

Introduction on NSTCCore Facilities & Services

Speaker: Felix Lee

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Academia Sinica Grid-computing Centre (ASGC)

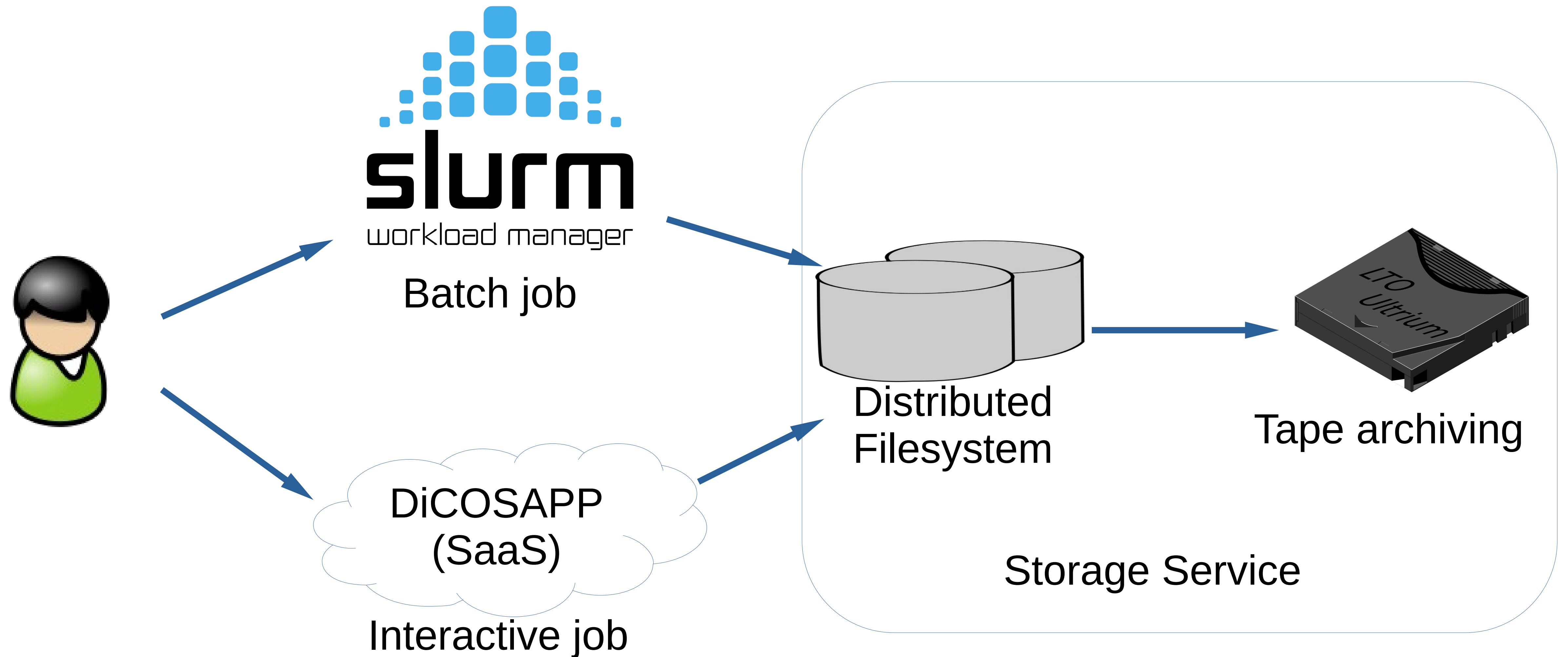
@ 2026 1st NSTCCore workshop



Outline

- NSTCCore service Overview
- Introduction of Batch service (Slurm)
 - User Interfaces (Login Node)
- Introcution of DiCOS Apps
- Introduction of Storage service
- PI Interface
- Q&A, Feedback, Discussion

