



**Research from The Standish Group:  
NonStop and SizeTI Gift and Loyalty Solutions**

**An IT Total Cost of Ownership and Return On Investment Discussion  
for Retail Point Of Sale Environments**

The following report is the result of Standish Group Research using the VirtualADVISOR®. We asked the question:

**“Is it more economical to run the Size TI Gift and Loyalty card applications on NonStop v. other platforms?”**

The focus of this study is the retail consumer. Some of the businesses that fall into this category are department store chains, hardware stores, automotive parts houses and consumer electronics stores. For the purpose of this research a median national business is modeled, running approximately 900M POS transactions a year. Examples of this size business would be Home Depot, Target, Kmart, PEP Boys and NAPA.

The chart below provides the assumption metrics in the model. This model includes three applications, running on a common system and those applications are Point Of Sale, Loyalty Card and Gift Card.

<b>Operational Assumptions</b>	
<b>General</b>	
<i>Total yearly hours available</i>	<b>8760</b>
Workdays/year	<b>354</b>
Hours/workday	<b>15</b>
Peak hours/workday	<b>6</b>
Annual Peak hours	<b>2,124</b>
Annual Off Peak hours	<b>6,636</b>
<b>Point of Sale Application (POS)</b>	
POS TPS Peak	<b>86</b>
POS TPS Off Peak	<b>12</b>
Yearly POS Transactions	<b>944,265,600</b>
<b>Loyalty Card Application</b>	
Loyalty Cards issued	<b>20,000,000</b>
Loyalty Card TPS Peak	<b>60</b>
Loyalty Card TPS Off Peak	<b>6</b>
Yearly Loyalty Card Transactions	<b>602,121,600</b>
Loyalty Transactions/card/year	<b>30</b>
<b>Gift Card Application</b>	
Gift Cards issued	<b>10,000,000</b>
Gift Card TPS Peak	<b>10</b>
Gift Card TPS Off Peak	<b>3</b>
Yearly Gift Card Transactions	<b>148,132,800</b>
Gift Transactions/card/year	<b>15</b>



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### Transaction Definition

The Standish model determines the size of the system based on the cost to execute a single business transaction for a single application. The definition of a transaction in this model is one complete business transaction for each application; from the time the customer walks up to the check out counter until the payment process is completed and a receipt is handed to him or her. Note: POS transactions are the total number of customers served for a given 24 hour period. The Loyalty and Gift Card transactions are individual system transactions but take place at the time of POS. Gift and Loyalty transactions are not applicable to a total number of customers served, but rather to the total number of transactions the platform experiences.

### Peak Business Hours

Most retail stores are open approximately ten hours per day. Across time zones this would mean that a central system would be running approximately 15 hours out of any 24-hour period in a single time zone. Peak business hours are the hours within that 15-hour period during which the system would be experiencing the highest transaction load. Off-peak hours are an average of all transactions executed outside of peak. This is a valid process for sizing the applications and systems, as systems are normally configured to run peak loads. All application transactions are normalized across platforms using the Standish Unit of Work transaction index as outlined in the Standish TCO Primer.

### Model Input Metrics

Case Name			TCO Type			
SizeTINonStopTCO			Many-to-Many			
Application Name	Server Type	Hours per Year at Peak	TPS @ Peak	TPS @Off-Peak	Database	Use TP Monitor
<b>Group 1</b> <a href="#">Modify</a>						
<b>HP NonStop Server</b>						
Loyalty Card	Shared	2124	60.00	6.00	Non-Stop SQL	Yes
Gift Card	Shared	2124	10.00	3.00	Non-Stop SQL	Yes
POS	Non-Dedicated	2124	86.00	12.00	Non-Stop SQL	Yes
<b>Group 2</b> <a href="#">Modify</a>						
<b>Sun Clusters</b>						
Loyalty Card	Shared	2124	60.00	6.00	Oracle	Yes
Gift Card	Shared	2124	10.00	3.00	Oracle	Yes
POS	Non-Dedicated	2124	86.00	12.00	Oracle	Yes

### Server Type

In the above chart, the Server type is defined as shared and non-dedicated. The application marked as non-dedicated is the primary application running on the system. In this case, the NonStop Server was chosen to be compared with the Sun Cluster platform. While not revenue critical retail environments do require their POS applications to maintain business and mission critical availability levels. Given the high availability of the NonStop platform, it is unfair to compare non-clustered systems to NonStop platforms.



