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Universitatea
POLITEHNICA
din Bucuresti

Cloud services for a smarter education system

Florin ANTON
University Politehnica of Bucharest

**Program Strategic pentru Promovarea Inovarii în Servicii prin
Educație Deschisă, Continuă (INSEED)**
POSDRU/86/1.2./S/57748

*Proiect cofinanțat din Fondul Social European prin Programul
Operațional Sectorial Dezvoltarea Resurselor Umane 2007-2013*

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Investește în
OAMENI



Agenda



- The INSEED Project
- The architecture
- Education services

The INSEED Project



- INSEED Project
 - Consortium of 4 Universities:
 - University Politehnica of Bucharest (UPB)
 - University “Transilvania” of Brasov (UTBV)
 - Academy of Economic Studies (ASE)
 - University of Medicine and Pharmacy Carol Davila (UMF)
- Main objective
 - to create a modern, educational framework for training and skills forming in higher education in **science, design and services management (SPMS)** and to **promote innovation in services industries** based on an **open, continuous learning model** and on a distributed computing infrastructure of cloud type with **virtualized and accessible resources as services**, interconnected with European structures.
- Tools
 - IBM CloudBurst 2.1 Small Size (UTBV)
 - IBM CloudBurst 2.1 Medium Size (UPB)
 - Stand alone or interconnected

The INSEED Project



- Tools: **INSER@SPACE**
 - E-learning: <http://e-learning.cloud.upb.ro/>



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Pagina principală

Română (ro) ▼

Meniu principal



Pagina principală

▶ Cursuri

Cursuri

- ▼ Cursuri master
 - ▶ Facultatea de Automatica si Calculatoare
- ▼ Cursuri module compacte
 - ▶ Facultatea de Inginerie Electrica
 - ▶ Facultatea de Energetica
 - ▶ Facultatea de Automatica si Calculatoare
 - ▶ Facultatea de Electronică, Telecomunicații și Tehnologia Informației
 - ▶ Universitatea Transilvania din Brasov
 - ▶ Academia de Studii Economice din Bucuresti
- ▼ Program formare continua
 - ▶ Facultatea de Inginerie Electrica
 - ▶ Facultatea de Energetica
 - ▶ Facultatea de Automatica si Calculatoare
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 - ▶ Universitatea Transilvania din Brasov
 - ▶ Academia de Studii Economice din Bucuresti
 - ▶ Universitatea de Medicina si Farmacie "Carol Davila" Bucuresti

Caută cursuri: Execută[MINIMIZEAZĂ TOATE](#)[MAXIMIZEAZĂ TOATE](#)

Calendar



septembrie 2013						
Lu	Ma	Mi	Jo	Vi	Sâ	Du
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

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The INSEED Project



- Tools: INSERT@SPACE
 - E-learning: <http://e-learning.cloud.upb.ro/>
 - SSKE: <http://sske.cloud.upb.ro/>

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Service Science Knowledge Environment

More ▾

(Redirected from [Main Page](#))

The main goal the **Service Science Knowledge Environment (SSKE)** is to implement a collaborative environment that would gather different academic partners with the overall aim of creating a modern educational framework in the areas of [Science](#), [Design](#) and [Management services](#), while promoting [service innovation](#) in different [service sectors](#).

The **Service Science Knowledge Environment (SSKE)** targets also at creating a solid knowledge-based link between [academia](#), [government](#), along with other [European institutions](#). It supports sharing relevant information on [Service Science](#) that would be stored in a way based on a common vocabulary using an integrated ontology.

The **Service Science Knowledge Environment (SSKE)** is delivered as a [service](#) in the [cloud](#). It will be further used for *managing service system related knowledge*. It intends to exploit the best opportunities for [business service innovation](#) using IBM cloud technology as a mean for *information service innovation* through *virtualization* and improvement of *service front ends* for academia, industry and stakeholders.

It aims at fostering [service innovation](#), sustaining this endeavor through the transfer of the research results in terms of [information](#), [Proof of Technology](#), [methodologies](#), aiming to develop sustainable [service systems innovation solutions](#).

The INSEED Project



- Tools: INSER@SPACE
 - E-learning: <http://e-learning.cloud.upb.ro/>
 - SSKE: <http://sske.cloud.upb.ro/>
 - Virtual Labs
 - Access to SW applications
 - Access to SW and HW equipments

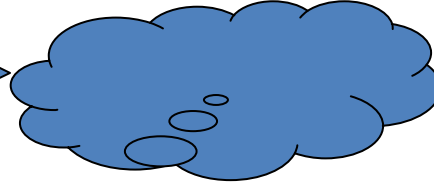
The architecture



UPB



RoEduNet



UTBv



HW Configuration



- **42U Rack Cabinet**
- **Server management node (IBM System x3550 M3 with dual-socket Intel Xeon 5620 2.4 GHz 4-core processors)**
- **1 Cloud management and 13 Cloud compute nodes (BM BladeCenter H, HS22V blades with dual-socket Intel® Xeon® 5660 2.8 GHz 6-core processors, 72 GB memory)**
- **External storage 29 TB (IBM System Storage® DS3400; optional IBM Systems Storage SAN Volume Controller, EXP3000 storage expansion units)**
- **Ethernet switches (10 Gb Ethernet switches for normal operations, 1 Gb Ethernet switches for out-of-band management)**
- **Ethernet adapter (Dual 10 Gb Ethernet ports included on each blade)**
- **Fibre Channel SAN switch (8 Gb SAN switches)**
- **Fibre Channel adapters (Dual 8 Gb Fibre Channel adapters on each blade server)**
- **Software**
 - Blade operating system: VMware vSphere 4.1 Enterprise Edition
 - Server management node software: Microsoft® Windows® 2008 R2 Standard Edition 64-bit; IBM Systems Director including Network Control and Active Energy Manager; BladeCenter Open Fabric Manager
 - Cloud management node software: VMware vCenter 4.1; ISDM

SW Configuration



- VM 1:
 - SUSE 10 SP3
 - TSAM – Tivoli Service Automation Manager 7.2.1
 - TSA Tivoli System Automation 3.1.06
- VM 2:
 - SUSE 10 SP3
 - ITM – IBM Tivoli Monitoring 6.2.2.1
- VM 3:
 - SUSE 10 SP3
 - ITUAM – IBM Tivoli Usage and Accounting Manager 7.1.2
- VM4:
 - SUSE 10 SP3
 - TSA Tivoli System Automation 3.1.06
 - HTTP, NFS, Samba Servers

Education Services



- Accessing Cloud@UPB
 - Step 1:
 - Connect to the main page:
 - <http://sske.cloud.upb.ro/sskemw/index.php/Cloud@UPB>
 - Step 2:
 - Register: http://sske.cloud.upb.ro/sskemw/index.php/Cloud@UPB_Register
 - Step 3:
 - Consult the Cloud Offerings:
 - <http://sske.cloud.upb.ro/sskemw/index.php?title=Special:EmbedWindow&target=Pdf%3ACloud+Offerings.pdf>
 - Step 4:
 - Login and create requests:
 - http://sske.cloud.upb.ro/sskemw/index.php/Cloud@UPB_Self_Service_Interface
 - <https://141.85.204.6/SimpleSRM/>
 - Step 5:
 - Access virtual machines

Education Services



- **Virtual Machines**

- **Basic Templates**

- **Windows 7 Enterprise x86, x64**
 - **Windows XP Professional x86, x64**
 - **Windows 2003 Enterprise Server x64**
 - **RedHat Enterprise Linux 5.3 x86, x64**
 - **RedHat Enterprise Linux 5.4 x86, x64**
 - **RedHat Enterprise Linux 5.5 x86, x64**
 - **SuSE Linux Enterprise Server 10 x86, x64**
 - **SuSE Linux Enterprise Server 11 x86, x64**
 - **CentOS Linux 5.6 x64**
 - **OpenSuSE Linux 11.1 x86**

Education Services



- **Virtual Machines: Access to HW Equipments: Robot-Vision**

Live Video Cameras - Mozilla Firefox

File (F) | Window (W) | History (H) | Bookmarks (B) | Tools (T) | Help (H)

Live Video Cameras

file:///C:/WINDOWS/Security/Desktop/Camera.html

Most Visited | Getting Started | Interface de Control a... | Live Video Camera 1 | Live Video Camera 2 | Live

Cam 1: 151*25.02 Bandwidth: 8319 2013-02-21 14:44:19

Adept Vr

Copyright (c) 1984-2004 by Adept Technology.

