Datum Connect Series
Making Co-location Work

Volume 3 – Budgeting and running costs

Planning for the future

By now you will hopefully have built up a good understanding of what sort of co-location service you require, both now and in the foreseeable future. Co-location is ideal if you wish to maintain the flexibility and control of owning your servers, reduce risk and minimise your capital & operating costs incurred when hosting in-house.

What you may be struggling to understand is how that is priced and what the on-going implications might be.

From CapEx to OpEx

If you run your data centre in-house, a large capital investment is required involving long term commitment and long term investment decisions. Your budget has to cover the estate, fabric and maintenance of the building including cooling and environmentals with complete responsibility and control for all aspects of the architecture and connectivity. In addition to data center and server hardware, server and application administration, you will have responsibility for a self-managed network, constant power supply, ongoing maintenance. If you outsource your data centre to a co-location provider, you are effectively contracting for the provision of a service which covers rack space rental, cooling and humidity control, security, redundant power and options for internet and cloud connectivity.

Pricing considerations

Charges for co-location pricing break into 2 main areas: non-recurring rates and monthly recurring rates.

Non-recurring rates

Non-recurring rates are charges for elements such as rack installation and set-up, power connection in the form of tap-offs and PDUs, and potentially the set up of IP transit connections and cross-connects. These costs could also include any additional requested remote hands engineering services and if required, the building and configuring of a private cage. Non recurring charges are separately itemised and specified with their own Service Orders.

Monthly recurring rates

Co-location pricing can be complex but essentially tends to be based on space occupied or power consumed. Datum pricing is base on power and for simplicity and clarity, with monthly recurring costs related to power usage. In Datum's case this means that we can allow clients first option on space contiguous to their original racks, and means clients can take full advantage of the availability of high power densities to support high performance compute.

Datum co-location pricing explained

With Datum co-location pricing based on power consumption, monthly recurring rates cover the licence to use the fundamentals of data centre co-location services such as cooling, power, and all costs for power consumed.

Datum's monthly recurring rates have three key components.

1. **Maximum capacity charge in kW (Power Capacity) as stated in the contract**

2. **Power usage commit in kWh, purchased through fixed or variable models**

3. **Overage in kWh**

Note: any on-going connectivity will also bear monthly charges

Over the next couple of pages this guide will clarify what these elements mean and which models are available.

Components of co-lo power pricing

Agreed maximum capacity kW + Fixed and variable power usage models kWh + Overage kWh = Total price

Component 1—The capacity charge

The **capacity charge** is a flat monthly fee for the full co-location service for which you have contracted. This includes the licence to use power and cooling plus the various associated services such as security, available redundancies, humidity control, monitoring, facility management etc. Within your contract, you will specify the maximum kW draw your equipment is likely to demand. **This defined Power Capacity specifies the maximum kW that you are permitted to draw at any one time.**

The rationale for Power Capacity is that a data hall can support a maximum kW capacity. When new clients are brought into the data centre, it is vital that no new installation impacts any other installation. Client co-located racks are therefore provisioned to fit within the overall capacity based on each client's contracted Power Capacity agreed up front.

It is to be expected that, over time, most clients will experience fluctuations in the amount of power they draw, depending on business activity levels. As a responsible data centre operator, Datum is able to accommodate occasional overdraw to support our clients. Persistent overdraw however could impact the effective operation of the data centre and has to be managed. Clients who regularly go over their contracted maximum capacity will be required to review and if necessary re-negotiate their agreements.

Component 2—Committed power usage

The second pricing component is **power usage**. This monthly charge is based on the actual number of kWh your equipment consumes during the month. For consistency across the months, Datum normalises the number of billing hours for each month to 730.5.

Depending on the size of the installation and client budgeting priorities, there are three pricing models available for this component: fully fixed, partially fixed and fully variable.

3 power usage pricing models

Fully fixed

In this model, a client agrees to pay, monthly or quarterly in advance, 100% of the kWh rate applicable to their agreed maximum capacity. This model bears the lowest rate per kWh and simplifies budgeting.

Partially fixed

The client agrees to payment in advance for a specified proportion of the kWh applicable to the maximum agreed capacity eg 75%. Any metered usage over the 75% is charged at the contracted rate after month end. This model incurs a higher rate per kWh and can work out more costly.

Fully variable

This model relies on actual metered usage, where the highest rate per kWh applies and is only available to larger clients

Component 3—Overage

All metered power usage over and above the prepaid element is charged after month end at the contracted kWh rate.

If power usage persistently exceeds the agreed maximum capacity, a contract review is required to align the agreement with the actual draw.

Model comparison with all 3 components (example)

Model	Number of hours per month	Agreed Power Cap	Payment in advance	After month end
Fixed	730.5	2 kW (example)	Fixed Power Cap rights charge + (730.5x2xRate1) 100%	Metered overage @ Rate1
Partial @75%	730.5	2 kW (example)	Fixed Power Cap rights charge +(730.5x2xRate2) 75%	Metered overage @ Rate2
Variable	730.5	2 kW (example)	Fixed Power Cap rights charge	Metered use @ Rate3

Summary

Co-location pricing is split into Non-Recurring Rates (NRR) and Monthly Recurring Rates (MRR)

Non-Recurring Rates

As ordered and invoiced eg:

Rack installation and set-up

Power connection in the form of tap-offs and PDUs

Remote hands

Private cage build and configure
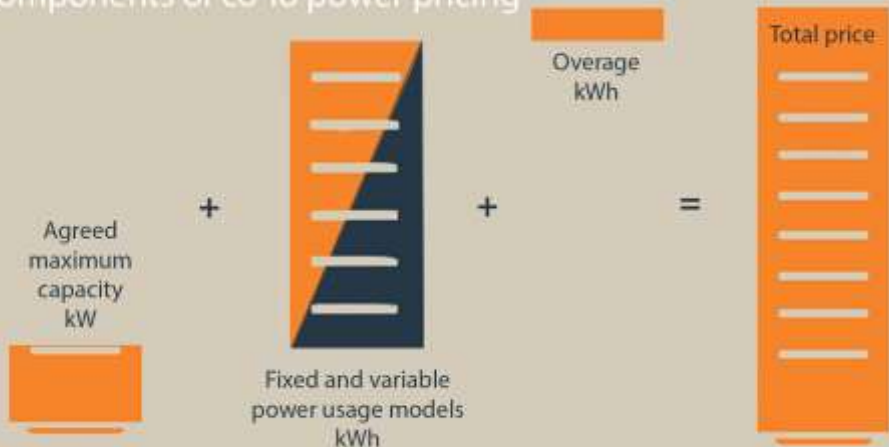
Connectivity

Monthly Recurring Rates

3 key components

Power Capacity rights—related to agreed maximum capacity

Power usage - fixed, partial or variable

Overage

Components of co-lo power pricing

Agreed maximum capacity kW + Fixed and variable power usage models kWh + Overage kWh = Total price

New to co-location or looking for a better way of working?
Take a look at the other guides in the Datum Connect Series;

Other titles include:

Investigating the options

Understanding what is needed

Planning the move

Moving day

Keeping the lights on

For more information:

Datum Datacentres
Cody Technology Park
Farnborough
Hampshire
GU14 0LX

Tel: 0845 568 0123   Email: info@datum.co.uk   Web: www.datum.co.uk