



Supporting and Extending the IT Infrastructure Library (ITIL)

White Paper

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INTRODUCTION

Reduced budgets and growing demands on IT have forced organizations to find ways to cut costs, increase IT resource productivity, and optimize existing investments.

IT organizations are constantly being asked to do more with less. Reduced budgets and growing demands on IT have forced organizations to find ways to cut costs, increase IT resource productivity, and optimize existing investments. Organizations have several opportunities to reduce costs. An attractive option is through standardization of processes. Companies are constantly developing and redeveloping processes to streamline organizational efficiency. This proves to be costly and unproductive. As a result, IT organizations have turned to the Information Technology Infrastructure Library (ITIL) to provide guidance to their development and implementation of standardized processes. Why re-create the wheel?

As a result of ITIL focus on process, the following document is designed to supply an overview of ITIL, as well as provide extensions to the framework to incorporate the use of applications to support ITIL implementation.

WHAT IS ITIL?

ITIL was conceived in response to increased dependency on IT and the need for process standardization. ITIL is a set of detailed process guidelines, presented in a series of books, containing recommended global best practices, workflow, templates, and terminology, developed by the United Kingdom's Office of Government Commerce (OGC). The ITIL books are the only comprehensive, publicly available guidance for IT management.

ITIL has become a worldwide de facto standard for IT management process implementation and continues to mature and extend its depth and breadth of guidance. In addition to assisting organizations to standardize on process, ITIL also provides definitions of common language to promote a forum of communication and ensure companies use the same terminology.

ITIL PROCESSES

There are 10 core modules that comprise the ITIL framework. They are grouped in two sets of five under Service Support and Service Delivery. Although ITIL is focused on service management, asset management and configuration management provide the foundation to all ITIL processes. It is important to note that all processes depend on continuous interaction with each other.

Service Desk (ITIL Function)

Unlike Service Support and Service Delivery, which are considered processes, the service desk is a function. The Service Desk is designed to be the main contact point between the end user and the IT organization—the service supplier. The service desk is crucial to the whole concept of Service Management and is probably the most important function within the organization. For many end users, the service desk is their only source of interaction with the IT department and is the single view of professionalism offered by the entire IT organization.

For many companies the service desk provides a cohesive front to a siloed IT organization and infrastructure. A siloed approach to service management creates multiple difficulties, including redundant and inefficient use of skilled resources, loss of communication, lengthy resolution times, excessive costs, decreased end-user satisfaction and may adversely affect corporate competitive advantage. The goal of the service desk is to develop a consolidated, team atmosphere to help adopt proactive and structured working practices. It also provides a central contact point for all end-user requests, including basic questions, incidents, problems, and change requests (change requests include procurement requests).

The service desk is comprised of capturing large volumes of calls (employee self-help requests) and caller information, management of Incidents, support maintenance contracts and software licenses, management of asset configuration and relationships, and service level agreement (SLA) fulfillment and entitlement management.

Service Desk Goals

- Provide a unified contact point for end-user communication
- Align people, process and technology to support the business
- Increase end-user satisfaction

To support consolidation of service resources into a service desk function, it is advised to carefully outline the types of services the organization will support and what resources fulfill specific service requirements. Service Management tools should be pre-integrated and provide easy access to user's asset configuration data and associated

assets, locations, contracts, SLAs, and resolution tools including historic asset support activities, knowledge management, remote control, site and server monitoring tools, backup and restoration facilities, and application metering. A pre-integrated, single console should provide technicians with rule-based driven tools for analysis, resolution, and execution to ensure service agreement fulfillment and end-user satisfaction, while eliminating support costs associate with managing integration points between disparate support tools.

ITIL Service Support

Service Support is comprised of five distinct, yet interdependent processes focused on ensuring infrastructure availability and accuracy through execution and tracking of activities.

Configuration Management

Configuration Management is the process of identifying and defining configuration items (CIs) within a logical model of the infrastructure and verifying the completeness and correctness of the Configuration Management Database (CMDB). In addition to identifying CIs, Configuration Management also supports the process of creating logical relationships of assets, including location, configuration, peer-to-peer, parent-child, cost centers, departments, and user associations.

Configuration Management Goals

- Manage all CIs and configurations within the organization and its services
- Provide accurate information on CI configurations to support proactive management of asset availability and help build services designed to support corporate initiatives
- Provide a CMDB foundation for Incident Management, Problem Management, Change Management, and Release Management activities
- Ensure CMDB correctness through continuous verification

Current, reliable, and accurate asset data is the foundation of all service activities. An accurate CMDB allows service organizations to better diagnose and resolve incidents, proactively manage infrastructure problems, and reduce risk of change activities by understanding CI interdependencies. In addition to supporting service activities, the CMDB provides visibility into how assets are utilized and who is using them. Without a firm understanding of asset information, it is near impossible to execute accurate purchasing and reallocation decisions. You need to know what you have before you can make strategic decisions.