NSTCCore Service Overview

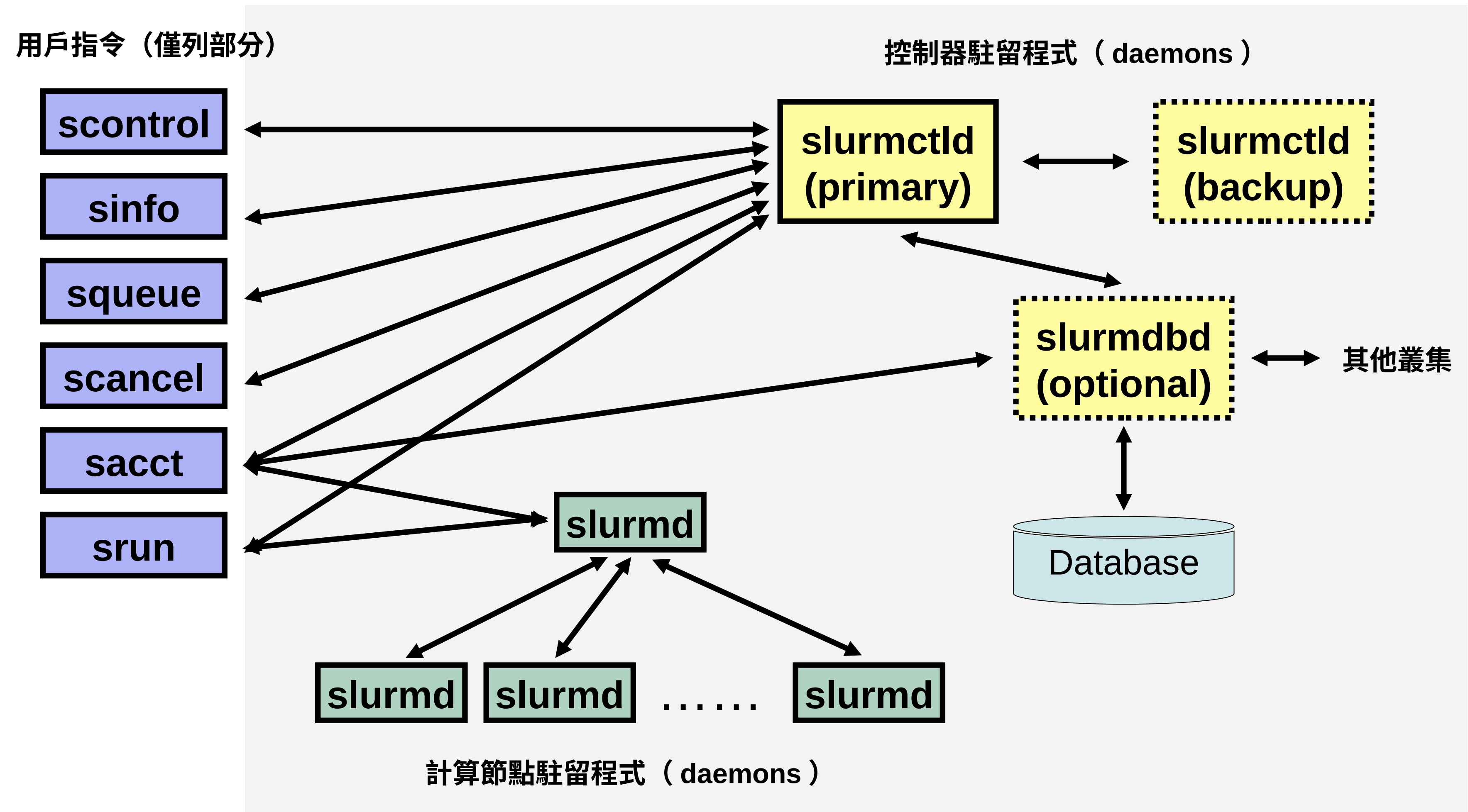


Introduction of Batch service



Overview

- Slurm is an:
 - Open source
 - Fault-tolerant
 - Highly scalable
- Cluster management
 - Job scheduling
- system



Introduction of slurm

ASGC resources

- Computing Machine Specifications Computing Nodes :

CPU Cluster	CPU Model	Nodes	RAM-Per-Node	Cores-Per-Node	Total Cores
EDR1	AMD Genoa 9654@2.4GHz	20	1.5 TB	192	3840
Intel-g4	Intel(R) Xeon(R) Gold 6448H	4	1.0 TB	128	512

GPU Cluster	GPU Model	Nodes	GPU-Boards-Per-Node	CPU Model	CPU Cores-Per-Node
GPU-A100	NVIDIA A100	2	8	Intel(R) Xeon(R) Gold 6126 CPU @ 2.60GHz	64
GPU-V100	NVIDIA V100	6	8	AMD EPYC 7302 16-Core Processor	48
GPU-L40S	NVIDIA L40S	1	4	AMD EPYC 9374F 32-Core Processor	64

<https://dicos.grid.sinica.edu.tw/wiki/> **AMD Turin (1920 cores) & RTX-6000 Pro(16 GPUs) are coming soon**

User Interfaces (Login Nodes)



DiCOS Apps



Categories of DiCOS Apps

- Bio-Apps
 - CryoSPARC version, 2, 3, 4 (rtx 3090)
 - Relion version 3, 3.1, 4-beta (rtx 3090, P100)
 - AlphaFold (rtx 3090, A100) and RoseTTAFold (rtx 3090)
 - Dynamo, IMOD, EMAN2, cisTEM, Jupyter...etc.
- Phys-Apps
 - Deepmd-kit, MAML, Paraview, Ovito, Qiskit...etc.
- Machine-learning-Apps
 - Jupyter-Lab (PyTorch, Tensorflow) (cpu, P100, A100, rtx3090, rtx4090)
 - Triton
- Other-Apps
 - MATLAB

<https://dicos.grid.sinica.edu.tw/dockerapps/>

Jupyter



Jupyter Lab

Version: CPU with Tensorflow v1

Resources: 49%

Open

Delete

End Time: Oct. 3, 2025, 11:55 a.m.



Jupyter Lab gpu 3090

Version: GPU with Tensorflow 3090

Resources: 15%

Launch ▾

2 hours

3 days

7 days

10 days



Jupyter Lab GPU A100

Version: GPU with Tensorflow A100

Resources: 50%

Launch ▾



Jupyter Lab GPU A100

Version: GPU with Tensorflow v2.6

Resources: 50%

Launch ▾



Jupyter Lab GPU A100

Version: GPU A100

Resources: 50%

Launch ▾



Jupyter Lab GPU rtx4090

Version: GPU rtx4090

Resources: 100%

Launch ▾

Storage service



Storage service

Resources

- Home Space (100GB for free, Simple RAID-6 protection, not extendable):

[/dicos_ui_home/{user_account}](#)

- Group Working Space (3TB free /each group, 8+3 erasure coding protection, high-throughput, pay for extension)

[/ceph/work/{group}](#)

- [cryoEM group] (For specific group)

[/activeEM/data/{group}/](#)

- Backup Space (Tape long term archiving)
- Please back up to secure your data in these spaces.

