



# UA Readiness in WordPress & Plugins

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Welcomes the UASG  
WG members

# Presentation outline

- Scope
- UA definition
- Project Introduction
- Testing methodology and results
- Observations regarding IDN, Path IRI & EAI
- Recommendations & possible Remediation



# Scope

- Outcomes of “Test Plan and Pilot Study of Universal Acceptance in Content Management Systems, 2020, Ver.: 2020-08-07 (SOW)”
- Presenting the outcomes of testing and UA readiness levels

# UA Definition

- Universal Acceptance (UA) is the state in which all valid domain names and email addresses are accepted, validated, stored, processed and displayed correctly and consistently.
- To achieve Universal Acceptance, internet applications and systems must treat all Top-Level domain (TLDs) in a consistent manner, including new generic TLDs and all Internationalised TLDs.
- All domain names should be validated against the Internationalised domain names in applications IDNA2008 standard

# Project Introduction



- The UASG UA group has identified WordPress (5.6) CMS and associated plugins to be tested to determine how well they comply with the UA readiness for IDN, path IRIs and EAI
- Pre-study was undertaken prior to preparing test plan
- Test Plan was prepared which includes the software to be tested, method of testing, recording of observations and categorizing the results as per the defined UA readiness levels.
- UA readiness was carried out as per the UASG004, 2017 datasets and UASG026 document. For EAI testing emails were created using Datamail services.

[TEST REPORT](#)

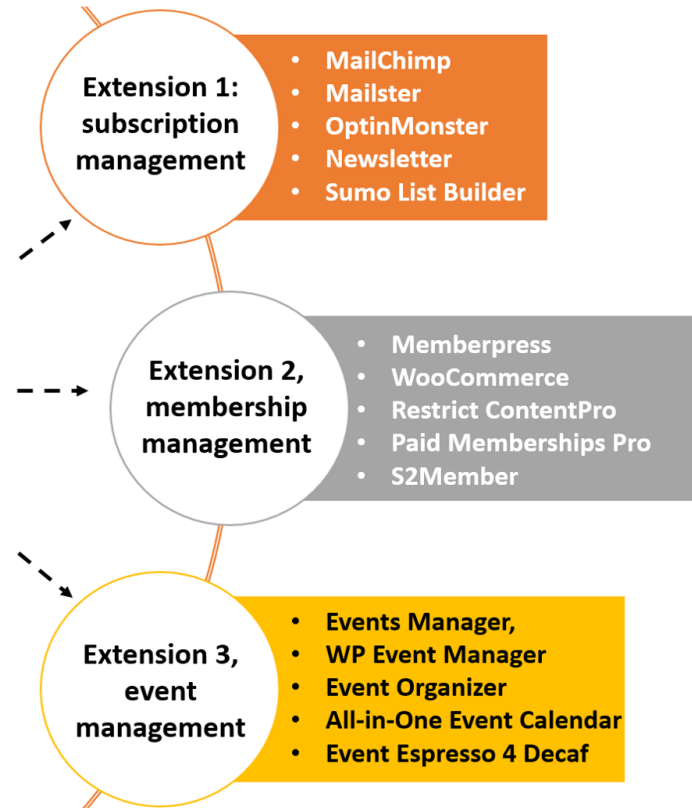
[Detailed Testing Report](#)

# Plugins identified for UA

Following plugins were tested for UA -readiness for IDN, Path IRI and EAI as per the “Test Plan”

- **Extension 1, Subscription Management:** An extension that uses an email address of a subscriber to send newsletters or similar communications via email.
- **Extension 2, Membership Management:** An extension whose purpose is to enable/disable access to certain pages (i.e., membership-only section).
- **Extension 3, Event Management:** An extension that is used to create and manage events with participant list management

List of plugins were provided in SOW



# Environment creation on GCP



- Multiple testers were involved, hence created environment on GCP
  - Self-hosted WordPress (version 5.6) and plugins were configured on GCP,
  - Step by step installation carried out and documented as part of the report.
- 
- Testing environment was created on Google Cloud Platform (GCP).
    - **Server Configuration is as follows:**

Server	Linux instance
OS	Ubuntu 18.04.1
DB	MySQL - 5.7.32
Apache	2.4.29
PHP	7.4.13
Client	Chrome Browser running on Windows 10



# Installation and Configuration of WP and Plugin(s)

- Separate installation of WordPress instances
  - Separate instances were created, since similar features of plugin(s) were overwriting few of the data fields in the WP database.
- Plugin Configuration in WordPress
  - Free Plugins installed from WordPress marketplace,
  - Paid Plugins purchased and uploaded from respective sites.
- Email Configuration
  - In WordPress, mail is configured using SMTP protocol.
  - Mail service provided by plugins such as Mailchimp.

# Version and Storage details of WordPress and Plugin(s)



Extension Name	Plugin Name	License Type	Version	Storage location
<b>WordPress</b>	Default WordPress forms	Free	5.6	WP Local Database
<b>Subscription Management</b>	MailChimp	Free	4.8.1	Plugin Server Database
	Mailster	Paid	2.4.16	WP Local Database
	OptinMonster	Paid	2.0.3	Plugin Server Database
	Newsletter	Free	7.0.0	WP Local Database
	Sumo List Builder	Free	1.31	Plugin Server Database
<b>Membership Management</b>	MemberPress	Paid	1.9.6	WP Local Database
	WooCommerce	Free	4.8.0	WP Local Database
	Restrict Content Pro	Paid	3.5.2	WP Local Database
	Paid Memberships Pro	Free	2.5.2	WP Local Database
	S2Member	Free	200301	WP Local Database
<b>Event Management</b>	Events Manager	Free	5.9.8.1	WP Local Database
	WP Event Manager	Free	3.1.19	WP Local Database
	Event Organizer	Free	3.10.2	WP Local Database
	All-in-One Event Calendar	Free	2.6.8	WP Local Database
	Event Espresso 4 Decaf	Free	4.10.10.decaf	WP Local Database

# Identification of input fields

Extension	Plugin Name	IDN Field Type	IRI Field Type	Email Field Type
<b>CMS</b>	WordPress Instance	URL	URL	Email
<b>Extension 1 Subscription Management</b>	MailChimp	URL	URL	Email
	Mailster	Text	Text	Email
	OptinMonster	Text	Text	Email
	Newsletter	Text	Text	Email
	Sumo List Builder	Text	Text	Text
<b>Extension 2 Membership Management</b>	MemberPress	URL	URL	Email
	WooCommerce	URL	URL	Email
	Restrict Content Pro	URL	URL	Text
	Paid Memberships Pro	URL	URL	Email
	S2Member	Text	Text	Email
<b>Extension 3 Event Management</b>	Events Manager	Text	Text	Text
	WP Event Manager	Text	Text	Text
	Event Organiser	Text	Text	Email
	All - in - One Event Calendar	Text	Text	Email
	Event Espresso 4 Decaf	Text	Text	Text

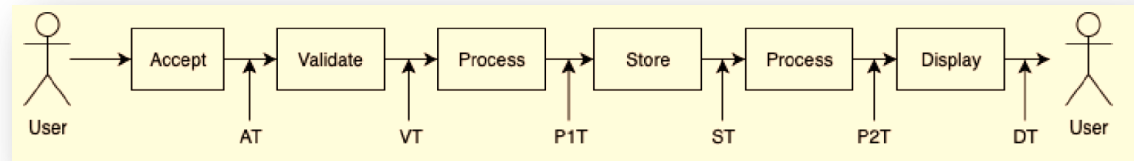
# Initial Exploration as per Interim Report shared

- WordPress and associated plugins being a web based applications, input fields are based on W3C standards
- Most of them uses HTML `<input>` element Type as either Text, URL & email
  - URL – (URL & PATH IRIs)
  - Email – (only email)
  - Text - (URL, PATH IRI and email)