There are many opportunities for organizations to gain asset visibility. The most effective way is through the implementation of process and automation. Automation can provide a quick way to discover IT assets and complete CMDB population for discoverable CIs. Native integration between inventory tools and the CMDB is imperative to reduce costs associated with managing integration points and ensure CMDB information is accurate. Although many application vendors contain inventory and CMDB functionality, they are built on separate architectures and repositories causing IT to focus costly resources on managing integration points and multiple databases. Leveraging a single architecture for Inventory and CMDB components creates a trusted source of data and eliminates support overhead. Physical audits can help to ensure data accuracy and management of non-discoverable and consumable assets. Non-discoverable assets should also be managed within the CMDB to ensure complete management of all IT infrastructure resources.

Incident Management

Incident management aims to restore normal service operation as quickly as possible to minimize the adverse impact on business operations. This ensures the highest level of asset availability and reliability to end users. And as a result allows users to continue to work in their known working environment.

Incident Management Goals

- Successfully manage incident (end user or infrastructure issue) lifecycle through analysis, diagnosis, and resolution
- Accurately align resources to carry out completion and resolution of incidents
- Ensure restoration of service to known working state within agreed upon service levels

Incident management is typically known as the management of break/fix activities; however, ITIL includes requests for new or additional services as objects supported by incident management. Given the nature of incidents, they are typically managed through reactionary procedures. Reactionary procedures must be managed through an effective escalation and assignment process to ensure the right IT resources are working toward resolution. Incident tracking tools can greatly increase the speed of resolution through automated capturing and presentation of end user information (user name, location, assets, asset configuration, and historical procedures). Incident management interacts with configuration management to supply technicians with detailed asset information to ensure full understanding of the user's asset environment and performance.

Tools that support the incident management process should be designed to quickly provide technicians with the information they need to analyze, diagnose, and resolve incidents within a single console. The ideal console should provide rule-based integration to analysis and execution tools to automatically recommend tools for technicians to quickly resolve customer issues without leaving the incident record. Incident management tools are typically aligned with knowledge management capabilities to empower technicians to quickly search for common incidents and knowledge documents to quickly apply fixes within allotted times specified by predetermined SLAs.

Implementation of self-help solutions can greatly reduce direct customer interaction with the service desk while providing technical resources for end users to search knowledge base articles, open, update, view status, and close Incident records. Self-help solutions have proved to be an effective means reducing incident support costs and increasing customer satisfaction levels by empowering end users to support themselves.

In many instances, the fix may result in a need to interact with the end user via automated tools or through field service activities. Most service organizations attempt to limit field service activities to decrease service costs, as well as ensure that technicians can continue to resolve other received incidents. With this in mind, automated tools become increasingly more important to execute incident resolution. These execution tools include remote control, client recovery through backup and restoration of PC personality, and software delivery. A standard incident management tool should support a pre-integrated approach to allowing technicians to access execution tools to resolve incidents without leaving the record and automatically capture performed activities within the incident history log.

Problem Management

The problem management process is designed to help organizations determine the underlying root cause of incidents and to proactively identify infrastructure errors before they affect end users. Problem management should benefit end users by ensuring asset availability, while increasing the efficiency of the service organization by proactively removing probable incidents (reduction of redundant calls to the service desk).

The problem management process has both reactive and proactive aspects. The reactive aspect is concerned with solving problems in response to one or more incidents. Proactive problem management is concerned with identifying and solving problems and known errors before incidents occur in the first place.

Problem Management Goals

- Determine root cause of Incidents to ensure asset availability and help reduce the number of contacts to the service desk
- Proactively analyze trends to identify infrastructure errors before they affect end user productivity
- Ensure the optimization of asset effectiveness through proactive management

The problem management process is supported through detailed analysis of infrastructure trends. IT organizations have many options when attempting to understand the cause of incidents. One option is to study current incident records to draw an association of traits. Analyzing incident record categorization, location, asset types, and configuration can help problem managers to view a correlation of faulty configuration items and can help draw a conclusion of the root cause. Although this option is focused primarily on reactionary procedures, it is necessary to understand what is causing incidents to occur. The second option is focused primarily on proactive analysis. Utilizing pre-integrated system monitoring tools comprised of alerts and notifications, problem managers should be supplied with detailed infrastructure data to empower proactive monitoring and trend analysis of infrastructure anomalies. This information should empower problem managers to address infrastructure issues before the end user community is affected. Problem management is typically the lead into the development and execution of infrastructure change through initiation of a request for change (RFC).

Change Management

The change management process is designed to ensure that standardized methods and procedures are used for efficient and prompt handling of changes to minimize the impact of change activities on the environment. Changes are typically initiated as a result of problems, but many changes can come from dynamic business requirements, such as reducing costs or improving services or responding to competitive advances. Change management is supported through detailed analysis of risk and business continuity, change impact, resource requirements, change approvals, and updating the CMDB. Conducting detailed analysis activities will ensure organizations maintain a proper balance between the need for change versus the risk of introducing change into the environment.

Change Management Goals

- Provide a standardized approach to managing infrastructure change
- Understand and minimize risks associated with infrastructure change

- Ensure business continuity and support of corporate initiatives

The change management process is supported by the identification of change needs provided through problem management, a specific corporate initiative or a user request. Change managers, in concert with a change review or advisory board, must analyze the impact of introducing change into the infrastructure and determine if the need outweighs inherent risks. Many organizations do not have adequate visibility into impact ramifications and cannot accurately assess associated risks. To alleviate this difficulty, organizations should analyze asset relationships defined within the CMDB. These relationships supply detailed information about the risks of outage associated with changing infrastructure assets and which service offerings may be affected.

