



D-NA3.2.2: Training and user documentation: updated report with evaluation and user feedback

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Executive summary

NA3 provides users and developers of the earthquake seismology community with appropriate documentation, tutorial examples, web accessible self-tuition material and training in the use and exploitation of the VERCE platform. In this reporting period, WP3/NA3 has continually collated the user manual for the VERCE platform and its user interface from other WPs. An updated VERCE forward modelling portal has been launched, so a portal user guide including a wide range of documentation has been created and published to support this. Additionally, an online help document has been written and can be accessed through the VERCE portal. The first online training workshop was in July and consisted of two sessions. In the first session the technical aspects of the portal were presented. The second session was more hands-on, with participants designing and submitting their own simulation, and viewing the results. The presentations and demonstrations from the workshop were recorded and are available through the VERCE website. The training materials were also collected as further documentation. A feedback questionnaire was designed for this workshop, and the feedback has been collected and analyzed to inform and improve future VERCE training events that are planned. During this period a key activity was also the presentation of and training in of INGV colleagues on dispel4py, which is a VERCE product for defining and executing data-intensive workflows.

1. Work Progress

In this section, we will describe the current achievements.

1.1. Data-Intensive Modelling Meeting

In order to address the data-intensive challenges of VERCE, a meeting at INGV was arranged from the 23-24 July at INGV, Rome. At this meeting the development team presented and discussed dispel4py, a VERCE product for data-intensive computation. The meeting also aimed to elicit further requirements and kick-start a wider use of dispel4py, initially within the VERCE seismology community. The dispel4Py package is a Python library used to describe abstract workflows for distributed data-intensive applications. These workflows are compositions of processing elements representing knowledge discovery activities (such as batch database querying, noise filtering and data aggregation) through which significant volumes of data can be streamed in order to manufacture a useful knowledge artefact. More information on dispel4py can be found at <https://github.com/akrause2014/dispel4py> as well as in D-JRA2.1.3. The schedule as well as relevant material for the meeting in Rome can be found at http://www.verce-project.eu/projects/verce1/wiki/DI_Meeting_INGV_July_2014.

During this meeting, a reference workflow for seismic noise cross-correlation was presented, which addressed requirements previously requested by the seismologists (e.g. modelling abstraction and flexibility, syntax familiarity / Python, execution flexibility). Participants, primarily from INGV, were then introduced to the technology and engaged in discussions about its performance and various usage scenarios. Potential ways address relevant VERCE requirements were also discussed. Pre- and post-processing of data for both the noise cross-correlations, as well as for the forward modelling and simulation scenarios can readily be handled by dispel4py. This therefore provides scientists with greater flexibility. A by-product of the training element of this meeting was that dispel4py is now also being used by INGV researchers, who, in collaboration with JRA2 colleagues are improving both dispel4py and services already provided via the VERCE science gateway.

1.2. Online training workshop in July

During this reporting period the first online training workshop for external VERCE users. This workshop covered the forward modelling use case supported by the VERCE portal, and consisted of two sessions. In the first session, held on 10th July 2014, the functionality of the VERCE portal was outlined and demonstrated. The second session (17th July 2014) was a hands-on practical session where users designed, submitted and viewed the results of their own simulations.

The first, presentation session covered three parts: an introduction to the VERCE platform, a demo of VERCE portal, and examples of practical usage of the VERCE portal. The second, hands-on was session was arranged one week later, giving attendees time read around the material they had been given. This hands-on session then consisted of three parts. In the morning new users were encouraged to familiarise themselves with the VERCE portal under the supervision of our tutors, before submitting a forward modelling job. In the afternoon participant's reviewed the results of their simulation, and tutors led a discussion of potential use for the participant's research.

Eventbrite (www.eventbrite.co.uk) was adopted as the online registration tool. Adobe Connect was used to host the webinar at Liverpool University. In total there were 9 participants who attended this workshop. These participants were from Liverpool University, INGV, KNMI and further afield.

1.2.1 Questionnaire and feedback result

A workshop feedback questionnaire (Appendix A) was designed for this workshop, and distributed to the participants. The feedback was collected and the analyzed in order to improve future VERCE training events.

Overall the feedback from the training was extremely positive, and the style of the training was well received. The participants were asked if the presentation subjects and demonstrations were clear, informative, and interesting to them. The participants were also asked if the training would make them more likely to use the VERCE platform. All participants who provided feedback gave 4 or 5 (out of 5) for all of these questions.

The participants were also asked to rate how useful they thought the platform would be for their research. Most participants agreed that '*The platform can support research I would like to undertake*', however some attendees suggested that the use case was too specific for their own uses. These users however were advanced users. While future releases of the portal will give more flexibility for the work flows, we will also be aiming future training at seismologists who do not currently have the infrastructure to do these forward simulations.

