

UPM

Unified Performance Management Solution

White Paper

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Contents

Preface	1
Introduction.....	2
Overview	2
Components.....	2
Frontend	2
UPM Center	2
Architecture	2
Technical characteristics	3
Insight into business network.....	3
Real-time performance monitor.....	3
Fast troubleshooting.....	3
Deployment.....	3
Features	4
Intelligently outline network communication	4
Centrally monitor businesses.....	4
Business group monitor support	4
Business global performance monitor support	4
Network performance monitor support.....	4
Probe traffic monitor support.....	4
Probe index monitor support	4
Business index analysis support.....	4
Business performance analysis support	4
Business history analysis support	4
Application multi-segment analysis support	5
Probe traffic analysis support	5
Packet download support	5
Configuration forwarding support.....	5
Radius authentication support	5
Alarm notification support.....	5
Schedulable reports	5
Load balancing device traffic monitoring support.....	5
Session tracking support.....	5
SRv6 session path grooming support	5
ARP log analysis support.....	5

Application Advantages.....	6
Insight into business - Business oriented proactive analysis.....	6
Performance monitoring - Identify problems within one minute.....	6
Troubleshooting - Locating problem spots within five minutes.....	6

Preface

Who should read this paper

This guide is written for:

- System Engineer
- Technical Support Engineer

Introduction

Colasoft UPM is a business-oriented unified performance management solution provided by Colasoft.

Overview

As business activities have never been so dependent on the network, it is a trend to integrate core businesses with network system. Since core businesses and network system supporting core businesses both are developing fast and huge, it is complex to manage businesses and network system. Meanwhile, the operation and maintenance of network system supporting core business system has become a vital work, including network infrastructure, related application systems, databases, and security systems’ operation and maintenance. The operation and maintenance of network systems will eventually fully integrate core business activities.

As a network business-oriented performance management system, Colasoft UPM combines network operation and maintenance with service performances, so as to help users promote business oriented, proactive network operational capability, ensure the running of businesses, and enhance troubleshooting efficiency.

Components

Colasoft UPM consists of nChronos Server (hereinafter referred to as “frontend”) and UPM Analysis Center (hereinafter referred to as “UPM Center”).

Frontend

Frontend devices can be deployed at the critical nodes on the communication link for business system, and capture business communication data by switch port mirroring or network TAP. The frontend collects and analyzes the performance index parameters and application alarm information in real-time, and uploads to UPM Center via the management interface for overall analysis.

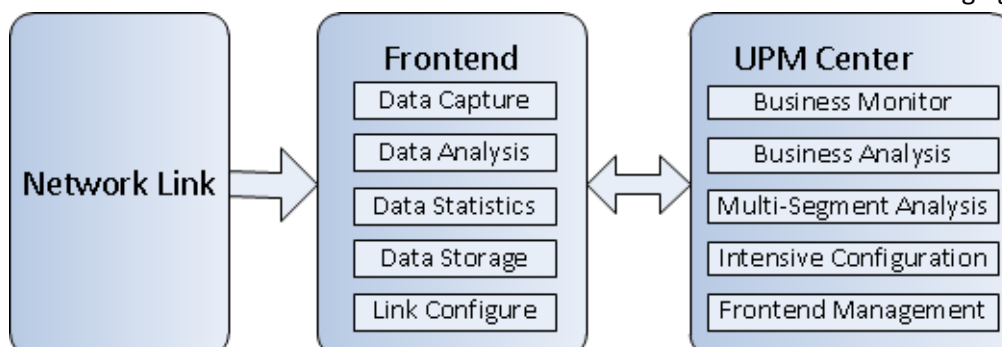
UPM Center

UPM Center is deployed to converge frontend devices, collect the business performance indexes and alarm information uploaded by frontend devices, and display the analysis results.

Architecture

UPM Center communicates with frontend using B/S (Browser/Server) architecture in determined hops to thereby intensively monitor and manage the whole network.

The architecture between UPM Center and frontend devices is visualized as the following figure:



Technical characteristics

Colasoft UPM is developed to maximally promote the operational efficiency and troubleshooting ability of business network. UPM is business oriented and provides insight into business network, real-time performance monitor and fast troubleshooting.

Insight into business network

Deploy probes based on business system, make analysis policy and proactively analyze business. Promote the operational and maintenance mode from physical network oriented to business network oriented.

Real-time performance monitor

Visually monitor business network performance and identify network performance anomalies that affect business performances.

