Universal Acceptance (UA) of Content Management Systems (CMS) Phase 1 - WordPress

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Background

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. In order to achieve Universal Acceptance, Internet applications and systems must treat all top-level domains (TLDs) in a consistent manner, including new generic TLDs (gTLDs) and internationalized TLDs. All domain names should be validated against the Internationalized Domain Names in Applications IDNA2008 Standard.
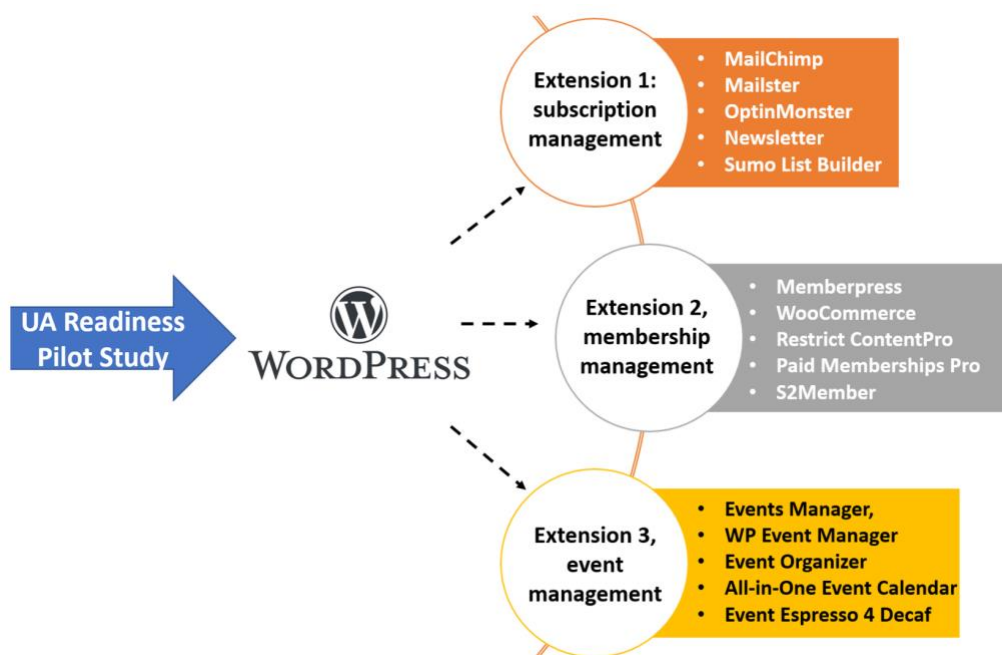
Introduction

The UASG has identified Content Management Systems (CMS) and associated plugins to be tested to determine how well they comply with the UA readiness of Internationalized Domain Names (IDNs), path Internationalized Resource Identifiers (IRIs), and Email Address Internationalization (EAI). Detailed testing was carried out as per the UASG004 and UASG026 documents and its associated data set for each plugin, and more specifically for the three functions: domain names, path IRI, and EAI. For EAI testing, functional emails were created for various scripts.

For ease of understanding the UA readiness status, different levels of UA readiness were defined in the test plan. The test plan elaborates on the software to be tested, method of testing, recording of observations, and categorising the results as per the UA readiness levels. The software to be tested were identified by the Universal Acceptance Steering Group (UASG) and was part of the Statement of Work (SOW).

Objective

To carry out the testing of UA readiness in Content Management Systems, namely WordPress and its associated plugins, as mentioned below for IDNs, path IRI, and EAI as per the test plan.

UA Readiness Pilot Study → WORDPRESS

Extension 1: subscription management
- MailChimp
- Mailster
- OptinMonster
- Newsletter
- Sumo List Builder

Extension 2, membership management
- Memberpress
- WooCommerce
- Restrict ContentPro
- Paid Memberships Pro
- S2Member

Extension 3, event management
- Events Manager,
- WP Event Manager
- Event Organizer
- All-in-One Event Calendar
- Event Espresso 4 Decaf

Test Setup

The testing environment was created as per the following table on Google Cloud Platform (GCP). The self-hosted WordPress (5.6) and plugins installation was documented and provided along with the report.

