



■ Infrastructure on Demand

Industry

Cross Industry

Business Challenge

Managing large information infrastructure is by no means an easy task. Shorter system lifecycles and dynamic business environments places much more importance on all phases of the infrastructure lifecycle.

Technology Solution

The HP Infrastructure on Demand Solution is a flexible managed architecture built on the power of HP servers running Intel processors.

Enterprise Hardware Platform

HP® servers based on Intel® architecture.

SOLUTION ARCHITECTS



Meeting New Market Demands

Global leaders in modern economy are large multinational companies with worldwide presence. They have offices and plants in many countries and tens or even hundreds of thousands employees. To achieve efficiency in daily operations around the globe, they must have solid and reliable information and communication infrastructure. Such infrastructure usually needs large investments in hardware and software architectures, as well as in training of highly qualified system administrators.

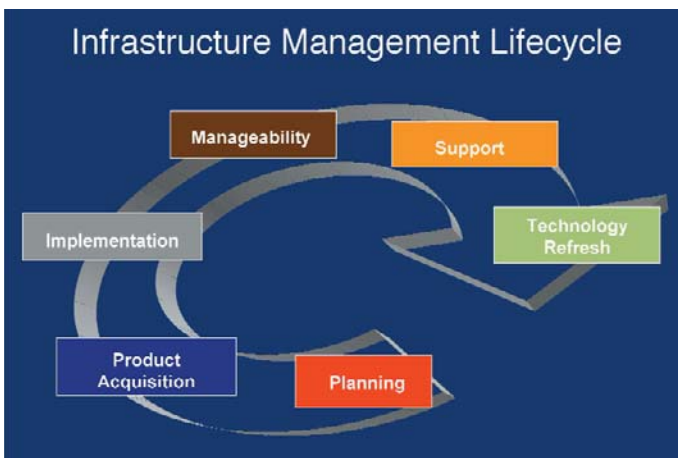
Another approach is to build the infrastructure in a just in time method, without large initial investments. You can accomplish that by using standard building blocks that can accommodate new users and new business demands. This new and innovative way to handle your company's infrastructure management lifecycle, based on Intel architecture and designed and implemented by HP is called Infrastructure on Demand (IoD)

The Business Challenge

Mergers, acquisitions and application integration are just bringing in a new dimension in infrastructure management puzzle. The real challenge is how to manage such large infrastructures with minimum cost and effort, while ensuring highest possible functionality and availability for business users.

Infrastructure management cycles in today's market are getting shorter than even before. Just a decade ago, average lifecycle of an office server was almost five years. The situation is much more complicated these days when average lifecycle for the same server is slightly less than three years. It is not just CPUs that are getting faster and hard disks that are getting bigger – the time gap between major releases of operating systems is getting shorter, too. This can pose a problem for a large company and have an impact on functionality or availability of a whole information infrastructure.

The situation within communication infrastructures is also similar – new standards such as Gigabit Ethernet, Wireless LAN or Bluetooth are widely accepted, but there is still typically a lot of existing site infrastructure based on technologies older than five years.



Managing large information infrastructure is by no means an easy task. Because of these shorter lifecycles business aspects have much more importance over all phases of the infrastructure lifecycle. The Planning phase must include assessment, feasibility study and result in a clear functional specification. After defining the appropriate standards, the appropriate business decision should be made, vendors selected and the required services, equipment, software and applications purchased. Installation, education, data migration and overall project management are the main issues in implementation phase. Ongoing operational support and system performance/availability management is critical to the ongoing success. Services must be delivered by your supplier to match an agreed Service Level. Technology refresh defines the new business driver(s) behind the next iteration in the Infrastructure Management Lifecycle loop.

The Solution Overview

Supporting such large information infrastructures does not need only hardware and software – it also needs proven methodology.

The IoD approach offers customers an individual charging model for IT infrastructures with a fixed price per month, which is invoiced to the customer by utilization in form of a price per GB, MB, Mailbox or User – dependant on the respective IT environment. This price comprises of all costs required to create and deliver a specific service (e.g. 1 Exchange Mailbox, 100 MB of Fileservice etc.) to Client's internal users.