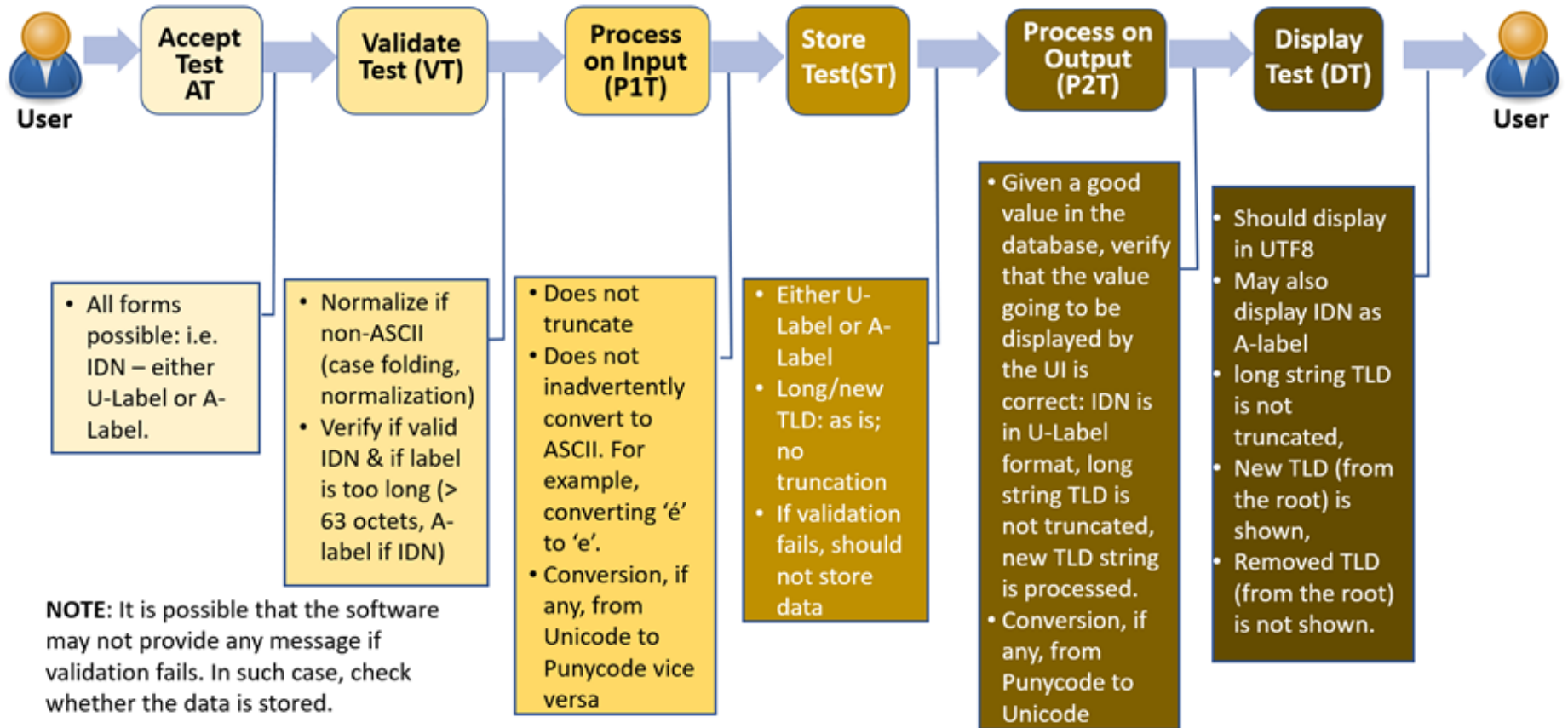
# Execution of Functional Test Cases and Test Datasets

- Testing was carried out as per the test benchmark mentioned in the section 14 of “Test Plan Document”.
- “Gating Steps” within an application to process UA related identifiers as defined in the UASG026 document, as applicable were carried out, for each data point.
  - Accept Test (AT)
  - Validate Test (VT)
  - Process on Input (P1T)
  - Store Test (ST)
  - Process on Output (P2T)
  - Display Test (DT)

