
Introduction of ASGC Services

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2022 / 12 / 15

Introduction

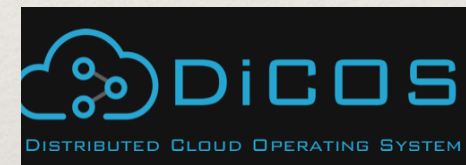
- ❖ Group & User Policy

- ❖ Computing Service:

- ❖ *Batch Jobs* - SLURM



- ❖ *Interactive Jobs* - DiCOSApp
(dicos.grid.sinica.edu.tw)



- ❖ Research Data Service:

- ❖ Group & User Space

- ❖ Research Data Backup & Transfer Service

Apply Account

❖ DiCOS & AS SSO

❖ <https://canew.twgrid.org/ApplyAccount/ApplyAccount.php>

User Information

Name	First Name	Last Name
E-mail		
Phone		
Group	---Choose---	
Institute	---Choose---	Please fill with institute Full Name
Country		

Account Information

The password must **not**:

- Length is less than 8 characters
- Contain your Account

Account	
password	
Confirm	

Apply Account



Apply Account



Create New DiCOS account

Create Account

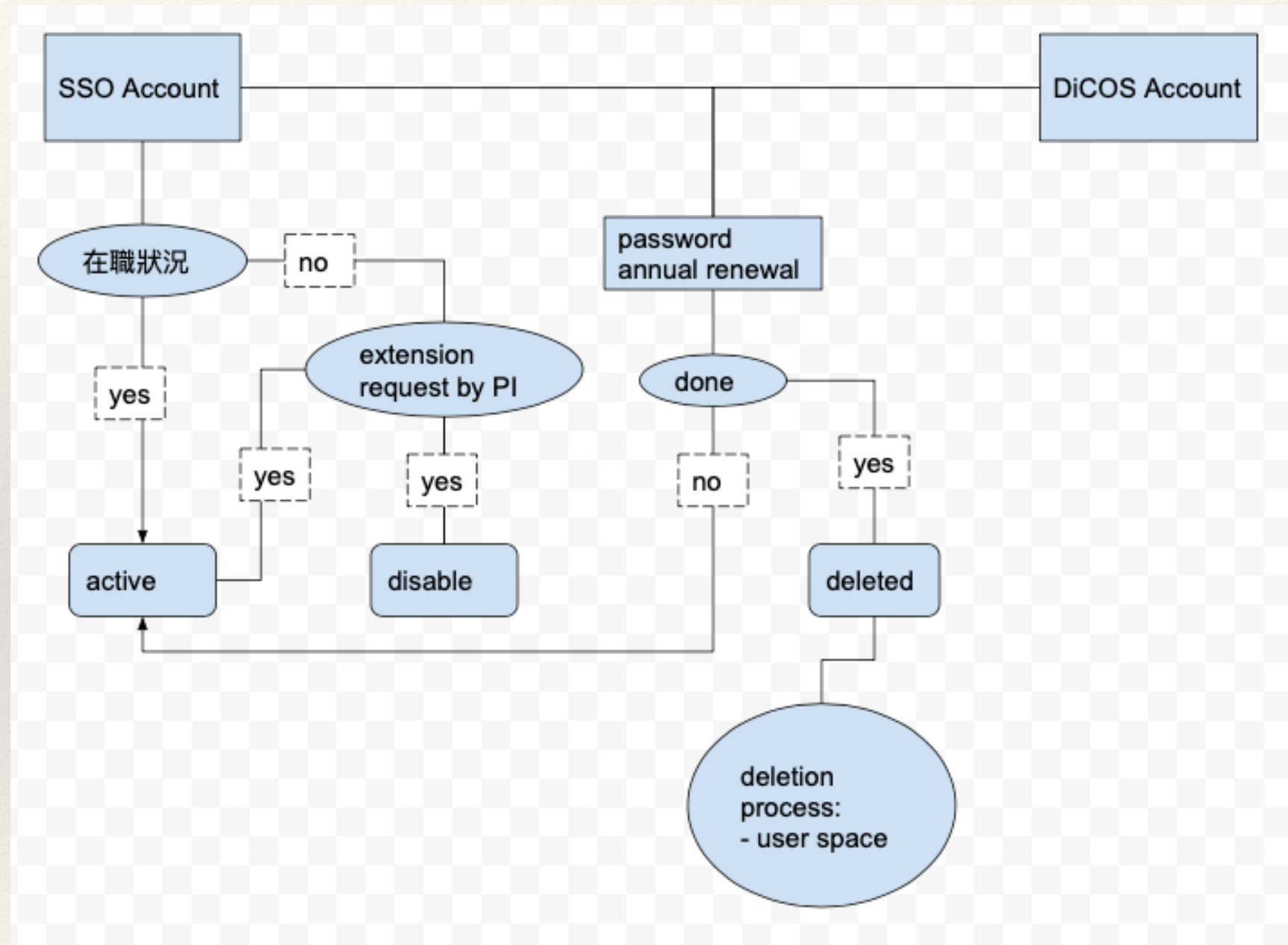


Sign up with Academia Sincia SSO

Sign up with SSO

Account LifeCycle

- ❖ DiCOS
 - ❖ Annual Renewal by Modifying Password
- ❖ AS SSO
 - ❖ Verify by Employment Status



User Policy

使用者(User Policy)使用政策說明

使用者須經由以下網址申請DiCOS帳號，須註冊於所屬的研究群組(Group)，其資源使用量和權限受限於該研究群組負責人的核可。

帳號申請

帳號申請頁面 <https://canew.twgrid.org/ApplyAccount/ApplyAccount.php>

帳號申請須由PI審核通過，始能生效。若許久仍未收到審核通過通知信，煩請和您的PI再次確認，或寄信至DiCOS-Support@twgrid.org詢問

