ITCOCKPIT Reference Presentation

openITCOCKPIT
at Deutsche BKK

Agenda

- ‚Who, what and Why…‘
- Technical Part of the Reference
- Integration of 3rd Party Tools
- Project View
- FAQ

Who, what and why
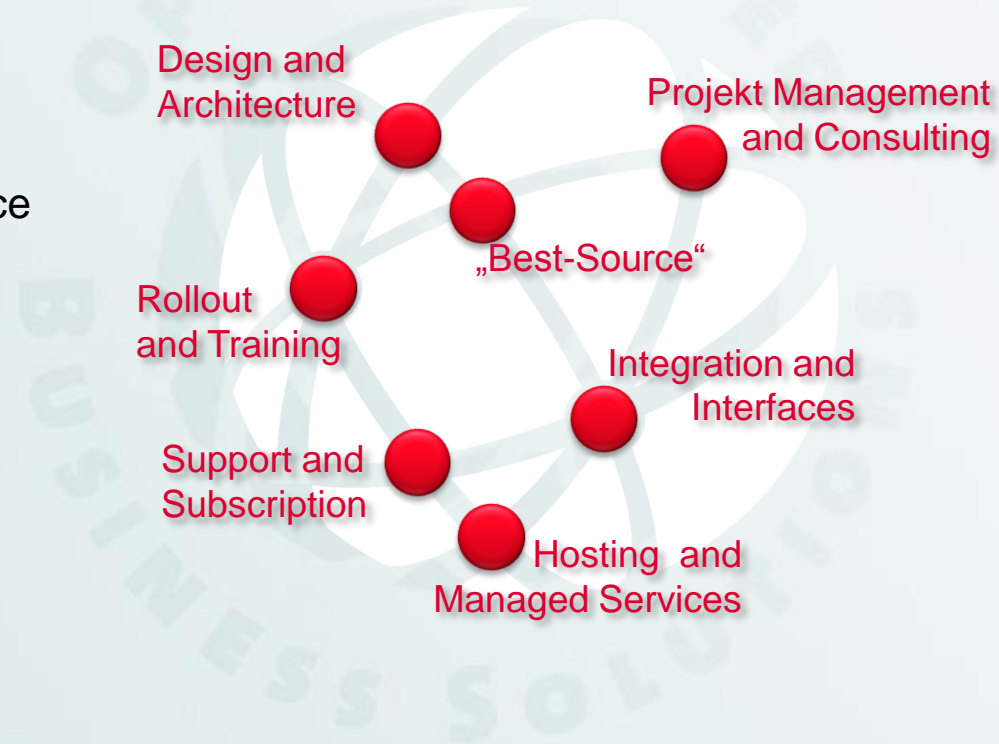
Ok, lets go

Who Am I?

- Christian Mies
  - Senior Consultant / Technical Project Leader
  - More then 8 Years Nagios experience
  - ITIL v3 and PRINCE2 Practitioner certified

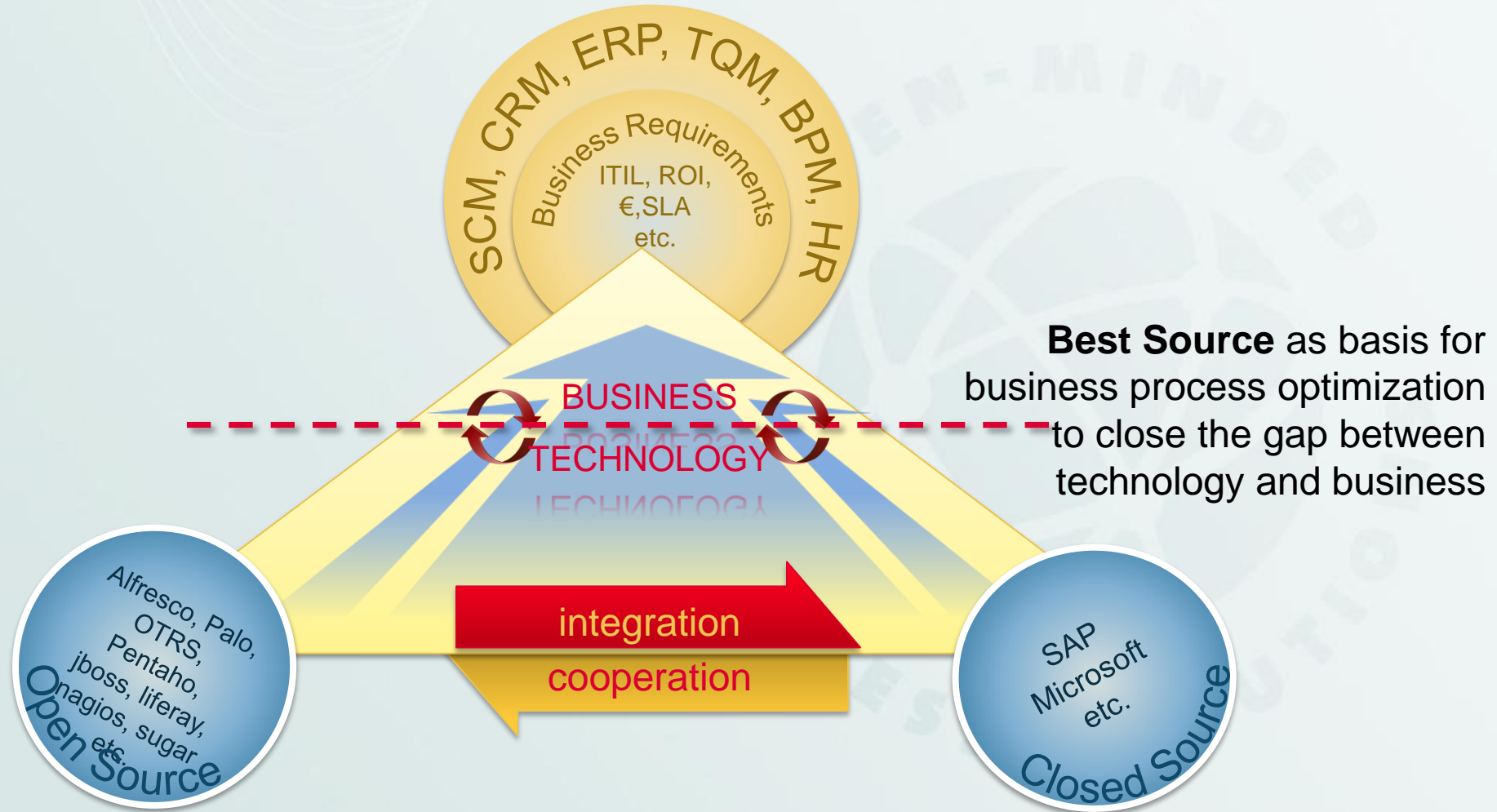# IT-NOVUM: Your Partner for Open Minded Business Solutions

