

HIIS ROI Calculator

User Guide

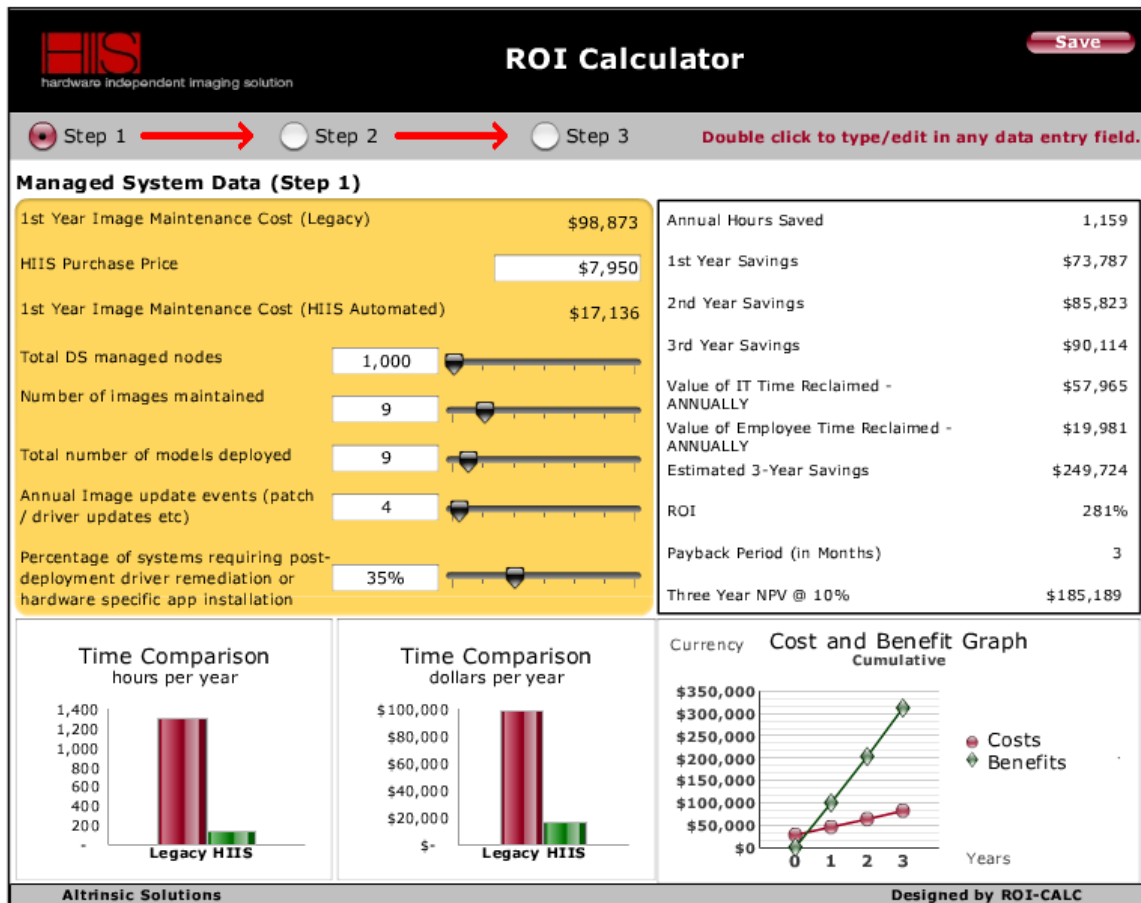


hardware independent imaging solution

Altrinsic  **Solutions**

Introduction

The HIIS ROI calculator is an analytic tool that attempts to estimate the financial return on investment (herein "ROI") achieved by adding Hardware Independent Imaging Solution to a given IT enterprise environment. The tool is used by feeding in data regarding the enterprise environment into three successive data sheets which are accessed by clicking the radio buttons indicated by the red arrows in the illustration below. Although Altrinsic Solutions has made every attempt to accurately and conservatively estimate the "hard costs" associated with relevant deployment endeavors, the resulting financial numbers are estimates and may be either high or low estimates depending on environmental specifics not accounted for by the calculator. That said, because HIIS is a software automation of activities that otherwise tie up significant time from an IT department's senior engineering staff, ROI results are typically significantly under a year for payback.



