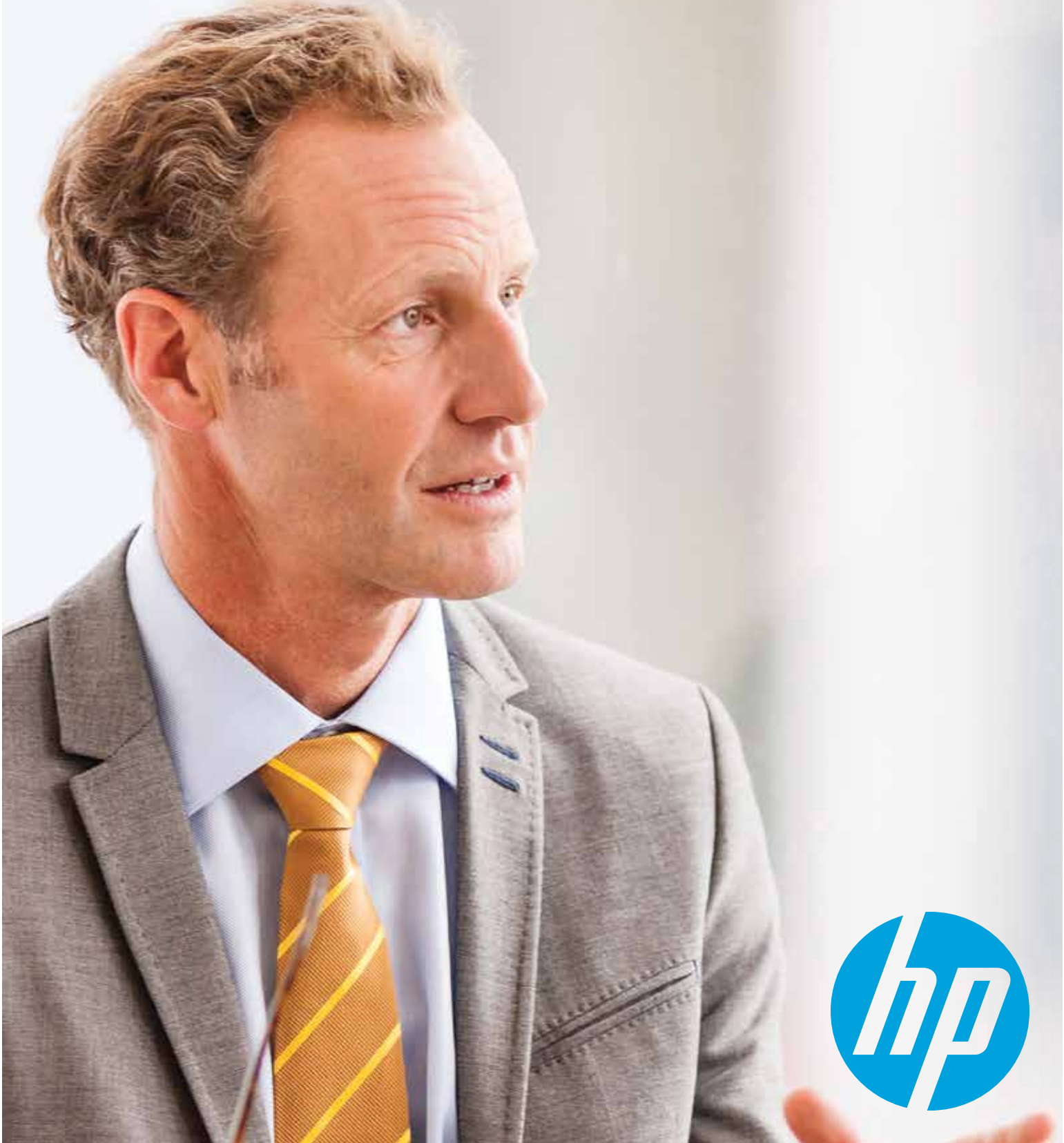


Brochure

Facilitate growth

HP Facility-as-a-Service (FaaS): pay for your data center as your business grows



Creating a new style of data center approach

Over the last several years, enterprises have made significant strides in increasing data center efficiency, building better utilization and cost management, and establishing greater agility and improved connections between IT and the data center, with integrated management tools and processes. However, today's rapid changes in business landscapes and shifts in technology are outpacing IT and data center strategies.

