

### Multilingual Domain Names for .EU Name Space

For the first time, residents of the European Union will be able to register .EU domain names in languages other than English. From the 10th of December 2009 you will be able to register dot .EU domains in one or more of the 23\* official Languages of the European Union, these are referred to as IDNs (Internationalized Domain Names).

.EU IDN has no Sunrise Period, and adopts "First come, First served" as the allocation rule. We are accepting Pre-Registrations for .EU IDNs, offering our customers an early access and increased chance to secure dot .EU in their preferred languages.

This guide is intended as a detailed overview of the release of the

- 1. Introduction
- 2. .EU IDN Launch Schedule
- 3. .EU IDN naming policies
- 4. <u>.EU IDN Policies:</u>
- 5. .EU IDN Prices:
- 6. <u>.EU IDN FAQ:</u>

<sup>\*</sup>Bulgarian, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Italian, Irish, Latvian, Lithuanian, Maltese, Polish, Portuguese, Romanian, Slovak, Slovene, Spanish and Swedish



#### 1. Introduction

Internationalised domain names (IDNs) are domain names that contain characters from non-ASCII character sets. Examples: propriété .EU (French), ιδιοκτησία .EU (Greek) etc. Essentially the release of IDNs means that domain names will now be available in languages other than English.

EURID, the registry operator for .EU, has announced that from the 10th of December 2009 you will be able to register a dot .EU domains in one or more of the 23\* official Languages of the European Union, there will be no Sunrise period for this release and it is a "first come, first served" allocation rule.

### 2. .EU IDN Launch Schedule:

Period	Availability	Eligibility	Allocation Rule
.EU IDN Live	From 10 Dec 09	Anyone	First Come First Serve

## 3. .EU IDN naming policies:

- No name can begin with or end with a hyphen (-).
- You are not allowed to mix scripts, or character sets (for example, Latin, Greek and Cyrillic), in a single IDN. This means each IDN must use characters from a single (1) script only.
- An IDN may not be longer than 63 characters after it is converted into the <u>ACE string</u> format needed by the Domain Name System. (EURID will be providing)
- An IDN may not start with the characters xn--.
- Not all characters are supported by IDNs. The German ß is not allowed, for example.
   See our <u>supported character list</u> for an overview of non-ASCII characters supported by .EU.
- More info about .EU IDN (http://www .EUrid .EU/en/eu-domain-names/idns-eu)

#### 4. .EU IDN Policies:



- <u>Registration Policy</u> explains how to register, renew, trade or transfer a .EU domain name.
- <u>.EU Terms and Conditions</u> document explains who is eligible to register a .EU domain name and the obligations of domain name holders. It also describes the terms and conditions under which domain names may be traded or transferred and provides information on privacy and data protection.
- WHOIS Policy details how the personal data of domain name holders will be treated and which data will be displayed in the WHOIS database. It also describes what actions have been taken to prevent data misuse and the conditions under which personal data may be disclosed.
- <u>.EU IDN Technical Limitations</u> details the rules applicants need to bear when deciding which .EU domain name they would like to register.

## 5. .EU IDN Prices:

Period	Availability	Eligibility	Registration Fee
.EU IDN Live	From 10 Dec 09	Anyone	USD \$29.00

#### 6. .EU IDN FAQ:

## What does IDN mean?

IDN stands for Internationalised Domain Name. IDNs are domain names that contain characters from non-ASCII character sets. These include characters with accents, cedillas and ogoneks.

Examples include the Swedish **å**, the German **ü**, the Romanian **ş** and characters from the Bulgarian and Greek alphabets as a whole.

IDNs are particularly important for .EU as the European Union has 27 Member States and 23 official languages. Many of these languages use non-ASCII characters in their alphabets.



## When will I be able to register IDNs under .EU?

Starting 10 December 2009 you can register IDNs under .EU through a registrar that supports IDNs. Not all registrars plan to offer them.

### Which special characters are permitted?

See our <u>supported character list</u> for an overview of all the non-ASCII characters supported by .EU IDNs.

# Will I be able to use the German \( \mathbb{G} ? \)

No. If you want to register a domain name that contains ß, you must use the character set ss instead because of how the Domain Name System (DNS) works.

