
**Systems and software engineering —
High-level Petri nets —**

**Part 3:
Extensions and structuring
mechanisms**

*Ingénierie du logiciel et des systèmes — Réseaux de Petri de haut
niveau —*

Partie 3: Extensions et mécanismes de structuration

Document Preview

[ISO/IEC 15909-3:2021](https://standards.iteh.ai/catalog/standards/iso/351143f9-68ff-45bd-8137-1ca33b6f525e/iso-iec-15909-3-2021)

<https://standards.iteh.ai/catalog/standards/iso/351143f9-68ff-45bd-8137-1ca33b6f525e/iso-iec-15909-3-2021>



Reference number
ISO/IEC 15909-3:2021(E)

© ISO/IEC 2021

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO/IEC 15909-3:2021](https://standards.iteh.ai/catalog/standards/iso/351143f9-68ff-45bd-8137-1ca33b6f525e/iso-iec-15909-3-2021)
<https://standards.iteh.ai/catalog/standards/iso/351143f9-68ff-45bd-8137-1ca33b6f525e/iso-iec-15909-3-2021>



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Conformance	2
4.1 General	2
4.2 Enrichment process	2
4.3 Extension process	2
4.4 Structuring mechanism	3
5 Enrichment process	3
5.1 General	3
5.2 Instances of enrichment	3
5.2.1 General	3
5.2.2 Inhibitor arcs	3
5.2.3 Reset arcs	4
5.2.4 Read arcs	4
5.2.5 Capacity places	5
5.3 Generalized enrichment process	5
5.3.1 General	5
5.3.2 Definition of Petri nets with enrichment	5
5.3.3 Definition of enabling rule for Petri nets with enrichment	6
5.3.4 Filtering function for enrichment	6
5.3.5 Firing rule for Petri nets with enrichment	6
5.3.6 Compatibility with extensions	6
6 Extension process	6
6.1 General	6
6.2 An instance of extension: FIFO nets	6
6.2.1 General	6
6.2.2 Definition of FIFO nets	7
6.2.3 Behavioural semantics	7
6.2.4 Definition of equivalent high-level Petri net	7
6.2.5 Compatibility with enrichments	7
6.3 The generalized extension process	7
6.3.1 General	7
6.3.2 Definition of the net type	8
6.3.3 Definition of the behavioural semantics	8
7 Structuring mechanism	8
7.1 General	8
7.2 Module definition	8
7.2.1 Definition of sort generator	8
7.2.2 Definition of module interface	9
7.2.3 Definition of module implementation	9
7.3 Module instantiation	9
7.3.1 General	9
7.3.2 Definition of module instances and uses	9
7.3.3 Definition of module definition	10
7.3.4 Definition of signature and homomorphisms σ_k	11
7.3.5 Definition of variables	11
7.3.6 Definition of algebra	12

7.3.7 Definition of places and transitions $\hat{T}$	12
Annex A (informative) Guidelines for graphical notations	13
Bibliography	15

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

[ISO/IEC 15909-3:2021](https://standards.itih.ai/catalog/standards/iso/351143f9-68ff-45bd-8137-1ca33b6f525e/iso-iec-15909-3-2021)
<https://standards.itih.ai/catalog/standards/iso/351143f9-68ff-45bd-8137-1ca33b6f525e/iso-iec-15909-3-2021>