



## Support for Internet Explorer (IE) 11

### Executive Summary

Recent actions by Microsoft have increased pressure for users of Internet Explorer to upgrade to Version 11 (IE11).

The recommended migration path for users of PegaRules Process Commander (PRPC) seeking to deploy IE11 is to upgrade to Pega 7, which was designed from its inception with modern browser technology, such as IE11, in mind. This migration path is well-proven and has been successfully completed by many Pegasystems customers.

Earlier versions of PRPC pre-date the availability of IE11, and consequently their use with IE11 is not supported, except with limitations in one of the emulation modes described below.

Microsoft has provided emulation capabilities in IE11, so that it can function to mimic earlier browser versions. These emulation capabilities provide an option to run earlier versions of PRPC with IE11 using one of these emulation modes. Use of earlier versions of PRPC with IE11 in emulation mode is supported with certain limitations as described below.

The emulation that Microsoft offers with IE11 is incomplete. Certain features are known to be missing. Other features cannot be made to work. Microsoft has made no commitment to address any of these issues. Deploying PRPC with IE11 using emulation is a trial and error process to identify and rectify issues. The responsibility for correcting issues in a customer's application rests with the customer.

The PRPC Developer Portal is not supported with IE11 – even with emulation enabled. A customer, who chooses to use IE11 with emulation for the End-User Portal, must retain IE8 or IE9 for the use of the Developer Portal.

### Establishing a Common Understanding

IE11 is the latest version of the popular browser supplied by Microsoft. They promote it as being faster, more powerful, and more secure than previous versions. IE11 is designed to operate with modern web technologies, specifically HTML5, and does not natively support many older web technologies or standards.

Many, perhaps the majority, of current web applications are built using older web technologies and will not work correctly with IE11. This is an industry-wide phenomenon, affecting many software vendors' products, and many applications that have been custom-developed within businesses.

The Pega 7 Platform was designed to leverage and be compatible with IE11 and HTML5 technology. Pega 7 has been available since mid-2013. The ability to upgrade to Pega 7 is included in Pegasystems' standard maintenance agreements.

PRPC Versions 4.x, 5.x and 6.x all predate the availability of HTML5 and IE11, and as such, were never designed or intended to operate successfully with IE11. Experience of our customers, and of Pegasystems internally has shown that these versions do not, and cannot be made to, operate successfully with IE11 in native mode. Many references are available via the Pega Discovery Network (PDN) to amplify this point.

Microsoft has announced end-of-life for IE8 and recommended that customers move forward to IE11. Recognizing that this would cause massive disruption, effort, and expense, as older web technologies need to be replaced and applications effectively rewritten, they have introduced several operating modes in IE11 that offer emulation of earlier browser versions, including IE8. None of these emulation modes is a complete panacea – each leaves gaps in specific feature support. Some gaps are well-known – such as the absence of support for Active-X (which is typically leveraged for launching desktop components such as Visio, Word, or Excel), while others emerge only after trial and error. The Microsoft Developer Network (MSDN) and other online forums provide a rich source of discussion and information about the inconsistencies and issues that are being experienced in the IE community as they grapple with this transition.

- **Compatibility Mode** (sometimes called **Compatibility View**) is set by configuring browser preferences on the client to trigger IE8 emulation.
- **Enterprise Mode** is set by defining an XML dataset that identifies, across the enterprise, which domains should use IE8 emulation, so that the end-user is automatically switched between modes depending on the application or site they visit.
- An **X-UA-Meta-Tag** option is available to allow the server-side to flip the browser into compatibility and/or Quirks mode as it streams data to the client. Pegasystems has developed IE11 hotfixes for many older versions which will include this meta-tag in the output stream sent to the browser. This corrects most, but not all, of the issues within the Platform itself, and may correct many issues within the Customer's application.

At the end of the day, any attempt at leveraging one of the emulation modes will be constrained by the completeness of Microsoft's emulation. Microsoft does not claim 100% completeness, and is not committed to rectifying errors or omissions. Thus emulation mode will always be a compromise solution.

A typical Pega deployment at a customer comprises two distinct sets of Intellectual Property (IP). The Platform and Application (if present) as shipped by Pegasystems are Pegasystems' IP. The customizations, extensions, and configuration that have been developed on behalf of the Customer (by the Customer themselves, by a 3<sup>rd</sup>-party Partner, or by Pegasystems Professional Services engaged on behalf of the Customer) are the Customer's IP.