Environment setup for GCP instance:

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

To test the plugins individually, a separate instance of WordPress was created on GCP. This was done in order to have clarity in testing of similar functionalities available within different plugins. As an example, "Creation of Event Page" is available in both the Event Organizer and Events Manager.

The creation of the Linux server and required environment was carried out and documented. Refer to the folder structure and the associated link as given in the Annexure – I.

Version Details of WordPress and Plugins

Below are the versions of WordPress and plugins that were subjected to testing per the test plan. Required paid plugins were procured as per the license type for testing purposes.

WordPress

Extension Name	Plugin Name	License Type	Version Number
WordPress Instance	Default WordPress forms	Free	5.6

Subscription Management

Extension Name	Plugin Name	License Type	Version Number
Subscription	MailChimp	Free	4.8.1
	Mailster	Paid	2.4.16
	OptinMonster	Paid	2.0.3
	Newsletter	Free	7.0.0
	Sumo List Builder	Free	1.31

Membership Management

Extension Name	Plugin Name	License Type	Version Number
Membership Management	MemberPress	Paid	1.9.6
	WooCommerce	Free	4.9.0
	Restrict Content Pro	Paid	3.5.2
	Paid Memberships Pro	Free	2.5.2
	S2Member	Free	200301

Event Management

Extension Name	Plugin Name	License Type	Version Number
Event Management	Events Manager	Free	5.9.8.1
	WP Event Manager	Free	3.1.19
	Event Organizer	Free	3.10.2
	All-in-One Event Calendar	Free	2.6.8
	Event Espresso 4 Decaf	Free	4.10.10.decaf

Installation and configuration of WordPress and Plugins were carried out and documented. Refer to the folder structure and the associated link as given in the Annexure – I.

Execution of Functional Test Cases and Test Datasets

The testing was carried out per the test benchmark mentioned in the section 14 of the test plan document. Refer to Annexure IV of the test plan document.

The gating steps within an application to process UA-related identifiers – as defined in the UASG026 document – were carried out.
   a) **Accept**: how an application accepts the user input which consists of UA identifiers.
   b) **Validate**: how an application validates the UA identifier.
   c) **Process (on input)**: how an application processes the UA identifier after validation.
   d) **Store**: how an application stores the UA identifier after processing.
   e) **Process (on output)**: how an application processes the UA identifier, typically for displaying, after storing.
   f) **Display**: how an application displays the UA identifier.

The UA readiness test was carried out per the UASG004 dataset for IDNs, path IRIs, and EAI. For EAI testing, functional emails were created for various scripts.

Outcomes and observations of individual tests with respective datasets and supporting screenshots were recorded. Refer to the folder structure and the associated link as given in the Annexure – I.

UA Readiness

The below chart lists the legend used to visualize the test results:

Y	A – Level	End-to-end and all tests passed.
	B – Level	End-to-end is passed, but one or more test failed.
N	C1 - Level	End-to-end failed, but all the tests except final DISPLAY test passed.
	C2 - Level	End-to-end failed, but ACCEPT, VALIDATE tests passed.
	C3 - Level	End-to-end failed, but ACCEPT test passed.
	D – Level	Nothing passed.

Following aspects were considered while deciding on the levels of UA readiness.

Till Level C, some tests are passed, means Application shows some level of IDN/EAI awareness. The gradation within level C is done with this thought:

C1 - Overall Application shows IDN/EAI awareness, only failed due to surface level display issues
C2 - Frontend shows systematic awareness, but deeper architecture needs reforms
C3 - Frontend shows awareness, but could be due to lack of overall validation, and deeper architecture needs reforms

- "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: C1, C2, C3.

UA Readiness of Domain Names

The following table shows the overall state of UA readiness based on the testing and levels as defined in the test plan document.

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

*The lowest score observed out of the IDN dataset is taken as the overall UA readiness level for the individual plugin as shown in the table above.

UA Readiness of Path IRIs

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	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

*The lowest score observed out of each PATH IRI is taken as the overall UA readiness level for the individual plugin as shown in the table above.