The DNS recognises basic ASCII characters only. As a result, every IDN is automatically converted into a format (called an <u>ACE string</u>) that the DNS can use. Unfortunately, the German ß is replaced by the equivalent, two-character ss as part of the conversion.

As far as the DNS is concerned, domain names that use ß become identical to those that use ss in the same position. For example, after hauptstraße .EU is converted into ASCII characters it becomes equivalent to hauptstrasse .EU.

But every domain name must be unique in order for the DNS to function. And that is why the use of ß is not allowed in an IDN.

# What is an ACE string?

An ACE string is what you get once the IDN you entered in your browser's address bar has been converted into a form that is understood by the Domain Name System.



ACE-strings begin with four characters, **xn--**, to indicate that the domain name is an IDN. Other characters, at the end of the string, indicate which characters in the IDN you entered were non-ASCII characters and what their positions were.

The characters between the prefix and the end characters are the characters from the original IDN that did not need to be converted because they already belong to the basic ASCII character set.

For example, the ACE-string of the domain name bücher .EU is xn--bcher-kva .EU.

## How long can my IDN be?

The maximum length of a .EU IDN (the portion after the **www**. and before the dot) cannot be more than 63 characters.

This limit applies after the name has been converted into an <u>ACE string</u> for use by the DNS (Domain Name System).

Examples:

www.abcdef .EU is 6 characters long.

www.xyz .EU is 3 characters long.

www.bücher .EU, however, is considered 13 characters long. That is because its ACE string www.xn--bcher-kva .EU.

When IDNs become available under .EU, EURid will introduce an IDN tool that will show the ACE string for any .EU IDN.

### Are .EU IDNs case-sensitive?

No. No distinction is made between upper-case and lower-case letters.



## Will there be a Sunrise period for .EU IDNs?

No. The first-come, first-served principle applies to all .EU domain names, including IDNs.

The decision to launch IDNs under .EU without a Sunrise period was made based on the results of extensive preparation. This included papers drafted by the EURid IDNs Advisory Board and two surveys that EURid ran in 2008:

A survey among <u>CENTR</u> members

The results of the survey showed no particular trend in favour of sunrise or landrush when introducing IDNs. The registries who opted for one solution over another were motivated by internal considerations, some of which were linked to the local Internet communities and/or their organisational profile.

A public, online survey

Results showed that the public did not have a clear, strong wish for .EU to have a Sunrise period when IDNs are introduced.

You can view a summary of the public survey results (in English) here.

## Can my web browser and email client handle IDNs?

Yes, if your browser has the correct plug-in to allow IDN access and your email software supports IDNs. Many applications do not support IDNs, however.

Please note: Other Internet users also need an IDN-enabled browser and IDN-enabled email clients to visit your website or send non-web-based email to your IDN web address.

If their applications do not support IDNs, you can ask them to use your IDN's <u>ACE string</u>. For example, if your email address is 123@bücher .EU, they can send an email to 123@xn--bcher-kva .EU instead.

When IDNs become available under .EU, EURid will introduce an IDN tool that will show the ACE string for any .EU IDN.



# Are IDNs permitted as hostnames for nameservers?

No, only characters from the basic ASCII character set can be used for nameservers.

This means that you can use the <u>ACE string</u> of an IDN name (such as **xn--bcher-kva** .EU), but not the IDN itself (**bücher** .EU).

### How does the Domain Name System handle IDNs?

The <u>Domain Name System</u> recognises basic ASCII characters only, such as plain Latin script.

To be recognised by the DNS, IDNs must be converted into strings made up of basic ASCII characters. These are called ACE strings. ACE stands for ASCII Compatible Encoding.

Converting IDNs into ACE strings involves two steps known as Nameprep and Punycode.

Step 1

During the Nameprep process, an Internationalised Domain Name is prepared for conversion in several ways: This includes replacing so-called normalised non-ASCII characters with their ASCII equivalents. It is during this step that the German **ß**, for example, is converted into **ss**.

Step 2

During the Punycode process, the so-called *normalised* IDN is converted into an ACE string.

ACE strings always begin with the same four characters (**xn--**) to indicate that the domain name is an IDN.

These four characters are followed by any basic ASCII characters, which do not need to be converted, that are used in the original IDN.

