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INTRODUCTION TO TECHNICAL SUPPORT USING ALTIRIS DEPLOYMENT
SOLUTION SOFTWARE AS AN EXAMPLE.

Seminaritöö

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INTRODUCTION

Software becomes more and more complicated due the growth of needs of new functionalities from customers side. Almost every sphere requires using of possibilities, which is being provided by software for achieving own targets. The targets are very specific sometimes, and software propose you different ways to manage them. Nowadays in the century of quick growing technologies it is difficult for a person to review and study all the changes, which appearing from day to day. The aim of the software support to help a person to resolve appearing issues during using a product. In this work will be described the support process using Altiris Deployment Soltion software as an example.

The main point of this work to show the path of software support from recieving a call with problem till its resolution. As any sphere has own exceptions, in current work will be reviewed also cases, when there is no possibility to find a resolution of the problem due limited functionality or resolution will take more time as a problem is a bug in the software.

As one of the goals of this work to introduce personal development – basic questionnaire made by the author to better information gathering using practice experience.

The first of part of the work will be devoted to review of the support process in general. The second part will give a short description of Altiris Deployment Solution. In the the third part will be introduced personal development. And in the forth be will discussed several cases from autor's practice, which may help to understand the specific aspects of supporting software products. The four cases will be described in current work.

1. SUPPORT PROCESS OVERVIEW: TROUBLESHOOTING PROCEDURES.

This chapter provides the following sections on how to identify the problem, analyzing the problem and potential causes, the troubleshooting process, evaluate results and document findings. All these sections are part of support process (Appendix 1).

1.1 IDENTIFYING THE PROBLEM

The first step to identifying the problem is questioning the system's user. The information gathered from the user helps to set the scope of the problem. The basic questionnaire (Appendix 2) was developed by me and being used in my everyday workflow for this purpose. The main is for the questionnaire is to collect enough data to get understanding of a problem. The creation process of this questionnaire will be reviewed more detailed in the next part.

In case the problem is large Glen E. Clarke and Ed Tetz recommend in their book "CompTIA A+ Certification All-in-One Desk Reference for Dummies" to try to break it up into smaller sections and prioritize them. The problem computer may be malfunctioning due to a variety of smaller problems, such as insufficient RAM, a fragmented hard drive, malware, Trojans, and poor networking protocol configuration.

1.2 ANALYZING THE PROBLEM AND POTENTIAL CAUSES

Each problem has the cause. After the data is collected from the customer side, the reproducing of issue on the test environment may help to get the full picture. Reviewing of the product documentation, knowledgebases and articles provide you with additional details regarding to the problem.

1.3 THE TROUBLESHOOTING PROCESS

As soon as the possible cause is identified, this is time to verify it. Generally this is done by applying tests on the customer side. The main rule before applying any changes on the customer's environment is to back up all data which is going to be changed during verifying of cause process.

1.4 EVALUATE RESULTS

At each step of the analysis and application of potential fixes, you should evaluate the results. By evaluating often, you will know what is working, what is not, and what additional problem you may have caused. At any time, the results may cause you to change your initial hypothesis and choose to pursue a different path. Changing your hypothesis should be done only if there is sufficient proof that your initial statements were in error, or you may find yourself running in circles. [1]

In order to remember it for the long term, you must write it down or otherwise record it. If you do not document your findings, then you may find yourself repeating the same troubleshooting steps in the future to solve a similar problem, when the process could have been abbreviated. [1]

In my workflow are being used a corporate knowledge base for recording troubleshooting activities, implemented a formal help desk with the main purpose to document problems and solutions.

Having a technician close his trouble tickets with “Problem resolved” may be fast for the technician, but it is not the purpose of the application. One of the application’s goals is to build a database of problems and resolutions. The more detail that is included in the resolution documentation, then more helpful it will be in the future. Once the trouble ticket database has enough information in it, it becomes more than a place where the information is stored; it also becomes a place where solutions are found. The larger the database, the more likely it will be able to provide your solution. When a problem is reported, you will be able to search the database to see if the problem has previously happened for that person, or another person, and you may be provided with a solution. Testing a few known solutions is faster than starting the troubleshooting process at the beginning. [1]

2. ALTIRIS DEPLOYMENT SOLUTION OVERVIEW

Altiris Deployment Solution is an enterprise software tool for deployment and management of all computer resources across the organization. The main purpose of its use is to remotely manage all types of devices in your network, including handhelds, notebooks, desktops, switches, and servers through all phases of computer deployment and lifecycle management. It lets migrate personal information from one computer to another, image computers, install and maintain software.

A Deployment System consists of several components with each component playing a specific role in the computer management process. The components could be installed either on the same computer or on separate computers. The Deployment System includes the following components:

- Deployment Console
- Deployment Web console
- Deployment Server
- Deployment database
- Deployment share
- PXE server
- DHCP Server (not an Altiris product)
- Deployment Solution agents
- Sysprep (not an Altiris product)

Some of the Deployment System components can be installed on multiple computers. Installing the system components on different computers provides flexibility and, in some cases, can improve computer management performance. Only few components, which will be used in the examples in this work will be described.

2.1 DEPLOYMENT SERVER

Deployment Server controls the flow of the work and information between the managed computers and the other Deployment Server components (Deployment Console, Deployment Database, and the Deployment Share). Managed computers connect and communicate with the Deployment Server to register inventory and configuration

information and to run deployment and management tasks. The computer and deployment data for each managed computer is stored in the Deployment Database. [2]

2.2 DEPLOYMENT DATABASE

The database maintains the following information about the managed computers:

- Hardware. RAM, asset tag, and serial numbers
- General Information. Computer name and MAC address
- Configuration. TCP/IP, Microsoft networking, and user information
- Applications. The installed applications and information about these applications, such
- as the name of the application, publisher, and product ID
- Services. Installed Windows services
- Devices. Installed Windows devices, such as network adapter, keyboard, and monitors

Location information. Contact name, phone, e-mail, department, mail stop, and site
The Deployment Server Database also contains jobs and other data used to manage your computers. [2]

2.3 PXE SERVER

The PXE Server provides service to client computers on a subnet. When the Deployment Server sends a deployment job, the client computer receives a request to boot to automation and the PXE-enabled computers connect to the first PXE Server that they discover, which communicates with the Deployment Server and the client computers. You can install a PXE Server on a Microsoft Server 2003, Windows 2000 Server, Advanced Server. The PXE Server also functions on the same protocols as a standard DHCP Server, so you can place the PXE Server wherever you would place a DHCP server. You can also install as many PXE Servers as required in your system, but you must also install a DHCP Server. [4]

The PXE Server sends a boot menu option list to the client when the computer performs

a PXE boot. The deployment job, which contains at least one automation task, uses the default automation environment or the environment specified by a user who has the permission to create a deployment job. Use the boot menu option to request the PXE Server for the boot menu files and download the boot menu files from the PXE Server to the client computer's RAM storage. The client computer always boots according to the request and reply communications taking place between the Deployment and PXE Servers. [4]

Altiris supports DOS, Linux, and Windows PreInstallation Environment (WinPE) as pre-boot environments. These options let you create a single job, but may contain multiple automation tasks. The default automation environment (the first pre-boot operating system files installed during the Deployment Solution installation) is used for Initial Deployment, unless you specify otherwise.

Using a PXE Server to boot client computers to automation saves you from having to install an automation partition on each client computer's hard disk, or from manually starting computers using Altiris-supported bootable media. [4]

2.4 DHCP SERVER

DHCP is defined by Joseph Davies in "Windows Server 2008 TCP/IP Protocols and Services" book as a simple client/server protocol that simplifies the management of host computer IP addresses and other configuration settings and DHCP server is defined as Windows Server 2008 service that provides Dynamic Host Configuration Protocol (DHCP)—based Internet Protocol (IP) addresses and configuration parameters to DHCP clients [5].

The DHCP server can coexist with any of the components in the Deployment System. When an Altiris PXE Server is installed on the same computer that is running the DHCP server, a new DHCP Server Option - 060 ClassID, PXEClient—is added. For example, on a Windows 2000 DHCP server, the 060 ClassID entry appears in the details pane when you go to DHCP > Server Options (Figure 3).

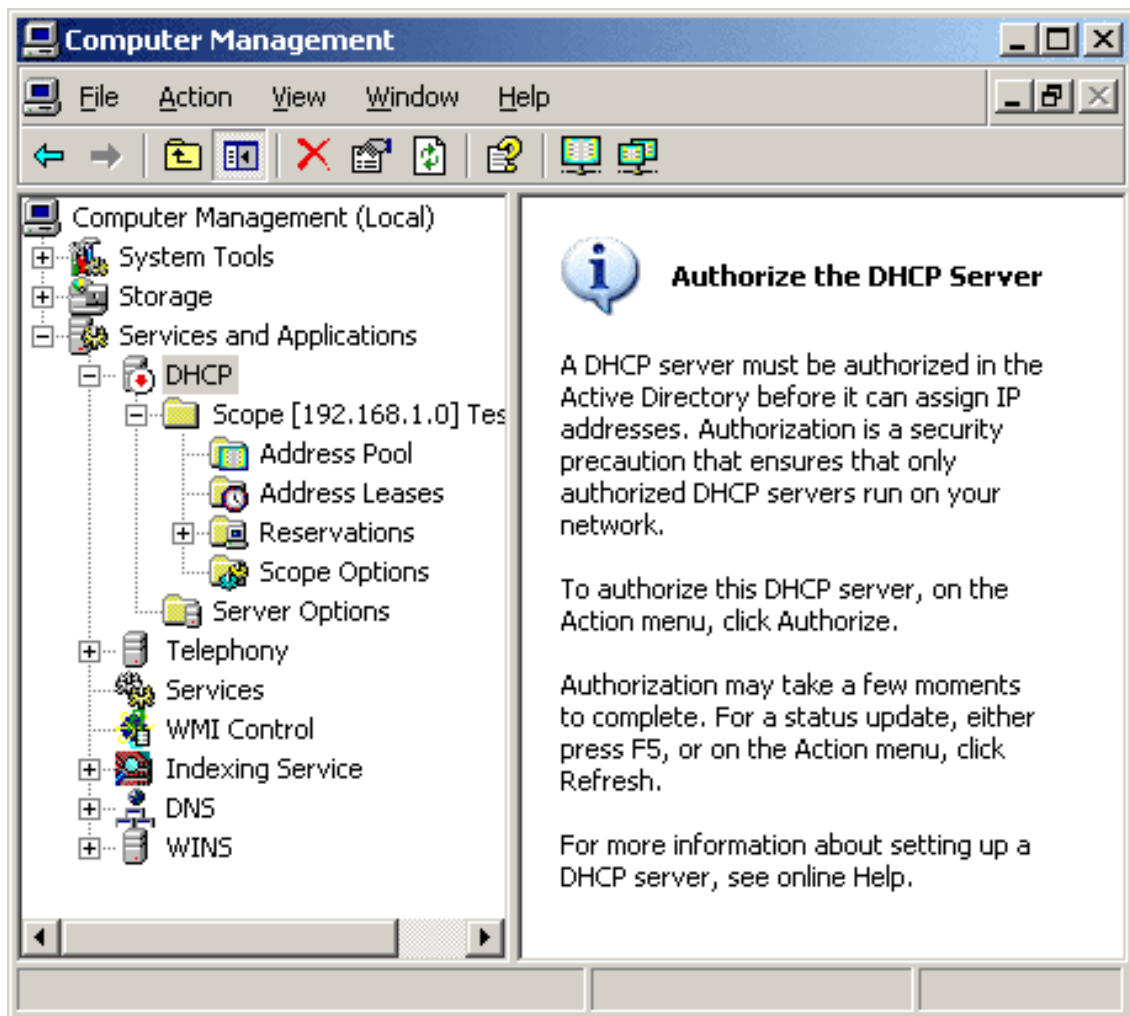


Figure 3. DHCP Server options. [6]

3. DEVELOPING BASIC FOR SUPPORTING ALTIRIS DEPLOYMENT SOLUTION SOFTWARE.

In this part will be described the role of each question and explained the purpose of developed questions queue.

3.1. QUESTION 1: COULD YOU PLEASE PROVIDE US WITH PRIORITY STATUS?

This question has no technical background but its importance is that customer's "priority status" gives the technical support engineer clue in what way to provide the support. Depending on company politics they could be:

- an immediate remote session during inbound call
- a call back after all required information is gathered
- escalation of the case to the higher level

The main purpose of the following questions is to let technical engineer to start providing support service in the correct direction depending on the customer's personal situation.

3.2 QUESTION 2: WHAT PRODUCT VERSION ARE YOU USING?

The product features differ from version to version. Besides the known issues, limitations are generally being fixed in subsequent versions. Before making a decision what details to get from customer it is important to keep in mind aspects of the product's version.

In some cases the version could mean that there would not be any additional fixes. Generally this treated to the earliest versions.

3.3 QUESTION 3: ON WHAT OPERATION SYSTEM IS ALTIRIS DEPLOYMENT SOLUTION SOFTWARE INSTALLED?

Knowing the version of the product the next step is to find out if there any limitations for operation system there product is installed and compare with requirements. Comparing Altiris Deployment Solution 6.9 Service Pack 1 (Appendix 3) with version 6.8 (Appendix 4) it is

possible to make conclusion that abnormal working process of features version 6.8 could be caused by using unsupported platforms but the same operation system is supported in 6.9 Service Pack 1 version and there are no issues.

3.4 QUESTION 4: WHAT TYPE AND VERSION OF SQL SERVER ARE YOU USING?

SQL Server is mandatory software for the Altiris Deployment Solution Database component's workflow.

There is opportunity to use SQL Express or Microsoft SQL Server software for keeping product's database. SQL Express is free to use and redistribute but feature-limited comparing with Microsoft SQL Server. Getting information regarding to type of SQL, it is possible to figure out that the issue was caused by limitation of SQL Server.

3.5 QUESTION 5: HOW MANY CLIENTS ARE AFFECTED IN THE ISSUE?

The following question is the last for the technical support engineer in the cycle of getting information regarding to technical aspects of the product and environment. The amount the clients let the technical support engineer how global the issue is.

3.6 QUESTION 6: WHAT PROBLEM HAVE YOU FACED?

The problem customer has faced is the basis of everything. Despite this it is taking the sixth place in this questionnaire. It may cause a logical question: "If the following question is the main, why it is put in the middle?" This procedure was chosen based on practical experience. In case technical support engineer does not possess information on these issues prior to, very often happens faithful interpretation of the problem. The symptoms of the issue could be the same but

there may be several causes for abnormal behavior. It will be shown on the example in case study next.

3.7 QUESTION 7: HAVE YOU THE SAME BEHAVIOR PREVIOUSLY OR IS THIS THE FIRST TIME YOU WHEN SEE IT?

This clarification makes it possible to push off from the time frame of occurrence of the problem.

3.8 QUESTION 8: IS THERE ANY ERROR MESSAGE APPEARED?

For the most part, the inappropriate behavior of the software is accompanied by the error message. In such cases it is possible to get the hint, with the error message text.

3.9 QUESTION 9: WHAT ARE STEPS TO REPRODUCE?

By reproducing the issue on lab test environment the technical support engineer is getting additional information by comparing environments. Often the cause of the issue is the environmental. In the case of reporting the bug, the answer to this question should be performed carefully and more detailed as possible.

3.10 QUESTION 10: WHAT ARE LOGS AND SCREENSHOTS SHOWING?

Logs are having two modes of operation. They could be either disabled or enabled. In case the logging was not enabled during the issue appeared, it is required to enable the logging and reproduce the issue. The enabled logging helps to debug an issue.

The screenshots help to visualize the issue in case the remote session is not possible for some reason.

4. ANALYSING THE SUPPORT PROCESS USING EXISTING CASES.

This part is devoted to practical aspects of support process. All the cases below are taken from my practice and took place in the help desk database.

4.1 CASE 1: ERROR MESSAGE

Issue: The error message appears while opening PXE Configuration Utility.

Environment: Deployment Solution 6.5,

Error message: “The PXE Manager service has not connected to Deployment Server yet. Please wait a moment and retry the operation”.

Diagnosis/steps: There are few possible causes of this behavior. Description of cases and potential resolution are taken from Altiris knowledge base article. The reference will be put after last sentence in the last abstract describing this issue.

Cause 1: The Altiris PXE Manager service is not able to communicate with the Altiris Deployment Server DB Management service. This lack of communication is because the "Allow encrypted sessions" has been disabled in the DS Control Panel applet, or is due to timeout issues when the two services take an excessive amount of time to connect.

Cause 2: The port that the Axengine uses to accept communications has been changed from the default of 402, and the PXE Manager is still trying to connect to the server on port 402. The Altiris PXE Manager service requires a connection to the Deployment Server axengine on TCP port 402. If the "Connection" options are used to allow or block any IP's or subnets they check to make sure that the DS is allowed, not blocked or rejected based on subnet or IP address this will cause PXE Manager to not fully function

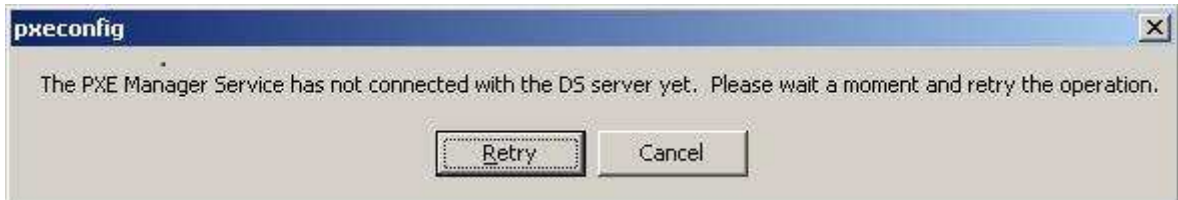
Cause 3: The MMAccessKey (Middle Man Access Key) is not correctly authenticating to the Deployment Server security key. The failure to authenticate will show this error message.

Cause 4: The PXE Manager was not installed correctly or is corrupted.

Cause 5: The logon account used by the "Altiris Deployment Server DB Management" and, or "Altiris PXE Manager" services does not have administrator rights to the local computer the services are running on.

Cause 6: The IP address of the Deployment Server has been filtered out.

Screenshots:



Logs: None.

Resolution:

Steps to resolution for cause 1

Verify that the encrypted sessions is enabled by going to Start > Control Panel > Altiris Deployment Server > Options > Transport, and making sure that the option "Allow Encrypted Sessions" is checked.

After checking this option and clicking on Apply and then OK, you will need to restart the following services:

Altiris eXpress Server

Altiris Deployment Server DB Management

Altiris PXE Manager

Wait for about five minutes for all of these services to perform their startup routines against the database, then attempt to open the PXE Configuration Utility again. This will avoid any timeout issues from occurring after restarting the services.

Steps to resolution for cause 2

Open PXEManager.ini in the .\Deployment Server\PXE directory.

Go to the [PXEServer\Shared\DS] section of the .ini file and find the entry "DSServerPort."

Change this value to equal the value of the "TCP Port" in the Altiris Deployment Server Control Panel applet.

Restart the PXE Manager Service. Open the PXE configuration utility.

Steps to resolution for cause 3

First you need to determine if the problem is truly being caused by the MMAccessKey not authenticating correctly with the Deployment Server. If in the PXE Manager log file (which can be enabled in the PXE Manager.ini file) it shows "failure" after an authentication, then this is most likely the cause. You can also verify that this is the cause with the PXE key match utility. (See the linked article 19228.) This utility will show if the keys are matching or not, and it can also regenerate the MMAccessKey.ini file if they are not matching.

Steps to resolution for cause 4

When the above steps do not resolve the issue, and the PXE Manager log file does not show any failures or errors, then the installation most likely was corrupted or not completed successfully. When this occurs you will generally need to reinstall the PXE Manager and PXE server.

In some cases even after a full and complete reinstall the issue can persist. In this case it was found that other software on the system was conflicting with the install. You can remove any possible other software conflicts by first completely uninstalling PXE Manager and PXE Server (as per the above knowledgebase article), but then before reinstalling disabling all other software temporarily.

This can be done by running Start > Run, type in "msconfig". Go to the Services tab, check the box that says Hide all Microsoft services, and then click on Disable All. Then go to the Startup tab and click on Disable All. Then click on Apply and OK. This will prompt for a reboot, which is needed for these changes to take place.

After reinstallation of PXE is complete you will want to go back into msconfig and reenable all of the services and startup programs that were previously disabled, and then reboot the server one last time.

Note: It has been noted that within the PXEmanager.ini, the entry
CurrentLockHolder="172.17.51.130" needs to be deleted.

Steps to resolution for cause 5

1. Open the "Services" console.
- 2 Right click on "Altiris Deployment Server DB Management", select "Properties" and then "Log On"
3. Examine the log on account and verify if that account (if not set to "Local System Account") has local administrator rights. If not then add the account to the local administrators group.
4. Perform the same steps for the "Altiris PXE Manager" service.

Steps to resolution for cause 6

The IP address of the server must be allowed for the PXE Manager utility to connect to Deployment Solution.

To check if connection filtering is enabled, navigate to Start > All Programs > Altiris > Deployment Solution > Configuration and choose Options and then the Connections tab.

Ensure the IP Address of the Deployment Solution server is allowed. [7]

The aim of overview of this case is to show one specifics of support process. In the description presents the error message but there are six causes, which may call the current error. Generally in the support process is important not to narrow the cause area but review all possibilities.

4.2 CASE 2: A BUG

Issue: Graphic bug in PXE Configuration Utility interface

Environment: Deployment Solution 6.9

Windows Server 2003 SP2 Enterprise Edition

SQL Server 2005

Error message: None.

Diagnosis/steps: Deployment Console: Tools - PXE Configuration

Then in a Boot Menu tab select any available option and click on 'Edit' button.

You go to the 'edit shared menu option' dialog.

From there edit the boot image by clicking the button 'Edit boot image' which makes you go to the step 9 of 12 Boot disk creator.

Resize (enlarge) this window (Altiris boot disk creator).

Then use the <Edit button to go back to Step 1

As Result we got corrupted window.

In step 2 the Grey text "to exclude drivers from the boot image..." that is below the button "have disk" ends up in the middle of the drivers list.

And if continue resizing this dialog, each step in this wizard dialog has problems displaying the controls.

Screenshots: None.

Logs: None.

Resolution: By the procedure the next steps after verifying of the bug are to create a report in bug's base and an external article with description of the bug (Appendix 2).

The aim of review of this case to show that sometimes is not possible to resolve the issue at once. The product has a bug, which should be resolved by development. Depending on how critical the issue is, the time ranges for resolving this bug will be put.

4.3 CASE 3: A FEATURE REQUEST

Issue: A lot of time is being spent on creating jobs whose sole purpose it to call a single line REM script which then calls a 'master' job on completion.

Environment:

Deployment Solution 6.9

Windows Server 2003 SP2 Enterprise Edition

SQL Server 2005,

~ 500 nodes

Error message: None.

Diagnosis/steps: The functionality is absent in the current product design.

Screenshots: None.

Logs: None.

Resolution: A Feature Request (Appendix 3)

The aim of this case review is to show that there is no ideal product. During support process the technical support engineers are faced with customers unsatisfied needs. The requests are escalated to product manager, who will decide, when this new feature will be implemented.

4.4 CASE 4: 'HOW TO'

Issue: What is a purpose of "Allow as Default PXE boot option"?

Environment: Deployment Solution 6.9

Windows Server 2003 SP2 Enterprise Edition

SQL Server 2005

Error message: None.

Diagnosis/steps: To create an article with explanation.

Screenshots: None.

Logs: None.

Resolution: Allow as default PXE boot option allows to select menu as default automation. Default automation could be used in jobs instead setting manually for each job. For example, in PXE Configuration Utility all Boot menu items have enabled "Allow as Default PXE Boot Option" function. In the DS tab it is possible to set from dropdown menu only one default boot option from items in which were marked "Allow as Default PXE Boot Option" earlier in Boot Menu. If for example DOS item is chosen from default boot option dropdown menu in DS tab, the default option will be DOS. The point of selecting of "Allow as Default PXE Boot Option" in Boot Menu is to allow this item to be selected after in default boot option dropdown menu from the DS tab (Appendix 4).

The aim of this case review is to show one more side of process support – missing information regarding to product's functionality in the documentation. This could happen from time to time.

CONCLUSION

The target of this work to show the software support process by using literature and practice cases overview. There are main several specifics and exceptions in the support process, which were described in the current work. The practice cases from author daily workflow are putting the emphasis to methodic, which was developed partly by author and partly borrowed from the literature review.

The first of part of the work was be devoted to review of the support process in general. The second part will give a short description of Altiris Deployment Solution. And in the third be will discussed several cases from author's practice, which may help to understand the specific aspects of supporting software products. The four cases will be described in current work.

This work may be used as introduction manual for technical support engineers. Many technical terms are being used during review and analyzing of the material. For understanding terms and process the glossary was added to the current work.

This current work is the first step in the beginning of software support process research. In the future it will be developed into software maintenance bachelor's thesis.

In common author thinks that the aim of the work was achieved thanking to using the practice experience got working as technical support engineer for Symantec company.

ÜLEVAADE

Selle töö eesmärk on teha sissejuhatus klienditoe tehnilise protsessis Altiris Deployment Solution tarkvara näideks kasutatedes.

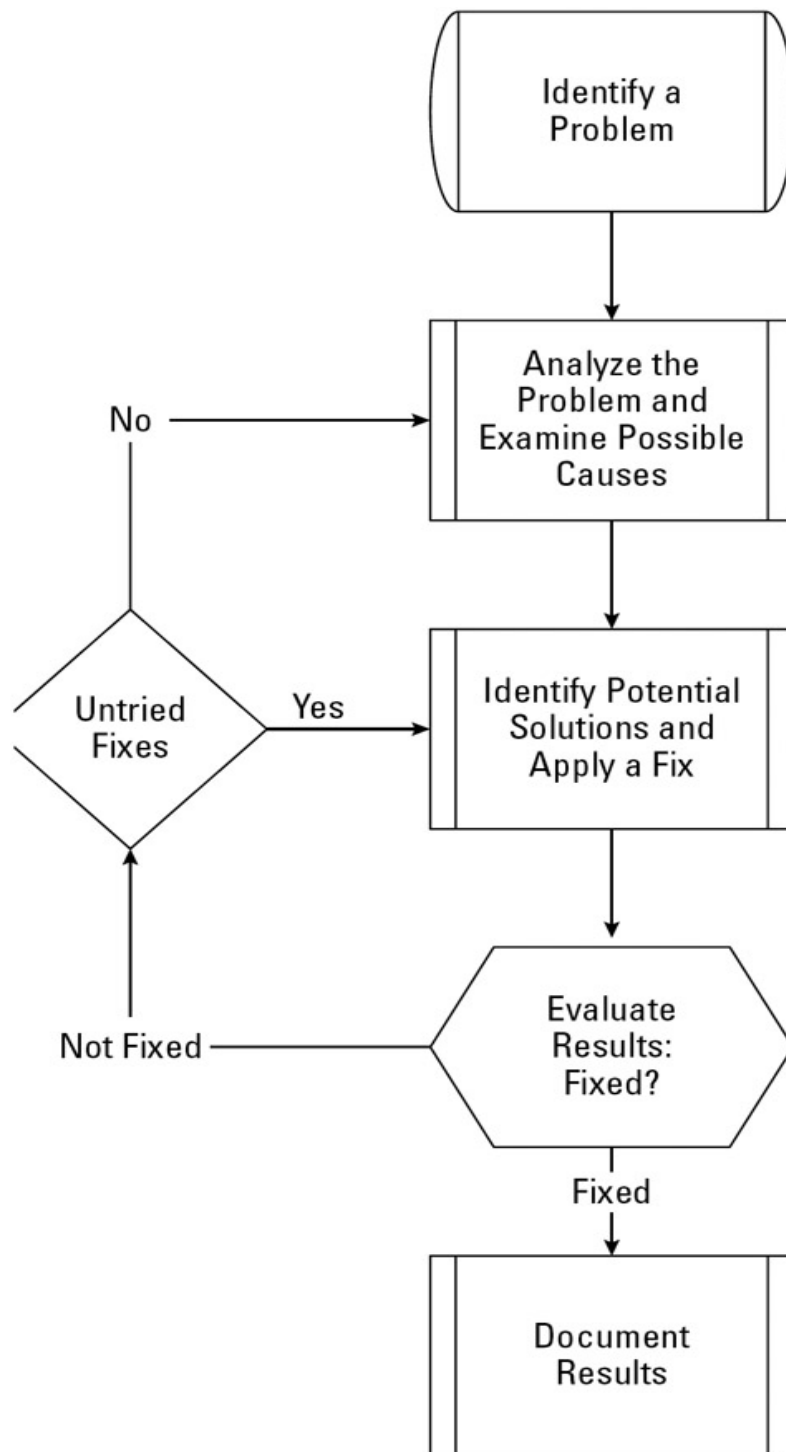
Töö eesmärgiks oli teha kirjanduse ülevaade, näita rakendatud autoriga küsimustik ja kirjelda neli erinevat klienditoe näidet, mis autor võttis oma praktise kogemust.

Esimine seminaritöö osa annab sissejuhatus klienditoe tehnilise protsessist. Teine osa on annab Altiris Deployment Solution tarkvara lühike ülevaade. Kolmas osas on võimalik leida infot, mis on seotud autori küsimustikuga. Viimases osas on kirjaldatud mõnele erinevatele klienditoe näidetele. Neli näidet on valitud selle töö jaoks.

Töö uurimisprotsessi ajal töö alguses selgitatud eesmärk oli küll saavutatud: oli kasutatud ehk analiseeritud kirjandust ning võrdletud neli erinevat näidet, missugused omavad oma eristatavad iseärasused, samuti oli näitud rakendatud autoriga küsimustik.

APPENDIX

APPENDIX 1



Appendix 1. [1]

APPENDIX 2

Question 1: Could you please provide your contact details?

Question 2: What product version are you using?

Question 3: On what operation system is Altiris Deployment Solution software installed?

Question 4: What version of SQL Server are you using?

Question 5: How many clients are affected in the issue?

Question 6: What problem have you faced?

Question 7: Have you the same behavior previously or is this the first time you when see it?

Question 8: Is there any error message appeared?

Question 9: What are steps to reproduce?

Question 10: What are logs and screenshots showing?

APPENDIX 3

Deployment Solution 6.9 SP1 supported platforms

X = Supported

Platform	Client	Win32 Console	Web Server	Server	File Server	Database
Windows Server 2008 x86	X	X	X*	X	X	X
Windows Server 2008 x64	X	X		X	X	X
Windows Server 2003 Standard Edition, including R2 and SP2	X	X	X	X	X	X
Windows Server 2003 Enterprise Edition, including R2 and SP2	X	X	X	X	X	X
Windows Server 2003 Web Edition	X					
Windows Server 2003 x64 Edition, including R2 and SP2	X	X		X	X	X
Windows 2000 Pro	X	X			X	
Windows 2000 Server	X	X	X	X	X	X
Windows 2000 Advanced Server	X	X	X	X	X	X
Windows Vista Business	X	X				
Windows Vista Business N	X	X				
Windows Vista Enterprise	X	X				
Windows XP Home	X					
Windows XP Pro	X	X			X	
Windows XP Professional x64 Edition	X	X				
Windows CE 6.0	X					
VMWare ESX Server	X**					
Mac PowerPC and intel-based 10.5	X					
Red Hat Enterprise Linux 5 x86_64	X					
Red Hat Enterprise Linux 5 Itanium†	X					
Red Hat Enterprise Linux 3	X					
Red Hat Enterprise Linux 4	X					
Red Hat Enterprise Linux 4 x86_64	X					
Red Hat Enterprise Linux 4 Itanium†	X					
Red Hat Linux 9.0	X					
Red Hat Linux 8.0						
Red Hat Advance Server 2.1						
SuSE Linux Enterprise Server 10	X					
SuSE Linux Enterprise Server 9	X					
SuSE Linux Enterprise Server 9 x86_64	X					
SuSE Linux Enterprise Server 9 Itanium†	X					
SuSE Linux 8.0						
Debian Linux Stable	X					
Solaris SPARC 8, 9 (production agent only)	X					
Windows NT Pro						
Windows NT Server						
Windows NT Advanced Server						
Windows 95						

Windows 98	X***					
Windows ME						
NetWare 6.5					X	

Appendix 3 [12]

APPENDIX 4

Deployment Solution 6.8, 6.8 SP1, and 6.8 SP2 supported platforms

Supported Platforms

Platform	Client	Win32 Console	Web Server	Server	File Server	Database
Windows Server 2003 SE / EE, including R2 (new in SP1)	X	X	X	X	X	X
Windows Server 2003 SE / EE including Service Pack 2 (new in SP2)	X	X	X	X	X	X
Windows Server 2003 Web Edition	X					
Windows Server 2003 x64 Edition, including R2	X					
Windows 2000 Pro	X	X			X	
Windows 2000 Server	X	X	X	X	X	X
Windows 2000 Advanced Server	X	X	X	X	X	X
Windows Vista Business (new in SP1)	X					
Windows Vista Business N (new in SP1)	X					
Windows Vista Enterprise (new in SP1)	X					
Windows XP Home	X					
Windows XP Pro	X	X			X	
Windows XP Professional x64 Edition	X					
Mac PowerPC (new in SP1)						
Mac Intel-based (new in SP2)	X					
SP1 supports OS X 10.3						
SP2 supports OS X 10.4						
Red Hat Enterprise Linux 3	X					
Red Hat Enterprise Linux 4	X					
Red Hat Enterprise Linux 4 x86_64	X					
Red Hat Enterprise Linux 4 Itanium	X					
Red Hat Linux 9.0	X					
Red Hat Linux 8.0						
Red Hat Advance Server 2.1						
SuSE Linux Enterprise Server 10	X					
SuSE Linux Enterprise Server 9	X					
SuSE Linux Enterprise Server 9 x86_64	X					
SuSE Linux Enterprise Server 9 Itanium	X					
SuSE Linux 8.0						
Debian Linux Stable	X					
Solaris SPARC 8, 9 (production agent only)	X					
Windows NT Pro						
Windows NT Server						
Windows NT Advanced Server						
Windows 95						
Windows 98	X*					
Windows ME						
NetWare 6.5					X	

APPENDIX 5

FEATURE REQUEST: A functionality to generate natively job shortcuts in Deployment Solution

Product and Version

Deployment Solution 6.9

Current Product Behavior

How does the product work now that does not meet your needs?

A lot of time is being spent on creating jobs whose sole purpose it to call a single line REM script which then calls a 'master' job on completion. Using these jobs (shortcuts) allows controlling our job content from a single location. But there are two problems when creating shortcuts in this way:

- 1) This has a timing impact when scheduling folders of shortcut jobs. After completion, the jobs are scheduled for the next minute. This can introduce large delays when dropping many such jobs onto computers.
- 2) The interface does not allow you to navigate to jobs linked to run after successful completion of the parent job. So, creating shortcuts in this way does not allow navigation, and makes troubleshooting more difficult.

With natively supported shortcuts, jobs would not only execute immediately one after the other, but perhaps a more intuitive interface would be applied to this new class of console object.

Requested Product Behavior

How would you like the product to function?

A functionality to generate natively job shortcuts in Deployment Solution. It would be useful for Deployments Solution to natively support a new class of job which is simply a link to an existing job. The icon should be color coded to reflect this new function.

APPENDIX 6

KNOWN ISSUE: Graphic bug in PXE Configuration Utility interface

Applies To

- Deployment Solution 6.8 and 6.9

Problem/Symptoms

Steps to reproduce:

Deployment Console: Tools - PXE Configuration

Then in a Boot Menu tab select any available option and click on 'Edit' button.

You go to the 'edit shared menu option' dialog.

From there edit the boot image by clicking the button 'Edit boot image' which makes you go to the step 9 of 12 Boot disk creator.

Resize (enlarge) this window (Altiris boot disk creator).

Then use the <Edit button to go back to Step 1

As Result we got corrupted window.

In step 2 the Grey text "to exclude drivers from the boot image....." that is below the button "have disk" ends up in the middle of the drivers list.

And if continue resizing this dialog, each step in this wizard dialog has problems displaying the controls.

Environment

Deployment Solution 6.8 SP2 and 6.9

Cause

This is a bug with the software.

Resolution

This issue is being investigated and further information will be reported as soon as it is known.
Please subscribe to this kb article to get the notifications about updates.

APPENDIX 7

HOW TO: The purpose of "Allow as Default PXE boot option"

Applies To

- Deployment Solution 6.8

Question

I am using DS6.8SP2 (build 378) and when in the PXE configuration utility, checking menu items with "Allow as Default PXE boot option" does not move the item up the PXE ordering. Further, and confusingly, more than one item can be configured as the default. Moving items up and down is not an issue with the arrow keys, but I am now wondering what checking the "Allow as Default PXE Boot Option" is actually doing. I can't fathom its purpose.

Answer

Allow as default PXE boot option allows to select menu as default automation. Default automation could be used in jobs instead setting manually for each job.

For example, in PXE Configuration Utility all Boot menu items have enabled "Allow as Default PXE Boot Option" function. In the DS tab is possible set from dropdown menu only one default

boot option from items in which were marked "Allow as Default PXE Boot Option" earlier in Boot Menu. If for example DOS item is chosen from default boot option dropdown menu in DS tab, the default option will be DOS. The point of selecting of "Allow as Default PXE Boot Option" in Boot Menu is to allow this item to be selected after in default boot option dropdown menu from the DS tab.

BIBLIOGRAPHY

- [1] CompTIA A+ Certification All-in-One Desk Reference for Dummies
by Glen E. Clarke and Ed Tetz, John Wiley & Sons © 2007
- [2] Deployment Solution Foundation Student Guide by Altiris, Inc., © 2007
- [3] The screenshot from http://www.altiris.com/upload/ss_dsconsoleibm_6_pwp.gif , ©
02.03.2009
- [4] Image and deploy computers throughout your network with Altiris Deployment Solution 6.1
by Internet Gateway Computer Co, © 2004
- [5] Windows Server 2008 TCP/IP Protocols and Services by Joseph Davies, Microsoft Press ©
2008
- [6] Ваш собственный сервер: установка Windows Server 2003 Дмитрий Чеканов, Патрик
Шмид, © 2004
- [7] PXE Configuration Utility fails to load with "The PXE Manager Service has not connected
with the DS Server yet" - <https://kb.altiris.com/article.asp?article=2165&p=2> , © 02.03.2009
- [8] The Complete PC Upgrade and Maintenance Guide by Mark Minasi, Faithe Wempen and
Quentin Docter, Sybex © 2005
- [9] Gray Hat Hacking: The Ethical Hacker's Handbook, Second Edition
by Shon Harris, Allen Harper, Chris Eagle and Jonathan Ness
McGraw-Hill/Osborne © 2008
- [10] The CEH Prep Guide: The Comprehensive Guide to Certified Ethical Hacking
by Ronald L. Krutz and Russell Dean Vines, John Wiley & Sons © 2008
- [11] Altiris knowledgebase glossary -
<https://kb.altiris.com/display/1/index2.asp?tab=glossary&r=0.8081585> , © 02.03.2009

[12] Altiris knowledgebase –

<https://kb.altiris.com/article.asp?article=44067&p=1> , © 02.03.2009

[13] Altiris knowledgebase –

<https://kb.altiris.com/article.asp?article=27070&p=1>, © 02.03.2009

GLOSSARY

Altiris Automation^[11]

In Deployment Solution, Altiris Automation provides a temporary operating system (WinPE, DOS, or Linux) and the files needed to perform the Altiris management functions, such as imaging a computer, running scripts, or backing up registry files.

Altiris Console^[11]

The Web-based user interface that is the primary mechanism for interacting with the Altiris Infrastructure, its components, and for managing resources. The generic term "Altiris Console" may be used for multiple consoles including: Altiris Console (which interacts with the Notification System), Deployment Web Console and Deployment Console -a non Web based console- (which interacts with the Deployment Solution System), and Resource Manager Console.

Altiris database^[11]

The information collected by the Altiris Infrastructure and Altiris solutions. The Altiris database is a generic term used to describe all databases used by the Altiris Infrastructure.

Altiris^[11]

A software company. It is often used to refer to the Altiris software that provides the basis for a family of products used for technology lifecycle management.

client^[11]

A network device (usually a computer) that:

- is connected to and interacts with a server
- is not running a server operating system (such as Windows 2000 Server, UNIX operating system, or Linux operating system)
- is not a multiple-processor computer
- is not a network switch
- is not a network router
- is not a networked print server or printer

component^[11]

1. **.MSI-Based Installations:** A piece of the application or product to be installed. The installer always installs or removes a component from the destination computer as a coherent piece. Components are usually hidden from the user. When a user selects a feature for installation, the installer determines which components must be installed to provide that feature.
2. **Script-Based Installations:** Components let you add optional pieces, such as a spell checker, a tutorial, sample files, and other such add-ons. When the installation is run, users have the option to choose which components they want to include.