UA Readiness Level of Email

Extension	Plugin Name	EAI UA Readiness
CMS	WordPress Instance	C-Level
Extension 1 Subscription Management	MailChimp	C-Level
	Mailster	C-Level
	OptinMonster	C-Level
	Newsletter	C-Level
	Sumo List Builder	C-Level
Extension 2 Membership Management	MemberPress	C-Level
	WooCommerce	C-Level
	Restrict Content Pro	C-Level
	Paid Memberships Pro	C-Level
	S2Member	C-Level

Extension 3 Event Management	Events Manager	C-Level	
	WP Event Manager	C-Level	
	Event Organiser	C-Level	
	All - in - One Event Calendar	C-Level	
	Event Espresso 4 Decaf	C-Level	

*The lowest score observed out of the email dataset is taken as the overall UA readiness level for the individual plugin as shown in the table above.

EAI Readiness – Various Categories

Functional emails used for testing:
1. Category 1: ascii@ascii.ascii
2. Category 2: ascii@idn.idn
3. Category 3: unicode@idn.idn
4. Category 4: unicode@RTL.RTL
5. Category 5: ascii@RTL.RTL
6. Category 6: ascii@punycode.punycode

The following table shows the UA readiness levels for various categories of email.

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

- In category 2, ascii@idn.idn and category 5 ascii@RTL.RTL, although end-to-end testing passed, the A-label is stored instead of U-label in the database.
- For <input> element with "type" as "email" Unicode is not permitted in the mailbox/local part of email.
- For <input> element with "type" as "text" IDN validation rules are not applied.

Refer to the summary report of WordPress and plugins in the folder structure and associated link provided in <u>Annexure – I</u>.

Field Identifiers Used in Various Plugins

The following chart indicates the different types of HTML <input> elements such as URL, email, and text used by various plugins to accept the URL and email.

Extension	Plugin Name	IDN Field Type	IRI Field Type	Email Field Type
CMS	WordPress Instance	URL	URL	Email
Extension 1 Subscription Management	MailChimp	URL	URL	Email
	Mailster	Text	Text	Email
	OptinMonster	Text	Text	Email
	Newsletter	Text	Text	Email
	Sumo List Builder	Text	Text	Text
Extension 2 Membership Management	MemberPress	URL	URL	Email
	WooCommerce	URL	URL	Email
	Restrict Content Pro	URL	URL	Text
	Paid Memberships Pro	URL	URL	Email
	S2Member	Text	Text	Email
Extension 3 Event Management	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

*For plugins that did not provide an explicit field for URL entry (the <input> element) type URL was used in the user registration form for testing.

Storage Location Used by Plugin

The following chart indicates the "storage location" for WordPress and plugins. It is observed that three plugins, namely MailChimp, OptinMonster, and Sumo List Builder store data on their own server database. For these plugins, users have no access to the database for checking the storage test.

| Extension	Plugin Name	Storage location
CMS	WordPress Instance	WordPress Local Database
Extension 1 Subscription Management	MailChimp	Plugin Server Database
	Mailster	WordPress Local Database
	OptinMonster	Plugin Server Database
	Newsletter	WordPress Local Database
	Sumo List Builder	Plugin Server Database

Extension 2 Membership Management	MemberPress	WordPress Local Database
	WooCommerce	WordPress Local Database
	Restrict Content Pro	WordPress Local Database
	Paid Memberships Pro	WordPress Local Database
	S2Member	WordPress Local Database
Extension 3 Event Management	Events Manager	WordPress Local Database
	WP Event Manager	WordPress Local Database
	Event Organiser	WordPress Local Database
	All - in - One Event Calendar	WordPress Local Database
	Event Espresso 4 Decaf	WordPress Local Database

