

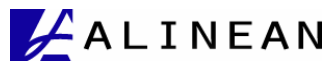
Tru64 UNIX[®] Transition Benefits

*A TCO and ROI analysis on the value
of migrating to HP-UX 11i using HP
value-added transition programs*

www.alinean.com

*Analyst: Thomas Pisello, author of IT Value
Chain Management: Maximizing the ROI from
IT Investments (Alinean Press – 2004)*

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Introduction

With the merger of HP and Compaq in 2002, HP made a strategic decision to focus its enterprise UNIX® investments on HP-UX 11i. Since then, HP ensured Tru64 UNIX customers' environments stability with continued AlphaServer system sales until 2006, and continued HP support for current Tru64 UNIX environments until at least 2011. HP also launched its Alpha RetainTrust (ART) program to deliver financial and technical assistance to ease Tru64 UNIX customers' transition planning and implementation.

Today, most Tru64 UNIX customers are planning their next step for applications currently running on Tru64 UNIX. A major transition, such as moving from Tru64 UNIX, requires sound technical and financial analysis: both are complex. The ART program has already delivered transition assistance to thousands of customers worldwide. As a result, 98% of HP's top AlphaServer customers continue to be HP customers.

Creating a compelling Tru64 UNIX transition to HP-UX 11i business case to present to your management is essential to secure project approval. For the financial analysis of the transition, Alinean Inc., a leading independent developer of ROI and value analysis software, offers a modeling and analysis tool to save you effort and time building your business case. The analysis can be used by IT decision makers to provide guidance and awareness into the factors that contribute to a beneficial Tru64 UNIX to HP-UX 11i and Integrity server transition. This complimentary, easy-to-use modeling tool is available online to help you analyze the initial transition costs, the timing, cost savings, and benefits of transitioning, and prepare a consolidated analysis report.

To illustrate what can be realized through such a transition, Alinean used a typical Tru64 UNIX to HP-UX 11i transition scenario to analyze the timing, costs, and benefits of transitioning. This white paper presents the results of this analysis. It is designed to help Tru64 UNIX customers understand their transition options, understand the factors that affect required investments, assess potential IT cost savings and business benefits, quantify the value of the HP ART program, and understand the financial criteria for transition payback.

To customize the business case reflecting your Tru64 UNIX environment's characteristics, use the associated Tru64 UNIX to HP-UX 11i Transition Benefits Calculator, 2nd Edition:

www.hp.com/go/artvalue

HP-UX 11i v2 on Integrity servers delivers unique advantages in virtualization, high availability, disaster tolerance and security, making it the lowest TCO enterprise UNIX. The HP ART program virtually eliminates the risk and cost of the transition, making that move the highest for ROI.

Alinean has determined that Tru64 UNIX customers would benefit from HP-UX 11i's unique advantages in virtualization, disaster tolerance, and security, with up to 20% lower TCO with HP-UX 11i versus Sun Solaris and IBM AIX.¹

Beyond comparing the financial benefits of HP-UX 11i as a destination platform, Alinean has also analyzed the financial implications of the transition required to reach the desired destination. HP recognized early that a transition to HP Integrity servers had to be

smooth and have limited cost and risk. To ensure Tru64 UNIX customers find that transitioning to HP-UX 11i on Integrity servers proves to be the most valuable choice, HP implemented the Alpha

¹ *The Business Value of HP-UX 11i: HP-UX 11i vs. Sun Solaris* http://h30097.www3.hp.com/hpux11i/hp-ux_11i_roi_solaris.pdf and *The Business Value of HP-UX 11i: HP-UX 11i vs. IBM AIX* http://h30097.www3.hp.com/hpux11i/hp-ux_11i_roi_aix.pdf

RetainTrust (ART) program. It is the most comprehensive set of transition offerings available to Tru64 UNIX customers that include not only investment protection business practices, but transition services, training, and tools. The program is specifically designed to minimize the resource and labor costs of performing a transition to HP Integrity server systems, and significantly reduce transition time to solution. So, while HP-UX 11i v2 on Integrity servers delivers unique advantages in virtualization, high availability, disaster tolerance and security, making it the lowest TCO enterprise UNIX, the HP ART program virtually eliminates the risk and cost of the transition, making that move the highest for ROI.

The significant investment in features, benefits, lower costs, and programs highlights HP's commitment to reduce the disruption in transitioning to HP-UX 11i in order to maximize the payback and return on investment (ROI). Most Tru64 UNIX applications are available on HP-UX 11i, making the timing, application availability, and system optimization a non-issue for most transitions. The benefits of available applications optimized for the HP-UX 11i environment, improved platform price / performance and measurable customer transition program value, make the transition to HP-UX 11i on HP Integrity servers the lowest cost, highest value choice for transitioning from Tru64 UNIX.

Alinean's analysis concludes that transitioning from Tru64 UNIX to HP-UX 11i is the fastest, lowest cost move available in the market today, thanks to the ART program's technical and business assistance, and the common services, storage, and other infrastructure support available from HP for both platforms. This white paper presents the results of one specific transition scenario analysis. It is designed to help Tru64 UNIX customers understand their transition options, understand the factors that affect required investments, assess potential IT cost savings and business benefits, quantify the value of the HP ART program components, and understand the financial criteria for transition payback and return on investment.

The Bottom Line – Transitioning to HP-UX 11i v2

In this white paper, Alinean specifically modeled and documented a case study for the migration of a typical suite of four financial analysis applications for a mid-size financial services company of \$250 million, running on a Tru64 UNIX AlphaServer GS 1280 1150 MHz cluster with TruCluster Server software using Cluster File System (CFS).

With the transition to HP-UX 11i, the solution will be ported and re-hosted on two clustered HP Integrity Superdome 1.5 GHz 16 processor servers. The features and functionality used to determine the business value of HP-UX 11i are available in the currently shipping version, HP-UX 11i v2, announced in August 2004. (See www.hp.com/go/hpux11i.)

The transition from Tru64 UNIX to HP-UX 11i results in the IT and business investment for the new systems being paid for by cost avoidance and IT efficiency improvements. With the benefits of increased business capability and agility factored in, the sample business case results in an ROI of 950%, with five-year NPV savings of \$23 million, and a payback period of less than 5 months to breakeven.

For the sample case study, the transition from Tru64 UNIX to HP-UX 11i results in the IT and business investment for the new systems being paid for by cost avoidance and IT efficiency improvements. Factoring in the additional business benefits of the new platform, including higher availability, increased business capability, and enhanced business agility, the business case results in a significant ROI of 950%, with five-year net-present value (NPV) savings of \$22,998,171, and a payback period of less than 5 months to reach breakeven. With a payback in less than 12 months, a significant ROI, and a positive NPV from the project, the case study presents a solid business case to transition from Tru64 UNIX to HP-UX 11i.

System Specifications	Number of Servers Needed to Meet Workload and Availability Requirements	Price per Server
HP Integrity Superdome/1.5 GHz 16W (16) (TO BE)	2	\$46,354
HP - Tru64 UNIX AlphaServer GS 1280 1150 MHz (16) (AS IS)	2	\$60,400

Performance SpecJBB2000 benchmarks from www.spec.org were utilized to be sure that workload requirements could be met or exceeded with any proposed HP-UX 11i Integrity server configuration.²

HP Integrity Servers offer additional benefits beyond mere cost savings. This new generation of HP servers offers the flexibility of running and consolidating multiple operating systems (HP-UX 11i, Linux, Windows 2003 Server, and OpenVMS) and applications onto a single hardware platform using partitioning technologies, enabling you to adapt to changing business requirements. HP Integrity servers can be trusted for even the most demanding workloads. They provide superior choice in performance levels, support for multiple operating environments, and focused innovation, especially in the areas of virtualization and management, combined with a world class support and services experience. HP Integrity servers are designed to be board-upgradeable to future Itanium processors, and can double the computing power in-line or add computing capacity with various on-demand service offerings. That serves to lower future upgrade costs to grow performance levels as application demands increase.

