



UCT eResearch Centre: Chargeback Model

Version 1.0

Initiating Organisational Unit

UCT eResearch

Request Title

Service Chargeback Model

Date

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1. INTRODUCTION

Delivering and implementing IT-as-a-Service is a culmination of a successful strategy that transforms the way the IT infrastructure is build and how new technology, operations and consumption models are implemented. In this new operational paradigm, eResearch aims to deliver value to the university research community through on-demand IT assets that advance institutional strategic initiatives with speed and agility.

Financial transparency is the key driver in defining how value is delivered to the university. It requires new thinking about how to bundle, market, price and deliver services in such a way to meet the researcher's needs. It also enables eResearch to compete with external cloud services.

In allocating per-unit and per-service cost, determining service prices and measuring demand and consumption, support activities become more transparent and lead to more efficient services.

2. BILLING MODEL

This Billing based model is a means of applying a service catalogue/pricing catalogue charges to virtual machines, cloud services, high performance computing, static storage and consultancy services. The following services apply:

2.1. Usage costs to include standard and custom virtual machines:

- o CPU utilization
- o Memory utilization
- o Storage

2.2. Usage costs to include High Performance Computing:

- o CPU utilization
- o Memory utilization
- o Storage
- o Applications

2.3. Data Storage

- o Static storage and replication

2.4. Ad-hoc costs including consultants:

- o Project Manager
- o Business Analyst
- o Software Developers

2.5. Library digitisation services:

- o Scanning
- o Video
- o Audio

3. PRICING STRUCTURE

3.1 Virtual Machines

Free trial offering (optional)

ICTS will provide a streamlined interface for creating, running and evaluating operating systems and applications in a virtual machine on Windows or Linux PC's. The free virtual machine will offer 1 vCPU and 512MB memory as a once-off offering for a free trial period of three months.

Time-based discount (optional)

An annual discount rate can be calculated on the specific type of service/s rendered.

3.1.1 Standard machines

A local cloud-based option currently offers the following standard predefined machine types to researchers. Packages include replication of data once per week. Prices range according to the server specifications required and are market related and therefore subject to change. Please contact us for more information on availability and current pricing at eresearch@uct.ac.za.

MACHINE TYPE	vCPU	MEMORY	ROOT DISK
M1-tiny	1	512MB	1GB
M1-small	1	2GB	20GB
M1-medium	2	4GB	40GB
M1-large	4	8GB	80GB
M1-xlarge	8	16GB	160GB
M1-xxlarge	8	32GB	160GB

3.1.2 Custom virtual machines

It is possible to create a custom machine type with a specific number of vCPUs and amount of memory if standard predefined machine types in African Research Cloud are not optimal for the specified workload. Custom machine types may save on the cost of running on a larger, more expensive machine type if all the resources of that machine type are not required.

Prices are calculated per processing speed, memory and storage required. Packages include replication of data once per week.

Examples of monthly costs as at January 2017

MACHINE TYPE	vCPU	MEMORY	ROOT DISK	MONTHLY TOTAL
Small	1	1GB	20GB	R 156.33 /month
Medium	4	2GB	60GB	R 533.51 /month
Large	8	4GB	120GB	R 1 050.92 /month

3.2 High performance computing (HPC)

The purpose of a centralised High Performance Computing (HPC) resource is to provide a reliable, scalable and economic computing facility to UCT's researchers. Given the cost of electricity both for powering and

cooling CPUs it is imperative that UCT provides an affordable and environmentally-friendly means of granting researchers access to computing resources.

Class	Cost	CPU Hours	Cores	Days@full	R/CPUH	R/core
Platinum	R400 000	800 000	256	130	0.50	R1 562.50
Gold	R200 000	400 000	128	130	0.50	R1 562.50
Silver	R100 000	200 000	64	130	0.50	R1 562.50
Bronze	R50 000	100 000	40	104	0.50	R1 250.00
Steel	R10 000	20 000	20	42	0.50	R500.00
Copper	R0	0	5	0	0	R0.00

3.3 Storage

Duration	Cost per month	Notes
1 year	R240 per terabyte	Payable upfront for 1 year or part thereof
3 years	R180 per terabyte	Payable upfront for 3 years

Please [contact us](#) for more options on storage requirements exceeding 3 years.

3.4 Consultancy services

Consultancy services can be sourced for research and other externally funded projects, either in the temporary deployment of internal resources, or through recruitment agencies, or from service providers listed on the procurement system.

Expertise	Price	Price
Project management	R508/h for project manager	R414/h for senior project administrator
Business analyst	R508/h	-
Software development	R688/h for senior developer	R414/h for developer

3.5 Digitisation services

UCT Libraries offers digitization services, as below. Discounted rates apply to UCT affiliated students and staff. Payment is required in advance.

SCANNING	UCT PRICE	EDUCATION PRICE
Document Feeder Scan (A4, .pdf)	R0.10	R0.50
Flat Scan document (A3+, 300 dpi)	R5.00	R10.00
Self-Scanning	Free after training	Free after training
Flat Scan HQ (A3+, 600/300 dpi)	A4: R15.00 A3: R25.00	A4: R25.00 A3: R35.00
Large format Scan (map/poster) (< 110cm @600/300 dpi)	R60.00	R70.00
Virtual drum transparency scan (35mm – 4x5 in. to A2 - A0 @600/300 dpi)	R50.00 – R100.00	R100.00 – R150.00
Basic retouching i.e. removal of dust, scratches, colour casts, resizing, format conversion)	R150.00/h	R200.00/h

Video	UCT PRICE	EDUCATION PRICE
MiniDV, DVCAM, HDV	R150.00/60 minutes	R200.00/60 minutes
Betacam, Betacam SP, Betacam SX, Digital Betacam	R200.00/60 minutes	R250.00/60 minutes
U-matic (3/4")	R200.00/60 minutes	R250.00/60 minutes
VHS (NTCS, S-VHS, PAL)	R150.00/60 minutes	R200.00/60 minutes
HI-8	R150.00/60 minutes	R200.00/60 minutes
Archival standard tape cleaning (U-matic, Betacam, VHS)	R25.00/tape	R50.00/tape

AUDIO	UCT PRICE	EDUCATION PRICE
Cassette tape mono/stereo (@24bit/96kHz .aif/.wav)	R150.00/tape	R200.00/tape
¼" mono/stereo reel-to-tape (@24bit/96kHz .aif/.wav)	R250.00/h	R300.00/h
DAT digital transfer	R100.00/tape	R150.00/tape
MiniDisk (digital optical; @24bit/96kHz .aif/.wav)	R50.00/disk	R100.00/disk
Vinyl/Shellac	R100.00/disc	R150.00/disc
Basic editing (removal of hiss and hum, brightening, loudness, format conversion)	R250.00/h	R300.00/h