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**Cost Breakdown Charts**

Here is the cost breakdown for HP NonStop Server		Here is the cost breakdown for Sun Clusters	
Case Name: SizeTI/NonStopTCO Application #1: POS Application #2: Gift Card Application #3: Loyalty Card		Case Name: SizeTI/NonStopTCO Application #1: POS Application #2: Gift Card Application #3: Loyalty Card	
Basic Cost Breakdown (USD- 1,000)		Basic Cost Breakdown (USD- 1,000)	
Hardware Cost	1,004 - 1,505	Hardware Cost	262 - 393
Software Cost	364 - 545	Software Cost	69 - 104
Manpower Cost	397 - 595	Manpower Cost	473 - 710
Maintenance Cost	172 - 259	Maintenance Cost	58 - 87
Other Cost	425 - 638	Other Cost	189 - 284
<b>Total Basic Cost</b>	<b>2,361 - 3,542</b>	<b>Total Basic Cost</b>	<b>1,052 - 1,577</b>
Application Cost Breakdown (USD- 1,000)		Application Cost Breakdown (USD- 1,000)	
Basic Cost	2,361 - 3,542	Basic Cost	1,052 - 1,577
Software Infrastructure	475 - 713	Software Infrastructure	662 - 993
Database & Systems Administration	691 - 1,036	Database & Systems Administration	1,292 - 1,938
Application Maintenance	1,146 - 1,718	Application Maintenance	2,173 - 3,260
Other Cost	320 - 480	Other Cost	466 - 698
<b>Total Application Cost</b>	<b>4,993 - 7,489</b>	<b>Total Application Cost</b>	<b>5,644 - 8,467</b>

Given that this study is based on research only, with metrics provided by the vendors, Standish chose to provide a total cost range of +/- 20% rather than a specific number.

The Basic Cost Breakdown above is the cost of the Hardware, Operating System Software, Operations Manpower and System Maintenance contracts, with Other Cost being the cost of the facilities and infrastructure.

The Application Cost shown in this chart is the cost to run all three applications. Software Infrastructure is the cost of the Middleware and Database Software; Database and Systems Administration is the cost of manpower to maintain the database and middleware components; and application maintenance is the regular update and maintenance manpower to keep the application up-to-date.

**Note:** Development, Deployment, Consolidation, Migration and Downtime Costs are not included in the Cost Breakdown Charts.



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### Detailed Application Breakdown NonStop

Here is the cost breakdown for Sun Clusters	Here is the cost breakdown for Sun Clusters	Here is the cost breakdown for Sun Clusters
Case Name: <b>SizeTI NonStopTCO</b> Application #1: <b>POS</b>	Case Name: <b>SizeTI NonStopTCO</b> Application #1: <b>Loyalty Card</b>	Case Name: <b>SizeTI NonStopTCO</b> Application #1: <b>Gift Card</b>
<b>Basic Cost Breakdown (USD- 1,000)</b>	<b>Basic Cost Breakdown (USD- 1,000)</b>	<b>Basic Cost Breakdown (USD- 1,000)</b>
Hardware Cost 179 - 268	Hardware Cost 51 - 77	Hardware Cost 32 - 48
Software Cost 47 - 71	Software Cost 14 - 20	Software Cost 9 - 13
Manpower Cost 323 - 484	Manpower Cost 92 - 138	Manpower Cost 58 - 87
Maintenance Cost 39 - 59	Maintenance Cost 11 - 17	Maintenance Cost 7 - 11
Other Cost 129 - 194	Other Cost 37 - 55	Other Cost 23 - 35
<b>Total Basic Cost</b> 717 - 1,076	<b>Total Basic Cost</b> 205 - 308	<b>Total Basic Cost</b> 129 - 194
<b>Application Cost Breakdown (USD- 1,000)</b>	<b>Application Cost Breakdown (USD- 1,000)</b>	<b>Application Cost Breakdown (USD- 1,000)</b>
Basic Cost 717 - 1,076	Basic Cost 205 - 308	Basic Cost 129 - 194
Software Infrastructure 346 - 519	Software Infrastructure 193 - 289	Software Infrastructure 124 - 185
Database & Systems Administration 677 - 1,015	Database & Systems Administration 375 - 562	Database & Systems Administration 241 - 361
Application Maintenance 1,133 - 1,699	Application Maintenance 634 - 951	Application Maintenance 406 - 609
Other Cost 243 - 364	Other Cost 136 - 204	Other Cost 87 - 131
<b>Total Application Cost</b> 3,116 - 4,673	<b>Total Application Cost</b> 1,542 - 2,313	<b>Total Application Cost</b> 987 - 1,480