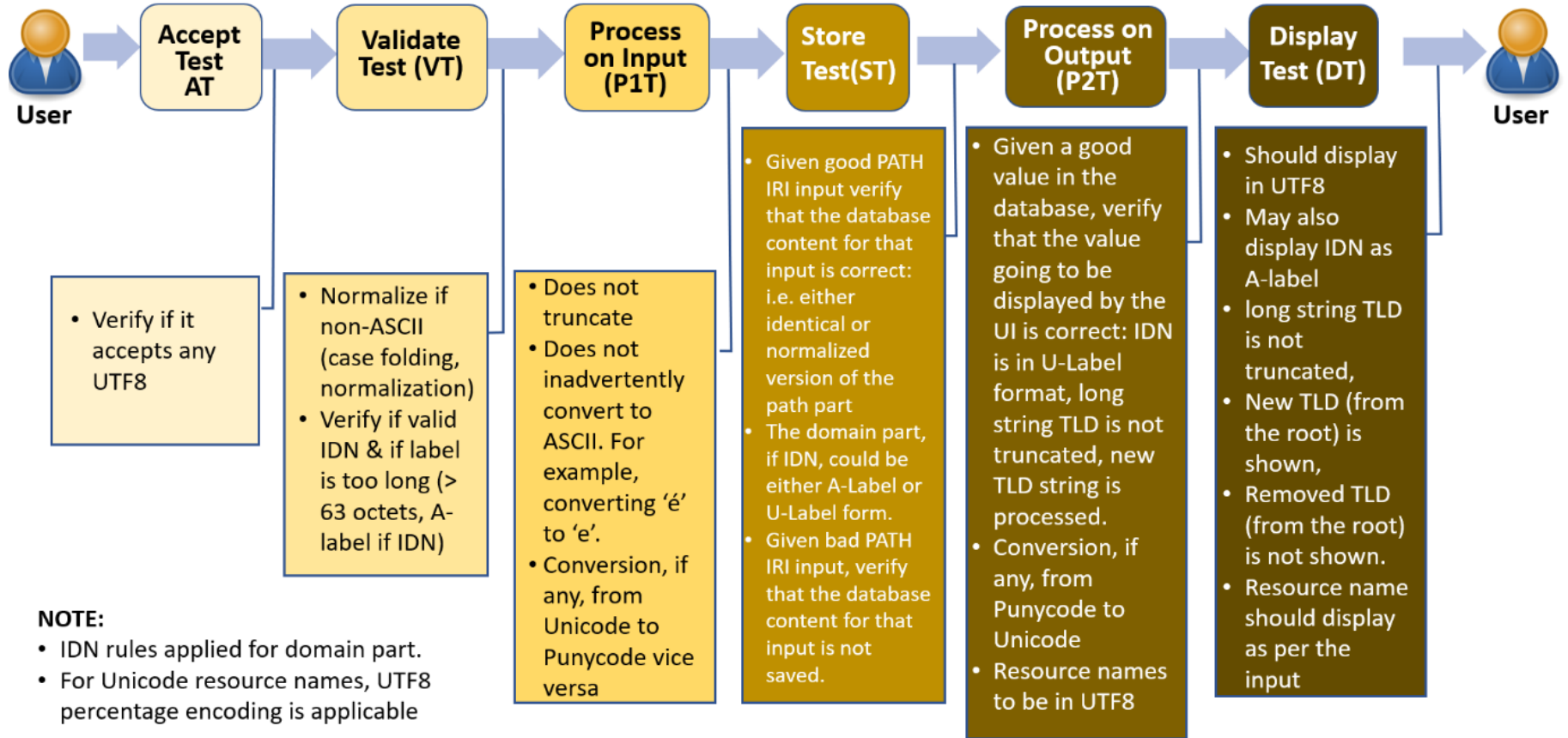


Gating Steps

## Domain Names: Use of Test dataset as per UASG004

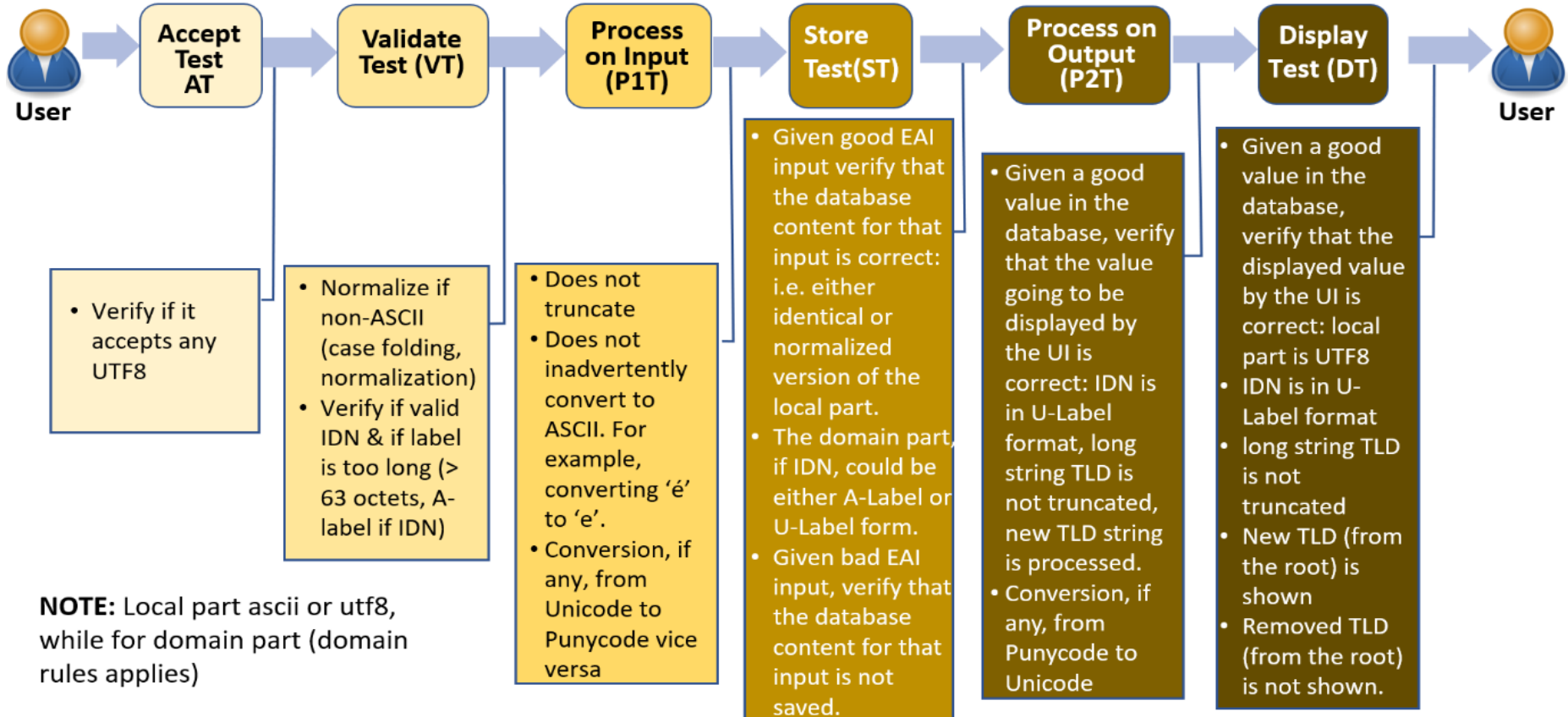


## PATH IRIS: Use of Test dataset as per UASG004



# e-Mail Addresses:

## Use of Test dataset as per UASG004





# UA Readiness : Legends

Y	A – Level	End to end and all “Type of Tests” passed
	B – Level	End to end is passed, but one or more “Type of Tests” failed
N	C1 - Level	End to end failed, but all the “Types of Tests” except final “Display” test passed
	C2 - Level	End to end failed, but ACCEPT, VALIDATE test passed
	C3 - Level	End to end failed, but ACCEPT test passed
	D – Level	Nothing passed

- “Y” denotes that the UA readiness level is either Level A or B
- “N” denotes that the end-to-end UA readiness has failed and it falls under one of the levels viz. C1, C2, C3.
- During testing the lowest level observed in Domain names, Path IRIs and email addresses in the respective dataset is taken as UA readiness level for that plugin.

# UA readiness Level for Domain Names



Extension	Plugin Name	IDN UA Readiness
CMS	WordPress Instance	B-Level
Extension 1 Subscription Management	MailChimp	C-Level
	Mailster	C-Level
	OptinMonster	B-Level
	Newsletter	B-Level
	Sumo List Builder	C-Level
Extension 2 Membership Management	MemberPress	B-Level
	WooCommerce	B-Level
	Restrict Content Pro	B-Level
	Paid Memberships Pro	B-Level
	S2Member	C-Level
Extension 3 Event Management	Events Manager	B-Level
	WP Event Manager	C-Level
	Event Organiser	B-Level
	All - in - One Event Calendar	B-Level
	Event Espresso 4 Decaf	B-Level

# Observations for Domain Name

- Punycode /A-Label Dataset category doesn't get converted (P2T fails) to U-label for display purposes.
- However the Punycode /A-label Domain Name gets resolved by browser and displays as U-label. (Browsers built-in functionality)
- Hence most of the plugins fall under B-level.

# Plugin Newsletter: Accept Test

Domain Name Testing - Newsletter

Get ideas

Newsletter

Just another WordPress site



<https://www.icann.org/>

<http://ua-test.link/>

<http://ua-test.technology/>

[普遍接受-测试.top](http://xn--f38am99bqvcd5liy1cxsg.top)

[ua-test.世界](http://xn--f38am99bqvcd5liy1cxsg.xn--rhqv96g)

Punycode (A-label)  
dataset as an input

Cancel

Apply

Html

```
21 <a href="http://普遍接受-测试.世界">  
22 普遍接受-测试.世界  
23 </a><br><br>  
24  
25 <a href="http://普遍接受-测试.世界">  
26 普遍接受-测试.世界  
27 </a><br><br>  
28  
29 <a href="http://ua-test.xn--rhqv96g">  
30 ua-test.xn--rhqv96g  
31 </a><br><br>  
32  
33 <a href="http://xn----  
34 f38am99bqvcd5liy1cxsg.top">  
35 xn----f38am99bqvcd5liy1cxsg.top  
36 </a><br><br>  
37 <a href="http://xn----  
38 f38am99bqvcd5liy1cxsg.xn--rhqv96g">  
39 xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g  
40 </a><br><br>
```

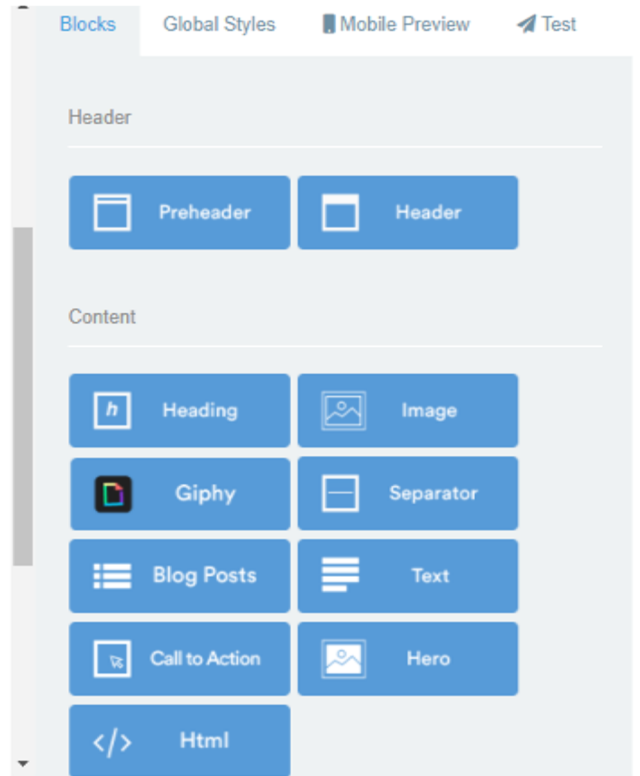
# Plugin Newsletter: Validate Test

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<http://ua-test.link/>  
<http://ua-test.technology/>  
[普遍接受-测试.top](#)  
[ua-test.世界](#)  
[普遍接受-测试.世界](#)  
[普遍接受-测试。世界](#)  
[ua-test.xn--rhqv96g](#)  
[xn---f38am99bqvcd5lij1cxsg.top](#)

[xn---f38am99bqvcd5lij1cxsg.xn--rhqv96g](#)