The case study transition results were analyzed for financial viability, examining total direct and indirect investments and benefits. The quantification was specifically designed to determine:

- How much investment will the transition require?
- How much savings or business value will be generated by making the transition?
- What value is provided through HP programs that reduce the investment required, shorten time to transition, and minimize risk?

The analysis included an assessment of *ROI* – a comparison of the project’s net benefits over the analysis period divided by the total investment costs; *NPV Savings* – an analysis of the net benefits the project generates over time, translated into today’s dollar terms using a discount rate; and *Payback* period – when the cumulative benefits exceed the cumulative cost investment needed to implement the project.

TCO Analysis Methodology

The analysis was conducted using TCO and ROI models developed by Alinean, a leading ROI consulting firm, whose founders were the original developers of the Gartner TCO Manager and Analyst benchmarking tools.

Alinean applied IT spending and TCO benchmarks modeled for over 30 different industries and over 15,000 companies to model specific transition opportunities, strategies, and best practices. The calculations were performed using a specific case study, with all calculations performed in US dollars, using list pricing for hardware and software investments, burdened labor rates for the defined industries, and US suburban locations.

² The analysis and calculator supports modeling of available Integrity and RISC migrations.

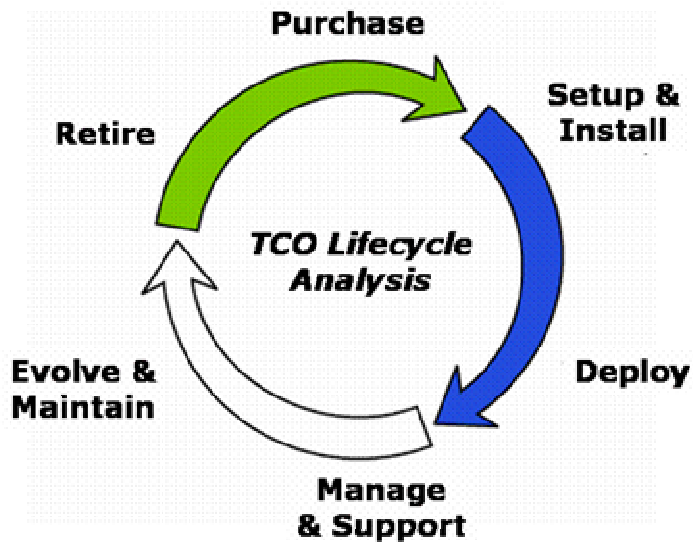
Metrics for the hardware and software costs were developed in conjunction with HP, for HP server and software pricing, and Ideas International, Inc. for HP and competitive solutions. The TCO metrics for all sections were validated as of December 2004.

This white paper represents an analysis that was performed at a specific time, with a specific application and user scenario, available systems, and specific current cost structure and opportunity. The TCO is highly dependent on:

- The point in time when hardware and software costs were examined as system specifications, pricing, and software licensing pricing and schemas change often.
- The point in time when the other TCO metrics for labor, facilities, and downtime were examined because business cost structures, opportunities, and solution impacts vary as well over time.
- The specific scenario that the analysis was established for, which is highly dependent on application type, industry, users and workload, current system and application configurations, current IT capability and maturity, and many other factors.
- A specific offering of the HP ART program, which advances over time to provide additional value and savings.

In the TCO analysis, list prices are utilized exclusively for hardware and software costs. List price is well documented and predictable, whereas discounted pricing is dependent on volume and enterprise purchase agreements, negotiations, and other factors; therefore, list pricing is used as the baseline. You can specify your anticipated discount rate in the Tru64 UNIX Transition Benefits Calculator to tailor the model for your specific needs.

The TCO model calculates the lifecycle costs and benefits for several competitive operating system and server platform configurations and best practices over a five year analysis period, the typical useful life of business-critical servers. The analysis quantifies initial investment requirements, ongoing expenses, change costs, and downtime costs of each competitive solution – comparing and contrasting the costs for head-to-head assessments.



TCO Lifecycle Analysis calculates the total cost of owning the asset from initial planning and procurement through retirement.

TCO Categories

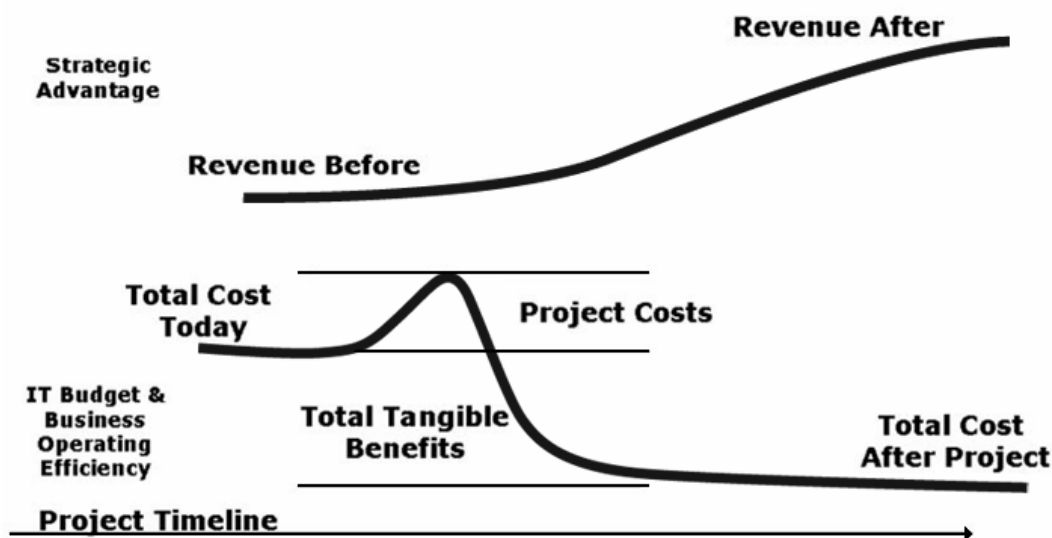
Total Cost of Ownership (TCO) categories are used to collect cost of ownership metrics and place them in accounting categories to enable comparisons and analysis of various alternative solutions and improvements. The TCO categories are organized as follows:

TCO Chart of Accounts Category	Description
Hardware	Initial purchase price of servers, storage, networking devices, spares, and associated hardware maintenance and support contracts.
Software	Software licensing costs including operating system, applications, middleware, database, systems management, and software support and maintenance contracts.
IT Operations and Administration	<p>IT Operations represents the labor or labor equivalents (outsourced / contract labor) cost for running the data center operations for servers and storage systems. Tasks include: service desk, performance and availability management, user administration, OS support, break-fix management, software deployment, application management (provisioning and scheduling), systems management, disk and file management, storage management, security management, and database management and administration.</p> <p>IT Administration represents the labor or labor-equivalent (outsourced / contract labor) costs for strategic management and overhead tasks in running the data center including vendor management, procurement, asset management, IT finance and chargeback, IT training, and user-training course development.</p>
Change Costs (Upgrade labor and services)	The labor cost, services, and application migration / porting to upgrade or migrate servers, applications, and databases. These costs include: downtime, installation, training, testing, data conversion and migration, systems setup and installation, recompiling applications, loading OS, loading applications, and de-installation and retirement of existing assets.
Availability	Planned downtime to perform regular maintenance and upgrades. The cost for downtime is measured as lost productivity for applications which support user functions, and lost business value and revenue for applications which support business transactions and key processes.
Strategic Business Benefits (Agility and enhanced business value)	<p>Agility, flexibility, and adaptability to handle changing business demands and requirements resulting in additional revenue and business opportunities such as that gained by industry-standard technologies.</p> <p>Future-proofing investments from change, avoiding future asset or labor costs because the existing system can adapt and absorb change quickly without additional investment.</p> <p>Time to solution deployment comparisons for delivering productivity or revenue enhancing applications more quickly.</p>

Calculating the Costs and Benefits of Transition

To calculate the benefits of the transition from Tru64 UNIX to HP-UX 11i the current total cost of ownership over the next five years was collected to form a baseline – known as the “AS IS” environment. The investment, change costs, and benefits of the HP-UX 11i solution are then simulated onto this AS IS environment to determine the “TO BE” environment. By comparing the TCO of the AS IS environment, to the TCO and benefits of the TO BE environment, a business case for transition is formed.

