

CIS TCO ANALYSIS

**CIS Total Cost of
Ownership Analysis - Final**

July 23, 2003

City of Portland
CIS Cost of Ownership Analysis
July 23, 2003



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Background

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- ◆ **In May of 2003, the City of Portland engaged Pacific Technologies, Inc. (PTI) to assist in the procurement of a customer information system (CIS) by preparing a total cost of ownership analysis (TCO) of the two finalist's proposed solutions**
- ◆ **The analysis looked at three scenarios:**
 - SAP's City-owned proposal
 - SAP's hosted proposal
 - Cayenta's City-owned proposal
- ◆ **The focus of this analysis is purely financial – it includes only hard dollar costs, and does not attempt to balance costs with corresponding tangible or intangible benefits that any of the solutions might offer**

Approach

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- ◆ PTI prepared a TCO analysis which compares three CIS software scenarios
- ◆ Recurring costs were gleaned from the two vendors' proposals; we validated estimates of required City staff and implementation time against our experience gained at other engagements and the vendors' references
- ◆ City staff refined the implementation estimates – these City estimates are used in the TCO
- ◆ The analysis includes both one-time and recurring costs to develop the total cost
- ◆ We calculated the total over a ten-year time horizon

THE SCENARIOS:

- ◆ **Option 1: SAP's City-owned proposal** – the City buys a license for SAP's CIS solution which is maintained on City-owned hardware at City facilities
- ◆ **Option 2: SAP's hosted proposal** – the City buys a license for SAP's CIS solution which is maintained on SAP-owned hardware at SAP facilities, with programming support and major upgrades included
- ◆ **Option 3: Cayenta's City-owned proposal** – the City buys a license for Cayenta's CIS solution which is maintained on City-owned hardware in City facilities

Summary Analysis

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The table below summarizes our analysis of aggregate costs:

SUMMARY ANALYSIS	One-Time Cost	Total Recurring Costs	Total Ten-Year Cost
<i>Option One: City Implements SAP</i>	\$16,545,000	\$17,284,876	\$33,829,876
<i>Option Two: SAP Hosts for the City</i>	\$15,840,000	\$13,118,367	\$28,958,367
<i>Option Three: City Implements Cayenta</i>	\$11,680,000	\$15,014,725	\$26,694,725

[Summary Analysis, cont.]

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The table below summarizes our analysis of recurring costs:

RECURRING COST ANALYSIS	Baseline Recurring Costs		Periodic Costs		Total Recurring Costs
	Total	Average	Total	Average	
<i>Option One: City Implements SAP</i>	\$8,929,994	\$892,999	\$8,354,882	\$835,488	\$17,284,876
<i>Option Two: SAP Hosts for the City</i>	\$12,207,537	\$1,220,754	\$910,829	\$91,083	\$13,118,367
<i>Option Three: City Implements Cayenta</i>	\$6,456,897	\$645,690	\$8,557,828	\$855,783	\$15,014,725

Assumptions

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The following assumptions apply to this analysis:

- a) Time horizon is 10 fiscal years
- b) The cost of capital is 5.5%
- c) Inflation rates for capital and wages were provided by the City
- d) The first year of expenditure is FY 2004
- e) Implementation will begin 9/03 Implementation time is assumed to be 15 months
- f) New software maintenance fees begin in FY 2005
- g) Burdened labor costs were provided by the City
- h) The analysis assumes that 1 FTE of internal labor will be utilized for implementation project management for all scenarios
- i) The City is assumed to remain current on software licensing
- l) Costs are associated with additional office space (e.g., for on-site consultants during implementation) and space in the data center, if appropriate
- m) The Cayenta scenario assumes a sixteen processor Oracle license
- n) No additional costs are included for change management
- o) A major software upgrade is assumed to occur every 3 years; SAP upgrades cost 20% of the original implementation, hosted is assumed cost 5%, and 25% is used for Cayenta's first upgrade – 20% is used thereafter
- p) The analysis does not account for tangible or intangible benefits/costs (e.g., productivity improvement/degradation, repurposing staff) in the business units
- q) The analysis assumes that no modifications are performed other than those which are included in the vendor's proposals
- r) Hardware is refreshed every four years
- s) Servers and backup devices will occupy two 77" racks
- t) The model does not include operations and retirement costs of existing systems
- u) Support offerings proposed by the vendors are not equivalent and have been normalized to 24 x 7 levels

Summary – SAP Owned

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The following presents a summary of Option One:

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
		<i>Maintenance Begins</i>			<i>Upgrade</i>			<i>Upgrade</i>		
COSTS										
One-Time Costs										
Subtotal Software	1,395,000	0	0	0	0	0	0	0	0	0
Subtotal Server Software Costs	0	0	0	0	0	0	0	0	0	0
Subtotal Other Modules/Software Costs	0	0	0	0	0	0	0	0	0	0
Subtotal Reporting Tools Costs	0	0	0	0	0	0	0	0	0	0
Subtotal Hardware Costs	705,000	0	0	0	0	0	0	0	0	0
Subtotal Installation/Services Costs	4,370,000	2,185,000	0	0	0	0	0	0	0	0
Subtotal Other Costs	0	0	0	0	0	0	0	0	0	0
Subtotal Discounts	0	0	0	0	0	0	0	0	0	0
Subtotal Internal Labor Costs	5,260,000	2,630,000	0	0	0	0	0	0	0	0
TOTAL ONE-TIME COSTS	11,730,000	4,815,000	0	0	0	0	0	0	0	0
Recurring Costs										
Subtotal Software Maintenance Costs	0	320,574	327,625	335,510	343,735	352,115	360,699	369,492	378,500	387,727
Subtotal Hardware Maintenance Costs	0	0	0	77,186	0	0	0	85,004	0	0
Subtotal Internal Labor Costs	0	0	569,099	583,074	597,200	610,876	624,864	639,173	653,809	668,780
Subtotal Upgrade Project Costs	0	0	0	0	3,221,871	804,234	0	3,448,309	0	880,467
Subtotal Other Recurring Costs	0	2,987	57,990	59,414	127,458	62,247	63,672	136,416	66,621	68,147
TOTAL RECURRING COSTS	0	323,562	954,713	1,055,184	4,290,265	1,829,471	1,049,235	4,678,394	1,098,930	2,005,122
TOTAL BASELINE RECURRING COSTS	0	323,562	954,713	1,055,184	1,068,394	1,025,237	1,049,235	1,230,085	1,098,930	1,124,655
TOTAL COSTS	11,730,000	5,138,562	954,713	1,055,184	4,290,265	1,829,471	1,049,235	4,678,394	1,098,930	2,005,122

SUMMARY	
TOTAL TEN YEAR COST	\$ 33,829,876
TOTAL ONE-TIME COSTS	\$ 16,545,000
TOTAL RECURRING COSTS	\$ 17,284,876
AVERAGE RECURRING COST	\$ 1,728,488
BASELINE TOTAL RECURRING	\$ 8,929,994
BASELINE AVERAGE RECURRING	\$ 892,999
PERIODIC TOTAL RECURRING	\$ 8,354,882
PERIODIC AVERAGE RECURRING	\$ 835,488

Summary – SAP Hosted

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The following presents a summary of Option Two:

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
		<i>Maintenance Begins</i>			<i>Upgrade</i>			<i>Upgrade</i>		
COSTS										
One-Time Costs										
Subtotal Software	1,395,000	0	0	0	0	0	0	0	0	0
Subtotal Server Software Costs	0	0	0	0	0	0	0	0	0	0
Subtotal Other Modules/Software Costs	0	0	0	0	0	0	0	0	0	0
Subtotal Reporting Tools Costs	0	0	0	0	0	0	0	0	0	0
Subtotal Hardware Costs	0	0	0	0	0	0	0	0	0	0
Subtotal Installation/Services Costs	4,370,000	2,185,000	0	0	0	0	0	0	0	0
Subtotal Other Costs	0	0	0	0	0	0	0	0	0	0
Subtotal Discounts	0	0	0	0	0	0	0	0	0	0
Subtotal Internal Labor Costs	5,260,000	2,630,000	0	0	0	0	0	0	0	0
TOTAL ONE-TIME COSTS	11,025,000	4,815,000	0	0	0	0	0	0	0	0
Recurring Costs										
Subtotal Software Maintenance Costs	0	568,239	949,364	972,213	996,049	1,020,331	1,045,205	1,070,685	1,096,787	1,123,525
Subtotal Hardware Maintenance Costs	0	0	0	0	0	0	0	0	0	0
Subtotal Internal Labor Costs	0	0	294,380	301,609	308,916	315,990	323,226	330,627	338,198	345,942
Subtotal Upgrade Project Costs	0	0	0	0	439,954	0	0	470,875	0	0
Subtotal Other Recurring Costs	0	37,370	93,190	95,478	77,907	100,031	102,321	83,382	107,061	109,513
TOTAL RECURRING COSTS	0	605,609	1,336,933	1,369,301	1,822,826	1,436,351	1,470,752	1,955,570	1,542,046	1,578,980
TOTAL BASELINE RECURRING COSTS	0	605,609	1,336,933	1,369,301	1,382,872	1,436,351	1,470,752	1,484,694	1,542,046	1,578,980
TOTAL COSTS	11,025,000	5,420,609	1,336,933	1,369,301	1,822,826	1,436,351	1,470,752	1,955,570	1,542,046	1,578,980

