



IN THE CORPORATE INFORMATION SECURITY ENVIRONMENT

CONTENTS

Introduction	3
It is not hard to lose data	4
What can be the consequence of data loss?	5
Threat to business activity	
Lost opportunities for security services and law enforcement agencies	
What security measures are available in this case?	6
Is specialized software worth it?	
Why get a software program and not use a specialized service?	
Several scenarios and corresponding solutions	
When would I need ElcomSoft solutions?	9
A brief description of ElcomSoft Password Recovery Products	
A brief description of ElcomSoft products for restoring access	
About ElcomSoft	13

INTRODUCTION

With the rapid development of information and computer systems over the recent years, data accessibility and the ease with which it can be handled have become unprecedented level of advancement. The information infrastructure of any modern company is a complex mechanism that requires constant oversight.

The availability of data, along with its clear usefulness, has also brought undesirable consequences with it. Data streams have become much harder to control. Data and its owner have become increasingly vulnerable and exposed to a great variety of risk factors.

The information age is demanding that we take a fundamentally different attitude toward data and give it more substantial protection. At issue are not only internal leaks, theft, and corruption of data, but also its loss, pure and simple.

IT IS NOT HARD TO LOSE DATA

It was not long ago that data was stored and distributed primarily using paper media and was threatened primarily natural disasters and time. In the age of computer technologies, data is much easier to lose. It can be easily lost due to the following reasons:

1. Computer hardware malfunction (loss caused by hardware problems).
2. Computer software failure (loss caused by software problems).
3. Theft or intentional corruption of data by intruders or dishonest company employees.
4. Unskilled actions by company personnel.
5. And, finally, the loss of control over or access permissions to the data.

Each of these items can give rise to a separate document and deserve separate consideration, but we will examine only the last item for the time being - the loss of control over the data or the loss of access permissions to it.

Experts and IT professionals have given this set of risks less attention than it rightfully deserves, even though the loss of control over data is no less dangerous than its corruption or theft.

We always limit access to the most important data by ensuring that it is encrypted or by setting up password protection for documents and computers.

This way, control over data can be quickly lost in the following ways:

1. Password loss for protected documents (Microsoft Office, electronic mail databases, Adobe Acrobat files, archives, etc.).
2. Loss of access permissions to certain applications (for example, loss of permission to access the Microsoft Windows operating system).
3. Loss of permission to access encrypted data (for example, encrypted using the Encrypting File System).

Obviously, the risks of losing access to the data are always present, and they can never be fully eliminated. Any internal corporate department offering support to users regularly encounters the problem of password loss which requires significant resources to resolve.

At the same times, few professionals think about the fact that these risks can be easily managed, by describing and streamlining the set of actions that must be taken in the event that loss of control over data takes place at the company.

WHAT CAN BE THE CONSEQUENCE OF DATA LOSS?

Let's sort out what risks are associated with the loss of access to/control over valuable data, which is ultimately what we are protecting with passwords and through encryption.

THREAT TO BUSINESS ACTIVITY

According to the "Computer Crime and Security Survey 2007" by the Computer Security Institute, the average annual losses incurred by businesses as a result of various threats over one year have grown from USD 168,000 to USD 350,000, and the trend is expected to continue.

A business faced with loss of access to data risks:

- completely losing valuable data, which was password protected and encrypted;
- losing access to important information (this is of particular relevance to internal corporate security departments);
- having to gather the data and recreate the documents from scratch;
- losing internal IT resources of the company to the time-consuming process of finding an ad hoc solution to the problem;
- missing opportunities, associated with the inactivity of individual employees or the duplication of effort.

It becomes evident that the potential consequences can result in many additional costs, internal problems, and even bring the work of the business to a standstill, which can lead to significant material and operational costs.

Password protected data will need to be recreated from scratch, which will require a significant time investment on the part of the employees. In a number of cases this might even be impossible, if the lost data included a disk containing encrypted document archives. All this can entail lost business opportunities for the company.

