Pulse

IBM SolutionsConnect 2013

Jazz SM for ITM <6.3

A customers experience with Jazz and TDI

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2013/6/12

IBM

A Customers experience with JAZZ SM / TDI

- The Business Story
- The Technical Options
- Technical Solution

A Customers experience with JAZZ SM / TDI

- The Business Story
- The Technical Options
- Technical Solution

A Customers experience with JAZZ SM / TDI

The Business story

-National retailer
-About 3000 agents under ITM
-Some Non-Tivoli technologies
-Business needs for Dashboards
-Bling

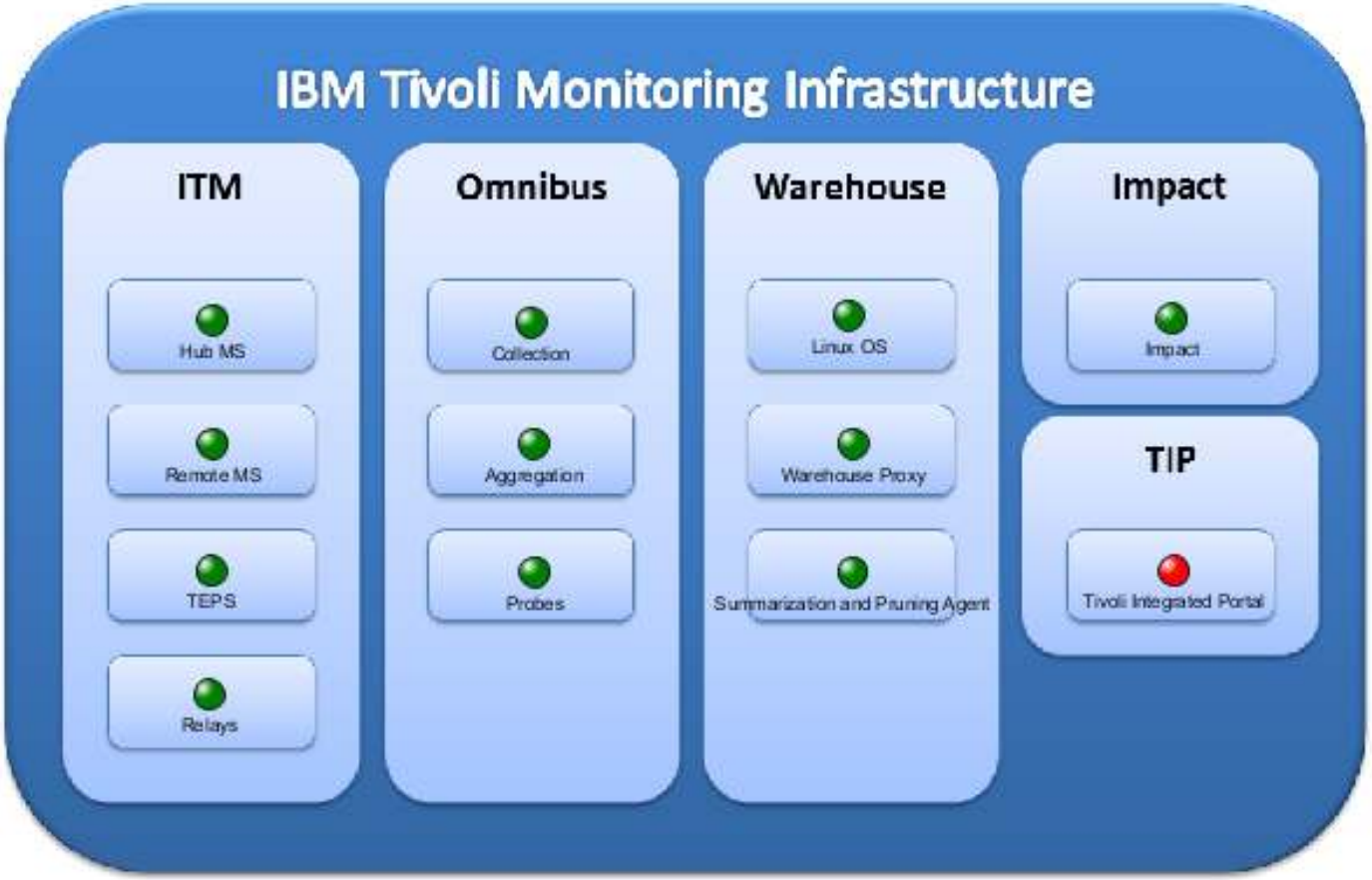
A Customers experience with JAZZ SM / TDI

The Business story

-2 years ago
-Focus Now
-Current on ITM 6.2.2 FP3 with possible path 6.2.3 FP1
-Driver to migrate off the last of V5x
-Upgrade of TIP

A Customers experience with JAZZ SM / TDI

- TEP



A Customers experience with JAZZ SM / TDI

- The Business Story
- The Technical Options
- Technical Solution

A Customers experience with JAZZ SM / TDI

The Technical Options

TEP

TCR

TIP

APM UI

Then 6.3 landed and what is this thing called Jazz

A Customers experience with JAZZ SM / TDI

The Technical Options

	ITM 622FP3	ITM 623 fp1	ITM 63x
OLD TCR	Not Dynamic		
Previous TIP	☒	☑ ☑	
APM UI	Focus on ITCAM		
JAZZ	Possible with TDI		☑ ☑

A Customers experience with JAZZ SM / TDI

- The Business Story
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A Customers experience with JAZZ SM / TDI

