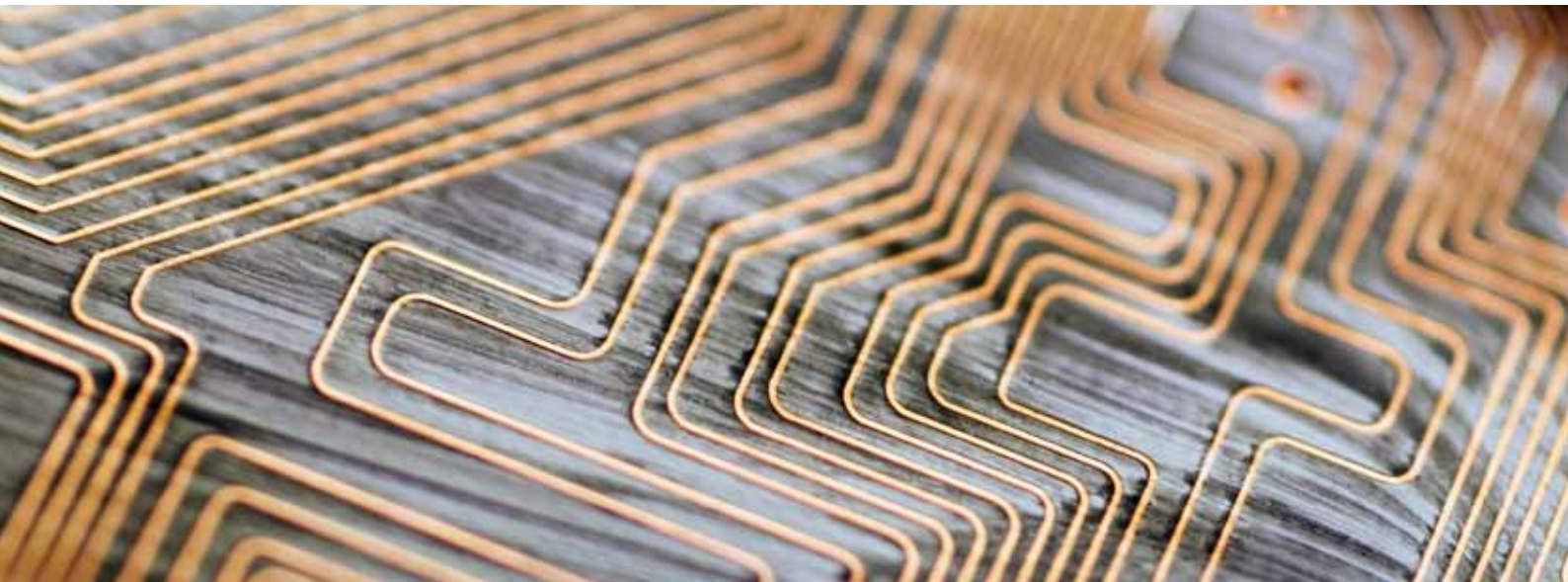




# Application Analysis Push Apps

Quality Assurance to Reduce the Chance of Operating Issues



## **Audience:**

- Operators of complex applications
- Users of problematic applications

## **Service:**

- Savings through performance optimization (infrastructure, staff)
- Increase in stability through investigation or prevention of malfunction causes

## **applicable software:**

- Operating system tools
- Log files
- Monitoring tools, for example HP Sitescope, HP BAC
- Analysis tools, for example HP Diagnostics
- Development tools (source code analysis)

## **Benefits:**

- Quality assurance beyond the usual professional and load tests
- Saving of operating and staff costs

**The solution:** ... Use the advantages and benefit together with profi.com!

## What is concealed behind an application analysis?

- An application analysis (ApplA) constitutes an implementable measure for applications and infrastructure within the framework of operational quality assurance.
- They can occur while preparing for or transferring operations within the acceptance as well as during production
- An application analysis includes the three main areas: network, database and middleware (J2EE)
- It provides recommendations to reduce the probability of operating problems occurring and point out tuning measures

## When are application analyses implemented?

### Preventative application analysis

#### (prepared, transferable and supportive for operation)

- Technical support for the pilot, introductory and transfer proceedings
- Transaction-based data capturing/ monitoring (optional: parallel to a load and performance test)
- Quantitative and qualitative evaluation
- Determining the capacity profiles, trends and efficiency in the respective network, database and middleware branches for individual transactions