Observations

Extension 1 – Subscription Management

- MailChimp uses <input> element with "type" as "URL". However, the URL needed to be preceded with "http://" in order to resolve properly, otherwise, the URL gets appended to the base URL and does not resolve.
- Mailster, OptinMonster, Newsletter, and Sumo List Builder use <input> element with "type" as "text". In this case, URL embedding in the newsletter/campaign content was achieved through HTML anchor tag with "href" as attribute using plugin/ WordPress' built-in editor.
- MailChimp plugin adds certain characters after the URL for ascii.ascii, ascii.new, ascii.long, ascii.punycode, punycode.ascii, and punycode.punycode, as shown below.
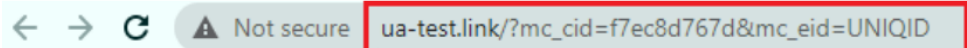
- IDN validation rules are not being applied.
- IDNs and path IRIs embedded in the content of newsletters using Mailster, do not resolve when the subscriber clicks on the IDNs / path IRIs, although the URLs/path IRIs are displayed as U-label. It was observed that when the U-label is present in the URL, the URL does not get displayed and resolved properly in the browser.

Extension 2 – Membership Management

- S2Member uses <input> element with "type" as "text" for URL/path IRIs. However, the URL needed to be preceded with "http://" in order to resolve properly or else the URL would get appended to the base URL and did not resolve.
- MemberPress, WooCommerce, Restrict Content Pro, and Paid Memberships Pro uses <input> element with "type" as "URL". The plugins automatically include "http://" in the inputted URL.
- The URL/path IRI retrieved from database doesn't get linkified in the <input> element with "type" as "text". However, for testing purposes, the retrieved URL/path IRI is copied and pasted in the browser address bar.

Extension 3 – Event Management

- All plugins use <input> element with "type" as "text". The plugins automatically include "http://" in the inputted URL.

- In case of WP Event Manager Plugin, <input> element type 'text' fails to accept U-label/Unicode; however, it accepts ASCII and A-label/Punycode.

General Observations

- The dataset using Punycode/A-label does not display in U-label within the plugin/WordPress. However, it gets resolved by the browser and displays U-label which is why the plugins are classified as B-level.
- IDN validation rules are not being applied.
- When the Chinese URL is used with Open dot it is accepted, stored, and displayed as is, but the browser converts to ASCII dot and resolves the URL.
- Normalization is not applied while processing and storing in the database.
- While using the ascii@punycode.punycode email, the plugins viz. Event management (Event Organiser and All in one event calendar) and Membership management (Woo commerce, Paid membership pro, and S2 Member) gives a message that the email already exists. Hence, new IDN equivalent Punycode emails were created for testing.
- The UASG004 data set consisted of only positive (valid) data cases so IDN support was seen on those datasets. This is mostly attributed to underlying Unicode support and built-in support at the browser level for the U-label to A-label (and vice versa) conversion. For the UA readiness explicit validation rules for IDN – path IRI and email – seem to be missing.

Recommendations

- The current version of UASG004 document needs to accommodate the negative test data so as to confirm the user input validation of internationalized identifiers.
  - Test data that has 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 characters.
- Recommendation for W3C to make HTML tags namely for URL and email to support the input validation of internationalized identifiers since HTML email tag doesn't support UTF8 characters in the "mailbox name", "account name", "username", "UTF-8 part", or "local-part".
- It is recommended that user input be stored in a way so that it can be used for search and comparison.
- Recommendation to have Test Suite/Validator for valid internationalized identifiers.

Organization of Test Documents

All test documents along with screen shots are made available through Google Drive link: https://drive.google.com/drive/folders/11ABBHzL3wr7fNOoXe1GeTydr7WYJVdFv

All of the documents can be downloaded by visiting the above link in one go. The documents are organized into four folders: WordPress, Subscription Management, Membership Management, and Event Management.

Each extension folder has sub-folders for each plugin. Each plugin has IDN, path IRIs, email sub-folders, and an overall summary sheet. It also includes an Excel file of test data execution and screen-shot folders.

For reference, below is the hierarchy structure of the Event Management. The highlighted text indicates the folder/sub-folder name. A similar structure is used for other extensions and WordPress.

Annexure – I provides a snapshot of individual documents and their links to Google Drive.

