eduMEET

Video-conferencing system for research, education and art communities

GÉANT-EUNIS - Cloud Management Workshop
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Task leader GN4-3 WP4 T2

www.geant.org
eduMEET  easy and affordable VC for NRENs

WebRTC based web-conferencing tool delivered as a software package for on-prem installations

The platform is part of the GÉANT online services portfolio

NRENs can run it as Software as a Service for their institutions
eduMEET easy and affordable VC for NRENs
Overview of the Offering

Open source web-conferencing system

Interactive, web-based videoconferencing platform
supporting distant learning processes (LTI, official Moodle plugin)

Created by the GÉANT community for R & E community

Trustworthy, private, self-hosted and secure

We do understand needs of our community!
Story behind eduMEET – design assumptions

Introduce a complete, alternate VC system to commercial solutions

Develop technical infrastructure and components for open WebRTC services

Provide common, open-source system for research, educational and art communities

Simplify real-time communication and introduce web browsers based tools
Benefits and Value for Users

- Our own, open source software
- Secure communication
- Trust on level of similar organisations
- Trustworthy keeping the AV traffic inside the GÉANT & NRENs network
- Low cost compared with commercial solutions
- WebRTC standards and easy to use
- No need for installation of custom applications or plug-ins
## Key Components

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebRTC audio/video communication</td>
<td></td>
</tr>
<tr>
<td>Screen sharing, file sharing and chat feature</td>
<td></td>
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<tr>
<td>Federated login, including eduGAIN</td>
<td></td>
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<tr>
<td>Speaker detection (microphone analyzer with visual indicator)</td>
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<tr>
<td>Audio and video streams management</td>
<td></td>
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<tr>
<td>Full-screen mode, raise hand option, connection testing</td>
<td></td>
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<tr>
<td>Customisable view layout (democratic and filmstrip)</td>
<td></td>
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<tr>
<td>High resolution support – tested up to 4K</td>
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</tr>
</tbody>
</table>
# eduMEET comparison with commercial solutions

## Advantages:
- For R&E community
- Trust & security
- Traffic remains in GÉANT
- Open standards
- Open source
- Software download free of charge

## Key features:
- Hybrid version
- Integration into LMS
- Forward-looking features (AR, VR, face recognition, etc.)

<table>
<thead>
<tr>
<th></th>
<th>eduMEET</th>
<th>LifeSize</th>
<th>Zoom</th>
<th>Jitsi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open standard (WebRTC)</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Data in research network</td>
<td>No</td>
<td>Partially possible</td>
<td>Possible</td>
<td></td>
</tr>
<tr>
<td>eduGAIN login</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Web based app</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>40 participants</td>
<td>50</td>
<td>1000</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>LMS integration possible</td>
<td>No</td>
<td>Yes</td>
<td>Possible</td>
<td></td>
</tr>
<tr>
<td>Free for users</td>
<td></td>
<td>19 USD</td>
<td>15 USD</td>
<td>Free</td>
</tr>
<tr>
<td>Video and content resolution 4K</td>
<td>4K</td>
<td>HD</td>
<td>HD</td>
<td></td>
</tr>
<tr>
<td>Claim room</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Raise hand</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

LifeSize: Open standard (WebRTC) - Yes, Data in research network - No, eduGAIN login - No, Web based app - Yes, 40 participants - 50, LMS integration possible - No, Free for users - 19 USD, Video and content resolution 4K - 4K, Claim room - No, Raise hand - No

Zoom: Open standard (WebRTC) - No, Data in research network - Partially possible, eduGAIN login - Yes, Web based app - No, 40 participants - 1000, LMS integration possible - Yes, Free for users - 15 USD, Video and content resolution 4K - HD, Claim room - Yes, Raise hand - Yes

Jitsi: Open standard (WebRTC) - Yes, Data in research network - Possible, eduGAIN login - Yes, Web based app - Yes, 40 participants - 50, LMS integration possible - Possible, Free for users - Free, Video and content resolution 4K - HD, Claim room - Yes, Raise hand - Yes
Uptake summary

Software has been deployed by

- 14 NRENs
- more than 10 institutions

and in more than 80 nodes known

COVID-19 and lockdown have been the reasons for much bigger interest and uptake than it was foreseen for the beta phase.
eduMEET nodes and users

1000 unique users/month
200 download/month

GÉANT | UP2U
Kazakhstan | Malaysia | Pakistan | Russia
Operations: Delivery model

Software package and documentation

Available for download from publicly accessible repository as:

- source code software, under the MIT license (at GitHub)
- package version - DEB (Debian, Ubuntu) and RPM (CentOS)
- docker version - dockerised version + ansible scripts

In addition, eduMEET demo instance hosted by GÉANT
Roadmap 1/2

Sub-versions releases - on a quarterly basis

Every quarter, subsequent versions containing bug fixes and minor functional changes will be released

Every six months, main versions containing new functionalities will be released

New versions will be promoted via website, GitHub, mailing lists and other community channels
## Roadmap 2/2

<table>
<thead>
<tr>
<th>Delivered</th>
<th>Coming soon (mid 2021)</th>
<th>Big picture (2022)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFU-based version</td>
<td>Mesh of servers</td>
<td>Continue integration with legacy VC systems</td>
</tr>
<tr>
<td>Peer-to-peer version</td>
<td></td>
<td>Advanced audio mixing</td>
</tr>
<tr>
<td>Basic VC functionalities</td>
<td>Streaming / webinars</td>
<td>Client optimisation (reducing size of streams)</td>
</tr>
<tr>
<td>STUN/TURN integration</td>
<td>Standardisation processes</td>
<td>Standardisation processes</td>
</tr>
<tr>
<td>Federated login</td>
<td>Claim rooms</td>
<td>Further integrations with LMS</td>
</tr>
<tr>
<td>Lobby</td>
<td>Self view (disable + mirror)</td>
<td>Whiteboard</td>
</tr>
<tr>
<td>Session management</td>
<td>Expanded error handling + sessions restore</td>
<td>Background blur</td>
</tr>
<tr>
<td>Localisation/translation</td>
<td>Private tracker for file sharing</td>
<td></td>
</tr>
<tr>
<td>Basic integrations in LMS</td>
<td>Local recording feature</td>
<td>Advanced monitoring, Prometheus integration</td>
</tr>
<tr>
<td>Scalability</td>
<td>Remote recording feature</td>
<td>Hybrid version (SFU based with peer-to-peer)</td>
</tr>
<tr>
<td>Room management</td>
<td>Integrations in LMS (LTI)</td>
<td>Investigate new research and technical areas (8K, 3D, AR, VR, gestures &amp; face recognition)</td>
</tr>
</tbody>
</table>
Marketing

eduMEET EU trade mark (word mark, classes 9 and 38)

Webpages: edumeet.org

Demo service: edumeet.geant.org

Mailing lists
  • community@edumeet.org (open list, with open archive)
  • support@edumeet.org (open support mailing list)

Articles in CONNECT magazine, presentations & demonstrations, video being prepared

Integration with GÉANT services like eduTeams, but also with Moodle
Thank you

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