



101001100001
011000111010
1100101010

EUROPEAN WEATHER CLOUD






EWC Basics

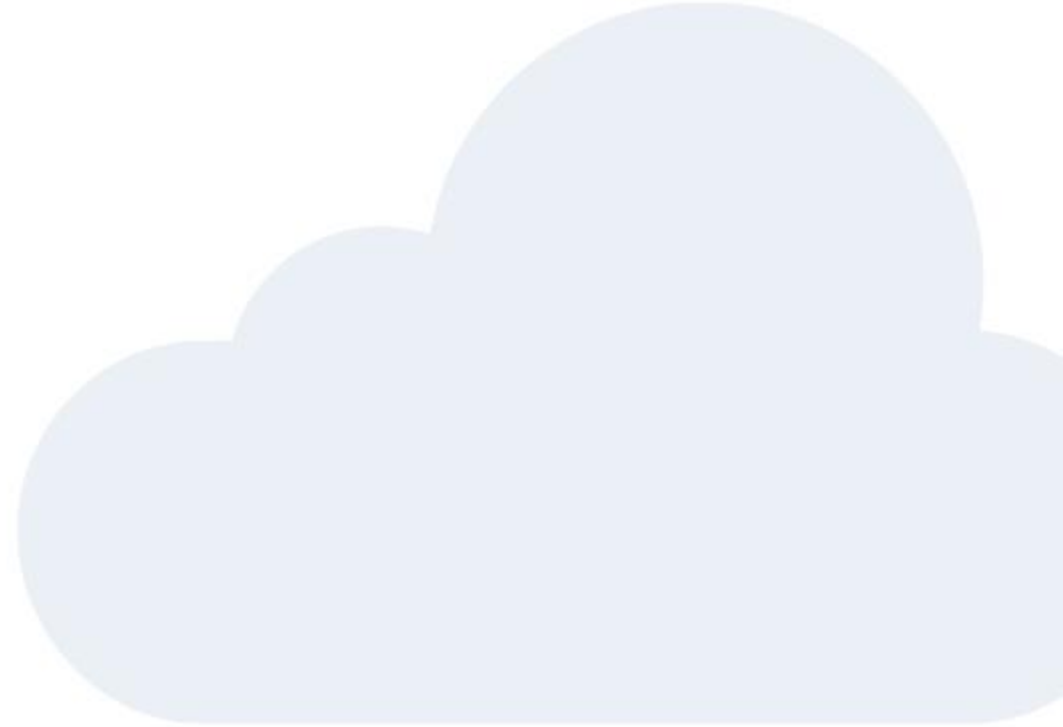
EWC User Workshop

13 November 2024

Roberto Cuccu (ECMWF)