1. Event Management
   1.1. 1 - Events Manager
      1.1.1. 3-1-Installing and Configuring Events Manager.docx
      1.1.2. Contact for EAI and IDNs Support - Events Manager.pdf
      1.1.3. Domain Name Testing
         1.1.3.1. Domain Name Testing - Events Manager.xlsx
         1.1.3.2. Screenshots
      1.1.4. EAI Testing
         1.1.4.1. EAI Testing - Events Manager - IDN Test Cases.xlsx
         1.1.4.2. Screenshots
            1.1.4.2.1. Configuration Screenshots
            1.1.4.2.2. Testing Screenshots
      1.1.5. Path IRI Testing
         1.1.5.1. Path IRI Testing - Events Manager.xlsx
         1.1.5.2. Screenshots
      1.1.6. Test Summary - Events Manager.xlsx
   1.2. 2 - WP Event Manager
      1.2.1. 3-2-Installing and Configuring WP Event Manager.docx
      1.2.2. Contact for EAI Support - WP Event Manager.pdf
      1.2.3. Domain Name Testing
         1.2.3.1. Domain Name Testing - WP Event Manager.xlsx
         1.2.3.2. Screenshots
      1.2.4. EAI Testing
         1.2.4.1. EAI Testing -WP Event Manager - IDN Test Cases.xlsx
         1.2.4.2. Screenshots
            1.2.4.2.1. Configuration Screenshots
            1.2.4.2.2. Testing Screenshots
      1.2.5. Path IRI Testing
         1.2.5.1. Path IRI Testing - WP Event Manager.xlsx
         1.2.5.2. Screenshots
      1.2.6. Test Summary - WP Event Manager.xlsx
   1.3. 3 - Event Organiser
      1.3.1. 3-3-Installing and Configuring Event Organiser.docx
      1.3.2. Contact for EAI and IDN Support - Event Organiser.pdf
      1.3.3. Domain Name Testing
         1.3.3.1. Domain Name Testing - Event Organiser.xlsx
         1.3.3.2. Screenshots
      1.3.4. EAI Testing
         1.3.4.1. EAI Testing - Event Organiser - IDN Test Cases.xlsx
         1.3.4.2. Screenshots
            1.3.4.2.1. Configuration Screenshots
            1.3.4.2.2. Testing Screenshots
      1.3.5. Path IRI Testing
         1.3.5.1. Path IRI Testing - Event Organiser.xlsx
         1.3.5.2. Screenshots
      1.3.6. Test Summary - Event Organiser.xlsx
   1.4. 4 - All in One Event Calendar

1.4.1. 3-4-Installing and Configuring All in One Event Calendar.docx
1.4.2. Domain Name Testing
    1.4.2.1. Domain Name Testing - All in One Event Calendar.xlsx
    1.4.2.2. Screenshots
1.4.3. EAI Testing
    1.4.3.1. EAI Testing - All in One Event Calendar - IDN Test Cases.xlsx
    1.4.3.2. Screenshots
        1.4.3.2.1. Configuration Screenshots
        1.4.3.2.2. Testing Screenshots
1.4.4. Email for EAI and IDN Support - All in One Event Calendar.pdf
1.4.5. Path IRI Testing
    1.4.5.1. Path IRI Testing - All in One Event Calendar.xlsx
    1.4.5.2. Screenshots
1.4.6. Test Summary - All in One Event Calendar.xlsx
1.5. 5 - Event Espresso 4 Decaf
    1.5.1. 3-5-Installing and Configuring Event Espresso 4 Decaf.docx
    1.5.2. Contact for EAI and IDN Support - Event Espresso 4 Decaf.pdf
    1.5.3. Domain Name Testing
        1.5.3.1. Domain Name Testing - Event Espresso 4 Decaf.xlsx
        1.5.3.2. Screenshots
    1.5.4. EAI Testing
        1.5.4.1. EAI Testing - Event Espresso 4 Decaf - IDN Test Cases.xlsx
        1.5.4.2. Screenshots
            1.5.4.2.1. Configuration Screenshots
            1.5.4.2.2. Testing Screenshots
    1.5.5. Path IRI Testing
        1.5.5.1. Path IRI Testing - Event Espresso 4 Decaf.xlsx
        1.5.5.2. Screenshots
    1.5.6. Test Summary - Event Espresso 4 Decaf_.xlsx

Similar folder structure for the following:
Membership Management
Subscription Management
WordPress 5.6.1

Note:
- Screen shots are not available for certain non-applicable type of gate tests in various plugins.
- We have sent emails to the plugin providers regarding IDN and EAI support. The responses from the plugin vendors are provided in a .pdf file in each respective plugin folder.

