**Drugs Distribution Ledger**

**Section 1 Summary**

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| Use Case Summary | | | |
| Use Case ID: | HLC-003 | Use Case Type: | Vertical |
| Submission Date: | May 28, 2018 | Is Use Case supporting SDGs | No |
| Use Case Title: | Drugs Distribution Ledger | Domain: | Healthcare |
| Status of Case | PoC | Sub-Domain | Medicine |
| Contact information of person submitting/  managing the use-case | *Full Name*  Vadim Likholetov *Job Title CTO*  *E-mail address:*  vadikas@setere.com *Telephone number:*+7-921-417-99-55  *Social media: none Web site: http://www.setere.com* | | |
| Proposing Organization | *Limited Liability Company “Tech Medical Group”, INN 7841019901* | | |
| Short Description | Drug distribution ledger based on DLT can make the distribution process trustworthy and transparent. | | |
| Long description | Main conditions of success scenario:   * All the medical centers and pharmacies are connected to DDL * Patients can get treatment reports via the internet * All the necessary drugs distribution reports are being provided by DDL   The implementation of DLT solution, which allows tracking medical treatments and provides the necessary reports can reduce paperwork and increase common efficiency. | | |
| SDG in Focus (when applicable) | NA | | |
| Value Transfer: | No value transfer | Number of Users: | 1000+ |
| Types of Users: | Medical centers, Patients, Federal and Local Government (as auditors) | | |
| Stakeholders | Medical centers, Patients, Federal and Local Government | | |
| Data: | Information about treatment sheets, prescriptions and associated with them drugs distribution should be stored in DLT. | | |
| Identification: | Identification for inserting data to DLT is required. Reports can be provided to anonymous users depending on report type. | | |
| Predicted Outcomes: | Implementation of open DLT for collecting transactions connected with drugs distribution processes will provide transparency of the process. Also every patient can get possibility of tracking their treatment. | | |

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| Overview of the Business Problem or Opportunity |
| There is no information system for collecting all the treatment sheets, prescriptions and connected with them drugs distribution. Every medical centre makes own reports and then send it to government institutions. Patients cannot track their treatment. |
| Why Distributed Ledger Technology? |
| The Blockchain and smart-contracts make this process trustworthy and transparent. The implementation of DLT solution, which allows tracking medical treatments and provides the necessary reports can reduce paperwork and increase common efficiency. |

**Section 2 Current process**

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| Current Solutions |
| Medical centres have local Medical Information systems (issuing treatment sheets and prescriptions). Pharmacies have local Drugs distribution systems. Patients cannot track medical treatment. The necessary reports are being provided separately by every organization. |

| Existing Flow (as-is) | | |
| --- | --- | --- |
| Step | User Actions | System Actions |
| 1. | Medical Centre issues treatment sheet or prescription | n/a |
| 2. | Patient get treatment or drugs according the treatment sheet or prescription | n/a |
| 3. | Medical Centre or Pharmacy creates report | n/a |

| Process scheme (as-is) |
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| Изображение выглядит как снимок экрана  Описание создано с очень высокой степенью достоверности |

| Data and information (as-is) | | |
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| Data | Type | Description |
| **1** | Treatment sheet | List of medication and medical procedures |
| **2** | Prescription | List of medication |
| **3** | Report | Reports of Medical Centers and Pharmacies |

| Participants and their roles (as-is) | | |
| --- | --- | --- |
| Actor | Type/Role | Description |
| **1** | Medical Centre | State or private medical centre |
| **2** | Pharmacy | State or private pharmacy |
| **3** | Patient | Client of medical center or pharmacy |
| **4** | Government Institution | Regulatory or audit functions |

**Section 3 Expected process**

| Expected Flow (to-be) | | |
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| Step | User Actions | System Actions |
| 1. | Medical Centre issues treatment sheet or prescription | Registration the treatment sheet or the prescription in DDL(DLT) |
| 2. | Patient get treatment or drugs according the treatment sheet or prescription | Registration the drugs distribution event in DDL(DLT) |
| 3. | Patient get a treatment report | DDL(DLT) provides the treatment report |
| 4. | Governmental Institution get drugs distribution report | DDL(DLT) provides the drugs distribution report |

| Process scheme (to-be) |
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| Изображение выглядит как карта, снимок экрана  Описание создано с высокой степенью достоверности |

| Participants and their roles | | |
| --- | --- | --- |
| Actor | Type/Role | Description |
| **1** | Medical Centre | State or private medical centre |
| **2** | Pharmacy | State or private pharmacy |
| **3** | Patient | Client of medical center or pharmacy |
| **4** | Government Institution | Regulatory or audit functions |

| Data and information | | |
| --- | --- | --- |
| Data | Type | Description |
| **1** | Treatment sheet | List of medication and medical procedures |
| **2** | Prescription | List of medication |
|  | Treatment Report | Report for Patient |
|  | Drugs Distribution Report | Report for Government Institution |

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| Security and privacy |
| Identification for inserting data to DLT is required. Reports can be provided to anonymous users depending on report type. |

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| Main Success Scenario |
| 1. All the medical centers and pharmacies are connected to DDL 2. Patients can get treatment reports via the internet 3. All the necessary drugs distribution reports are being provided by DDL |

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| Conditions (pre- or post-) |
| 1. All the local information systems can interact with DDL 2. All the transactions needed for DDL correct working are being posted by connected information system |

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| Performance needs |
| Сommunication channel capacity |

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| Legal considerations |
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| Risks |
| Legal risks (possibility to avoid connection of a information systems to DDL) |

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| Special Requirements |
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| External References and Miscellaneous |
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| Other Notes |
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**Appendix 1**

**Domains for use cases categorization**

**Vertical**:

1. Finance
   1. Financial management & accounting
   2. International & interbank payments
   3. Clearing and settlement
   4. Reduction of Fraud
   5. Financial messaging
   6. Asset lifecycles and history
   7. Trade finance
   8. Regulatory compliance & audit
   9. AML/KYC
   10. Insurance
   11. Peer-to-peer transactions
2. Healthcare
   1. Pharma
   2. Biotechnology
   3. Medicine
3. Industries
   1. Manufacturing
   2. Energy
   3. Chemical
   4. Retail
   5. Real estate
   6. IT and telco
   7. Supply chain management
   8. Transportation and logistic
4. Government and public sector
   1. Taxes
   2. Government and non-profit transparency
   3. Legislation, compliance & regulatory oversight
   4. Voting
   5. Taxation and customs
   6. Intellectual property management

**Horizontal**:

1. Identity Management
2. Security Management
   1. Public Key Infrastructure
3. Internet of Things
4. Data storage (Inter-organizational data management)