Is your data center ready to deliver?

Traditional data centers face an uphill climb to meet business goals. These data centers were neither designed to tackle the requirements of cloud computing, mobility, Big Data, and social media, nor are they sustainable in terms of space, energy, and cost. The pace of growth in IT loads, the adoption of methodologies to keep pace with delivering IT services to the business, as well as the need to address innovation exacerbates the inadequacy of traditional data center approaches. Upgrading an aging data center can become a costly and time-consuming venture. Figure 1 shows the flaws of this traditional approach to a data center. And without proper planning, improvements can fall short in meeting your technology objectives. Building new data centers to keep pace with change is an expensive proposition. Plus, there are other impacts to consider, such as changes in IT provisioning and determining where applications or workloads should reside—on traditional IT or in the cloud. Research suggests that 75 percent of IT executives plan to pursue a hybrid cloud delivery model by 2016.*

HP has been at the forefront of addressing these seismic shifts in IT. Converged Infrastructure, a term first coined by HP, has helped change the IT landscapes of clients. And with the impact on IT from mobility, Big Data, cloud adoption, and the ensuing issues to preserve security are now being addressed through the delivery of a "New Style of IT." But how does this apply to the data center?

For several years, HP has led the way with its wide modular data center offerings, ranging from a multitiered hybrid design of traditional custom brick and mortar data centers, through its pre-fabricated solution, HP Flexible DC, to the highly efficient HP Performance Optimized Datacenter (POD). But the New Style of IT requires a new approach to operating data centers. An approach that can help organizations more efficiently provision their IT service delivery, improve the financial management of data centers, create more efficient management, and release capital for business initiatives. More importantly, HP can now deliver greater value to organizations such as yours by better aligning your data center strategy with your IT service delivery strategy.

What's needed is the ability to own a facility that can be modified as quickly as required and at a fraction of the cost. You require a facility model that is sustainable from one generation to the next. HP has the answers: the HP modular data center offer combined with HP Facility-as-a-Service.

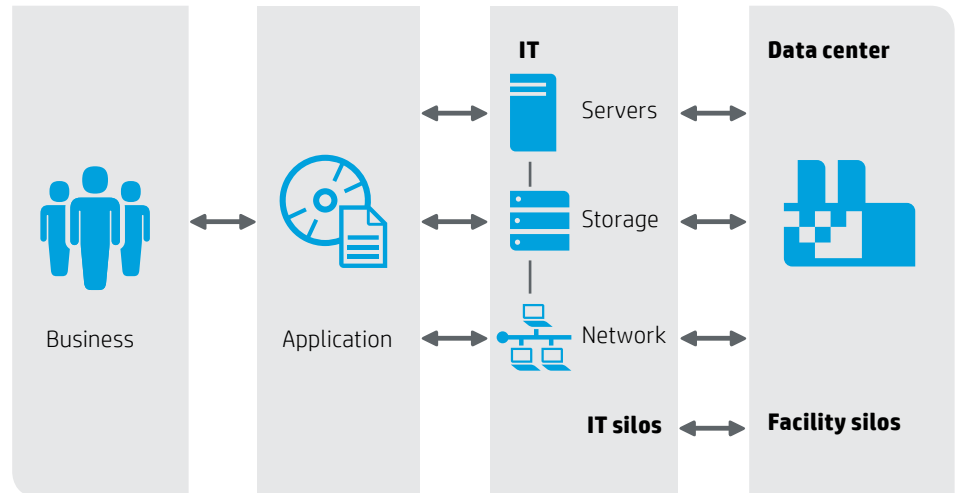
* "HP Unveils Cloud Innovations to Help Customers Thrive in a Hybrid World," HP press release, December 2013, m.hp.com/us/en/news/details.do?id=1536858&articletype=news_release