Other characters, at the end of the string, indicate which characters in the IDN entered were non-ASCII characters and their positions within the name.

For example, the ACE string of the **bücher** .EU IDN is **xn--bcher-kva** .EU.



## What are homoglyphs?

Homoglyphs are characters (or words) from different scripts that look so similar that it is difficult to tell them apart just by looking. The homoglyphs below are two different characters from two different scripts, or alphabets. They have different Unicode numbers but look identical.

Cyrillic character: a Unicode number 0430

Latin character: **a** Unicode number 0061

# What is homoglyph bundling? Will EURid offer it?

**Homoglyph bundling** is when you register an IDN and the registration system automatically registers all the <a href="homoglyphs">homoglyphs</a> of that name for you as well (if there are any). This means that a **bundle** of names is registered at one time.

After careful consideration EURid has decided not to offer homoglyph bundling.

Some registries offer homoglyph bundling to minimise the risk that someone could register a domain name that looks just like yours. EURid will not offer it because we do not allow script mixing, which also greatly reduces that risk.

## Why can't I mix scripts in my IDN?

IDNs made up of different scripts might look confusingly similar to other domain names if they contained <a href="https://documents.com/homoglyphs">homoglyphs</a>. That is why only one (1) script, or alphabet, can be used in an IDN.

## Can I use different scripts in my IDN if I separate them with a dash (-)?



No. The use of different scripts, or alphabets, in single IDN is not allowed. IDNs made up of different scripts might look confusingly similar to other domain names, especially if they contained <a href="https://doi.org/10.2016/journal.com/">https://doi.org/10.2016/journal.com/</a>.

# Why does the IDN checker say my IDN is too short when it is two characters long?

This is because certain two-character combinations actually represent one single Unicode character.

If the two-character combination you entered falls into this category, the .EU system will convert it to its single character equivalent.

Because all .EU domain names must be longer than one character this means that, once your name has been converted, it will be too short.

The two-character combinations that have a valid one-character equivalent are listed below:

### Latin

Two-character Combination	Single-Character Equivalent	Single-Character Description
ï (u+0069 u+0307)	i (u+0130)	CAPITAL LETTER I WITH DOT ABOVE
I• (u+006C u+00B7)	L· (u+013F)	CAPITAL LETTER L WITH MIDDLE DOT
I• (u+006C u+00B7)	l· (u+0140)	SMALL LETTER L WITH MIDDLE DOT
'n (u+02BC u+006E)	'n (u+0149)	SMALL LETTER N PRECEDED BY APOSTROPHE

#### Greek

Two-character Combination	Single-Character Equivalent	Single-Character Description
ἀι (u+1F00 u+03B9)	ἀ (u+1F80)	SMALL LETTER ALPHA WITH PSILI AND YPOGEGRAMMENI



άι (u+1F01 u+03B9)	ά (u+1F81)	SMALL LETTER ALPHA WITH DASIA AND YPOGEGRAMMENI
α̃ι (u+1F02 u+03B9)	ä (u+1F82)	SMALL LETTER ALPHA WITH PSILI AND VARIA AND YPOGEGRAMMENI
ἃι (u+1F03 u+03B9)	ä (u+1F83)	SMALL LETTER ALPHA WITH DASIA AND VARIA AND YPOGEGRAMMENI
ἄι (u+1F04 u+03B9)	ἄ (u+1F84)	SMALL LETTER ALPHA WITH PSILI AND OXIA AND YPOGEGRAMMENI
ἄι (u+1F05 u+03B9)	ἄ (u+1F85)	SMALL LETTER ALPHA WITH DASIA AND OXIA AND YPOGEGRAMMENI
ἆι (u+1F06 u+03B9)	ẫ (u+1F86)	SMALL LETTER ALPHA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI
ἇι (u+1F07 u+03B9)	ἆ (u+1F87)	SMALL LETTER ALPHA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI
dι (u+1F00 u+03B9)	'A (u+1F88)	CAPITAL LETTER ALPHA WITH PSILI AND PROSGEGRAMMENI
άι (u+1F01 u+03B9)	Ä (u+1F89)	CAPITAL LETTER ALPHA WITH DASIA AND PROSGEGRAMMENI
ầι (u+1F02 u+03B9)	"A (u+1F8A)	CAPITAL LETTER ALPHA WITH PSILI AND VARIA AND PROSGEGRAMMENI
ἃι (u+1F03 u+03B9)	̈́Α (u+1F8B)	CAPITAL LETTER ALPHA WITH DASIA AND VARIA AND PROSGEGRAMMENI
ἄι (u+1F04 u+03B9)	"A (u+1F8C)	CAPITAL LETTER ALPHA WITH PSILI AND OXIA AND PROSGEGRAMMENI
ดัเ (u+1F05 u+03B9)	ʹ̈́Α (u+1F8D)	CAPITAL LETTER ALPHA WITH DASIA AND OXIA AND PROSGEGRAMMENI