The model uses a traditional discounted cash flow financial analysis to compare the “AS IS” and “TO BE” environments, quantifying the possible savings and business improvements with the proposed HP-UX 11i solution. Benefits are typically calculated by adding ongoing support and maintenance avoidance, upgrade and growth cost avoidance, increased IT operations and administration efficiency, reduced operating expenses, improved availability, and increased agility and business opportunities.



The initial and ongoing cost to affect the HP-UX 11i / Integrity transition and the resultant benefits were modeled against the current Tru64 UNIX costs to determine the required investment, cost avoidance, and business benefits.

To analyze the financial integrity of the decision to transition from Tru64 UNIX to HP-UX 11i running on Integrity servers, the cost of the solution is quantified and compared to the benefits. Key financial calculations incorporated into the model include return on investment (ROI), net present value (NPV), and payback period. They are defined as follows:

- **ROI** – is the ratio of the net gain from a proposed project, divided by its total costs. In a formula, this can be represented as:

$$ROI = \text{cumulative net benefits} / \text{total costs}$$

When calculated, ROI is represented as a percentage which demonstrates the value of the investment.

Here is an example of how the ROI formula can be used to evaluate a solution. If a project has an ROI of 200%, the total net benefits derived from the project are double those of the expected total costs to implement the project. This means that every one dollar invested in the project returns a net benefit of \$2, plus the original dollar invested, for a total benefit of \$3. As such, the ROI calculation represents the relative value of the

project's cumulative net benefits over the analysis period, divided by the project's cumulative costs, expressed as a percentage.

The ROI calculation does not use net present value terms in its calculations.

- **Risk Adjusted ROI** – a variation on the traditional ROI formula, calculated as the ratio of the net gain from a proposed project, divided by its total costs - represented in net present value terms to account for project risk. In a formula, this can be represented as:

Risk Adjusted ROI = Net Present Value of Cumulative Net Benefit divided by Net Present Value of Total Costs

ROI is represented as a percentage which demonstrates the value of the investment. Each of the benefits and costs is adjusted into net present value terms to account for lack of visibility in future cash flows (see Net Present Value).

It is important to remember that the ROI calculation in this solution is adjusted for risk by using the discount rate and net present value terms.

- **NPV** – the sum that results when the discounted value of the expected costs of an investment are deducted from the discounted value of the expected returns. The NPV benefit is a calculation that measures the net benefit of a project in today's dollar terms. The NPV savings calculation consists of two financial concepts:
 - The "net" part of the NPV savings calculation is the difference between all of the costs and all of the benefits (savings and other gains).
 - The "present value" portion of the NPV calculation takes into account the time value of money, adjusting the expenditures and returns as they occur over time so that they can be evaluated equally.

As mentioned above, the NPV calculation evaluates a set of costs and benefits over time in order to account for the time value of money. The cash flows are the amounts and timings of the various costs and investments, which are brought into a common term - today's dollars - so that the net benefit can be evaluated. One calculates NPV by using the following formula:

$$NPV = I_0 + \frac{I_1}{1+r} + \frac{I_2}{(1+r)^2} + \dots + \frac{I_n}{(1+r)^n}$$

Projects with low initial costs and greater initial savings yield higher NPV savings calculations. The NPV Savings is one of the most popular and accurate methods used to assess IT project viability, using discounted cash flow to accurately quantify the net benefits from a project. Rather than the ROI percentage, a ratio of net benefits to the costs, the NPV savings uses discounted cash flows to quantify in today's dollar terms the projected net gain from the project.

- **Payback Period (Breakeven)** - in capital budgeting, this is the length of time needed to recoup the cost of capital investment. The payback period is the ratio of the initial investment (cash outlay, regardless of the source of the cash) to the annual cash inflows for the recovery period.

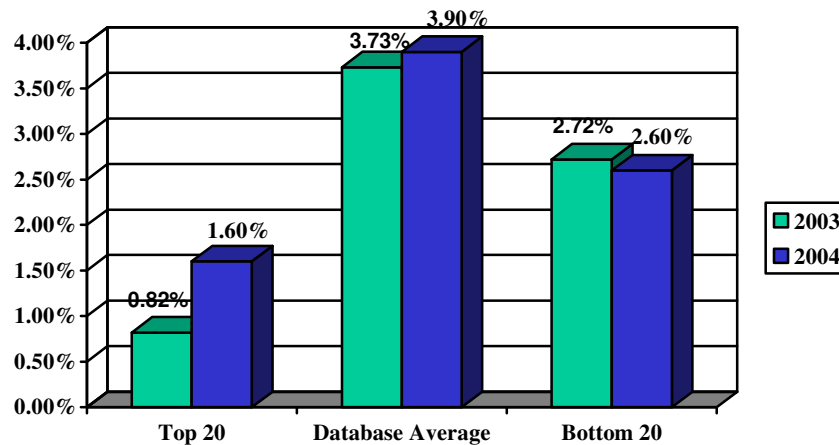
The major shortcoming of the payback period method is that it does not take into account cash flows after the payback period and is therefore not a measure of the total profitability of an investment project. For this reason, analysts generally prefer the discounted cash flow methods of capital budgeting; primarily, the internal rate of return and the net present value methods.

HP-UX 11i Strategic Benefits: Adaptability yields higher ROIT™

In Alinean IT spending and performance studies from 2001 to 2003, it appeared that the most frugal companies had superior returns on their IT investments (highest ROIT™)³. In these studies, Alinean examined financial performance using several metrics, including Stern Stewart and Co. EVA® , a measure of a company’s sustained profitability, compared to its overall IT spending. The results highlighted that the companies who were the most frugal and able to cut spending quickly to match the slowing economy were the winners. During this three year period the metrics indicated that the companies which did more with less had superior financial returns.

However, our most recent studies for 2004 indicate a significant shift in the metrics. The companies with superior EVA performance are increasing their spending at twice the rate compared to the bottom performers, and 50% higher than the average company. Looking back to the early 1990s recovery, we see the same type of shift – those who recognized the recovery early and were able to prudently scale their IT operations and investments to meet the opportunities of the next wave were the winners.

IT Spending as a % of Revenue



Alinean ROIT™ studies indicate the recent shift in IT spending and ROIT, whereby spending is on the rise on average, particularly for the top performers.

This highlights that it is not the most frugal, or conversely the highest, investors who achieve superior competitive advantage and performance. The Alinean performance vs. spending analysis clearly indicates that the companies that are able to quickly adapt their IT spending and investments to meet changing market conditions are the winners. Agility, as defined as the ability to recognize an impending slowdown and reduce costs and recognize market growth opportunities and increase investments, generates superior ROIT.