IoD is built on a financing model, which is based on service charging that frees the customer from having hardware assets in the balance sheet and the associated financial depreciation factor. It also offers a high degree of transparency and predictability concerning arising costs in combination with the 'pay-as-you-grow' charging model.

IoD solution implementation is project managed by HP Global Services and is based on a logical allocation of HP services – from consulting and system integration to lifecycle and management services – and hardware building blocks. As a first step, HP will provide assessment of current infrastructure and user needs. After that a Service Level Agreement is defined, which will include service components, service definitions and service availability, based on specifications regarding user capacity, processor power and storage space per user. The next phase is to design the infrastructure system itself, including the definition of the building blocks standards and specifications.

In a second step service units are derived from these building blocks – dependant on the respective environment and the specific customer demands. These service units represent the service level agreement, mentioned before.

The building block is then installed, rolled out and maintained by HP at client's site. The price per service unit (e.g. price per mailbox, per GB etc.) encompasses all proportionate costs for services and hardware and is not invoiced until the respective service (e.g. file service) is completely available for Client's internal users.

It is modular architecture of the infrastructure solution based on Intel architecture that enables the IoD solution to be easily upgradeable and expandable. When the client needs infrastructure for more users/performance, HP will add one or more building blocks in the solution. This approach is called 'pay-as-you-grow', and client never pays for more than they need.

As a result the Client does not have to manage the investment lifecycle; HP will do that for them and replace technology with the new as appropriate. HP will also provide the ongoing Operational support to manage the implementation.

HP's unique Infrastructure on Demand (IoD) approach can create real business value for the company. The proven methodology is aimed at fast infrastructure project implementation, without any initial investment from the Client's perspective. Based on sound knowledge, HP is able to match the defined service units – representing reasonable service level agreements – and the corresponding charging model exactly to the customer's situation. This may result in prices per GByte, user, server processing power or even mailbox.

Technology

Although IoD is a break-through from a methodology perspective, HP's best-of breed technology still plays a vital role in this innovative solution. Basically, there are four main components of IoD solution, of which building blocks are made:

- Servers – powerful line of Intel based HP ProLiant servers: HP ProLiant DL580 with 700MHz Intel Xeon processors
- Storage – HP Enterprise Modular Array EMA 12000 with SAN switches and HSG80 controllers
- Software – clustered Microsoft Windows 2000 Advanced Server
- HP Services (project management, consulting services to plan, design and deploy the new solution and migrate data)

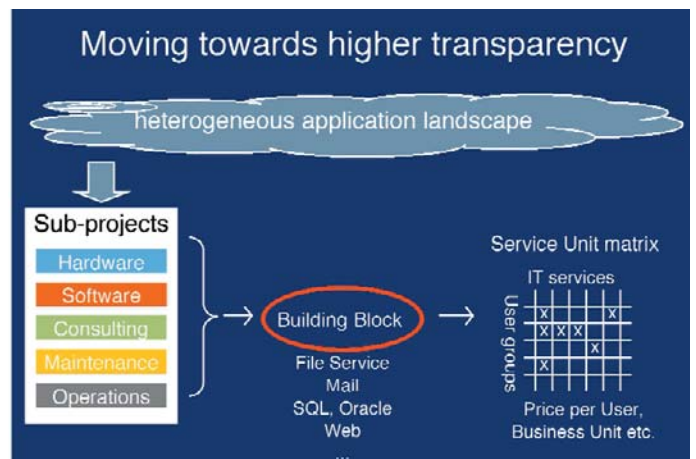
All infrastructural components are designed to work together in a highly available and flexible architecture. Each building block is made of several components that ensure appropriate performance specified in SLA.

Target Market and Customer

HP developed the IoD concept for companies who have strong global presence and large need for high-quality information and communication infrastructure, almost regardless of industry.

From a management perspective, the main advantage of the IoD solution is clear business value. IoD as a reliable infrastructure does not only provide high availability and flexibility, it also enables fast time to market for all infrastructure projects. Furthermore, HP Infrastructure on Demand helps customer's who are aiming at increasing the transparency of their internally offered IT services.