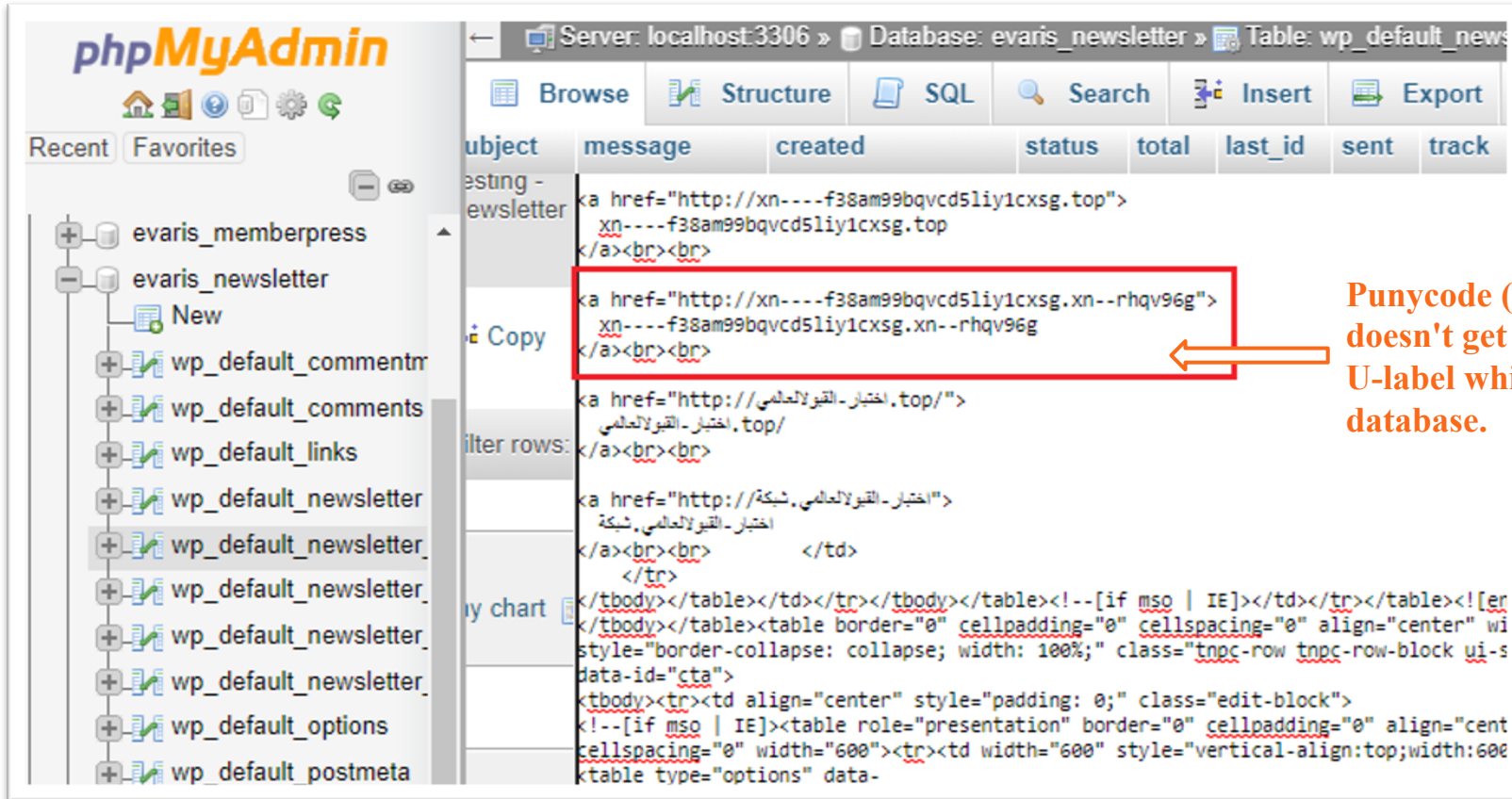
**Punycode (A-label)  
dataset as an input**

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The screenshot shows the Newsletter Plugin Composer interface. At the top, there are tabs for 'Blocks', 'Global Styles', 'Mobile Preview', and 'Test'. Below these, the 'Header' section contains two blue buttons: 'Preheader' and 'Header'. The 'Content' section contains a grid of blue buttons for various content types: 'Heading', 'Image', 'Giphy', 'Separator', 'Blog Posts', 'Text', 'Call to Action', and 'Hero'. At the bottom of the content grid is a button for 'Html'.

# Plugin Newsletter: Storage Test



The screenshot shows the phpMyAdmin interface with the following details:

- Server: localhost:3306
- Database: evaris\_newsletter
- Table: wp\_default\_newsletter
- Navigation tabs: Browse, Structure, SQL, Search, Insert, Export
- Table columns: subject, message, created, status, total, last\_id, sent, track
- Database structure tree on the left includes: evaris\_memberpress, evaris\_newsletter (expanded), wp\_default\_commentnr, wp\_default\_comments, wp\_default\_links, wp\_default\_newsletter (multiple instances), wp\_default\_options, wp\_default\_postmeta.

The 'message' column contains HTML content. A red box highlights a URL with punycode: `<a href="http://xn---f38am99bqvcd5liiy1cxsg.xn--rhqv96g">xn---f38am99bqvcd5liiy1cxsg.xn--rhqv96g</a><br><br>`. An orange arrow points from the text on the right to this punycode URL.

Punycode (A-label) is doesn't get converted to U-label while storing in database.

## Plugin Newsletter : P2T, Display Test



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[普遍接受-测试.top](#)

[ua-test.世界](#)

[普遍接受-测试.世界](#)

[普遍接受-测试.世界](#)

[ua-test.xn--rhqv96g](#)

[xn----f38am99bqvcd5liiy1cxsg.top](#)

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Process on output test  
fails, Punycode (A-label) is  
not converted to U-label

# Plugin Newsletter: End to end Scenario



**Punycode (A-label) in URL is converted/resolved to U-label/UTF-8 by the address bar of the browser**

This is a landing page for the Universal Acceptance Steering Group.

The address bar should display:

**http://普遍接受-测试.世界**

For more information on the UASG, please go to <http://uasg.tech>





# Plugin Mailster: Accept Test



WordPress dashboard header: Evaris Mailster 3 0 + New

Left sidebar menu:

- Comments
- Newsletter**
- All Campaigns
- New Campaign
- Autoresponder
- Subscribers
- Forms
- Lists
- Manage Subscribers
- Templates
- Add Ons
- Settings
- Appearance
- Plugins 1

Main content area: Template editor

Toolbar: Undo, Redo, Insert, Code, List, Search, Fullscreen, Save, Base

Placeholder text: {webversion} | {unsub} | {profile}

Image icon:

Text: MyMail

Text: {subject}

Rich text editor toolbar: Bold (B), Italic (I), Underline (U), ABC, Bulleted list, Numbered list, Link, Unlink, Image, Redo