- >65 employees, ø 16% annual growth

- >55% external customers, medium and large enterprises

- Branches in the D-A-CH* (Germany, Austria and Switzerland) region

- Datacenter of KAP-AG (Nagios Service Partner)

Covering the complete value chain

Design and Architecture

Projekt Management and Consulting

„Best-Source"

Rollout and Training

Integration and Interfaces

Support and Subscription

Hosting and Managed Services

* D since 1960, since 2000 as it-novum GmbH , AT since 2008, CH planed

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Open Minded Business Solutions – the Magic Triangle with IT-NOVUM

SCM, CRM, ERP, TQM, BPM, HR

Business Requirements

ITIL, ROI, €,SLA etc.

BUSINESS

TECHNOLOGY

Best Source as basis for business process optimization to close the gap between technology and business

Alfresco, Palo, OTRS, Pentaho, jboss, liferay, nagios, sugar etc.

Open Source

integration

cooperation

SAP Microsoft etc.

Closed Source

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Value Add with IT-NOVUM

Security & Reliability

- Independent ITCOCKPIT Hotline and Development

- Enterprise Open Source Know-how

- Economic Stability

- First Nagios Enterprise Partner in Germany, one of the first in Europe

Active Solution Development

- it-novum is established as an innovative partner in the community

- Numerous contributions in international conferences

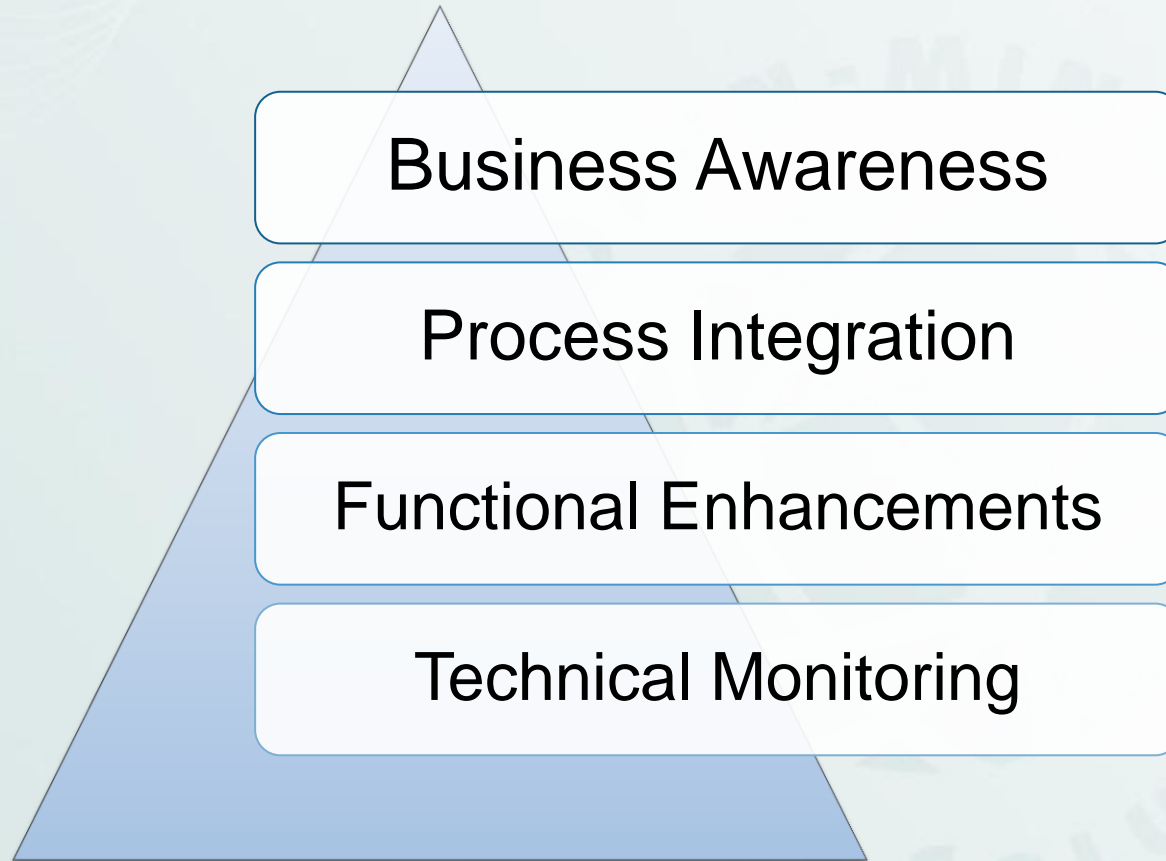- Permanent improvement and extension of the ITCOCKPIT Portfolio

Operative Synergies

- Competence by internal use in Corporate Datacenter

- Professional experience in Operation of large IT-Infrastructure and Application landscapes (Outsourcing for external customers)

- Experience in every state of the art IT-topic (Storage, Virtualisation & Consolidation, Datacenter Operationb, Outsourcing, etc.)