Test Datasets

Domain Names Dataset (as per UASG004, 2017)

SN	Category (I)	Dataset (II)	Equivalent Punycode (IV)
1	ascii.ascii	https://www.icann.org/	-
2	ascii.new	http://ua-test.link/	-
3	ascii.long	http://ua-test.technology/	-
4	idn.ascii	普遍接受-测试.top	xn----f38am99bqvcd5liy1cxsg.top
5	ascii.idn	ua-test.世界	ua-test.xn--rhqv96g
6	idn.idn	普遍接受-测试.世界	xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g
7	idn-open dot-idn	普遍接受-测试. 世界	xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g
8	ascii.punycode	ua-test.xn--rhqv96g	-
9	punycode.ascii	xn----f38am99bqvcd5liy1cxsg.top	-
10	punycode.punycode	xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g	-
11	ascii.RTL	-	-
12	RTL.ascii	اختبار-القبولالعالمي.top/	xn----ymcabaacdn3byb2g4e1acbcs4c7b.top
13	RTL.RTL	اختبار-القبولالعالمي.شبكة	xn----ymcabaacdn3byb2g4e1acbcs4c7b.xn--ngbc5azd

Path IRIs Dataset (UASG004, 2017)

SN	Category (I)	Dataset (II)	Equivalent Punycode of Domain name (IV)
1	ascii.ascii/Unicode	-	-
2	ascii.new/unicode	ua-test.link/我的页面	-
3	ascii.long/unicode	ua-test.technology/我的页面	-
4	idn.ascii/unicode	普遍接受-测试.top/我的页面	xn----f38am99bqvcd5liy1cxsg.top/我的页面
5	ascii.idn/unicode	ua-test.世界/我的页面	ua-test.xn--rhqv96g/我的页面
6	idn.idn/unicode	普遍接受-测试.世界/我的页面	xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g/我的页面
7	idn-open dot-idn/unicode	普遍接受-测试。世界/我的页面	xn----f38am99bqvcd5liy1cxsg.xn--rhqv96g/我的页面
8	Ascii.RTL/unicode	-	-
9	rtl.ascii/unicode	اختبار-القبولالعالمي.top/我的页面	xn----ymcabaacdn3byb2g4e1acbcs4c7b.top/我的页面

10	rtl.rtl/unicode	شبكة.اختبار-القبولالعالمي/我的页面	xn----ymcabaacdn3byb2g4e1acbcs4c7b.xn--ngbc5azd/我的页面

Email Dataset

For testing purposes, we have created a few functional emails on DataMail (datamail.in) which provides an IDN compliant and free email service for English, Indian languages (namely, Bengali, Gujarati, Hindi, Kannada, Marathi, Punjabi, Tamil, Telugu & Urdu), Russian, Chinese, Arabic, Sinhala, Thai, Korean, and Japanese. As a part of the registration process, a unique mobile number is required per email registration. The following emails were created and used for testing.

