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Orchestration and Reconfiguration Control Architecture

D4.4: Enhanced toolset for end-to-end SDR design and operation

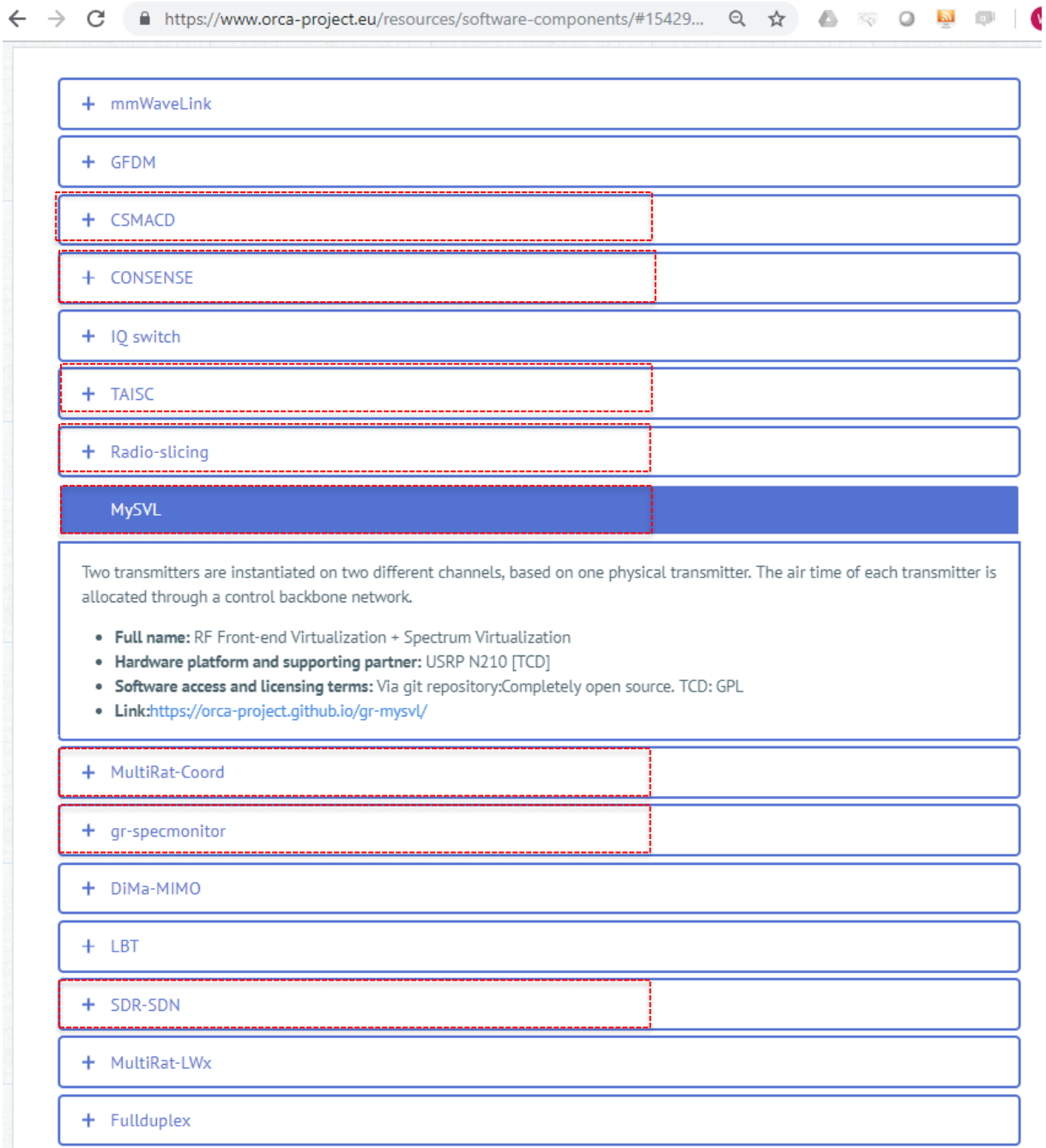
Revision: v.1.0

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| Work package | WP4 |
| Task | Task 4.1, 4.2, 4.3 |
| Due date | 31/12/2018 |
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| Deliverable lead | NI |
| Version | 1.0 |
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| Reviewers | Sofie Pollin (KUL) |

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| Abstract | This deliverable will provide an overview enhanced software tools for WP4, made available publicly or through dedicated licenses. The supporting documentation is made available in the public ORCA portal. |
| Keywords | Software tools, SDR end-to-end operation, data plane |

ORCA SDR software toolsets developed in Y2 are made available via the ORCA portal webpage <https://www.orca-project.eu/resources/software-components/>, as shown in Figure 1. Some of the software toolsets were already available in Y1, such as ‘mmWaveLink’, ‘TAISC’, though we adapted the names and try to use easy to remember acronyms. Some software components are newly added in Y2, eg the ‘LBT’, ‘SDR-SDN’ functionalities are coming from Opencall 1 for Extensions.

The components focusing more on end-to-end operation of SDR control plane are highlighted in ‘red dashed rectangular’. Please note that the non-highlighted functionalities are not excluded for SDR control plane. When clicking on the ‘+’ sign, more details of the specific software components will be displayed, including a short description of the functionality, and the link towards the code repository, the type of the repository, and access condition/permission. The content under ‘MySVL’ is shown as an example.



Browser address bar: <https://www.orca-project.eu/resources/software-components/#15429...>

- + mmWaveLink
- + GFDM
- + CSMACD
- + CONSENSE
- + IQ switch
- + TAISC
- + Radio-slicing
- MySVL**

Two transmitters are instantiated on two different channels, based on one physical transmitter. The air time of each transmitter is allocated through a control backbone network.

- **Full name:** RF Front-end Virtualization + Spectrum Virtualization
- **Hardware platform and supporting partner:** USRP N210 [TCD]
- **Software access and licensing terms:** Via git repository: Completely open source. TCD: GPL
- **Link:** <https://orca-project.github.io/gr-mysvl/>

- + MultiRat-Coord
- + gr-specmonitor
- + DiMa-MIMO
- + LBT
- + SDR-SDN
- + MultiRat-LWx
- + Fullduplex

Figure 1 ORCA software components, with functionalities for SDR end-to-end control plane highlighted