- Broad Open Source Expertise

About openITCOCKPIT

- Nagios™ based Monitoring Framework Solution
- Dedicated Web Frontend for Monitoring, Reporting, Configuration, etc.
- Focused on Reporting and IT Service Management

The openITCOCKPIT Pyramid

Business Awareness

Process Integration

Functional Enhancements

Technical Monitoring

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ITCOCKPIT Value Add

Business Process Monitoring

- Reduce failure probability

- Fast error detection

- Avoid SLA threads proactive

- increase process efficiency

End-2-End Monitoring

- Measure your IT-Services

- Analyse your real application availability (SLA)

- Performance monitoring from end user's point of view

- value rating of system changes

- Performance assessment of new IT-services before going productive

Service Level Agreement Monitoring

- Measure your IT-Services

- Requirement definition defined by quality and quantity

- Performance and Service Reports

- Early detection of SLA violation (threshold / trends)

multi-client capability | central dashboard| Wizard based graphical configuration
Templates for Hosts & Services | Central-Decentral concepts
Integration with 3rd Party management systems | multi-location capability

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The openITCOCKPIT – Spehre
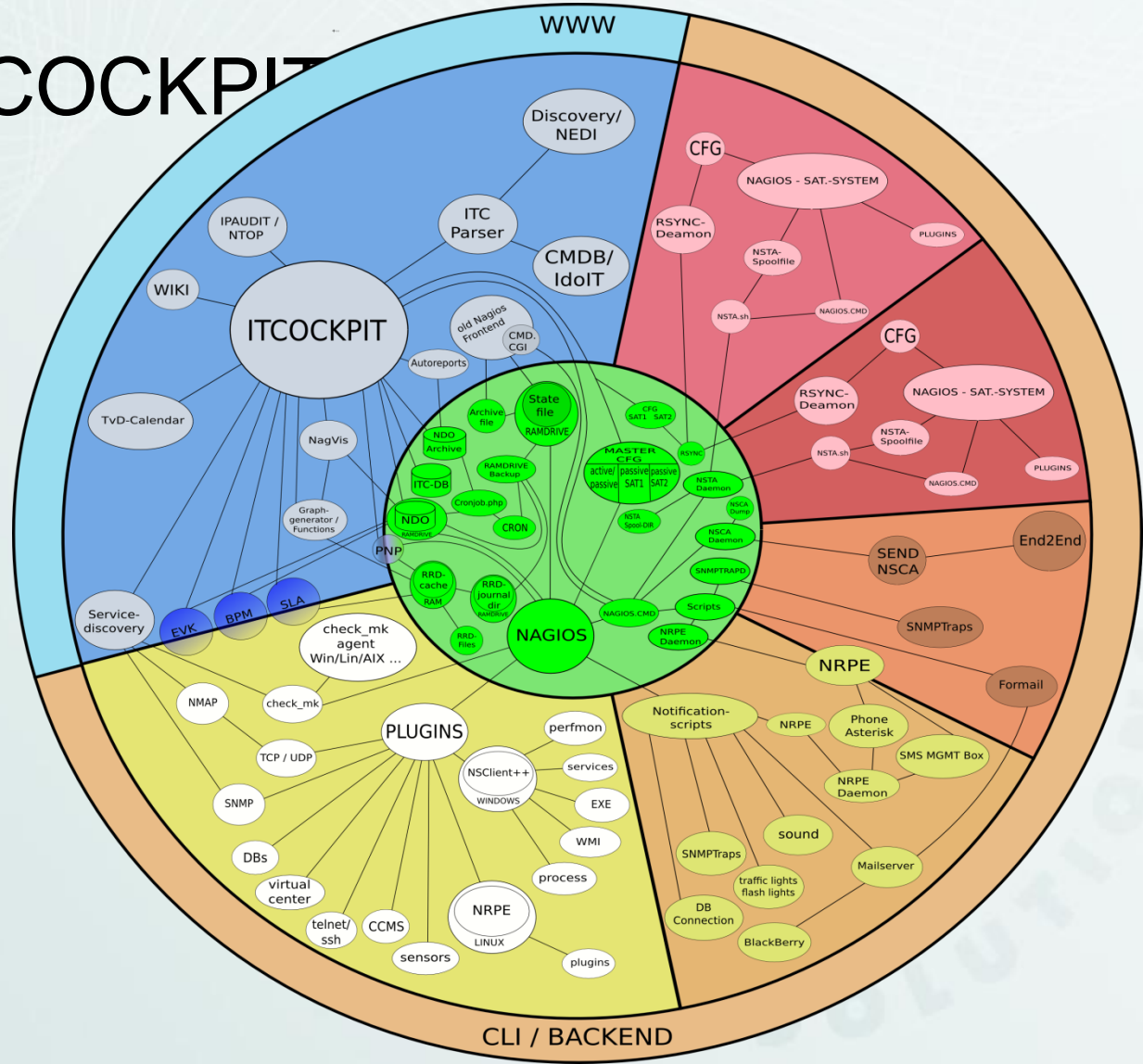
Integrated System Management

Central Configuration

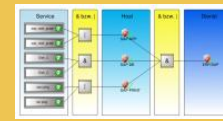Business View

Technical View

Business Service Monitoring

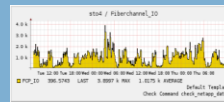- Business Service Dashboard
- Reporting
- SLA-Monitoring
- BP Monitoring

Event Management und Correlation
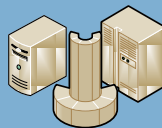
Proactive Monitoring