LOST OPPORTUNITIES FOR SECURITY SERVICES AND LAW ENFORCEMENT AGENCIES

The case of security services and law enforcement agencies deserves special consideration. It is not unusual when these entities need to obtain evidence as part of an investigation and need to access data that was intentionally password protected or encrypted for safekeeping or transfer to third parties.

For security services gaining access to the data can be of great assistance to uncovering the traces of criminal activity, insider or subversive activity. Meanwhile, for law enforcement agencies (forensics) the data can be an additional body of evidence.

WHAT SECURITY MEASURES ARE AVAILABLE IN THIS CASE?

In most cases, it is possible to restore passwords and access to data, whether to password-protected files, the operating system, or to encrypted data. There is a multitude of methods and specialized software tools created for this purpose.

Businesses that take a serious approach to information security always must keep these types of software tools on hand and know how to use them properly.

IS SPECIALIZED SOFTWARE WORTH IT?

Why buy specialized software if the problem is a rare occurrence? Could it be that these programs are only worth buying once the incident already occurred? These questions are usually asked by IT professionals who are not entirely informed regarding the risks and the potential consequences of losing access to data.

This is a common oversight! Programs for restoring passwords and access to data should be always within arm's reach, especially at the IT departments at larger companies. In the worst case scenario, precious time will be wasted on searching for, selecting, purchasing, and learning to use the programs, all of which have their specific traits. In addition, when pressed for time it becomes difficult to make a well thought-out choice of a truly effective solution that would help resolve the problem at hand.

A program purchased in a hurry can disappoint when it does not meet expectations with regard to effectiveness and speed, or even appears to be useless in solving the problems. Waiting until the most critical time to try out key software is almost a crime against your own company.

For example, every day special services around the world encounter problems with restoring access to data of strategic importance. By keeping a selection of specialized software tools on hand (for restoring and resetting passwords, restoring system access or access to encrypted files), they succeed in effectively accomplishing their missions.

Any security service within a large company stands to encounter similar problems as applicable to investigating internal incidents. The effective use of special software by IT departments for resetting/restoring lost passwords and access to data can essentially cancel out the consequences of loss of access to the data and reduce the costs associated with resolving such situations (cf. section "It is not hard to lose data").

WHY GET A SOFTWARE PROGRAM AND NOT USE A SPECIALIZED SERVICE?

Currently there is an enormous number of online services for resetting passwords, which require that the customer turn to them for assistance. These services offer a simple service: the customer sends in a file, the company decrypts it or tells the customer the password. These files are highly likely to contain confidential information and so the owner of the service signed a Non-Disclosure Agreement.

At first glance, this is very simple and convenient. There is no need to buy software or train the staff. Besides this, there is the advantage in speed, since the service owner may have more robust resources and can therefore find the password faster than can be done internally at the company.

However, despite the obvious advantages, these services have the following considerable shortcomings:

- **There is no guarantee of confidentiality.** Despite the signed non-disclosure agreement, there is still no 100% guarantee that the confidential data, obtained once the password was broken, will not end up in the hands of the competition.
- **High cost.** If passwords are forgotten or lost relatively regularly (this is what happens in a large company), the cost for each service request become uneconomical, while having an inexpensive piece of software in-house can enable your technicians to resolve the problem without outside assistance.
- **Slow turn-around.** The work cycle with the service (even if it is available 24/7) can take a very significant amount of time. First, permission needs to be obtained to send the “problem” files from the security department and from management. Then the non-disclosure agreement must be signed and the file needs to be sent over the web (assuming that internal regulations permit this). If the problem at hand is very time-sensitive, then the inability to access the document of the system can ultimately make every idle minute cost a pretty penny.
- **Narrow scope.** Online services can be used to only retrieve the password to files, including Microsoft Office documents, Adobe Acrobat files and archives, but these services will be to no avail when you need to restore access to an operating system or to encrypted data stored on a hard drive.

This is why, by most criteria, software solutions are more suitable for corporate use.

SEVERAL SCENARIOS AND CORRESPONDING SOLUTIONS

Scenario №1

The password for logging into Microsoft Windows XP on the CEO's laptop is lost or forgotten. There are no alternate user accounts on the laptop out of security considerations. Access to the computer and to the important documents, the only existing copies of which are stored on it, needs to be restored **in all urgency**.