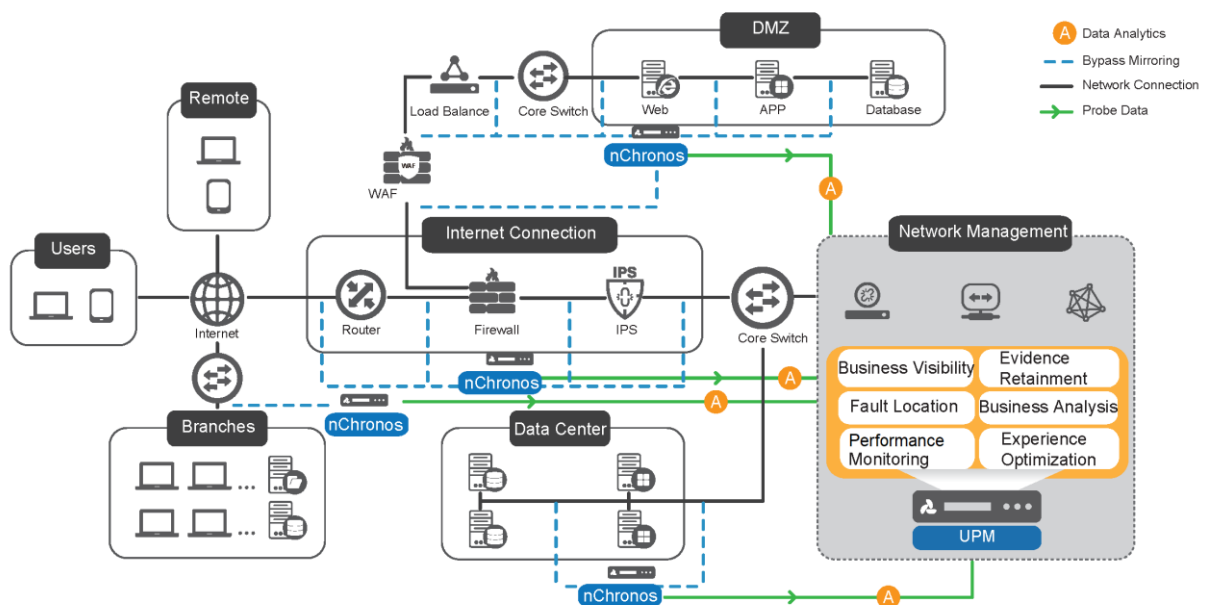
Fast troubleshooting

Provide graphical analysis views focusing on business system, correlatively display performance anomaly alarms on business logic diagram, quickly and accurately locate fault spots to thereby enhance troubleshooting efficiency.

Deployment

Colasoft UPM is developed based on the idea of distributive deployment and intensive management. You can deploy frontend devices at any network links that need to be monitored to capture traffic. The frontend devices upload the data to UPM Center and UPM Center analyzes the data and shows the analysis results and manages the frontend devices.

The deployment of UPM is visualized as the following figure:



Features

Intelligently outline network communication

Based on the service visit data from frontend devices, UPM system graphically displays the visit relationships among hosts and services on the network to thereby help users quickly define network segments, applications and network paths.

Centrally monitor businesses

A centralized business monitor page is provided to graphically display the running status for each business, to thereby help users quickly find the abnormal business.

Business group monitor support

With UPM, related businesses can be grouped to identify the relationships therebetween. Meanwhile, UPM system intelligently evaluates the performance and graphically displays the running status of each in the group, so that users can find abnormal business quickly.

Business global performance monitor support

UPM system graphically displays the running status of all business nodes, which helps users find abnormal node in a direct way.

Network performance monitor support

UPM Center is able to monitor the path among the customized network nodes, and to graphically display the running status of the path based on evaluation results, so as to help users find abnormal path quickly.

Probe traffic monitor support

Probe traffic is monitored in real-time, and is displayed as graphs and charts.

Probe index monitor support

UPM system is able to monitor user-defined indexes and graphically display the communication status of user-defined indexes.

Business index analysis support

UPM Center is able to analyze the indexes on applications, servers and clients, to display the analysis results graphically, and to compare the indexes.

Business performance analysis support

UPM Center is able to analyze application, server and client performances and graphically display the status of corresponding business nodes, to thereby show abnormal node and help users troubleshoot quickly.

Business history analysis support

Users can query the historical data of a business to quickly reproduce the scenario when the error happens, which helps users conveniently troubleshoot.

Application multi-segment analysis support

Multi-segment analysis is supported for single application. When there are lost segments, retransmission and other problems, the data for that application can be extracted from relative frontend for comparison analysis.

Probe traffic analysis support

UPM Center supports detailed traffic analysis for probes, and supports baseline analysis, comparison analysis and trend analysis for probe traffic.

Packet download support

With UPM, users are able to retrieve packets based on IP and application, and download the retrieved packets.

Configuration forwarding support

Configurations for applications, alarms and network segments can be forwarded from UPM center to frontend, to thereby avoid the duplicated configuration by frontend user.

Radius authentication support

Colasoft UPM supports Radius authentication. Users can centrally authenticate and manage login users via Radius Server.

Alarm notification support

UPM provides lots of alarms, and when alarms are triggered, alarm logs can be sent to email recipients or syslog server, to help users know network running status in time.

Schedulable reports

Colasoft UPM provides business SLA report and probe traffic report. Users can schedule business SLA report, and business SLA report can be sent to specified email recipient.

Load balancing device traffic monitoring support

The system supports reading the load balancing device configuration data of F5 and nfosec Technologies, and displays VS, Pool according to the configuration and Member's traffic data.

Session tracking support

The system supports association rules based on device configuration, matches the associated session in the link, and completely presents the conversion of session information (two-tuple/quadruple) in the session access path.

SRv6 session path grooming support

By decoding the SRH (Segment Routing Header) of SRv6 session packets, the system obtains the segment list and sorts out the network devices passing through the session's two-way access path according to the segment list.

ARP log analysis support

The system analyzes the ARP behavior of the traffic in the network environment through the ARP log, and finds abnormal ARP behaviors such as ARP scanning and ARP spoofing.

Application Advantages

As an intelligent network analysis solution, by focusing on business network, Colasoft UPM independently captures analysis data, and has no dependency and influence onto other systems. It is capable of providing comprehensive performance analysis parameters such as network transmission, host service, application response and transaction processing, which are important to business system, and truly has the ability to intensively monitor and analyze business network.

Insight into business - Business oriented proactive analysis

Provide insight into business-supporting application services, host systems and network paths and build correlative relationship therebetween, and make targeted monitor analysis policies and alarm policies.

Performance monitoring - Identify problems within one minute

Intelligently analyze the application response performance, host service performance, network transmission performance and transaction processing performance for business network and provide integrated business network performance monitor views.

Troubleshooting - Locating problem spots within five minutes

Provide graphical analysis views based on business logic to graphically display and correlatively drill down performance anomaly alarm, critical performance indexes and multi-segment comparison.