Figure 1. The flawed traditional data center

Facility aspect of the flawed data center

Legacy data center facilities are intrinsically saddled with flaws that make them unsuitable for today’s modern requirements. Here are the key reasons:

- High capital costs for land and facilities
- Structures that were built for a 15- to 20-year planning vision that cannot adapt to business changes
- Lengthy construction cycles
- “All-or-none” facilities that limit the ability to modify or add on to them
- High operating expenses, particularly with regard to energy costs
- Inflexible designs, firm IT load limits
- Limited utility-based capacity



The modular data center approach

Data center infrastructure has started to evolve far beyond the traditional centralized approach. Cloud, data as a driver, and the distributed environment all require greater agility. By their nature, conventional data centers historically lock the building and its IT infrastructure into an inflexible package. They’re handicapped by a rigid “brick and mortar” construction. To regain control of both capital expenditures (CAPEX) and operating expenditures (OPEX) while providing faster deployment and more flexibility, data center designs are adopting modularity as the way forward.

Modularity is characterized by greater pre-fabricated industrialization and containerization of components, more effective climate control, better supply-chain management, improved maintainability, and a more effective facility that better accommodates converged infrastructure and cloud computing models. A modular data center incorporates innovative design and appropriate reliability; is right-sized for current IT needs; and packages all of these features into a factory-built, prefabricated, and repeatable module. Now data centers can grow and expand in a timely and efficient manner to match business growth in much shorter cycles. This translates to data center agility for a New Style of IT that is capable of expanding as IT scales. And it is the modular approach that provides many of the benefits of HP Facility-as-a-Service.

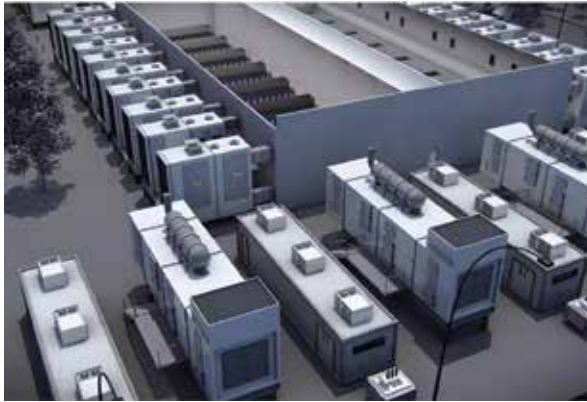
HP modular data centers—A complete package

Within the HP Facility-as-a-Service solution, modular elements typically include power systems, cooling plants, and data halls, with distribution, fire protection, security, and monitoring built in. HP has the widest range of modular data center approaches, providing choice in terms of portability, flexibility, time to market, scale, and customization. Figure 2 shows a range of modular data centers with HP components.