Methodology

The ROI calculator uses input values to calculate the costs associated with the number of average annual deployments, image process engineering time, image creation time, post-deployment system remediation time and image update time associated with Hardware Independent Deployment (“HID”) activities.

The HIIS ROI calculator accepts the following input values:

NOTE: To enter data, DOUBLE-CLICK on the fields or use the slider functionality.

Step 1 - Managed System Data entry sheet

ROI Calculator Save

Step 1 Step 2 Step 3 **Double click to type/edit in any data entry field.**

Managed System Data (Step 1)

1st Year Image Maintenance Cost (Legacy)	\$98,873	Annual Hours Saved	1,159
HIIS Purchase Price	\$7,950	1st Year Savings	\$73,787
1st Year Image Maintenance Cost (HIIS Automated)	\$17,136	2nd Year Savings	\$85,823
Total DS managed nodes	1,000	3rd Year Savings	\$90,114
Number of images maintained	9	Value of IT Time Reclaimed - ANNUALLY	\$57,965
Total number of models deployed	9	Value of Employee Time Reclaimed - ANNUALLY	\$19,981
Annual Image update events (patch / driver updates etc)	4	Estimated 3-Year Savings	\$249,724
Percentage of systems requiring post-deployment driver remediation or hardware specific app installation	35%	ROI	281%
		Payback Period (in Months)	3
		Three Year NPV @ 10%	\$185,189

Time Comparison hours per year

Category	Hours per year
Legacy	~1,200
HIIS	~100

Time Comparison dollars per year

Category	Dollars per year
Legacy	~\$98,873
HIIS	~\$17,136

Cost and Benefit Graph Cumulative

Year	Costs	Benefits
0	\$0	\$0
1	~\$17,136	~\$73,787
2	~\$34,272	~\$159,610
3	~\$51,408	~\$249,724

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- **HIIS Purchase Price** - Enter your total HIIS-associated component of quote amount. If you do not have a quote, as of May of 2008, the single, no discount per client node price for HIIS was \$7.95 US. This price may go up and does not include optional purchases such as Automated Upgrade Protection or Professional Services integration

consulting assistance. Contact your HIIS reseller for a price quote for HIIS for servers.

- **Total DS managed nodes** – This is used by the ROI as part of the base number to calculate the average number of annual deployment events
- **Total number of images maintained** – This is how many images it does, or would take to be able to image any hardware platform in the enterprise. Don't forget that if your HID process covers multiple OS's (e.g. Windows XP, Windows 2000, Windows 2003 Server, Windows 2008, 32 bit versus 64bit versions etc...) you must minimally have one image per OS's that are relevant in the HID process.
- **Total number of models deployed** – Although the number of actual hardware platforms is often significantly higher than the number of models (keep in mind that systems of the same model may have vastly different internal OEM and add-on components and thus drivers), this number is used to visually identify whether or not there is any Hardware Independent imaging currently fielded. This would be signified if the number of images < number of models. This number is not used in any financial calculations. Imaging maintenance numbers are a function of the stated number of images, standards for process setup and number of annual image update events.
- **Annual Image Update Events** – How many time per year do you (more importantly would you "like") to be able to update your image. Corporate norms are quarterly or "4".
- **Percentage of Systems Requiring Post Deployment Driver Remediation or Hardware Specific App Installation** – Does your imaging process take into account peripherals like add-in expansion cards, printers, USB Cameras, CAD digitizing tablets and the myriad of other peripheral devices required to re-deploy a "system" or does it just handle core common model activities? Without HIIS most organizations find it impractical to handle peripherals in their HID endeavors. From our sampling, we find that most organizations surveyed feel that between 15-40% of systems deployed are remediated for peripheral drivers and or hardware specific apps (e.g. those apps associated with things like tablet PC hardware, USB biometric fingerprint add-on peripherals etc...). In keeping with being conservative on our estimates, the time associated remediation is estimated at the (presumably) lower, fully burdened Worker time rather than the (normally) more expensive, IT worker time. Although it certainly exists, other than the time itself, this ROI tool doesn't try to add any business impact due to downtime.