Storage service

Resource usage

- Check your usage on <https://dicos.grid.sinica.edu.tw/profile/info>

The screenshot shows the DICOS User Profile page. The top navigation bar includes links for Resources, Policy, About, Documentation, API, Apps, Contact, and Live Chat. The 'Your account' dropdown menu is open, showing options: User Profile, Usage Summary, Group Member List, Subscribe Storage Space, Resource Usage, and Logout. The 'User Profile' section displays the following information:

Username	account_name
Group	group_name
First Name	your_first_name
Last Name	your_last_name
E-mail	your_email
Last Login	time_joined
Date Joined	

Below the profile information, the 'Storage Usage' section is highlighted with a red box. It shows two storage locations:

Storage Usage	Path	Latest Update
2.3GB/100GB	/dicos_ui_home/your_account	2023-11-14 00:50:02
0.4TB/4.0TB	/ceph/work/your_group	2023-11-14 00:30:03

At the bottom of the page, there are two buttons: 'Edit Profile' and 'Change Password'.

If /dicos_ui_home/ storage usage > 100 GB, user can't log in server.

Storage service

Introduction of Home Space

`/dicos_ui_home/{user_account}`

- 100 GB for free, not extendable.
- Backup your important data in Home Space.
- `/dicos_ui_home/` is a temporary space, backup your data in the `/ceph/work/{group}` or transfer to your own data storage.
- Home space will be cleared once your account is expired and deleted.
- Avoid using the home space as the job's working space.

Storage service

Introduction of Group Working Space

[/ceph/work/{group}](#)

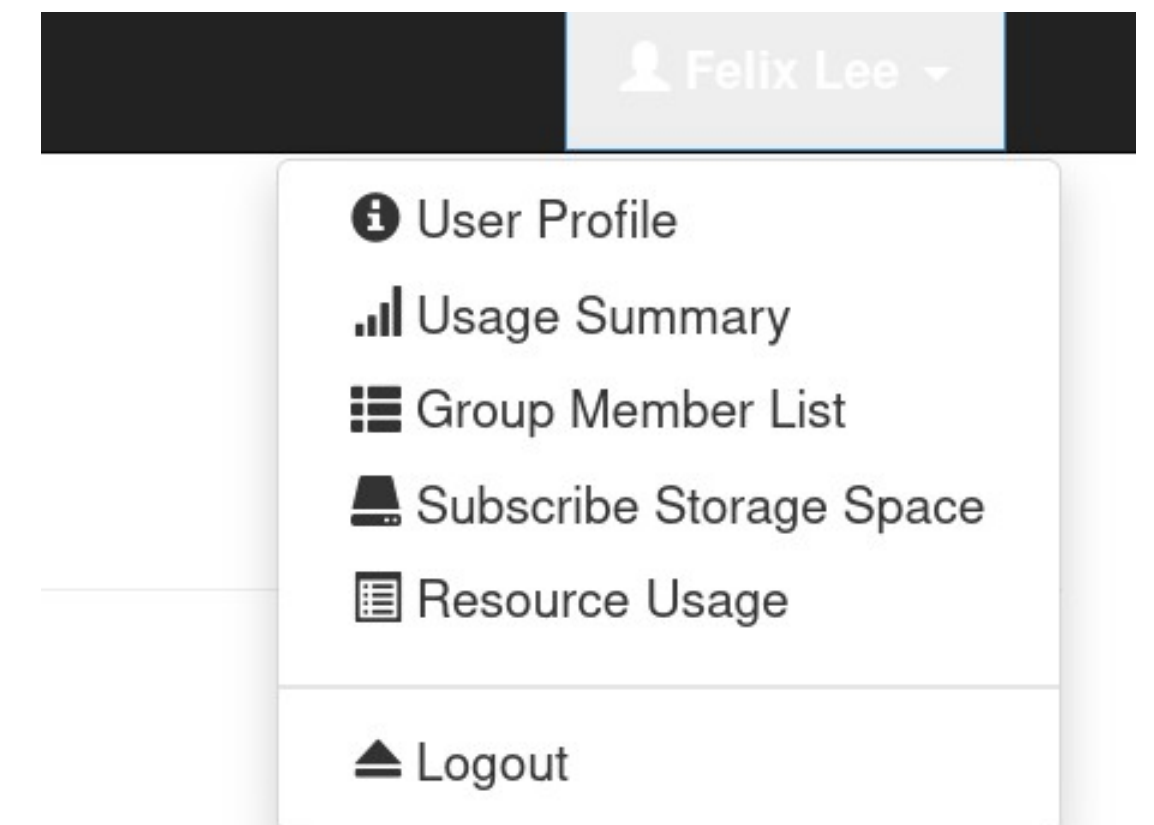
- 3TB free space for each group.
- This space is shared among all members of the group.
- PI has full access and manage rights in this space.
- PI can subscribe & upgrade for more space via dicos.grid.sinica.edu.tw.
- Backup your important data in group working space.