- Real-Time
- Threshold
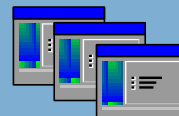- Escalation
- End-2-End

Comprehensive Monitoring

- Server
- Networks
- DB / Middleware
- Applications
- Locations

Integration

Service-Management Portal (Alfresco, Liferay)
ITIL-Prozesse und Methoden

- Incident-, Problem-Mgmt. Ticketsystem OTRS
- Change-, Config.-Mgmt. Assetmgmt. i-doIT, OTRS::ITSM
- Capacity, Release-Mgmt. Project Open, Subversion, TRAC
- Process-Mgmt. Intalio, jBPM
- Reporting, Analyse & Dashboard Schnittstellen Leistungsabrechnung (z.B. SAP, Oracle) (Pentaho, Jaspersoft)

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Who is the Reference

- ## German Health Insurance Agency (Deutsche BKK)
    - 1440 Employes splited in 2 central locations and about 50 small offices around Germany
    - 2 Datacenter devided to 2 Locations in Germany
    - very heterogeneous Infrastructure

Why Changing…

- **„HP Openview Nodemanager is to unflexible for the environment..“**

- **„Saving License Costs with Open Source“**

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Technical Part

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Basis Monitoring

An extract of the requirements

- **Linux...**

- **Windows...**

- **Netware...**

- **ESX...**

Linux Monitoring

Requirements

- Process Monitoring
- Partition State
- HBA Load (Mbytes/sec)
- RAM Usage
- CPU Usage
- Failed Logins
- Login specific Users

Used Technology

- check_by_ssh
  - used for security Reasons and more flexibility
- SNMP
  - Used with v3 for security

- Self written Agents

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Windows® Monitoring

Requirements

- Processes and Services
- HDD / RAM / CPU Usage
- HBA Load (MBytes/sec)
- Failed Login
- Login specific Users
- Eventlog
- Missing Windows Update
- Performance-Counter

Used Technology

- Nsclient++ as customized MSI Package for global Rollout
- Standard Windows Monitoring enhanced by Special Agents for
  - Active Directory Monitoring
  - RIM Server License Monitoring
  - Administrator Login State

Netware Monitoring

Requirements

- Processes / Services
- Volume Statistik
- HBA Load (Mbytes/sec)
- RAM / CPU Usage
- ABend (Abnormal End) Counter
- Timesync State
- Identity Manager Driver State

Technology

- Enhanced check_nwstat Agent
- OES2 by own Agents
- SNMP v2
- Self written Agents for i.E. Novell IDM3 Monitoring by LDAP

VMware Monitoring

Requirements

- Datastore State (incl. vmfs)
- HBA Load (Mbytes/sec)
- RAM / CPU Load

Technology

- Self written ESX / vSphere Gateway build as a Socket → No continuously Login required
- SNMP v2

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Infrastructure and Applications

- Database Monitoring for Oracle, MSSQL, MySQL
- RIM Monitoring
- Exchange Monitoring
- Infrastructure with i.e.
  - Cisco
  - Brocade
  - Netapp

3rd Party Solution Integrations

Integration…

Toolintegration

- **Racktables**

- **bidirectional LAN Desk Ticketsystem integration**
  - bidirectional E-Mail Communication with Nagios

- **NagVis**

- **NagTrap**

- **bidirectional SMS Alerting**

Racktables

About…

- …is a kind of CMDB for Datacenters
- …is Open Source
- …has dedicated API Interfaces
- http://www.racktables.org

Customer Requirements…

- Scheduled and fully automated Import
- Manual Import must be possible
- No configuration on Monitoring Site

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Workflow

API Informations
- Informations via PHP
- IP, Name, OS, etc

openITCOCKPIT Import Modul
- Getting Informations and create Files by Name and Services by OS

Configuration Files
- Write Config Files to Nagios Folder and verify it

openITCOCKPIT restart

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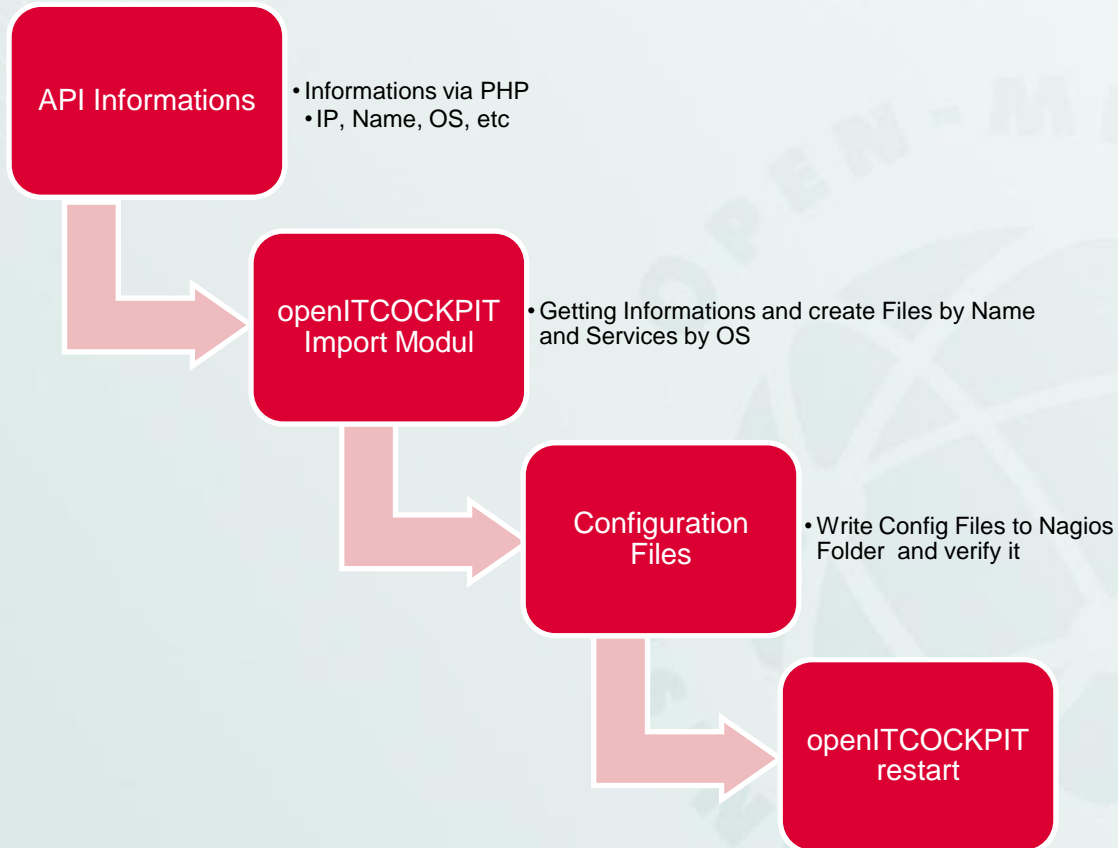
CSF's and KPI's