Step 2 - "Image Creation Process" data entry sheet

Note: Our research has shown that extemporaneous estimates of these activities often fall far short of the **actual timed values** associated with performing "Image Creation Process" activities. Keep in mind, all associated prerequisite steps associated with the following variables conduct a timed test to get actual values.



ROI Calculator

Save

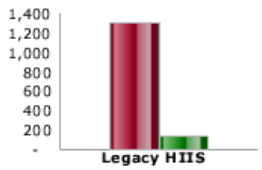
Step 1
 Step 2
 Step 3
Double click to type/edit in any data entry field.

Image Creation Process (Step 2)

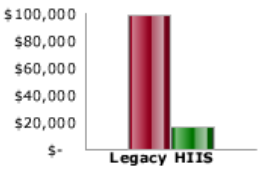
Configure template system (hrs)	6.00
Install / Image down OS	0.50
Configure OS settings	0.50
Initial initial patches	1.50
Install applications	0.75
Misc software configuration items	0.50
Preimage mass distribution packing (sysprep)	0.75
Misc computer hardware logistics	0.50
Image compatibility testing on target platform (hrs)	1.00

Annual Hours Saved	1,159
1st Year Savings	\$73,787
2nd Year Savings	\$85,823
3rd Year Savings	\$90,114
Value of IT Time Reclaimed - ANNUALLY	\$57,965
Value of Employee Time Reclaimed - ANNUALLY	\$19,981
Estimated 3-Year Savings	\$249,724
ROI	281%
Payback Period (in Months)	3
Three Year NPV @ 10%	\$185,189

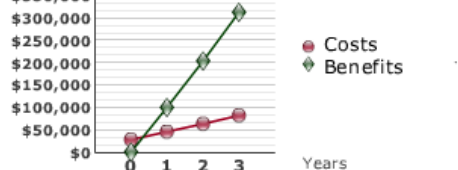
Time Comparison hours per year



Time Comparison dollars per year



Cost and Benefit Graph Cumulative



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- **Install / Image down OS** – Factors into time building your template image system. Most organizations have a starter image that they image down and prepare using Sysprep or other tools. The default .50 simply represents one half hour or thirty minutes. This and all the following values roll up to the Configure Template System time (default 6 hours) which is used with the fully burdened IT worker time to put a value on rebuilding an image.
- **Configure OS Settings** – Those activities associated with setting up explorer, corporate settings, wallpaper and the myriad of other items (default 30 minutes).
- **Install Initial Patches** – Default 1.5 hours, can be much less, or more, depending on download times, research, testing etc. It is common knowledge that Microsoft and other application vendor

patches can “break” windows or other application functionality and given that issue, many organizations prefer to validate basic windows component and application functionality prior to reproducing the image on numerous deployed systems. Our team’s estimation of 1.5 hours to both patch and perform validation testing was conservative to low.

- **Install Applications.** – Default 45 minutes. Installation of antivirus, firewall, productivity, management agent and other applications required on all systems to be deployed with this image.
- **Misc software configuration** – Default 30 minutes. Configuration of applications or other items related to the image.
- **Pre-image mass distribution packing** – Default 45 minutes. All activities associated with Sysprep packing or other activities necessary to handle SID, mass-storage drivers or other items that must be performed to provide for mass distribution of the image.
- **Misc computer hardware logistics** – Default 30 minutes. Finding a preferable image target system (typically a single processor system with a uniproc HAL) and getting it online and ready to accept the template image configuration.
- **Image Compatibility Testing with other platforms** – If any level of HID process support is implemented, images should be compatibility tested with the platforms that they serve. Again, the number of hardware platforms is typically far in excess of the number of actual models deployed, but, in the spirit of providing conservative estimates, we give the manual process the benefit of the doubt.

Step 3 - "Corporate Change Projections Resulting From HIIS Adoption" data entry sheet

The screenshot shows the Altrinsic ROI Calculator web application in Internet Explorer. The browser address bar shows the URL: <http://www.altrinsicsolutions.com/products/his/altrinsic.htm>. The application is titled "ROI Calculator" and is currently on "Step 3: Corporate Change Projections Resulting From HIIS Adoption".