³ ROIT™ was developed by Alinean to quantify the companies with the most efficient and effective IT management. The metric compares the net benefits of IT investments to the overall costs, calculated as EVA® divided by total IT spending, where EVA is Stern Stewart and Co. metric for corporate profitability and performance and IT spending is an Alinean research metric that calculates the total cost of IT including formal IT spending, business unit IT spending and shadow IT. The metric launched in mid-2004 is quickly becoming the most recognized standard for calculating the value derived from IT and forms the basis for SearchCIO 200’s ranking of the best performing IT management for US companies.

Industry Average	ROIT™ = EVA / IT Spending	EVA (in 000,000s)	Estimated Total IT Spending (in 000,000s)	Estimated Total IT Spending / Revenue	Estimated Total IT Spending / Employee
Oil and Gas Production	205%	\$263.55	\$128.36	1.70%	\$15,347
Pharmaceuticals	165%	\$285.23	\$172.74	4.60%	\$15,324
Tobacco and Cigarettes	158%	\$1,106.75	\$700.33	4.10%	\$21,416
Food and Beverage Production	133%	\$247.39	\$186.40	4.00%	\$10,830
Financial Services and Banks	106%	\$204.70	\$193.32	6.90%	\$20,924
Education	100%	\$17.72	\$17.71	4.70%	\$7,442
Chemicals	81%	\$122.94	\$152.69	4.20%	\$14,056
Publishing and Printing	80%	\$56.91	\$70.97	5.20%	\$11,467
Construction	61%	\$34.25	\$55.98	2.30%	\$10,488
Insurance	40%	\$106.06	\$264.10	3.70%	\$24,579

Alinean analysis of several top performing sectors show the variations in the average returns and spending levels for each industry sector. Comparing company performance to the specific industry average and peer leaders can help set IT spending levels and strategies.

Selecting the system with the lowest initial capital cost is not always the wisest decision, as ongoing operating costs can easily and quickly exceed the initial savings. Similarly, selecting the lowest cost of ownership solution may not always be the superior choice in maximizing the business value of the investment. In fact, examining the practices of the highest and lowest performers reveals that managing costs contribute only 15% to the value derived from IT. The ability for the investments to support the company’s strategic goals and create or reinforce market position was the highest contributor to success.

Contribution to ROIT™	IT Best Practice
65%	Competitive advantage - How IT supports strategic goals / reinforce market position (alignment)
15%	Frugal / prudent (lower TCO)
10%	Higher project success rates
10%	Strategic outsourcing - Focusing on core competencies and appropriate use of strategic outsourcing

In Alinean surveys of the highest and lowest 2004 performers, although there is no single silver bullet for success, aligning IT investments to create or support the company’s strategy and market position is key.

Aligning the investment strategy with specific strategic and marketing goals can help the business ensure that the investments will yield competitive advantage. And because the ecosystem continually evolves, it is imperative that the infrastructure not only deliver a low cost of ownership, but be adaptable to handle changing market opportunities, product strategy changes, customer and partner needs, business process improvements, mergers and acquisition, and application / platform requirements.

The value of an adaptive enterprise is quantifiably supported by the overall ROIT analysis, but more difficult to quantify for individual investment decisions when compared to performing a TCO analysis.

Here are some possible considerations for calculating the value of a superior adaptable enterprise investment:

Value of Adaptable Enterprise	Quantification	The HP Adaptive Enterprise Advantage
<p>Lower change and growth costs</p>	<p>Often over the useful life of a server platform, the user or application requirements change.</p> <p>This change can lead to a need to upgrade the server to increase computing capacity, or the need to repurpose the server for another application or operating system.</p> <p>Migrations or upgrades can require recompilation or porting of applications, which often requires skilled and costly labor resources.</p> <p>An adaptable system is able to handle multiple business requirements, be intelligently and flexibly repurposed or allocated, and more cost effectively scaled than the competition.</p>	<p>With HP-UX 11i porting or recompilation is typically not needed, avoiding costly change costs.</p> <p>With HP Integrity servers, computing capacity can almost be doubled by upgrading using mx2 processors. For example, a 64 processor computer can be converted to be 128 processors with the mx2 upgrade. The organization can avoid purchasing additional capacity up-front, or adding additional servers later to meet growth demands – increasing the asset count and ongoing management costs proportionately. In addition, once moved to the HP Integrity server line, users can rest assured that they have moved to a platform with an extended duty cycle – an architecture that will continue to be invested in, not one that is at the end of its lifecycle.</p> <p>With HP Integrity servers, multiple OS types are supported, and can be hosted and managed simultaneously. Labor and time to change the platform, or partition support for the changing business demand is lower than the competition.</p> <p>Moreover, using partitions, the application demands and other business rules can drive scheduling and computing power allocation dynamically to optimize asset usage and reduce costs.</p> <p>HP on-demand options such as capacity and instant capacity on demand can also be utilized to flexibly upgrade system processing power when needed, leading to better asset utilization and lower upgrade labor costs.</p>
<p>Faster time to solution</p>	<p>Lower change costs and flexible growth options can lead to a reduction in how much time it takes for the solution to be initially deployed, and how long it takes to respond to change requests.</p> <p>Each week the application is in development, the productivity or business benefits cannot be realized. Reducing the time to solution versus competitive solution delivers accelerated value</p>	<p>HP-UX 11i with virtualization requires less physical assets than competitive solutions on average. This helps to reduce costly server procurement, setup, and deployment time.</p> <p>HP-UX 11i does not require most applications to be recompiled or ported, leading to reduced time to solution.</p> <p>As changes and upgrades are needed, virtualization, mx2 processor upgrades, and on-demand capacity options help lower time to solution.</p>

	<p>to the organization.</p> <p>As business needs change and require platform changes, upgrades, or optimization, making these changes faster again leads to realizing the additional productivity and business benefits of the solution.</p>	
<p>Business agility</p>	<p>Being able to respond quicker to changing business needs not only delivers faster time to solution, but can deliver permanent and significant increases in incremental revenue opportunities. Normally there are small market windows to launch a new product, new feature, or cost advantage.</p>	<p>The additional business benefits of faster time to solution, HP-UX 11i has the lowest change labor and time requirements when compared to competitive solutions. For ongoing capacity improvements or platform changes, options such as mx2 processors, virtualization and capacity on-demand can all help to deliver faster time to solution, enabling the company to realize additional revenue opportunities from being more agile and responsive than the competition.</p>

Case Study Overview

In preparation for the retirement of Tru64 UNIX, a financial services company is considering transitioning from their existing Tru64 UNIX environment to HP-UX 11i Integrity servers. The following configuration was used in this scenario:

Primary industry classification	Financial Services
Primary geographic location	United States
Data center location	Suburban
Annual sales revenue or equivalent (in millions)	\$250.00
Type of application	Multiple Application Portfolio
Number of applications	4
Estimated revenue that the application is responsible for	60% of total company annual revenue, \$17,857 per hour
Existing platform	2 servers - HP Tru64 UNIX AlphaServer GS 1280 1150 MHz with 16 processors each
High availability configuration	Clustering with CFS
Operating hours of data center and availability requirements of application(s)	24x7x52
Total storage capacity (GB)	1,200 GB on a SAN with 50% growth, and \$25 per GB of additional storage
Annual support and maintenance contracts on Tru64 UNIX AlphaServers	\$40,000
Current availability	99.990%
Current IT operations and administration full time equivalents (FTEs) managing servers	0.40
Average annual burdened salary per systems administrator	\$126,164
Average annual burdened salary per application developer	\$132,101
Average annual burdened salary per test engineer	\$81,635
Average compound annual salary increase	3.0%
Rate of application upgrades to meet business and user needs each year	Moderate
Percentage of Tru64 UNIX applications that are third party (non-customized client software)	75.0%
Quality of the current application documentation	Somewhat complete
Primary third party application will be supported on HP-UX 11i	Currently supported
Third party application will be specifically enhanced for HP-UX 11i	Currently supported
Complexity of migration (porting) effort	Moderate
Testing level required	Moderate
Complexity of procedures migration effort	Moderate

