RCA Release notes RCA Gamma

Table of contents

1. Release Gamma

RCA Gamma is the thiurd public release (after Alpha and Beta) of the documents prepared by the RCA core group.

- RCA Gamma adds documents on several new concepts and adapts the structure of the RCA deliverables. Content which belongs to the specification in strict sense is being prepared in a MBSE (model-based systems engineering) approach.
- The new structure is described in “RCA Documentation Plan” [RCA.Doc.6].
- The first mode-based specifications will be released in March 2020 in the form of a “development snapshot”. A link will be made available on the access page for the Gamma release.
- Access: RCA releases are made directly available here https://public.3.basecamp.com/p/KeehzqFmXv5R2N7tGDjaEokq or through links on the EUG or EULYNX websites.
- The RCA Roadmap including planned releases for 2020 can be found in the [RCA.Doc.34].
- RCA Gamma is not yet a complete or precise specification of RCA. It is likely that the architecture will change/evolve in 2020, based on feedback we expect from within and outside of the RCA group.

2. Imprint

- Publisher: RCA Group.
- RCA Group partners: ERTMS User Group (www.ertms.be) and EULYNX (www.eulynx.eu).
-

3. New or updated content of RCA Gamma (Gamma.1 / 31.1.2020)

The complete documentation plan can be found in [RCA.Doc.6]

Id	Name	Short description	Update Gamma
RCA.Doc.1	**RCA White Paper**	The rationale for starting RCA. Foundation for MoU between EUG and EULYNX.	Unchanged
RCA.Doc.3	**RCA Process Overview**	How the RCA group works to prepare, maintain and bring the RCA specification to the sector.	Update
RCA.Doc.5	**RCA Release Notes**	Description of current release of RCA deliverables.	Update
RCA.Doc.6	**RCA Documentation plan**	Overview of the documentation set of RCA	Update

Id	Name	Short description	Update Gamma
RCA.Doc.7	**RCA FAQ**	Frequently asked questions and answers regarding RCA. Useful for a quick overview.	Unchanged
RCA.Doc.8	**Concept: Modular Safety**	A modular architecture requires and enables concepts to reduce the safety workload.	Unchanged
RCA.Doc.10	**Concept: RCA Effects - Business Case**	The economic effects (savings) of an RCA-based implementation, based on smartrail 4.0 and extrapolated to other IMs.	New
RCA.Doc.11	**Concept: Platform Independence**	The need to achieve more modularity between applications and the platforms.	Unchanged
RCA.Doc.12	**Concept: RCA Effects - Capacity**	The effects on traffic capacity for an RCA-based system.	Unchanged
RCA.Doc.13	**Concept: Architectural approach / System-of-systems perspective**	Architectural principles for the RCA.	Update
RCA.Doc.14	**RCA Glossary**	Definition of used terms.	New
RCA.Doc.15	**RCA System Concept**	A high-level description of the goals and fundamental concepts of RCA:	New doc, existing content
RCA.Doc.28	**Migration**	Ilustrates how migration towards an RCA-based system can be planned, including examples of different IMs.	New
RCA.Doc.29	**Concept: LSL - Enhanced L3, Supervision, Localisation**	Evolution of ETCS, rationale for submitted TSI CRs.	New
RCA.Doc.30	**Concept: Principles of the safety logic**	Geometric-based interlocking for more capacity and flexibility.	New
RCA.Doc.31	**Concept: Operational plan**	Concept for the standardized interface between RCA and a TMS.	New
RCA.Doc.32	**Concept: Degraded modes**	The role of degraded modes in specifying RCA.	New
RCA.Doc.34	**RCA Roadmap**	Overview planned development for RCA.	Update
RCA.Doc.36	**RCA Documentation plan - Annex**	Visualisation of the documentation plan.	New
RCA.Doc.37	**Concept: RCA effects overview**	Overview of potential the effects / benefits of an RCA-based system.	New doc, existing content
RCA.Doc.40	**RCA Architecture Poster**	Diagram of the interface architecture of RCA.	Unchanged
18E112	**LWG: Railways Localisation System HL Users' Requirements**	Provided by the Localisation Working Group of the EUG.	New
RCA.Doc.43	**Concept: Informal Architecture Overview**	Provides an informal overview, until the MBSE-generated documents are officially published.	New doc, existing content

Specification documents

The MBSE-generated specification documents will be released periodically in the form of a development snapshot starting in March 2020.

