



SSO and DCS

Petr Habarta

About lector

- Dr. Ing. Petr Habarta, Ph.D.
- 11 years spent on multiple universities
- Over 8 years in IBM
- Positions - started as 1st level technician, 2nd level production control, incident coordinator, shift leader, senior incident manager
- In IBM organization GTS division – service management
- Problem manager with focus on strategic data centers
- Lector of Service Management University
- Experience in IT and computers 30 years (13 years as professional, before it was only hobby)



Agenda

- SSO
- DCS
- 1st level support – Command Center
- 2nd level and 3rd level
- Ticket and ticketing tools
- Monitoring
- Tivoli infrastructure



IT infrastructure management

- SSO
- DCS
- NSD

SSO – System Server Operation

- Managing IT infrastructure
- Managing and maintenance of customer servers – remotely (server monitoring)
- Coverage of functions and availability of servers
- Backups and data restores
- Applications



DCS – Desktop Client Support

- 2nd level helpdesk
- Image services
- Managing of issues
- Coordination of installations, changes etc. (SCCM services)
- Disaster recovery – backups & restores
- Centralized support of end user stations



Structure of SSO

- 1st level support
 - Monitoring team
 - Basic and simple tasks
- 2nd level support
 - Managing more complex issues (installation, patching, changes etc.)
 - Application management
 - Divided based on their specialization – Windows, Unix, DB, Storage etc.
- 3rd level support
 - Masters of their specialization
 - “Top guns” used for most critical and complex issues



1st level support – Command Center

- Members - operators
- Monitoring 24/7 – OS, Applications, Backups, Profiles (ID's) etc.
- Solving basic/simple issues
- Assigning more complex issues to proper resolver for example:
 - NSD – network issues
 - OSS – on site support – physical check of server
 - CSC – transfer requests from CC to end-users/customer
 - UAR – management of profiles, IDs and passwords



2st + 3rd level support

- **2st level support**

- Members - Specialist
- Based on their specialization – Wintel, Unix, ERP, Databases, AHS, Storage, Security, Network etc.
- Working mainly 24/7
- Solving more complex issues (installations, patching, managing of OS etc.)

- **3rd level support**

- Members - Experts (SME)
- Last instance which solve the issue
- Most complex, critical and difficult issues
- Assist to architects with new projects and designs



Ticket tools

- Ticket is record (evidence & protocol) in ticketing tool – Basic communication tool
- Different tools – Maximo, Remedy, Manage now, AOTS, HPSM etc.
- 1 record = 1 ticket
- Advantages – every record is unique, simple escalation, recorded all activities and steps done

The screenshot displays a web-based ticketing system interface. On the left side, there are two main sections: 'Quick Insert' and 'Favorite Applications'. 'Quick Insert' contains four options: 'New Service Request' (with a wrench icon), 'New Incident' (with a warning triangle icon), 'New Problem' (with a warning triangle and circular arrows icon), and 'New Change' (with a refresh icon). 'Favorite Applications' lists various system components: 'Activities and Tasks', 'Service Requests', 'Incidents', 'Problems', 'Process Requests', 'Changes', 'Solutions', 'Configuration Items', 'Service Groups', 'Ticket Templates', and 'Job Plans'. On the right side, there are two sections: 'Bulletin Board' and 'Inbox / Assignments'. 'Bulletin Board' has a search bar labeled 'Subject' and a 'Filter' button. 'Inbox / Assignments' shows a 'Next Assignment Due: 4.4.16 10:02:00' and a list of tasks under the heading 'Description'. The tasks include 'Other approvers for Approval Level', 'Determine whether Change CH4009...', 'L3 - Approve or Reject Change CH4...', 'L4 - Approve or Reject the Change C...', and 'Provide Business Assessment Impa...'. A small logo is visible in the bottom right corner.