ẫι (u+1F06 u+03B9)	à (u+1F8E)	CAPITAL LETTER ALPHA WITH PSILI AND PERISPOMENI AND PROSGEGRAMMENI
ἇι (u+1F07 u+03B9)	à (u+1F8F)	CAPITAL LETTER ALPHA WITH DASIA AND PERISPOMENI AND PROSGEGRAMMENI
ἠι (u+1F20 u+03B9)	ṅ (u+1F90)	SMALL LETTER ETA WITH PSILI AND YPOGEGRAMMENI
ἡι (u+1F21 u+03B9)	ἡ (u+1F91)	SMALL LETTER ETA WITH DASIA AND YPOGEGRAMMENI
ἡι (u+1F22 u+03B9)	ἢ (u+1F92)	SMALL LETTER ETA WITH PSILI AND VARIA AND YPOGEGRAMMENI
ἣι (u+1F23 u+03B9)	ἣ (u+1F93)	SMALL LETTER ETA WITH DASIA AND VARIA AND YPOGEGRAMMENI
ἤι (u+1F24 u+03B9)	ἤ (u+1F94)	SMALL LETTER ETA WITH PSILI AND OXIA AND YPOGEGRAMMENI
ἥι (u+1F25 u+03B9)	ἥ (u+1F95)	SMALL LETTER ETA WITH DASIA AND OXIA AND YPOGEGRAMMENI
ἦι (u+1F26 u+03B9)	ἦ (u+1F96)	SMALL LETTER ETA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI
ἧι (u+1F27 u+03B9)	ີ້ (u+1F97)	SMALL LETTER ETA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI
ήι (u+1F20 u+03B9)	'Ḥ (u+1F98)	CAPITAL LETTER ETA WITH PSILI AND PROSGEGRAMMENI
ἡι (u+1F21 u+03B9)	ʹḤ (u+1F99)	CAPITAL LETTER ETA WITH DASIA AND PROSGEGRAMMENI
ἡι (u+1F22 u+03B9)	"Ӊ (u+1F9A)	CAPITAL LETTER ETA WITH PSILI AND VARIA AND PROSGEGRAMMENI
ἣι (u+1F23 u+03B9)	"Ӊ (u+1F9B)	CAPITAL LETTER ETA WITH DASIA AND VARIA AND



