RSSB1601 – Cross Industry RCM Programme Phase 2 T1010-02 Commercial

Second Presentation – Progress update and workshop on 'Strawman' Commercial Principles

15th November 2013

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OBJECTIVES FOR MEETING

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Where are we in the study?

We consulted industry stakeholders with interest in a potential RCM commercial framework

We reported consultation findings to Steering Group on 17th July 2013

We have now prepared:
- Business process mapping
- Data sharing case studies
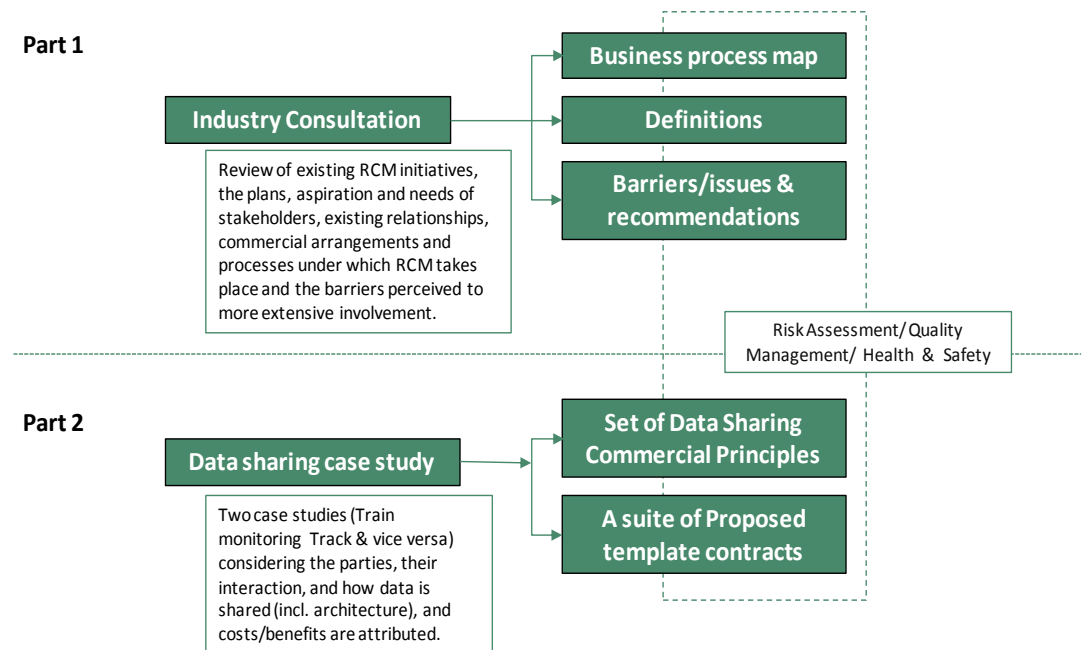- 'Straw man' commercial principles

Once agreed by the Steering Group we will:

1. Draft the template commercial contracts, and

2. Complete our reporting

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Objectives for this meeting

1. To inform Steering Group on progress:
   - Business process mapping
   - Data sharing case studies
   - Straw man data sharing commercial principles

2. To workshop data sharing commercial principles

3. To gain agreement on way forward to completing template agreements

Method Statement

Part 1

| Industry Consultation |

Review of existing RCM initiatives, the plans, aspiration and needs of stakeholders, existing relationships, commercial arrangements and processes under which RCM takes place and the barriers perceived to more extensive involvement.

- Business process map
- Definitions
- Barriers/issues & recommendations

Risk Assessment/Quality Management/ Health & Safety

Part 2

| Data sharing case study |

Two case studies (Train monitoring Track & vice versa) considering the parties, their interaction, and how data is shared (incl. architecture), and costs/benefits are attributed.