Input Parameters (Left Panel):

- Number of Images maintained using HIIS: 2
- New PC models introduced annually: 5
- System replacement interval (Lifespan Years): 3
- Average fully burdened IT worker hourly cost: \$50
- Average fully burdened employee hourly cost: \$37
- Average % of Systems requiring reimaging (OS Upgrade, Redeployment to new user etc): 25%
- New staff PC annual growth rate: 5%

Summary Results (Right Panel):

Annual Hours Saved	1,159
1st Year Savings	\$73,787
2nd Year Savings	\$85,823
3rd Year Savings	\$90,114
Value of IT Time Reclaimed - ANNUALLY	\$57,965
Value of Employee Time Reclaimed - ANNUALLY	\$19,981
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Visualizations (Bottom Section):

- Time Comparison (hours per year):** A bar chart comparing Legacy (approx. 1,200 hours) and HIIS (approx. 1,159 hours).
- Time Comparison (dollars per year):** A bar chart comparing Legacy (approx. \$100,000) and HIIS (approx. \$19,981).
- Cost and Benefit Graph (Cumulative):** A line graph showing cumulative costs (red line) and benefits (green line) over 3 years. Benefits significantly exceed costs, reaching approximately \$250,000 by year 3.

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- **Number of images maintained using HIIS** – This can be 1, but only if there is only a single OS in play. Often, single OS images are split for other than HID reasons (e.g. content).
- **New PC Models Introduced Annually** – This helps indicate how many new platforms are introduced annually and that that will trigger a process update cycle to support the new platforms. We estimate 3.5 hours average per new platform although corporate norms are more like 16 hours to take a completely new model and integrate it in a HID process. Again, benefit of the doubt to the advantage of the manual process.
- **System Replacement Interval (Lifespan Years)** – This value is used to help calculate the average number of annual deployments. If you have 1000 DS managed nodes and your system lifespan is 4 years, then there is a built-in average of 25% of your managed systems (or 250 deployment events) per year.

- **Average fully burdened IT worker hourly cost** – All direct and indirect costs associated with a senior IT engineer such as supports HID activities in the environment. Typically this is above \$70/hr in metro areas, but we have defaulted it to \$50. Set this as appropriate for your environment. This rate is used to financially value labor invested in HID.
- **Average fully burdened employee hourly cost** - All direct and indirect costs associated with an average employee environment. Typically this is above \$40/hr in metro areas, but we have defaulted it to \$37. Set this as appropriate for your environment. This rate is used to financially value labor invested in remediation system deployment that do not provide for all drivers required by the system and its peripherals.
- **Average % of systems requiring re-imaging (OS Upgrade, Redeployment to a new user etc)** – This number is often higher than one would think. Consider that in addition to any re-deploying a system to re-issue it to another user, “tech refreshes” (re-imaging a system to restore it to a functioning software state in response to a system issue such as malware infection), that if your serviced enterprise migrates to a new OS every six years, you have a built in 17% building re-image base. Due to these and other re-image trigger events, the number of systems that are re-imaged on an annual average basis is often 25-35%. We use the lower of those two values as a default.
- **New Staff PC Annual Growth Rate** – This value helps estimate the growth of your enterprise and adds to the average number of annual deployment events. In most enterprises, new PC’s are imaged with a corporate standard image prior to being deployed (whether by the corporate IT staff or as a fee based service from the PC OEM); this ROI calculator assumes this model.

Financial Results

Results are presented in the right-side information pane, and are summarized as follows:

- **Annual Hours Saved** – the totals of the process engineering, image preparation and remediation process hours saved by using HIIS.
- **1st Year Savings** – Savings less the cost of the HIIS platform entered in step 1.
- **2nd Year Savings** – Continued saving taking into account growth (if any) specified in growth rate.
- **3rd Year Savings** – Continued saving taking into account growth (if any) specified in growth rate.
- **Value of IT Time Reclaimed Annually** – Tallies the value of the saved IT hours at the fully burdened IT rate.
- **Value of Employee Time Reclaimed Annually** - Tallies the value of the saved Employee hours at the fully burdened Employee rate.

- **Estimated 3-Year Savings** – Total of all 3 year saving amounts.
- **Payback period (in Months)** – Estimated number of months required to obtain a ROI on the cost of HIIS.
- **3-Year NPV @10%** - If you invested the monies required to obtain and implement HIIS at 10% APR, this amount shows the financial advantage to the organization over and above that return.