



TIMES Cloud Service

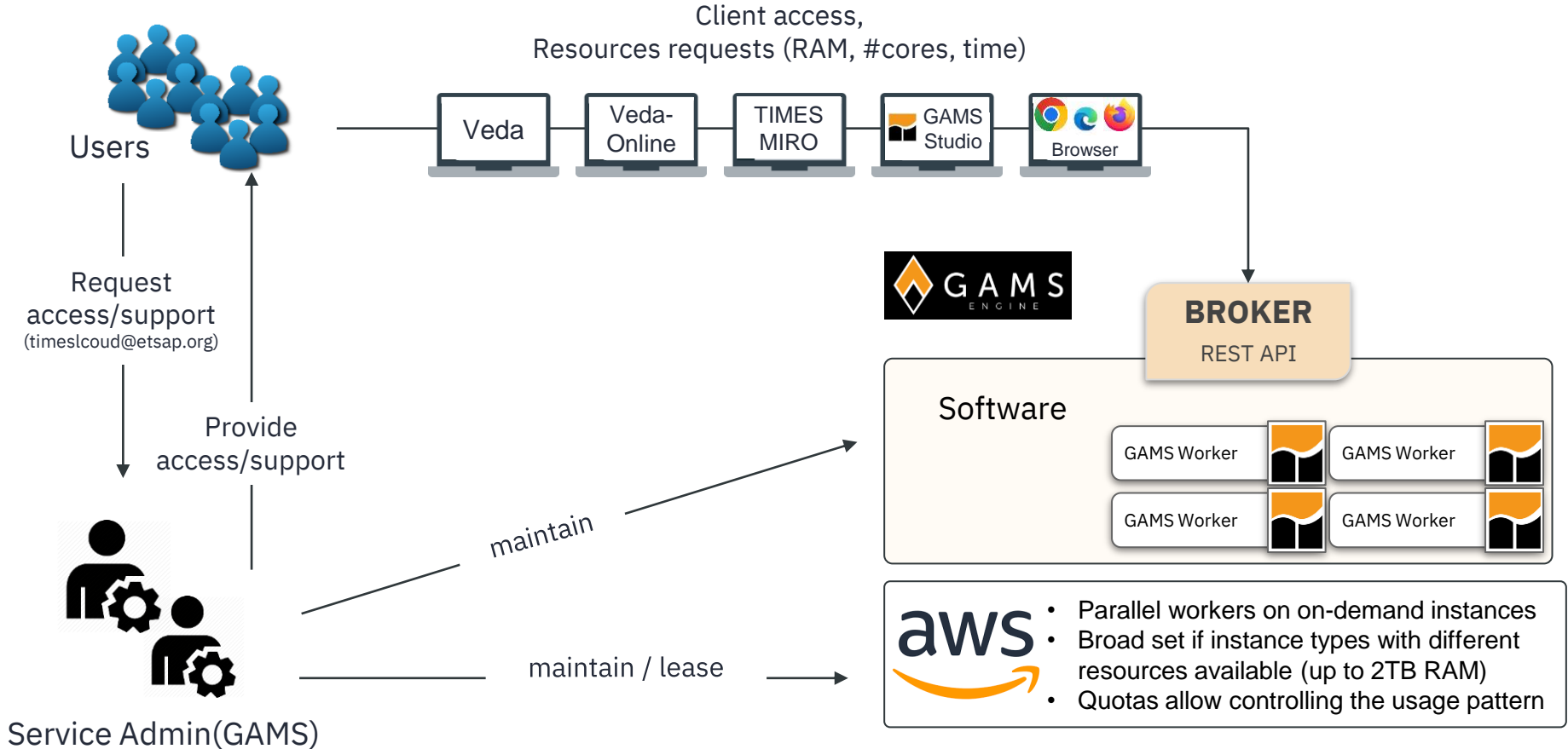
Proposal for an IEA-ETSAP funded project submitted to the Winter 2022 ExCo meeting
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TIMES Cloud Service



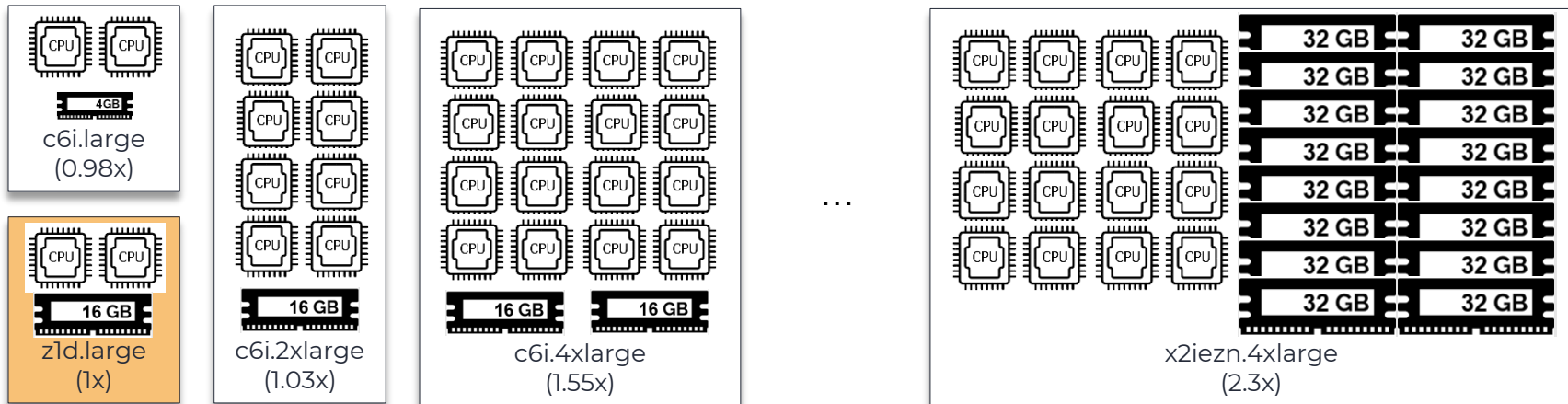
Follow up to currently active ETSAP Project: TIMES Cloud Service (04/2021 – 03/2023)