帳號效期

帳號快至過期日前，會有三次提醒使用者需要延展：過期前30天、15天及7天

若帳號過期後需要重新啟用，請在過期後六個月內重新至<https://canew.twgrid.org/ApplyAccount/nocertModify.php> 輸入您的申請帳號時的email，修改密碼完成後帳號即重新啟用

帳號過期後六個月將進行帳號刪除(包含家目錄、work directory以及DiCOSBOX空間，group資料夾底下的資料夾將不刪除，若PI需要對刪除之帳號進行備份，請寄信至DiCOS-Support@twgrid.org

帳號過期後六個月會由系統自動寄出提醒信至該刪除帳號的信箱、PI的信箱(以及額外授權聯絡人)，進行帳號即將在一個月後刪除之提醒，您可以進行第2或第3點來處理該過期之帳號，否則帳號相關資料將永遠刪除。

Group Policy

- ❖ Group Account

- ❖ GroupID(Linux identification), Institute, PI name(中英) & email
 - ❖ email to dicos-support@twgrid.org to create group account

- ❖ Group Management for PI (<http://dicos.grid.sinica.edu.tw/accounting/bill>)

- ❖ Monthly & Daily Accounting & Billing
 - ❖ Monitor & Control Resource Usage for Group Members
 - ❖ Details of Each Member Usage
 - ❖ Limit Access of Abnormal Member Usage

Billing for Group PI

❖ Monthly Bill

❖ Detail Usage of Group Members

ASGC 資源使用統計月報表 ASGC Resource Usage Monthly Report

請選擇月份(month)

帳單下載(bill download)

Reporting Period: 01 - 30 November, 2022

PI Group : 尤靖雅 (Group ID: ASGC)

單位/所別(Institute) : 中央研究院 物理研究所

已出帳

使用費總計(TOTAL COST ESTIMATE): NT \$9,324

Notes

- 總使用費 = (計算資源使用費 + 儲存資源使用費) * 折扣
Total Cost = (Cost of Computing + Cost of Storage) * (1-Discout (%))
- 折扣率依據合作模式而定。
Discount rate is defined by collaboration model with ASGC.