The most convenient tool for resolving the situation is the Elcomsoft System Recovery tool, which can be used to quickly restore access to Windows with the necessary permissions or to reset the lost password in order to log into the system, using exclusively internal company resources.

Scenario №2

The password to an important Microsoft Office 2003 document has been lost (Microsoft Word or Microsoft Excel). It contains documentation for a tender. It is impossible to reproduce the data **within a reasonable timeframe**, and its absence threatens a profitable deal and the reputation of the company on the market.

The best way out of such a situation is to use the Advanced Office Password Recovery software suite from ElcomSoft, which can be used to restore passwords protecting Microsoft Office document for all versions currently in use.

Scenario №3

The company security department has lost access to important data. The needed files are encoded using Encrypting File System in the Microsoft Windows 2000 operating system. In addition, it is also critical to gain access to the password protected Outlook mail program.

To solve this problem, the most convenient solution is to use a set of two specialized programs.

The first of these is Advanced EFS Data Recovery software suite from ElcomSoft specifically designed for restoring (decrypting) files, located in NTFS partitions and encoded using Encrypting File System (EFS) in Windows 2000 and Windows XP, Windows 2003 Server and **Windows Vista** environments.

The second tool, Advanced Outlook Password Recovery from ElcomSoft restores forgotten passwords protecting files with personal information in Microsoft Outlook (PST extension). The program also restores passwords to e-mail accounts created in Microsoft Outlook and saved locally. All passwords are instantly recovered with direct decryption.

WHEN WOULD I NEED ELCOMSOFT SOLUTIONS?

ElcomSoft offers a full range of software products for restoring passwords and data in different applications.

ElcomSoft products are recognized by experts around the world and are truly effective and reliable solutions in their class.

The complete ElcomSoft product line can be used in combination to restore, with very high success rates, even those passwords that are considered to be very strong, such as PGP.

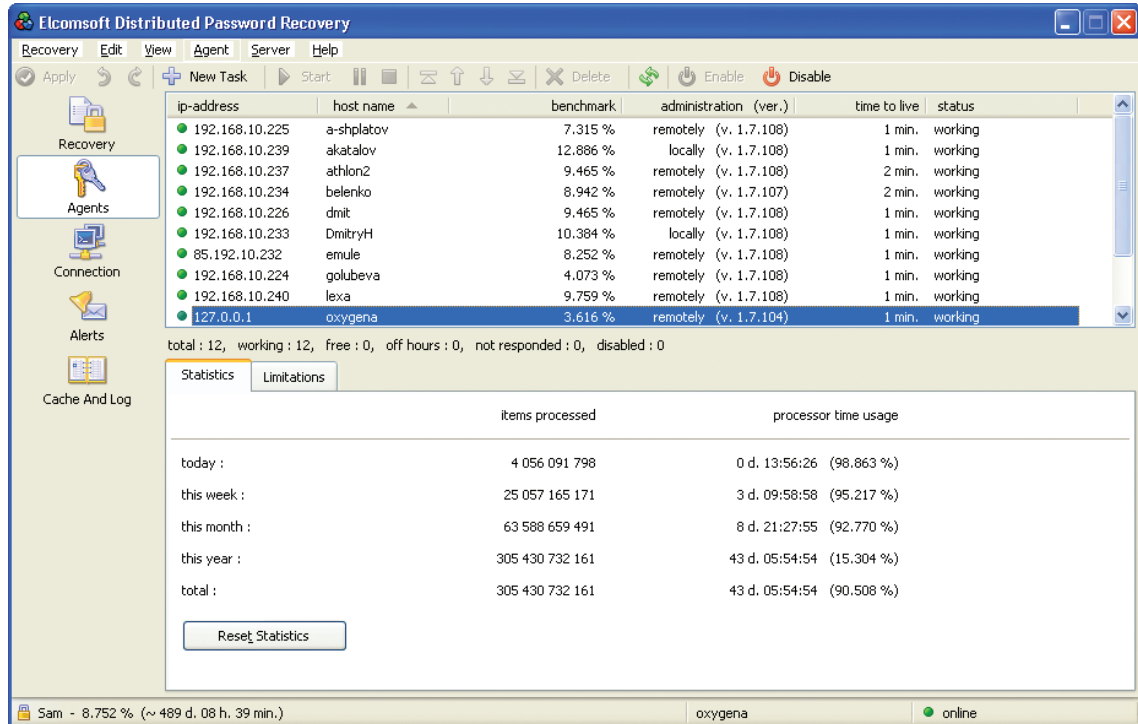
This problem cannot be solved using the usual search method, but there is a high probability that the desired password was also used for a different program, such as ICQ or WordPerfect. There, the password can be restored very quickly.