SN	Category (I)	Dataset (II)	Script (III)	Equivalent Punycode for U-label (IV)
1	ascii@ascii.ascii	Kulkarni.swati12@gmail.com pranalim@sjcem.edu.in	ASCII	-
2	ascii@idn.idn	infoevaris@डाटामेल.भारत	ASCII with Devanagari	infoevaris@xn--c2bd4bq1db8d.xn--h2brj9c
3	unicode@idn.idn	पेड़बचाओ@डाटामेल.भारत	Devanagari with Nukta character	पेड़बचाओ@xn--c2bd4bq1db8d.xn--h2brj9c
4	unicode@idn.idn	इन्फोइव्हॉरिस@डेटामेल.भारत	Devanagari	इन्फोइव्हॉरिस@xn--c2bd4bq2d9bd.xn--h2brj9c
5	unicode@RTL.RTL	آزاد@ڈاٹامیل.بھارت	Urdu	آزاد@xn--mgba1gd2x6cux.xn--mgbbh1a71e
6	unicode@idn.idn	좋은아침@우편.닷컴	Korean	좋은아침@xn--vo5bi2v.xn--mk1bu44c
7	unicode@idn.idn	багряный@почта.рус	Russian	багряный@ xn--80a1acny.xn--p1acf
8	unicode@idn.idn	人工智能@电邮.在线	Chinese	人工智能@ xn--wny099c.xn--3ds443g
9	unicode@idn.idn	อรุณสวัสดิ์@คาด้ามเล.ไทย	Thai	อรุณสวัสดิ์@ xn--l3cc0bq6db2h2c.xn--o3cw4h
10	unicode@idn.idn	සුභඋදෑසනක්@දත්තතැපැල.ලංකා	Sinhala	සුභඋදෑසනක්@ xn--n0caaf2a8cxe4bb.xn--fzc2c9e2c
11	ascii@RTL.RTL	goodmorning@امارات.داده	ASCII with Arabic	goodmorning@xn--mgbpb0h.xn--mgbaam7a8h
12	unicode@RTL.RTL	أهلابك@داده.امارات	Arabic	أهلابك@xn--mgbpb0h.xn--mgbaam7a8h
13	ascii@punycode.punycode	infoevaris@xn--c2bd4bq1db8d.xn--h2brj9c	ASCII with Punycode	-

Plugins Revision Change (During Testing)

While undertaking testing for emails, the following plugins versions were automatically updated.

Subscription Management

Extension Name	Plugin Name	New Version Number	Version Number
Subscription	MailChimp	4.8.3	4.8.1
	Mailster	2.4.16	2.4.16
	OptinMonster	2.0.3	2.0.3
	Newsletter	7.0.3	7.0.0
	Sumo List Builder	1.31	1.31

Membership Management

Extension Name	Plugin Name	New Version Number	Version Number
Membership Management	MemberPress	1.9.10	1.9.6
	WooCommerce	5.0.0	4.9.0
	Restrict Content Pro	3.5.5	3.5.2
	Paid Memberships Pro	2.5.4	2.5.2
	S2Member	210208	200301

Event Management

Extension Name	Plugin Name	New Version Number	Version Number
Event Management	Events Manager	5.9.10	5.9.8.1
	WP Event Manager	3.1.19	3.1.19
	Event Organizer	3.10.4	3.10.2
	All-in-One Event Calendar	2.6.8	2.6.8
	Event Espresso 4 Decaf	4.10.10.decaf	4.10.10.decaf

WordPress

Auto updated from 5.6 to 5.6.1.

Additional Plugins Explored for UA Readiness

Apart from testing WordPress and 15 plugins per the test plan, we have undertaken the task of checking an additional 18 plugins for possible UA readiness. The table below shows the plugin name, version, field type for IDN, path IRI, and the email and mailing system used.

The chart also indicates the different types of HTML <input> elements such as URL, email, and text used by various plugins to accept the URL and email.

SN	Extension	Plugin	Version	IDN Field Type	IRI Field Type	Email Field Type	Mailing System
1	Event Management	Event Monster	1.1.6	No explicit URL field	No explicit URL field	Text	PHP Mail and SMTP
2		Modern Events Calendar Lite	5.14.0	Text	Text	Text	WP Mail
3		Quick Event Manager	9.0.22	Text	Text	Text	Mailchimp Integration Present in Paid Version
4	Membership Management	Simple WordPress Membership	4.0.2	No explicit URL field	No explicit URL field	Text	Mailchimp Add-on
5		Ultimate Member	2.1.13	No explicit URL field	No explicit URL field	Text	External SMTP
6		Members	3.1.3	URL	URL	Text	Email Marketing' Add-on can Activate in Paid Version
7		Paid Member Subscriptions	2.2.5	URL	URL	Text	Email Reminders' Add-on
8		MicroPayments - Paid Membership, Content, Downloads	1.9.23	URL	URL	Text	External SMTP
9		Users Ultra Pro 3.0	3.0.3	Text	Text	Text	Inbuilt SMTP Host Setting
10		WP-Members	3.3.7.1	URL	URL	email	External SMTP
11		Restrict User Access	2.1.2	URL	URL	Text	External SMTP
12	Subscription Management	WordPress Newsletter	1.3.9	No explicit	No explicit	email	External SMTP