Console^[11]

A browser interface where you can manage, configure, and control your solutions.

Deployment Console^[11]

The Windows-based user interface that is the primary mechanism for interacting with the Deployment System, its components, and for managing resources.

Deployment Server Agent^[11]

The Altiris software that may be installed on a Deployment Server computer to communicate with Notification Server and provide administrative rights for carrying out tasks.

Deployment Server^[11]

The Altiris software component of a Deployment System that is installed by Deployment Solution and provides imaging, personality migration, software delivery, provisioning, and other real-time tasks that may be bandwidth intensive. A Deployment Server can co-exist with a Notification Server, Package Server, PXE Server, DHCP server, and other components of the Altiris architecture. In a hierarchy, the “primary” Deployment Server is used for creating and replicating tasks to a remote “secondary” Deployment Servers.

Deployment Share^[11]

The Deployment Share is a shared folder on the computer where you install the main Deployment System program files. It is also the default location for storing computer images, personality packages, and other packages created and used in managing computers in a Deployment System.

Deployment System^[11]

The infrastructure created and used to manage computers using Deployment Solution. A Deployment System includes such things as the Deployment Console and Deployment Web

Console, Deployment Server, Deployment Database (Altiris database), PXE Servers, Deployment Share, and managed computers. From within a Deployment System, you can access and use such programs as RapiDeploy, PC Transplant, and the Wise Packager (SetupCapture).

Deployment Web Console^[11]

The Web-based user interface that is the primary mechanism for interacting with the Deployment System and its components, and for managing resources.

DHCP^[11]

Dynamic Host Configuration Protocol. A Transmission Control Protocol/Internet Protocol (TCP/IP) service protocol that offers dynamic leased configuration of host IP addresses and distributes other configuration parameters to eligible network clients. DHCP provides safe, reliable, and simple TCP/IP network configuration, prevents address conflicts, and helps conserve the use of client IP addresses on the network. DHCP uses a client/server model in which the DHCP server maintains centralized management of IP addresses that are used on the network. DHCP-supporting clients can then request and obtain lease of an IP address from a DHCP server as part of their network boot process.

feature^[11]

The smallest installable unit of functionality in an application; it is generally recognizable by end users as a discrete part of the product. Features may include options such as spell checker, a thesaurus, and clip art.

graphical user interface (GUI)^[11]

An interface that represents programs, files, and options with graphical images. These images can include icons, menus, and dialog boxes. The user selects and activates these options by pointing and clicking with a mouse or with the keyboard. A particular GUI item (for example, a scroll bar) works the same way in all applications.

issue^[11]

1. Any event that is not part of the standard operation of a server and that causes, or may cause, an interruption to, or a reduction in, the quality of service.
2. A contact's explicit interaction with Altiris, based on entitlement, to accomplish a desired result related to service or support.

Internet Information Services (IIS) ^[11]

Software services that support web site creation, configuration, and management, along with other Internet functions. IIS includes network news transfer protocol (NNTP), file transfer protocol (FTP), and simple mail transfer protocol (SMTP).

Internet protocol (IP) ^[11]

The protocol within TCP/IP that is used to send data between computers over the Internet. More specifically, this protocol governs the routing of data messages, which are transmitted in smaller components called packets.

Job ^[11]

A group of one or more tasks.

In Deployment Solution, a job contains tasks and the tasks then perform the function needed, such as imaging a computer, migrating a computer's personality, or running a custom script.

PXE Server ^[11]

A server in the Altiris Infrastructure that supplies pre-boot instructions to PXE enabled systems on the network, by monitoring DHCP requests. A PXE server can interact with a Deployment Server to provide a "disk-free" method for booting a computer or server to the network so it can be deployed or managed in a pre-Windows operating system environment. A PXE boot image is used to boot client computers into an "automation" state where activities such as imaging can be performed prior to booting. A PXE Server can co-exist with a DHCP server, Notification Server, and Deployment Server.

PXE ^[11]

Stands for Pre-Boot Execution Environment.

Part of Intel's Wired for Management initiative to improve the manageability of desktop, mobile, and server systems. Use by Altiris to automate many of the functions needed manage a computer or server in a Deployment System. See PXE Server.

solution or Altiris solution ^[11]

A product or products sold by Altiris, which plug into the Altiris Infrastructure to add specific functionality.

structured query language (SQL)^[11]

A database query and programming language widely used for accessing, querying, updating, and managing data in relational database systems. Using SQL, you can retrieve data from a database, create databases and database objects, add data, modify existing data, and perform other, more complex functions. With SQL, you can also change the server configuration, modify database or session settings, and control data and access statements.

Symantec^[11]

Symantec is a global leader in infrastructure software, enabling businesses and consumers to have confidence in a connected world. The company helps customers protect their infrastructure, information, and interactions by delivering software and services that address risks to security, availability, compliance, and performance. Headquartered in Cupertino, California, Symantec has operations in 40 countries.

Task^[11]

A Deployment Solution task is an individual management function that you assign to a computer through the uses of a Deployment Job. For example, deploying an image or running a script. The only way a task can be assigned to a computer is by assigning the job containing the task to the computer. To assign a job to a computer, you must first create the job and then create the tasks associated with that job.

random access memory (RAM)^[8]

Abbreviated RAM. The main system memory in a computer, used for the operating system, applications, and data.

hard drive^[8]

A storage device that uses a set of rotating, magnetically coated disks called platters to store data or programs. In everyday use, the terms hard disk, hard disk drive, and hard drive are used interchangeably because the disk and the drive mechanism are a single unit.

malware^[9]

Malware can be defined as any unintended and unsolicited installation of software on a system without the user knowing or wanting it.

Trojan^[10]

Trojans are malicious pieces of code used to install hacking software on a target system and aid the hacker in gaining and retaining access to that system. Trojans and their counterparts (backdoors and sniffers) are important pieces of the hacker's toolkit.