This combined approach is particularly relevant in the case of a complete loss of control over data, for example in the case of intentional withholding of information, which is frequently encountered by security agencies.

The ElcomSoft product line can be broken down into two parts: products for restoring passwords to file contents and for restoring access to a system or data.

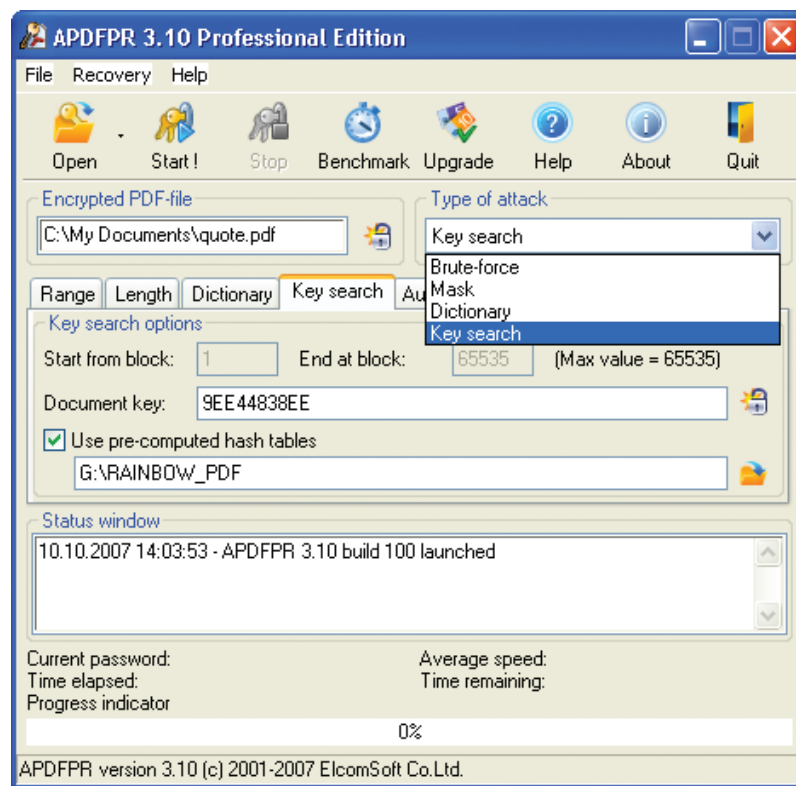
A BRIEF DESCRIPTION OF ELCOMSOFT PASSWORD RECOVERY PRODUCTS

- 1. Elcomsoft ElcomSoft Distributed Password Recovery** is the flagship product of the company. This program is intended for distributed retrieval of forgotten passwords to a variety of different document types. The software supports Microsoft Office formats (Word, Excel, PowerPoint), Microsoft Money, Microsoft OneNote, PGP (*.skr, *.pgd, *.pgp, PGP whole disk encryption), PKCS #12 certificates (*.pfx), Adobe Acrobat PDF, Windows 2000/XP/2003/Vista user passwords, Intuit Quicken, Lotus Notes ID files, MD5 hashes. Learn more about the product [here](#).
- 2. Elcomsoft Advanced Office Password Recovery** is a program for restoring forgotten passwords protecting Microsoft Office documents of all versions current available (Office 95, Office 97, Office 2000, Office XP, Office 2003 Beta, Office 2003 and Office 2007). The program can also be used to restore passwords to MS Money, MS Visio, MS Backup and the IE Content Advisor password. The program is available in three versions: Home, Standard and Professional. Most passwords are instantly retrieved through direct decryption. You can learn more about this product [here](#).
- 3. Elcomsoft Advanced Office Password Breaker** is a program designed for decrypting Word 97/2000 and Excel 97/2000 documents using password protection for opening the document. The program **guarantees** that the document in question will be opened, regardless of the difficulty or length of its password. You can learn more about this product [here](#).