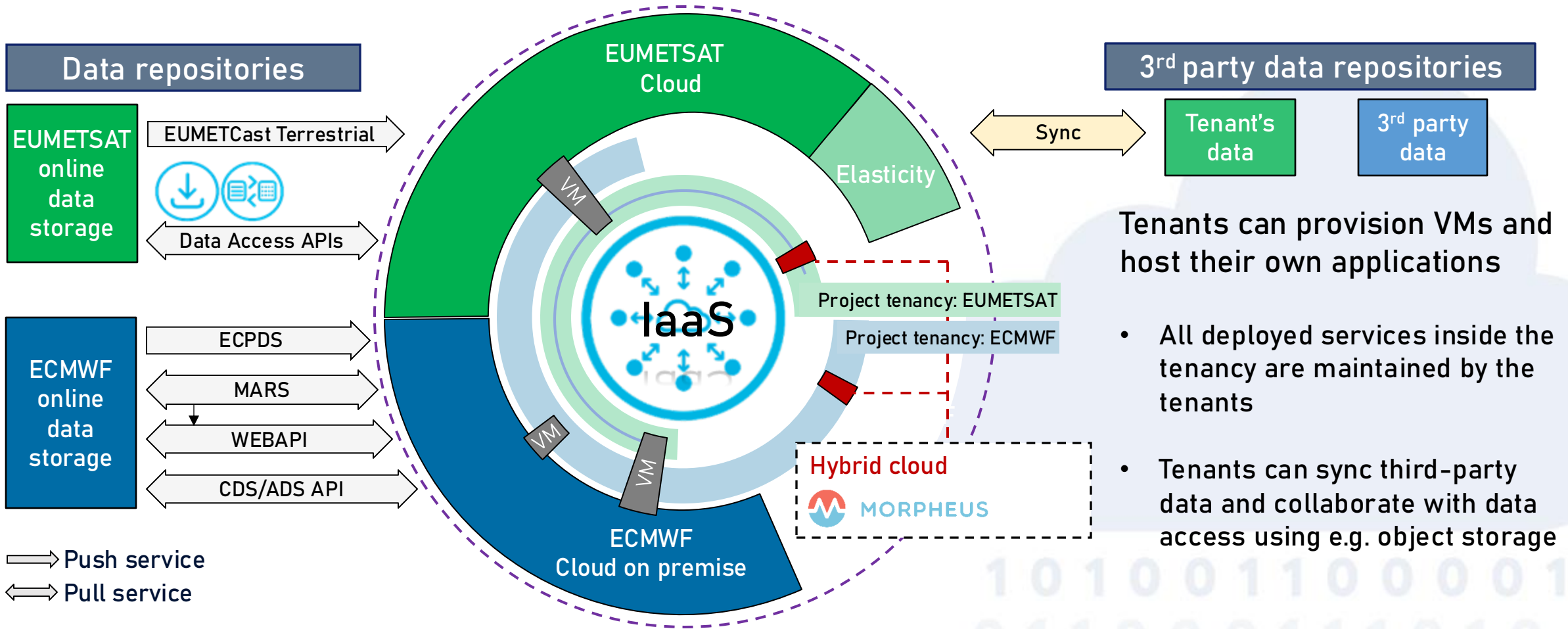
Outline

-  High level design
-  Service structure
-  Available resources
-  How to get access
-  Training material and events



1 0 1 0 0 1 1 0 0 0 0 1
0 1 1 0 0 0 1 1 1 0 1 0
1 1 0 0 0 1 0 1 0 1 0 1

High Level Design



EWC Service structure

The service consists of cloud computing resources provided by ECMWF and EUMETSAT and controlled by a cloud management platform. Users are given an account (tenancy) and can deploy and manage their virtual resources and application environments to both cloud infrastructures (EUMETSAT and ECMWF).

Virtual Environments



Isolated cloud tenancy



Virtual Machines



Block and Object Storage



Virtual Networking

Resources Management



Blueprints and Instance types



Automation tools



Monitoring and Reporting



Metering and Accounting Service

Support & Collaboration



Support Portal



Knowledge Base Documentation



Discussion Platform

Operational Infrastructure



Cores	5000
Memory	40 TB
Storage	3.7 PB usable
GPUs	240 VGPUs (10 GB partitioning)

Cores	5632
Memory	53 TB
Storage	4.2 PB usable
GPUs	32 x A100 80 GB

- Hosted externally with 10 Gbps link to EUM
- Sizing may increase in following years based on demand

- Colocated with HPCF and DHS in Bologna DC
- 2 Production clouds - one on each computer hall

Member and Cooperating State allocations

EUMETSAT	Member state	CBU	vCPU	Mem (GB)	Storage (TB)	vGPU
	Austria	48012	64	512	63	4
Belgium	48012	64	512	63	4	
Bulgaria	36009	48	384	47	3	
Croatia	36009	48	384	47	3	
Czech Republic	36009	48	384	47	3	
Denmark	48012	64	512	63	4	
Estonia	36009	48	384	47	3	
Finland	48012	64	512	63	4	
France	156038	208	1664	206	13	
Germany	204050	272	2176	269	17	
Greece	36009	48	384	47	3	
Hungary	36009	48	384	47	3	
Iceland	36009	48	384	47	3	
Ireland	48012	64	512	63	4	
Italy	120029	160	1280	158	10	
Latvia	36009	48	384	47	3	
Lithuania	36009	48	384	47	3	
Luxembourg	36009	48	384	47	3	
Netherlands	72017	96	768	95	6	
Norway	48012	64	512	63	4	
Poland	48012	64	512	63	4	
Portugal	36009	48	384	47	3	
Romania	36009	48	384	47	3	
Slovakia	36009	48	384	47	3	
Slovenia	36009	48	384	47	3	
Spain	96023	128	1024	127	8	
Sweden	60015	80	640	79	5	
Switzerland	60015	80	640	79	5	
Turkey	72017	96	768	95	6	
United Kingdom	156038	208	1664	206	13	
SAF Basic allocation	24006	32	256	32	2	
SAF Specific allocation	72017	96	768	95	6	
				0		
R&D calls	600146	800	6400	791	50	