The analysis provided in this whitepaper is specific for this case study scenario. Changes in company type, size, location, server assets, savings opportunities, application profile, and transition factors can all lead to different analytical results. To extend results to any scenario, and help develop personalized business cases, use the Tru64 UNIX Transition Benefits Calculator, 2nd Edition, developed by Alinean, as a free resource available on www.hp.com/go/artvalue that will allow any organization to specify unique transition requirements and calculate personal ROI analyses to validate required investments, the unique value of the HP ART program, and potential benefits and payback.

TCO Advantages of Transitioning to HP-UX 11i	Benefits
Equipment Upgrade and Growth Savings	Avoiding the need to upgrade the existing Alpha servers and storage to maintain service levels and handle expected growth, resulting in a cost avoidance of \$204,680 in year 1, increasing by 10% each year.
Lower IT Operations and Administration Costs	Improve IT operations and administration staff productivity through improved manageability using HP-UX 11i and server consolidation, resulting in increasing the ratio of servers per administrator from 5:1 to 5.6:1, and resulting in annual labor cost avoidance of \$5,047.
Tax Benefits	Realize a tax benefit on new equipment purchases of \$128,590 annually.
Shorten time to solution	With the Alpha RetainTrust program, realize a cost avoidance and improved business value of over \$1,566,964 due to elimination of training course costs and reducing application porting and testing by 80%, procedure porting and migration by 70%, and overall time to migration by 75%.
Improved support costs	Avoid further payments on Alpha server maintenance and support contract savings, totaling \$40,000 annually.
Improved Availability	Improve the availability of the application and systems, resulting in \$1,786, in annual downtime cost avoidance.
Multi-OS Consolidation and Virtualization ⁴	<p>Consolidating various operating systems and applications is optimized using the Integrity platform, partitioning and virtualization. HP-UX 11i Integrity can host multi-variant operating systems on a single server including OpenVMS, UNIX, Linux, and Windows, delivering savings in IT operations and administration costs almost proportional to server consolidation levels.</p> <p>Virtualization of a consolidated environment drives additional savings. Virtualization is an approach to IT that pools and shares resources to optimize utilization and so that supply automatically meets demand. When integrated virtualization technologies are deployed, overall server utilization increases, resulting in fewer resources being required to perform the same workload. If fewer CPUs are required to perform the same work, it reduces not only the hardware costs, but also the software and support costs.</p>
Future Proofing	<p>Because of the Integrity server platform with partitioning and/or virtualization, the organization has the flexibility to, in the future, migrate to Linux, Windows, and OpenVMS without requiring a hardware change. The HP-UX 11i solution offers the business protection against future changes and preservation of the initial investment regardless of changing business, market, or customer needs.</p> <p>Upgrades to mx2 processors for near doubling of processing capacity in the same server and footprint avoiding the requirement to buy larger server platforms up-front with room for future expansion, and avoiding the need to add additional server boxes to handle the growing need for computing capacity.</p> <p>On-demand capacity including: instant turn on CPUs, ability to enable or disable CPUs on a temporary as needed basis, ability to pay based on actual metered usage, as well as memory on-demand.</p>

⁴ The benefits of multi-OS support and future proofing were not included in this business case and have the potential to increase the future cost avoidance and business benefits even further.

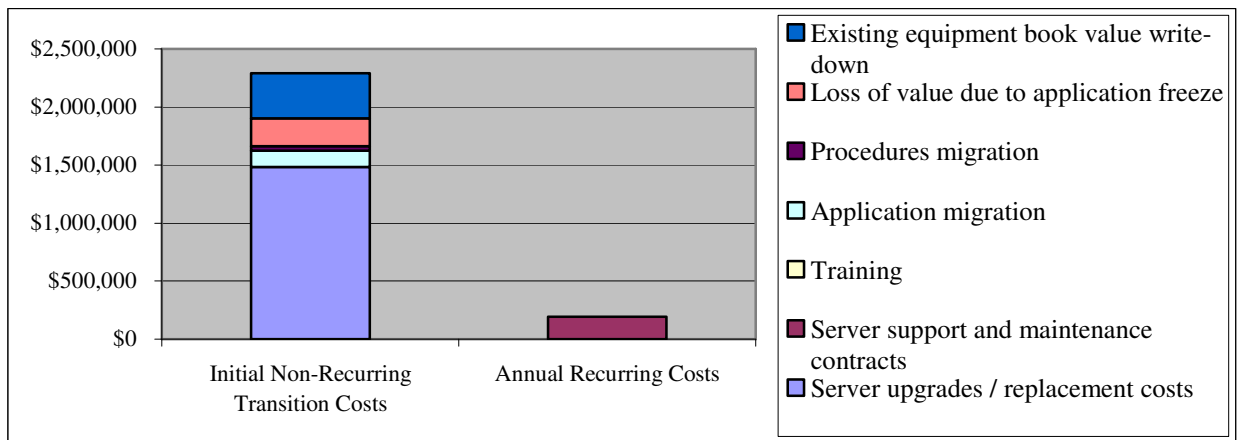
Transition Investment

To implement the transition, the investment costs consisted of initial direct investment of \$2,281,231, including:

- Initial investment in server hardware, operating system software, training, application and procedures migration, and existing server asset book-value write-down of: \$2,050,233.
- Ongoing annual support and maintenance contracts of \$192,833
- An indirect cost reflecting the projected loss of application advancement (features and functions to meet changing business and user demands) while the migration and application porting takes place (application freeze) of: \$230,998.⁵

Based on application and database availability, and required porting costs, decisions to migrate may be delayed until the application is available. For the specified scenario case study, the application was available today and had already been optimized for the HP-UX 11i environment.

Transition Costs for HP-UX 11i	Initial Non-Recurring Transition Costs	Annual Recurring Costs	Five Year Cumulative Costs
Server upgrades / replacement costs	\$1,483,328	\$0	\$1,483,328
Server support and maintenance contracts	\$0	\$192,833	\$964,165
Training	\$0	\$0	\$0
Application migration	\$140,715	\$0	\$140,715
Procedures migration	\$39,630	\$0	\$39,630
Loss of value due to application freeze	\$230,998	\$0	\$230,998
Existing equipment book value write-down	\$386,560	\$0	\$386,560
Total	\$2,281,231	\$192,833	\$3,245,396



⁵ The cost due to application freeze is a “soft” cost, often called an indirect cost of the transition. Although in this analysis the cost is treated the same as “hard” direct costs such as capital investments and labor expenditures, it clearly is a different type of cost. Analysis scenarios should be performed using only “hard” direct costs, and then both direct and indirect costs to assure that the investment makes sense, has a positive ROI and reasonable payback period, for both scenarios.