In considering any upgrade scenario, whether from one version of the Pega Platform to another, or from one version of a 3<sup>rd</sup>-party stack component to another, it is important to understand the separation of responsibility for ensuring compatibility and correct operation.

Pegasystems is responsible for ensuring the correct operation and compatibility of Pegasystems IP with the versions of stack components that we certify to support – as published on the PDN. Any defect will be remedied under the terms of our Support Agreement. The statement of support for IE11, including the limitations in PRPC versions prior to Pega 7, has been available on the PDN since early 2014.

Furthermore, Pegasystems ensures as far as practical, that Customer IP that is built “within the model” using standard platform constructs, and avoiding Guardrail Violations, will execute correctly, albeit with some need of well-defined and limited refactoring, when upgrading to later versions of the Platform. Any defect will be remedied under the terms of our Support Agreement, and we have proactive Services Offerings which can aid in advance discovery of such potential issues prior to undertaking an upgrade.

Where the Customer IP contains constructs that are outside the model, such as custom Javascript, custom CSS, Java steps, custom HTML, 3<sup>rd</sup>-party controls, and 3<sup>rd</sup>-party libraries, then the Customer is responsible for ensuring that their IP is compatible with new versions of stack components that they deploy, and with new versions of the Platform. Defects are the responsibility of the Customer and are not covered by our Support Agreement. Pegasystems and our Partners are available to provide consulting expertise, if required, to assist in the discovery, analysis, and remediation of such defects in Customer IP.

## **Recommended Path to IE11 Support for Your Application**

Pega 7 fully supports IE11. Our strong recommendation to every customer wishing to deploy with IE11 is to upgrade to Pega 7.

Pega recommends that customers should stay current with Platform releases to ensure that they automatically keep up with 3<sup>rd</sup>-party stack compatibility. This is becoming increasingly important as Mobile stacks enter the picture, where the pace of change is more rapid, and more difficult to control.

Once the jump to Pega 7 has been completed, Pega 7 introduces a concept of lightweight “Updates”, rather than full-blown upgrades to allow our customers to stay current with lower effort and risk.

In the spirit of full disclosure, the jump to Pega 7 is unlikely to be trivial – depending on the age and level of non-Guardrail customization of your application. In the ten-plus years of technical evolution between PRPC and Pega 7, many technology and design patterns have changed in order to support Web 2.0, Mobile, and other usage preferences.

Pegasystems in conjunction with our Partners have assembled an experienced team to proactively assist with, and expedite Pega 7 upgrade jumps. Various levels of engagement are being offered, ranging from access to a specialist support desk, through short-burst consulting, right up to a full-services concierge offering to move you all the way to Production.

We strongly recommend a proactive engagement, which will be faster and cheapest over the project life, as it avoids expensive and risky reactive response which debilitates project momentum.

## **Alternative Approaches With Upside and Downside**

As discussed earlier, Microsoft has made a commendable effort to provide a stopgap approach by offering various emulation modes. None of these are perfect. All will require some trial and error and debugging effort.

Some customers have succeeded in using these emulation modes. They had to invest time and energy into discovering limitations and devising alternative approaches. They have had to give up certain capabilities that are simply no longer supported by Microsoft. If you are prepared to be pragmatic, the emulation option can offer a potentially quicker way forward. Be prepared to accept that things will not “just work”.

The biggest downside to using emulation modes is that you spend time and money, but don't actually solve the problem. You will ultimately still need to move to Pega 7. With the demise of IE8, Pegasystems will be planning the end-of-life of PRPC versions that depend on it. No timeframe is settled for this yet, and we will be consulting closely with our customers before any final decision is made

Pega 7 not only provides IE11 compatibility, it is a more secure, more performant, and richer platform, that is the base for Mobile, Social, Analytics, and Internet of Things (IOT) capabilities going forward.

## **References and Additional Information**

Microsoft Developers Network

<https://msdn.microsoft.com/en-us/library/dn321455.aspx>

Pega Discovery Network

<https://pdn.pega.com/documents/platform-support-guide>

Pegasystems “My Support Portal”

<https://pdn.pega.com/support/my-support-portal>

Stackoverflow Community

<http://stackoverflow.com/questions/23083576/ie-11-enterprise-mode-vs-compatibility-mode-and-native-mode>