Text: {copyright}

Text: <https://www.icann.org/>

Text: <http://ua-test.link/>

Text: <http://ua-test.technology/>

Text: <http://普遍接受-测试.top>

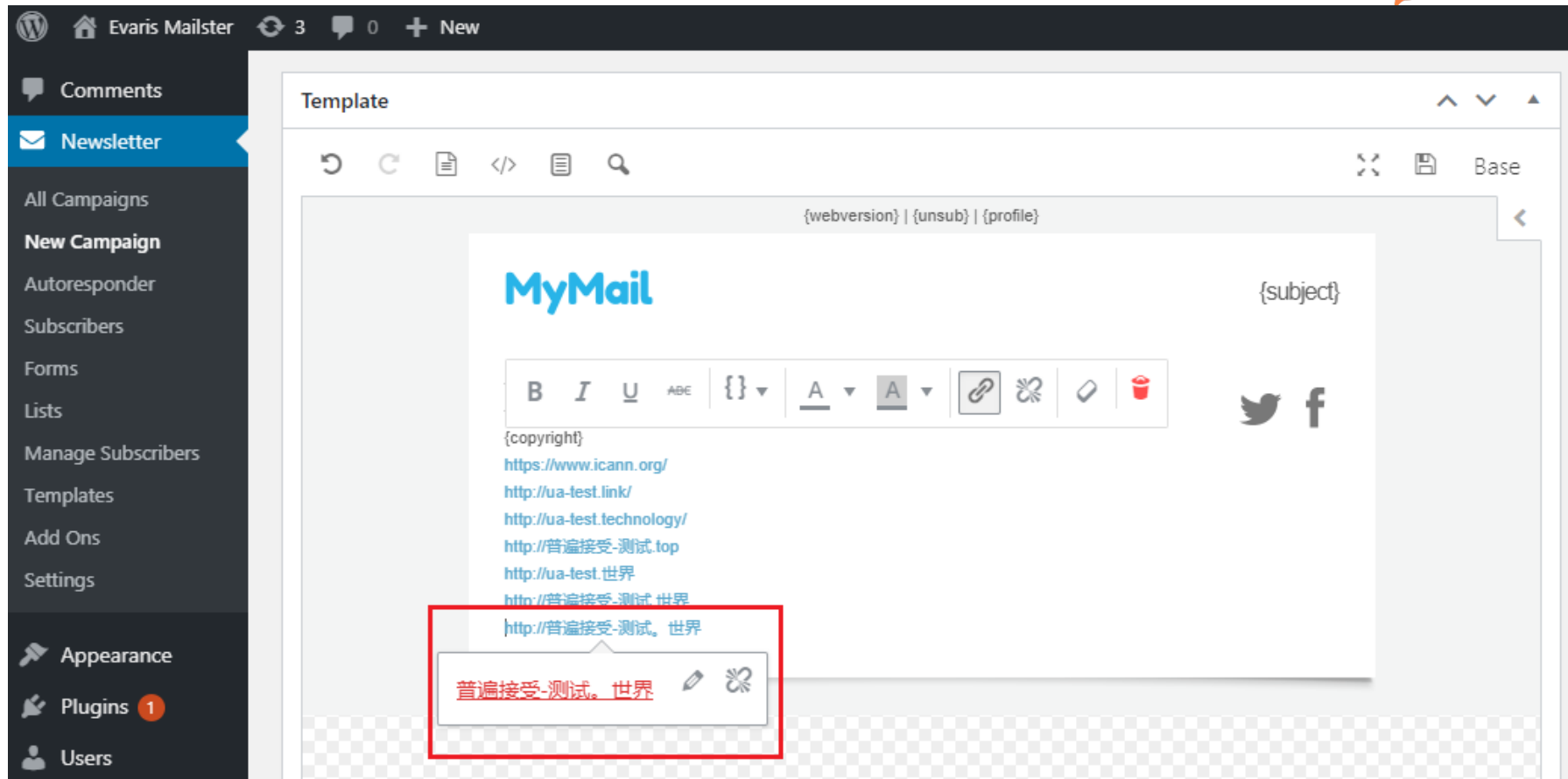
Text: <http://ua-test.世界>

Text: <http://普遍接受-测试.世界>

Input field (highlighted with a red box): <http://普遍接受-测试.世界>

Image icons: Twitter, Facebook

# Plugin Mailster: Validate Test



The screenshot shows the Evaris Mailster interface. On the left is a dark sidebar with navigation options: Comments, Newsletter (highlighted), All Campaigns, New Campaign, Autoresponder, Subscribers, Forms, Lists, Manage Subscribers, Templates, Add Ons, Settings, Appearance, Plugins (with a red notification badge '1'), and Users. The main area is titled 'Template' and contains a newsletter editor. The editor shows a 'MyMail' logo, a subject line placeholder '{subject}', and a list of links. A red box highlights the link 'http://普遍接受-测试.世界'. A tooltip is visible over this link, containing the text '普遍接受-测试.世界' and editing icons (pencil and refresh).

Template

{webversion} | {unsubscribe} | {profile}

MyMail {subject}

B I U ABC { } A A [Link] [Image] [Trash]

{copyright}

<https://www.icann.org/>

<http://ua-test.link/>

<http://ua-test.technology/>

<http://普遍接受-测试.top>

<http://ua-test.世界>

<http://普遍接受-测试.世界>

<http://普遍接受-测试.世界>

普遍接受-测试.世界 [Edit] [Refresh]

# Plugin Mailster: P1T & Store Test



Database: evaris\_mailster » Table: wp\_default\_posts

SQL Search Insert Export Import Privileges Operations Tracking Triggers

date_gmt	post_content	post_title	post_excerpt	post_status	comment_status	ping_status	post_password	
02-23 11:42:50	<pre>&lt;table cellpadding="0" cellspacing="0" class="o-fix" role="presentation"&gt; &lt;tbody&gt;&lt;tr&gt; &lt;td width="552" valign="top" align="left"&gt; &lt;table cellpadding="0" cellspacing="0" align="left" role="presentation"&gt; &lt;tbody&gt;&lt;tr&gt; &lt;td width="360" valign="top" align="left" class="small m-b"&gt; &lt;div&gt;&lt;single label="CAN-SPAM"&gt;&lt;can-spam&gt;&lt;/single&gt;&lt;/div&gt; &lt;div&gt;&lt;single label="Address"&gt;&lt;address&gt;&lt;/single&gt;&lt;/div&gt; &lt;div&gt;&lt;single label="Copyright"&gt;&lt;copyright&gt;&lt;br&gt;&lt;a data-mce- href="https://www.icann.org/" href="https://www.icann.org/"&gt;https://www.icann.org/&lt;/a&gt;&lt;br&gt;&lt;a data-mce-href="http://ua- test.link/" href="http://ua-test.link/"&gt;http://ua-test.link/&lt;br&gt;&lt;/a&gt;&lt;a data-mce-href="http://ua-test.technology/" href="http://ua-test.technology/"&gt;http://ua-test.technology/&lt;/a&gt;&lt;br&gt;&lt;a data-mce-href="http://普通接受-测试.top" href="http:// 普通接受-测试.top"&gt;http://普通接受-测试.top/&lt;a&gt;&lt;br&gt;&lt;a data-mce-href="http://ua-test.世界" href="http://ua-test.世界"&gt;http://ua- test.世界&lt;/a&gt;&lt;br&gt;&lt;a data-mce-href="http://普通接受-测试.世界" href="http://普通接受-测试.世界"&gt;http://普通接受-测试.世界&lt;br&gt;&lt;/a&gt; &lt;a data-mce-href="http://普通接受-测试.世界" href="http://普通接受-测试.世界" data-wplink-url-error="true"&gt;http://普通接受-测 试.世界&lt;br&gt;&lt;/a&gt;&lt;a data-mce-href="http://ua-test.xn--rhqv96g" href="http://ua-test.xn--rhqv96g"&gt;http://ua-test.xn-- rhqv96g&lt;br&gt;&lt;/a&gt;&lt;a data-mce-href="http://xn----f38am99bqvcd5liy1cxsg.top" href="http://xn---- f38am99bqvcd5liy1cxsg.top"&gt;http://xn----f38am99bqvcd5liy1cxsg.top&lt;br&gt;&lt;/a&gt;&lt;a data-mce-href="http://xn---- f38am99bqvcd5liy1cxsg.xn--rhqv96g" href="http://xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g"&gt;http://xn---- f38am99bqvcd5liy1cxsg.xn--rhqv96g&lt;/a&gt;&lt;br&gt;&lt;a data-mce-href="http://اختبار-القولاعلمى.top/"&gt;http:// اختبار-القولاعلمى.top/&lt;/a&gt;&lt;br&gt;&lt;span id="mce_caret" data-mce-bogus="1" data-mce-type="format-caret"&gt;&lt;a data-mce-href="http://- اختبار-القولاعلمى" href="http://اختبار-القولاعلمى.شبكة"&gt;http://اختبار-القولاعلمى.شبكة&lt;/a&gt;&lt;/span&gt;&lt;br&gt; &lt;/single&gt;&lt;/div&gt; &lt;/td&gt; &lt;/tr&gt; &lt;/tbody&gt;&lt;/table&gt; &lt;table cellpadding="0" cellspacing="0" align="right" role="presentation"&gt; &lt;tbody&gt;&lt;tr&gt; &lt;td width="168" valign="top" align="right" class="small"&gt; &lt;div class="btn"&gt;&lt;buttons data- mp="3Ca%20editable%3D%22%22%20label%3D%22Social%20Media%20Button%22%20href%3D%22https%3A%2F%2Ffacebook.com%22%3E%3Cimg%20 src%3D%22http%3A%2F%2F35.196.16.59%2Fmailster%2Fwp-</pre>							

port

So

Bookmark this SQL query

Open dot is saved as it is in the database.