PI Interface

Login to DiCOS web :

<https://dicos.grid.sinica.edu.tw>

- At top-right: click <your account name>, you will see:
 - Usage summary
 - For overall usage, accounting, and cost estimation
 - Group member list
 - Member management
 - Subscribe Storage space
 - Extend your group space.
 - Resource usage
 - Per account usage in group, in more detail
 - Billing estimation & payment method selection.



PI Interface

Usage summary

Felix Lee

User Profile

Usage Summary

Group Member List

Subscribe Storage Space

Resource Usage

ASGC Cost Estimation Summary

Data Table

Bar Chart

請選擇年份(year)

2020-2029

2019202020212022

2023202420252026

2027202820292030

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Energy											
Computing											
Storage											
Network											
Other											

PI Interface

Usage summary

ASGC Cost Estimation Summary

Data Table

Bar Chart

請選擇年份(year)

	2025-01					2025-02					2025-03					2025-04	
	CPU Core Day	GPU Core Day	Storage (TB)	List Price	Cost	CPU Core Day	GPU Core Day	Storage (TB)	List Price	Cost	CPU Core Day	GPU Core Day	Storage (TB)	List Price	Cost	CPU Core Day	GPU Core Day
ASGC	1,281.95	103.86	5.0	3,484	3,484	1,750.65	28.61	5.0	2,841	2,841	819.93	57.00	5.0	3,720	3,720	3,787.54	69.4
AMS- Exp(ams02.cern.ch)	0.00	0.00	0.0	0	0	0.00	0.00	0.0	0	0	0.00	0.00	0.0	0	0	0.00	0.00
Total	1,281.95	103.86	5.0	3,484	3,484	1,750.65	28.61	5.0	2,841	2,841	819.93	57.00	5.0	3,720	3,720	3,787.54	69.4

Export:

CSV

PDF

Felix Lee

User Profile

Usage Summary

Group Member List

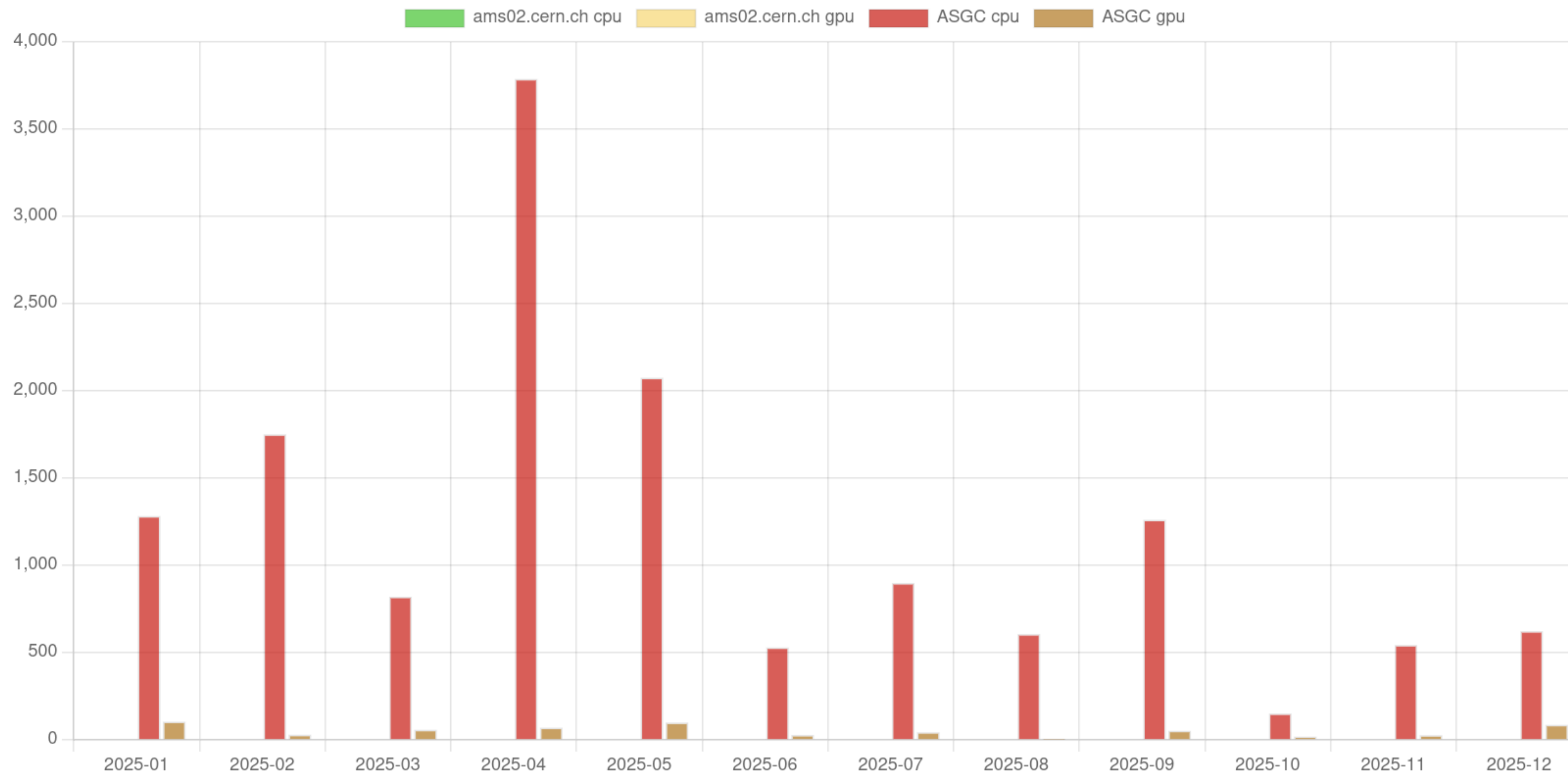
Subscribe Storage Space

Resource Usage

PI Interface

Usage report

Monthly Chart of CPU and GPU Core-Day



PI Interface

Usage report

Monthly Chart of Max Storage Usage (TB)



PI Interface

Group member management

群組成員列表 Group Member List

Felix Lee

User Profile

Usage Summary

Group Member List

Subscribe Storage Space

Resource Usage

Logout

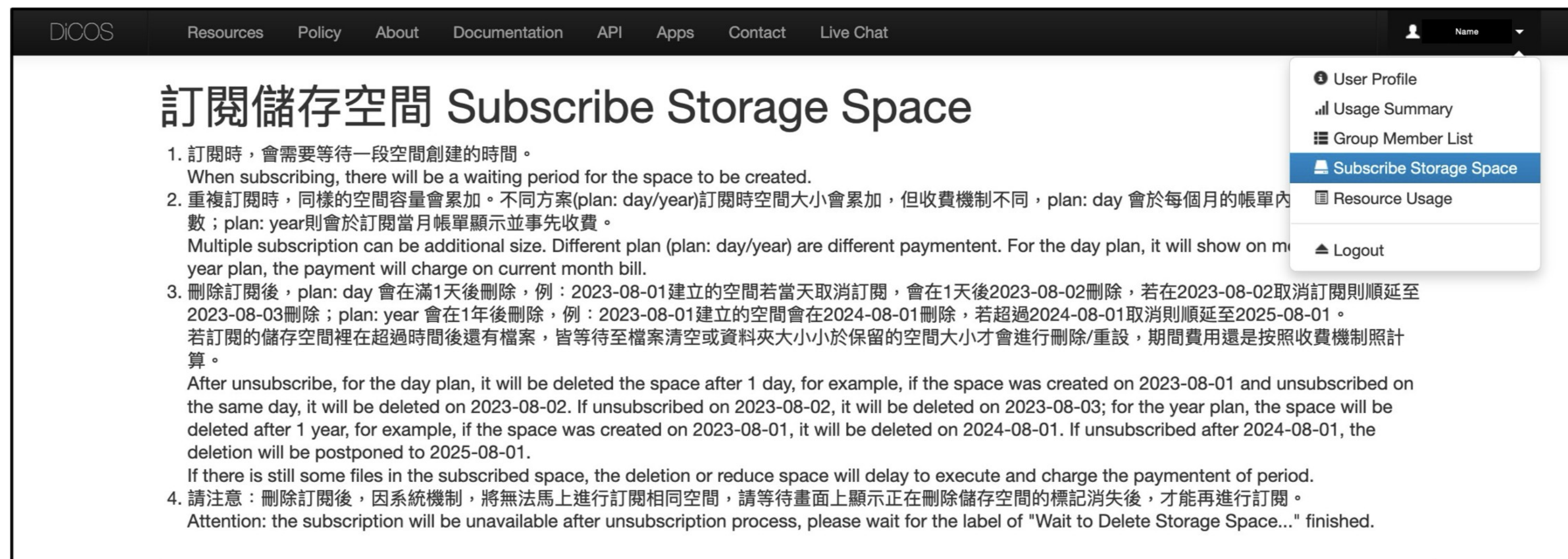
使用者 (username)	姓名(name)	Email	Expired Date	Active	Joined Date	Last Login	Storage Usage (UI Home)	PI's deputy
as0202229	楊翔宇 楊翔宇	as0202229@gate.sinica.edu.tw	Apr. 11, 2026, 00:00 AM	True	Apr. 12, 2024, 02:21 AM	Nov. 03, 2025, 02:58 AM	0.0G/100G Latest Update: 2026-01-07 00:50:01	取消帳務代理人 (Unset deputy)
ericyen	Eric YEN	Eric.Yen@twgrid.org	Apr. 29, 2026, 00:00 AM	True	Apr. 23, 2013, 00:00 AM	Dec. 15, 2025, 14:15 PM	0.0G/100G Latest Update: 2026-01-07 00:50:01	設為帳務代理人 (Appoint deputy)
felixlee	Felix Lee	felix@twgrid.org	Mar. 29, 2026, 00:00 AM	True	Mar. 05, 2013, 00:00 AM	Jan. 07, 2026, 04:01 AM	1717.1G/100G Latest Update: 2026-01-07 00:50:01	Group Manager
mandy4318	Ming-Jyuan Yang	mandy4318@hotmail.com	May. 27, 2026, 00:00 AM	True	Aug. 06, 2021, 08:21 AM	Dec. 09, 2025, 13:19 PM	0.7G/100G Latest Update: 2026-01-07 00:50:01	設為帳務代理人 (Appoint deputy)
rachelsupriya	瑞秋 瑞秋	rachelsupriya@as.edu.tw	Jan. 11, 2026, 00:00 AM	True	Jul. 15, 2025, 06:52 AM	Jul. 15, 2025, 06:56 AM	0.0G/100G Latest Update: 2026-01-07 00:50:01	設為帳務代理人 (Appoint deputy)

Storage space

Subscribe to more Group Working Space

- PI can subscribe for upgrade storage space.

<https://dicos.grid.sinica.edu.tw/accounting/subscribe-storage>

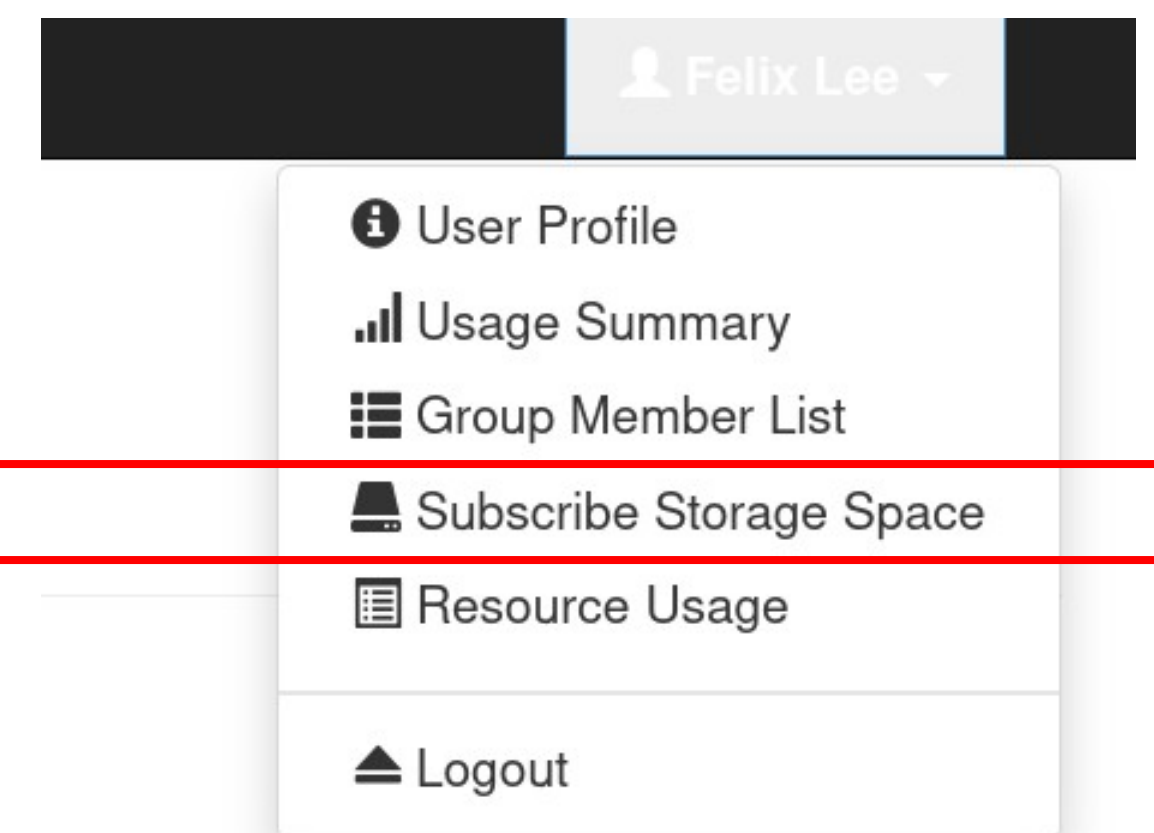


訂閱儲存空間 Subscribe Storage Space

- 訂閱時，會需要等待一段空間創建的時間。
When subscribing, there will be a waiting period for the space to be created.
- 重複訂閱時，同樣的空間容量會累加。不同方案(plan: day/year)訂閱時空間大小會累加，但收費機制不同，plan: day 會於每個月的帳單內顯示；plan: year則會於訂閱當月帳單顯示並事先收費。
Multiple subscription can be additional size. Different plan (plan: day/year) are different paymentent. For the day plan, it will show on monthly bill; for the year plan, the payment will charge on current month bill.
- 刪除訂閱後，plan: day 會在滿1天後刪除，例：2023-08-01建立的空間若當天取消訂閱，會在1天後2023-08-02刪除，若在2023-08-02取消訂閱則順延至2023-08-03刪除；plan: year 會在1年後刪除，例：2023-08-01建立的空間會在2024-08-01刪除，若超過2024-08-01取消則順延至2025-08-01。
若訂閱的儲存空間裡在超過時間後還有檔案，皆等待至檔案清空或資料夾大小小於保留的空間大小才會進行刪除/重設，期間費用還是按照收費機制照計算。
After unsubscribe, for the day plan, it will be deleted the space after 1 day, for example, if the space was created on 2023-08-01 and unsubscribed on the same day, it will be deleted on 2023-08-02. If unsubscribed on 2023-08-02, it will be deleted on 2023-08-03; for the year plan, the space will be deleted after 1 year, for example, if the space was created on 2023-08-01, it will be deleted on 2024-08-01. If unsubscribed after 2024-08-01, the deletion will be postponed to 2025-08-01.
- 請注意：刪除訂閱後，因系統機制，將無法馬上進行訂閱相同空間，請等待畫面上顯示正在刪除儲存空間的標記消失後，才能再進行訂閱。
Attention: the subscription will be unavailable after unsubscription process, please wait for the label of "Wait to Delete Storage Space..." finished.

1TB Storage: NT\$3/day or NT\$1000/year

More pricing information at <https://dicos.grid.sinica.edu.tw/resources>



Storage space

Flexible Storage Subscription

Felix Lee

- User Profile
- Usage Summary
- Group Member List
- Subscribe Storage Space**
- Resource Usage
- Logout

加購工作短期儲存空間 Upgrade Work Space

1T = NT \$3/1 day
PATH: /ceph/work/[group]/

1

T

Subscribe

加購工作短期儲存空間：1年方案 Upgrade Work Space：1 year plan

1T = NT \$1000/1 year
PATH: /ceph/work/[group]/

1

T

Subscribe

Current Storage Space

工作短期儲存空間 Work Space

GROUP: ASGC

PLAN: day

PATH: /ceph/work/ASGC/

CREATION TIME: 2023-09-13 09:01:03

Latest Update: 2025-12-30 00:30:01

13.8/23

1

T

Unsubscribe

工作短期儲存空間 Work Space

GROUP: ASGC

PLAN: year

PATH: /ceph/work/ASGC/

CREATION TIME: 2024-10-16 02:15:01

Latest Update: 2025-12-30 00:30:01

0.0/4

1

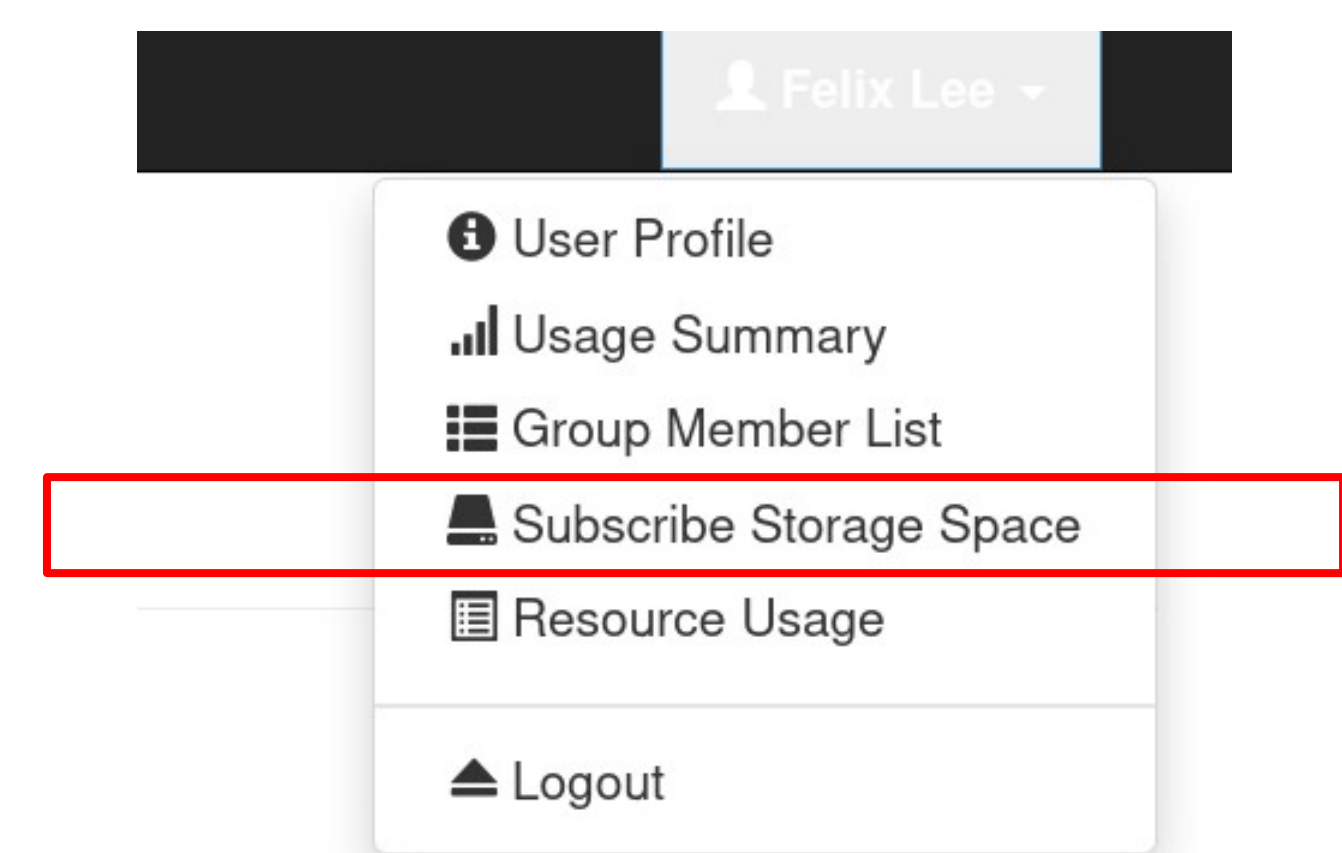
T

Unsubscribe

Storage space

Unsubscribe Space

- Clear your data and release your space before unsubscription.
- Unable to unsubscribe if the space is not released.
 - remove data until less or equal to target subscription.
- Unsubscription process will be blocked when space can not be released or cancel year plan.
- Contact info: dicos-support@twgrid.org