Critical Success Factory

- 4 Days Developing
- Ad hoc Integration of 800 Hosts with More than 10000 Services

Key Performance Indicators

- Quota of Servers in Racktables to openITCOCKPIT
- Failed Devices per Synchronization
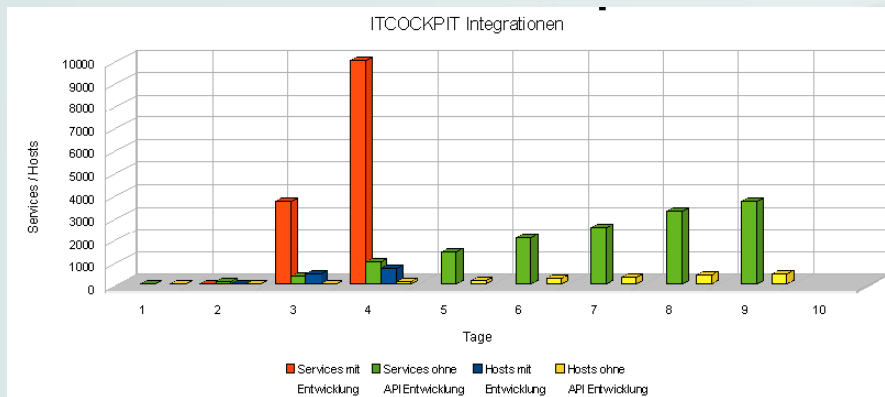
Avocent LANDesk Servicedesk

About…

- Windows based Service Desk Tool

- Certified by Pink Elephant as ITIL v3 Tool

- Gateways and API available

Customer Requirements

- Open Incident automatically from Systemmonitoring

- TicketID should be seen in openITCOCKPIT

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Benefit Ticketsystem Integration

- Integration to Incident Management Systems

- Integration to Change Management

- Measure and Alert Recovery Times
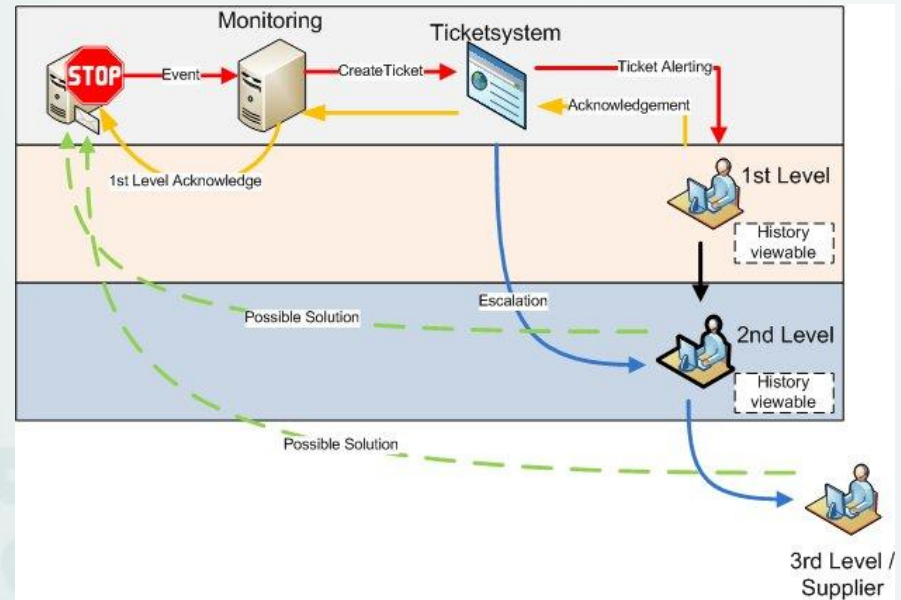
Workflow
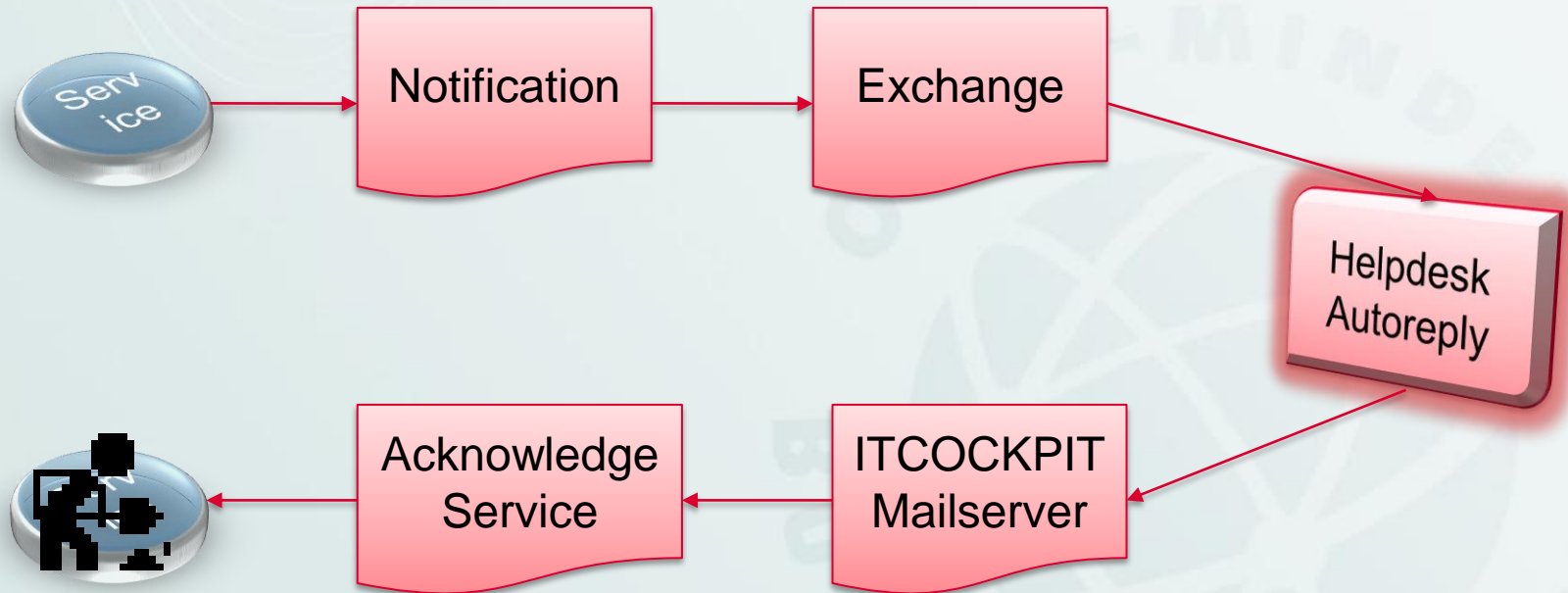
KPI's and Benefit