Transition Benefits

The benefits of the migration include \$380,103 of direct IT cost avoidance, and nearly \$6,000,000 of additional annual business agility and functionality benefits, including:

- Avoiding the need to upgrade the existing Alpha servers and storage to maintain service levels and handle expected growth, resulting in a cost avoidance of \$204,680 annually.
- Avoid further payments on Alpha server maintenance and support contract savings, totaling \$40,000 annually.
- Improve IT operations and administration staff productivity through improved manageability using HP-UX 11i, and server consolidation, resulting in increasing the ratio of servers per administrator from 5:1 to 5.6:1, and resulting in annual labor cost avoidance of \$5,047.
- Realize a tax benefit on new equipment purchases of \$128,590 annually.
- Improve the availability of the application and systems, resulting in \$1,786 in annual downtime cost avoidance.
- Improve the agility of IT to respond to evolving business needs, growth and change, resulting in an estimated benefit of \$1,500,000 in revenue or productivity improvements.⁶
- Enhance the business capability derived from additional application revenue and productivity features of \$4,499,950 annually. The HP-UX 11i environment adds 3.0% of incremental business value by delivering higher levels of service and enhanced capabilities.

HP-UX 11i Transition Benefits	Annual Benefits (year 1)
Equipment upgrade and growth savings	\$204,680
Maintenance and support contract savings	\$40,000
IT operations and administration savings	\$5,047
Tax benefits on new equipment	\$128,590
Availability	\$1,786
Agility	\$1,500,000
Enhanced business capability	\$4,499,950
Total	\$6,380,053

Value of the HP Alpha RetainTrust (ART) Program

A vast majority of the costs involved in a transition are around labor costs for application and procedures porting, as well as time lost in moving to the target environment. The unique contributions of the HP Alpha RetainTrust program are that it provides the planning, implementation, and application transition tools that both minimize the elapsed transition time and mitigate the risk of operational disruption during the transition. HP is continually refining the components of the ART program to facilitate transition to HP Integrity servers. HP's extensive knowledge of Tru64 UNIX customers and their requirements helps it ensure a smooth transition to

⁶ Business agility and enhanced business capability are “soft”, indirect benefits and should be treated differently than “hard” direct cost and labor avoidance. Analysis scenarios should be performed using only “hard” direct costs, and then both direct and indirect costs to assure that the investment makes sense, has a positive ROI and reasonable payback period, for both scenarios.

HP-UX 11i. HP has intimate knowledge of both the source and destination platforms, which translates to increased safety and a positive transition experience for the customer. As a result of HP's investment in this program, users can expect to transition more quickly and easily to HP-UX 11i, which will reduce the loss of value due to the freezing of applications during the transition.

The program includes comprehensive application transition tools, Tru64-to-HP-UX 11i Transition modules, and resources (for more information on the resources and tools available, go to http://www.hp.com/products1/evolution/alpha_retaintrust/) specifically designed to help:

- **Reduce Training Time and Costs** Formal training courses, customized transition training materials, and technology expert consultancy sessions are available from HP to help transfer the knowledge needed so IT staff can effect their own transition, and efficiently and effectively manage the systems and applications to achieve prescribed high availability and service levels.
- **Illustrate Best Practices** A collection of resources are available to help educate the team on “how to” set up platform infrastructure, transition from Oracle or other ISV applications, scope the extent of a transition, port applications and procedures, identify transition problems and risks, deploy the transition, and manage the environment post transition.
- **Migrate Applications and Procedures** A series of software tools and documents are available to help scope the transition effort, identify areas to be worked and porting requirements, perform impact analysis on specific APIs, and port “custom” code from Tru64 UNIX to HP-UX 11i on Integrity servers. Also available are tools and documentation to help transition source code from any of the following platforms — HP-UX 11i, Linux, Tru64 UNIX, or Solaris — to the latest version of the HP-UX 11i operating system on Integrity servers. Finally, HP offers a migration environment providing rewritten Tru64 UNIX commands in HP-UX 11i, a build environment for direct procedure translation without the need for rewrites, and porting checklists to assure that nothing is left to chance.
- **Transition System Administration Skill Sets** The program offers documentation and tools to help the systems administrators understand the one-for-one equivalency in commands between Tru64 UNIX and HP-UX 11i.
- **Reduce Costs through Trade-ins** HP offers rebates and incentives for migrating from older Alpha systems to Integrity servers, helping to offset any book-value write-down on existing assets, and avoid certain upgrade costs such as having to pay for the upgrade to the HP-UX 11i operating system. Although an investment in additional hardware is necessary as part of the transition plan, these trade-ins help reduce the one-time, up-front investment. Further, for customers with current support contracts, HP provides full credit for trade-in of Tru64 UNIX and Tru64 UNIX layered products for their HP-UX 11i equivalent products.

Because of the comprehensive commitment to reducing the cost and risks involved with transition, as well as the time required for transition implementation, the HP ART program typically has value ranging from \$200,000 to over \$2 million for most organizations. For the case study contained in this white paper, the ART program contributed cost avoidance and improved business value of over \$1.5 million versus not having the HP ART program in place. The benefits provided through elements of the program include:

- Reducing training course costs by: 100%
- Reducing application porting and testing workload by: 80%
- Reducing procedure porting and migration workload by: 70%

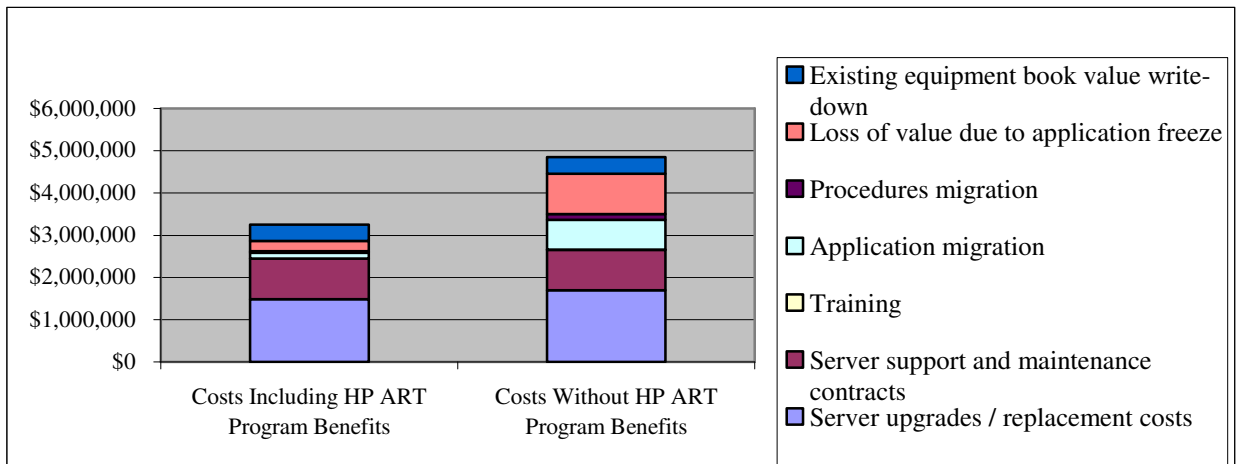
- Reducing time to migration by: 75%

One of the benefits of the HP ART program is derived from reducing migration labor costs for application and procedures porting, a significant direct labor cost avoidance of over \$655 thousand in the case study example.

Another significant benefit is derived from the ability to deploy the transition quicker than otherwise. During an application port, application features and functions are often frozen to allow the team to deal with the transition, which often delays important application enhancements, productivity features, and other advancements. With the HP ART program’s ability to reduce the time to solution savings, in our example shaving 75% off of the migration schedule, resulting in \$693 thousand in productivity and business benefits.