Adept External Encoder Module.
Adept 600/800 TT Robot Module.

Configured as Category 1 Robot System per ISO

Software: 16.1 7-31ED |Edit F6, 14-Dec-20
Controller: 3405-2101 0 0
Processor 1: 0.1 4-7 32ED
Robot 1: 560-1785 0-01-1 4
Adept 600/800 TT Robot Module.
Vision 1: 16.1 500 1001 4MB AVI |Edit B2,
Servo: 16.0 |Edit A1|

21-Feb-2013 15:10:11

Auto Startup...

Vpi
Warning, vision not calibrated
Running. Objects to be recognized:

1

14

inEED

Education Services



- **Virtual Machines: Access to HW Equipments: Smart Cameras**

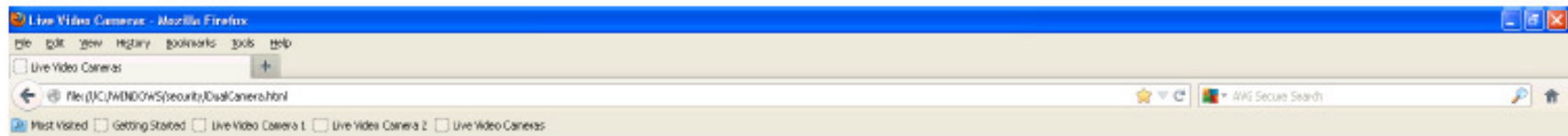
The screenshot displays the In-Sight Explorer software interface. The main window shows a camera feed of a conveyor belt with several objects. A red bounding box highlights a specific area, and three red rectangles are overlaid on the objects. The interface includes a left sidebar with 'Application Steps' (1. Start, 2. Set Up Tools, 3. Configure Results, 4. Finish) and a right sidebar with a 'Palette' table. The bottom of the window shows a 'Job Status' section with 'Rate: 0.0% (0/1005248)' and 'Time: 93.3ms', and a 'Warning Forced Outputs' section. A large table at the bottom displays the results of the detection process.

Icon	Name	Result	Pass	Fail	Time(ms)
Green	Negru	Color!	194677/1005248	819571/1005248	3.4
Red	Galben	No Match	0/1005248	1005248/1005248	3.4
Red	Galben_1	No Match	0/1005248	1005248/1005248	3.4
Red	Galben_2	No Match	0/1005248	1005248/1005248	3.5
Green	Pattern_1		0/1005248	1005248/1005248	31
Red	IDCode_1		0/1005248	1005248/1005248	0.3
Red	Negru_1	No Match	52270/1005248	912970/1005248	3.0
Red	Negru_2	No Match	55701/1005248	909407/1005248	3.5

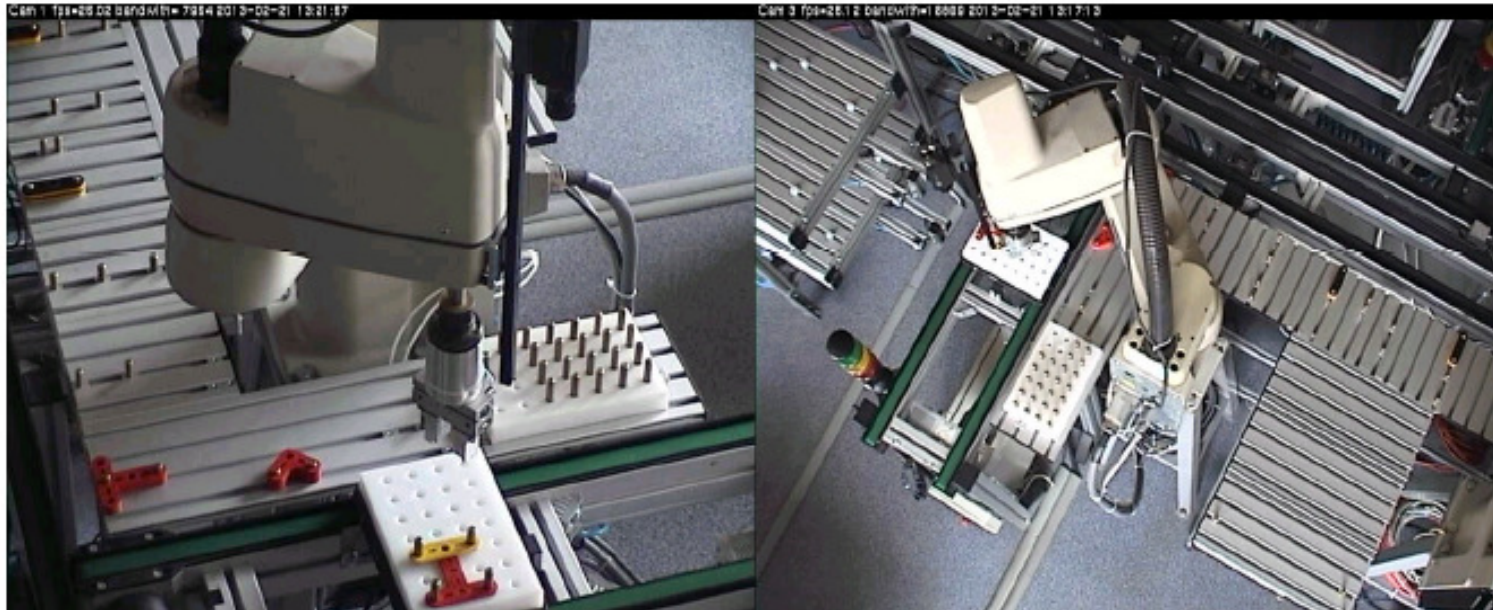
Education Services



- **Virtual Machines: Access to HW Equipments: Observation Cameras**



Live Video Cameras



Education Services



- **Virtual Machines**
 - **Virtual Labs**
 - **Cloud Computing**
 - **E-commerce**
 - **SOA in Cloud**
 - **SOA in Manufacturing**
 - **BAO**
 - **BPM**
 - **Business Optimization**
 - **Rational and WebSphere**
 - **Enterprise Resource Management**
 - **Supply Chain Management**
 - **.**
 - **.**