The picture below shows, how IoD enables customers to move to a highly transparent IT infrastructure by following a step-by-step approach with the definition of sub-projects (file & print, mail, SQL, etc.) and the respective design of building blocks and service units leading to different prices per internally offered IT service (e.g. one mailbox, one instance of a SQL database, ...).



Following this approach leads to a service unit matrix where the different IT services can be matched to different user groups, business units or even single users. As a result, IT managers are able to increase the transparency step-by-step – sub-project by sub-project.

IoD not only helps to increase transparency, it also helps customers aiming at reducing their costs. Following Gartner, there are three main areas to achieve cost reduction through reasonable improvements: Technology, Processes and Human Resource management. According to Gartner Group, implementing the best practices in all areas can lead to savings of up to 48%. With IoD solution, you are tackling all those three areas. There is no initial investment in the infrastructure, just monthly fee per service unit. Also, proven IoD methodology will lead your company through the infrastructure management lifecycle in a fast and secure manner, using HP's best of breed technology, and still enabling you to reduce your HR costs significantly.

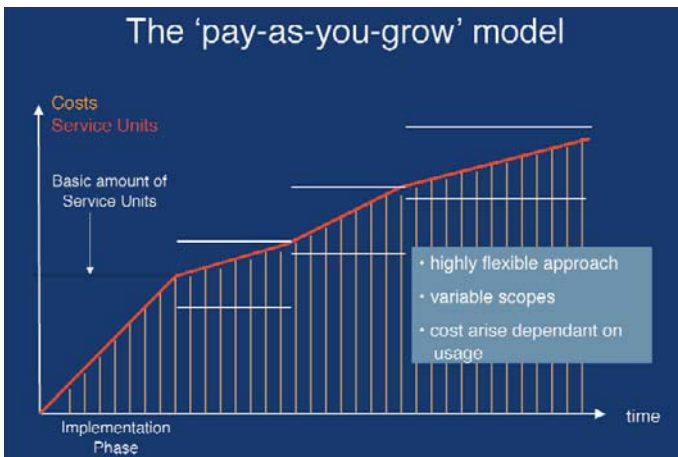
Case Study / Proof Points

DaimlerChrysler trusted the HP IoD Solution for their consolidation of File and Print Services and awarded HP with the first ever Global Supplier Award in 2001. Sue Unger, CIO and senior vice president of DaimlerChrysler, recognized HP as a partner that consistently delivers total, global customer satisfaction. HP provides DaimlerChrysler with global enterprise services and support, including support for many high-end systems.

DaimlerChrysler, the world's third-largest automaker, recognized HP specifically for its Infrastructure on Demand solution to consolidate servers and storage for 17,000 users into a Microsoft Windows 2000 environment-doubling storage space, centralizing hardware and delivering long-term decreases in IT spending. Other benefits included increased functionality, flexibility, and high system availability of a minimum of 99.95 percent. The modularity of the solution enables easy replication at any DaimlerChrysler location at any time.

"HP has really delivered superior customer value for us," said Unger of DaimlerChrysler. "It provided us with an integrated, comprehensive business solution, and could back this up with the muscle of an experienced global services organization. HP's ability to meet the ever-evolving needs of DaimlerChrysler in the global marketplace will help us achieve our most critical business objectives."

The IoD concept helped DaimlerChrysler to decrease their internal costs for file & print services by one third. Besides this reasonable cost reduction, DaimlerChrysler now benefits from the innovative pay-as-you-grow model as shown in the picture.



To get the ideal proportion of price and performance, HP specialists defined the needed flexibility as well as reasonable limits for planned or unplanned growth closely with the customer. The system was implemented to cater for a defined amount of service units, for which the building block infrastructure was installed during the implementation phase. The initial implementation was delivered, including a capability for a percentage of system growth or decline. Within these limits (dotted lines) the service units are charged with a defined price. Should the upper limit be exceeded because of unplanned growth, the system is extended in terms of additional building blocks that take both the actual growth rate and the current technical installation

into account. In case of such an extension, the prices for all active service units are recalculated and usually lead, e.g. because of decreasing hardware prices, to lower service unit prices.