No data processing or normalization is observed in P1T test.

# Plugin Mailster : P2T & Display Test



IDN Testing Inbox x

Evaris Mailster [Unsubscribe](#)

17:19 (0 minutes ago)

to me ▾

[webversion](#) | [unsubscribe](#) | [update profile](#)

**MyMail**

IDN Testing

You have received this email because you have subscribed to [Evaris Mailster](#) as [psmahale2k18@gmail.com](mailto:psmahale2k18@gmail.com). If you no longer wish to receive emails please [unsubscribe](#).



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<http://普遍接受-测试.世界>

<http://普遍接受-测试.世界>

<http://ua-test.xn--rhqv96g>

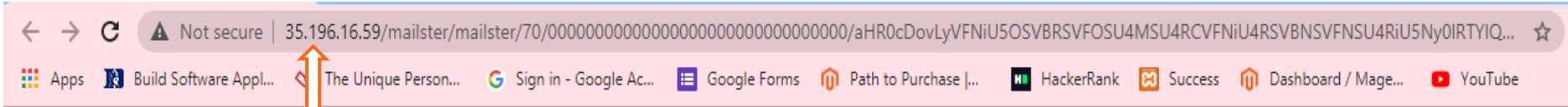
<http://xn--f38am99bqvcd5liy1cxsg.top>

<http://xn--f38am99bqvcd5liy1cxsg.xn--rhqv96g>

<http://اختبار-قبولالعالمي.top/>

<http://اختبار-قبولالعالمي.شبكة/>

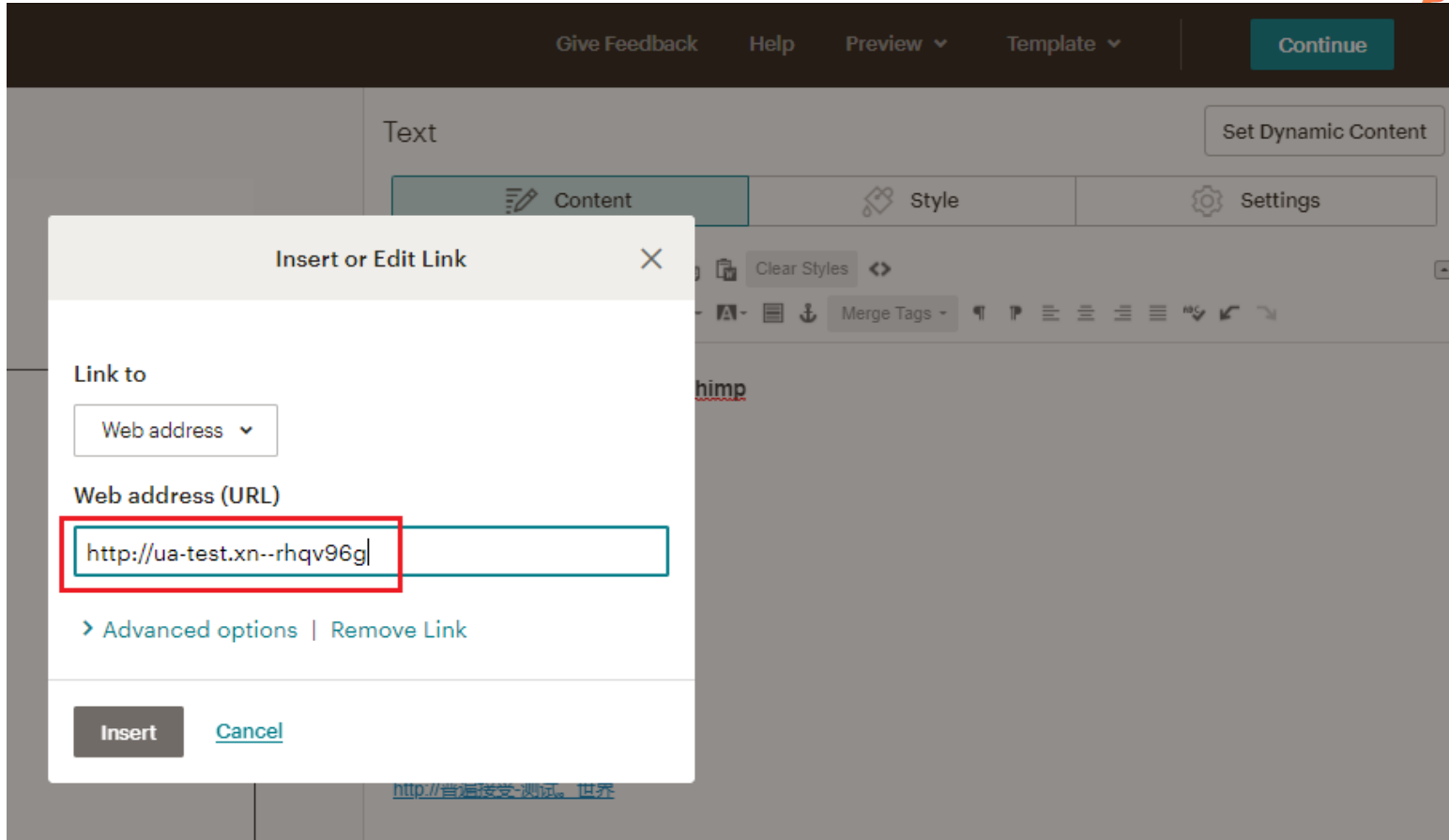
# Plugin Mailster: End-to-End Scenario Fails



"http://普遍接受-测试。世界" is not a valid URL!

**Site URL is not resolved and link failed to open with the error message, On clicking link from the campaign/newsletter received on the mail by Mailster plugin (issue with plugin behavior)**

# Plugin Mailchimp: Accept Test



# Plugin Mailchimp: Validate Test



Domain Name Testing - MailChimp Give Feedback Help Preview Template Continue

[View this email in your browser](#)



## Domain Name Testing - MailChimp

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<http://ua-test.世界>

<http://普遍接受-测试.世界>

<http://普遍接受-测试.世界>

<http://ua-test.xn--rhqv96g>

Text

Set Dynamic Content

Content Style Settings

B I U Clear Styles

Styles Font Size Merge Tags

## Domain Name Testing - MailChimp

<https://www.icann.org/>

<http://ua-test.link/>

<http://ua-test.technology/>

<http://普遍接受-测试.top>

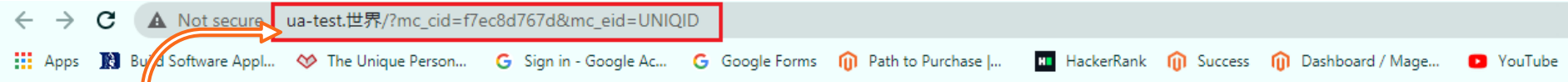
<http://ua-test.世界>

<http://普遍接受-测试.世界>

<http://普遍接受-测试.世界>

<http://ua-test.xn--rhqv96g>

# Plugin Mailchimp : End-to-End Scenario



**For ASCII and PunnyCode URL, Additional content was added after the actual URL by the Mailchimp plugin**

a landing page for the Universal Acceptance Steering Group.