Education Services

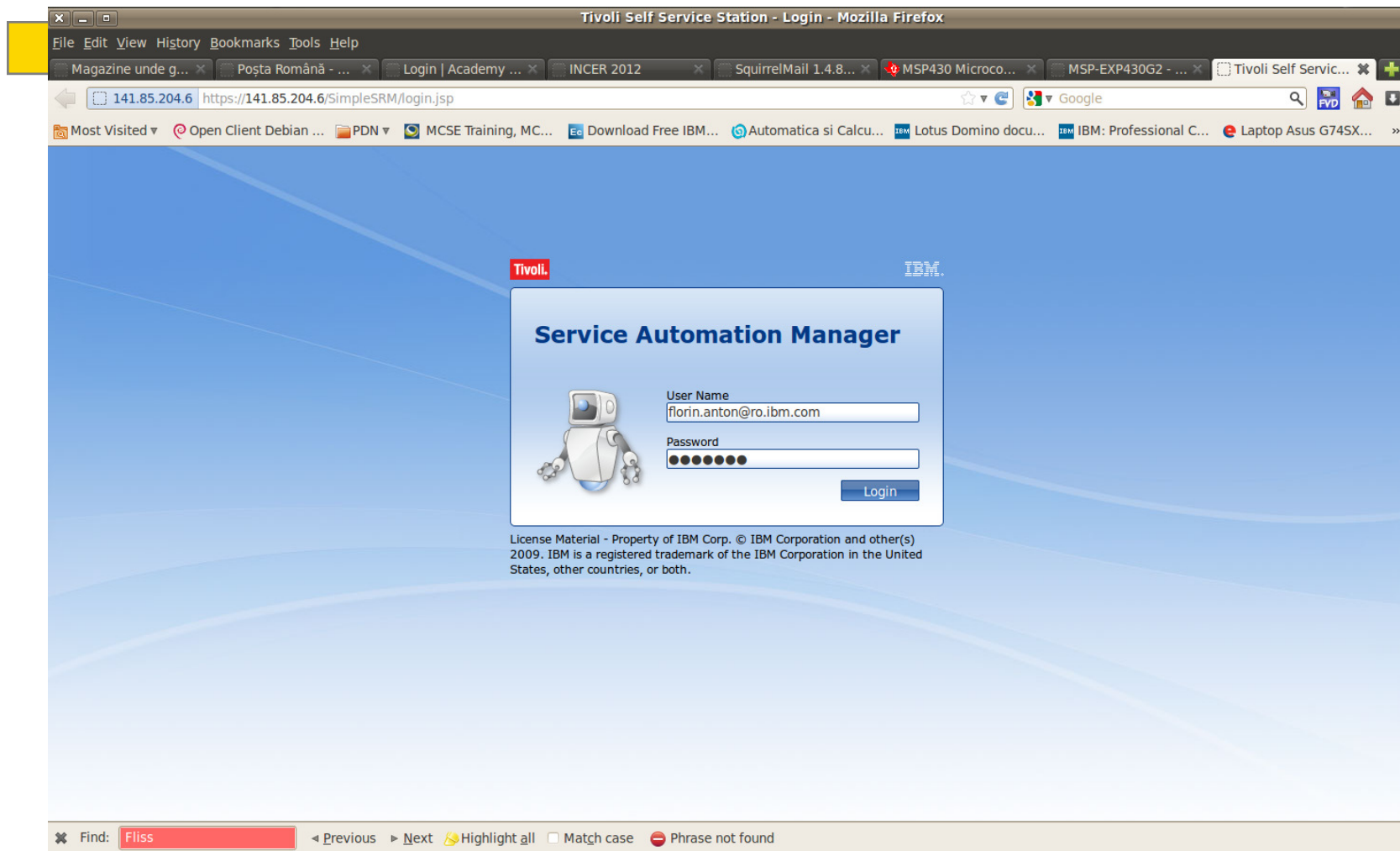


Fig. 1. The login interface.

Education Services

The screenshot displays the Tivoli Self Service Station interface within a Mozilla Firefox browser window. The browser's title bar reads "Tivoli Self Service Station - Mozilla Firefox". The address bar shows the URL "https://141.85.204.6/SimpleSRM/". The page header includes the Tivoli logo, "Service Automation Manager", and a user greeting "Welcome Florin".

The main content area is organized into several sections:

- Home:** Features a search bar and two primary actions: "Request a New Service" (described as "Open a request to acquire a new asset or service.") and "Frequent requests" (described as "Easy access to the services you most often request.>").
- My Requests:** Includes a progress bar for "Resolved (20)" out of a "Total (20)". Below this is a "Recent Activity" table listing several "Cancel Project" entries with their respective IDs and "Resolved" status. Links for "Show all requests" and "Manage Requests..." are provided.
- My Projects:** Includes a progress bar for "Decommissioned (20)" out of a "Total (20)". Below this is a "Recent Activity" table listing several "test-" entries with their respective IDs and "Decommissioned" status. Links for "Show all projects" and "Manage Projects... | Manage Servers..." are provided.
- My Approvals:** Features a "Recent Activity" section indicating "No recent activity" and a "Manage Approvals..." link.

The footer of the page contains a search bar with the text "Fliss" and navigation options: "Previous", "Next", "Highlight all", "Match case", and "Phrase not found".

Fig. 2. Interface tabs.

Education Services

Tivoli Self Service Station - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Magazine unde g... x Pošta Română - ... x Login | Academy ... x INCER 2012 x SquirrelMail 1.4.8... x MSP430 Microco... x MSP-EXP430G2 - ... x Tivoli Self Servic... x

141.85.204.6 https://141.85.204.6/SimpleSRM/ Google

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Tivoli Service Automation Manager Welcome Florin About Help Logout IBM

Home > Request a New Service

Virtual Server Management

My Requests

Resolved (20) Total (20)

Recent Activity

Cancel Project test-208-30	Resolved
Cancel Project test-206-30	Resolved
Cancel Project test-204-30	Resolved
Cancel Project test-209-30	Resolved
Cancel Project test-207-30	Resolved

Show all requests Manage Requests...

My Projects

Decommissioned (20) Total (20)

Recent Activity

test-208-30	Decommissioned
test-206-30	Decommissioned
test-204-30	Decommissioned
test-207-30	Decommissioned
test-209-30	Decommissioned

Upcoming Projects

No upcoming projects

Show all projects Manage Projects... | Manage Servers...

My Approvals

Recent Activity

No recent activity

Manage Approvals...

Find: Fliss Previous Next Highlight all Match case Phrase not found

Fig. 3. Request a new service.

Education Services

The screenshot shows the Tivoli Self Service Station interface in a Mozilla Firefox browser. The browser's address bar displays the URL <https://141.85.204.6/SimpleSRM/>. The page title is "Tivoli Self Service Station - Mozilla Firefox". The browser's tab bar shows several open tabs, including "Magazine unde g...", "Poșta Română - ...", "Login | Academy ...", "INCER 2012", "SquirrelMail 1.4.8...", "MSP430 Microco...", "MSP-EXP430G2 - ...", and "Tivoli Self Servic...".

The main content area is titled "Tivoli Service Automation Manager" and includes a search bar and a navigation breadcrumb: "Home > Request a New Service > Virtual Server Management". The central panel displays a list of tasks for virtual server management:

- Backup and Restore Server Image**
- Manage Users and Teams**
- Modify Server**
- Manage Image Library**
- Modify Project**
- Cancel Project**: Use this task to cancel a project. All of its virtual servers will be de-provisioned and would no longer be available. Any saved images will also be deleted.
- Create Project from Saved Image**: Provision one virtual server from a saved image in a new project.
- Create Project with VMware Servers**: Provision one or more VMware virtual machines containing a software image.

On the right side, there are three summary panels:

- My Requests**: Shows a progress bar for "Resolved (20)" out of a "Total (20)". Recent activity includes "Cancel Project test-208-30" through "test-207-30", all marked as "Resolved".
- My Projects**: Shows a progress bar for "Decommissioned (20)" out of a "Total (20)". Recent activity includes "test-208-30" through "test-209-30", all marked as "Decommissioned".
- My Approvals**: Shows "No recent activity".

At the bottom of the interface, there is a search bar with the text "Find: Fliss" and navigation controls: "Previous", "Next", "Highlight all", "Match case", and "Phrase not found".

Fig. 4. Virtual server management.

Education Services

The screenshot displays the Tivoli Self Service Station interface within a Mozilla Firefox browser window. The browser's address bar shows the URL <https://141.85.204.6/SimpleSRM/#requests>. The page title is "Tivoli Self Service Station - Mozilla Firefox".

The main content area is titled "Tivoli Service Automation Manager" and includes a search bar and a breadcrumb trail: Home > Request a New Service > Virtual Server Management > Backup and Restore Server Image. Below the breadcrumb, there are three task cards:

- Create Server Image**: This task allows you to save an image of a server in order to restore the server to a previous state. You can have multiple images per server.
- Remove Saved Images**: Use this task to remove one or more saved images from the inventory. You can have multiple images per server.
- Restore Server from Image**: Use this task to restore a virtual server back to a previous state from an image. You can have multiple images per server.