SUMMARY	
TOTAL TEN YEAR COST	\$ 28,958,367
TOTAL ONE-TIME COSTS	\$ 15,840,000
TOTAL RECURRING COSTS	\$ 13,118,367
AVERAGE RECURRING COST	\$ 1,311,837
BASELINE TOTAL RECURRING	\$ 12,207,537
BASELINE AVERAGE RECURRING	\$ 1,220,754
PERIODIC TOTAL RECURRING	\$ 910,829
PERIODIC AVERAGE RECURRING	\$ 91,083

Summary - Cayenta

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The following presents a summary of Option Three:

Year	2004	Maintenance Begins 2005	Upgrade 2006	2007	2008	Upgrade 2009	2010	2011	Upgrade 2012	2013
COSTS										
One-Time Costs										
Subtotal Software	995,000	0	0	0	0	0	0	0	0	0
Subtotal Server Software Costs	365,000	0	0	0	0	0	0	0	0	0
Subtotal Other Modules/Software Costs	0	0	0	0	0	0	0	0	0	0
Subtotal Reporting Tools Costs	0	0	0	0	0	0	0	0	0	0
Subtotal Hardware Costs	570,000	0	0	0	0	0	0	0	0	0
Subtotal Installation/Services Costs	1,706,667	853,333	0	0	0	0	0	0	0	0
Subtotal Other Costs	0	0	0	0	0	0	0	0	0	0
Subtotal Discounts	0	0	0	0	0	0	0	0	0	0
Subtotal Internal Labor Costs	4,793,333	2,396,667	0	0	0	0	0	0	0	0
TOTAL ONE-TIME COSTS	8,430,000	3,250,000	0	0	0	0	0	0	0	0
Recurring Costs										
Subtotal Software Maintenance Costs	0	309,806	316,619	324,240	332,189	340,287	348,583	357,081	365,786	374,703
Subtotal Hardware Maintenance Costs	0	59,627	60,939	62,406	63,936	65,494	67,091	68,726	70,402	72,118
Subtotal Internal Labor Costs	0	0	264,092	270,577	277,132	283,478	289,970	296,610	303,402	310,349
Subtotal Upgrade Project Costs	0	0	2,590,435	0	0	2,874,709	0	0	2,380,817	711,867
Subtotal Other Recurring Costs	0	2,987	64,963	66,559	68,171	37,648	71,329	72,962	40,294	76,342
TOTAL RECURRING COSTS	0	372,420	3,297,048	723,781	741,428	3,601,617	776,972	795,379	3,160,700	1,545,379
TOTAL BASELINE RECURRING COSTS	0	372,420	706,613	723,781	741,428	726,908	776,972	795,379	779,884	833,512
TOTAL COSTS	8,430,000	3,622,420	3,297,048	723,781	741,428	3,601,617	776,972	795,379	3,160,700	1,545,379

SUMMARY	
TOTAL TEN YEAR COST	\$ 26,694,725
TOTAL ONE-TIME COSTS	\$ 11,680,000
TOTAL RECURRING COSTS	\$ 15,014,725
AVERAGE RECURRING COST	\$ 1,501,473
BASELINE TOTAL RECURRING	\$ 6,456,897
BASELINE AVERAGE RECURRING	\$ 645,690
PERIODIC TOTAL RECURRING	\$ 8,557,828
PERIODIC AVERAGE RECURRING	\$ 855,783

Summary - All

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The following summarizes the three scenarios:

SAP	Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
COSTS												
One-Time Costs												
TOTAL ONE-TIME COSTS		11,730,000	4,815,000	0	0	0	0	0	0	0	0	16,545,000
Recurring Costs												
TOTAL RECURRING COSTS		0	323,562	954,713	1,055,184	4,290,265	1,829,471	1,049,235	4,678,394	1,098,930	2,005,122	17,284,876
TOTAL COSTS		11,730,000	5,138,562	954,713	1,055,184	4,290,265	1,829,471	1,049,235	4,678,394	1,098,930	2,005,122	33,829,876

SAP - Hosted	Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
COSTS												
One-Time Costs												
TOTAL ONE-TIME COSTS		11,025,000	4,815,000	0	0	0	0	0	0	0	0	15,840,000
Recurring Costs												
TOTAL RECURRING COSTS		0	605,609	1,336,933	1,369,301	1,822,826	1,436,351	1,470,752	1,955,570	1,542,046	1,578,980	13,118,367
TOTAL COSTS		11,025,000	5,420,609	1,336,933	1,369,301	1,822,826	1,436,351	1,470,752	1,955,570	1,542,046	1,578,980	28,958,367

