

# IEEE Guide for Terms and Concepts in Intelligent Process Automation

IEEE Corporate Advisory Group (CAG)

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# IEEE Guide for Terms and Concepts in Intelligent Process Automation

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**IEEE-SA Board of Governors**  
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**IEEE Corporate Advisory Group (CAG)**

Approved 14 June 2017

**IEEE-SA Standards Board**

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**Abstract:** An all-new family of software-based intelligent process automation technologies has emerged recently. Because of the newness of this kind of automation capability, there are no common definitions of concepts, capabilities, terms, technology, types, etc. This standard is published for the purpose of promoting clarity and consistency in the use of Software Based Intelligent Process Automation (SBIPA) terminology. The definitions represent the consensus of a diverse panel of industry participants.

**Keywords:** AI, artificial intelligence, autonomic, business process management, cognitive computing, data fabric, data seeding, digital labor, digital workforce, intelligent process automation, machine learning, narrow AI, process choreography, process orchestration, robotic desktop automation, robotic process automation, RPA

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The Institute of Electrical and Electronics Engineers, Inc.  
3 Park Avenue, New York, NY 10016-5997, USA

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PDF: ISBN 978-1-5044-4354-8 STD22795  
Print: ISBN 978-1-5044-4355-5 STDPD22795

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## Introduction

This introduction is not part of IEEE Std 2755-2017, IEEE Guide for Terms and Concepts in Intelligent Process Automation.

Since approximately 2010, a new type of technology has emerged that is neither an operating system nor an application, but is a platform built to provide digital process automation that mimics human operations in a digital environment. This new technology can use single or multiple applications or systems through the standard human interface layer (HIL) in the same way a human operator would.

Early uses of this new technology have been to replace rote or strictly transactional processing previously performed by humans. With the addition of increasingly sophisticated rules engines, analytics, machine learning, and cognitive computing; these technologies are now capable of performing human tasks including assessment, reasoning, decision making, and probabilistic and/or deterministic process fulfillment. Collectively, this capability, when deployed in the modern enterprise, is “intelligent process automation.”

This guide is intended to establish basic terms, concepts, and nomenclature that promote clarity and understanding among industry participants in this emerging space. This guide is neither comprehensive nor exhaustive and is intended to be a living document periodically refreshed to maintain its accuracy, currency, and usefulness to practitioners.

It will also serve as a basis for future standards that establish technology taxonomy, functional capabilities, and descriptions.

Throughout this guide, some terms are defined using terms that are defined elsewhere within the guide. These terms will be annotated and linked within this guide. This guide is organized in three subclauses intended to first define foundational terms and then logically sequence the reader to more complex concepts and terms in a way that is self-referential and circularly consistent with the use of terms defined elsewhere in the guide.

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