On the right side of the interface, there are three summary panels:

- My Requests**: Shows a progress bar with 1 In Progress (orange) and 19 Resolved (yellow) requests, totaling 20. Below this is a "Recent Activity" table with columns for request name and status.
- My Projects**: Shows a progress bar with 1 In Transition (blue) and 19 Decommissioned (green) projects, totaling 20. Below this is a "Recent Activity" table with columns for project name and status.
- My Approvals**: Shows "No recent activity".

At the bottom of the browser window, a search bar contains the text "Fliss" and navigation options: Previous, Next, Highlight all, Match case, and Phrase not found.

Fig. 5. Backup and restore server image.

Education Services

The screenshot displays the Tivoli Self Service Station interface in a Mozilla Firefox browser window. The browser's address bar shows the URL <https://141.85.204.6/SimpleSRM/#requests>. The page title is "Tivoli Self Service Station - Mozilla Firefox".

The main content area is titled "Tivoli Service Automation Manager" and "Manage Users and Teams". It features a search bar and a navigation breadcrumb: Home > Request a New Service > Virtual Server Management > Manage Users and Teams.

The central panel contains six actions for managing teams and users:

- Create Team**: Create a new team. *
- Create User**: Create a new user. *
- Modify Team**: Modify an existing team. *
- Modify User**: Modify an existing user. *
- Remove Team**: Remove a team. *
- Remove User**: Remove a user. *

On the right side, there are three summary panels:

- My Requests**: Shows a progress bar with 1 In Progress and 19 Resolved requests, totaling 20. Recent activity includes "Create Project with VMware Servers Seminar Inseed" (In Progress) and several "Cancel Project" entries (Resolved).
- My Projects**: Shows a progress bar with 1 In Transition and 19 Decommissioned projects, totaling 20. Recent activity includes "Seminar Inseed" (In Transition) and several test projects (Decommissioned).
- My Approvals**: Shows "No recent activity".

At the bottom, a search bar contains the text "Fliss" and includes options for "Previous", "Next", "Highlight all", "Match case", and "Phrase not found".

Fig. 6. Manage users and teams.

Education Services

Tivoli Self Service Station - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Magazine unde g... Poșta Română - ... Login | Academy ... INCER 2012 SquirrelMail 1.4.8... MSP430 Microco... MSP-EXP430G2 - ... Tivoli Self Servic...

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Tivoli Service Automation Manager

Welcome Florin About Help Logout IBM

Home > Request a New Service > Virtual Server Management > Modify Server

Install Software
This task allows you to install software on a server in a project.

Reset Server Password
This task allows you to reset a server's password in a project. The new password will be emailed to members of teams having access to the project.

Start Server
This task allows you to start a server in a project.

Modify Server Resources
This task allows you to modify the resources of a server in a project.

Restart Server
This task allows you to restart a server in a project.

Stop Server
This task allows you to stop a server in a project.

My Requests

In Progress (1) Resolved (19) Total (20)

Recent Activity

Create Project with VMware Servers Seminar Inseed	In Progress
Cancel Project test-208-30	Resolved
Cancel Project test-206-30	Resolved
Cancel Project test-204-30	Resolved
Cancel Project test-209-30	Resolved

Show all requests Manage Requests...

My Projects

In Transition (1) Decommissioned (19) Total (20)

Recent Activity

Seminar Inseed	In Transition
test-208-30	Decommissioned
test-206-30	Decommissioned
test-204-30	Decommissioned
test-209-30	Decommissioned

Upcoming Projects

No upcoming projects

Show all projects Manage Projects... | Manage Servers...

My Approvals

Recent Activity

No recent activity

Manage Approvals...

Find: Fliss Previous Next Highlight all Match case Phrase not found

Fig. 7. Modify server.

Education Services

The screenshot displays the Tivoli Self Service Station interface in a Mozilla Firefox browser. The browser's address bar shows the URL `https://141.85.204.6/SimpleSRM/#requests`. The page title is "Tivoli Self Service Station - Mozilla Firefox". The browser's tab bar includes several open tabs, with the current one being "Tivoli Self Servic...".

The main content area of the web application is titled "Tivoli Service Automation Manager" and includes a navigation breadcrumb: "Home > Request a New Service > Virtual Server Management > Manage Image Library". A search bar is located at the top right of this section.

The central part of the interface features two main actions:

- Register VMware Image:** Register a new VMware server image in the Image Library.
- Unregister Image:** Unregister a server image from the Image Library.

On the right side, there are three summary panels:

- My Requests:** Shows a progress bar with 19 resolved requests and 1 in progress, totaling 20. Recent activity includes "Create Project with VMware Servers Seminar Inseed" (In Progress) and several "Cancel Project" entries (Resolved).
- My Projects:** Shows a progress bar with 19 decommissioned projects and 1 in transition, totaling 20. Recent activity includes "Seminar Inseed" (In Transition) and several test projects (Decommissioned).
- My Approvals:** Shows no recent activity.

At the bottom of the browser window, a search bar contains the text "Fliss" and includes navigation options like "Previous", "Next", "Highlight all", "Match case", and "Phrase not found".

Fig. 8. Manage image library.

Education Services

Tivoli Self Service Station - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Magazine unde g... x Pošta Română - ... x Login | Academy ... x INCER 2012 x SquirrelMail 1.4.8... x MSP430 Microco... x MSP-EXP430G2 - ... x Tivoli Self Servic... x

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Tivoli Service Automation Manager

Welcome Florin About Help Logout IBM

Home > Request a New Service > Virtual Server Management > Modify Project

Add Server from Saved Image
Add one virtual server from a saved image to the project. *

Add VMware Servers
Add one or more VMware virtual machines to the project. *

Modify Reservation
This task allows you to modify the start date if the project is not active and the end date of the project. *

Remove Server
This task allows you to remove a server from a project. *

My Requests

In Progress (1) Resolved (19) Total (20)

Recent Activity

Create Project with VMware Servers Seminar Inseed	In Progress
Cancel Project test-208-30	Resolved
Cancel Project test-206-30	Resolved
Cancel Project test-204-30	Resolved
Cancel Project test-209-30	Resolved

Show all requests Manage Requests...

My Projects

In Transition (1) Decommissioned (19) Total (20)

Recent Activity

Seminar Inseed	In Transition
test-208-30	Decommissioned
test-206-30	Decommissioned
test-204-30	Decommissioned
test-209-30	Decommissioned

Upcoming Projects
No upcoming projects

Show all projects Manage Projects... | Manage Servers...

My Approvals

Recent Activity
No recent activity

Manage Approvals...

Find: Fliss Previous Next Highlight all Match case Phrase not found

Fig. 9. Modify project.

Education Services

The screenshot displays the 'Create Project with VMware Servers' form in the Tivoli Self Service Station. The form is titled 'Create Project with VMware Servers' and includes the following sections:

- General:** Project Name (Seminar Inseed), Team to Grant Access (TEAM1), Project Description (Demonstratie Seminar Inseed), Start Date (5/21/2012), Start Time (10:15 AM), End Date (Until this date), and End Time (10:15 AM).
- Requested Image:** Resource Group Used to Reserve Resources (UPBVMWarePool), Monitoring Agent to be Installed (checked), and a table of images to be deployed.

Select	Name	CPUs	Memory	Storage
<input type="radio"/>	206-Linux-SLES-10-x86	1	1 GB	10 GB
<input checked="" type="radio"/>	204-Linux-RHEL-5.5-x86	1	1 GB	10 GB
<input type="radio"/>	200-Linux-RHEL-5.3-x86	1	1 GB	10 GB
<input type="radio"/>	209-Linux-SLES-11-x64	1	1 GB	10 GB
<input type="radio"/>	202-Linux-RHEL-5.4-x86	1	1 GB	10 GB

The background dashboard shows 'Requests' and 'Projects' sections. The 'Requests' section displays a bar chart for 'Resolved (20)' and 'Total (20)' requests, and a table of recent activity. The 'Projects' section displays a bar chart for 'Decommissioned (20)' and 'Total (20)' projects, and a table of recent activity.