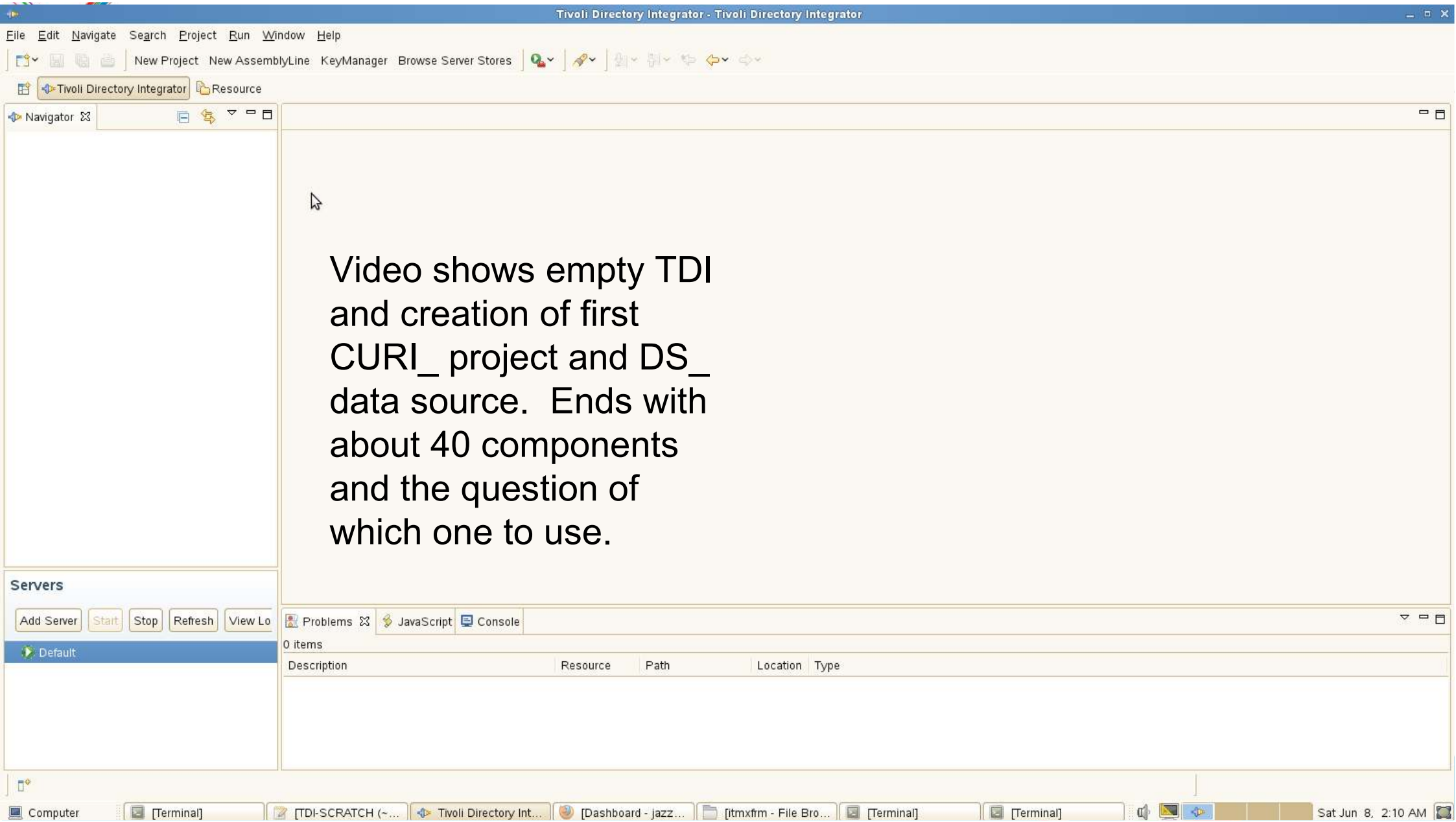
Technical Solution

-The installation experience

A Customers experience with JAZZ SM / TDI

Technical Solution

-The installation experience
-First look at TDI


Tivoli Directory Integrator - Tivoli Directory Integrator
File Edit Navigate Search Project Run Window Help
New Project New AssemblyLine KeyManager Browse Server Stores
Tivoli Directory Integrator Resource
Navigator
Video shows empty TDI and creation of first CURI_ project and DS_ data source. Ends with about 40 components and the question of which one to use.
Servers
Add Server Start Stop Refresh View Lo
Default
Problems JavaScript Console
0 items
Description Resource Path Location Type
Computer [Terminal] [TDI-SCRATCH (~... Tivoli Directory Int... [Dashboard - jazz... [itmxfrm - File Bro... [Terminal] [Terminal]
Sat Jun 8, 2:10 AM

A Customers experience with JAZZ SM / TDI

Technical Solution

-The installation experience
-First look at TDI
-The Stack

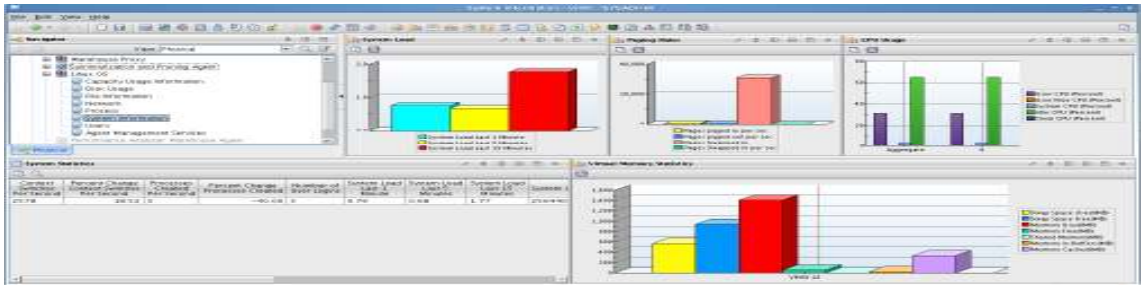
A Customers experience with JAZZ SM / TDI

Technical Solution:

The Stack

IBM Software > Products > Security > Identity and access management >

Tivoli Directory Integrator



A Customers experience with JAZZ SM / TDI

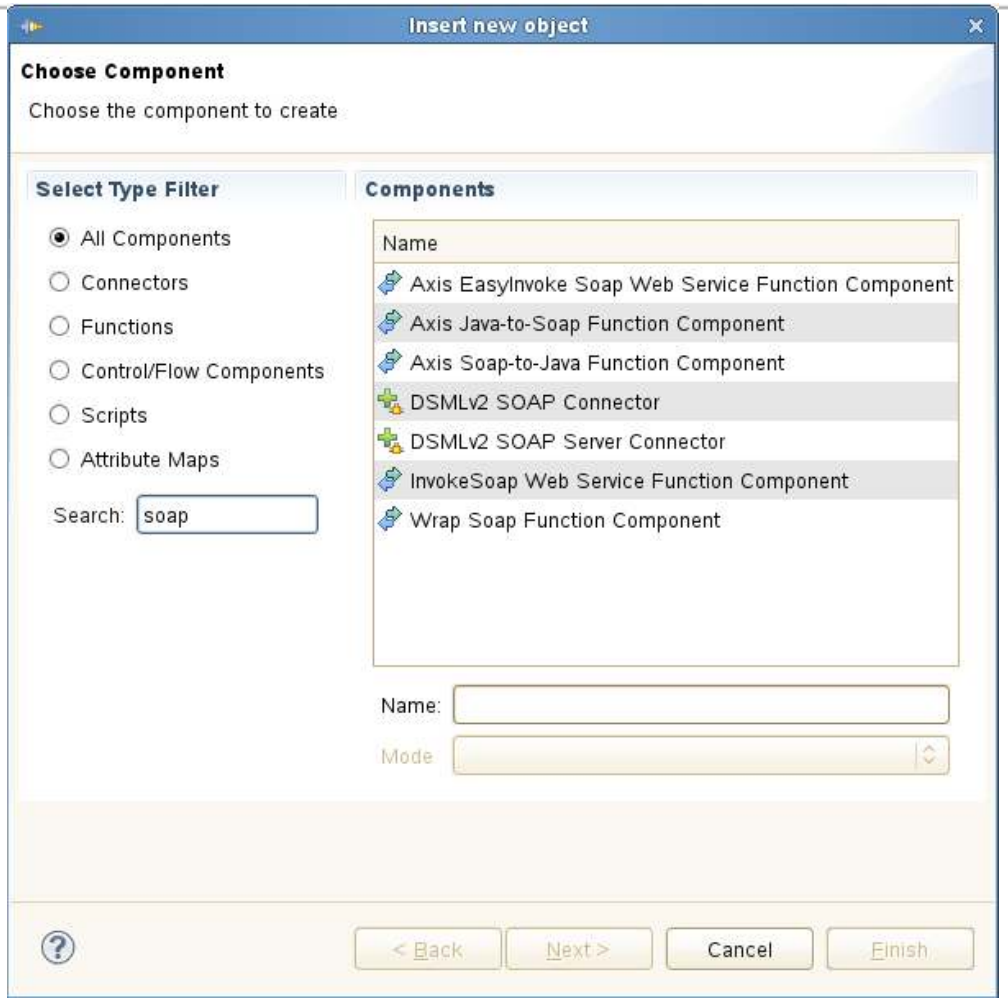
Technical Solution

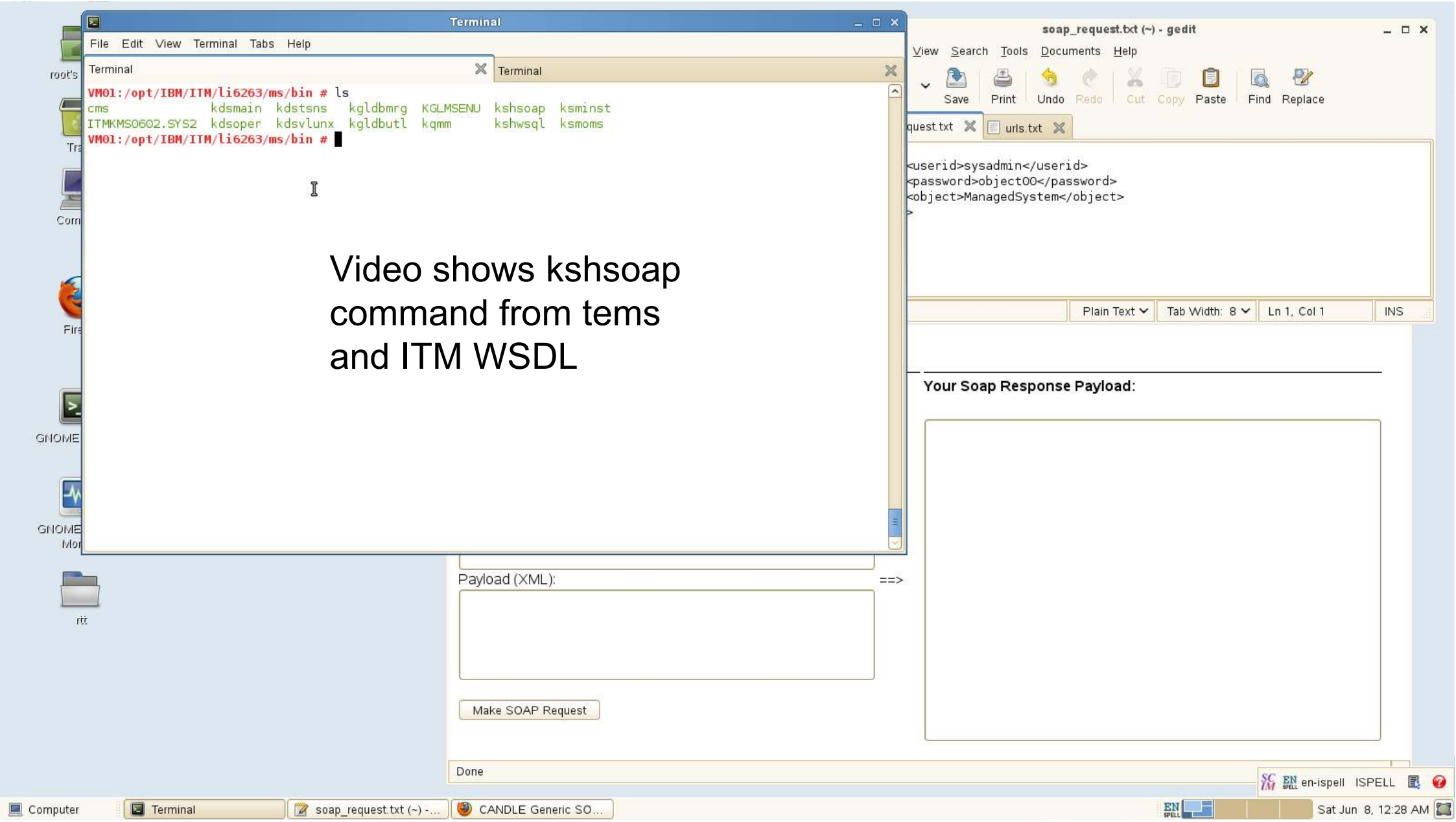
-The installation experience
-First look at TDI
-The Stack
-ITM SOAP and WSDL

A Customers experience with JAZZ SM / TDI

Technical Solution

-ITM and SOAP
-kshsoap from a TEMS
-SoapUI and WSDL




Terminal
File Edit View Terminal Tabs Help
Terminal
Terminal
VM01:/opt/IBM/ITM/li6263/ms/bin # ls
cms kdsmain kdstsns kgldbmrg KGLMSENU kshsoap ksminst
ITMKMS0602.SYS2 kdsoper kdsvlunx kgldbutl kqmm kshwsql ksmoms
VM01:/opt/IBM/ITM/li6263/ms/bin #
Video shows kshsoap command from tems and ITM WSDL
soap_request.txt (~) - gedit
View Search Tools Documents Help
Save Print Undo Redo Cut Copy Paste Find Replace
quest.txt
urls.txt
<userid>sysadmin</userid>
<password>object00</password>
<object>ManagedSystem</object>
Plain Text Tab Width: 8 Ln 1, Col 1 INS
Your Soap Response Payload:
Payload (XML): ==>
Make SOAP Request
Done
en-ispell ISPELL
Computer
Terminal
soap_request.txt (~) -...
CANDLE Generic SO...
Sat Jun 8, 12:28 AM