### Detailed Application Breakdown Sun Clusters

Here is the cost breakdown for HP NonStop Server	Here is the cost breakdown for HP NonStop Server	Here is the cost breakdown for HP NonStop Server
Case Name: <b>SizeTI NonStopTCO</b> Application #1: <b>POS</b>	Case Name: <b>SizeTI NonStopTCO</b> Application #1: <b>Loyalty Card</b>	Case Name: <b>SizeTI NonStopTCO</b> Application #1: <b>Gift Card</b>
<b>Basic Cost Breakdown (USD- 1,000)</b>	<b>Basic Cost Breakdown (USD- 1,000)</b>	<b>Basic Cost Breakdown (USD- 1,000)</b>
Hardware Cost 449 - 673	Hardware Cost 499 - 748	Hardware Cost 56 - 84
Software Cost 163 - 244	Software Cost 181 - 271	Software Cost 20 - 31
Manpower Cost 177 - 266	Manpower Cost 197 - 296	Manpower Cost 22 - 33
Maintenance Cost 77 - 116	Maintenance Cost 86 - 129	Maintenance Cost 10 - 14
Other Cost 190 - 285	Other Cost 211 - 317	Other Cost 24 - 36
<b>Total Basic Cost</b> 1,055 - 1,583	<b>Total Basic Cost</b> 1,174 - 1,761	<b>Total Basic Cost</b> 132 - 198
<b>Application Cost Breakdown (USD- 1,000)</b>	<b>Application Cost Breakdown (USD- 1,000)</b>	<b>Application Cost Breakdown (USD- 1,000)</b>
Basic Cost 1,055 - 1,583	Basic Cost 1,174 - 1,761	Basic Cost 132 - 198
Software Infrastructure 183 - 275	Software Infrastructure 262 - 393	Software Infrastructure 29 - 44
Database & Systems Administration 229 - 343	Database & Systems Administration 416 - 623	Database & Systems Administration 47 - 70
Application Maintenance 392 - 587	Application Maintenance 678 - 1,017	Application Maintenance 76 - 114
Other Cost 124 - 185	Other Cost 177 - 265	Other Cost 20 - 30
<b>Total Application Cost</b> 1,982 - 2,974	<b>Total Application Cost</b> 2,706 - 4,060	<b>Total Application Cost</b> 304 - 456



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**Cost per Transaction**

The following cost/transaction is the annual average total for POS transactions including the gift and loyalty card suite:

NonStop      \$.005 - \$.007  
Sun Clusters   \$.006 - \$.009

**Downtime Cost**

Downtime cost is a normal consideration when calculating a system TCO. Downtime losses are complex and require several metrics to calculate. Revenue loss due to downtime is subjective and only relative to the specific business experiencing the outage. For these reasons this report will show the number of transactions affected by downtime but will not attach a revenue loss number. Virtual ADVISOR tracks the following system and application downtime on a monthly basis:

System Downtime	Application Downtime
Operator Error	Operator Error
Server System Bug	Main Server System Bug
Server Hardware Failure	Main Server Hardware Failure
Planned Maintenance (Scheduled Downtime)	Other Server System Bug
Extended Planned Maintenance (Mistakes)	Other Server Hardware Failure
Network	Application Bug or Error
Environmental Conditions	Planned Maintenance (Scheduled Downtime)
Virus/Sabotage	Extended Planned Maintenance (Mistakes)
Other	Network
	Database Error
	Environmental Conditions
	Virus/Sabotage
	Other

The following numbers represent the number of transactions affected by the above downtime statistics. These could be either re-routed transactions, lost transactions or compromised transactions. Total yearly transactions = 1.6B

	NonStop	Sun Clusters
<b>Total Yearly Downtime Transactions</b>	<b>14 - 20</b>	<b>3,237 - 4,856</b>
Total POS	8 - 11	1,804 - 2,706
Total Loyalty Card	5 - 7	1,150 - 1,725
Total Gift Card	1 - 2	283 - 424

Note: numbers shown in thousands (000)



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### Return on Investment (ROI)

Today, there is a larger value placed on the ROI of a project, with more and more pressure being applied on IT organizations to perform and return a profit to the business. ROI is achieved in several ways: reduce cost through consolidation; migration or streamlined operations; increasing profit through delivering more products; increasing market share or market penetration; or just delivering new products or services. ROI, in this study, is calculated as a client who has a Sun platform installed and intends to migrate those applications to a NonStop platform.

The following is an overall example; there are many possible scenarios for NonStop opportunities under ROI. A Sun Cluster running only a point of sale application and migrating to a NonStop, while adding additional revenue from a loyalty or gift card program, will only increase the Return on Investment. Additionally, the ability to migrate straight across and keep migration costs to a minimum also helps achieve fast and sustainable ROI.

The following table shows the inputs for the ROI calculation, based on the costs in the previous TCO calculations.

If you have capitalized items, only enter any **new** ones that are due to the investment, and put them into the "Proposed" column. "Current" items that you have that are capitalized **DO NOT** enter into the ROI calculation. They are not costs associated with the investment. Also, if you have capitalized items, upon submitting this form, you will be taken to a page to define the depreciation for those items. Otherwise, if you do not have any capitalized items, you will be brought directly to the results page.