The result of this system extension and recalculation is a new IT building block infrastructure, which again may be charged to internal users with a price per service unit.

From a financing point of view, this charging model represents a much more attractive way of procuring hardware and all necessary services, since funds don't have to be taken into account until Service Units are requested and made available to internal users.

Customer Value Proposition

There are three main areas that can create business value and that are largely influenced by IoD solution implementation: Flexibility, Operational costs and Service Levels.

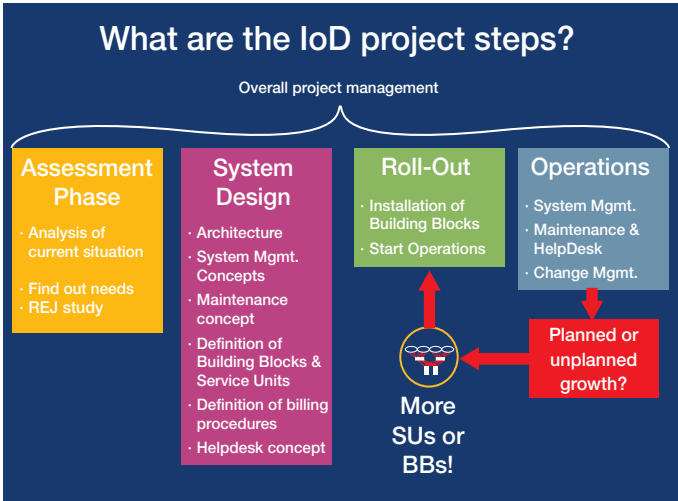
High flexibility and shorter time to market are closely related to IoD implementation methodology and HP best of breed technology, enabling large companies to manage change in more efficient manner.

Operational costs are much lower, due to the modular architecture of IoD solution based on building blocks, as well as the pay-as-you-grow principle, that eliminate the need to oversize servers, network and storage "just in case..." There is no initial investment in IT infrastructure. Elimination of substantial costs related to disposal and write-off of outdated equipment is also important.

Maybe the most important improvements can be achieved in the area of **Service Levels**. The IoD solution focuses on delivering to Service Levels agreed with the business. The business then receives a contractual commitment to levels of availability and performance to users. Time and profit lost due to technology problems and information unavailability are not so easy to measure, but often pose a significant business issue. Considering the service matrix model mentioned above, IoD also enables customers to define their service levels more specific and tailored to user demands.

Functional Business Concept

Maybe the most significant advantage of IoD architecture is fast reaction time of the model in case of changing or raising demands. After a single phase of assessment there follows a system design step and the start of roll-out and operations begins, new demands do not lead into a new assessment or system design phase. This helps to reduce time and costs during the whole project lifecycle.



Assessment Phase

Because of the different possible parts of an IoD Building Block the Assessment Phase is not only recommended but imperative to precisely define both the actual situation as well as the specific demands as soon as possible.

Within the scope of the IoD approach the assessment phase is necessary to define, what information is already known and what has to be evaluated. According to the amount of existing information, either all or only parts of the following activities can be carried out during the assessment. The goal of these activities is to provide a detailed specification of the actual situation, the current demands as well as recommendations concerning further steps and possible building block or service unit models.

Consideration of profitability

To analyse the profitability of new IT projects it is usually either the TCO approach from Gartner or the REJ (Rapid Economic Justification) approach from Microsoft that is used. In this situation the REJ approach can be regarded as an extension to the TCO approach, which also assesses the business value of an investment – meaning its contribution the defined business goals.

Depending on the respective project, HP can use these different approaches to measure the value of an onDemand solution in a specific customer scenario

Operations, Systems Management and overall project management

The high-grade modular approach of HP IoD also works with system management and operation services. Service Levels can be designed to reduce the complexity of your IT infrastructure management by packaging different services into a cost efficient, modular and tailored system management package – from pure hardware monitoring to proactive system management, automated asset management, help desk services and overall program management during the whole project lifecycle.