A Customers experience with JAZZ SM / TDI

Technical Solution

-ITM and SOAP

-kshsoap from a TEMS

-SoapUI and WSDL

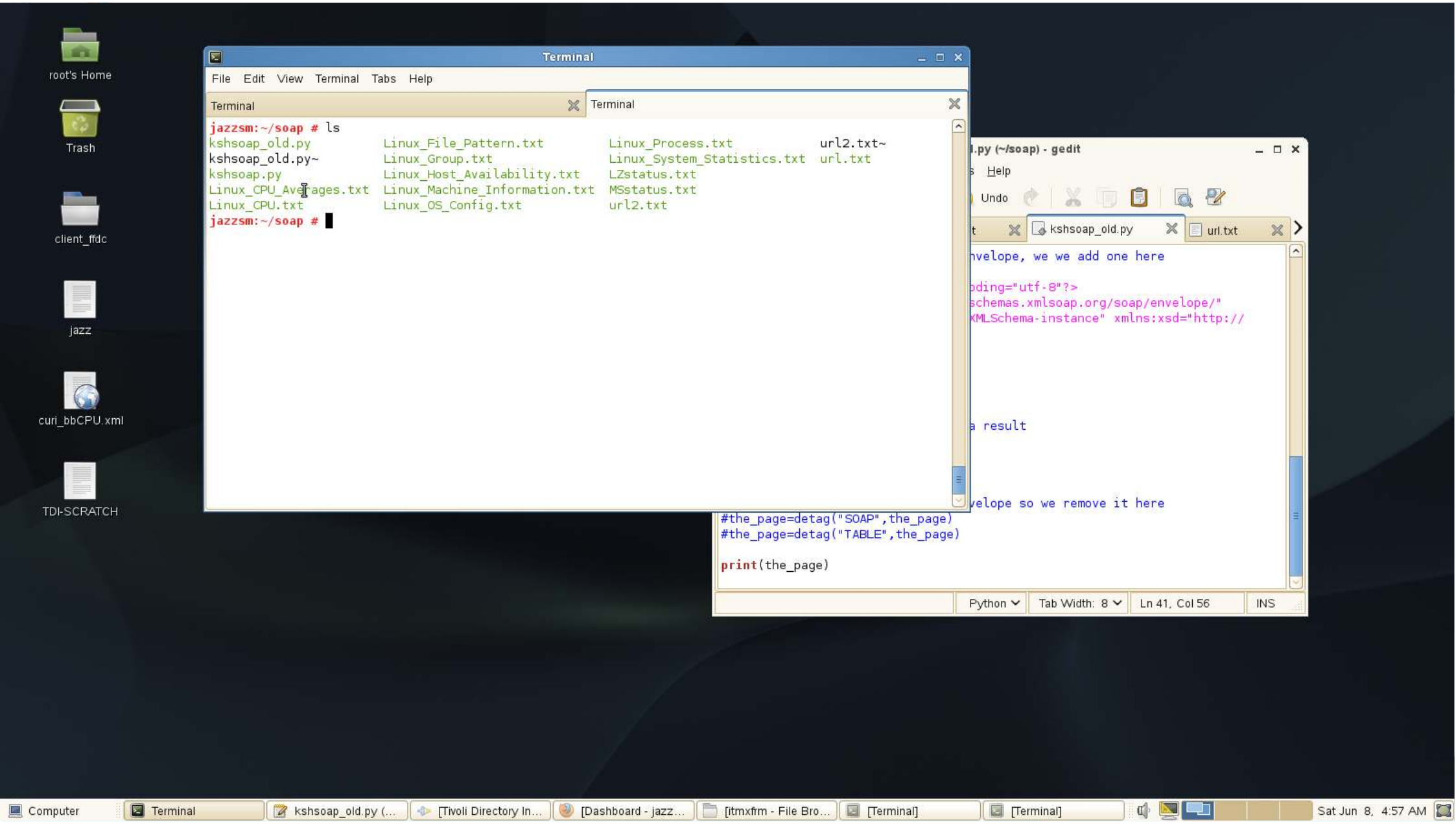
-Technology wars

- Python Vs. Perl – JavaScript Vs. IPL

A Customers experience with JAZZ SM / TDI

Technical Solution

-The installation experience
-First look at TDI
-The Stack
-ITM SOAP and WSDL
-My Python kshsoap


root's Home
Trash
client_ffdc
jazz
curi_bbCPU.xml
TDI-SCRATCH
Terminal
File Edit View Terminal Tabs Help
Terminal
Terminal
jazzsm:~/soap # ls
kshsoap_old.py Linux_File_Pattern.txt Linux_Process.txt url2.txt~
kshsoap_old.py~ Linux_Group.txt Linux_System_Statistics.txt url.txt
kshsoap.py Linux_Host_Availability.txt LZstatus.txt
Linux_CPU_Averages.txt Linux_Machine_Information.txt MSstatus.txt
Linux_CPU.txt Linux_OS_Config.txt url2.txt
jazzsm:~/soap #
.py (~/soap) - gedit
Help
Undo
kshsoap_old.py
url.txt
nvelope, we we add one here
oding="utf-8"?>
schemas.xmlsoap.org/soap/envelope/"
XMLSchema-instance" xmlns:xsd="http://
a result
velope so we remove it here
#the_page=detag("SOAP",the_page)
#the_page=detag("TABLE",the_page)
print(the_page)
Python
Tab Width: 8
Ln 41, Col 56
INS
Computer
Terminal
kshsoap_old.py (...
[Tivoli Directory In...
[Dashboard - jazz...
[itmxfrm - File Bro...
[Terminal]
[Terminal]
Sat Jun 8, 4:57 AM

A Customers experience with JAZZ SM / TDI

Technical Solution

-The installation experience
-First look at TDI
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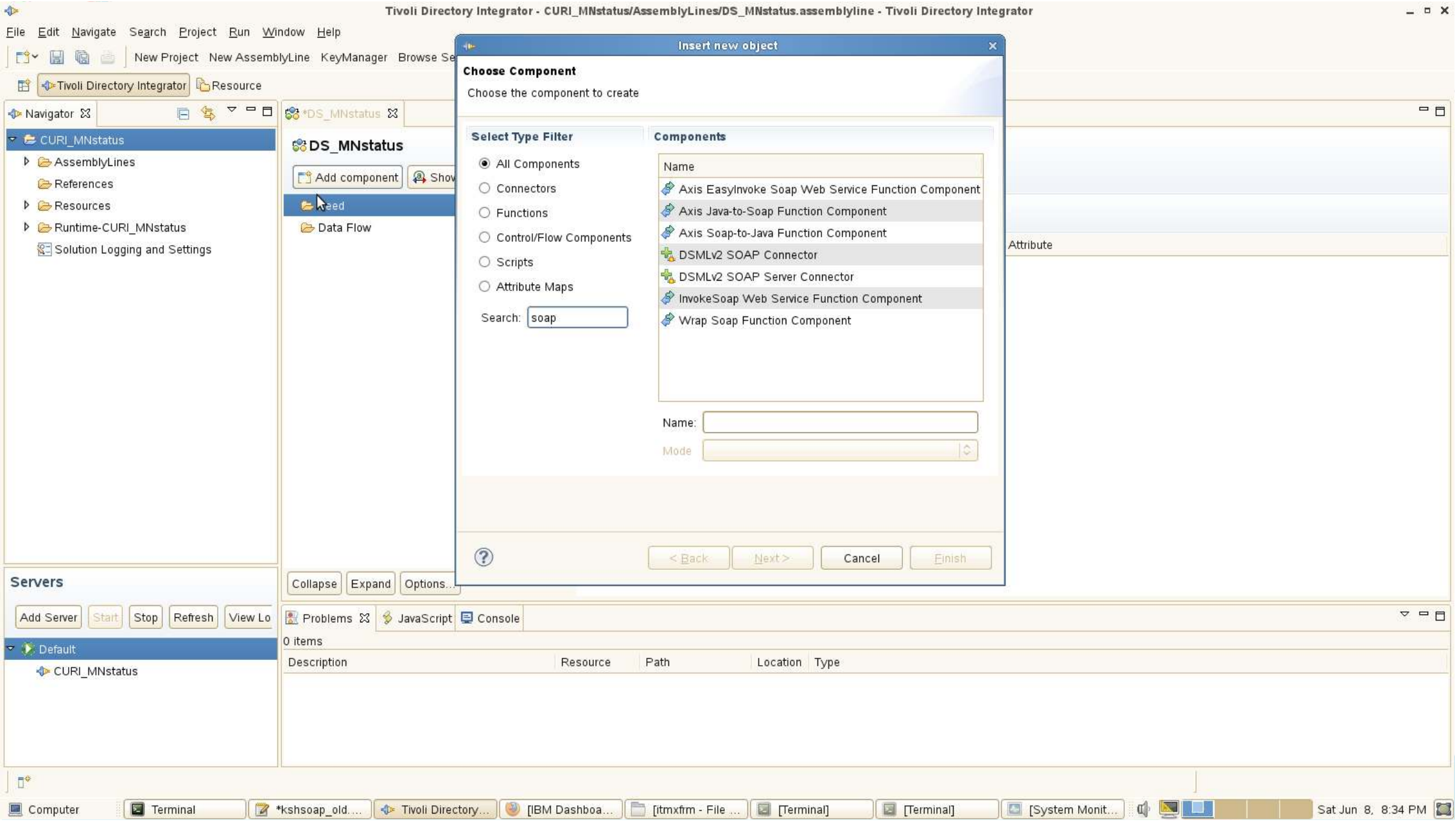
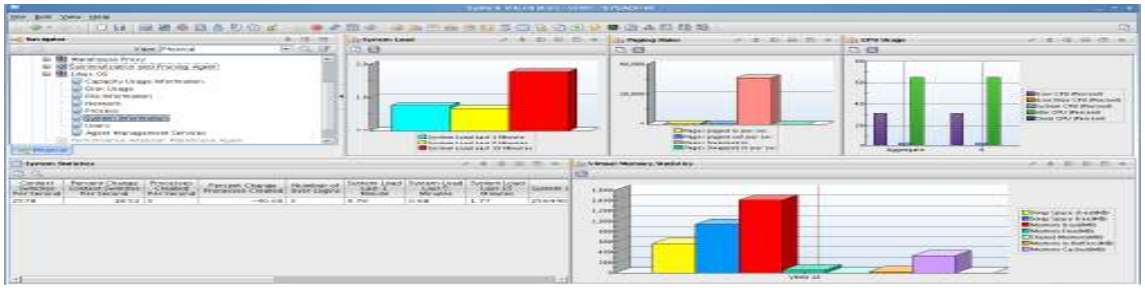
-ITM SOAP and WSDL
-My Python kshsoap
-TDI Consumes ITM XML