The address bar should display:

**http://ua-test.世界/?  
mc\_cid=f7ec8d767d&mc\_eid=UNIQID**

You are currently on the ?mc\_cid=f7ec8d767d&mc\_eid=UNIQID demo page



# UA readiness Level for Path IRI



Extension	Plugin Name	Path IRI UA Readiness
CMS	WordPress Instance	A-Level
Extension 1 Subscription Management	MailChimp	B-Level
	Mailster	C-Level
	OptinMonster	B-Level
	Newsletter	A-Level
	Sumo List Builder	C-Level
Extension 2 Membership Management	MemberPress	A-Level
	WooCommerce Memberships	A-Level
	Restrict Content Pro	A-Level
	Paid Memberships Pro	A-Level
	S2Member	C-Level
Extension 3 Event Management	Events Manager	A-Level
	WP Event Manager	C-Level
	Event Organiser	A-Level
	All - in - One Event Calendar	A-Level
	Event Espresso 4 Decaf	A-Level

## Observations for Path IRI



- For plugins viz. Mailchimp, OptinMonster the database is on plugins server, hence P1T and ST (Storage Test) is NA and these plugins are graded as B-level.
- The datasets (as per USAG004) of Path IRI is not having any category with A-label (Punycode), hence plugins fall under A-level (unlike Domain names)
- Refer screen as below:






Data category	Dataset
ascii.new/unicode	ua-test.link/我的页面
ascii.long/unicode	ua-test.technology/我的页面
idn.ascii/unicode	普遍接受-测试.top/我的页面
ascii.idn/unicode	ua-test.世界/我的页面
idn.idn/unicode	普遍接受-测试.世界/我的页面
idn-open dot-idn/unicode	普遍接受-测试。世界/我的页面
rtl.ascii/unicode	اختبار-القبولالعالمي.top/我的页面
rtl.rtl/unicode	اختبار-القبولالعالمي.شبكة/我的页面

# Plugin Event Organizer : Accept Test

Path IRI Testing - Event Organiser

Permalink: <http://35.196.16.59/event-organizer/events/event/path-iri-testing-event-organiser/> Edit Get Shortlink

Add Media

Paragraph **B** *I*     

<http://ua-test.link/我的页面>

<http://ua-test.technology/我的页面>

<http://普遍接受-测试.top/我的页面>

<http://ua-test.世界/我的页面>

<http://普遍接受-测试.世界/我的页面>

<http://普遍接受-测试。世界/我的页面>

<http://اختبار-القبولالعالمي.top/我的页面>

↩ ⚙

# Plugin Event Organizer : Validate Test

Path IRI Testing - Event Organiser

Permalink: <http://35.196.16.59/event-organizer/events/event/path-iri-testing-event-organiser/>

Paragraph **B** *I*

<http://ua-test.link/我的页面>

<http://ua-test.technology/我的页面>

<http://普遍接受-测试.top/我的页面>

<http://ua-test.世界/我的页面>

<http://普遍接受-测试.世界/我的页面>

<http://普遍接受-测试.世界/我的页面>

<http://اختبار-القبولالعالمي.top/我的页面>

<http://اختبار-القبولالعالمي.شبكة/我的页面>

<http://اختبار-القبولالعالمي.شبكة/我的页面>

# Plugin Event Organizer : P1T & Storage Test



The screenshot shows the phpMyAdmin interface for a MySQL database named 'evaris\_event-organizer'. The table 'wp\_default\_posts' is selected, and the 'Structure' tab is active. The table has columns: post\_content, post\_title, post\_excerpt, post\_status, comment\_status, ping\_pong, and post\_date. The table contains one row with the following data:

post_content	post_title	post_excerpt	post_status	comment_status	ping_pong	post_date
<a href="http://ua-test.link/我的页面">http://ua-test.link/我的页面</a> <a href="http://ua-test.technology/我的页面">http://ua-test.technology/我的页面</a> <a href="http://普遍接受-测试.top/我的页面">http://普遍接受-测试.top/我的页面</a> <a href="http://ua-test.世界/我的页面">http://ua-test.世界/我的页面</a> <a href="http://普遍接受-测试.世界/我的页面">http://普遍接受-测试.世界/我的页面</a> <a href="http://普遍接受-测试.世界/我的页面">http://普遍接受-测试.世界/我的页面</a> <a href="http://قبولالعالمي-اختبار.top/我的页面">http://قبولالعالمي-اختبار.top/我的页面</a> <a href="http://قبولالعالمي.شبكة/我的页面">http://قبولالعالمي.شبكة/我的页面</a>	Auto Draft	auto-draft	closed	closed		

The last row of the table is highlighted with a red box, indicating the selected record.

# Plugin Event Organizer : P2T & Display Test



## Event Details

- Date: December 24, 2020 12:00 pm – 1:00 pm

\_\_\_\_\_ // \_\_\_\_\_  
<http://ua-test.link/我的页面>

<http://ua-test.technology/我的页面>

<http://普遍接受-测试.top/我的页面>

<http://ua-test.世界/我的页面>

<http://普遍接受-测试.世界/我的页面>

<http://普遍接受-测试.世界/我的页面>

<http://اختبار-القبولالعالمي.top/我的页面>

<http://اختبار-القبولالعالمي.شبكة/我的页面>

# Plugin Event Organizer : End-to-End Scenario



The screenshot shows a web browser window with a red box highlighting the address bar. The address bar contains the text "Not secure | اختبار-القبولالعالمي.شبكة / 我的页面". Below the browser window, the text "This is a landing page for the Universal Acceptance Steering Group." is displayed. Underneath, it says "The address bar should display:" followed by the URL "http://اختبار-القبولالعالمي.شبكة / 我的页面" in large, bold, black font. At the bottom, it states "You are currently on the 我的页面 demo page".

Not secure | اختبار-القبولالعالمي.شبكة / 我的页面

Build Software Appl... The Unique Person... Sign in - Google Ac... Google Forms Path to Purchase |... HackerRank Success Dashboard / Mage...

This is a landing page for the Universal Acceptance Steering Group.

The address bar should display:

**http://اختبار-القبولالعالمي.شبكة / 我的页面**

You are currently on the 我的页面 demo page

# General observations for Domain Name and Path IRI



- For UA readiness explicit validation rules for IDN, Path IRI and email, seems to be missing.
- In input type URL, pattern check of http:// is not consistently followed by plugins.
- None of the plugin developers are referring to the list of valid TLD tables.
- Normalization is not applied while processing and storing into the database.
- Chinese URL with Open dot is accepted, stored and displayed as it is, however in the address bar browser converts to ASCII dot and hence resolves.
- The UASG004 data set consisted of only positive (valid) data cases, and hence difficulty in figuring out explicit efforts taken for UA readiness by developers. IDN support is mostly attributed to underlying Unicode support and built-in support at browser level for “U-label to A-label and vice versa” conversion.



# UA Readiness Level for EAI

Extension	Plugin Name	Mailer Service / Plugin	EAI UA Readiness
CMS	WordPress Instance	WP Mail SMTP	C-Level
Extension 1 Subscription Management	MailChimp	MailChimp	C-Level
	Mailster	Mailster built in configuration settings	C-Level
	OptinMonster	MailChimp	C-Level
	Newsletter	Newsletter built in configuration settings	C-Level
	Sumo List Builder	SendFox	C-Level
Extension 2 Membership Management	MemberPress	WP Mail SMTP	C-Level
	WooCommerce Memberships	WP Mail SMTP	C-Level
	Restrict Content Pro	WP Mail SMTP	C-Level
	Paid Memberships Pro	WP Mail SMTP	C-Level
	S2Member	WP Mail SMTP	C-Level
Extension 3 Event Management	Events Manager	WP Mail SMTP	C-Level
	WP Event Manager	WP Mail SMTP	C-Level
	Event Organiser	WP Mail SMTP	C-Level
	All - in - One Event Calendar	WP Mail SMTP	C-Level
	Event Espresso 4 Decaf	WP Mail SMTP	C-Level

# EAI UA Readiness – various categories

- Refer functional emails used for testing at point 15.3, “Email Test Cases” as below:
  - Category 1: `ascii@ascii.ascii`
  - Category 2: `ascii@idn.idn`
  - Category 3: `unicode@idn.idn`
  - Category 4: `unicode@RTL.RTL`
  - Category 5: `ascii@RTL.RTL`
  - Category 6: `ascii@punycode.punycode`