All possible Service Levels in an IoD project have one thing in common: a highly qualified HP project manager as single point of contact for all topics concerning the IoD project – from questions concerning problems to change requests and questions concerning the invoicing. Furthermore, the project manager is the responsible person for providing recommendations concerning the further adoptions of the implemented building block infrastructure. These recommendations are based on knowledge from other projects and detailed reports from the existing Building Block infrastructure.

This approach of proactive project and system management leads to further considerable cost and time savings in cases of system growth, since raising demand only has to be requested or is automatically recognized by the project manager.

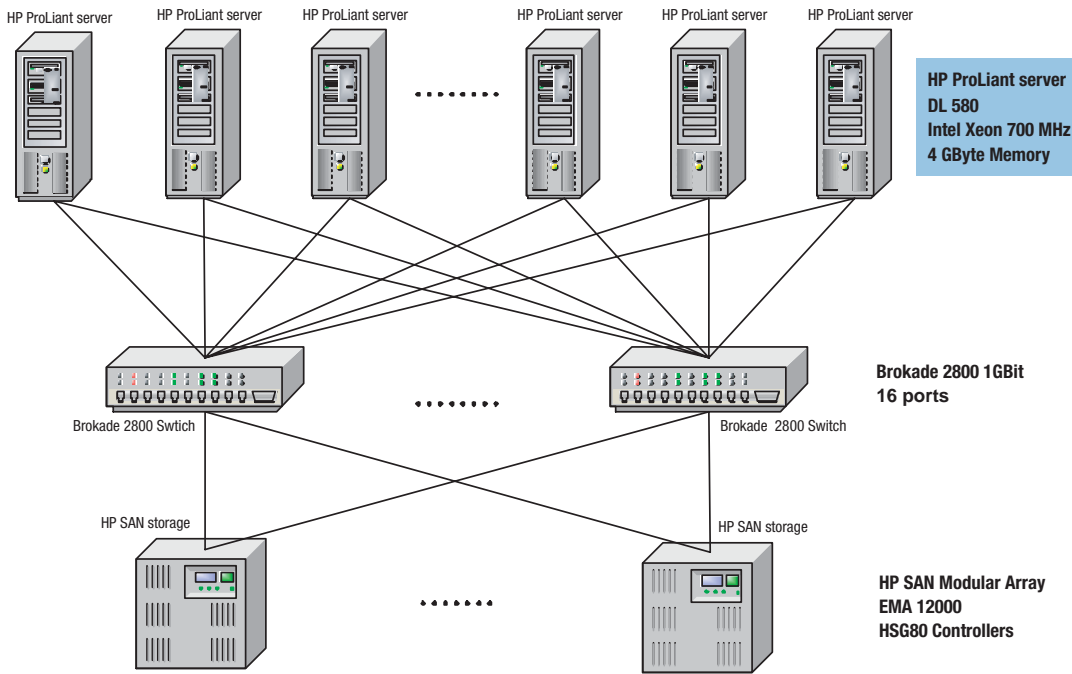
User Experience

The IoD solution is about delivering existing Corporate applications to the user in a high available and highly flexible managed environment. Therefore the IoD solution user experience mainly corresponds to guaranteed service levels – patented building block architecture can assure 99,95% availability and guaranteed performance for users even during activity peaks, regardless of actual size of the enterprise and number of concurrent users.

This kind of modular and highly adaptable IoD approach can be used for nearly any kind of application – file & printing system, mailing, intranet or even for ERP or Business Intelligence infrastructure.

System Architecture

This is an example of a building block for approximately 18,000 users (service units) that enable each user to have 700 MByte of storage space. It has completely redundant server, network and storage architecture. Of course, building blocks can be designed to contain different amount of service units, in conjunction with user demands for different applications or systems.



For More Information

Information Technology infrastructure management has never been made so easy and cost-effective as with HP's IoD solution. We are all aware that today's market is each day more and more ASP oriented, but the next big step is infrastructure management outsourcing. HP's unique IoD solution based on Intel architecture is leading the market in that direction.

How To Engage

The HP Intel Solution Center is chartered to help customers complete Proof Of Concept (POC) testing and sizing to prove this is the best solution available for you.

If you want to verify this solution will work for you please fill-in our qualification: www.hpintelco.net/engage

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