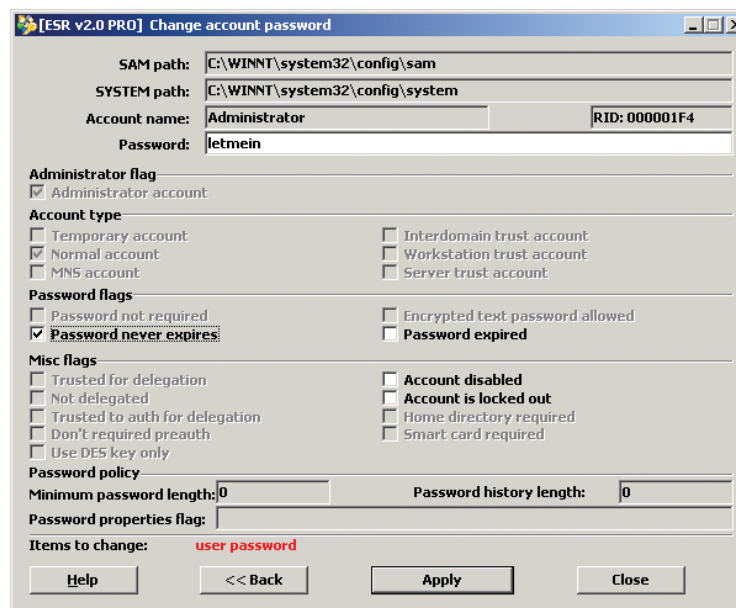
- Elcomsoft Advanced Archive Password Recovery** is a program for restoring forgotten passwords protecting ZIP archives (PKZIP, WinZIP), ARJ/WinARJ, RAR/WinRAR and ACE/WinACE. The program combines all of the features of Advanced ZIP Password Recovery, Advanced ARJ Password Recovery, Advanced ACE Password Recovery and Advanced RAR Password Recovery. Besides these capabilities, ARCHPR can be used for guaranteed recovery of the contents of WinZIP archives, if they contain more than five files. You can learn more about this product [here](#).
- Elcomsoft Advanced PDF Password Recovery** is a program, which can be used to decrypt PDF files, protected by a password, or files that have restrictions, provided for by the PDF file format. PDF format restrictions can be instantly removed, regardless of the difficulty of the owner-password being used. To find the user-password the software can use a direct search, a dictionary attack, or an encryption key search. You can learn more about this product [here](#).
- Elcomsoft Advanced Intuit Password Recovery** is a program for restoring passwords to documents created by Intuit applications - Quicken (*.QDT, *.QDB, *.QDF) versions 4 to 2008 inclusive, Quicken Lawyer (Portfolios, *.PFL) and QuickBooks (*.QBW, *.QBA) versions 3 to 2007 inclusive. You can learn more about this product [here](#).

In addition, ElcomSoft's range of products also includes other tools for password recovery and resetting for documents such as ACT!, WordPerfect and Lotus SmartSuite, Internet-messengers (different versions of ICQ, AOL Instant Messenger, Yahoo! Messenger, MSN Messenger, Google Talk, Trillian, Miranda, Mail.Ru Agent and many others), as well as e-mail clients (Eudora, The-Bat!, Netscape Mail, Opera Mail and many others) and Microsoft Internet Explorer and Outlook Express.



A BRIEF DESCRIPTION OF ELCOMSOFT PRODUCTS FOR RESTORING ACCESS

1. **Elcomsoft System Recovery** is a solution that enables the user to gain very rapid access to Windows with the necessary permission settings. It is a boot disk based on Windows PE (CD or USB flash drive), which is compatible with any computer running Windows NT 4.0, Windows 2000, Windows XP, Windows Server 2003 or Windows Vista. You can learn more about this product [here](#).