Fig. 10. Create a project.

Education Services

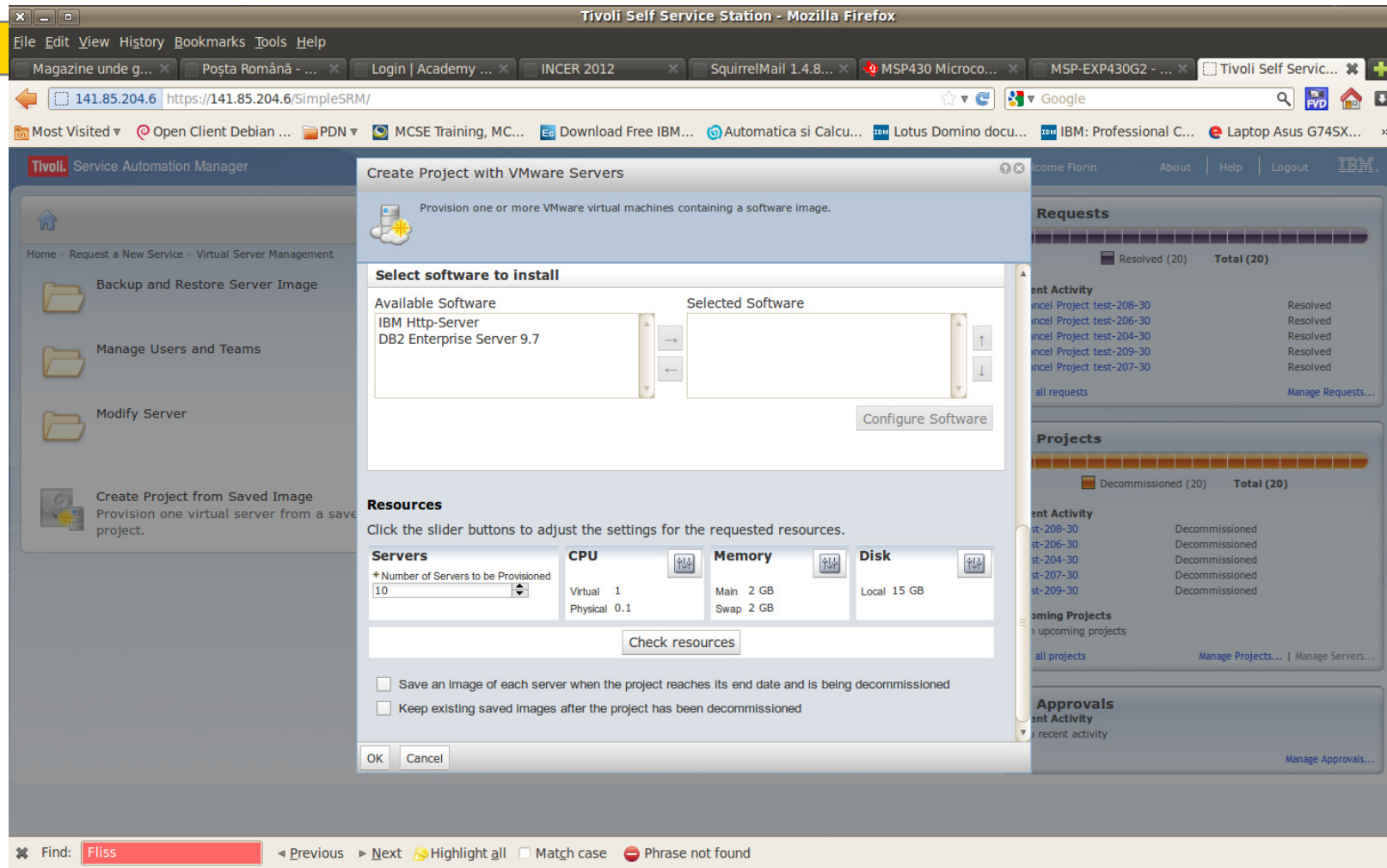


Fig. 11. Create a project.

Education Services

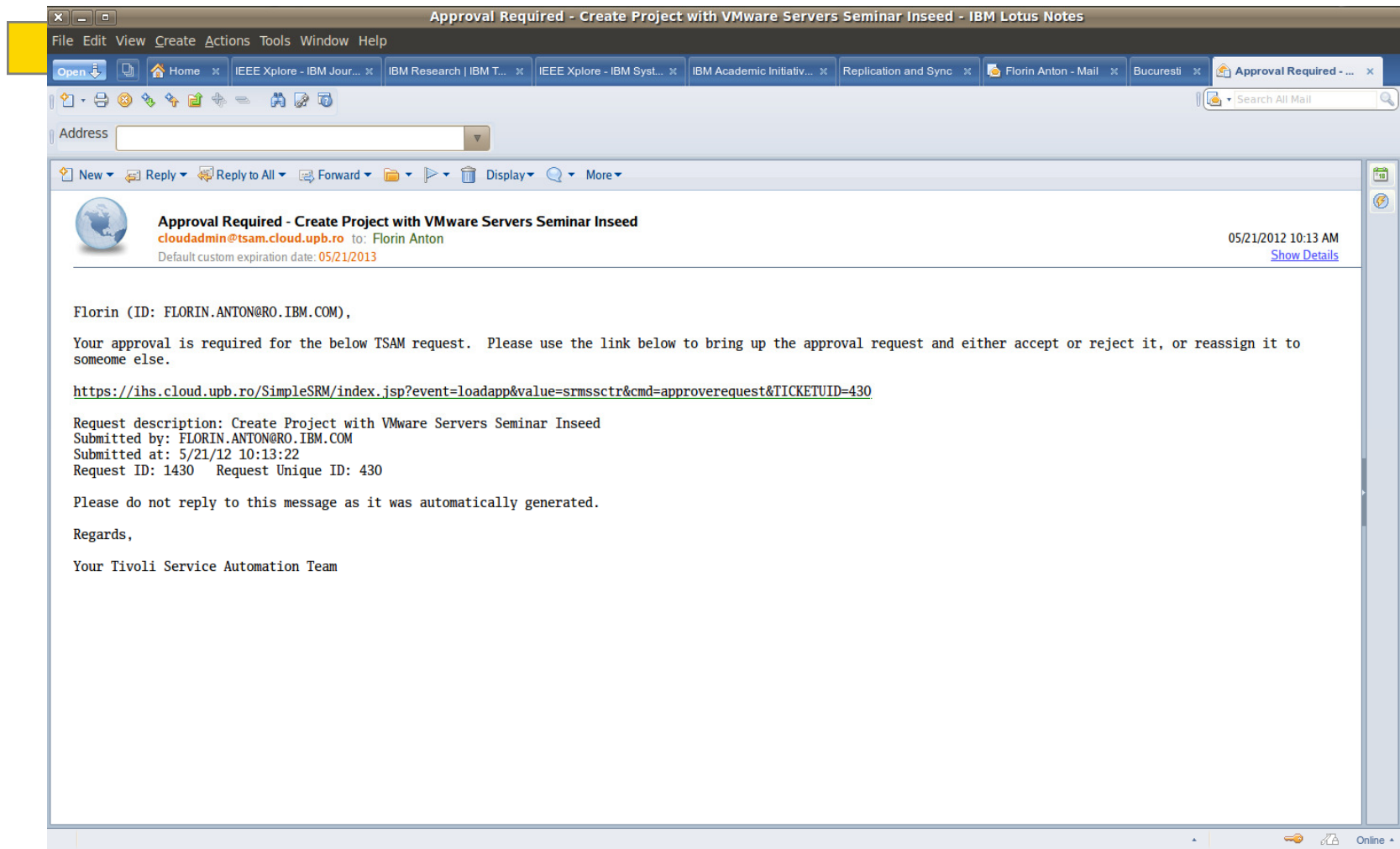


Fig. 12. Approval required.