				URL field	URL field		
		Plugin – Noptin		URL field	URL field		
13		MailPoet 3	3.56.0	No explicit URL field	No explicit URL field	email	Through plugin SMTP settings
14		*Email posts to subscribers	5.6.1	No explicit URL field	No explicit URL field	email	"External SMTP
15		SendPress Newsletters	1.20.10.6	No explicit URL field	No explicit URL field	Text	(WP Mail SMTP Plugin)"
16		Newsletters	4.7.1	No explicit URL field	No explicit URL field	Text	"Plugin's general Settings"
17		Email Subscribers and Newsletters	4.6.4	No explicit URL field	No explicit URL field	email	(WP Mail SMTP Plugin)"
18		"Newsletter, SMTP, Email marketing and Subscribe forms by Sendinblue	3.1.0	No explicit URL field	No explicit URL field	email	'Sendinblue's SMTP Server'

*The plugins were not subjected to testing using the dataset of the UASG004 document. However, from the type of input field used by the plugins, one can infer the state of UA readiness by referring to the "Test" outcomes above.

Annexure – I

UA Readiness Reference Documents	WordPress	Version 5.6	**Installation / setup guide - Windows Server** **Installation / Setup guide - Ubuntu OS**	**IDN Testing Report**	**Path IRI Report**	**EAI Report**	**Summary for WordPress**
UA Readiness Reference Documents Master Link: (for all folders documents and screenshots*)* https://drive.google.com/drive/folders/11ABBHzL3wr7fNOoXe1GeTydr7WYJVdFv	Subscription Management	MailChimp	Installation / setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for MailChimp
		Mailster	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for Mailster
		OptinMonster	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for OptinMonster
		Newsletter	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for Newsletter
		Sumo List Builder	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for Sumo List Builder
	Membership Management	MemberPress	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for MemberPress
		WooCommerce	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for WooCommerce
		Restrict Content Pro	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for Restrict ContentPro
		Paid Memberships Pro	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for Paid Membership Pro
		S2Member	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for S2Member
	Event Management	Events Manager	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for Events Manager
		WP Event Manager	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for WP Event Manager
		Event Organizer	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for Event Organizer
		All-in-One Event Calendar	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for All in One Event Calendar

		Event Espresso 4 Decaf	Installation/ setup guide	IDN Testing Report	Path IRI Report	EAI Report	Summary for Event Espresso4 Decaf

Naming Convention Used for Screenshot File Names

For each test, the screen shots were captured and saved with file names as outlined below with either .jpg or .png extensions.

a) W-D-N-M.jpg/.png
b) W-P-N-M.jpg/.png
c) W-E-N-M.jpg/.png
d) EX-PN-D-N-M.jpg/.png
e) EX - PN -P-N-M.jpg/.png
f) EX - PN -E-N-M.jpg/.png
g) EX - PN -C-N-M.jpg/.png

W – stands for WordPress
D – stands for domain name
P – stands for path IRI
E – stands for email
N – stands for data set number (for IDN: 1 to 13, for Path IRIs:1 to 10, Email :1 to 13 per UASG004 sequence)
M – stands for test type/gate number (1 to 7)
EX – stands for extension number (1 to 3)
PN – stands for plugin
C - Configuration

1) The file name W-D-1-1.jpg is the screen shot for the test carried out for WordPress(W), domain name function(D), first datapoint of domain dataset (1), and test type/gate (1).
2) Similarly, the file name 1-1-D-1-1.jpg is the screen shot for first extension (1), first plugin of the extension (1), domain name(D), first datapoint of domain dataset (1), and test type/gate (1)