Tivoli Directory Integrator - CURI_MNstatus/AssemblyLines/DS_MNstatus.assemblyline - Tivoli Directory Integrator
File Edit Navigate Search Project Run Window Help
New Project New AssemblyLine KeyManager
Tivoli Directory Integrator Resource
Navigator
CURI_MNstatus
AssemblyLines
References
Resources
Runtime-CURI_MNstatus
Solution Logging and Settings
*DS_MNstatus
DS_MNstatus
Add component
Data Flow
Collapse Expand Options...
Servers
Add Server Start Stop Refresh View Lo
Default
CURI_MNstatus
Problems JavaScript Console
0 items
Description Resource Path Location Type
Insert new object
Choose Component
Choose the component to create
Select Type Filter
All Components
Connectors
Functions
Control/Flow Components
Scripts
Attribute Maps
Search: soap
Components
Name
Axis EasyInvoke Soap Web Service Function Component
Axis Java-to-Soap Function Component
Axis Soap-to-Java Function Component
DSMLv2 SOAP Connector
DSMLv2 SOAP Server Connector
InvokeSoap Web Service Function Component
Wrap Soap Function Component
Name:
Mode
< Back Next > Cancel Finish
Attribute
Computer Terminal *kshsoap_old.... Tivoli Directory... [IBM Dashboa... [itmxfrm - File ... [Terminal] [Terminal] [System Monit... Sat Jun 8, 8:34 PM

A Customers experience with JAZZ SM / TDI

Technical Solution



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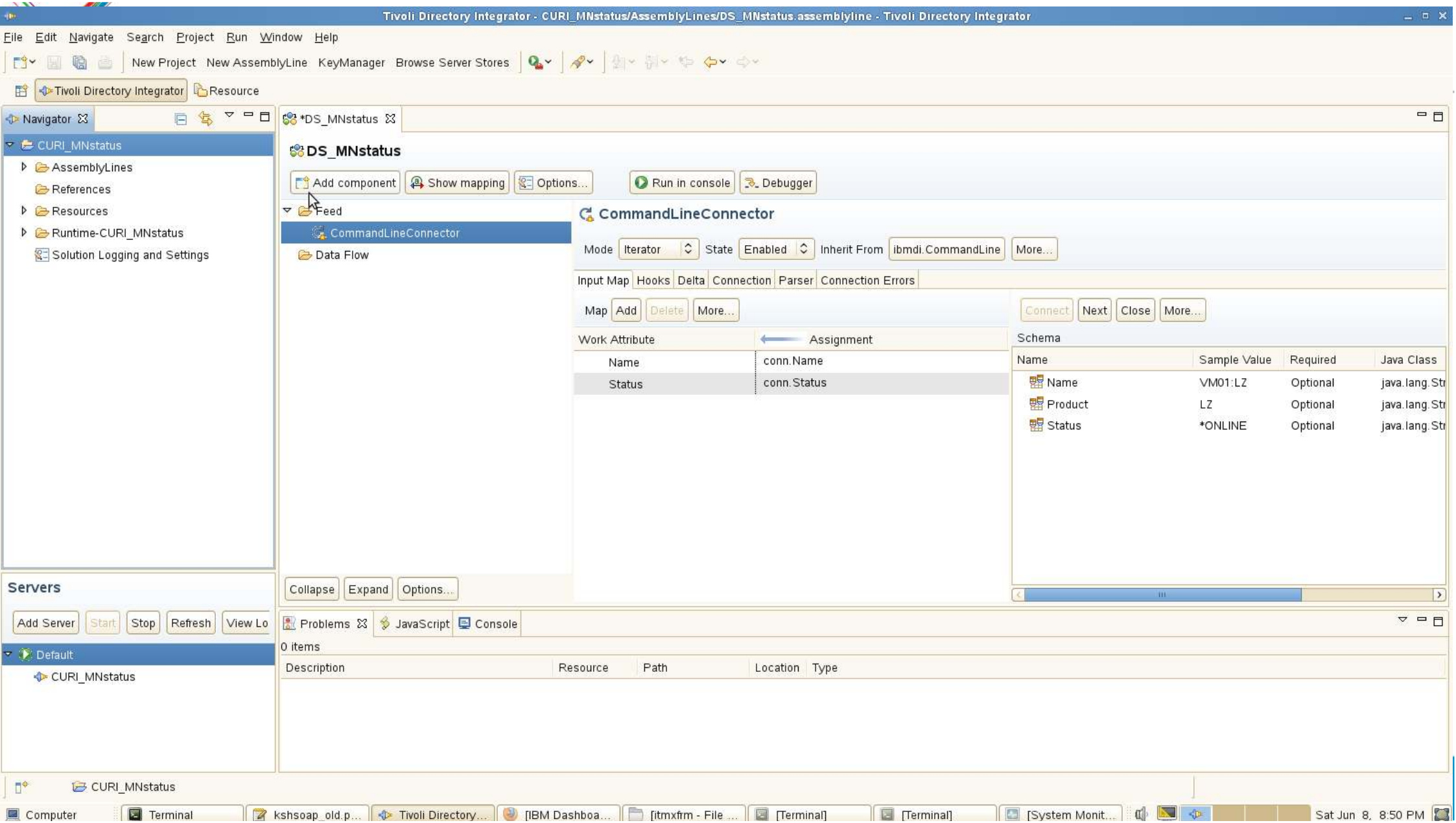
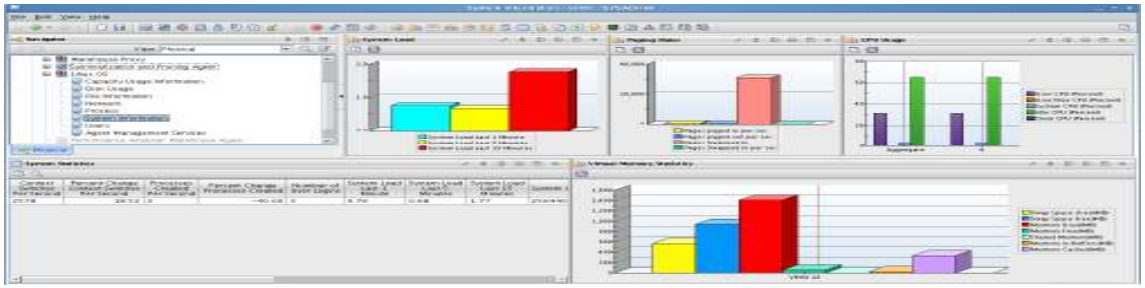
- My Python kshsoap
- TDI Consumes ITM XML
- DASH presents the data


Tivoli Directory Integrator - CURI_MNstatus/AssemblyLines/DS_MNstatus.assemblyline - Tivoli Directory Integrator
File Edit Navigate Search Project Run Window Help
New Project New AssemblyLine KeyManager Browse Server Stores
Tivoli Directory Integrator Resource
Navigator
CURI_MNstatus
AssemblyLines
References
Resources
Runtime-CURI_MNstatus
Solution Logging and Settings
*DS_MNstatus
DS_MNstatus
Add component Show mapping Options... Run in console Debugger
Feed
CommandLineConnector
Data Flow
CommandLineConnector
Mode Iterator State Enabled Inherit From ibmdi.CommandLine More...
Input Map Hooks Delta Connection Parser Connection Errors
Map Add Delete More...
Work Attribute Assignment
Name conn.Name
Status conn.Status
Connect Next Close More...
Schema
Name Sample Value Required Java Class
Name VM01:LZ Optional java.lang.Str
Product LZ Optional java.lang.Str
Status *ONLINE Optional java.lang.Str
Collapse Expand Options...
Servers
Add Server Start Stop Refresh View Lo
Default
CURI_MNstatus
Problems JavaScript Console
0 items
Description Resource Path Location Type
CURI_MNstatus
Computer Terminal kshsoap_old.p... Tivoli Directory... [IBM Dashboa... [itmxfrm - File ... [Terminal] [Terminal] [System Monit... Sat Jun 8, 8:50 PM