Education Services

Tivoli Self Service Station - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Magazine unde g... x Pošta Română - ... x Login | Academy ... x INCER 2012 x SquirrelMail 1.4.8... x MSP430 Microco... x MSP-EXP430G2 - ... x Tivoli Self Servic... x

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Home

Request a New Service
Open a request to acquire a new asset or service.

Frequent requests
Easy access to the services you most often request.

My Requests

Waiting for approval (1) Resolved (19) Total (20)

Recent Activity

Create Project with VMware Servers Seminar	Waiting for approval
Inseed	
Cancel Project test-208-30	Resolved
Cancel Project test-206-30	Resolved
Cancel Project test-204-30	Resolved
Cancel Project test-209-30	Resolved

Show all requests Manage Requests...

My Projects

Decommissioned (20) Total (20)

Recent Activity

test-208-30	Decommissioned
test-206-30	Decommissioned
test-204-30	Decommissioned
test-209-30	Decommissioned
test-207-30	Decommissioned

Upcoming Projects

No upcoming projects

Show all projects Manage Projects... | Manage Servers...

My Approvals

Recent Activity

Create Project with VMware Servers Seminar Inseed	5/21/2012
---	-----------

Manage Approvals...

Find: Fliss Previous Next Highlight all Match case Phrase not found

Fig. 13. Waiting for approval.

Education Services

The screenshot shows a web browser window titled 'Tivoli Self Service Station - Mozilla Firefox'. The address bar displays 'https://141.85.204.6/SimpleSRM/#requests'. The main content area is titled 'Manage Approvals' and contains a table with the following data:

Description	Created	Created By
Create Project with VMware Servers Seminar Inseed	5/21/2012 10:13 AM	FLORIN.ANTON@RO.IBM.COM

The table is part of a larger interface with search and navigation options at the bottom, including a search bar with 'Fliss' and buttons for 'Previous', 'Next', 'Highlight all', 'Match case', and 'Phrase not found'. A 'Total: 1' indicator is visible at the bottom right of the table area.

Fig. 14. Manage approvals.

Education Services

The screenshot displays the Tivoli Self Service Station interface in Mozilla Firefox. The main window shows a 'View Service Request' dialog box with the following details:

Request Details	
Description	Create Project with VMware Servers Seminar Inseed
Requested By	FLORIN.ANTON@RO.IBM.COM
Created on	5/21/2012 10:13 AM
Start Date	5/21/2012 10:13 AM
End Date	6/4/2012 10:15 AM
Last update	5/21/2012 10:13 AM
Updated by	FLORIN.ANTON@RO.IBM.COM

Create Project with VMware Servers Seminar Inseed	
Service Deployment Instance ID	170
Service Definition Revision	4
Service Definition Number	RDPVS
Management Plan	NEWPROJECT
Project Name	Seminar Inseed
Project Identifier	/cloud/rest/projects/1170/
Project Description	Demonstratie Seminar Inseed

The 'Approval' section on the right contains the text: "An approval is waiting for your input. How do you vote?" with two radio button options: "I reject this request" (unselected) and "I approve this request" (selected). Below these options is a 'Details' section with a scrollbar.

At the bottom of the dialog box are 'OK' and 'Cancel' buttons. The background interface shows a search bar with 'Fliss' and navigation controls.

Fig. 15. Project details.

Education Services

The screenshot displays the Tivoli Self Service Station interface. The browser window title is "Tivoli Self Service Station - Mozilla Firefox". The address bar shows the URL "https://141.85.204.6/SimpleSRM/#requests". The page header includes "Tivoli Service Automation Manager" and "Welcome Florin". The main content area is divided into several sections:

- Home:** Contains "Request a New Service" (Open a request to acquire a new asset or service.) and "Frequent requests" (Easy access to the services you most often request.).
- My Requests:** Features a progress bar showing 19 Resolved (orange) and 1 Queued (black) requests, totaling 20. Below the bar is a table of recent activity:

Recent Activity	Status
Create Project with VMware Servers Seminar Inseed	Queued
Cancel Project test-208-30	Resolved
Cancel Project test-206-30	Resolved
Cancel Project test-204-30	Resolved
Cancel Project test-209-30	Resolved

- My Projects:** Features a progress bar showing 1 Draft (blue) and 19 Decommissioned (green) projects, totaling 20. Below the bar is a table of recent activity:

Recent Activity	Status
Seminar Inseed	Draft
test-208-30	Decommissioned
test-206-30	Decommissioned
test-204-30	Decommissioned
test-209-30	Decommissioned

- My Approvals:** Shows "Recent Activity" as "No recent activity".

The footer of the page includes a search bar with the text "Find: Fliss" and navigation options: "Previous", "Next", "Highlight all", "Match case", and "Phrase not found".

Fig. 16. Project queued.

Education Services

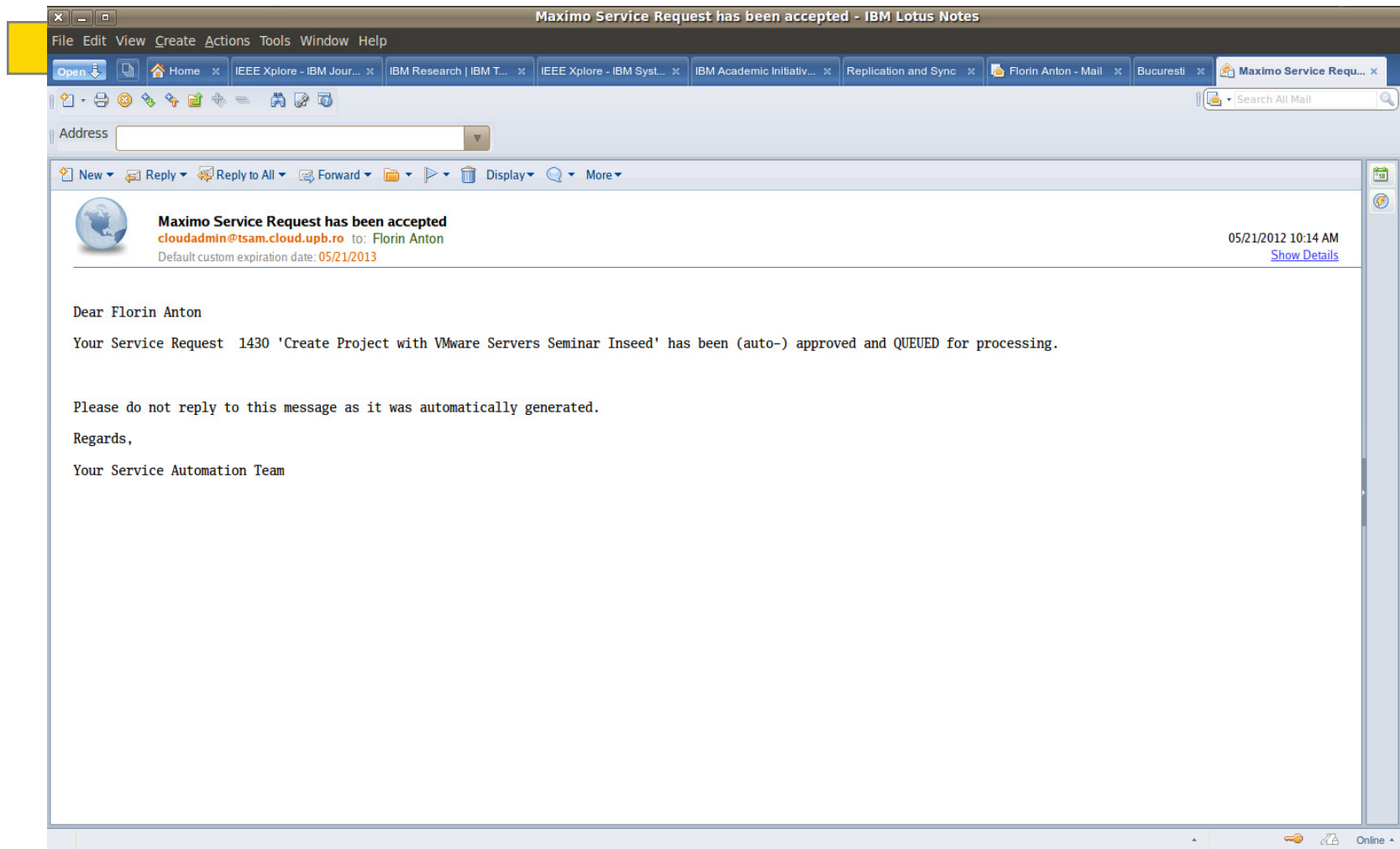


Fig. 17. Service accepted.