Ticket tools

https://129.39.225.188 - ManageNow : R2 Problem Management - Problem Details - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Resolve Close Edit Transfer Assign Add Note Severity Target Date Team Info Outages Call Back Refresh Help Close Window

General Notes Associated Changes View Attachments

Problem Details

Problem Number: IBM-04348854 **Problem Abstract:** ██████████-CPPEA13:*Attention* Contact your hardware service

Problem Information	Contact Information	Problem Date Information
Status: TRANSFERRED	Contact: FLQFAAA1FCCIS01	Occurred Date and Time: SEP 17,2006 04:00:16
Problem Type: PROBLEM	Organization: FLQFAAA1FAURECI	Open Date and Time: SEP 17,2006 04:00:08
Call Code: Outgoing Call	Last Name: CGC IS COMMAND CENTER	Original Target Date and Time: SEP 24,2006 04:00:16
Severity: 3	First Name: ██████████	Current Target Date and Time: SEP 24,2006 04:00:16
Original Severity: 3	Middle Name:	Resolved Date and Time:
System: FLQ_COMMON-APP	External Phone: 1	Close Date and Time:
Component: OPERATINGSYS	Alternate Contact:	Duration:
Item: OS/400	Department: CC	Call Back Date and Time:
Module: ERROR-MESG	Division: NA	Reminder Date and Time:
User:	Site: FLQFA-IBM COMMAND CENTER	
Group: FLQ-IFRISTI	Address: IBM COMMAND CENTER	Bridging Information
Owning User:	Floor:	Not Bridged
Owning Group:	Location: 000000000131954	Bridge Ticket Number:
Resolver User:	City: FRANCE	
Resolver Group:	State: FRANCE	
Reporter User: CZZJUC01		
Last Name: ██████████	Zip: NA	
First Name: ██████████		
Reporter Group: FLQ-ICZOPIOCALM		
Cause Change Number:		
Cause Code:		
Node:	Additional Contact Information	Lock Status
Number Times Reassigned: 1	No Additional Contact Information	Locked By:
Duplicate Problem Number:		User:

Description

AA1 - ██████████ MsgID:CPPEA13:*Attention* Contact your hardware service provider.
 Receive date . 2006/09/17 03:36:14

A critical system hardware problem has occurred. Critical Message Handler has been run.
 Receive date . 2006/09/17 03:36:16

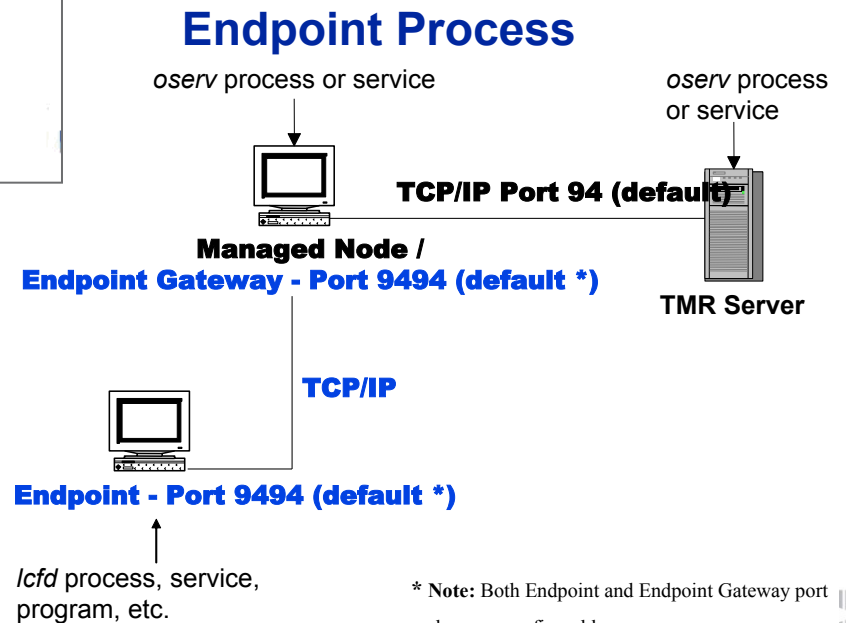
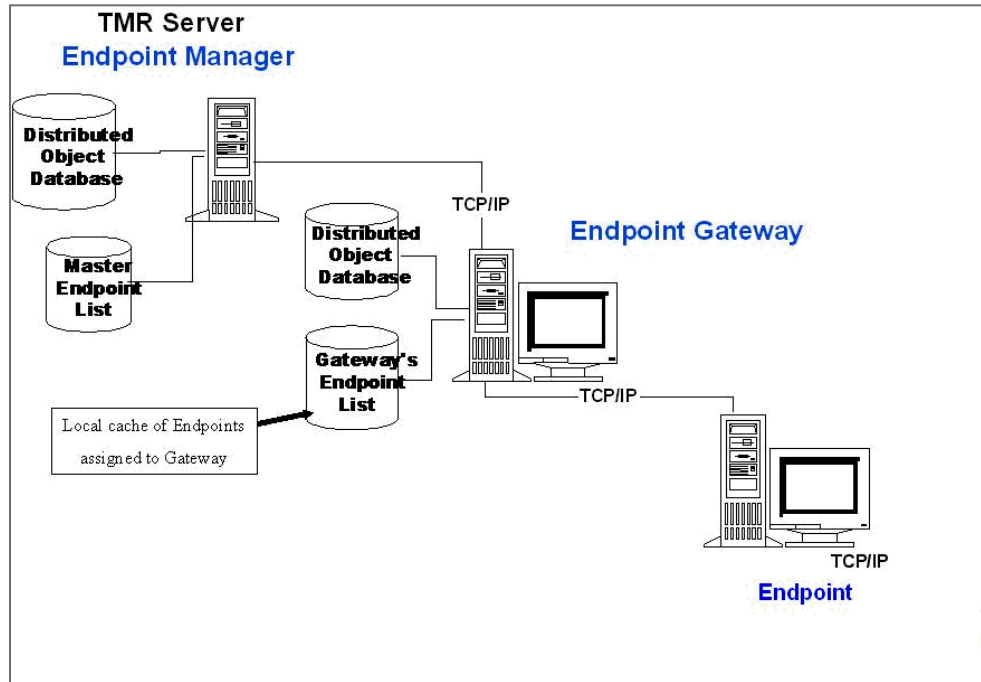
Done Internet