		PROSGEGRAMMENI
ἥι (u+1F24 u+03B9)	"Ḥ (u+1F9C)	CAPITAL LETTER ETA WITH PSILI AND OXIA AND PROSGEGRAMMENI
ἥι (u+1F25 u+03B9)	ိ်Hှ (u+1F9D)	CAPITAL LETTER ETA WITH DASIA AND OXIA AND PROSGEGRAMMENI
ἦι (u+1F26 u+03B9)	بِّ (u+1F9E)	CAPITAL LETTER ETA WITH PSILI AND PERISPOMENI AND PROSGEGRAMMENI
ἦι (u+1F27 u+03B9)	҇҉Ӊ (u+1F9F)	CAPITAL LETTER ETA WITH DASIA AND PERISPOMENI AND PROSGEGRAMMENI
ώι (u+1F60 u+03B9)	ൎφ (u+1FA0)	SMALL LETTER OMEGA WITH PSILI AND YPOGEGRAMMENI
ώι (u+1F61 u+03B9)	ൎω (u+1FA1)	SMALL LETTER OMEGA WITH DASIA AND YPOGEGRAMMENI
ὢι (u+1F62 u+03B9)	ῷ (u+1FA2)	SMALL LETTER OMEGA WITH PSILI AND VARIA AND YPOGEGRAMMENI
ὧι (u+1F63 u+03B9)	ῷ (u+1FA3)	SMALL LETTER OMEGA WITH DASIA AND VARIA AND YPOGEGRAMMENI
ὤι (u+1F64 u+03B9)	ὤ (u+1FA4)	SMALL LETTER OMEGA WITH PSILI AND OXIA AND YPOGEGRAMMENI
ὥι (u+1F65 u+03B9)	ὤ (u+1FA5)	SMALL LETTER OMEGA WITH DASIA AND OXIA AND YPOGEGRAMMENI
ὧι (u+1F66 u+03B9)	ῷ (u+1FA6)	SMALL LETTER OMEGA WITH PSILI AND PERISPOMENI AND YPOGEGRAMMENI
ີ່ພເ (u+1F67 u+03B9)	ῷ́ (u+1FA7)	SMALL LETTER OMEGA WITH DASIA AND PERISPOMENI AND YPOGEGRAMMENI
ώι (u+1F60 u+03B9)	Ώ (u+1FA8)	CAPITAL LETTER OMEGA WITH PSILI AND



		PROSGEGRAMMENI
ώι (u+1F61 u+03B9)	Ώ (u+1FA9)	CAPITAL LETTER OMEGA WITH DASIA AND PROSGEGRAMMENI
ὢι (u+1F62 u+03B9)	"Ω (u+1FAA)	CAPITAL LETTER OMEGA WITH PSILI AND VARIA AND PROSGEGRAMMENI
ὢι (u+1F63 u+03B9)	̈Ω (u+1FAB)	CAPITAL LETTER OMEGA WITH DASIA AND VARIA AND PROSGEGRAMMENI
ὰι (u+1F70 u+03B9)	à (u+1FB2)	SMALL LETTER ALPHA WITH VARIA AND YPOGEGRAMMENI
αι (u+03B1 u+03B9)	a (u+1FB3)	SMALL LETTER ALPHA WITH YPOGEGRAMMENI
άι (u+03AC u+03B9)	ά (u+1FB4)	SMALL LETTER ALPHA WITH OXIA AND YPOGEGRAMMENI
ãι (u+1FB6 u+03B9)	ã (u+1FB7)	SMALL LETTER ALPHA WITH PERISPOMENI AND YPOGEGRAMMENI
αι (u+03B1 u+03B9)	A (u+1FBC)	CAPITAL LETTER ALPHA WITH PROSGEGRAMMENI
ὴι (u+1F74 u+03B9)	ὴ (u+1FC2)	SMALL LETTER ETA WITH VARIA AND YPOGEGRAMMENI
ηι (u+03B7 u+03B9)	<u>η</u> (u+1FC3)	SMALL LETTER ETA WITH YPOGEGRAMMENI
ήι (u+03AE u+03B9)	ή (u+1FC4)	SMALL LETTER ETA WITH OXIA AND YPOGEGRAMMENI
ῆι (u+1FC6 u+03B9)	ῆ (u+1FC7)	SMALL LETTER ETA WITH PERISPOMENI AND YPOGEGRAMMENI
ηι (u+03B7 u+03B9)	Ḥ (u+1FCC)	CAPITAL LETTER ETA WITH PROSGEGRAMMENI
ὼι (u+1F7C u+03B9)	ὰ (u+1FF2)	SMALL LETTER OMEGA WITH VARIA AND YPOGEGRAMMENI
ωι (u+03C9 u+03B9)	φ (u+1FF3)	SMALL LETTER OMEGA WITH YPOGEGRAMMENI



ώι (u+03CE u+03B9)	φ́ (u+1FF4)	SMALL LETTER OMEGA WITH OXIA AND YPOGEGRAMMENI
ῶι (u+1FF6 u+03B9)	ῷ (u+1FF7)	SMALL LETTER OMEGA WITH PERISPOMENI AND YPOGEGRAMMENI
ωι (u+03C9 u+03B9)	Ω (u+1FFC)	CAPITAL LETTER OMEGA WITH PROSGEGRAMMENI