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) — 使用費(INITIAL COST): NT \$9,074

使用者(username)	姓名(name)	CPU (SRU)	GPU (SRU)	費用 (Initial Cost Estimation)
felixlee	Felix Lee	4,527	1	9,056
mky	Mike Yang	9	0	18
總計	單價SRU=NT\$2	4,536	1	(4,536+1)*2=9,074

- 儲存資源使用統計(STORAGE USAGE OF GROUP) — 使用費(INITIAL COST): NT \$250

帳號(ID)	名稱(name)	儲存空間用量(storage(TB))	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
mky	Mike Yang	2.9	241.7	User使用空間
總計	單價NT\$/TB-yr=1000	3.0	3.0*1000/12=250	

其他資訊(more information)

[資源使用說明\(Resource Usage Detail\)](#)

聯絡專線(Contact):

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

Group Management for PI

❖ Monitoring & Control Group Usage

使用者資源使用統計表 Resource Usage Monthly Report

請選擇月份(month)

Reporting Period: 01 - 13 December, 2022

PI Group : 尤靖雅 (Group ID: ASGC)

單位/所別(Institute) : 中央研究院 物理研究所

[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\(submit issue\)](#)



STORAGE USAGE (0.1 TB)

使用者(username): mky (Mike Yang)



STORAGE USAGE (2.9 TB)

Pricing Model

說明：各系統依效能正規化後之 SRU 為單位計費，SRU為各系統每二十四小時使用量 (CPU/GPU-Core-Day(24HR)乘以機器效能指數

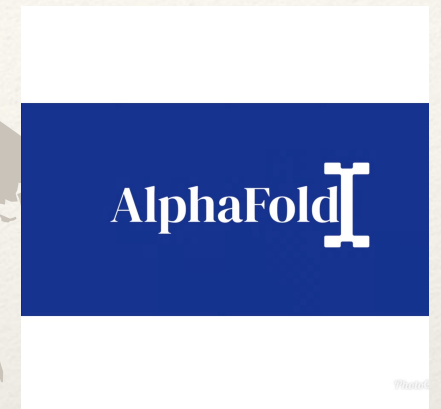
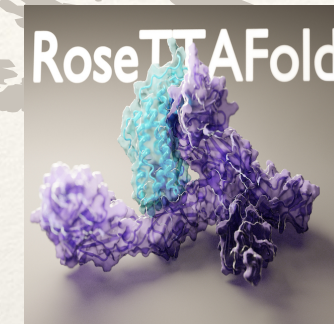
運算資源機器型號	機器效能指標	SRU計價單位公式 # Day*機器效能指標	SRU每單位價格	使用費率公式
CPU-FDR5	0.24	CPUCore-Day * 0.24	\$2	CPUCore-Day * 0.24 * \$2
CPU-A100	0.24	CPUCore-Day * 0.24	\$2	CPUCore-Day * 0.24 * \$2
CPU-V100	0.24	CPUCore-Day * 0.24	\$2	CPUCore-Day * 0.24 * \$2
CPU-P100	0.24	CPUCore-Day * 0.24	\$2	CPUCore-Day * 0.24 * \$2
CPU-RTX3090	0.24	CPUCore-Day * 0.24	\$2	CPUCore-Day * 0.24 * \$2
CPU-1080Ti	0.24	CPUCore-Day * 0.24	\$2	CPUCore-Day * 0.24 * \$2
CPU-HDR1	0.67	CPUCore-Day * 0.67	\$2	CPUCore-Day * 0.67 * \$2
GPU-A100	173	GPUCore-Day * 173	\$2	GPUCore-Day * 173 * \$2
GPU-RTX3090	79	GPUCore-Day * 79	\$2	GPUCore-Day * 79 * \$2
GPU-V100	70	GPUCore-Day * 70	\$2	GPUCore-Day * 70 * \$2
GPU-P100	47	GPUCore-Day * 47	\$2	GPUCore-Day * 47 * \$2
GPU-1080Ti	1	GPUCore-Day * 1	\$2	GPUCore-Day * 1 * \$2