A Customers experience with JAZZ SM / TDI

Technical Solution



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- Enhance with SOAP

A Customers experience with JAZZ SM / TDI

Technical Solution

- What can we do with SOAP:

Methods	Objects
CT_Get	Linux_CPU
CT_Acknowledge	Linux_Disk_IO
CT_Activate	Linux_Network
CT_Deactivate	Linux_Process
… (see ITM Admin Guide)	… (See Agent Guide)

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Technical Solution

- What can we do with SOAP:

```
<CT_Get>
<hub>SOAP</hub>
<userid>sysadmin</userid>
<password>object00</password>
<object>Linux_CPU_Averages</object>
```

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<ROW>
<CPU_Usage_Current_Average dt="number">2.23</CPU_Usage_Current_Average>
<CPU_Usage_Moving_Average dt="number">2.07</CPU_Usage_Moving_Average>
<Days_to_CPU_Upgrade dt="number">0</Days_to_CPU_Upgrade>
<Idle_CPU_Current_Average dt="number">97.77</Idle_CPU_Current_Average>
<Idle_CPU_Moving_Average dt="number">97.94</Idle_CPU_Moving_Average>
<System_Name>VM02:LZ</System_Name>
<Steal_CPU_Current_Average dt="number">-0.01</Steal_CPU_Current_Average>
<Steal_CPU_Moving_Average dt="number">-0.01</Steal_CPU_Moving_Average>
<System_CPU_Current_Average dt="number">1.23</System_CPU_Current_Average>
<System_CPU_Moving_Average dt="number">1.06</System_CPU_Moving_Average>
<Timestamp>1130608173508000</Timestamp>
<User_CPU_Current_Average dt="number">1.00</User_CPU_Current_Average>
<User_CPU_Moving_Average dt="number">1.00</User_CPU_Moving_Average>
<User_Nice_CPU_Current_Average dt="number">0.00</User_Nice_CPU_Current_Average>
<User_Nice_CPU_Moving_Average dt="number">0.00</User_Nice_CPU_Moving_Average>
<Linux_VM_ID></Linux_VM_ID>
<Wait_CPU_Current_Average dt="number">0.00</Wait_CPU_Current_Average>
<Wait_CPU_Moving_Average dt="number">0.00</Wait_CPU_Moving_Average>
</ROW>

A Customers experience with JAZZ SM / TDI

Technical Solution

- What can we do with SOAP:

```
<CT_Get>
<hub>SOAP</hub>
<userid>sysadmin</userid>
<password>object00</password>
<object>Linux_CPU_Averages</object>
<attribute>System_Name</attribute>
<attribute>CPU_Usage_Current_Average</attribute>
</CT_Get>
```

A Customers experience with JAZZ SM / TDI

```
<OBJECT>Linux_CPU_Averages</OBJECT>
<DATA>
<ROW>
<System_Name>VM02:LZ</System_Name>
<CPU_Usage_Current_Average dt="number">2.59</CPU_Usage_Current_Average>
</ROW>
<ROW>
<System_Name>VM01:LZ</System_Name>
<CPU_Usage_Current_Average dt="number">3.19</CPU_Usage_Current_Average>
</ROW>
</DATA>
```

A Customers experience with JAZZ SM / TDI

<OBJECT>Linux_CPU_Averages</OBJECT>
<DATA>
<ROW>
<System_Name>VM02:LZ</System_Name>
<CPU_Usage_Current_Average dt="number">2.59</CPU_Usage_Current_Average>
</ROW>
<ROW>
<System_Name>VM01:LZ</System_Name>
<CPU_Usage_Current_Average dt="number">3.19</CPU_Usage_Current_Average>
</ROW>
</DATA>

<OBJECT>Linux_VM_Stats</OBJECT>
<DATA>
<ROW>
<System_Name>VM02:LZ</System_Name>
<Real_Memory_Pct_Used dt="number">97</Real_Memory_Pct_Used>
</ROW>
<ROW>
<System_Name>VM01:LZ</System_Name>
<Real_Memory_Pct_Used dt="number">96</Real_Memory_Pct_Used>
</ROW>
</DATA>

A Customers experience with JAZZ SM / TDI

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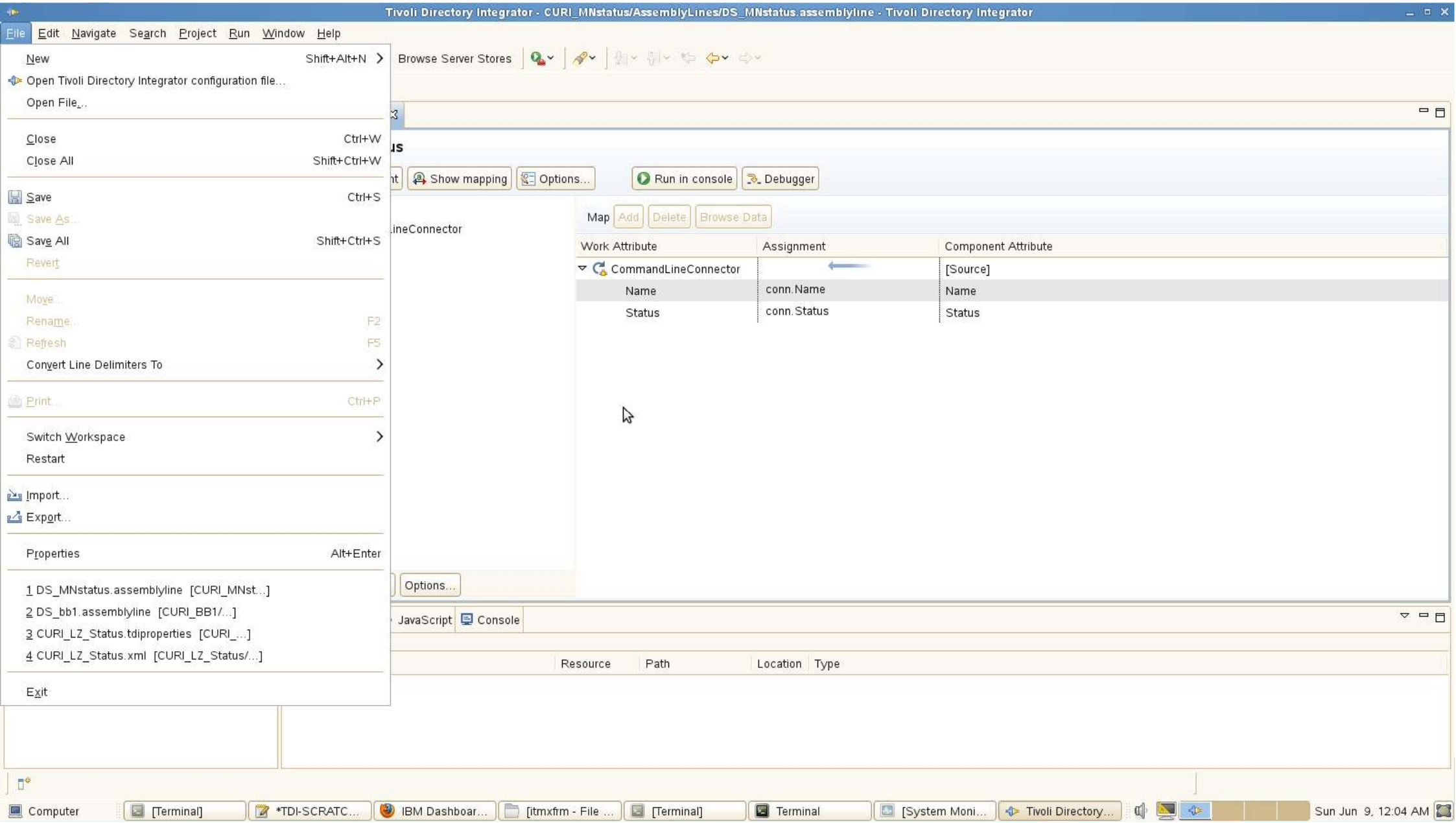
Tivoli Directory Integrator - CURI_MNstatus/AssemblyLines/DS_MNstatus.assemblyline - Tivoli Directory Integrator
File Edit Navigate Search Project Run Window Help
New Shift+Alt+N
Open Tivoli Directory Integrator configuration file...
Open File...
Close Ctrl+W
Close All Shift+Ctrl+W
Save Ctrl+S
Save As...
Save All Shift+Ctrl+S
Revert
Move...
Rename... F2
Refresh F5
Convert Line Delimiters To
Print... Ctrl+P
Switch Workspace
Restart
Import...
Export...
Properties Alt+Enter
1 DS_MNstatus.assemblyline [CURI_MNst...]
2 DS_bb1.assemblyline [CURI_BB1/...]
3 CURI_LZ_Status.tdiproperties [CURI_...]
4 CURI_LZ_Status.xml [CURI_LZ_Status/...]
Exit
Browse Server Stores
Show mapping
Options...
Run in console
Debugger
Map
Add
Delete
Browse Data
Work Attribute
Assignment
Component Attribute
CommandLineConnector
[Source]
Name
conn.Name
Name
Status
conn.Status
Status
Options...
JavaScript
Console
Resource
Path
Location
Type
Computer
[Terminal]
*TDI-SCRATC...
IBM Dashboar...
[itmxfrm - File ...
[Terminal]
Terminal
[System Moni...
Tivoli Directory...
Sun Jun 9, 12:04 AM