For a complete description of the program, visit <http://www.hp.com/go/tohpux11i>

Total Investment over 5-year Analysis Period for Transition to HP-UX 11i	Costs including HP ART Program Benefits	Costs without HP ART Program Benefits	Savings with HP ART Program
Server upgrades / replacement costs	\$1,483,328	\$1,691,968	\$208,640
Server support and maintenance contracts	\$964,165	\$964,165	\$0
Training	\$0	\$10,000	\$10,000
Application migration	\$140,715	\$703,575	\$562,860
Procedures migration	\$39,630	\$132,100	\$92,470
Loss of value due to application freeze	\$230,998	\$923,992	\$692,994
Existing equipment book value write-down	\$386,560	\$386,560	\$0
Total	\$3,245,396	\$4,812,360	\$1,566,964



Equipment Upgrade and Growth Savings

This particular business scenario shows that money can be saved by transitioning to Integrity as opposed to continuing to upgrade the existing AlphaServers to support the growing user requirements and hanging business demands. To support normal spares and growth, it is estimated that more than \$193,000 in upgrades can be avoided by transitioning to the Integrity servers.

A transition to HP Integrity servers also provides the potential to reduce your storage environment costs. Rather than continuing to use AlphaServer internal storage, you can add storage capacity using less expensive, industry standard storage hardware. The current company growth plans call

for the organization in the case study to increase the storage by 50% each year. There is a \$19.00 per GB estimated difference between AlphaServer storage subsystems and capacity and industry standard storage compatible with Integrity servers, leading to an additional \$11,400 year 1 annual savings in storage growth cost.

Overall, over \$204,680 each year in AlphaServer system and storage upgrades can be avoided with the proposed migration to HP-UX 11i and Integrity servers.

Equipment Upgrade and Growth Savings	Year 1
Required upgrades to the existing Tru64 UNIX AlphaServer systems (avoided with the HP-UX 11i upgrade)	\$193,280
Total installed storage capacity (in GB)	1,200
Expected storage growth (in GB)	600
Difference in unit cost for storage	\$19.00
Total storage growth cost	\$11,400
Total equipment upgrade and growth savings	\$204,680

IT Operation and Administration Savings

IT operations are the labor and labor equivalents to keep the data center available and optimized day to day. The tasks include: service desk, performance and availability management, user administration, OS support, break-fix management, software deployment, application management (provisioning and scheduling), systems management, disk and file management, storage management, security management, and database management and administration. IT administration encompasses the administration and overhead IT functions including vendor management, financial management, asset management, procurement, and training.

With the migration from Tru64 UNIX, IT operations and administration staff can be made more efficient and effective. First, HP-UX 11i running on Integrity servers have better performance, requiring less servers to meet a designated workload under most conditions. Fewer servers directly translates to fewer administrators.

Integrated administration features of HP-UX 11i Foundation Operating Environment include:

- Logical Volume Manager (LVM)
- Base VERITAS File System for HP-UX 11i
- Base VERITAS Volume Manager
- PAM Kerberos
- EMS framework
- Java™ RTE, JDK, JPI
- HP-UX 11i Web Server Suite
- Mozilla
- Internet Express
- CIFS client and server
- Common Desktop Environment
- Ignite-UX
- Software Distributor-UX
- Update-UX
- Software Package Builder
- System Administration Manager (SAM)
- Web-based kernel, peripheral, and devices configuration tools
- Service Control Manager
- Systems Inventory Manager

Tru64 UNIX Transition Benefits

- Intrusion detection
- Install Time Security
- Security Patch Check
- HP-UX 11i Bastille
- HP-UX 11i Workload Manager (WLM) (included in Mission Critical environment)

As well, Integrity servers and HP-UX 11i are easier to manage than AlphaServers running Tru64 UNIX because of the higher server to administrator ratio which requires less IT operations and administration labor. Because of the ease of management, the ratio of servers per administrator for Tru64 UNIX is 5:1, while HP-UX 11i improves this ratio to 5.6 servers to 1 administrator.

IT Operations and Administration Labor (year 1)	As Is	Expected Savings from Migration	To Be
Current number of system administration FTEs	0.40	60.0%	0.36
Average annual burdened salary for administrators	\$126,164	0.0%	\$126,164
Total	\$50,466	\$5,047	\$45,419

Additional savings occur in ongoing years because salaries typically increase by 3-5% annually.

Tax Benefits on New Equipment

When new equipment is purchased, it is normally depreciated. The depreciated asset creates a tax benefit for the company, an annual write-off of the depreciated amount for that year. With the investment in new HP-UX 11i Integrity servers, there is a resultant tax benefit of \$128,590 annually to help offset some of the initial equipment capital investment.

Tax Benefits on New Equipment	Year 1
Total investment in new HP-UX 11i servers	\$1,691,968
Annual depreciation on equipment	\$338,394
Nominal tax rate	38%
Annual tax benefit on new equipment	\$128,590

A 5-year straight line depreciation schedule is assumed.

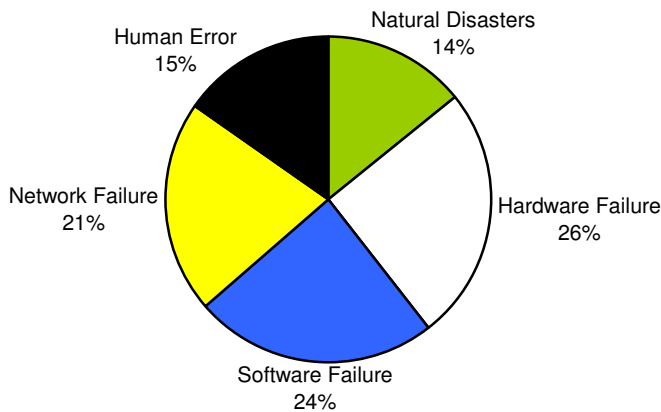
Availability Improvements

In mission critical environments even the smallest of downtime can cause serious financial consequences, with downtime as high as \$1 million not uncommon for business critical applications.

Downtime Losses by Application	Business Losses per Minute of Downtime
Multiple (Application Portfolio)	\$40,000
Financial / Trading	\$40,000
On-line Transaction Processing	\$10,000
Supply Chain Management (SCM)	\$10,000
Financial Management (ERP)	\$10,000
Customer Relationship Management (CRM)	\$8,000
Web Server (E-Commerce and E-Business)	\$8,000
Human Capital Management (HCM)	\$1,000
Portal	\$5,000
Business Intelligence	\$5,000
Data Warehouse	\$5,000
Technical and Scientific	\$3,000
Engineering and Development	\$3,000
Messaging	\$1,000
Infrastructure	\$700
Other	\$5,000

In mission critical environments, an hour of downtime can cost millions. Figures here are for typical enterprise applications, with research by Alinean and Standish Group. A more reliable and conservative way of measuring the impact of downtime is to estimate the company revenue or productivity tied to the application.

Downtime has many causes and the distribution of the various causes is fairly evenly divided between hardware, software, network, human error, and natural disasters. Having the right mission critical systems, fault and disaster tolerant configurations, practices, training and skills, proactive policies and procedures, and monitoring and management tools can help eliminate many of these issues. However, it takes a comprehensive program of improving people, processes, and technology to make an impact.



Unplanned downtime has many causes, requiring a focus on all aspects of the computing environment, mitigation of risks from natural disasters, as well as processes, procedures and training to mitigate against human error. Because of the distributed nature of such issues, achieving higher availability becomes cost prohibitive for most IT budgets.