Monitoring - Tivoli

- Tivoli is IBM product
- Set of tools with many features
- One of them is monitoring of OS, SW, HW, NSD etc.

Tivoli monitoring infrastructure



* Note: Both Endpoint and Endpoint Gateway port values are configurable.



Tivoli Enterprise Console - TEC

Tivoli Enterprise Console

3 2 5 2 3 1

Time Received	Classes	Hostname	Severity	Status	Message	Sub-source	Sub-origin
May 31, 2006 22:43:04 UTC	NT_Monitored_Logs_Report	TIVOLIUSER	Unknown	Open	NT_Log_Space_Low	Primary:TIVOLIUSER:NT	Application
May 31, 2006 23:05:30 UTC	NT_Event_Log	BIGGEST	Unknown	Open	NT_Service_Error	Primary:BIGGEST:NT	Error
May 31, 2006 23:19:11 UTC	ITM_Generic	TIVOLIUSER	Minor	Open	TEMS <TIVOILUSER> restarted	Primary:TIVOLIUSER:NT	
June 4, 2006 1:45:34 UTC	ITM_NT_Physical_Disk	TIVOLIUSER	Warning	Reopened	NT_Physical_Disk_Busy_Warning	Primary:TIVOLIUSER:NT	C:
June 4, 2006 2:15:17 UTC	NT_Monitored_Logs_Report	TIVOLIUSER	Unknown	Open	NT_Log_Space_Low	Primary:TIVOLIUSER:NT	System
June 4, 2006 2:21:34 UTC	ITM_NT_Process	BIG	Critical	Open	CPU_Critical(%_Processor_Time)>=90	Primary:BIG:NT	java
June 4, 2005 2:47:55 UTC	ITM_NT_Process	BIG	Critical	Open	CPU_Critical(%_Processor_Time)>=90	Primary:BIG:NT	oserv
June 4, 2005 3:05:58 UTC	ITM_NT_Process	BIG	Critical	Acknowledged	CPU_Critical(%_Processor_Time)>=90	Primary:BIG:NT	services
June 4, 2005 4:55:40 UTC	TEC_ITS_NODE_STATUS	Little	Harmless	Open	Node Up	NET	
June 4, 2005 5:22:16 UTC	TEC_ITS_NODE_STATUS	Little	Warning	Open	Node Down	NET	
June 4, 2005 5:37:18 UTC	TEC_ITS_NODE_STATUS	Little	Warning	Open	Node Down	NET	
June 4, 2005 7:15:24 UTC	TEC_ITM_ConfigSys	Accounts	Warning	Open	Sending updates		
June 4, 2005 9:36:25 UTC	EVENT		Fatal	Closed	Outage		
June 5, 2005 0:30:00 UTC	TEC_Stop	Backroom	Minor	Open	TEC Event Server shut down		
June 5, 2005 8:01:02 UTC	TEC_Start	Backroom	Harmless	Open	TEC Event Server initialized		
June 6, 2005 21:59:05 UTC	TEC_Generic	Backroom	Warning	Open	Resync events		

Acknowledge Close Details Information



Netcool monitoring tool

Netcool/OMNIBUS Event List : Filter="Node-RED", View="Default"

File Edit View Alerts Tools Help

Node-RED Default Top [OFF]

Node	Alert Group	AlertKey	Demand	Summary	Last Occurrence
National Grid	Spike Alarm	NI_to_GB		Alert: NI_to_GB transfer has changed by more than 5%	28/02/14 11:35:56
National Grid	Spike Alarm	Netherlands_to_GB		Alert: Netherlands_to_GB transfer has changed by more than 5%	28/02/14 11:35:56
National Grid	Trend Warning	demand		Warning: Demand has risen by more than 5% in the last thirty minutes	27/02/14 16:55:47
National Grid	Spike Alarm	France_to_GB		Alert: France_to_GB transfer has changed by more than 5%	27/02/14 16:35:46
National Grid	Threshold Breach	frequency		Warning: Frequency below 50Hz	28/02/14 11:35:56
National Grid	Trend Warning	demand		Warning: Demand has been rising for the last thirty minutes	27/02/14 18:25:48
National Grid	Trend Warning	demand		Warning: Demand has been rising for the last thirty minutes	27/02/14 17:55:47
National Grid	Trend Warning	demand		Warning: Demand has been rising for the last thirty minutes	27/02/14 17:25:49
National Grid	Trend Warning	demand		Warning: Demand has been rising for the last thirty minutes	27/02/14 16:10:46
National Grid	Trend Warning	demand		Warning: Demand has been rising for the last thirty minutes	24/02/14 08:01:37
National Grid	Trend Alarm	NI_to_GB		Information: NI_to_GB transfer spike of more than 5% has reduced	23/02/14 18:34:23
National Grid	Spike Alarm	Netherlands_to_GB		End of Alert: Netherlands_to_GB transfer spike of more than 5% has stayed at new value	28/02/14 11:05:54
National Grid	Spike Alarm	NI_to_GB		End of Alert: NI_to_GB transfer spike of more than 5% has stayed at new value	28/02/14 10:50:53
National Grid	Threshold Breach	frequency		Clear: Frequency now above 50Hz	27/02/14 18:40:48
National Grid	Spike Alarm	France_to_GB		End of Alert: France_to_GB transfer spike of more than 5% has returned to base value	27/02/14 17:05:47
National Grid	Trend Warning	demand		Information: Demand has been falling for the last thirty minutes	27/02/14 14:55:47

5 0 1 6 4 0 All Events

No rows modified. 28/02/14 11:41:06 netcool NCOMS[PRJ]



Tivoli features

- TEC – Tivoli Enterprise Console
- TSM – Tivoli Storage Manager
- TWS – Tivoli Workload Scheduler
- Tivoli Configuration Manager
- Tivoli License Manager
- Tivoli Access Manager



Used shortcuts

- IBM = International Business Machines
- CIC = Client Innovation Center
- GSDC = Global Services Delivery Center
- SSO = Server System Operation
- DCS = Desktop Client Support
- HW = Hardware
- SW = Software
- OS = Operating System
- SLA = Service Level Agreement
- IT = Information Technologies
- SNMP = Simple Network Management Protocol
- TCP/IP = Transmission Control Protocol/Internet Protocol
- OSS = On Site Support
- ERP = Enterprise Resource Planning
- PC = Personal Computer
- CC = Command Center
- HD = HelpDesk
- TEC = Tivoli Enterprise Console
- OSS = On Site Support
- RSA = Remote Supervisor Adapter
- LAN = Local area network
- WAN = Wide area network
- TMR = Tivoli Management Region
- Icfcd = Lightweight Client Framework Daemon
- SME = Service Matter Expert



Questions ?



Links and materials

- <http://www-03.ibm.com/ibm/history/documents/index.html>
- <http://www-03.ibm.com/systems/i/>