2. **Elcomsoft Advanced EFS Data Recovery** is a program for decrypting files located on NTFS partitions and encrypted using Encrypted File System technology (EFS) on machines running Windows 2000 or Windows XP, Windows 2003 Server or Windows Vista. This software tool can be used to decrypt files even when the system does not load or when some of the encryption key records are corrupted. Even if the system user database is SYSKEY protected, the program can still be used to decrypt files. In Windows 2000 it is possible to decrypt all files, even if the administrator and user passwords are not known! You can learn more about this product [here](#).
3. **Elcomsoft Proactive System Password Recovery** is a program that enables the user to restore forgotten passwords, configured in Microsoft Windows, such as: system access password [Windows 95/98/Me/NT4/2000]; .NET Passport passwords; SYSKEY password, WiFi WEP and WPA-PSK passwords (saved in WZC); password saved in Windows XP (multiple credentials); passwords for accessing ISP accounts (RAS and Dial-Up); VPN connection passwords; LSA Secrets; PWL file passwords, etc. You can learn more about this product [here](#).

ABOUT ELCOMSOFT

Founded in 1990 in Moscow, Russia, ElcomSoft is a leader in the password/system recovery and forensics market. Thanks to one-of-a-kind technologies, ElcomSoft's products have garnered wide recognition both in Russia and abroad.

ElcomSoft's clients include many well known international companies from the following sectors:

High Tech: Microsoft, Adobe, IBM, Cisco

Governmental: FBI, CIA, US Army, US Navy, Department of Defence

Consulting: Andersen Consulting, Deloitte & Touche, Ernst and Young, KPMG, PricewaterhouseCoopers

Finance: Bank of America, Citibank, Equifax, HSBC, Wells Fargo, J.P.Morgan, Credit Suisse

Telecommunications: France Telecom, BT, AT&T

Insurance: Allianz, Mitsui Sumitomo

Retail: Wal-Mart, Best Buy, Woolworth

Media&Entertainment: Sony Entertainment

Manufacturing: Volkswagen, Siemens, Boeing

Energy: Lukoil, Statoil

Pharmaceuticals: Johnson&Johnson, Pfizer, GlaxoSmithKline, Novartis

ElcomSoft is a Microsoft Gold Certified Partner, Intel Software Partner, as well as a member of the Russian Cryptology Association, the Computer Security Institute (CSI), and the Association of Shareware Professionals (ASP).

ElcomSoft is an acknowledged expert in the password/system recovery and forensics market. The company's technological achievements and opinion leadership is quoted in many authoritative publications. For example: "Microsoft Encyclopedia of Security", "The art of deception" (Kevin Mitnick), "IT Auditing: Using Controls to Protect Information Assets" (Chris Davis), "Hacking exposed" (Stuart McClure).

Visit our [website](#) to find out more.

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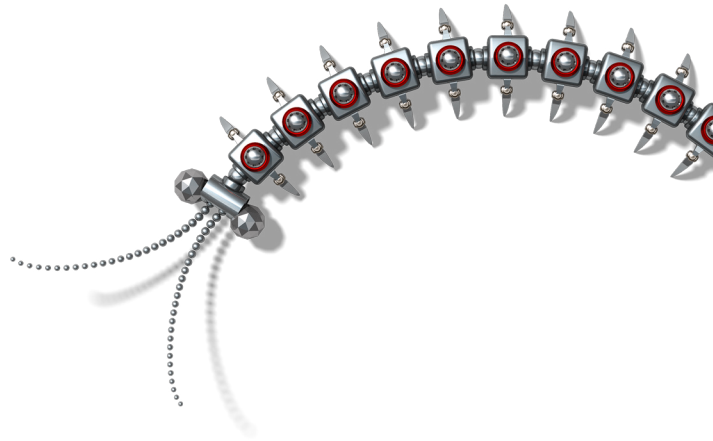
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