- Set of Data Sharing Commercial Principles
- A suite of Proposed template contracts

Note: The agreements we develop will not be fully defined, but templates including a range of alternatives to suit different types of RCM activity and different cross-industry relationships

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CONSULTATION FINDINGS (RECAP)

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Findings on commercial terms (1/2)

Coverage sought by TOCs/FOCs

- What data is shared, with whom it is shared, how the data will be used, who can see the data (non disclosure, restrictions on use), ready availability of data, data quality, integrity and security including Service Level Agreements

- Clarity on responsibility for renewal, maintenance and operation of kit, for data ownership, and who pays for data

- Time for rectification of relevant faults

- End of franchise handover terms to be agreed with DfT

- Common formats/interfaces and open source for business continuity planning

Coverage sought by Network Rail

- Service Level Agreements

- What data and what format?

- Level of accuracy

- Frequency of data (daily, weekly...?)

- How to decommission during works (allowing in SLA for out of service)

- Name and contacts

- Time to turn around / data processing

- Communications and reliability for data transfer (& backup method if main communication method fails).

- Consistent with industry contractual and regulatory environment, TAAs, FAs, etc.

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Findings on commercial terms (2/2)

Comments by Manufacturers

- Manufacturers already have commercial arrangements in place with ROSCOs and TOCs for:
    - Asset purchase
    - Support and maintenance
- These cover use of RCM for collecting data on manufacturers' trains
- Key issues are:
    - IPR
    - Confidentiality
    - Limits of use of data which is shared by manufacturers with ROSCOs and TOCs