ECMWF	Member / Cooperating State	CBU	vCPU	Mem [GB]	Storage [TB]	vGPU
	Austria	79458	188	888	68	4
Belgium	90055	213	1006	77	5	
Bulgaria	35802	85	400	31	2	
Croatia	38759	92	433	33	2	
Czech Republic	45017	106	503	39	2	
Denmark	71818	170	802	62	4	
Estonia	35570	84	397	31	2	
Finland	61533	145	687	53	3	
France	327033	772	3653	281	15	
Georgia	33054	78	369	28	2	
Germany	462881	1093	5171	398	22	
Greece	53150	126	594	46	3	
Hungary	40665	96	454	35	2	
Iceland	34696	82	388	30	2	
Ireland	67236	159	751	58	3	
Israel	53981	128	603	46	3	
Italy	243657	576	2722	209	12	
Latvia	34037	80	380	29	2	
Lithuania	35152	83	393	30	2	
Luxembourg	37634	89	420	32	2	
Montenegro	32460	77	363	28	2	
Morocco	38870	92	434	33	2	
Netherlands	129713	307	1449	111	7	
North Macedonia	32818	78	367	28	2	
Norway	77390	183	864	67	4	
Portugal	56794	134	634	49	3	
Romania	45397	107	507	39	2	
Serbia	37751	89	422	32	2	
Slovakia	37824	89	423	33	2	
Slovenia	37983	90	424	33	2	
Spain	174676	413	1951	150	9	
Sweden	93899	222	1049	81	5	
Switzerland	108474	256	1212	93	5	
Türkiye	110309	261	1232	95	6	
United Kingdom	322010	760	3597	277	15	
Special Projects	147602	845	3994	307	18	

EWC entirely funded by ECMWF and EUMETSAT Member and Co-operating States

Resources redistribution done proportionally to Member States contributions, with a basic component to ensure meaningful allocation

CBU – Cloud Billing Unit

(CBU == EWCU)

Member State shares are managed by the Computing Representatives

Expected availability

EWC Service definition



The expected service levels are objectives. *All data, applications, content and information to which the EWC Services provide access is made available 'as is'.*

See EWC Service definition and Terms and Conditions in our Knowledge base for more details

Terms and conditions



Time to first response

1 day on business hours

Lead time to respond to the ticket and start the task

Time to resolution plan of service request

8 business days

Time to assessment and to the resolution plan of the service request including support requests and service change requests

Lead time to on-board

3 business days

Lead time to onboard an approved new user counted from the approval by the Computing Representative / R&D project and Special Project acceptance

Expected availability of deployments and reachability of the VM/service

99.5%

The availability of the deployed resources including the whole virtual environment explained above. This availability also includes the reachability of the VM/service from the Internet.

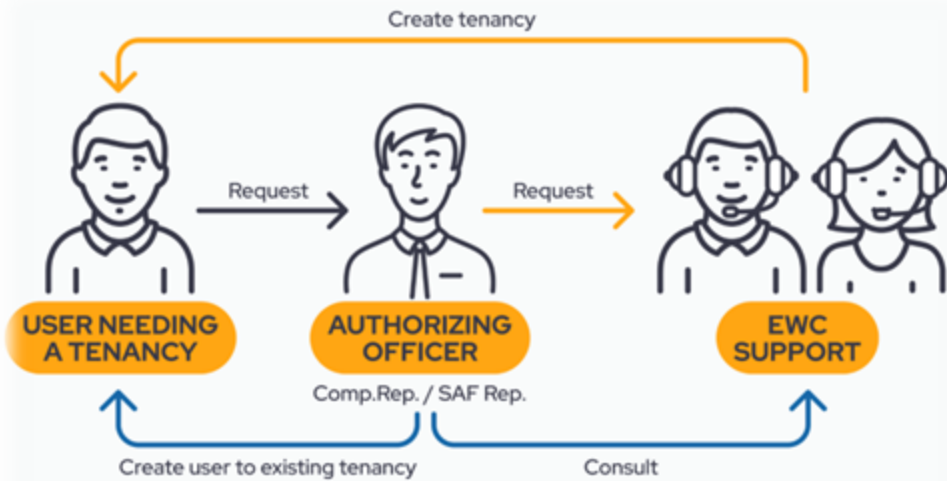
Availability of Cloud Management Services

99.5%

The EWC tools such as the provisioning portal, metering and accounting services.