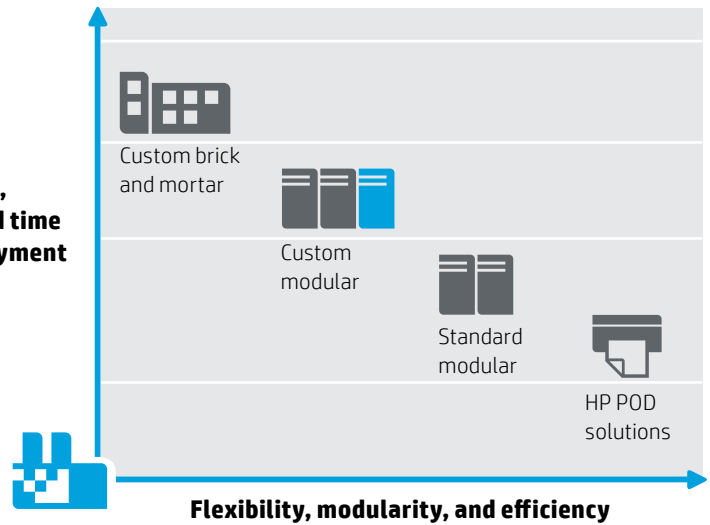
The modular data center range

- HP POD
- “Standard” modular (Flexible DC)
- “Custom” modular
- Multitiered hybrid brick and mortar

Figure 2. HP modular data centers



**Capacity,
cost, and time
to deployment**



“Financial institutions create an enormous volume of data, which means they need to be able to quickly add capacity to their data center without disrupting business. HP Flexible DC is a promising new approach to the way organizations can meet computing demands efficiently while addressing capital-intensive data center costs.”

– Bob Cashner, senior vice president, Corporate Properties, Wells Fargo

HP Facility-as-a-Service

HP Facility-as-a-Service (FaaS) provides a revolutionary way for you to operate a data center. It enables you to match data center strategic planning to the business need and current or projected revenue, which drives capital and operating budgets. Fueled by the New Style of IT and its impact on data center requirements, HP has combined a modular data center approach with a new cost model. Overestimating or underestimating data center requirements has always been a big challenge, leading to the growth of colocation providers and outsourcing as solutions to significant capital requirements. Now, by adopting the HP FaaS approach, you can gain greater operational flexibility and additional sourcing choices.

First, HP provides you with a modular data center within a fully leveraged maintenance service agreement. The service agreement typically includes initial design, implementation, and commissioning of the data center. In this way, HP works with you to help ensure that the data center design meets your changing business needs and that it is built and functioning as designed before operations begin. It’s used as a client-operated facility, the cost of which is included within the agreement as well as an ongoing maintenance program. Next, HP removes all the guesswork from your data center requirements, including future expansion, and you remain in total control of your IT, while being able to keep data center costs in line with revenue. It’s a new alternative to funding the building of a new data center or utilizing colocation space, which were the only previous options available for owner-operated solutions. If you need ongoing operational support in addition to scheduled maintenance, you can turn to HP to provide the level of service you need while you still maintaining full control of your own IT.



With an expandable, modular data center in place, you mitigate the risks of expending a large upfront capital investment that may be underutilized for many years until future growth is actually realized. The risk of requiring additional capital investment because of initial underfunding, building too small, and reaching capacity unexpectedly is also mitigated. With operating costs that are evenly expended and better matched with expected revenue streams and cash flow, you can reallocate financial resources to your core business. HP FaaS helps you maintain key financial metrics such as debt to equity and return on assets while still providing you with the facility and level of control you need.

HP Facility-as-a-Service offers the following benefits:

- Reduces initial capital investment and redirects capital resources
- Provides a long-term operating service agreement with full operating coverage
- Provides an owner-operated model that is designed to meet your needs and allows you to maintain control of IT
- Provides a new alternative to complete outsourcing or colocation
- Is designed to your use case for capacity, criticality, and provisioning
- Is a modular approach that provides provisioning to match future IT rollout plans
- Adds modules over time so that facility costs can be matched to revenue streams