Case Name: *(required)*

Number of Years for ROI Calculation: *(required)*

Would you like to create a template of this case?  No  Yes

Item Name	Type Select One	Current		Proposed		Period Select One
		Qty	Amount/Unit	Qty	Amount/Unit	
Hardware	Cost	1.00	327,000.00	1.00	1,254,000.00	Yearly
Software	Cost	1.00	87,000.00	1.00	455,000.00	Yearly
Manpower	Cost	1.00	591,000.00	1.00	496,000.00	Yearly
Maintenance	Cost	1.00	72,000.00	1.00	215,000.00	Yearly
Other System Costs	Cost	1.00	237,000.00	1.00	531,000.00	Yearly
Software Infrastructure	Cost	1.00	828,000.00	1.00	594,000.00	Yearly
Database Administration	Cost	1.00	1,615,000.00	1.00	863,000.00	Yearly
Application Maintenance	Cost	1.00	2,716,000.00	1.00	1,432,000.00	Yearly
Other Application Costs	Cost	1.00	582,000.00	1.00	400,000.00	Yearly
Downtime	Cost	0.00	0.00	0.00	0.00	Yearly
Migration Costs	Cost	0.00	0.00	1.00	1,000,000	One Time

The above ROI inputs are the delta of the current system TCO (SUN) and the proposed NonStop system. \$1M was added to reflect migration costs. Downtime and program enhanced revenue is not shown but will add to a greater ROI and faster break-even point.



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The following ROI summary sheet provides a detailed roll up of the three-year ROI. The format of this summary, when combined with the Sarbanes Oxley 404 Form, meets the corporate compliance requirements for projects of this size.

Results for Year 1 of System Migration: SizeTI/NonStop/TCO			
Net Gain: <b>-\$185,000.00</b>		Cumulative Gain: <b>-\$185,000.00</b>	
Cumulative ROI = <b>-6.8%</b>			
Capitalized Items	Cost Items	Savings Items	Revenue Items
NONE	Hardware Software Maintenance Other System Costs Migration Costs	Manpower Software Infrastructure Database Administration Application Maintenance Other Application Costs	NONE
Capitalized Total: \$ <b>0.00</b>	Costs Total: \$ <b>2,732,000.00</b>	Savings Total: \$ <b>2,547,000.00</b>	Revenue Total: \$ <b>0.00</b>
Results for Year 2 of System Migration: SizeTI/NonStop/TCO			
Net Gain: <b>\$815,000.00</b>		Cumulative Gain: <b>\$630,000.00</b>	
Cumulative ROI = <b>14.1%</b>			
Capitalized Items	Cost Items	Savings Items	Revenue Items
NONE	Hardware Software Maintenance Other System Costs	Manpower Software Infrastructure Database Administration Application Maintenance Other Application Costs	NONE
Capitalized Total: \$ <b>0.00</b>	Costs Total: \$ <b>1,732,000.00</b>	Savings Total: \$ <b>2,547,000.00</b>	Revenue Total: \$ <b>0.00</b>
Results for Year 3 of System Migration: SizeTI/NonStop/TCO			
Net Gain: <b>\$815,000.00</b>		Cumulative Gain: <b>\$1,445,000.00</b>	
Cumulative ROI = <b>23.3%</b>			
Capitalized Items	Cost Items	Savings Items	Revenue Items
NONE	Hardware Software Maintenance Other System Costs	Manpower Software Infrastructure Database Administration Application Maintenance Other Application Costs	NONE
Capitalized Total: \$ <b>0.00</b>	Costs Total: \$ <b>1,732,000.00</b>	Savings Total: \$ <b>2,547,000.00</b>	Revenue Total: \$ <b>0.00</b>
<b>Final ROI: 23.3%</b>		<b>Total Gain: \$1,445,000.00</b>	
		<b>Payback Period (Months): 15</b>	

Obviously there are many factors that affect the Final ROI. Increased revenue with decreased down time would be the icing on the cake. In this case, since there is no live customer data to support downtime or revenue projections, the model shows ROI based on streamlined operations and platform efficiencies. For ROI calculation purposes the cost numbers used carry the 20% range previously mentioned. While the range is not shown in the ROI example a plus and minus range of 20% should be applied to Final ROI and the Total Gain numbers to reflect the range in cost numbers.

### Restating the question:

**“Is it more economical to run the Size TI Gift and Loyalty card applications on NonStop v. other platforms?”**

The answer is yes, even without including downtime or additional revenue growth. The Standish Research finds that the NonStop platform is the most economical platform to deploy in POS applications environments where the annual number of POS transactions exceeds 900M/year.

For further information on custom or specific application modeling, contact Jerry Kerr: [jerry.kerr@standishgroup.com](mailto:jerry.kerr@standishgroup.com)