Benefit

- Bidirectional E-Mail Communication with Nagios for
  - Acknowledgement
  - Downtime
  - Disable Notifications, etc.
- Root Cause Analysis based on Tickets
- Ticketstate in Monitoring available

KPI

- Calls per Host / Service
- Time to solve Issues
- Average Time to recognize Issue

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SMS Box Integration

About…

- it-novum specific Box based on Thin-Client Technology

- Debian Based

- SMS / Voice Alerting and 'E-Mail to SMS Gateway'

- 'Monitors the Monitor' ☺

Customer Requirements

- Alerting by SMS for specific Alerts

- Acknowledge by SMS

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Workflow

Circular diagram with five segments:
- Servicealert
- Generate SMS
- Send SMS
- Receive Acknowledge
- Send ACK to Service incl. Mobile Number
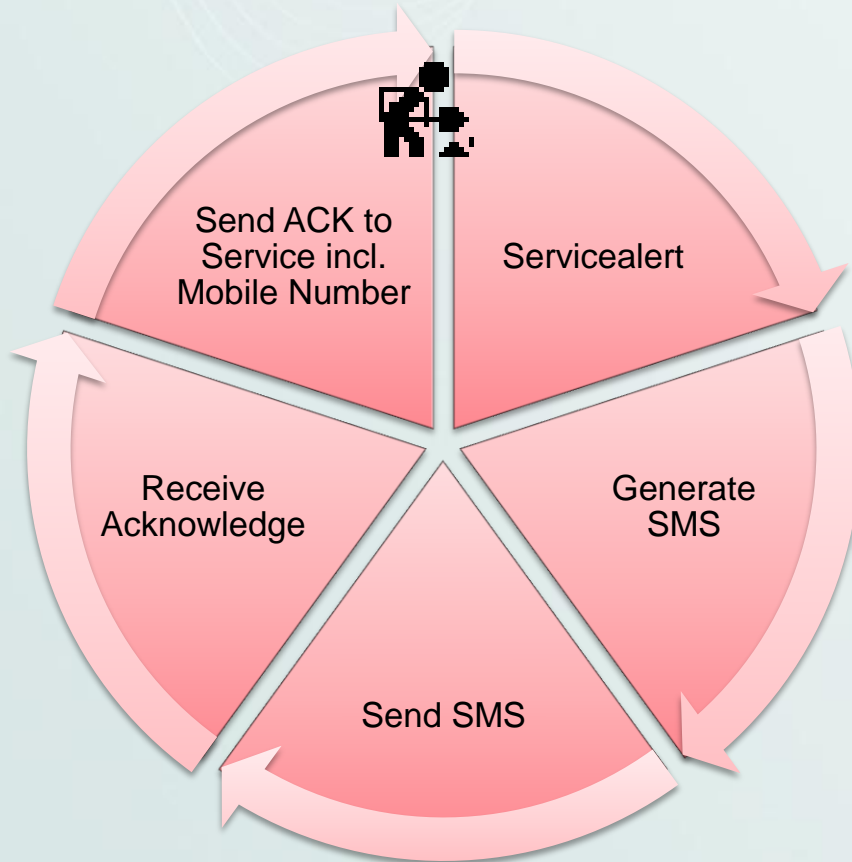
(1) Alert to Contact (Calendebased possible)

