



Industry-Leading Solutions for Mobile Data Protection

Guide to the TCO of Encryption

Deployment of Pointsec Encryption Can Reduce the Total Cost of Ownership by One-Half



Executive Summary

As the familiar saying goes, “There’s no such thing as a free lunch.” So it is with using information technology. Even so-called “free” open source applications carry unavoidable costs of installation, management and usage. Some of these costs can be controlled or even eliminated by smart use of appropriate applications, management technology and best practices. But in the end, everything of value costs something to own and use.

Guide to the TCO of Encryption provides a rational model for analyzing the total costs of owning, managing and using full-disk encryption in large organizations. Encryption is a cyber security technology used to protect the confidentiality, integrity and availability of information stored on or transmitted between computers. Encryption solutions from Pointsec automatically obscure digital files and make them unreadable to unauthorized people. The software allows authorized users to automatically decrypt files for use with appropriate applications. Mobile devices protected with Pointsec encryption prevent unauthorized people from accessing confidential stored information – even if a mobile device is lost or stolen.

The Guide describes the costs of owning and using encryption from many perspectives. It surveys five types of operational costs such as installation, administration and providing end-user support. An analytical model described in the Guide helps organizations to consider these costs in perspective of their occurrence frequency, and associates them with the human costs of performing those tasks. The Guide also factors costs of encryption software licensing and maintenance.

Analysis of total lifecycle costs of implementing encryption solutions from Pointsec and two major competitors shows that management efficiencies with Pointsec encryption can reduce the total cost of ownership in half – even if competitors were to give away their products for free.

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Also read: *Guide to the ROI of Encryption*

Pointsec presents a companion paper on encryption economics called *Guide to Return on Investment of Encryption*. It assesses financial risks to information loss if an organization does not use encryption, and how those losses can be reduced by using encryption. The guide shows how, by using encryption solutions from Pointsec, organizations can cut the annual recurring costs of security exposure by 90 percent or more.

Considering the TCO of Encryption

There are three elements to calculating Total Cost of Ownership for encryption: operations, licensing and annual maintenance. Of these, operational costs far outweigh the price of encryption software. Your organization may negotiate with a software provider on the cost of licensing and maintenance, but there is no flexibility or negotiation available for limiting operational costs beyond the management capabilities of the encryption software deployed in your enterprise.

As we demonstrate in this paper, Pointsec provides the lowest TCO in large part due to its superior lightweight architecture, which provides strong encryption technology without the need for expensive servers or databases to support enterprise-wide full-disk encryption. For example, a large global financial services organization uses Pointsec encryption on 180,000 seats and administers the entire deployment with just three people. Pointsec’s mobile security software allows large organizations to “set it and forget it,” making use of full-disk encryption an entirely transparent process to the workforce.

Market Leader

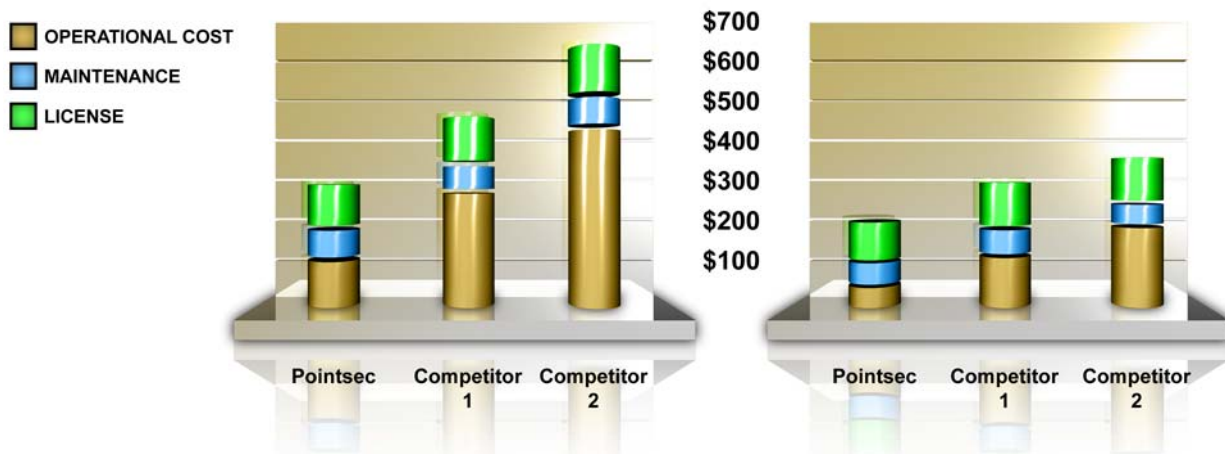
Gartner ranked Pointsec the leader in its MAGIC QUADRANT for Mobile Data Protection five years in a row.