Once a detailed analysis has been conducted and the decision to pursue change has been confirmed and approved, planning must occur. To assist in change execution, companies must leverage change management tools to manage each phase of the change. Change phases are systematic and in many cases are dependent upon the completion of other tasks. Utilizing a tool designed to facilitate change processes and provide rule-based integration to analysis and execution tools helps to reduce change completion time and ensures a documented, successful change. Resource requirements, back-out methods, and change details must be formed to ensure successful implementation of change. Organizations find executing change activities to be the most difficult phase of the change process. In most cases, there is a disconnect between change tracking mechanisms and actual execution tools. For example, organizations have disparate execution tools that do not integrate with the CMDB. This can cause data inaccuracy and integrity issues within the CMDB. The ideal solution should be pre-integrated within a single console to allow technicians to access packaging, delivery, deployment, backup and recovery tools to execute change tasks and blueprints. Execution tools should be pre-integrated with the CMDB to ensure it is accurately updated. Providing access to execution tools should increase the efficiency and accuracy of change activities by enabling technicians to utilize integrated tools.

Release Management

Good resource planning and management are essential to package and distribute a release successfully to the customer. Release management takes a holistic view of an IT service change and ensures that all aspects of a release are considered together. The release management process is a logical extension to executing change activities and can ensure change consistency through quality management, rollout, and version control of software and hardware packages.

Release Management Goals

- Effectively plan and manage the roll out of software and related hardware
- Ensure consistent, accurate, and traceable distribution of packages
- Ensure CMDB accuracy through change management

Release management works closely with the change management and configuration management processes to ensure that the shared CMDB is kept up to date following implemented changes. This requires direct integration between the supporting tools. To manage the release management processes organizations should enlist the support of software packaging tools that can manage tested versions of software and store versions as CIs within a definitive software library (DSL). Building and testing software packages within a cloned environment ensures the success of the package delivery through preflight technology. It also ensures successful packages are stored within the DSL. Using the CMDB to create CI collections, administrators are able to select specific groups of computers to target the delivery of packages based on computer type, OS type, business unit, cost center, location, and user type. Integration between the CMDB, release process tools, and software delivery tools ensures CMDB consistency, standardization and execution of successful release management. Upon the completion of distribution, IT organizations should review the success of release activities through focused reporting and data analysis supported by system monitoring tools. The CMDB must be automatically updated to reflect the new configuration of targeted computers.

In some cases, release management processes are triggered by a customer request. These “one-off” requests should be handled through automated procedures. By developing a software catalog, based on user rights and entitlements, end users can visit a software portal to request and download approved applications. In the event the end user is not entitled to a specific application download, the end user must have the option to open a software request, which is routed for approval. Once the end user has successfully downloaded the application, the solution should automatically decrement the license count within the software license agreement. This helps to ensure customers maintain compliance with SLAs. Automating the software download process eliminates using costly support resources and ensures customer receive the tools they need to be productive without bothering the service desk.

ITIL Service Delivery

ITIL Service Support describes the processes necessary to delivery quality, cost-effective IT services.

Service Level Management

The service level management (SLM) process is responsible for ensuring SLAs and underpinning operational level agreements (OLAs) or contracts are met, and ensuring any adverse impact on service quality are minimized. Service level management is designed to help organizations maintain and improve IT service quality. This occurs through constantly working with customers to develop offered services and monitoring service level metrics to better understand the effectiveness of the service staff in fulfilling agreements.

Service Level Management Goals

- Provide accurate metrics to measure support effectiveness
- Create bi-directional communication to better understand how IT can better support business initiatives
- Manage costs associated with providing specific services

When developing SLAs it is vital that the service organization understands the costs and feasibility of supporting the agreement. IT organizations should consider how the service organization is impacted by the development of new agreements. In considering probable impact, IT organizations should ask these basic fulfillment questions:

- Can the service organization actually achieve the proposed agreement?
- What is the expected impact of the proposed agreement and how will it affect other agreed upon services?
- What resources will need to be supplied to support the proposed agreement?

To understand the feasibility of proposed agreements, organizations should have historic metrics to build accurate assessments. The IT organization should create a baseline of support metrics for existing supplied services to develop comparison and trend analysis opportunities. This will ensure an accurate assessment of the feasibility of agreement fulfillment. Once the agreement has been developed, IT organizations should regularly view metrics to gain visibility into the effectiveness of the support offering. When viewing SLA performance metrics, IT organizations should correlate the costs of support to determine the cost effectiveness of the service. In many cases, the agreement may need to be modified through prioritization efforts to ensure continued support of corporate initiatives at the lowest possible cost.

SLAs should be managed through automated processes that track the fulfillment of supplied services. Using automated tools to enforce SLA fulfillment should actively engage automatic escalation of SLAs that

reach predetermined thresholds, as well as manage service entitlements to ensure customers are qualified to receive support within the specified agreement.

SLAs and OLAs are essentially contracts between the IT department and their customers. It is also important to create SLAs, OLAs, underpinning service agreements with suppliers of infrastructure assets or services. With the introduction and increased utilization of service providers, IT organizations should manage vendor contracts to ensure compliance and continued, acceptable service. Many outsourced services are simply line items within a SLA between the IT department and their customer. Therefore, it is vital to manage these contracts and agreements within a consolidated environment to fully understand the effectiveness of all involved parties. Managing contracts within a consolidated environment also provides an effective means to track and analyze all associated costs throughout the service delivery process.

Availability Management

Availability management's goal is to optimize IT infrastructure capability, its services, and the supporting organization. This results in a cost-effective, sustained level of service availability that enables the business to meet its objectives. Availability management requires an understanding of the reasons why infrastructure failures occur and the time taken to resume service. Incident management and problem management provide a key input to ensure the appropriate corrective actions are progressed.

The measurements and reporting of IT availability ensures that the level of availability delivered meets the SLA. Availability management supports the service level management process in providing measurements and executive dashboards.

IT is what drives business today. The fact is that business profitability and shareholder loyalty is dependent on the high availability of IT resources. IT organizations are tasked with ensuring the highest level of asset availability, asset performance and asset reliability. Without IT assets, companies cannot properly function, losing customers and deterring prospects to competitors. Asset availability helps to ensure end user productivity. Therefore, availability management becomes one of the most important functions of IT organizations.

Availability Management Goals

- Optimize IT infrastructure resources
- Ensures cost effective and sustained level of service
- Availability = user productivity = corporate competitive advantage

The availability management process is supported through the presentation of information and proactive management of IT resources. In some cases proactive management may not be achievable; therefore, organizations must integrate reactive incident management processes to ensure the highest level of asset availability. The use of monitoring tools can greatly increase the IT organization's ability to proactively manage system performance. Availability monitoring tools, including server and site monitoring, and application metering should be implemented with the creation of thresholds to allow automatic tracking of asset performance. If system performance reaches the specified threshold, then notifications must be sent to the incident tracking tool. For best results and to decrease the risk associated with asset outages, monitoring tools must be pre-integrated with Incident tracking tools to allow the automatic opening of Incidents based on asset performance. Once the incident is opened, it should be assigned (without user interaction) to the right resources with correct priorities associated. If the infrastructure error is predominantly application based, application metering solutions will greatly enhance the technician's ability to view baseline application configuration and the changes that occurred to create the application error. This will ensure qualified resources are assigned to address the error and that assets continue to be available for utilization.

Availability is one of the key metrics within SLAs. If key availability metrics are not achieved, then the service organization may incur severe penalties. Availability management is designed to help IT organizations proactively manage infrastructure assets through the alignment of monitoring tools, incident management, web reports, and an integrated service level management solution.

Capacity Management

Capacity management is the proactive management of asset capacity to ensure continual availability in support of business objectives. Capacity management is directly related to the business requirements and is not simply about the performance of the system's components, individually or collectively. It is the process of understanding what facilities IT organizations have to ensure IT hardware and software can continue to support agreed upon services. Capacity management is involved in Incident resolution and problem identification for those difficulties relating to capacity issues.

Capacity Management Goals

- Effectively manage crisis events
- Predict the need for additional capacity in advance
- Describes the process of planning, implementing and running this process

- Intertwined with all Service Support processes, primarily change management

Capacity management is tightly integrated into the analysis function of change management, to establish a possible effect on capacity and performance. This should occur both when changes are proposed and after they are implemented. To better analyze capacity levels, it is suggested to utilize system monitoring tools, including server monitor, site monitor, and application metering solutions. This information will greatly increase the visibility into asset bandwidth or computing performance. Capacity management should pay particular attention to the cumulative effect of changes over a period of time. The negligible effect of single changes can often combine to cause degraded response times, file storage problems, and excess demand for processing capacity.

Financial Management for IT Services

Financial management is responsible for accounting for the costs of providing IT service and for any aspects of recovering these costs from the business units or customers. Depending on the organizational model, costs may be tracked as actual costs or through funny money management. To effectively manage financial responsibilities, IT organizations should utilize capacity management, configuration management, and service level management to identify the true costs of service delivery.

Financial Management for IT Services Goals

- Account for costs associated with service delivery
- Enable better business decision-making strategies
- Plan for budgeting, IT accounting, and chargeback and billing

To effectively track the asset total cost of ownership (TCO), IT organizations must utilize cost tracking tools. The cost tracking approach must manage the entire lifecycle of the asset, including procurement, stock room storage, implementation, support, depreciation, and retirement or reallocation. Not fully understanding all the lifecycle components of delivering asset availability decreases the effectiveness of managing the asset TCO. The cost tracking tool must manage the costs incurred throughout the life of the asset from an asset management perspective, as well as a service and technology management perspective. To enable visibility into asset TCO, the cost tracking tool must integrate with all ITIL processes to manage the accounting of all activities.

IT Service Continuity Management

IT service continuity management is concerned with enabling IT organizations to continue to support agreed services following an interruption to the business. In the event that an infrastructure outage does occur, organizations must have plans in place to restore services. Effective IT service continuity requires proactive measures such as ensuring resilient systems and backup and archiving capabilities to increase recovery options and ensure restoration.

