Air France

Customer's service and technical point of view: the mix of two worlds.
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Air France, today ...

> **One of the world's leading airlines**

- 3rd worldwide in international passenger transport
- 4th worldwide in international air freight
- 2nd-ranking aircraft maintenance provider

> **Numbers**

- 231 aircrafts
- over 1,250 daily flights
- 39.8 million passengers
- 198 destinations in 83 countries
- 55 000 full time employees
Air France IT infrastructure

> More than 400 core business applications supported by
  - 3 Datacenters
    • 2 IBM
    • 1 Unisys
  - 100 Unix servers, 1400 NT servers
  - An internetworked WAN of 600 routers, +2500 hubs and switches

> Operations
  - Datacenters operation departments
  - Distributed systems operations : CEXI
  - Coordination + business oriented monitoring : CCI
  - Internal Help Desk
CEXI (Cellule d’Exploitation Informatique)

> Monitoring of critical distributed infrastructures, equipments and applications

> Second level support for help desk and local support teams

> Administration of network, systems and application management solutions for distributed systems
Monitoring and reporting in order to be:

> Reactive:
  – Fast troubleshooting in a fast paced environnement

> Proactive:
  – gauge the future problems,
  – capacity planning
CEXI’s Tools

Reporting

Service Navigator

SAS IT Service Vision

Omnivision

Optivity | CiscoWorks | ITO

HP/Openview NNM

SNMP: network, Lotus Notes, NT ...

Applications, Middleware, OS ...

Auditec Newtest

Monitoring and Troubleshooting

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Reporting at CEXI

> **Needs** :
  - Management and users reports for Service Level Management (SLM),
  - Technical staff technical reports on Quality of Service (QoS) and capacity utilization.

> **Technical wishes** :
  - Web reports and assessments available on the intranet
  - Capitalize on existing tools
  - Use out of the shelf applications

> **Technical solution** :
  - Systar Omnivision for Unix and NT reports
  - SAS IT Service Vision for specific reports:
    - HP/Openview as an SNMP data collector
    - Auditec Newtest as a probe for application response time and availability
> **Challenge:**

Monitor the network throughput for

- troubleshooting,
- capacity planning on expensive Frame Relay and ATM resources.

> **How?**

- planning
- architecture
- developments
Technical reports - the network

> Project: planning

- Based on a previous developed prototype
- From June 2000 to October 2000 - 4 months elapsed half-time
- Learning, analysis, development
> Project: architecture

- Service Navigator
- SAS IT Service Vision
- Omnivision
- Optivity
- Ciscoworks
- ITO
- HP Openview NNM
- SNMP: network
- Applications, Middleware, OS...
- Auditec Newtest
> **Results and benefits**
  
  – Daily, weekly, monthly view of the Frame Relay, ATM, X25 circuit utilization

> **Reports** for networks operators, managers and architects:

  – identify overloaded circuits (impact on operations)
  – detect under-utilized circuits for possible downgrade and potential cost-saving
  – determine correct circuit bandwidth allocation in the Frame Relay deployment project
Trafic en Kb/s PVC ATM (mensuel)

KTR30RYNSS - Backbone - Vilgenis - BP 20000 kbs

no PVC=147

Trafic entrant

Trafic sortant

29APR2001 - 28MAY2001  Generated on 29MAY2001 by report M19
> **Challenge**
  
  – measure the Quality of Service on a mainframe application
  
  – metrics:
    • end user’s response time
    • availability

> **How?**
  
  – planning
  
  – architecture
  
  – developments
> Project : Planning
  – Prototype
  – Developments : 2 months elapsed
  – From June 2000 to July 2000
  – SAS and web development
  – IT Service Vision integration
> **Tools**

– Auditec Newtest probes provide the response time and the availability as seen by the end user (finite state machines)
– HP Openview ITO provides network alerts which can help qualify potential response time problems
– SMF provides CICS transaction response time data on the mainframe which can help qualify application problems
> Results and benefits

– Service Level Management:
  • the tool provides objective metrics on response time and availability
  • Able to detect degradation on QoS
– Provides additional information to our technical staff in order to help them to explain problems (network alerts and CICS transaction response time)
SLM reports - application

Qualité de service ISIS

Temps de réponse - Mise à jour

Mercredi 2 Mai 2001

Le temps de réponse moyen du scénario de mise à jour des informations concernant les entreprises est de 22.60 secondes.
Focus on developments

IT Service Vision classic implementation
(Release 2.1):

– Extensive use of Quick Start model for the network board.

– Specific developments for the SLM control panels

– HTML Hyperlinks between the SLM pages and the IT Service Vision reports.
Focus on developments - Network reports

> Data collection:
  - HP Openview SNMP collects
    • `snmpCollect`
    • `mib2dic` to initialize the PDB tables,
    • manual corrections in order to deal with HP Openview’s MIB formulas.
  - HP Openview ITO messages
    • Oracle Database
    • Generic collector / Oracle database access.

> IT Service Vision Reports:
  - Standard reports
Focus on developments - SLM reports

> Data collection :
  – Auditec Newtest
    • Probes’ flat files
    • File transfer to the SAS IT Service Vision server.
    • Generic collector
  – CICS data
    • SAS datasets created with MXG under MVS
    • File transfer exported/imported on the SAS IT Service Vision server.

> Reports :
  – Specific development use data steps to create static HTML pages.
  – Graphics use the SAS/GRAPH ActiveX.
What’s new

> **Technical reports** :
  – Done : overloaded circuits alerts, router CPU, applications transactions, load balancing hardware, ...  
  – To Do : DNS logs, ITO alerts, other SNMP data ...  
  – Capitalize on existing reports and automation of the process

> **SLM**
  – industrialize the described SLM architecture

> **SPORT Project** :
  – Single Point of Reporting And Troubleshooting  
  – on IT applications used for critical business processes  
  – using :
    » ITO / Vantage Point Navigator for critical process monitoring  
    » IT Service Vision for Quality Control Panel
What we would like from SAS

> Capability do add other kinds of reports in IT Service Vision (« plugins »)
> Better handling of “holes” in data :
  – Fixed coordinates on reports to normalize the aspect of reports (e.g. : 0-24h, 100% …)
  – handling of status logs
> Export XML
> Normalized URLs so other applications can point directly to specific reports
> Fine looking graphics, ActiveX / java
> Drill down capabilities