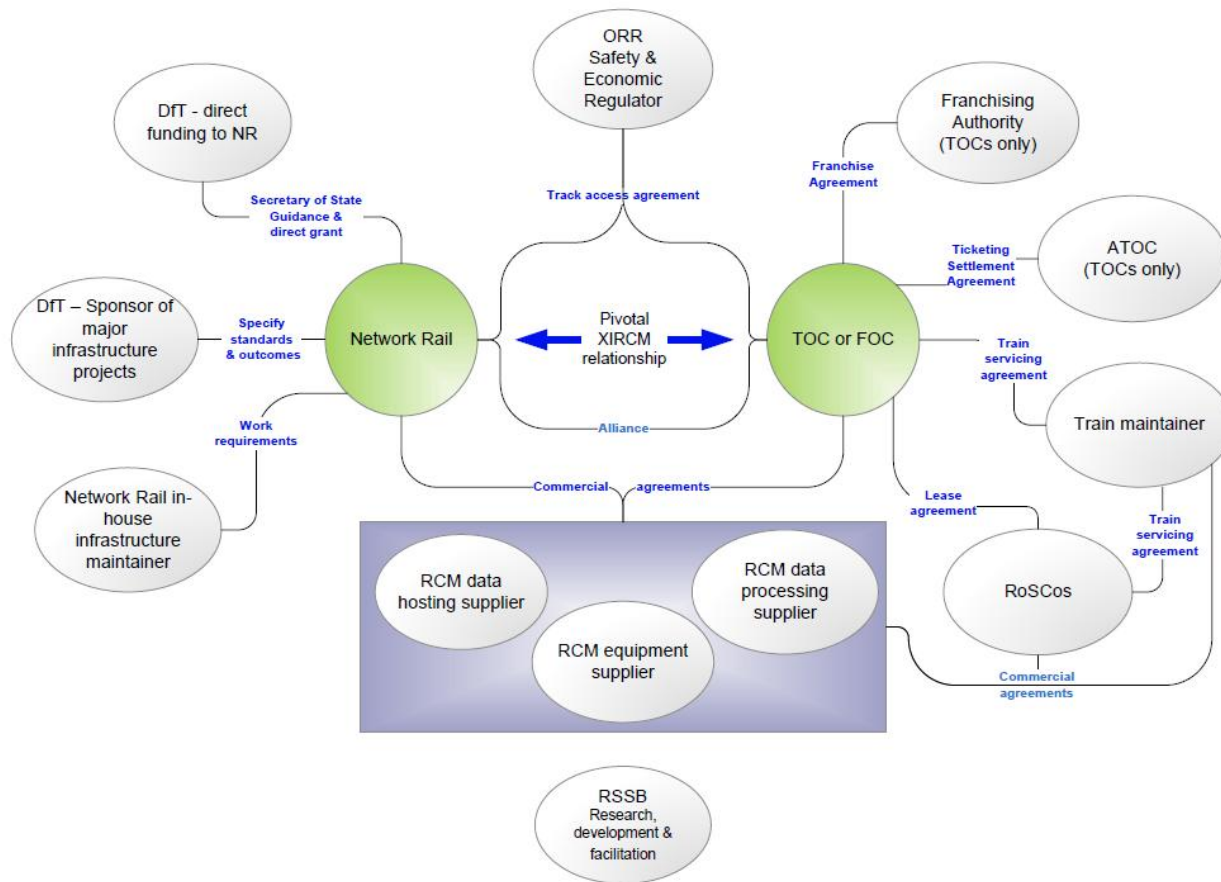## Comments by RCM Suppliers

- Suppliers have commercial agreements for
    - Supply of equipment
    - Software
    - Services
- Services include data collection, analysis and hosting, and the distribution of processed information to clients to match their needs
- Key features of agreements include:
    – Ownership of data retained by client
    – Security of data
    – Refresh rates
    – Accuracy and validation

Other observations

- Template commercial agreements need to 'enable' the technical, whatever it is, not dictate to it
  - Avoid the trap of allowing IPR to rest in 'data' rather than in its processing into value added 'information'
  - Embrace uncertainty and experimentation with data to find significant information, be brave over data quality, waive SLAs at development stage

- A heads of terms agreement may be appropriate when parties come together for the development phase of initiatives

- A full agreement would cover investment, ongoing operation and maintenance costs, SLAs, governance arrangements, rules on 3rd party involvement, data sharing, IPR on 'value add' information, etc.

- The templates should target deals between consenting parties (first step first) not the 'cloud of data' concept (a future ambition)
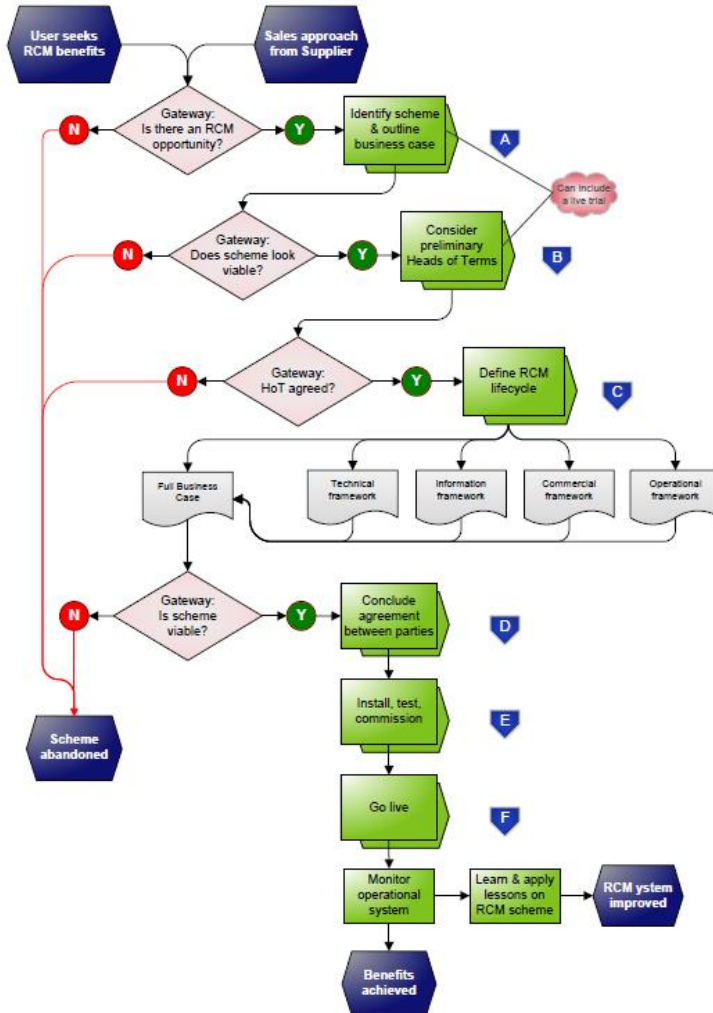
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BUSINESS PROCESS MAPPING