A Customers experience with JAZZ SM / TDI

Technical Solution

- The installation experience
- First look at TDI
- The Stack
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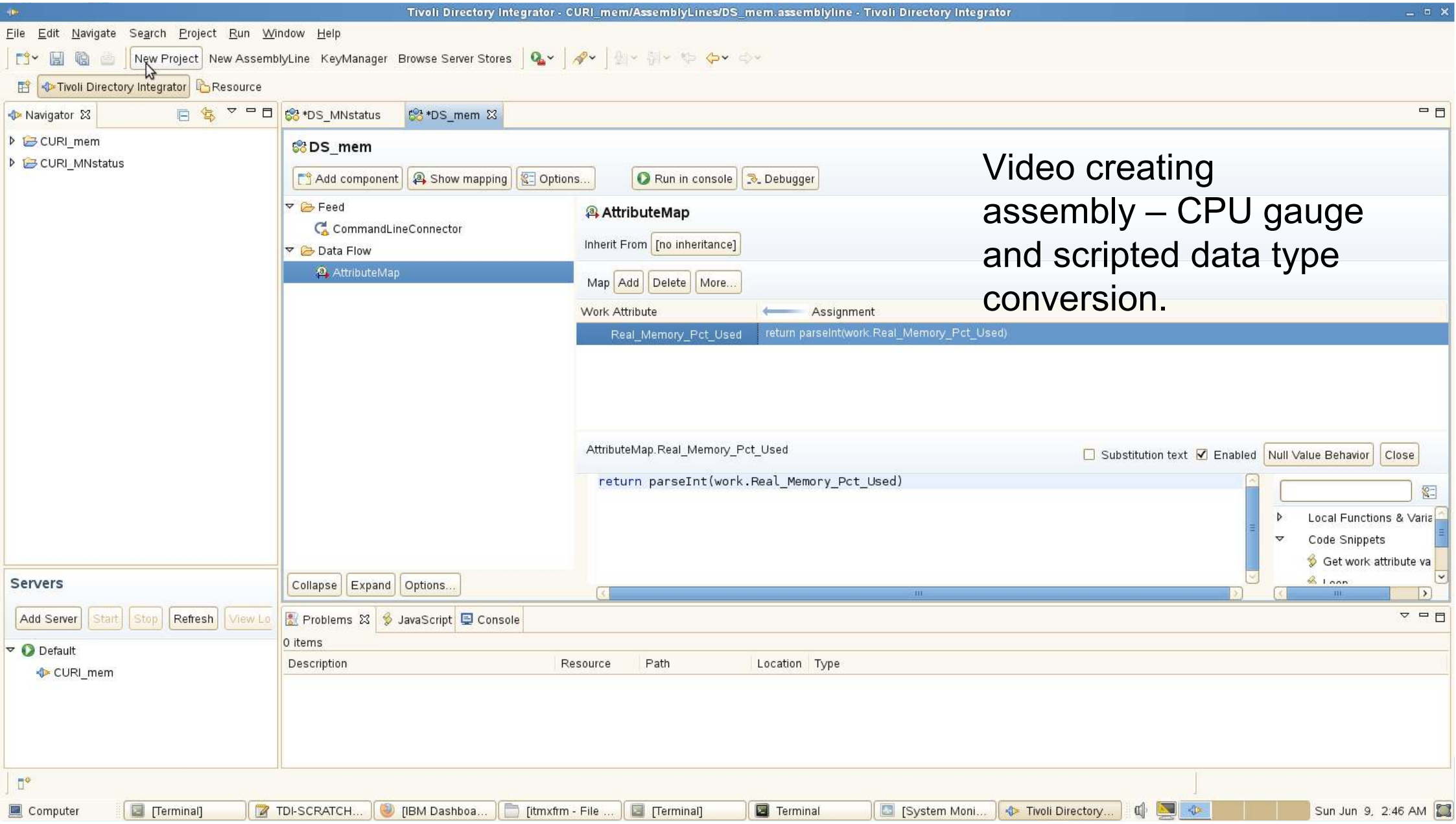
- Enhance with SOAP
- Using more soap
- Attribute map in TDI



Video creating assembly – CPU gauge and scripted data type conversion.

A Customers experience with JAZZ SM / TDI

Technical Solution

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- Using more soap
- Attribute map in TDI
- Script a type conversion

IBM Dashboard Application Services Hub - Mozilla Firefox

File Edit View History Bookmarks Tools Help

IBM Dashboard Application Serv... | Dashboard - jazzsm

jazzsm https://jazzsm:16311/ibm/console/navigation.do?XSS=_24ZI6KVUVy-bnkOHsRN9Vx&wpageid=com.ibm.isclite.welcomeportlet.layoutElement.A&moduleRef=com.ibm.isclite.ISC