1.2.2. Training videos

The July online training presentation have been recorded and put on the VERCE website. Eight videos were recorded in total. These videos can be accessed from the following links:

- Overview of the platform (<http://www.verce.eu/Training/UseVERCE/verce-intro.wmv>, the time length is 11:08 minutes).
- Forward simulation codes (<http://www.verce.eu/Training/UseVERCE/verce-fm-code.wmv>, the time length is 18:05minutes).
- Compute resources (<http://www.verce.eu/Training/UseVERCE/verce-sources.wmv>, the time length is 10:20 minutes).
- Certificate (<http://www.verce.eu/Training/UseVERCE/verce-certificate.wmv>, the time length is 8 minutes).
- Portal Overview (<http://www.verce.eu/Training/UseVERCE/verce-portal-overview.wmv>, the time length is 5:48 minutes).
- Portal setup (<http://www.verce.eu/Training/UseVERCE/verce-portal-setup/wmv>, the time length is 25:48 minutes).
- Portal access result (<http://www.verce.eu/Training/UseVERCE/verce-portal-result.wmv>, the time length is 19:09 minutes).
- Portal practice (<http://www.verce.eu/Training/UseVERCE/verce-portal-experi.wmv>, the time length is 13:23 minutes).

1.2.3. Training presentation documents

The materials from the July online training workshop have been collected and have been put on the VERCE website. This includes PDFs of the slide shows that were given, which complement the videos of the presentation being given live (<http://verce.eu/Training/UseVERCE.php>).

1.2.4. External training and conference opportunities

Selected external training and conference events are published on the Redmine News and on the VERCE website (<http://www.verce-project.eu/projects/verce1/news>). In this reporting period, 24 events have been published.

1.2.5. Other user documentation

During this deliverable period, the VERCE forward modelling portal was launched. A range of user documentation was written. This documentation consists of:

- Install the gUSE gateway framework with the VERCE forward modelling portal (http://www.verce-project.eu/projects/deploy1/wiki/01-Install_the_gUse_gateway_framework_with_the_Liferay_portal)
- Personalize the VERCE forward modelling portal (http://www.verce-project.eu/projects/deploy1/wiki/02-Personalize_liferay_portal)
- How to configure GT5 resource in VERCE forward modelling portal (http://www.verce-project.eu/projects/deploy1/wiki/03-How_to_configure_GT5_resources)
- Install and redeploy the forward modelling portal (http://www.verce-project.eu/projects/deploy1/wiki/04-Install_and_redeploy_Forward_Modelling_portlet)

1.3. Second online training workshop on 15th-16th October

The second two day online training workshop is focused on Data-Intensive seismology applications, and will run from the 15th -16th October. The contents and agenda of this training event has been developed and finalised. The online registration is available, and participants have begun to sign up.

This workshop will explain the basics of dispel4py, its concepts and building blocks and how to use it. The attendees will learn through hands-on exercises how to write and develop their own workflows. During the workshop the attendees will develop a seismology workflow in dispel4py that implements pre-processing and cross-correlation of seismologic traces. At the end of the workshop attendees will have implemented a cross-correlation workflow. We are also going to provide solutions for each exercise so attendees can take home a complete workflow.

2. Next steps

In the next period, we will mainly focus on the following two tasks:

1) Online Training workshop on 15th-16th October.

- Record videos and publish on VERCE website
- Collect all presentation documents and publish on VERCE website
- Collect feedback from the participants

2) Arranging a Face-to-Face VERCE training workshop that open to the wider community

- Date: February 2015
- Duration: 3 days

- Venue: LRZ
- Update and modify the proposed program based on the feedback obtained from the two online training events.
- Advertise as widely as possible via emailing lists, conferences, and institutional contacts

3) Arranging the final VERCE training workshop that opens to the wider community

- Date: July 2015
- Duration: 3 days
- Venue: University of Liverpool
- Revise the time table on the basis of the feedback from the winter training event.
- Advertise as widely as possible via emailing lists, conferences, and institutional contacts

4) Maintaining and adding to the online resources

- This should be designed to not only provide adequate support and a safety net to users who have attended a training event, but also to external users that have not been able attend one of the events.
- Add case studies of work that has been done (either by VERCE members or external users) to stimulate and

Appendix A --- Questionnaire

VERCE webinar feedback form

(10th July 2014)

Please provide you email address if there are points that you would be happy for us to contact you about directly

Name:

Email:

Please rate how strongly you agree with each point below

(1 strongly disagree, 5 strongly agree, n/a this does not apply to me)

The webinar

The presentation subjects were interesting to me

1 2 3 4 5 n/a

The presentations were clear and informative

1 2 3 4 5 n/a

The demonstration was interesting to me

1 2 3 4 5 n/a

The demonstration was presented in a clear and informative manor

1 2 3 4 5 n/a

Please comment on any points that you did not feel were clear, or any suggestions for improvements or further content you have.

The platform

I am more likely to use the VERCE platform because of the training

1 2 3 4 5 n/a

(If no, please specify what other methods you are likely to use and why.)

The platform can support research I would like to undertake

1 2 3 4 5 n/a

(If you do not agree, please specify what cannot currently be supported, and what sort of research you would like to be able to do)

The VERCE platform is the easiest way for me to run full waveform simulations

1 2 3 4 5 n/a

I would like to attend future VERCE training

1 2 3 4 5 n/a

Is there any further content or further functionality that you would like to see supported in future VERCE training events?

Glossary and Links

WP3	Work Package 3
NA3	Equivalent to Work Package 3 (WP3)
LRZ	Leibniz-Rechenzentrum
INGV	Istituto Nazionale di Geofisica e Vulcanologia
KNMI	Koninklijk Nederlands Meteorologisch Instituut