Education Services

The screenshot displays the Tivoli Self Service Station interface. The browser window title is "Tivoli Self Service Station - Mozilla Firefox". The address bar shows the URL "https://141.85.204.6/SimpleSRM/#requests". The page header includes "Tivoli Service Automation Manager" and "Welcome Florin". The main content area is divided into several sections:

- Home:** Contains "Request a New Service" (Open a request to acquire a new asset or service.) and "Frequent requests" (Easy access to the services you most often request.).
- My Requests:** Features a progress bar showing 1 In Progress and 19 Resolved requests, totaling 20. Below the bar is a table of recent activity:

Request ID	Status
Create Project with VMware Servers Seminar Inseed	In Progress
Cancel Project test-208-30	Resolved
Cancel Project test-206-30	Resolved
Cancel Project test-204-30	Resolved
Cancel Project test-209-30	Resolved

- My Projects:** Features a progress bar showing 20 Decommissioned projects, totaling 20. Below the bar is a table of recent activity:

Project ID	Status
test-208-30	Decommissioned
test-206-30	Decommissioned
test-204-30	Decommissioned
test-209-30	Decommissioned
test-207-30	Decommissioned

- My Approvals:** Shows "Recent Activity" as "No recent activity".

The footer of the page includes a search bar with the text "Find: Fliss" and navigation options: "Previous", "Next", "Highlight all", "Match case", and "Phrase not found".

Fig. 18. Project in progress.

Education Services

Tivoli Self Service Station - Mozilla Firefox

File Edit View History Bookmarks Tools Help

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Home

Request a New Service
Open a request to acquire a new asset or service.

Frequent requests
Easy access to the services you most often request.

My Requests

In Progress (1) Resolved (19) Total (20)

Recent Activity

Create Project with VMware Servers Seminar Inseed	In Progress
Cancel Project test-208-30	Resolved
Cancel Project test-206-30	Resolved
Cancel Project test-204-30	Resolved
Cancel Project test-209-30	Resolved

Show all requests Manage Requests...

My Projects

Approved (1) Decommissioned (19) Total (20)

Recent Activity

Seminar Inseed	Approved
test-208-30	Decommissioned
test-206-30	Decommissioned
test-204-30	Decommissioned
test-209-30	Decommissioned

Upcoming Projects
No upcoming projects

Show all projects Manage Projects... | Manage Servers...

My Approvals

Recent Activity
No recent activity

Manage Approvals...

Find: Fliss Previous Next Highlight all Match case Phrase not found

Fig. 19. Project approved.

Education Services

The screenshot displays the Tivoli Self Service Station interface. The browser window title is "Tivoli Self Service Station - Mozilla Firefox". The address bar shows the URL "https://141.85.204.6/SimpleSRM/#requests". The page header includes "Tivoli Service Automation Manager" and "Welcome Florin".

The main content area is divided into several sections:

- Home:** Contains "Request a New Service" (Open a request to acquire a new asset or service.) and "Frequent requests" (Easy access to the services you most often request.).
- My Requests:** Shows a progress bar with 1 In Progress and 19 Resolved requests, totaling 20. Recent activity includes "Create Project with VMware Servers Seminar Inseed" (In Progress) and several "Cancel Project" entries (Resolved).
- My Projects:** Shows a progress bar with 1 In Transition and 19 Decommissioned projects, totaling 20. Recent activity includes "Seminar Inseed test-208-30" (In Transition) and several "test-206-30", "test-204-30", and "test-209-30" entries (Decommissioned). Upcoming projects are listed as "No upcoming projects".
- My Approvals:** Shows "No recent activity".

The search bar at the bottom contains the text "Fliss".

Fig. 20. Project in transition.

Education Services

The screenshot displays the Tivoli Self Service Station interface in Mozilla Firefox. The main window is titled '10.160.0.103 - Terminal Server Client' and shows the 'UPBCloud' management console. The 'Virtual Machines' tab is active, displaying a list of VMs with columns for Name, State, Status, Host, and Provisioned Space. Below this, the 'Recent Tasks' section shows a list of completed tasks for reconfiguring port groups on various VMs.

Name	State	Status	Host	Provisioned
105-Windows-7-Enterprise-x64-Template	Powered Off	Normal	cloud-esxi14	66.00 G
106-Linux-CentOS-6-x86-Template	Powered Off	Normal	cloud-esxi11	66.00 G
107-Linux-CentOS-6-x64-Template	Powered Off	Normal	cloud-esxi12	66.00 G
108-Linux-OpenSUSE-11.4-x86-Template	Powered Off	Normal	cloud-esxi14	66.00 G
109-Linux-OpenSUSE-11.4-x64-Template	Powered Off	Normal	cloud-esxi4	66.00 G
110-Linux-Ubuntu-10.04.3-x86-Template	Powered Off	Normal	cloud-esxi12	66.00 G
111-Linux-Ubuntu-10.04.3-x64-Template	Powered Off	Normal	cloud-esxi3	66.00 G
200-Linux-RHEL-5.3-x86-Template	Powered Off	Normal	cloud-esxi7	6.00 GB
202-Linux-RHEL-5.4-x86-Template	Powered Off	Normal	cloud-esxi11	6.00 GB
203-Linux-RHEL-5.4-x64-Template	Powered Off	Normal	cloud-esxi8	6.00 GB
204-Linux-RHEL-5.5-x86-Template	Powered Off	Normal	cloud-esxi3	6.00 GB
205-Linux-RHEL-5.5-x64-Template	Powered Off	Normal	cloud-esxi12	6.00 GB
207-Linux-SLES-10-x64-Template	Powered Off	Normal	cloud-esxi12	6.00 GB
208-Linux-SLES-11-x86-Template	Powered Off	Normal	cloud-esxi12	6.00 GB
209-Linux-SLES-11-x64-Template	Powered Off	Normal	cloud-esxi10	6.00 GB

Name	Target	Status	Details	Initiated by
Reconfigure port group	cloud-esxi2	Completed		Administrator
Reconfigure port group	cloud-esxi3	Completed		Administrator
Reconfigure port group	cloud-esxi4	Completed		Administrator
Reconfigure port group	cloud-esxi5	Completed		Administrator
Reconfigure port group	cloud-esxi7	Completed		Administrator
Reconfigure port group	cloud-esxi10	Completed		Administrator
Reconfigure port group	cloud-esxi9	Completed		Administrator

Fig. 21. Reconfiguring port group.

Education Services

The screenshot displays the Tivoli Self-Service Station interface in Mozilla Firefox. The main window shows the 'UPBCloud' configuration page with various tabs like Summary, Virtual Machines, Hosts, DRS, etc. The 'Recent Tasks' table at the bottom is the primary focus, showing the progress of cloning virtual machines.