Google

Connections | Pulse Down Under 2013

What's up

Name	Status
VM01:LZ	*ONLINE
VM02:LZ	*ONLINE

Total: 2 Selected: 0

Mem used

Root File System

List Widget

Filter

VM01:LZ
*ONLINE

VM02:LZ
*ONLINE

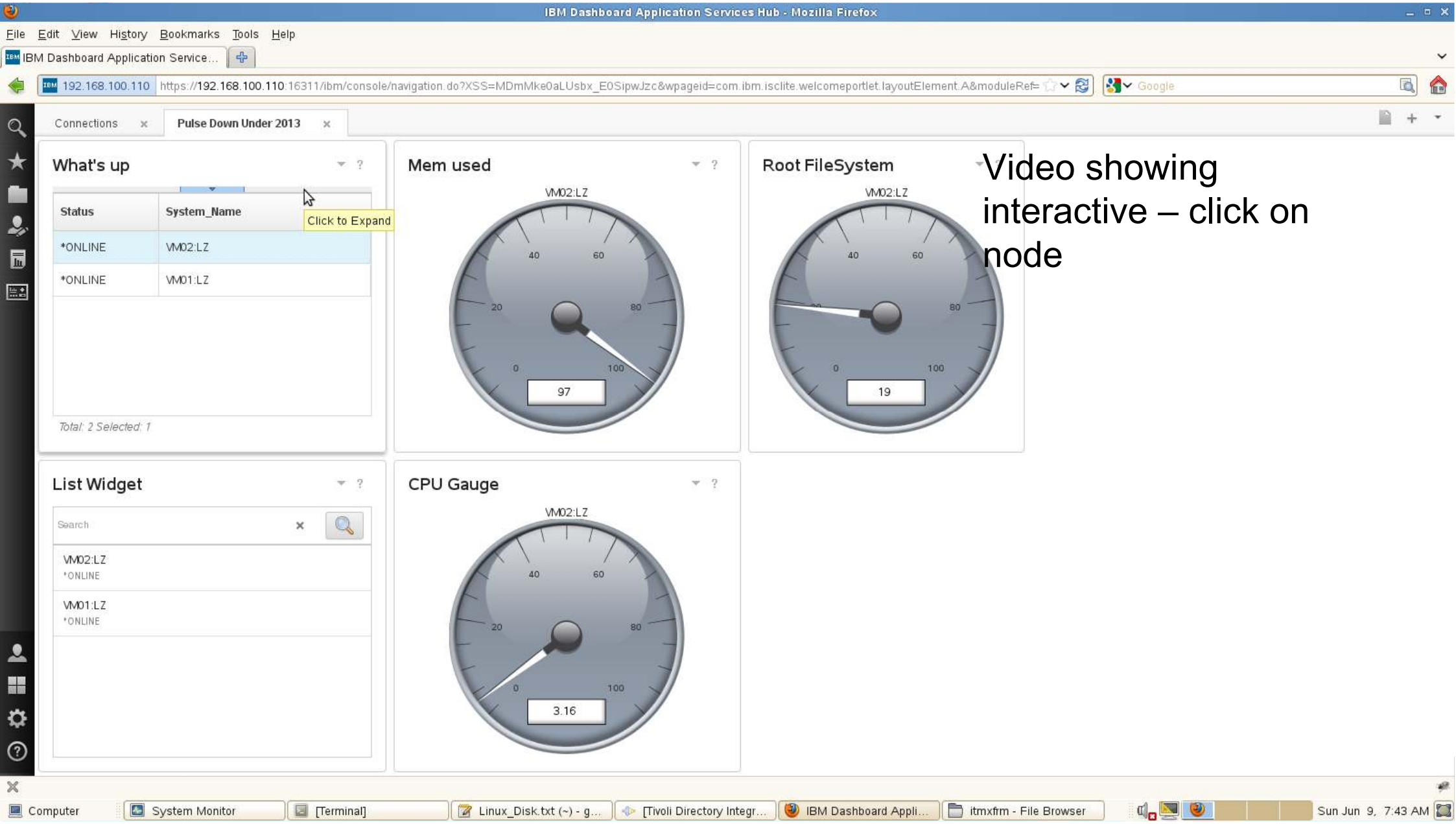
CPU Gauge

Computer | [Terminal] | [Linux_Disk.tx... | IBM Dashboar... | [itmxfrm - File ... | [Terminal] | Terminal | [System Moni... | Tivoli Directory... | Sun Jun 9, 6:05 AM

A Customers experience with JAZZ SM / TDI

Technical Solution

- The installation experience
- First look at TDI
- The Stack
- ITM SOAP and WSDL
- My Python kshsoap
- TDI Consumes ITM XML
- DASH presents the data
- Enhance with SOAP
- Using more soap
- Attribute map in TDI
- Script a type conversion
- An Interactive experience


IBM Dashboard Application Services Hub - Mozilla Firefox
File Edit View History Bookmarks Tools Help
IBM Dashboard Application Service...
192.168.100.110
https://192.168.100.110:16311/ibm/console/navigation.do?XSS=MDmMke0aLUsbx_E0SipwJzc&wpageid=com.ibm.isclite.welcomeportlet.layoutElement.A&moduleRef=
Google
Connections
Pulse Down Under 2013
What's up
Status
System_Name
Click to Expand
*ONLINE
VM02:LZ
*ONLINE
VM01:LZ
Total: 2 Selected: 1
Mem used
VM02:LZ
0
20
40
60
80
100
97
Root FileSystem
VM02:LZ
0
40
60
80
100
19
List Widget
Search
VM02:LZ
*ONLINE
VM01:LZ
*ONLINE
CPU Gauge
VM02:LZ
0
20
40
60
80
100
3.16
Video showing interactive – click on node
Computer
System Monitor
[Terminal]
Linux_Disk.txt (~) - g...
[Tivoli Directory Integr...
IBM Dashboard Appli...
itmxfrm - File Browser
Sun Jun 9, 7:43 AM

A Customers experience with JAZZ SM / TDI

Technical Solution

- The installation experience
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- Enhance with SOAP
- Using more soap
- Attribute map in TDI
- Script a type conversion
- An Interactive experience
- More bling

IBM Dashboard Application Services Hub - Mozilla Firefox

File Edit View History Bookmarks Tools Help

IBM Dashboard Application Serv... | IBM_AUSTIN.JPG (JPEG Image... | 1d.JPG (JPEG Image) | CANDLE Generic SOAP Client

192.168.100.110 https://192.168.100.110:16311/ibm/console/navigation.do?XSS=NdKuUIEU_T_74DR6R2yWYad&wpageid=com.ibm.isclite.welcomeportlet.layoutElement.A&moduleRef=

Google

Pulse Down Under 2013

What's up

Status	System_Name
*ONLINE	VM01:LZ
*ONLINE	VM02:LZ

Total: 2 Selected: 0

Mem used

Root FileSystem

CPU Gauge

List Widget

Search

VM01:LZ
*ONLINE

VM02:LZ
*ONLINE

Computer | System Monitor | Terminal | *transformation (~... | [Tivoli Directory In... | IBM Dashboard A... | Desktop - File Br... | [YaST Control Ce... | Sun Jun 9, 8:35 PM

A Customers experience with JAZZ SM / TDI

Technical Solution

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- More bling

A Customers experience with JAZZ SM / TDI

- The Business Story
- The Technical Options
- Technical Solution

A Customers experience with JAZZ SM / TDI

- Supporting Materials:

- Attribute map used : return parseInt()
- String to double script used:
  - ba = conn.getString("BUSYCPU");
    conn.setAttribute("BUSYCPU", java.lang.Double.valueOf(ba));
    return conn.BUSYCPU
- Interactive script: (logging removed for brevity)

```
task.logmsg("@@@@@@@@@@This is the OP entry@@@@@@@@@@");
task.dumpEntry(task.getOpEntry());
task.logmsg("**********This is the htttp patams received*******");
var params = task.getOpEntry().getObject("http_params");
task.logmsg("Parameters are " + params);
if (params != null){       systemName = params.getString("param_System_Name");}
if(systemName != null){ if(work.System_Name == systemName){ task.logmsg("Received request
   for " + systemName)  }else{         system.skipEntry();      } }
```

A Customers experience with JAZZ SM / TDI

Contributors and collaborators

- Tze Ping Yeo
- Chris Frost
- Shikha Srivastava
- Laquicia S Barbee
- Mark Anderson
- Vijay R Kalangumvathakkal
- Ashish K Thakur
- Gil Arnold