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Parties and relationships in XIRCM

- Key XIRCM relationship between NR & TOCs/FOCs
- RCM industry linked to NR, TOCs/ FOCs and multiple other industry parties
- NR and TOCs/FOCs also backed by multiple formal industry agreements and regulatory /funding relationships

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Idealised flow charts for RCM initiatives

- Seven step overall process map with four key decision points
- Backed by six separate detailed activity flow charts
  - A. Identify scheme and outline business case
  - B. Consider preliminary heads of terms
  - C. Define RCM lifecycle (major step leading to full business case)
  - D. Conclude agreement between parties
  - E. Install, test, commission
  - F. Go live

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CASE STUDIES

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Two topics, three projects examined

Acoustic axle bearing monitoring - 1. RailBAM

- Siemens system for infrastructure monitoring train
- Two installations fully operational trackside for Wessex alliance
- Workshop held with Siemens, Network Rail and Halcrow/CH2M Hill

Acoustic axle bearing monitoring - 2. TADS

- TTCI/Lloyds Register Rail system for infrastructure monitoring train
- Trial installation for East Coast HSTs in progress
- Not agreed by NR Route as ready for a case study just yet

Unattended OLE monitoring system - UOMS

- Serco system for train monitoring infrastructure
- Installation in place on two West Coast Pendolino trains
- Workshop held with Virgin Trains, Network Rail and Halcrow/CH2M Hill

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Acoustic axle bearing monitoring - RailBAM

The RailBAM® project

- A proprietary system from Trackside Intelligence of Australia licensed to Siemens which monitors bearing health allowing 10% to 50% increase in bearing mileage before replacement is required

- Two installations on Wessex alliance infrastructure at Southampton and Mortlake with data processed by Siemens

- Multiple parties receive data from Siemens (NR /TOCs/FOCs/other train manufacturers and maintainers)

- A stable and well established system under close supplier management

Lessons learned

- The Wessex Alliance (NR/SWT) covering the "pivotal RCM relationship" means the project is untypical of GB rail

- NR's business case was at industry level but who pays was still a key obstacle

- Siemens has multiple agreements for data supply with NR, TOCs, FOCs, other train manufacturers and maintainers

- The draft XIRCM business process maps were agreed logical and correct but not fully reflecting who pays & who benefits

- National roll-out of the project would face major difficulties apportioning costs

Acoustic axle bearing monitoring - TADS

The TADS® project

- Trackside Acoustic Detection System (TADS®) is another proprietary system licensed by TTCI of the USA to Lloyd's Register Rail

- The TADS equipment monitors bearings to detect defects that would result in overheating in due course

- A trial installation has started using the East Coast HST fleet fitted with RFID tags as part of the demonstration

- The project is a work in progress trial with the aim of proving system suitability and benefits on GB rail infrastructure

Lessons learned

- Only limited agreement is in place between Network Rail and Lloyd's Register for the trial installation

- Early stage trials and demonstration projects need to be allowed for in planning commercial contract templates

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Unattended OLE monitoring - UOMS

The UOMS project

- Unattended OLE monitoring system (UOMS) is based on proprietary equipment supplied by Serco

- Fitted to two Virgin WC Pendolinos, it measures longitudinal force on the pantograph, identifying OLE irregularities

- A user driven project based on initial set-up funding from Network Rail, it has succeeded in averting costly failures

- Ongoing management is largely informal

- When issues arose with operational and maintenance responsibilities a "minuted gentlemen's agreement" was put in place

Lessons learned

- A strikingly ad hoc but so far successful project that continues to evolve as issues arise – but which might not be sustainable across a franchise change without greater contractual formality

- The draft XIRCM business process maps were considered useful and might have benefited the UOMS project at set up, encouraging an SLA type contract (c.f. supply & install) being set up with Serco

- Lack of formal agreements has probably held back the enhancement of the system to cover other OLE/pantograph issues such as electrical interference

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COMMERCIAL PRINCIPLES (WORKSHOP ON 'STRAWMAN')

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Context and objectives

Context

- The 'strawman' sets out scoping and principles distilled from our industry consultation, business process maps and case studies

- These are still subject to legal review

- They cover many of the key issues to be included in the templates, indicating where specific provisions are required

Workshop objectives

- Steering Group input is sought to the process of finalising the commercial principles to be adopted, prior to the legal drafting of the template agreements being undertaken

Preliminary notes

Template planning

- Templates will include modules covering alternative approaches that can be chosen for different RCM activities and cross industry relationships

- Modules may be used in schedules to ensure obligations flow back-to-back between the parties

- Templates will target agreements between parties interested in common endeavour not for accessing the 'cloud of data'

- Templates are intended to have multiple uses: schemes may involve a single agreement or multiple agreements

- At an early stage preliminary Heads of Terms might be agreed

Commercial principles

- The commercial principles document needs to reflect the above

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Principle 1

Organisation and Parties

For a data collection and sharing scheme to be successful there needs to be clarity on who is the promoter, who is supporting that and the roles and responsibilities of the different parties

Roles identified include:

- Scheme Lead or Joint Scheme Leads (scheme promoter(s), who can be expected also to have other roles listed below)
- Suppliers:
  - Equipment and software suppliers/installers/maintainers
  - Data collectors/hosters/processors/analysts/distributors
- Data receivers/users/beneficiaries
- Scheme facilitators

The organisations can include NR, TOCs, FOCs, ROSCOs, manufacturers, maintainers, equipment manufacturers, software houses, data hosting firms and technical consultants

Scheme facilitators can also include governmental, regulatory and industry bodies

Principles 2, 3 and 4

Objectives

- A preamble is needed setting out the overall aims of the scheme

- There may be multiple aims for different parts of the industry which need to be referred to, whether achieving maintenance efficiency gains, better performance or other improvements

- The intention to achieve these aims by common endeavour of the parties to the agreement needs to be expressed.

- If there is to be an 'alliance' relationship with a risk/reward sharing mechanism this should also be mentioned

Governance

- Where there are Joint Scheme Leads a governance forum (management group) may be needed for scheme oversight. With an alliance this forum would have oversight of the operation of the risk/reward mechanism

[Business Case]

- [Where a business case has not already been completed who does that that will need defining

- It may be at industry level and parallel business cases may be needed for individual parties, allocating contributions and benefits to them]

Principle 5

Initial Investment/Renewals

Details are required of:

- The investments required (initial investments and potentially future renewals depending upon the intended life of the scheme)
- Which parties are responsible for delivering them and overseeing commissioning, including communications links, etc.
- Which parties are paying, how much and when, including allocation of cost/other implementation risks to parties best placed to mitigate and manage those risks
- Where equipment is being placed on the lineside, a Basic Asset Protection Agreement (BAPA) will be required with NR and responsibilities for arranging this defined
- Similarly, with on-train equipment, the necessary clearances from owners, maintainers and operators will be required and responsibilities for arranging those agreements need to be defined
- Other agreements with 3rd parties, such as the Franchising Authority or ORR, may be needed and responsibilities for arranging those agreements need to be defined

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Principle 6

System Operation, Maintenance

Details are required of:

- The tasks required to accept the system, undertake system safety assessments, put the system into operation and keep the system operational (day to day system management and maintenance, including managing equipment servicing, warranties, etc.);

- Which parties are responsible for undertaking the O&M tasks;

- Which parties pay for the O&M tasks, how much and when, including allocation of operating cost/other O&M risks to the parties best placed to mitigate and manage those risks.