(2) SMS Gateway creates Short Message

(3) Recipient replies to SMS

(4) Gateway validates Mobile Number and recipient

(5) Set Acknowledge

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Some additional Integrations…

eDirectory

- Apache Configuration for Authentication via LDAP

- Dokuwiki Authentication via LDAP

- Import of LDAP Users to openITCOCKPIT

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NagTrap

- Community Project
- Trapreceiver for the complete Infrastructure
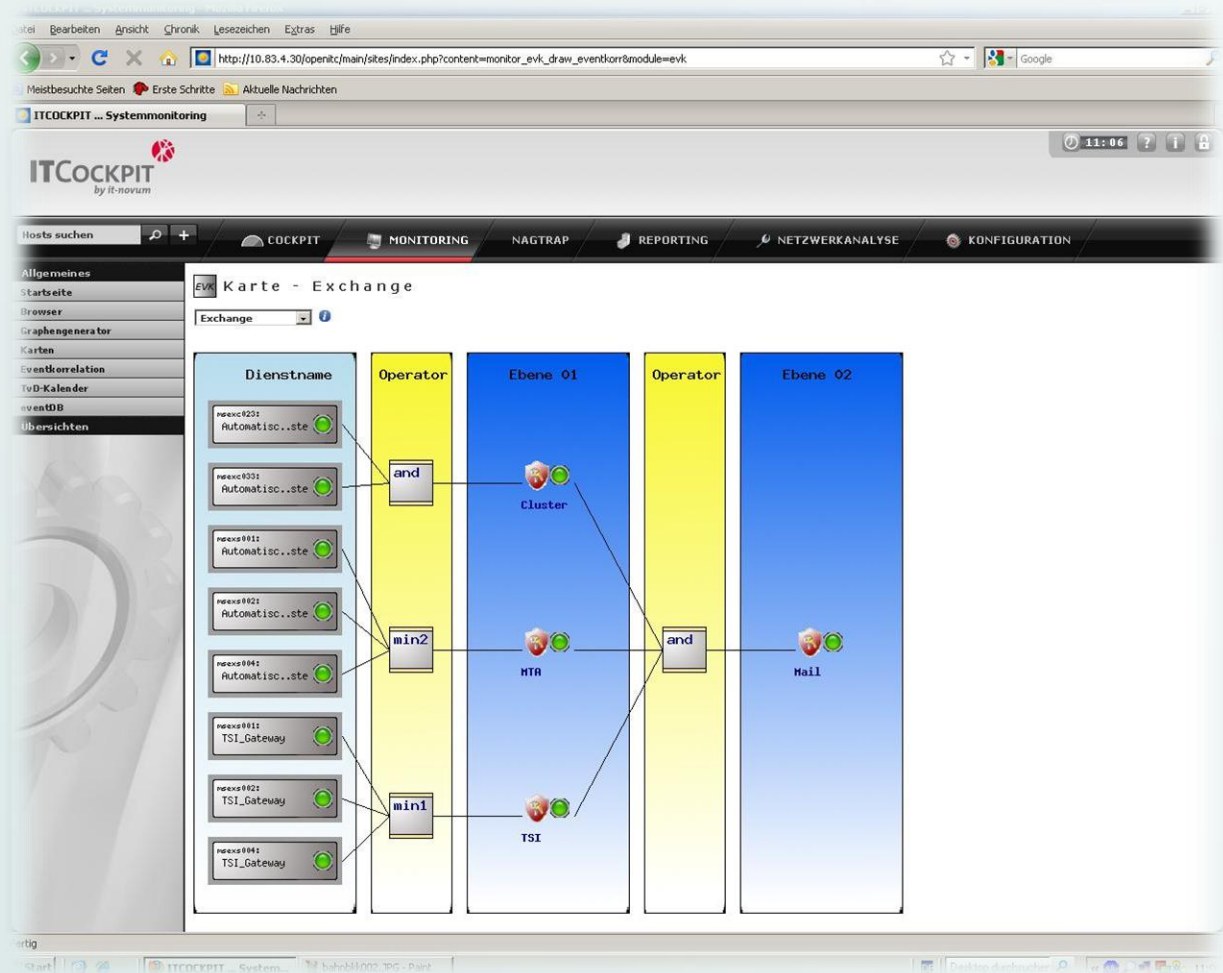
NagVis

- Primary a German Community Project

- Give i.e. graphical Information to the Operating
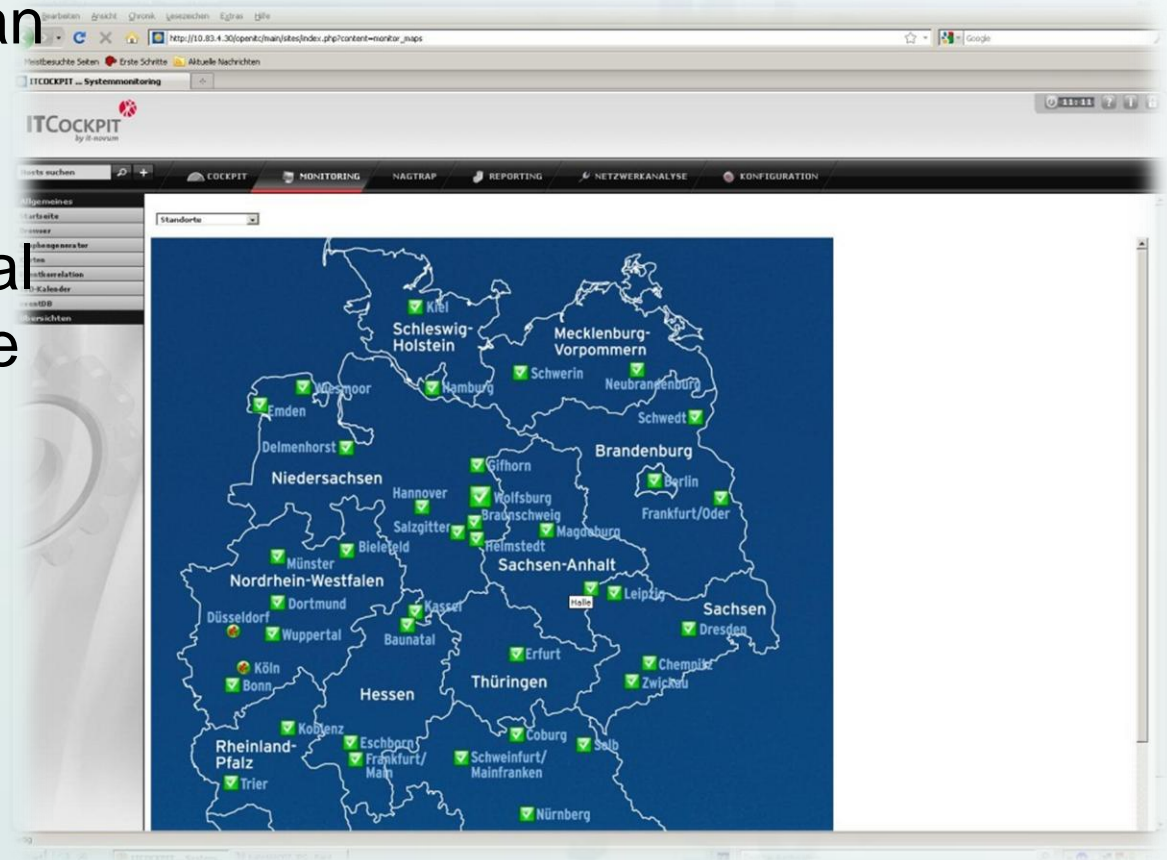
Eventcorrelation