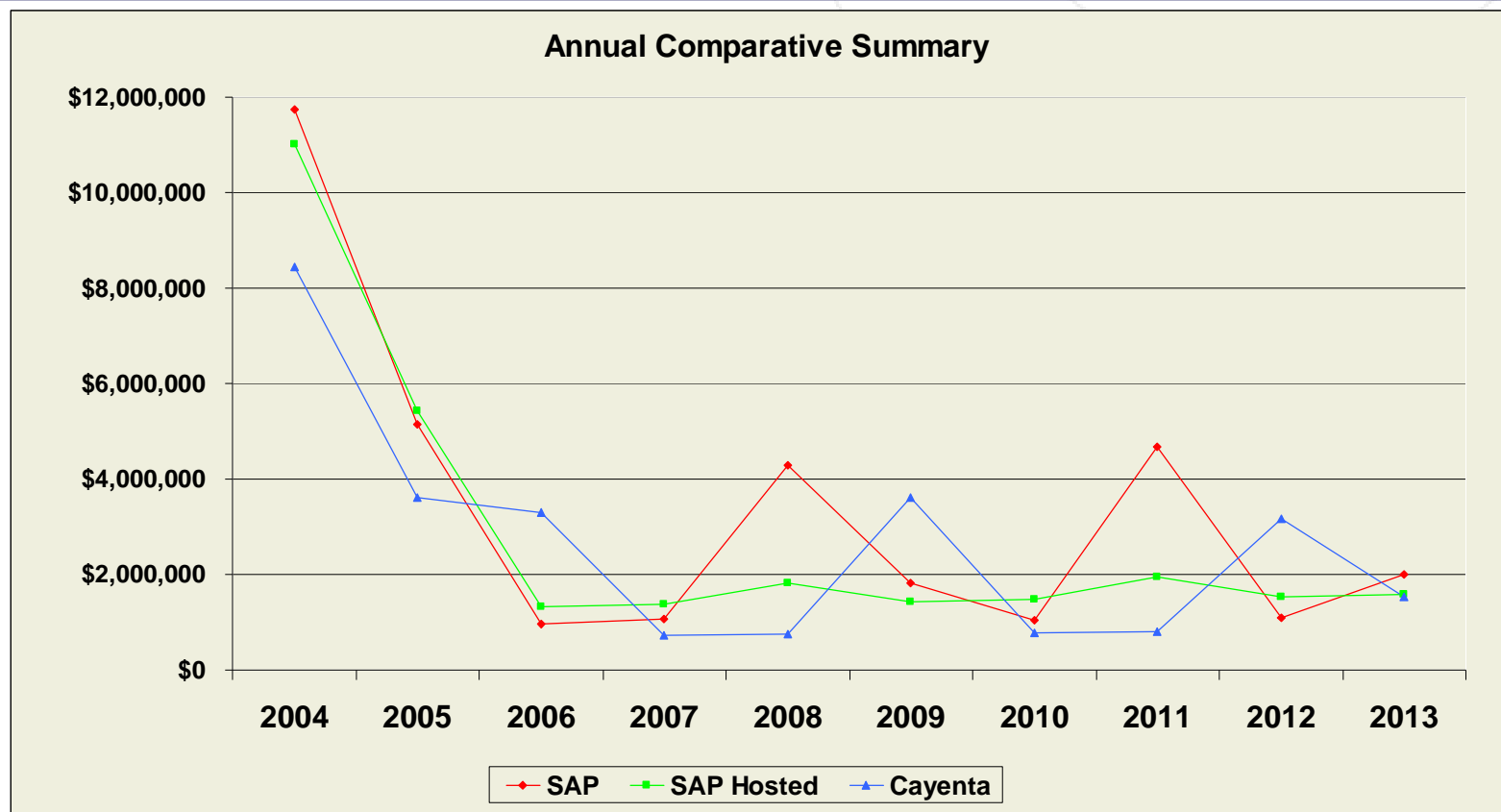
Cayenta	Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
COSTS												
One-Time Costs												
TOTAL ONE-TIME COSTS		8,430,000	3,250,000	0	0	0	0	0	0	0	0	11,680,000
Recurring Costs												
TOTAL RECURRING COSTS		0	372,420	3,297,048	723,781	741,428	3,601,617	776,972	795,379	3,160,700	1,545,379	15,014,725
TOTAL COSTS		8,430,000	3,622,420	3,297,048	723,781	741,428	3,601,617	776,972	795,379	3,160,700	1,545,379	26,694,725

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Comparative Cash Flows

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The graph presented below depicts the annual costs of each scenario in current dollars:



Comparative Cash Flows

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The graph presented below depicts the total cumulative costs of each scenario in current dollars:

