

OpalisRobot - Automating Administrative Tasks

White Paper

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Overview

Objective

This document serves to provide a comprehensive look at how OpalisRobot helps administrators automate routine tasks. It will examine some common administrative chores and will focus on how to apply the task automation capabilities of OpalisRobot to help accomplish them.

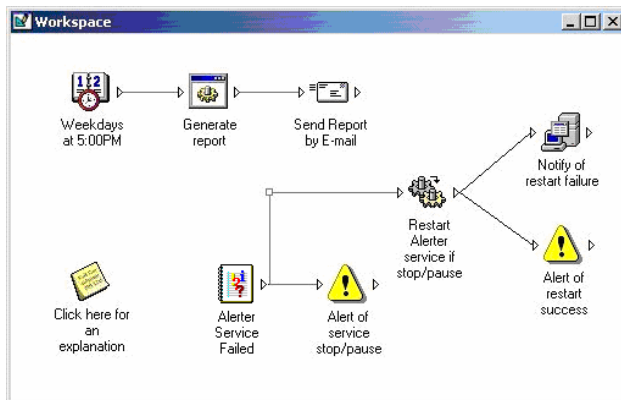
Description

OpalisRobot is a task automation solution. Its unique workflow environment and powerful objects are designed for low-level integration with heterogeneous IT management systems to automate IT operations. OpalisRobot compliments any infrastructure to improve the availability and performance of business critical operations.

Architecture and Key Concepts

OpalisRobot is an integration and automation platform deployed in a client/server solution. The client is a graphical environment used to configure the workflows that are run by the OpalisRobot service. The service is a robust engine that can carry out many different actions simultaneously. It can be found listed with the other services running on your system.

Using the OpalisRobot revolves around building workflows using the client. There are three categories of objects used in the creation of a workflow: Events, Tasks, and Links. An Event is triggered based on a condition that you specify. A Task is the action that is taken and, once completed, triggers the next Task in the chain. Links are the connections and provide the means to determine which Task is the next to execute.



The example above shows one of the windows in the OpalisRobot client. This is the Workspace window where workflows are configured to be run by the OpalisRobot server. The example shows a workflow scheduled to automatically launch the creation of a report and send it to a user by e-mail at 5:00PM each weekday. There is also a second workflow that is triggered when a service stops. The workflow restarts it automatically and sends the appropriate notification of the results.

Automating Administrative Tasks

Being accountable for the overall health and productivity of a corporate IT infrastructure can be a very demanding job. The difficulty of managing a network and all the common daily processes is why network administrators want to automate their tasks.

OpalisRobot not only helps improve the productivity of your business systems, but also improves the productivity of your corporate workforce. It helps information technology professionals save time by taking care of routine administrative chores and automatically putting out fires as they occur. OpalisRobot also reduces the amount of management attention required to support operational directives by automatically carrying out management initiatives on your corporate IT infrastructure.

Here are some examples of nightly, weekly, and monthly responsibilities of network administrators and how OpalisRobot helps to accomplish them:

Nightly

- Make sure backup runs on schedule and verify its success
- Perform any necessary server, service or application restarts
- Clean unwanted files from your servers (such as temp files)

Weekly

- Schedule batch files or utilities to perform maintenance
- Examine performance data for trend analysis
- Update web sites with new content

Monthly

- Examine performance data for capacity planning
- Rebuild machines as required

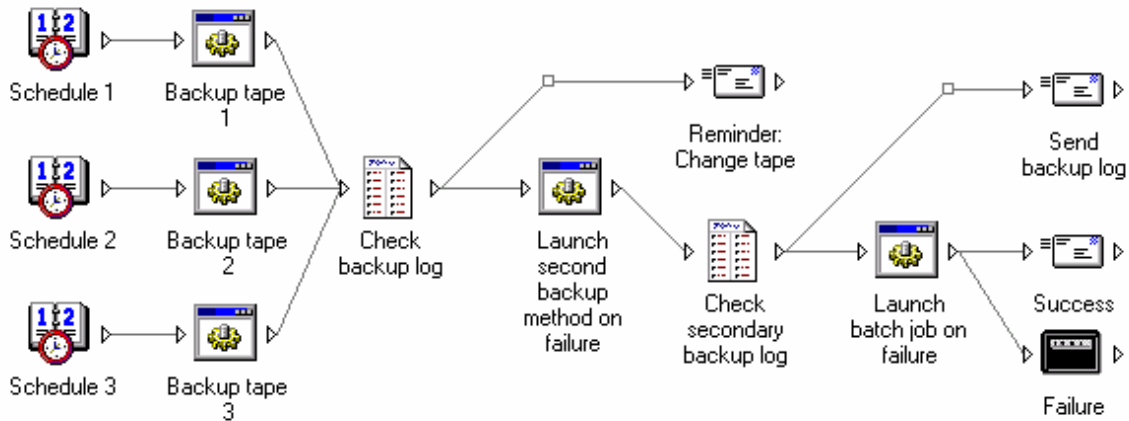
Nightly

Make Sure Backup Runs on Schedule and Verify Its Success

From ruined hard drives to malicious viruses, there are so many reasons for adhering to a strict agenda for server backups. Staying on schedule becomes more of a ritual because failing to do so can mean big trouble when data needs to be recovered. Verifying that your backups were created successfully is also just as important.

Administrators can use OpalisRobot to help with this task. They can create schedules to reflect their backup strategies to ensure that everything gets done on time. Workflows can be created to be simple, such as reminding the administrator to backup a server or automatically launching a backup program. They can also be more advanced and designed to automate an entire backup procedure that includes scheduling, preparation, backup, and verification.

Here is an example that schedules server backups and verifies their success:



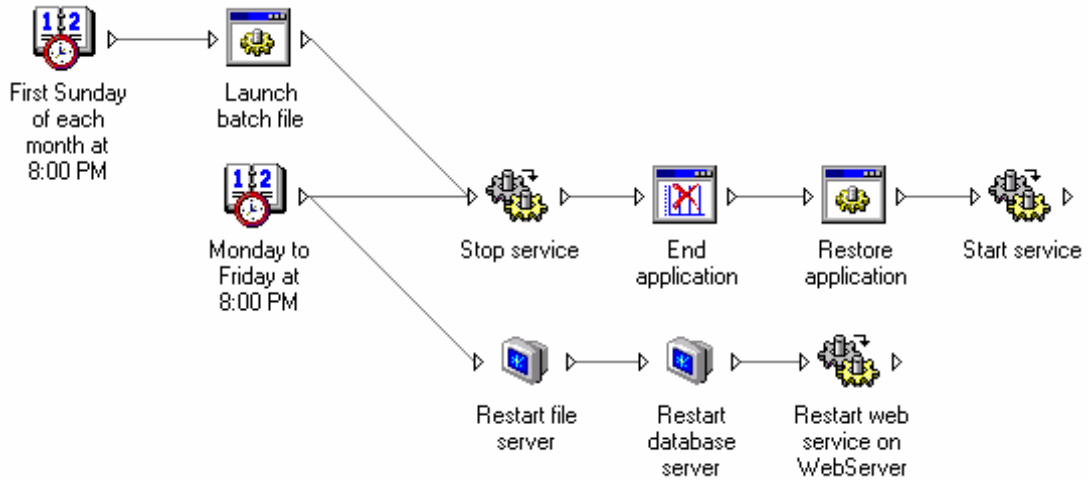
The backup procedure is set on three different schedules, one for each specific backup process. OpalisRobot will launch each scheduled backup and will automatically check the backup log for errors.

If there are no errors with the backup, a reminder is sent by e-mail to the administrator to change the backup tape for the next day. If there are errors in the backup log, OpalisRobot will launch a default secondary backup method and check its log for problems.

If the second backup completes without any errors, both backup logs are sent by e-mail to notify the administrator that a tape change is required. If there are any errors in the log of the second backup, OpalisRobot will automatically launch a batch job to copy all critical files to a backup server. OpalisRobot will then send an e-mail or page to the administrator depending on success or failure of the batch file respectively.

Perform any Necessary Server, Service or Application Restarts

It is sometimes necessary for administrators to ensure that servers, services, or applications are restarted during non-business hours and prepared for the next business day. This is a simple directive, but one that can be tedious and usually requires that the administrator stay behind. OpalisRobot can do the job for you by allowing you to schedule all required server, service, and application restarts.



This workflow has a schedule that triggers it each day from Monday to Friday at 8:00 PM. It stops a service on the machine, restarts an application, and then restarts the service. It also automatically restarts a file server, restarts a database server, and restarts a service on a web server.