Getting a tenancy workflow

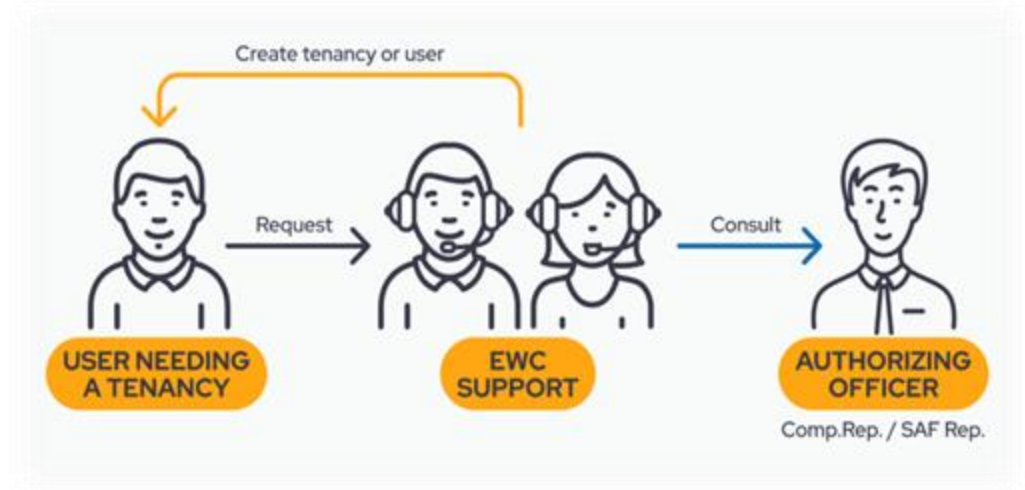
Default flow



Tenancy will be created to either ECMWF or EUMETSAT side based on the primarily use case

- Tenancy can have resources at both sides
- Member states can have tenancies at both sides

Alternative flow



Users may be directly in contact with EWC support in which case support will consult authorizing officer or forward the request

ECMWF Special Projects and EUMETSAT R&D Call



ECMWF Special Projects can also include EWC resources in their application, closes each year on 30 June

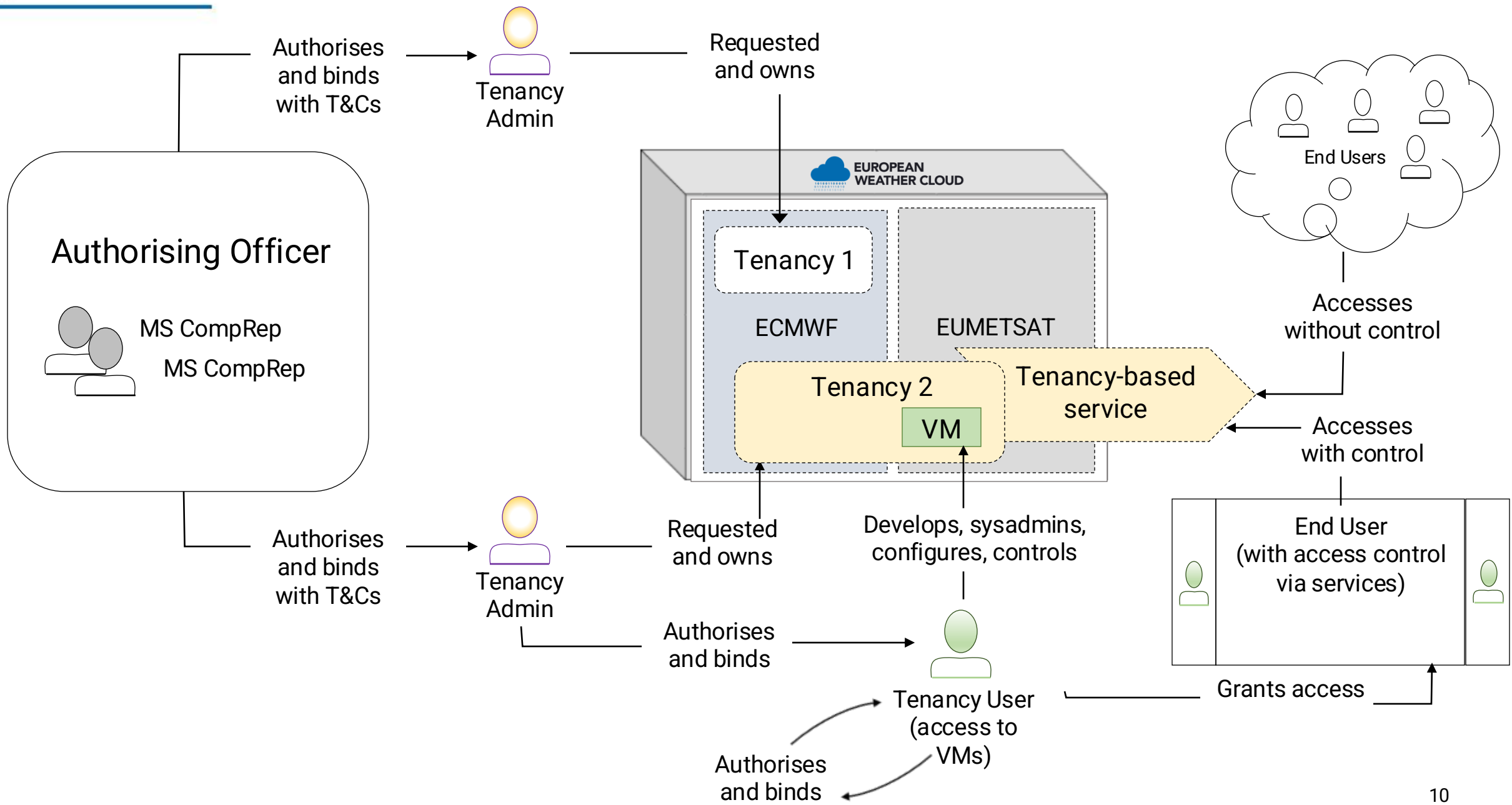
- The scope includes experiments or investigations of a scientific or technical nature, undertaken by one or more Member States, likely to be of interest to the general scientific community
- "Late request" possible after deadline