- Developed by it-novum as Module to openITCOCKPIT

- Logical Links to technical and Meta Areas for create IT Services

Also included…

- **PNP 4 Nagios**
  - (German Project for Graphing)

- **Self developed Event DB Frontend based on Community Tools**
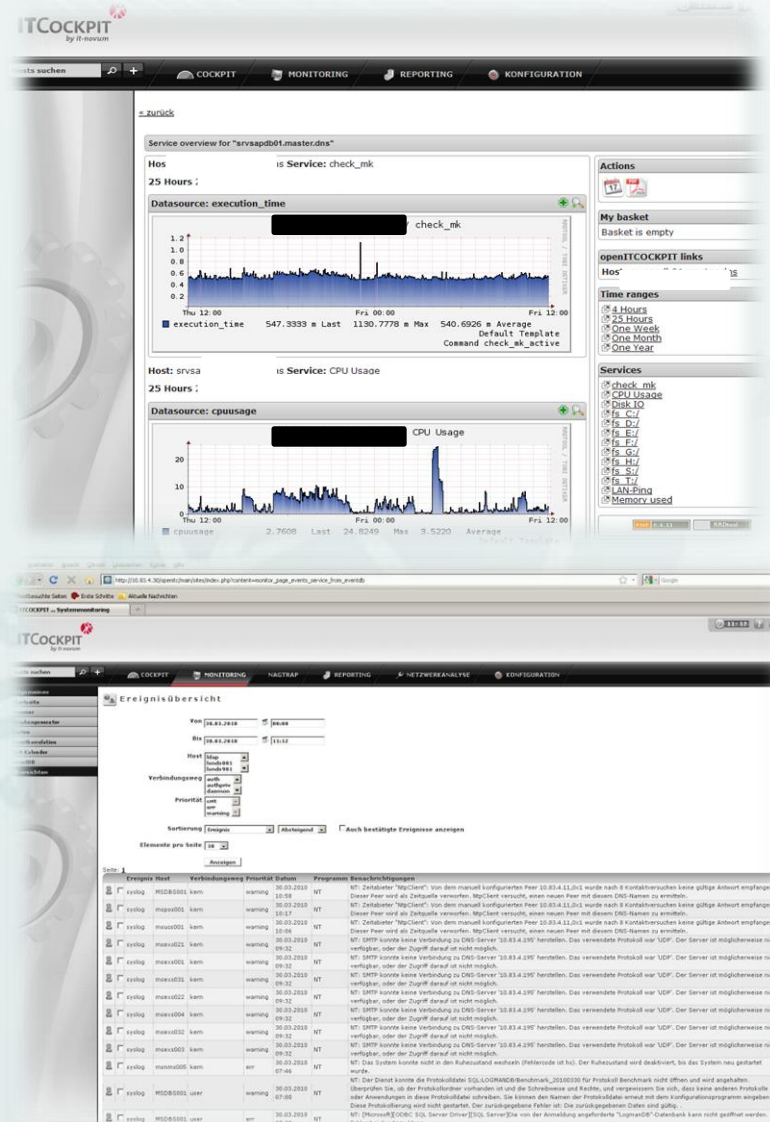
Project Parts

- *Risks and open Issues*
- *Lesson learned*
- *Project Management with PRINCE2*
  - **Working Packages**
  - **Quality Log**

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Risks and Issues during the Project

- ## Technical Issues with SLES System
  - Missing or old Packages → Fixed by manual Installation of the Packages
- ## Decision for Enterprise Server System instead of Community Server System (Support)

Lesson Learned

- OpenSource Monitoring is more usable then expansive Closed Source Solutions

- 64bit Support not available for all Plugins

- UTF-8 and ISO-8859 have differences ☺

- Some wishes are yet not possible…

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PRINCE2 and OpenSource

- PRINCE2 as Projectmanagement Methode is useable for Open Source Consulting Projects in
  - Working Packages with Quality Definitions
  - Open Issue Log for all Project Members and Stakeholders
  - Milestone Definition based on Top Down Projectdefiniton
  - Escalation Management by Management-by-Execption (No Meetings with no content!)

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Thank you for your Attention

Questions?

Infrastructure Solutions

Groupware & Collaboration

Servicemanagement

System- and Applicationmonitoring

Business Critical Computing

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