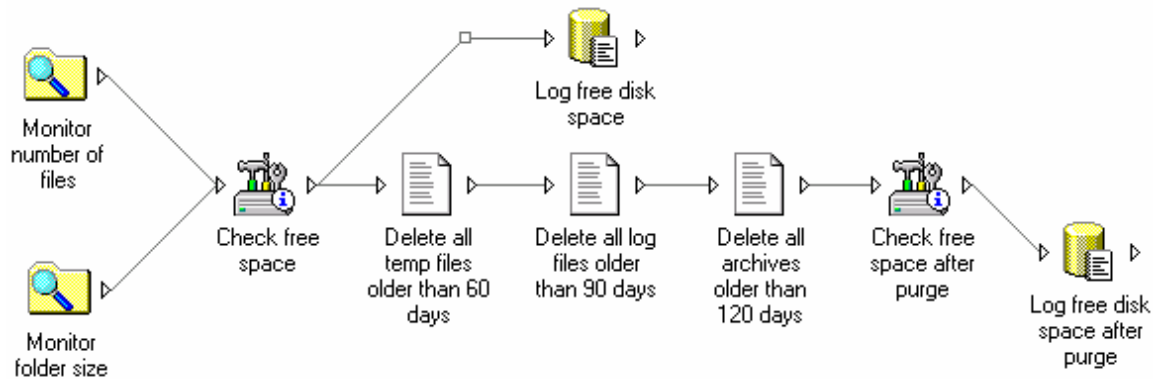
On the first Sunday of each month at 8:00 PM, this workflow will launch a batch file before running the part of the workflow that stops a service on the machine, restarts an application, and then restarts the service.

Clean Unwanted Files from your Servers

At the end of any business day, there can be a large amount of unnecessary or unwanted files on your servers. Many of these files can be identified by the folder that they are in or by their file name or file extension. Sometimes it requires simply purging files in a specific folder when they get too big or managing the quantity of files in a particular folder. Whatever the objective, OpalisRobot can assist you in maintaining a clean file system.

Administrators can use OpalisRobot to automatically search for unwanted files and remove them from your servers. You can also use the file and folder monitoring features to manage your file system and automatically launch file maintenance workflows.

Here is an example that cleans unwanted files from your servers:



This workflow monitors a folder and triggers when either the number of files reaches a certain threshold or when the size of the folder exceeds a certain level. When this occurs, the workflow will check the amount of free disk space on that drive.

If the amount of free space is deemed to be adequate, it logs the amount of free space to a database. If the workflow determines that there is an inadequate amount of free space, it will delete all temporary files that are older than 60 days, delete all log files older than 90 days, and delete all archives older than 120 days. The workflow will then check the amount of free space again after the purge is complete and log the amount to a database.

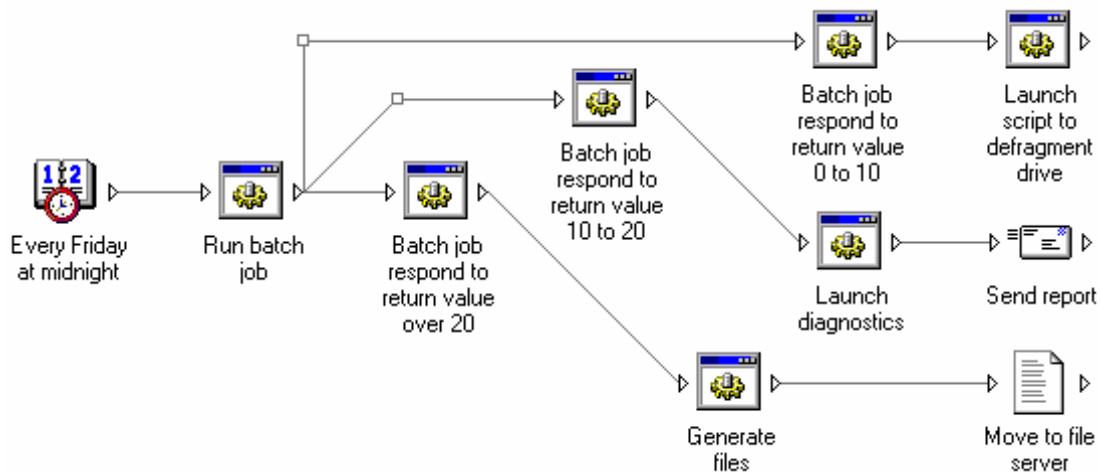
Weekly

Schedule Batch Files or Utilities to Perform Maintenance

Preserving the health of your systems requires both a stringent monitoring policy coupled with routine server maintenance. From diagnostic tools to disk defragmenter utilities, administrators will need to schedule batch files, commands, scripts, applications, etc. to help diagnose potential problems and to perform regular server maintenance.

OpalisRobot can do the work for you by automating the maintenance process. You can use its conditional logic features to empower your workflows with decision-making capabilities and pass dynamically changing data from one task to another. When a problem is detected, OpalisRobot will determine if a specific maintenance procedure is required and will automate it.

Here is an example that schedules some server maintenance tasks:



A batch job is scheduled to launch every Friday at midnight. Based on the results of the job, a different maintenance process will be required on the server.

If the batch job returns a value between zero and ten, it launches a script that will automatically defragment the drive.

If the batch job returns a value between ten and twenty, it launches a diagnostics utility that generates a report. The report is then sent to an administrator via e-mail.

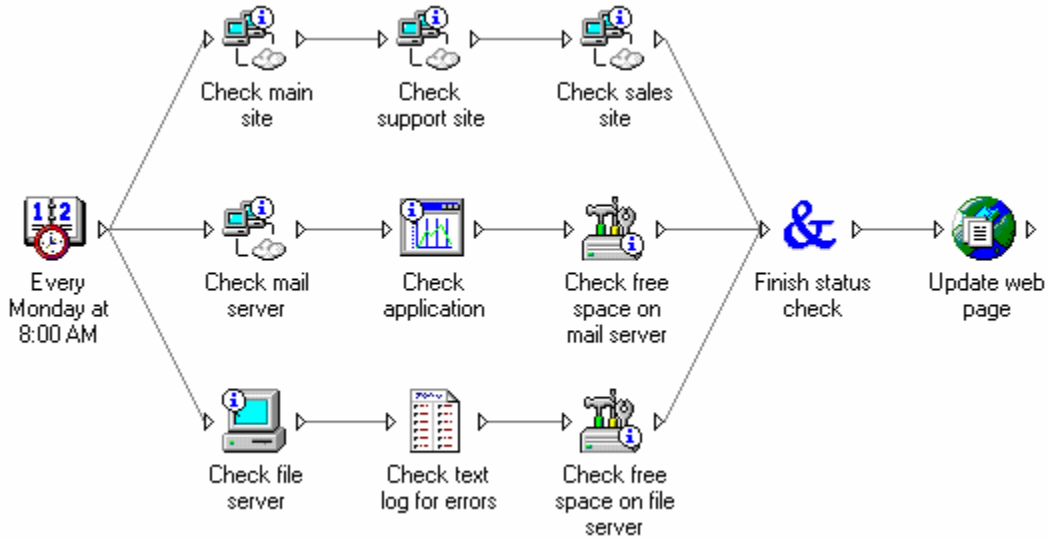
If the batch job returns a value that is greater than twenty, it launches an application to generate some files and moves them to a file server.

Update Web Sites with New Content

Administrators will sometimes need to update web sites with new content, such as internal web pages that display server or network information. This requires gathering the information, obtaining the web pages, updating the web pages, and posting them back to the web server.

OpalisRobot can automatically connect to a web server, send HTML commands to request for a web page, update the page once it is received, and send the page back to the server. Administrators can also use OpalisRobot objects to automatically create or modify web pages.

Here is an example:



Every Monday at 8:00 AM, a series of objects are triggered to gather information such as the status of servers, the number of errors in a text log, the amount of free space on computers, and the status of an application. When all of the data has been gathered, it is passed to an object named 'Update web page' that will use a web page template to update a web page on an internal web server. Every morning the administrators can open up this page and know the current status of their systems.