Gartner Research
Research Note, 11 Feb. 2004

POINTSEC HAS LOWEST TCO

The graphs below compare TCO for Pointsec and two leading competitors over a three-year period. The graph on the left is the total cost per seat in a 1,000-seat installation. The graph on the right is for a 10,000-seat installation. Each bar shows license fees on top, maintenance fees in the middle and operational costs on bottom.

In both scenarios, *Pointsec TCO is dramatically lower* – even if both *competitors gave away their products with no license fee*.



The rest of this paper describes how these numbers were derived with an analytical model for determining the enterprise TCO of encryption.

Operational Costs

Operational costs of using encryption include two categories: administrative and end-user support. The most obvious costs pertain to administrative tasks such as installing encryption software, changing policies, and performing individual adds, moves and changes. End-user support is often overlooked in considering TCO, but the use of encryption carries a clear user-oriented price tag, such as for resetting passwords, reconfiguring encryption after users upgrade desktop applications, and helping them recover from a crashed system.

These operational actions and value of associated human effort to complete them are detailed below. Descriptions include variables and frequencies for the respective tasks.

The TCO model developed by Pointsec incorporates these actions by applying typical variables and frequencies reported by its customers, and by numerous customers who have replaced competitive encryption products with Pointsec. Organizations may modify any of these variables in the model to reflect their own assumptions in projecting TCO for encryption.

INSTALLATION

This category pertains to the installation of encryption software on an organization’s local and remote PCs.

Installation Task	Variables	Frequency
Initial installation of administration system	Time required to install and configure all components of the encryption product administration system	Once
Software upgrade	Effort depends on availability of software distribution and management tools	Once a year
Subsequent installation without imaging	Entails installing encryption software on remotely networked computers, typically about 70 percent of the PC inventory	Once
Subsequent installation with imaging	Additional task for encryption software architecture to image the software and updates onto new or recycled locally networked PCs, usually about 30 percent of the inventory	Approximately once a year

ADMINISTRATION

This category pertains to routine administrative tasks associated with the management of encryption software.

Administrative Task	Variables	Frequency
Security policy update	Could require extensive manipulation of software depending on encryption application's management capabilities	Less than two times a year
Security policy change domain	Reflects changes to policy for a domain, or to a corresponding number of multiple groups to update a full domain	Less than two times a year
Security policy change group		Less than two times a year
Security policy change user level		Less than two times a year
Adding, deleting or modifying a user account	Entails adding accounts for new employees, deleting employees that left an organization, and moving a user from one group to another	12 times a year
Audit of all computers in system	Entails viewing a combined log of all events based on time, and on some systems may require manually exporting and then importing each log file	Twice a year
Audit of one computer in system	Subset of auditing all systems	Four times a year

USER INTERACTION WITH PRODUCT

This category includes direct costs of supporting end users of full-disk encryption. The most common incidents entail resetting passwords. Organizations that already provide end-user support for other applications may find that adding support for encryption is a minor incremental cost.

User Task	Variables	Frequency
Password reset after PW forgotten by user		Twice a year
Forgotten token by user – issue temporary password	Amount of work for the task depends on what needs to be done to get the user productive today, and to reset the user back to token-use tomorrow	Once a year
Manual password synchronization by user		Twice a year
Password synchronization by user with Windows		Twice a year
Updating recovery disk	Required by some systems; which may require user participation	12 times a year
Initial user name configuration	Entails entering a user named for use with the encryption application. Administrator must ensure the name is unique if the application uses the Windows logon name or pulls it from a directory	Once

ADMINISTRATION OF OTHER APPLICATIONS

Upgrades to other applications using Wake on LAN may require additional administration related to an organization's deployment of encryption. The matrix below presents a typical large organization's portfolio of applications on a desktop PC. Upgrades of each application may affect configuration of encryption software. Our model presumes an organization will upgrade just two of these applications once a year. Typical upgrade frequencies are often much higher.

Administrative Task	Variables	Frequency
Application software upgrade configuration	Amount of work depends on the number of upgraded applications. Typical portfolio includes: <ul style="list-style-type: none"> • Word processing • Spreadsheet • Presentation • VPN software • Corporate application such as Enterprise Resource Planning • Browser • Browser plug-ins for web-based applications 	Two times a year

USER SUPPORT

This category includes other tasks for user support of encryption that require an on-site visit from a support technician. Such incidents are rare, so our model assumes just four-tenths of one occurrence per PC during a three year period.

Support Task	Variables	Frequency
Troubleshooting	May require using a DOS-based utility with review of extensive error logs	Rare
Recovery of damaged disk	Includes time to create, distribute and use the disk recovery functions	Rare
Repairing damaged Windows installation	Sometimes the disk must be decrypted before repair can be made	Rare
Hands-on access	Updating a local encryption product configuration may require temporary administrator rights – possibly requiring on-site work by support staff	Rare

Licensing Costs

Licensing costs for encryption include two elements. First is the initial cost of purchasing the software for managing encryption in an enterprise, along with licenses for each local and remote device to be protected with encryption capability. The second component is annual maintenance, which usually is about 20 percent of the initial cost of licensing.

Using the TCO Spreadsheet Model

Performing lifecycle cost calculations is best done with a Total Cost of Ownership model for encryption. To help evaluate realistic scenarios, Pointsec developed a model for an encrypted IT environment that specifies encryption-related operational events described above, accounts for real-world frequency of events, and calculates the reasonable effort-based labor cost of those events for support staff and for end users.

All values may be modified as desired. An independent tester populated this model with Pointsec-specific data and with similar information for the two nearest competitors in the large-scale encryption market. We then validated event and cost data with customers who have switched from a competitor to Pointsec for encryption solutions. The analysis presents TCO for a three-year lifecycle with end point populations of 1,000, 10,000 and 100,000 seats.

A printout of the model is shown below. Its four sections are labeled A – D:

- Section A details operational events and licensing cost elements.
- Section B assigns frequency-per-seat of these events by quarter over a three-year lifespan.
- Section C presents cost calculations for Pointsec and its two closest competitors.
- Section D provides weightings for the TCO calculations. Values less than one respectively discount the effort required to complete a particular action. Labor rate values are specified for IT support and end users. A matrix at the lower right of Section D applies an enterprise “scaling factor” that further discounts based on greater economies of scale experienced in larger environments.

Competitive Comparison Total Cost of Ownership												
A -- Cost Elements	B -- Frequency											
	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TCO Data Encryption solution	C -- TCO Calculations											
	Pointsec	Competitor A	Competitor B	Pointsec	Competitor A	Competitor B	Pointsec	Competitor A	Competitor B	Pointsec	Competitor A	Competitor B
	admin	user	admin	user	admin	user	admin	user	admin	user	admin	user
Installation												
- Initial install of Administration system												
- Security policy update												
- Security Policy Change Domain												
- Security Policy Change Group												
- Security Policy Change User Level												
- Adding, Deleting and Modifying a user												
- Audit of all computers in system												
- Audit of one computer in system												
Subtotal Installation and Administration (excluding password reset, which is below in "User Interaction" elements)												
Admin for 1000 Users												
Admin for 10,000 Users												
Admin for 100,000 Users												
User interaction with product												
- Password reset PW forgotten by user												
- Forgotten token by user - temp password												
- Manual Password sync by user												
- Password sync by user with Windows												
- Updating recovery disk												
- Initial user name configuration												
Administration of other applications (in a fully encrypted environment)												
- Application software upgrade WOL												
User support (Admin visits user)												
- Troubleshooting												
- Recovery of damaged disk												
- Repairing damaged Windows installation												
- Hands-on access												
User interaction costs												
1,000 seat population												
10,000 seat population												
100,000 seat population												
License and Maintenance costs												
1,000 seat license												
1,000 seat maintenance												
10,000 seat license												
10,000 seat maintenance												
100,000 seat license and maintenance*												
(*Not Available - No access to competitive data)												
Total Operational Cost (3 year)												
1,000 seat population												
10,000 seat population												
100,000 seat population												
Total/Year												
1,000 seat population												
10,000 seat population												
100,000 seat population												
Cost/copy/year												
1,000 seat population												
10,000 seat population												
100,000 seat population												
Total Cost of Ownership (3 year)												
1,000 seat population												
10,000 seat population												
100,000 seat population (N/A)												

Economies of Scale			
Users	Groups	Org. Units	Domains
1000	40	10	2
10000	100	50	10
100000	400	200	50
			Scalefactor
			1
			0.5
			0.25

Calculating Costs for Your Environment

Pointsec invites you to contact us for more information about the economics of rapidly deploying our encryption solutions in your organization's IT environment. We encourage your organization to perform its own Total Cost of Ownership analysis by using information presented in this paper. You may also request a free evaluation using our TCO spreadsheet to analyze specific variables and assumptions tailored for your IT environment. Please contact your Pointsec sales representative, call Pointsec at 800-579-3363 or 630-392-2300, or visit our web site at www.pointsec.com.

About Pointsec

Pointsec is the worldwide standard for mobile device security with the most customers deployed, highest level of certification and more complete device coverage than any other company. Pointsec delivers a trusted solution for automatic data encryption that guarantees proven protection at the most vulnerable point where sensitive enterprise data is stored – on mobile devices. By securing sensitive information stored on laptops, PDAs, smart phones, and removable media, enterprises and government organizations can protect and enhance their image, minimize risk, shield confidential data, guard information assets, and strengthen public and shareholder confidence. Pointsec's customers include blue chip companies and government organizations around the world. Founded in 1988, Pointsec Mobile Technologies AB is a wholly owned subsidiary of Protect Data AB, publicly traded (PROT) on the Stockholm stock exchange. The company has two U.S. offices, nine EMEA offices, two APAC offices, two offices in India and one office in Dubai, Middle East.



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