PI Interface

Resource usage report

Felix Lee ▾

-  User Profile
-  Usage Summary
-  Group Member List
-  Subscribe Storage Space
-  Resource Usage
-  Logout

DiCOS®

Resources

Policy

About

Documentation

Apps

Contact

Live Chat

Felix Lee ▾

使用者資源使用統計表

Resource Usage Monthly Report

請選擇月份(month)

Reporting Period: 01 - 06 January. 2026

PI Group: 李宏德 (Group ID: ASGC)

單位/所別(Institute): 中央研究院 物理研究所

目前付款方式(How to charge): 院內預算系統轉帳作業

變更(change)

PI Interface

Resource usage accounting & billing estimation

Felix Lee

- User Profile
- Usage Summary
- Group Member List
- Subscribe Storage Space
- Resource Usage
- Logout

使用統計摘要(TOTAL SUMMARY TABLE)

使用明細(DETAILED USAGE ACCOUNTING)

- 計算資源使用統計(COMPUTING USAGE OF GROUP) — 預估使用費(INITIAL COST): NT \$74

使用者(username)	姓名(name)	CPU	GPU	預估費用 (Initial Cost Estimation)	說明(note)
felixlee	Felix Lee	2	1	56	
thwu	Tsung-Hsun Wu	4	0	18	
總計	單價請參考Resources頁面	6	1	74	

- 儲存資源使用統計(STORAGE USAGE OF GROUP) — 預估使用費(INITIAL COST): NT \$167

帳號(ID)	名稱(name)	儲存空間用量(storage(TB))	預估費用(Initial Cost Estimation)	說明(note)
ASGC	Group	0.0	0.0	Group使用空間
felixlee	Felix Lee	0.1	8.3	User使用空間
thwu	Tsung-Hsun Wu	4.9	158.3 - 3.0T	User使用空間
總計	單價NT\$/TB-yr=1000	5.0	(5.0-3T)*1000/12=167	

PI Interface

Resource usage accounting in detail

Felix Lee

User Profile

Usage Summary

Group Member List

Subscribe Storage Space

Resource Usage

Logout

使用明細(DETAILED USAGE ACCOUNTING)

使用者(username): felixlee (Felix Lee)

用量異常回報(submit issue)

Alert		#Instance	L40S	
			CPU	GPU
☐	l40s slurm	3	2	1
☐	STORAGE USAGE (0.1 TB)			

使用者(username): thwu (Tsung-Hsun Wu)

Alert		#Instance	HDR1		RTX3090	
			CPU	GPU	CPU	GPU
☐	chimerax	1	0	0		
☐	jupyterlabcpu	1	0	0		
☐	relion501rtx3090	1			4	0
☐	STORAGE USAGE (4.9 TB)					

PI Interface

Resource usage abuse report

Felix Lee

User Profile

Usage Summary

Group Member List

Subscribe Storage Space

Resource Usage

Logout

使用統計摘要(TOTAL SUMMARY TABLE)

使用明細(DETAILED USAGE ACCOUNTING)

使用明細(DETAILED USAGE ACCOUNTING)

使用者(username): felixlee (Felix Lee)

用量異常回報(submit issue)

Alert		#Instance	HDR1		L40S	
			CPU	GPU	CPU	GPU
☒	I40s slurm	3			2	1
☐	chimerax	1	0	0		
☐	STORAGE USAGE (0.1 TB)					

PI Interface

Resource usage abuse report

Exception Report

Are you sure you want to report these users?

• felixlee

◦ l40s slurm

He is not allowed to use GPU.

OK

Close

PI Interface

Payment records

Felix Lee

User Profile

Usage Summary

Group Member List

Subscribe Storage Space

Resource Usage

Logout

資源名稱	單位	數量	金額	備註
總計	單價NT\$/TB-yr=1000	5.0	(5.0-3T)*1000/12=167	

其他資訊(more information)

資源使用說明(Resource Usage Detail)

繳款查詢(Payment Record)

聯絡專線(Contact):

E-mail	Phone
DiCOS-Support@twgrid.org	(02) 2789-8313

PI Interface

Payment records

Felix Lee ▾

-  User Profile
-  Usage Summary
-  Group Member List
-  Subscribe Storage Space
-  Resource Usage
-  Logout

Payment Record

請選擇年份(year)

月份帳單	帳單類型	繳費終止時間	扣款方式	計畫代號或其他說明	應付金額	實付金額	繳款時間	查帳時間	狀態	備註
------	------	--------	------	-----------	------	------	------	------	----	----

未繳納之項目 Unpaid List

您的預設繳納方式為，如需調整，請來信 dicos-billing@twgrid.org 變更。

關於非院內轉帳付款方式說明

PI Interface

Resource usage: billing method

 Felix Lee ▾

 User Profile

 Usage Summary

 Group Member List

 Subscribe Storage Space

 Resource Usage

 Logout

目前付款方式(How to charge): 院內預算系統轉帳作業

儲存(save)

更新付款方式:

院內預算系統轉帳作業 ▾

計畫代號或目前付款方式(How to charge): 院內預算系統轉帳作業

儲存(save)

更新付款方式:

其他付款方式 ▾

計畫代號或其他說明: NSTCxxxxl

Discussions