# EAI UA Readiness – various categories



Extension	Plugin Name	Categories				
		ascii@idn.idn 2	unicode@idn.idn 3	unicode@RTL.RTL 4	ascii@RTL.RTL 5	ascii@punycode.punycode 6
CMS	WordPress Instance	A-Level	C-Level	C-Level	A-Level	A-Level
Extension 1 Subscription Management	MailChimp	C-Level	C-Level	C-Level	C-Level	C-Level
	Mailster	A-Level	C-Level	C-Level	A-Level	A-Level
	OptinMonster	C-Level	C-Level	C-Level	C-Level	C-Level
	Newsletter	A-Level	C-Level	C-Level	A-Level	A-Level
	Sumo List Builder	C-Level	C-Level	C-Level	C-Level	B-Level
Extension 2 Membership Management	MemberPress	A-Level	C-Level	C-Level	A-Level	A-Level
	WooCommerce	A-Level	C-Level	C-Level	A-Level	C-Level
	Restrict Content Pro	C-Level	C-Level	C-Level	C-Level	A-Level
	Paid Memberships Pro	A-Level	C-Level	C-Level	A-Level	C-Level
	S2Member	A-Level	C-Level	C-Level	A-Level	C-Level
Extension 3 Event Management	Events Manager	C-Level	C-Level	C-Level	C-Level	A-Level
	WP Event Manager	C-Level	C-Level	C-Level	C-Level	A-Level
	Event Organiser	A-Level	C-Level	C-Level	A-Level	C-Level
	All - in - One Event Calendar	A-Level	C-Level	C-Level	A-Level	C-Level
	Event Espresso 4 Decaf	C-Level	C-Level	C-Level	C-Level	A-Level

# Observation – EAI

- Category 1 - `ascii@ascii.ascii`
  - As there is no access to database for plugins such as Mailchimp, Optinmonster and SumoList Builder, P1T and Store test were unable to check and same were graded to Level B.
- Category 2 - `ascii@idn.idn` & Category 5 - `ascii@rtl.rtl`
  - Though end to end testing is passed for few plugins but the domain part is converted and stored to A-Label (Punycode) instead of U-Label in database.
- Category 6 - `ascii@punnycode.punnycode`
  - For HTML `<input>` element Type as “text” validation were applied and hence those categories were graded to level C.

# General Observation – EAI



- For most of the plugins having HTML <input> element Type as “email” :
  - Input field does not allow mail box/local part to be entered in Unicode.
- For few plugins were HTML <input> element Type as "text"
  - Plugin developers may likely implemented some validation (pattern or regex based) as per ASCII mail only.
  - IDN validation rules are not applied by the plugin developers.
- None of the plugin developers had taken care of Unicode email address and EAI.


# Observation – EAI

HTML `<input>` element Type as “email” for category unicode@idn.idn & unicode@RTL.RTL : Input field does not allow Unicode/UTF-8 characters before ‘@’ symbol i.e. “local-part” of an email address.

**First name or full name**  
Test Mail ID - 3

**Email**  
पेड़बचाओ@डेटामेल.भारत|

**SUBSCRIBE** ! A part followed by '@' should not contain the symbol 'प'.

 Edit

**First name or full name**  
Test Mail ID - 9

**Email**  
อรุณสวัสดิ์@ดาด้าเมล.ไทย|

**SUBSCRIBE** ! A part followed by '@' should not contain the symbol 'อ'.

**First name or full name**  
Test Mail ID - 5

**Email**  
زاد@ڈیٹا مین بیہارت |

**SUBSCRIBE** ! A part followed by '@' should not contain the symbol 'ڑ'.

# Observation – EAI



Category `ascii@idn.idn` and `ascii@RTL.RTL`: Though end to end testing is passed but domain part is converted to A-Label (Punycode) and stored instead of U-Label in database

## Accept Test

First name or full name  
Test Mail ID - 2

Email  
`infoevaris@डाटा.भारत`

SUBSCRIBE

## Store Test

	name	email	token
Delete	Test Mail ID - 1	kulkarni.swati12@gmail.com	a651944bc2
Delete	Test Mail ID - 2	<code>infoevaris@xn--c2bd4bq1db8d.xn--h2brj9c</code>	c09438f4ad

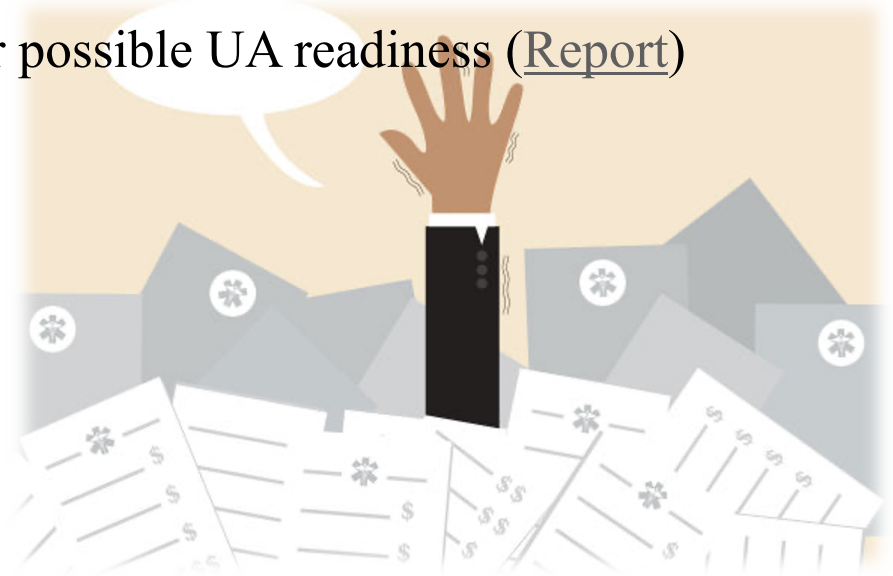
5th selected: Edit Copy Delete Export

## Display Test & End-to-end Test

Screenshot of an email client interface showing an email from infoevaris@डाटा.भारत. The email content includes a 'Newsletter' section with a confirmation message and a link to change the profile.

## Additional activities undertaken

- We have written emails to the plugin(s) provider regarding IDN, EAI support. The response from the plugin vendors is provided in the pdf file under respective plugin folder.
- Additional 18 plugins were explored for possible UA readiness (Report)





# Recommendations:

- Current version of UASG004 document needs to accommodate the negative test data so as to confirm the user input validation of Internationalised identifiers.
  - Test data having Label (> 63 octets, A-label if IDN) or full domain (> 255 octets, A-label if IDN)
  - Non-permitted characters
  - Hyphen at beginning and /or at the end of label
  - Mixing of scripts
  - Confusingly similar character's
  - Test cases to figure out whether IDNA 2008 or IDNA 2003 protocol is implemented
- More awareness campaigns needs to be spread for use of valid TLD, since it is commonly observed that none of the plugin developers are referring to the list of valid TLD tables.

# Recommendations:

- Recommendations to W3C
  - Making HTML tags namely for URL and Email to support Internationalised identifiers, since current HTML Email tag doesn't support UTF8 characters before '@' symbol i.e. "mailbox name", "local-part", "account name", "username", "UTF-8 part".
- It is recommended that user input should be stored in as it is which can be used for searching, comparing and easy use of the user to understand.
- Recommends to have Test Suite/Validator for valid Internationalized identifiers and implementation of IDNA (2003/2008) protocol.

## Remediations:



- To make Domain Name as UA ready (B-level to A-level):
  - Punycode (A-label) test-data sets fails in P2T (Process on output) and DT(display test)
  - Ideally information/data must be Validated and Stored in U-label so that it will be display in UTF-8 (U-label)
- To make Email as UA ready (C-level to A-level):
  - HTML `<input>` element with "type" as "email" should be suitably modified to accept Unicode / UTF-8 characters before '@' symbol i.e. local part of an email address.
  - Wherever developers use HTML `<input>` element with "type" as "text" for email entry, instead of using regex/pattern (most suitable for ASCII), IDNA 2008 or latest API/protocol should be implemented.

## Remediations:



- Increased UA awareness and campaigns for developers and technical community.
- Providing Plug-n-play solution without botheration to developers about UA readiness.
- Increased use of IDN, EAI:
  - By instituting awards for UA readiness – registries, registrars, service providers, policy makers.
  - Pledging by Government for promotion & proliferation of IDN, EAI by setting time bound examples.
  - May be GAC members to monitor and present status.

We would like to thank UASG committee for giving us  
opportunity to work and for providing all the requisite support  
for successful execution of the project

THANK YOU