HP-UX 11i is a mission critical operating system, designed for complete business resilience. High availability and disaster recovery features of HP-UX 11i enterprise and mission critical versions include:

- Online JFS (VERITAS VxFS)
- Mirrordisk/UX
- Process Resource Manager (PRM)
- Glanceplus
- OpenView Performance Agent
- Event Monitoring Services (EMS) HA Monitors
- Serviceguard
- Serviceguard NFS Toolkit
- Enterprise Cluster Master
- HP StorageWorks Continuous Access EVA

To prevent downtime as a result of security issues, native security features include host IDS, IP filtering, IP security, secure shell, OpenSSL, security patch-check, and security hardening and lockdown.

HP Integrity servers add to the high availability levels achievable, providing many business resilience features to help improve availability including:

Keep it Running

1. Clustering in a box
2. Partitioning and goal based workload management provide optimum rule based allocation of assets based on demand and priorities
3. Hot swappable cabinet blowers, I/O fans, DC power supplies, and cell backplane DC power
4. Error correction including ECC on CPU cache, parity protected CPU and I/O links, single wire correction on fabric and I/O, ECC on all fabric and memory paths and chip kill should an issue be found
5. Redundant AC input power

Fix it Fast

1. Diagnostic features including test station, enhanced predictive support, high availability observatory, EMS monitoring system, dynamic processor resilience, and dynamic memory resilience
2. Fault isolation technologies
3. Online removal and replacement of cell assemblies, I/O cards, and I/O cages

With the upgrade to HP-UX 11i, availability will be improved by 20-75% over Tru64 UNIX v5.1B; achieving 99.990 to 99.995% in typical mission critical and disaster recover configurations.

	Tru64 UNIX	HP-UX 11i
Overall availability	99.990%	99.992%
Average operating hours per year	8,400	8,400
Average unplanned downtime hours per year	0.8	0.7
Average unplanned downtime cost per hour	\$17,857	\$17,857
Total annual unplanned downtime cost - productivity losses (year 1)	\$14,286	\$12,500
Annual availability savings (year 1)		\$1,786

Business Agility

With the upgrade to HP-UX 11i, the company is empowered to be more agile - adapting more quickly to changing applications, business, and user demands. Enabling higher business agility can translate into additional productivity and business value as applications can change faster to support needs. Based on specified rates of moderate application evolution within the case study scenario, it is anticipated that the flexibility provided by HP-UX 11i and Integrity servers can result in a 1% value improvement per year, or \$1.5 million in annual productivity and business benefits.

Value of application per hour	\$17,857
Value of application per week	\$2,999,976
Rate of change of application	Moderate
Ability to accelerate value due to improved agility	1.0%
Incremental agility value per week	\$30,000
Incremental agility value per year	\$1,500,000

Business Capability Enhancements

With HP-UX 11i, inherent are the ability to accelerate application features and deploy capacity quicker to meet changing demands. In the case study scenario with moderate application evolution, nearly \$5 million in additional productivity and business benefits are generated, assuming that 3.0% of value can be accelerated due to the ability to deploy new application features, enhancements, and capabilities faster than on Tru64 UNIX.

Value of application per hour	\$17,857
Value of application per week	\$2,999,976
Rate of change of application	Moderate
Ability to accelerate value due to enhanced business capability	3.0%
Enhanced business capability per week	\$89,999
Enhanced business capability per year	\$4,499,950

Conclusion

In developing the business case for transition from Tru64 UNIX to HP-UX 11i customers must be mindful of three important elements:

- What is the total investment required to effect the change?
- How much can the new HP-UX 11i platform help reduce current TCO and increase business value?
- How long will the transition take and how can transition cost, time and risk be minimized?

Alinean believes that HP-UX 11i is the transition platform of choice for Tru64 UNIX transitions because of HP's commitment to the Alpha RetainTrust (ART) program, the improved price / performance of HP Integrity servers, and the enhanced features and manageability of HP-UX 11i.

With the availability of most applications assured, based on examining typical migration scenarios, such as that outlined in this white paper, and modeling the costs, benefits and various options in the Tru64 UNIX Transition Benefits Calculator, 2nd Edition modeling tool, Alinean believes that the transition to HP-UX 11i on Integrity servers represents a great financial option with superior ROI to virtually any other option.

The cost of transition from Tru64 UNIX to HP-UX 11i is minimized with the Alpha RetainTrust program. HP clearly understands that customers have a choice in where they transition to from Tru64 UNIX. As a result, HP implemented the ART program to help reduce the costs, shorten the transition schedule, and reduce risks associated with transition. Through it, companies with valid support contracts can obtain upgrades to the HP-UX 11i operating system at no cost, obtain trade-in values on existing Alpha servers, and benefit from additional cost reductions including:

- 100% reduction in training requirements
- 80% reduction in application porting and testing work
- 70% reduction in procedure porting and migration
- 75% reduction in time to solution

With the price / performance of HP Integrity servers the cost, time frame, and risks of transition are minimized.

As indicated above in the case study overview, current planned investments in Tru64 UNIX system upgrades, storage growth, and support and maintenance contracts can be avoided when one moves to more cost-effective upgrades, lower storage costs, and reduced support and maintenance contracts through a transition to HP-UX 11i and Integrity servers.

To add to the IT cost savings, the HP-UX 11i running on Integrity computing environment provides manageability, security, and high availability features, as well as integrated virtualization and comprehensive workload management. This makes HP-UX 11i / Integrity environment more cost-effective to manage than almost any other platform – allowing systems administrators to manage 6.25 servers per administrator, as opposed to Tru64 UNIX which averages 5:1 server to administrator ratios in typical deployments. With Integrity performance, server consolidation is

likely for most configurations – and because IT operations and administration labor is proportional to server asset counts, resources can be saved.

HP-UX 11i, as part of the HP Adaptive Enterprise strategy, can deliver significant business agility and capability benefits. HP-UX 11i running on Integrity servers delivers the foundation for an adaptive enterprise by providing integrated virtualization capabilities, comprehensive management, and the cost-effectiveness of industry standards. In companies where competitive forces, users, customers, and business partners drive change frequently, Integrity industry standard platforms offer superior upgrade options and flexible expansion opportunities, while the HP-UX 11i platform offers an aggressive roadmap of core features and ISV application advancements.

All transitions require an investment in IT budget and resources, and introduce risk. HP has focused on improving the business case for transition, implementing programs which specifically help to reduce transition costs, maximize benefits, reduce time-to-solution, and reduce risk. HP brings considerable experience and expertise to ensure customers experience the smoothest transition possible. This commitment has real and measurable value to any organization and assures that the business case for Tru64 UNIX transition is strongest with HP-UX 11i running on Integrity servers.

About Alinean

Since 1994, the Alinean team has been the pioneering builder of tools to help quantify and improve the ROI and TCO of IT investments. Alinean was named for the Spanish word for “Align”, matching the Alinean mission as the leading developer of analytical tools to help IT vendors, consultants and IT executives align IT investments with business strategies.

The Alinean team has over a decade of experience in the practical development and application of ROI and TCO methodologies, models and tools to optimizing IT investment decision making. In 1994, the Alinean team formed Interpose, the original pioneers of ROI tools, developing analytical software for over 50 major IT vendors and consulting companies worldwide, and creating the industry standard TCO Manager and TCO Analyst software. Interpose was sold to Gartner in 1998, where the team continued their developments and marketing of ROI and TCO software tools. The original team reunited to form Alinean in 2001, once again becoming the leading pioneers and developers of ROI sales and analytical tools. Current customers include leading IT solution providers such as HP, IBM, Dell, Intel, Symantec, NetIQ, EMC, SAP, Oracle, SBC, and Microsoft, as well as leading consultancies and Global 1000 companies.

Additional information about Alinean and helpful ROI educational resources can be found at <http://www.alinean.com>.

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