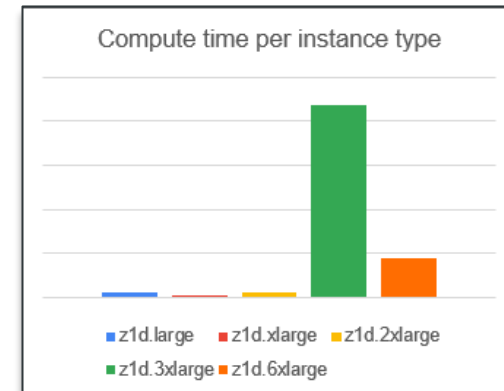
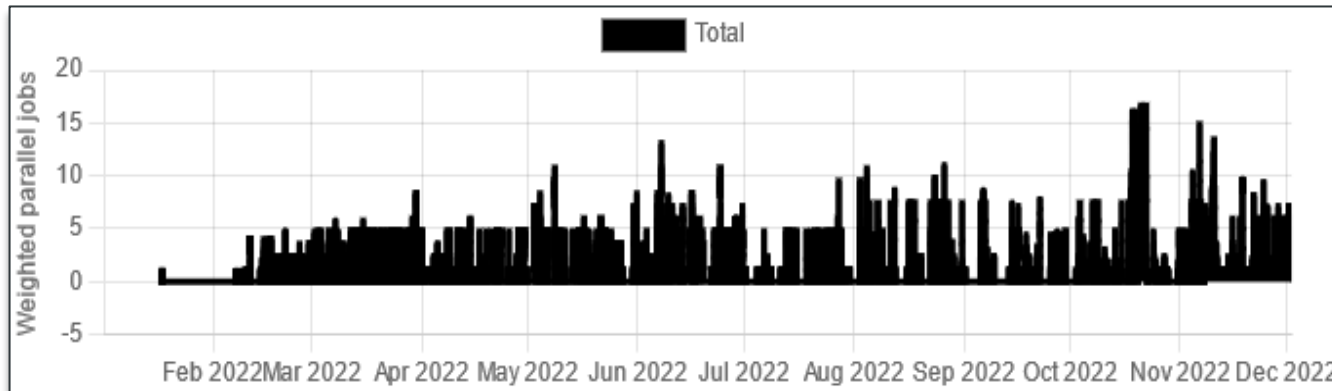
Using different instances

- Depending on input data and parameterization, TIMES models can differ dramatically in size and complexity
 - different TIMES models require different compute resources.
- Currently 20 instance types available
- Instances with up to 128 vCPUs and 2,048 GB RAM available
- Default instance (z1d.large) can be used for 4,000 hours
 - Quota consumed faster on larger instances according to multiplier
- Horizontal Scaling: Parallel Jobs





Usage pattern in current project



- Up to 17 parallel jobs
- Different instances are used
- 2,500 hours of compute time consumed since February 2022
- Vast majority of jobs from Veda-Online (or Veda)
- 24 registered users
 - Contains shared Veda-online account (~20+ users)
- Currently entire budget (made available in monthly chunks) accessible to everyone (first come first serve)



Quota and User Management

- Introduce a user hierarchy that ensures a fair distribution of compute resources among the ETSAP contracting parties.
 - Users should be associated to a contracting party
 - Quota split evenly among contracting parties (who want to use the service)
- 4,000 hours per year, made available in monthly chunks. Unused hours roll over to the next month
 - 90% for ETSAP contracting parties, 10% for outreach activities / prospective users
- Contracting parties can increase quota in chunks of 100 hours (5.57 EUR/h)
- Single point of contact: timescloud@etsap.org (should be redirected to GAMS)

Schedule and Costs



Item	Description	Partner	Line Total
1	TIMES Cloud service (04/01/2023 – 03/31/2024)	GAMS	€22,300
Total funding requested from ETSAP			€22,300

- EUR 17,300: 4000h Compute time budget¹ (includes license and cloud computing costs)
- EUR 5,000: Administration and Maintenance
 - User mgmt.
 - Updating TIMES versions

¹ 4,000 hours GAMS/CPLEX and GAMS/Conopt on z1d.large instance. **40% discount** compared to current pricing.



Thank You!

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