Annual EUMETSAT Research & Development call closes each year on 30 June

- Objectives on improving, development and using products in applications and using the cloud infrastructure
- Fast-track projects available anytime of the year for small projects

EWC resources administration and use



- Introductory webinars

- Held in November 2023 <https://events.ecmwf.int/event/380/> <https://events.ecmwf.int/event/379/>
- Target audience: Beginner to intermediate level
- Basic first steps to get on board and start using the services.

- Topic specialised sessions

- From March 2024 <https://confluence.ecmwf.int/x/-xO2G>
- Target audience: intermediate to advanced level
- Several 1-hour practical workshops with sharp focus
- Diving into a given topic, application or service.

Contacts and references



<https://europeanweather.cloud>

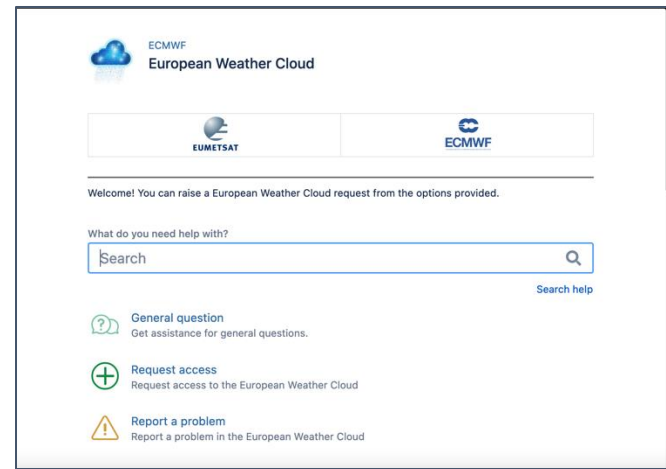


<https://chat.europeanweather.cloud>

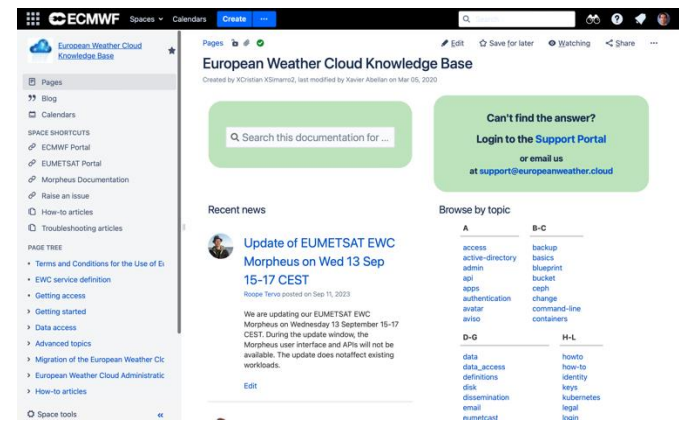
<https://support.europeanweather.cloud>



[Support Portal](https://support.europeanweather.cloud)



[Knowledge Base](https://support.europeanweather.cloud)





101001100001
011000111010
11001010101

EUROPEAN WEATHER CLOUD

THANKS!