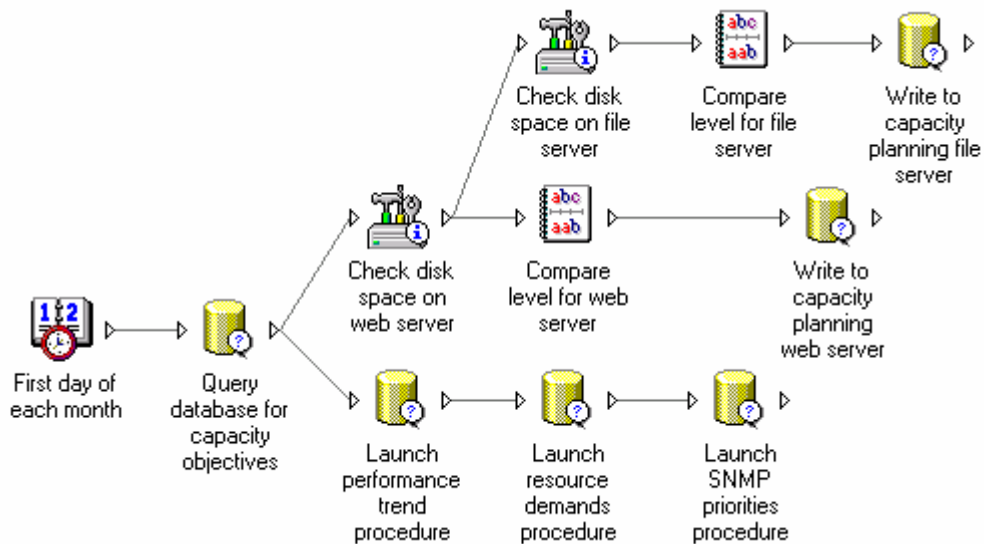
Monthly

Examine Performance Data for Capacity Planning

Capacity planning is the determination of future server needs based on the data collected through performance and trend analysis. Identifying future server needs is important because you want to ensure that your servers have room for growth and that you are capable of determining when additional resources are required.

It is often difficult to determine what resources are required ahead of time and when they will be needed. This is because there are so many variables involved and because the needs of your server can often be quite dynamic. Using established performance baselines and analyzing performance trends makes it easier to determine exactly what is required of your server resources.

Here is an example that is designed to help examine performance data for capacity planning:



On the first day of each month, this workflow queries a database for the capacity planning objectives set for that month. It will then launch a series of stored procedures to collect data from different tables and replicate it to another database that will be analyzed for capacity planning. This data is collected on an ongoing basis by OpalisRobot workflows designed for performance trend analysis and detecting SNMP traps.

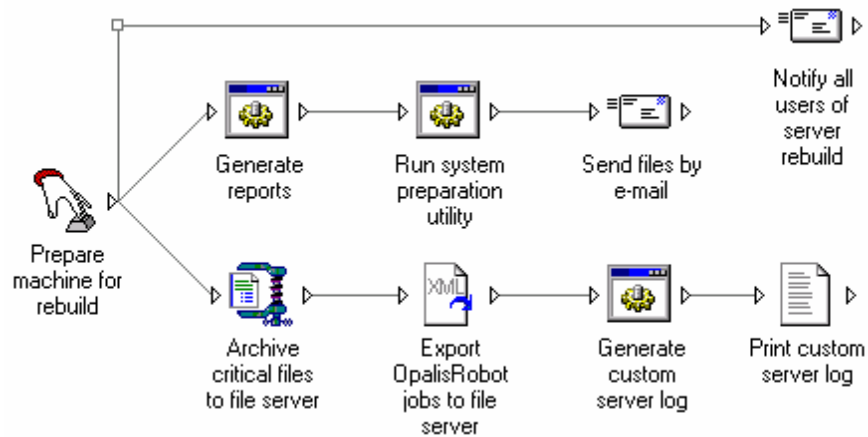
The workflow will also check the disk space on a web server and on a file server and compare the amount of free space with the threshold set for that month. This data is then written to the table used for capacity planning if the amount of free space is deemed to be too low.

Rebuild Machines as Required

Sometimes a server needs to be rebuilt for it to run more efficiently or because it needs a complete upgrade. When an administrator determines that a rebuild is necessary, preparations are made to ensure that the revamped server will continue to function and serve its users properly.

Administrators can use OpalisRobot to help with the process by creating workflows that will automatically prepare the machine for the rebuild. Workflows can perform tasks such as archiving critical files to a remote machine, launch reporting utilities to collect application information, print out copies of important logs, and notify all known users of the rebuild. OpalisRobot also provides import/export features to allow all OpalisRobot workflows to be exported to an XML file so that they can be recovered after the machine is rebuilt.

Here is an example that prepares a machine for a rebuild:



When an administrator is ready to rebuild a machine, this workflow can be triggered on it to automatically notify all users by e-mail. The workflow generates reports, runs a system preparation utility and sends the files to the administrator by e-mail. The workflow also archives all critical files to a file server, exports all OpalisRobot workflows to an XML file, launches a utility to generate a custom server log and automatically prints the log using a network printer.

Whether your initiatives are focused on automating nightly, weekly, or monthly administrative tasks, OpalisRobot helps you spend less time on tedious administrative chores and more time on successfully managing your business systems.



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