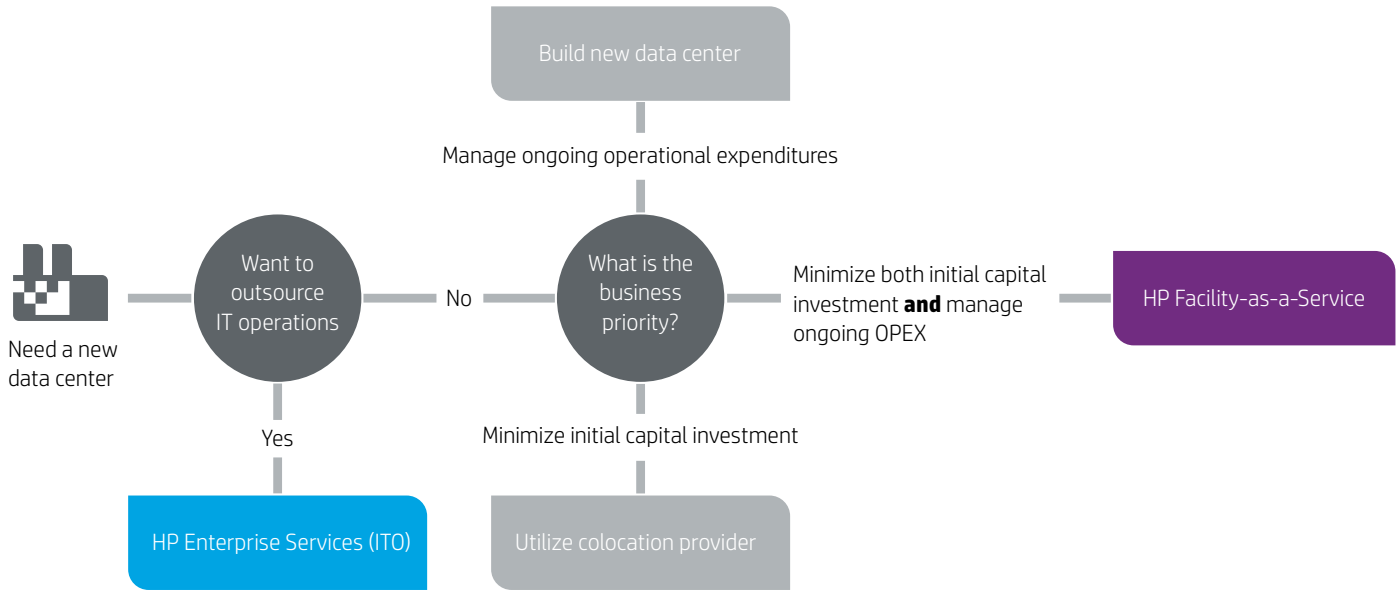


How does HP FaaS compare to current methodologies?

HP FaaS changes how data centers can be approached as a facility to provision. Current methodologies include building a data center, utilizing a colocation space, migrating IT to the cloud, outsourcing, or combinations of these approaches. The essence of HP FaaS is that it provides the owner-operated advantage of the traditional data center approach with the operating expense-based approach of the colocation model. It retains the advantages of each approach, while leaving behind their disadvantages.

Traditional self-build	Colocation services	HP FaaS
Data center is a “one-off” project	Client pays “rent” for shared data center	FaaS is an ongoing partnership between the client and HP
Relationship with constructor ends except for warranty	Client has no control nor input into decision-making/management	HP provides a data center that meets client’s needs today; provisioned for ongoing
Client assumes risk; what is built meets their needs	Provider owns and controls the facility and infrastructure	Facility develops as client’s needs change
Funding needs justifying vs. business needs	Provider controls access and change management	Client maintains physical control of the facility and its operations
Temptation to overbuild to alleviate pressures on availability and capacity	Client adjusts IT to colocation’s capacity/reliability restrictions	Facility’s costs match business needs at the given time

Figure 3. The HP Facility-as-a-Service decision tree



The financial justification of HP Facility-as-a-Service

Building a new data center requires a significant amount of capital expenditure. A major factor in choosing to use colocation facilities is that initial capital outlay is not required, but the month-to-month operating expense makes it a more expensive financial proposition over time. Figure 4 shows the cumulative cash outlay with a new build, colocation, and HP FaaS options. In this example, the client must find the revenue required for site preparation and, potentially, land acquisition, but beyond that, cash outlay over time is fixed and covered by operating budgets. HP FaaS requires minimal capital outlay. In the example shown in figure 5, with operating expenses over time, one of the balancing acts organizations face with making the decision to invest the capital in a new build is to take advantage of lower demands on cash flow when compared to colocation costs.