### Architectural Analysis

#### (prepared and supportive for operation)

- As Is Analysis of expandable or existing applications (first analysis of a prototype)
- Long-term raw data constitution as a baseline option for existing application architecture
- Detection of capacity profiles, trends and efficiency respectively in the network, database and middleware branches
- Architectural observation (application architecture, configurations)

### Escalation Analysis

#### (operations support)

- Partial or total clarification of causes of failure within running applications:
- Extremely critical
- Long-lasting problems
- Random difficulties
- Problem management support with problem solving and action planning (beyond the scope of existing claims)

- An empirical, iterative approach: Search for abnormalities and the perimeter of the problem (the timeframe for solutions is undefined)

## The Characteristics in Detail

### Network Analysis - Character and Performance

- "Network" medium = glass ball, that is to say, that all details are visible (transparency)
- Compilation of measured data is done through port mirroring or measuring directly from the system
- Data collection and evaluation is done with the help of special software as well as with scripts we created and evaluation logic

### Network Analysis - Evaluation

- Presentation of communication profiles (IP addresses, network protocols)
- Simulation of transaction times with WAN conditions and assessment of the technical transfer efficiency of individual incidences based on the network's performance
- Expert evaluation of the network's performance (Packetloss, delays) and testing the compliance of non-functional requirements and network conventions

### Database Analysis - Character and Performance

- Database systems have a significant share of the overall performance of an application or of individual transactions
- Data collection calls for the preparation of database reports, operational statistics and their history, documentation and configuration as well as random access to the relevant systems
- The evaluation is done using reporting tools (AWR/ADDM), DBA Tools

### Database Analysis - Evaluation

- Analysis of database configurations and parameters, application-specific database statements and procedures as well as the system's performance (IO performance)
- Assessment of the database architecture and design regarding performance and stability aspects
- Tuning of SQL statements and their run times



## J2EE Analysis - Synopsis

- Middleware analysis provides clarification of the application's performance at the developmental level
- Choice of instrumentation-relevant categories/packages with the development and maintenance service provider
- Analysis of App server configurations/documentations
- Data capture at the application server level with J2EE profiling to determine performance shares of individual application components

## J2EE-Analysis - Evaluation

- Analysis of API-shares, methods, categories, SQL-statements as well as their CPU and time share of a request by means of an application
- Inspection of the application server's performance (JVM performance)
- Stability and performance assessment of the system configurations

### Procedure:

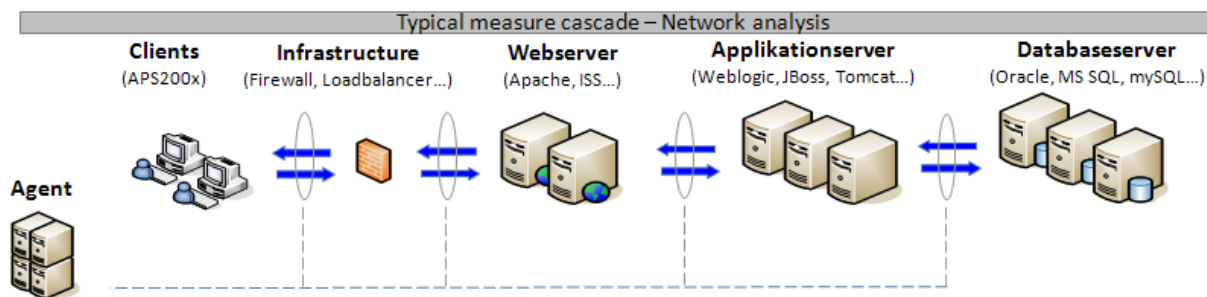
Leading strategic problem solving: Initiation and implementation of on-site analyses; assessment of the application's architectural design

### Result:

Detecting and propelling the removal of several problems within applications, system configurations and migration concepts; maintainability improvements

### Benefits:

- Savings of operation and maintenance costs through a reduction in system resources (Solaris Container by 90%, or 250.000 € in annual operations costs)
- Intense optimization of the service capabilities and the application's performance
- Time saving with the migration to the new CRM release (from several days down to several hours only)



## Success Story

### Task:

Securing the maintainability and evaluating the technical requirements of the new CRM release

### Motivation:

Severe problems and high costs concerning the imminent transfer of applications

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