計價說明: 本表的計價單位為TB/年

資料儲存資源	計價單位	單位價格 (TB/年)
Storage	TB/年	NT\$1000

Supporting Various Scientific Softwares

- ❖ Biomedical
 - ❖ CryoSPARC, RoseTTAFold, AlphaFold..etc.
- ❖ Deep Machine Learning
- ❖ Simulation & Visualization
- ❖ HPC & MPI
 - ❖ e.g. Astrophysics & High Energy Physics applications
- ❖ High Throughput Computing
 - ❖ e.g. Monte Carlo Simulation

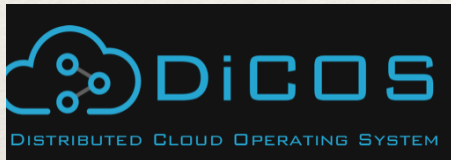


Computing Service - SLURM



- ❖ **SLURM**

- ❖ MPI & Batch Jobs



- ❖ **DiCOSApp** (dicos.grid.sinica.edu.tw)

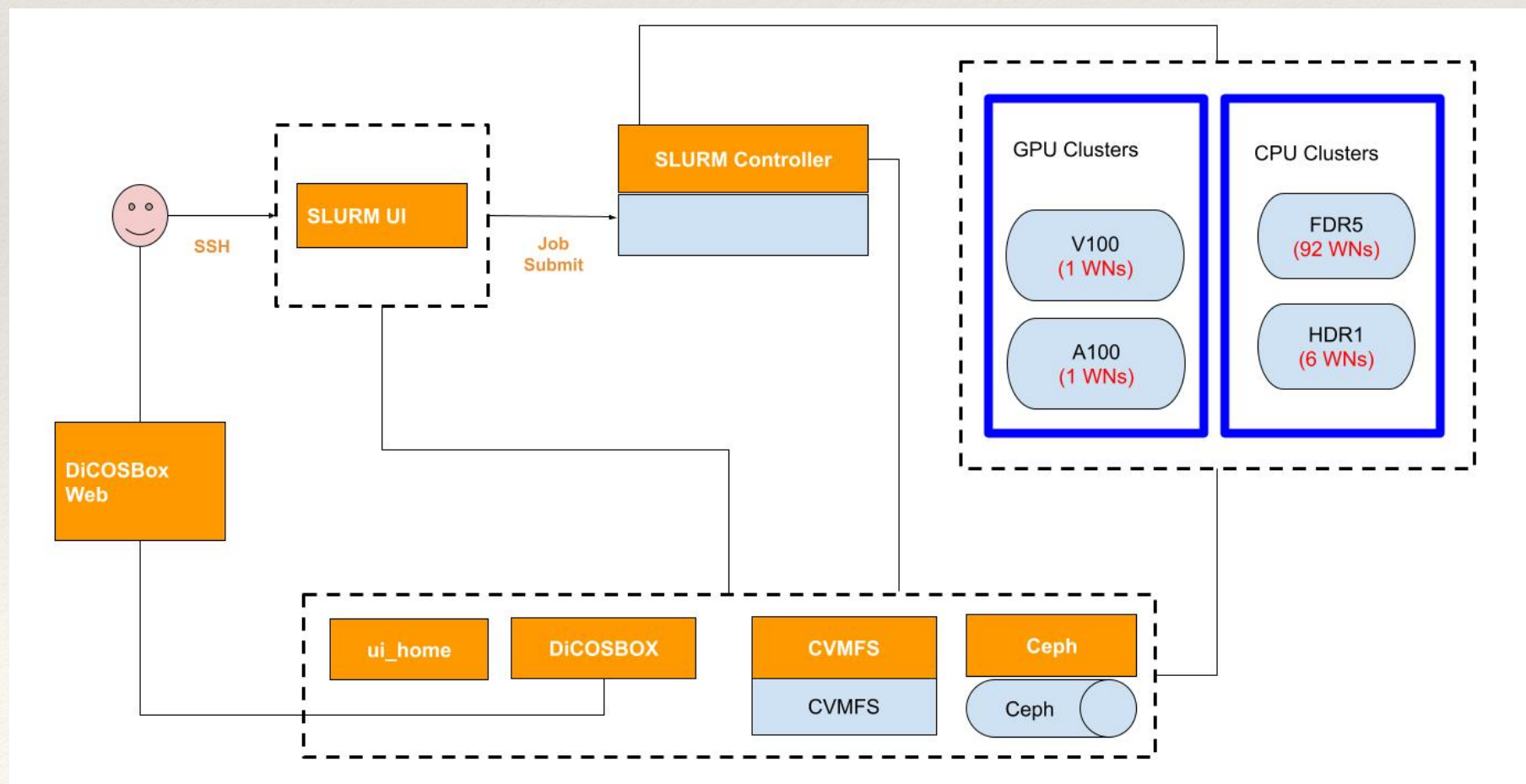
- ❖ GUI Interactive Cloud Service

- ❖ **ASGC CPU & GPU Resources**

- ❖ Spec details in <http://dicos.grid.sinica.edu.tw/resources/>

SLURM Service Architecture

- ❖ ASGC Software Repository - CVMFS (Hands-On: How to check and load module)
- ❖ SLURM-UI
 - ❖ Login endpoint (SSH & SFTP)
 - ❖ /ui_home/ is temporary space, clear up periodically
 - ❖ Long compilation & testing is not recommended, use Development Partition instead