IT Service Continuity Management Goals

- Realignment of resources after crisis
- Ensure continued support of SLAs
- Defined processes to get IT organization back to known working state IT

Service continuity starts with proactively monitoring and servicing infrastructure assets to ensure continued availability. IT organizations should have an accurate infrastructure model stored within the CMDB to provide detailed information about asset relationships and configuration. This information will be useful in assessing risks associated with outages. Organizations should also utilize backup and recovery tools in the event an outage does occur. Remember, not all of your data resides on your servers. Proactively capturing computer personality will allow restoration to the pre-error functional environment and ensure continued support of agreed service(s).

SARBANES-OXLEY AND ITIL

Due to the lack of guidance toward Sarbanes-Oxley compliance, the Big Four auditing firms are recommending the use of the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Risk Management Framework. COSO is strictly aligned with providing guidance for Section 404 (the SEC specifically references the use of the framework in Section 404) to help companies ensure internal control over financial reporting. To fulfill the need for IT guidance in relation to Sarbanes-Oxley and the lack of detailed process alignment, the Control Objectives for Information related to Technologies (COBIT) has been used frequently to provide a framework for IT control. In addition to COSO and COBIT, companies have invested heavily in improving IT operations and processes by implementing processes aligned with the IT Infrastructure Library (ITIL). Altiris IT lifecycle management solutions have been tightly aligned to fulfill all Service Delivery and Service Support processes within ITIL. Given the depth and breadth of Altiris IT lifecycle management solutions, Altiris is the logical choice to help align IT resources to best practices as a foundational step toward corporate Sarbanes-Oxley compliance.

CONCLUSION

Many service and asset management tool vendors supply applications that support the implementation of ITIL processes lack the architecture and ability to help customers act upon the delivery/execution of ITIL tasks. There are three tool domains associated with providing and supporting IT services:

- **Process Management Tools**—Process management tools refer to the management and tracking of status, assignments, escalations, historical work conducted, and tasks associated with completing work.
- **Analysis Tools**—Analysis tools refer to presentation of relevant data enabling a detailed understanding of metrics and reports to assist in accurate completion of tasks and enforce better business decision-making strategies.
- **Execution Tools**—Execution tools provide the opportunity for individuals responsible for task completion to utilize automation solutions to execute and complete assigned tasks.

Altiris solutions provide customers with ITIL aligned processes, tools to execute IT support activities, and presentation of relevant data to help proactively strategize, allocate resources and make accurate decisions.

The foundation of a successful implementation of ITIL processes starts with knowing what assets you have and what they are doing for you. Building asset relationships enables the service department to develop standard and repeatable services that encompass collections of assets. To support offered services, it is vital to have accurate asset information. This allows the service organization to better detect, diagnose, and resolve infrastructure errors. Associating service activities with assets allows IT organizations to better understand true IT asset TCO. The utilization of process management tools, analysis tools, and execution tools will help organizations to align processes to ITIL and empower successful management of IT resources throughout the IT lifecycle.

For more information, visit www.altiris.com.

Altiris Solutions Mapping to ITIL Processes

The appendix demonstrates how Altiris solutions support the implementation and execution of ITIL processes in Service Support and Service Delivery. Altiris solutions are unique within the service management market in that each application is built on a single architecture leveraging a single CMDB and user console. Altiris is able to provide industry-leading integration as a result of the native integration of all Altiris solutions. Altiris provides solutions to manage process, analysis, and execution of resulting activities encompassed in service management.

Definition of Tool Categories

- **Process Management Tools**—Process management tools refer to the management and tracking of status, assignments, escalations, historical work conducted, and tasks associated with completing work.
- **Analysis Tools**—Analysis tools refer to presentation of relevant data enabling a detailed understanding of metrics and reports to assist in accurate completion of tasks and enforce better business decision-making strategies.
- **Execution Tools**— Execution tools provide the opportunity for individuals responsible for task completion to utilize automation solutions to execute and complete assigned tasks.

ITIL Process	Altiris Solution	Altiris Fulfillment
Service Desk (Function)		
Service Desk	Process Management Tools	
	Altiris Helpdesk Solution	Helpdesk Solution provides a single console to capture caller (call, e-mail, fax, self-help through the Web) information and manage the customer's request lifecycle. Helpdesk Solution provides pre-integrated access to detailed configuration information. This allows the service desk technician to quickly gather information pertinent to analyzing, diagnosing, and resolving/fulfilling the customer's issue or request. Helpdesk Smart Tasks provide rule-based analysis and execution tools to quickly resolve customer issues without leaving the record. Helpdesk Smart Tasks provide these rule-based resolution tools: remote control access through Carbon Copy Solution, software distribution through Deployment Solution, analyze and complete self-healing activities through Site Monitor Solution and Monitor Solution verify application environment health through Application Metering Solution.
Service Support		
Configuration Management	Process Management / Analysis / Execution Tools	
	Altiris Architecture— Altiris Notification Server	The Altiris architecture provides a free CMDB with any Altiris solution purchase. The Altiris architecture automatically manages all discoverable configuration items (CIs) within the resource model.
	Altiris Inventory Solution	Inventory Solution automates the process of creating a CMDB. It provides an accurate and thorough