Related documents:

- RCA white paper: the rationale for starting RCA, accessible here https://ertms.be/workgroups/ccs_architecture and here https://www.eulynx.eu/index.php/home2/37-reference-ccs-architecture-white-paper.
- Command and Control 4.0 by Josef Doppelbauer (ERA): https://www.era.europa.eu/sites/default/files/library/docs/command_and_control_en.pdf

4. Feedback for RCA

Feedback for RCA is welcome! If you would like to attend a workshop or give feedback, please contact rca@eulynx.eu.
The RCA group will provide feedback on if and how feedback is integrated in future work. The RCA group will continue to provide regular updates in the form of new releases (see “RCA roadmap” [RCA.Doc.34]).

5. Authors and Reviewers of RCA

The RCA initiative is initiated and supported by EUG and EULYNX.

RCA Gamma.
The update has been reviewed by members of the RCA group and third parties including:
Rolf Mühlemann (SBB), Jack Schneider (SBB), Imtithal Aziz (NR), Nikolaus Fries (DB), Frank Skowron (DB), Adrian Wildermuth (SBB), Bernhard Rytz (SBB), Yves Wyder (SBB), Nicola Furness (NR), Steffen Stach (SBB), Marco Sommerfeld (SBB), Soraya Newton (SBB), Markus Kuhn (SBB), Jonathan Evans (NR), Roman Treydel (DB), Mirko Blazic (EULYNX), Peter Moosmann (SBB), Maarten van der Werff (Prorail), Justin Monk (NR), Emmanuel Manigart (Infrabel), Andreas Wik (TRV), Nico Hurmann (EUYNX).

RCA Beta.
The update has been reviewed by members of the RCA group including: Andrew Simmons (NR), Brian Hughes (NR), Imtithal Aziz (NR), Roman Treydel (DB), Oliver Lemke (DB), Bernd Elsweiler (DB), Mirko Blazic (EULYNX), Odile Cornet (Infrabel), Emmanuel Manigart (Infrabel), Nicola Furness (NR), Maarten Bartholomeus (ProRail), Bernhard Rytz (SBB), Steffen Schmidt (SBB), Michael Leining (SBB / nextrail), Jens Holst Møller (Banedanmark), Matthias Moritz (DB), Maarten van der Werff (ProRail), Joel Silmon (DB), Jonas Denissen (DB), Martin Zehnder (SBB), Michel Ruesen (EUG), Nikolaus Fries (DB), Peter Moosmann (SBB), Ramin Hedayati (DB), Simon Heller (DB), Thilo Girlich (DB).

RCA Alpha.
The RCA Alpha has been authored and released for feedback on the 31.1.2019 by the RCA group, including the following participants:
Roman Treydel (DB), Oliver Lemke (DB), Bernd Elsweiler (DB), Rob Dijkman (EUG), Mirko Blazic (EULYNX), Odile Cornet (Infrabel), Emmanuel Manigart (Infrabel), Nicola Furness (NetworkRail), Colin Brown (NetworkRail), Maarten Bartholomeus (ProRail), Bernhard Rytz (SBB), Steffen Schmidt (SBB), Michael Leining (SBB / nextrail), Andreas Wik (trafikverket), Jacques Cremilliac (SNCF).
Additional participants at preceding meetings and reviewers included:
Jens Holst Møller (Banedanmark), Matthias Moritz (DB), Maarten van der Werff (ProRail), Alessandro Spinozzi (RFI), Pierre-Etienne Gautier (SNCF), Markus Kuhn (SBB), Jan Bystrom (trafikverket)