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Principle 7

Data Collection, Processing, Hosting, Transmission

Details are required of:

- The data required:
  - Metadata for data to be collected,
  - Information lifecycle (initial processing, cleansing, normalising, transmission, etc.),
  - Frequency of collection and provision,
  - Time to turn around processing,
  - Levels of precision and accuracy;
- Any specific requirements regarding the data and its processing - its format following processing, whether it is required to be processed with open source software, etc.
- The tasks required for data handling (collection, processing, hosting, transmission);
- Which parties are responsible for undertaking each of the data handling tasks;
- Which parties pay for each of the data handling tasks, how much and when, including allocation of data handling cost/other data handling risks.

Principle 8

Data Ownership (IPR), Sharing, Usage and Confidentiality (NDAs)

Details are required of the intended ownership of data and of value added information made available post-processing. The principles proposed are as follows:

- Raw data:
    - Should remain the intellectual property of the party for whom it is collected (that is normally the organisation responsible for the assets being monitored, whether it is a TOC, FOC, manufacturer, maintainer or infrastructure owner), even though it is considered that raw data should generally be shared freely within the industry given appropriate licensing conditions (see below)
    - May not be ascribed value other than the allocated cost of collecting it
- Processed information:
    - Should become the intellectual property of the party for whom the data is processed (in whom IPR should rest)
    - May be ascribed value in addition to the allocated cost of processing where it enables demonstrable net savings/ value added, so leading to net industry costs being reduced

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Principle 8 (cont'd)

Sharing, Usage and Confidentiality (NDAs)

- Details are required of the data that it is intended to share, with whom and for what purpose, whether ownership is transferred.

- The principle proposed is that data ownership is not transferred but that the sharing is by means of a licence to receive and use the data for specified purposes (to be described) and subject to non-disclosure agreement (NDA) terms to be set by the owner.

- Any further processing by a party with whom the data has been shared, and any subsequent sharing with further parties, should then be subject to the same conditions and limitations.

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Principles 9 and 10

Service Level Agreements (SLAs)

Details are required of the levels of service agreed between the service providers and the users/beneficiaries. These are likely to relate principally to data or processing:

- Availability,
- Timeliness (or frequency),
- Quality (integrity, precision, accuracy),
- Transfer dependability,
- Security,
- Etc.

Warranties, [Insurances], [Liability Caps]

- Data shared by an owner with another party should not carry any level of warranty. The owner's only duty is to be open about the source and methods used to collect data. Rail industry users should be able to assess data and the risks, taking responsibility for any use to which they put it

- [We have no information on insurances being employed specific to XIRCM schemes or on limitations on liability being applied in XIRCM schemes but these are expected to be in place on many commercial contracts]

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Principles 11, 12, and 13

Alliance Risk/Reward Arrangements

- There are good reasons for more collaborative alliances where a shared risk/reward model can drive up efficiencies, performance, etc.

- In such arrangements, the targets are set out, as are how to share the risks and rewards of exceeding or missing targets

- XIRCM schemes, with clear aims for outcome improvement could also be incentivised in this way

- Provision can be made in the template agreements for clauses that would enable alliance arrangements (unspecified) to be covered

Term /Franchise-End Provisions

- Depending on the nature of the scheme and its intended longevity, carry-over of a scheme into the next franchise might be possible with equipment provision added to track access or train service agreements

Disputes, Termination, Decommissioning

- Suitable arrangements for resolving disputes and for termination, consistent with industry norms, will be needed along with specific provisions for decommissioning equipment

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NEXT STEPS

Next Steps

Take on board steering group feedback and legal comments

Update the commercial principles

Legal drafting of template commercial contracts

Obtain steering group comments and finalise

Prepare final research report covering all aspects referred to today

Prepare research brief

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