SLURM Partition Policy

- ❖ **Compilation & Testing Jobs**

- ❖ development

- ❖ **Multi-Core Jobs**

- ❖ large, short

- ❖ **Single-Core Jobs**

- ❖ long-serial

- ❖ moderate_serial

- ❖ short_serial

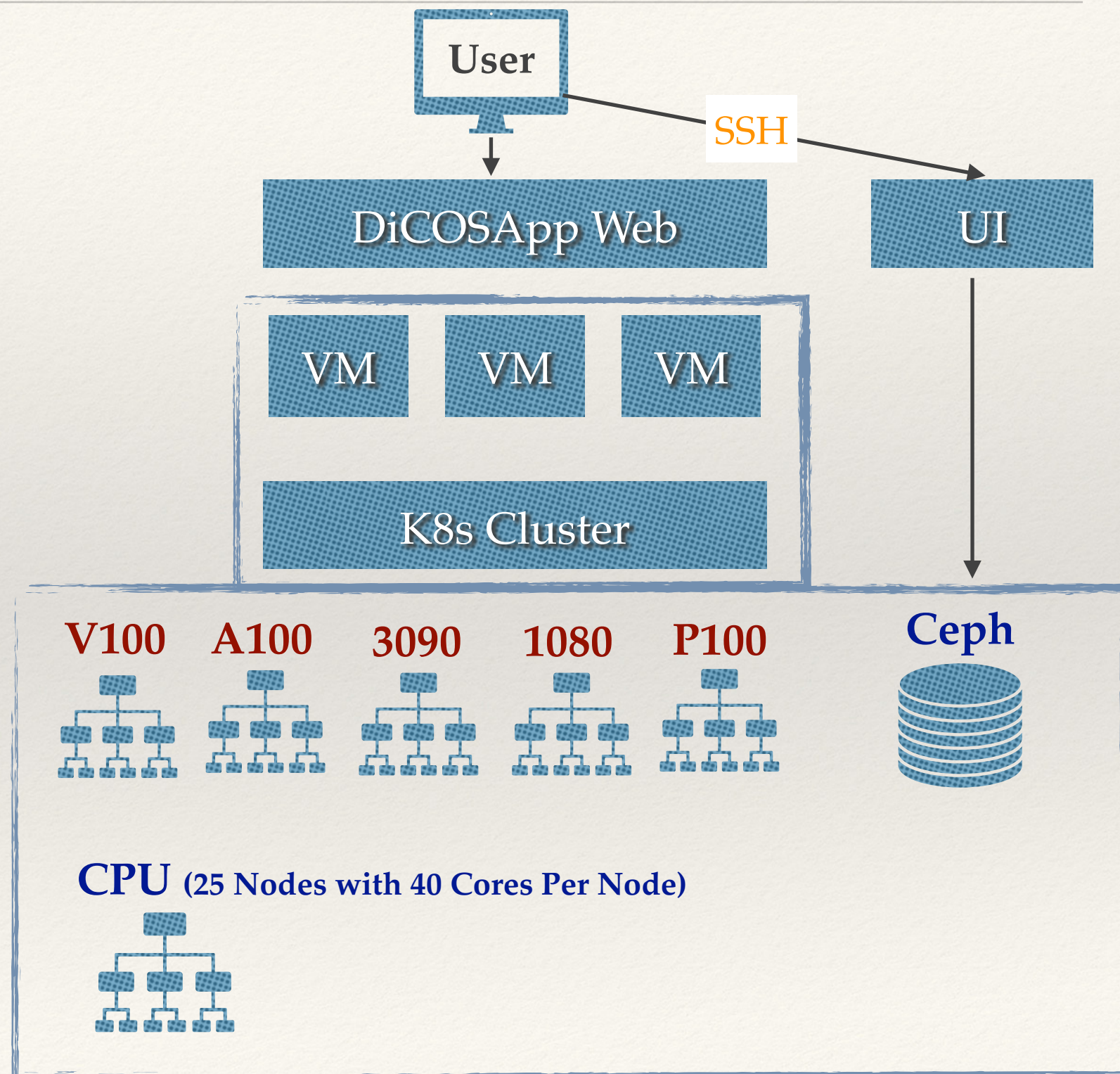
- ❖ **GPU Jobs**

- ❖ v100, a100

Partition Name	Nodes#	MaxTime	Priority	Note
large	80	14-00:00:00	10	mpi_job only
long_serial	10	14-00:00:00	10	MaxNodes=1
short	92	00-03:00:00	1	
moderate_serial	92	07-00:00:00	100	MaxNodes=60
short_serial	92	00-04:00:00	500	MaxNodes=60
development	1000	00-01:00:00	1000	MaxNodes=1
v100	1	05-00:00:00	1	
v100_short	1	00-06:00:00		
a100	2	05-00:00:00	1	
a100_short	2	00-06:00:00	500	
amd	6	05-00:00:00	1	
amd_short	6	00-04:00:00	500	

DiCOSApp - Cloud Service

- ❖ K8s framework
- ❖ On-Demand Virtual Machine for various GPU models
- ❖ Built-In Applications
- ❖ User-Friendly & Easy Access Web-UI
- ❖ Integrated Data Access with Ceph



Storage Service & Data Transfer

- ❖ Group & User Data Space and Transfer
 - ❖ UI_home (temporary space) - *SFTP* from UI
 - ❖ DiCOSBox(2TB / user) - *Web-UI*(dicosbox.twgrid.org) & *SFTP*
 - ❖ Ceph Group and User Folder & - *SFTP* from UI
- ❖ Group Space (/ceph/sharedfs/groups/<group>)
 - ❖  Group Storage Usage Monitoring on DiCOS-Web
 - ❖ (<http://dicos.grid.sinica.edu.tw/accounting/bill/>)
 - ❖  Customized Data Backup & Transfer Service
 - ❖ (contact  dicos-support@twgrid.org)