Figure 4. Cumulative cash outlay for a facility with 1 MW day one capacity

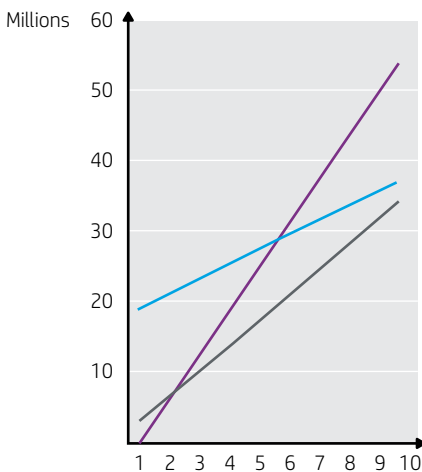
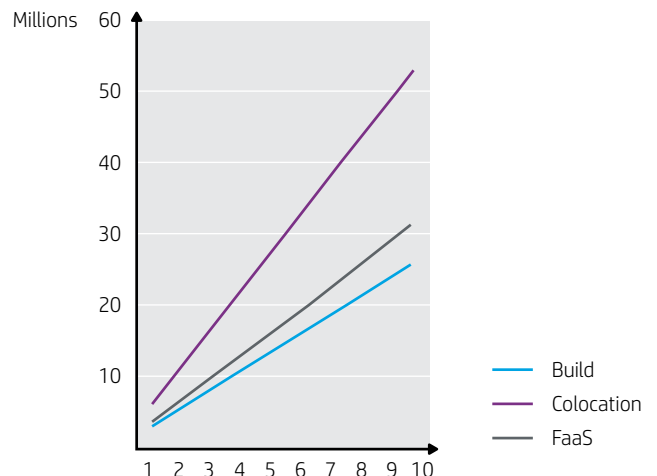


Figure 5. Cumulative OPEX for a facility with 1 MW capacity

Colocation pricing assumed at \$450 USD/kW/month inclusive of all costs



Developing solutions for major social and environmental challenges

hp.com/hpinfo/globalcitizenship

Conclusion

HP Facility-as-a-Service gives you full financial as well as data center flexibility for new or retrofit data center planning. You can choose from the full range of HP's modular solutions, custom brick and mortar, custom modular, HP Flexible DC, or HP POD. HP retains ownership of the facility and infrastructure components, with all the cost of provisioning the data center included within the ongoing maintenance service agreement. By combining the cost model with a modular approach, HP FaaS provides you with new data center facilities that are matched to your requirements as they change. It matches your exact operating needs today, and enables you to remain in total control of your IT. You also align your data center costs to revenue streams and cash flow. HP removes all the guesswork, keeps you in control, and provides the right finance model.

HP is uniquely positioned to provide you with this service. Our critical facilities consultants and engineers have worked on similar projects with enterprise organizations around the globe. We have designed more than 65 million square feet of data center space. We are responsible for more than two-thirds of all LEED Gold and Platinum certified data centers, and we've put our years of practical experience to work helping many enterprises successfully implement their data center programs. Now we can do the same for you.

Learn more at
hp.com/go/cfs

Sign up for updates
hp.com/go/getupdated



Share with colleagues



Rate this document

© Copyright 2014 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

As required by local U.S. or foreign law and/or regulation, professional engineering services will be provided by EYP MCF, Inc., a subsidiary of HP, or by an EYP MCF-related practice entity, or by another qualified engineering services provider in that location. EYP Mission Critical Facilities Inc. (EYP MCF) is a wholly owned U.S. subsidiary of Hewlett-Packard Company (HP). It was formed for the purpose of providing licensed engineering services within the United States. HP is not a licensed engineering company.

