataka objedini i time učini jednostavnijom i efikasnijom. Od 2005. godine se u Srbiji dodela DOI brojeva člancima u naučnim časopisima realizuje preko Centra za naučne informacije Narodne biblioteke Srbije ([doiSerbia](#)), a uz podršku Ministarstva nauke. Od početnih 5 časopisa u sistemu, svake godine su se priključivali novi časopisi iz Srbije, tako da je početkom 2009. godine u ovaj sistem uključeno 35 časopisa.

Časopisi se uključuju u DOI sistem na predlog Ministarstva nauke, a koji se formira na osnovu [Bibliometrijskog izveštaja o časopisima](#) aprila meseca svake godine.

Spisak časopisa uključenih u doiSerbia

- [Acta chirurgica iugoslavica](#)
- [Acta periodica technologica](#)
- [Acta veterinaria](#) WoS

- [Applicable Analysis and Discrete Mathematics](#) WoS
- [Archive of oncology](#)
- [Archives of Biological Sciences](#) WoS
- [Biotechnology in Animal Husbandry](#)
- [Bulletin: Classe des sciences mathematiques et natturalles](#)
- [Chemical Industry and Chemical Engineering Quarterly](#) WoS
- [Computer Science and Information Systems](#) WoS
- [Economic Annals](#)
- [Facta universitatis - series: Architecture and Civil Engineering](#)
- [Facta universitatis - series: Physics, Chemistry and Technology](#)
- [Filomat](#) WoS
- [Filozofija i društvo](#)
- [Genetika](#) WoS
- [Geološki anali Balkanskoga poluostrva](#)
- [Glasnik Šumarskog fakulteta](#)
- [Helia](#)
- [Hemijska industrija](#) WoS
- [Journal of Automatic Control](#)
- [Journal of Mining and Metallurgy, Section B: Metallurgy](#) WoS
- [Journal of the Serbian Chemical Society](#) WoS
- [Jugoslovenska medicinska biohemija](#)
- [Južnoslovenski filolog](#)
- [Medicinski pregled](#)
- [Muzikologija](#)
- [Nuclear Technology and Radiation Protection](#) WoS
- [Panoeconomicus](#) WoS
- [Pesticidi i fitomedicina](#)
- [Prilozi za književnost i jezik, istoriju i folklor](#)
- [Psihologija](#) WoS
- [Publications de lInstitut Mathematique](#)
- [Science of Sintering](#) WoS
- [Serbian Astronomical Journal](#)
- [Sociologija](#)
- [Srpski arhiv za celokupno lekarstvo](#) WoS
- [Starinar](#)
- [Stomatološki glasnik Srbije](#)
- [Temida](#)
- [Theoretical and Applied Mechanics](#)
- [Thermal Science](#) WoS
- [Yugoslav Journal of Operations Research](#)
- [Zbornik Instituta za pedagoška istraživanja](#)
- [Zbornik Matice srpske za prirodne nauke](#)
- [Zbornik radova Vizantološkog instituta](#)
- [Zograf](#)

The Digital Object Identifier (DOI)

What is a DOI?

As defined by the [International DOI Foundation](#), "the Digital Object Identifier (DOI®) is a system for identifying and exchanging intellectual property in the digital environment. Developed by the International DOI Foundation, it provides a framework for managing intellectual content, for linking customers with content suppliers, for facilitating electronic commerce, and enabling automated copyright management for all types of media."

In the simplest terms, the DOI is a persistent identifier for an article as well as a system which processes that identifier to deliver content requested by a user. In the future, a DOI will be clickable like a URL, but will differ from a URL in that it will identify an object (like an article), not the location (Scitation, for example) where that object is located. A DOI is linked to an object by a resolver system, and the location to which it resolves may be changed easily by the publisher without the user ever reaching a dead-end or broken link.

What Does This Mean for Scitation Users?

Presently, DOIs are merely displayed on the HTML abstracts of all Scitation articles, as well as in the full-text versions (PDF and PostScript, and eventually full-text HTML, where available) of all articles beginning with January 2001 issues. (DOIs for legacy data will appear *only* in the HTML abstracts as the DOI database continues to be back-filled.)

How Do I Use A DOI?

Even though the DOI is currently only displayed, the functional aspects of the DOI itself and the DOI system — when deployed for linking — will be utterly transparent to the user. In the near-future, the DOI will become a primary linking tool for publishers participating in the [CrossRef](#) project, a collaborative reference linking service. Ultimately, this means that when an Scitation user clicks on a reference citation in a journal and immediately accesses the cited

article or bibliographic record, he or she would have been directed there by the DOI-based linking system enabled by the CrossRef service. The DOI pinpoints the location of the content on the Internet, and CrossRef serves as a "digital switchboard" that directs users to that location.

Want to Know More About the DOI and Its Use?
See the International DOI Foundation FAQ for more information.

DOI

From Wikipedia, the free encyclopedia

DOI or **DoI** may refer to:

- Doi (surname), a Japanese surname
- Doi (retailer), or Camera no Doi, a Japanese company
- Digital object identifier, a persistent identifier given to objects
- United States Department of the Interior, a department of the United States government that manages federally-owned land
- New York City Department of Investigation, an agency of the New York City government
- Division of Investigation, a precursor to the Federal Bureau of Investigation in the United States
- Declaration of independence, a proclamation or assertion of national independence
- Declaration of interests (declaration of financial interests), a means of publicizing public officials' potential conflicts of interest
- Diffusion of innovations, a theory explaining the spread of new technology
- Distinctness of image, a quantification of the deviation of the direction of light propagation by scattering during transmission or reflection
- 2,5-Dimethoxy-4-iodoamphetamine, a hallucinogenic drug
- Dancing on Ice (UK), a reality television show focussing on ice-skating
- Dogri language ISO 639 code
- Declaration of Interdependence, a manifesto for agile project management