		inventory of desktops, servers, notebooks, and handheld devices with heterogeneous platform support.
	Altiris Asset Control Solution	Adding Asset Control Solution provides the industry's most complete CMDB, managing all discoverable and non-discoverable CIs and their relationships to other CIs hierarchically, including users, owners, locations, departments, cost centers, and business units. Asset Control Solution provides numerous out-of-box CI types, as well as allows organizations to quickly create new CI types to be managed. Populated by Inventory Solution for discoverable CIs, Asset Control Solution creates a logical model of the infrastructure and the configuration of assets. The combination of Asset Control Solution and Inventory Solution creates the foundation of all ITIL processes.
	Altiris Web Reports	Embedded Altiris Web Reports provide detailed query capabilities allowing users to view the CI model dynamically. Web Reports allow users to modify asset and CI details within the query screen with the click of a mouse to open incidents, change asset location, assign a new user or owner, dispose of the CI, or edit contract details.
Incident Management	Process Management Tools	
	Helpdesk Solution	Helpdesk Solution is an incident management system that allows IT organizations to deliver a higher level of service to their customers, while reducing the cost of operations. Helpdesk Solution ensures that your employees' needs are met quickly and efficiently, and promotes a methodical approach to solving incidents.

		<p>Helpdesk Solution provides a single console to capture caller (call, e-mail, fax, self-help through the Web) information and manage Incidents received by the service desk.</p> <p>Helpdesk Solution provides pre-integrated access to detailed configuration information. This allows the service desk technician to quickly gather information pertinent to analyzing, diagnosing, and resolving/fulfilling Incidents.</p> <p>Helpdesk Smart Tasks provide rule-based analysis and execution tool to quickly resolve incidents without leaving the record. Helpdesk Smart Tasks provide these rule-based resolution tools: remote control access through Carbon Copy Solution, software distribution through Deployment Solution, analyze and complete self-healing activities through Site Monitor Solution and Monitor Solution, and verify application environment health through Application Metering Solution.</p> <p>For example, a technician receives an incident pertaining to a lost file. Through categorization and rule-based analysis, Helpdesk Solution can automatically suggest Altiris Recovery Solution to resolve the customer's Incident. Clicking on the Helpdesk Smart Task link within the incident record takes the technician to Altiris Recovery Solution where the targeted asset has already been defined. Once the technician completes the recovery activity and returns to the incident record, the activity is automatically recorded within the incident history log, further increasing automation and reducing human errors.</p>
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Analysis Tools	
Inventory Solution	Inventory Solution automates the process of creating a CMDB. It provides an accurate and thorough inventory of desktops, servers, notebooks, and handheld devices. This information is designed to supply baseline information of which relationships and detailed asset information can be understood and utilized to help diagnose and resolve Incidents.
Asset Control Solution	Asset Control Solution is Altiris' version of the CMDB. Populated by Inventory Solution and extended to non-discoverable assets, Asset Control Solution creates a logical model of the infrastructure and the configuration of assets. Helpdesk Solution is designed to supply native access to Asset Control Solution providing detailed information about the user's asset environment to enable efficient incident analysis, diagnosis, and resolution.
Altiris Web Administrator for Windows	Web Administrator for Windows is designed to support incident analysis through presentation of detailed Windows-based asset information and is presented by Helpdesk Smart Tasks within the incident record.
Altiris Monitor Solution	Monitor Solution is designed to help organizations monitor the state of network devices and servers to allow technicians to better analyze and diagnose Incidents. Monitor Solution is presented by Helpdesk Smart Tasks within the incident record.
Web Reports	Web Reports allow technicians to analyze metrics associated with Incident closure rates, incidents per CI type, SLA alignment, and cost

		analysis.
	Execution Tools	
	Altiris Deployment Solution	Deployment Solution can help to execute incident resolution through policy-based software distribution for applications and other software change packages. Executing a change to the software environment is coordinated Helpdesk Solution's change management to update the CMDB. Deployment Solution can also be used to prevent incidents through self-healing activities.
	Altiris Application Management Solution	Application Management Solution provides a proactive approach to incident management, as well as detailed analysis capabilities. Application Management Solution can schedule application health checkups, and automatically repair missing or change files and/or registry values. Detailed analysis can be achieved through the presentation of baseline configuration compared to latest application changes.
	Altiris Carbon Copy Solution	Carbon Copy Solution provides remote control access from a Web browser to help resolve incidents through an interactive process.
	Recovery Solution	Recovery Solution can help resolve incidents by allowing technicians to quickly restore PC personality to the previous known working state. Recovery Solution is presented by Helpdesk Smart Tasks within the incident record.
Problem Management	Process Tools	
	Helpdesk Solution	Helpdesk Solution provides the tracking mechanism to manage research and activities associated with identifying the root cause of

		<p>incidents. Within Helpdesk Solution, problem records can be proactively opened and assigned through Altiris Monitor Solution when specified thresholds are met. Helpdesk Solution's problem management component manages incidents and problems separately and allows the linking of records to help the problem tracking and resolution process. Leveraging Helpdesk Smart Tasks, Helpdesk Solution provides technicians with rule-based execution and resolution tools.</p>
Analysis Tools		
	Inventory Solution	<p>Inventory Solution automatically gathers detailed asset information to populate the CMDB. Understanding the infrastructure's configuration model is useful when attempting to analyze the root cause of incidents.</p>
	Asset Control Solution	<p>Asset Control Solution supplies problem managers with detailed asset information, including relationships, locations, and configuration. This detailed asset information is designed to empower problem managers to actively diagnose and resolve infrastructure errors by understanding the asset environment.</p>
	Application Management Solution	<p>Application Management Solution provides a proactive management of problems, as well as detailed analysis capabilities. Application Management Solution can schedule application health checkups, and automatically repair missing or change files and/or registry values. Detailed analysis can be achieved through the presentation of baseline application configuration compared to current configuration.</p>
	Web Administrator	<p>Web Administrator for Windows is</p>

	for Windows	designed to support problem analysis through presentation of detailed Windows-based asset information.
	Monitor Solution	Monitor Solution is designed to help organizations monitor the state of network devices and servers to allow problem managers to better analyze and diagnose Incidents. Site Monitor Solution can also proactively manage infrastructure anomalies by automatically opening incident tickets based on thresholds.
	Web Reports	Web Reports allow problem managers to analyze detailed, configurable metrics associated with infrastructure data. Using Web Reports, problem managers are able to detect problematic CIs before they negatively impact users.
Execution Tools		
	Deployment Solution	Deployment Solution can help to execute Problem resolution through policy-based software distribution for applications and other software change packages. Executing a change to the software environment should be coordinated with Change Management to update the Configuration Management Database. Software Delivery Solution can also be used to proactively manage problems through self-healing activities.
	Application Management Solution	Application Management Solution enables proactive Problem Management, as well as detailed analysis capabilities. Application Management Solution can schedule application health checkups, and automatically repair missing or change files and/or registry values.
	Carbon Copy Solution	Carbon Copy Solution provides remote control access from a Web browser to

		help diagnose and resolve problems through an interactive process.
Change Management	Process Tools	
	Helpdesk Solution	Helpdesk Solution's Change Management component is designed to alert change board members of RFCs, enlist approvals, and manage each phase associated with completing change activities. Helpdesk Smart Tasks are a vital component of supplying integration to Altiris execution tools to ensure successful analysis and completion of assigned changes.
	Analysis Tools	
	Inventory Solution	Inventory Solution automatically gathers detailed asset information to populate the CMDB. This information is useful when attempting to understand the dependencies of specified assets.
	Asset Control Solution	Asset Control Solution supplies change managers and change boards the opportunity to understand the risk associated with the request for change (RFC). By understanding asset dependencies and the relationships of assets within the proposed change, change managers can predetermine the risk associated and the impact of the change on the environment. Upon completion of the change, Asset Control Solution automatically associates the changes to the CI record providing complete history of all activities related to the CI.
Web Administrator for Windows	Web Administrator for Windows is designed to supply change managers with detailed information about Windows-based devices. This information can be used to analyze	

		risk associated with change activities.
	Monitor Solution	Monitor Solution is designed to help organizations monitor the state of network devices and servers to allow change managers to better make change approval decisions through analysis.
	Altiris Application Metering Solution	Application Metering Solution allows change managers to understand how applications are being used. This can be useful when determining the affects of application change activities.
	Web Reports	Web Reports provide detailed metrics for pre and post change analysis, including change success and associated costs.
Execution Tools		
	Altiris Software Delivery Solution	Software Delivery Solution can help to execute change tasks through policy-based software distribution for applications and other software change packages. The delivery of software typically will be managed and executed through the release management process to ensure quality, tracking, and management of versions within the Definitive Software Library (DSL).
	Altiris Client Management Suite	Client Management Suite can provide opportunities to execute change tasks associated with client updates and restoration, including OS deployment and migration, software deployment, application self-healing, rollback, and remote control. Each of the aforementioned solutions are presented as Smart Tasks within the change record.
	Wise Package Studio	As a component of release management, Wise Package Studio

		allows administrators to develop standard software packages, manage packaged versions within the DSL, test package delivery with preflight technology, and execute delivery to selected groups of computers.
Release Management	Process Tools	
	Helpdesk Solution	Helpdesk Solution can be used to assign and track work items to help manage tasks associated with building software packages, testing, and delivery.
	Analysis Tools	
	Inventory Solution	Inventory Solution automatically gathers detailed asset information to populate Asset Control Solution (CMDB).
	Asset Control Solution	Asset Control Solution manages the individual software assets (configuration items) that can supply the contents of a software package. As software package are assembled, Asset Control Solution can manage package versions within a DSL.
	Web Reports	Web Reports allow IT resources to view detailed information associated with the release of software packages.
	Execution Tools	
Wise Package Studio	As a component of release management, Wise Package Studio allows administrators to develop standard software packages, manage packaged versions within the DSL, test package delivery with preflight technology, and execute delivery to selected groups of computers.	
Service Delivery		
Service Level	Process Tools	

Management	Helpdesk Solution	Helpdesk Solution enables the tracking and monitoring of SLAs against predetermined values to ensure organizations continue to support service requirements. As a component of contract management, SLAs are easily defined to allow management of entitlements and ensure service levels are met through performance monitoring and escalations. Altiris' consolidated service level management approach allows the "behind the scenes" management of service levels through continued interaction with Helpdesk Solution.
	Analysis Tools	
	Altiris Contract Management Solution	Contract Management Solution manages SLAs and OLAs to ensure agreed services are fulfilled and that all engaged parties comply with their service requirements. This is achieved through the implementation of service thresholds for escalations and entitlement triggered and managed through Helpdesk Solution. Contract Management Solution provides detailed metrics to help IT managers analyze the productivity and costs associated with service delivery.
	Web Reports	Web Reports supply IT managers with detailed key performance indicators about the fulfillment of service activities.
	Execution Tools	
	Once service level management information is understood, IT managers can decide to act on analyzed metrics to better allocate resources to new initiatives or cost reduction and service improvement activities.	
Availability Management	Process Tools	
	Availability management is the collection of all Service	

	Support process to ensure asset availability.	
	Analysis Tools	
	Helpdesk Solution	Helpdesk solution can reactively and proactively manage incidents and problems reported to the service desk. Received issues will be managed through tracking of incident and problem records to ensure the quickest possible resolution.
	Monitor Solution	Monitor Solution is designed to help organizations monitor the state of network devices and services and can automatically open tasks within Helpdesk Solution based on predefined thresholds.
	Application Metering Solution	Application Metering Solution provides information about changes that may have occurred within the application environment and can automatically open tasks within Helpdesk Solution based on predefined thresholds.
	Web Reports	Web Reports provides detailed information about the performance of infrastructure assets or CIs allowing managers visibility into infrastructure anomalies.
	Execution Tools	
	Availability management is the analysis of key metrics supported by service support processes. Based on data analysis, execution tools may be invoked as part of service support processes.	
Capacity Management	Process Tools	
	Helpdesk Solution	Helpdesk Solution captures infrastructure anomalies detected by Altiris system monitoring tools. These triggers can automatically assign work to technicians to determine if specified assets contain the necessary capacity to fulfill

	service requirements.
Analysis Tools	
Inventory Solution	Inventory Solution automatically gathers detailed asset information to populate Asset Control Solution (CMDB).
Asset Control Solution	Asset Control Solution provides detailed asset information designed to supply visibility into the current state of asset capacity. This information is useful when organizations are planning to extend service offerings or are simply checking the state of the IT asset environment.
Monitor Solution	Monitor Solution is designed to provide detailed network bandwidth and capacity and server performance information to allow IT organizations to make better decisions about the asset's ability to fulfill service requirements.
Application Metering Solution	Application Metering Solution is designed to provide detailed information about the application environment. This information is useful when analyzing the feasibility of continued application availability and performance.
Web Reports	Web Reports can provide IT organizations with detailed performance metrics associated with the performance of IT resources.
Execution Tools	
Capacity management is strictly aligned with analysis of key performance and bandwidth metrics to better understand if the deployed IT environment can support the current workload. If it is determined that the deployed IT environment is insufficient, then IT organizations will typically rectify the situation by utilizing the change management and release	

	management process to facilitate execution of increasing the capacity or realigning IT resources.	
Financial Management	Process Tools	
	Contract Management Solution	Contract Management Solution helps organizations to accurately track SLAs, OLAs, and vendor contracts, including warranties and leasing information. The management of detailed contract information will allow organizations to capture costs associated with provisioning, implementation, support, depreciation, and retirement or reallocation.
	Analysis Tools	
	TCO Management Solution	TCO Management Solution manages all costs associated with asset utilization and support. TCO Management Solution captures all costs incurred and managed through the utilization of Altiris solutions.
	Web Reports	Web Reports can provide detailed information about the costs associated with providing IT resources. Drill-down capabilities allow IT managers to identify excessive cost and promote better business decision-making strategies.
	Execution Tools	
	Financial management is the tracking and analysis of service delivery costs. This information will drive activities to streamline costs and is executed through the use of service support processes to rectify any excess costs.	
IT Service Continuity Management	Process Tools	
	Helpdesk Solution	Helpdesk Solution focuses on the assignment and tracking of work tasks to enable IT organizations to continue to support agreed services following and interruption to the business. Incident records are

		automatically opened by Altiris system monitoring tools to ensure tasks are assigned to the right skilled resources for incident identification and resolution to help minimize the damage of infrastructure errors.
Analysis Tools		
	Altiris Site Monitor Solution	Site Monitor Solution is designed to allow organizations to view network performance to better understand how to restore service and if restoration has been successful.
	Monitor Solution	Monitor Solution is designed to allow organizations to view server performance to better understand how to restore service and if restoration has been successful.
	Web Reports	Web Reports can supply detailed information about activities, costs, and system performance to analyze the productivity and accuracy of restoration activities.
	Application Metering Solution	Application Metering Solution allows organizations to understand the application environment by providing application baseline information compared to the current state.
Execution Tools		
	Recovery Solution	Depending on the error type, Altiris provides solutions to help organizations restore service operations. Recovery Solution is designed to help organizations achieve service restoration by uploading the functional PC personality and restoring a functional server personality.