Name	Target	Status	Details	Initiated by
Clone virtual machine	204-Linux-RHEL-5.5-x86-Template	51%	Copying Virt...	Administrator
Clone virtual machine	204-Linux-RHEL-5.5-x86-Template	14%	Copying Virt...	Administrator
Clone virtual machine	204-Linux-RHEL-5.5-x86-Template	14%	Copying Virt...	Administrator
Power On virtual machine	upbvm010	Completed		Administrator
Reconfigure virtual machine	upbvm010	Completed		Administrator
Clone virtual machine	204-Linux-RHEL-5.5-x86-Template	Completed		Administrator
Reconfigure port group	cloud-esxi3	Completed		Administrator

Fig. 22. Cloning virtual machines.

Education Services

The screenshot displays the vSphere Client interface for a VMware ESX host. The main window shows the 'UPBCloud' cluster with a list of virtual machines on the left. The 'Recent Tasks' table at the bottom provides a detailed view of cloning operations:

Name	Target	Status	Details	Initiated by
Clone virtual machine	204-Linux-RHEL-5.5-x86-Template	81%	Copying Virt...	Administrator
Clone virtual machine	204-Linux-RHEL-5.5-x86-Template	32%	Copying Virt...	Administrator
Clone virtual machine	204-Linux-RHEL-5.5-x86-Template	32%	Copying Virt...	Administrator
Clone virtual machine	204-Linux-RHEL-5.5-x86-Template	17%	Copying Virt...	Administrator
Power On virtual machine	upbvm010	Completed		Administrator
Reconfigure virtual machine	upbvm010	Completed		Administrator
Clone virtual machine	204-Linux-RHEL-5.5-x86-Template	Completed		Administrator

The interface also shows system metrics for the cluster, including CPU and memory resources, and VMware HA/DRS settings. The task bar at the bottom indicates the current user is Administrator and the time is 10:18 AM on 5/21/2012.

Fig. 23. Cloning virtual machines...

Education Services

The screenshot displays the Tivoli Self Service Station interface in a Mozilla Firefox browser. The browser's address bar shows the URL `https://141.85.204.6/SimpleSRM/#requests`. The page title is "Tivoli Service Automation Manager".

The main content area is titled "Request a New Service" and "Virtual Server Management". It features a search bar and a list of service categories:

- Backup and Restore Server Image
- Manage Users and Teams
- Modify Server
- Manage Image Library
- Modify Project
- Cancel Project: Use this task to cancel a project. All of its virtual servers will be de-provisioned and would no longer be available. Any saved images will also be deleted.
- Create Project from Saved Image: Provision one virtual server from a saved image in a new project.
- Create Project with VMware Servers: Provision one or more VMware virtual machines containing a software image.

On the right side, there are three summary panels:

- My Requests:** Shows a progress bar with 1 In Progress and 19 Resolved requests, totaling 20.
- My Projects:** Shows a progress bar with 1 In Transition and 19 Decommissioned projects, totaling 20. The "Recent Activity" table lists several projects in transition and decommissioned.
- My Approvals:** Shows "No recent activity".

At the bottom, a search bar contains the text "Fliss" and includes navigation options like "Previous", "Next", "Highlight all", "Match case", and "Phrase not found".

Fig. 24. Project in transition.

Education Services

The screenshot displays the Tivoli Self Service Station interface. The browser window title is "Tivoli Self Service Station - Mozilla Firefox". The address bar shows the URL "https://141.85.204.6/SimpleSRM/#requests". The page header includes "Tivoli Service Automation Manager" and "Welcome Florin". The main content area is divided into several sections:

- Home:** Contains links for "Request a New Service" (Open a request to acquire a new asset or service.) and "Frequent requests" (Easy access to the services you most often request.).
- My Requests:** Features a progress bar showing "Resolved (20)" out of a "Total (20)". Below it, a "Recent Activity" table lists several requests, all of which are "Resolved".
- My Projects:** Features a progress bar showing "Operational (1)" and "Decommissioned (19)" out of a "Total (20)". Below it, a "Recent Activity" table lists several projects, with one "Operational" and the rest "Decommissioned".
- My Approvals:** Shows "Recent Activity" as "No recent activity".

The browser's search bar at the bottom contains the text "Find: 67".

Fig. 25. Project operational.

Education Services

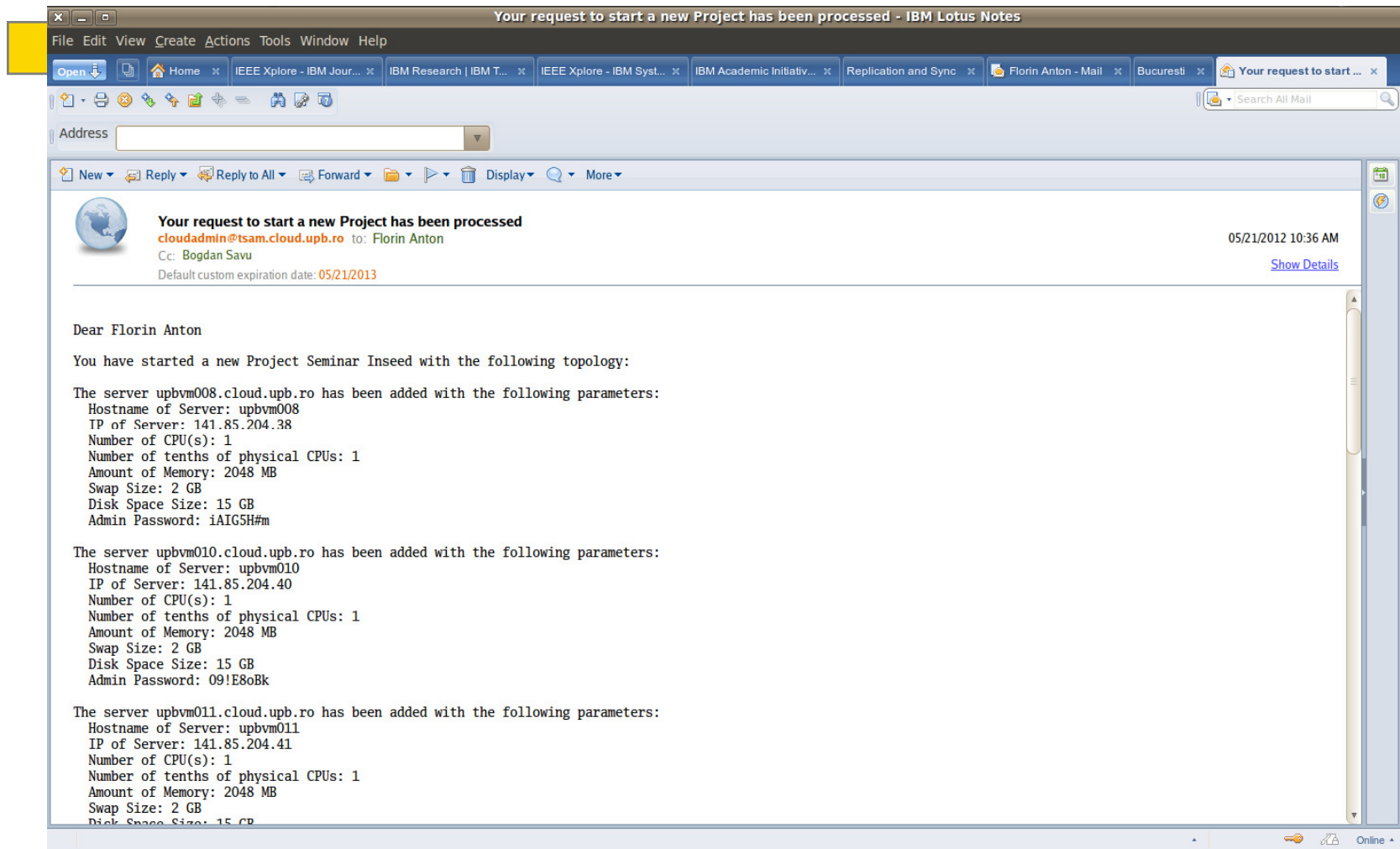


Fig. 26. The login information.

Education Services

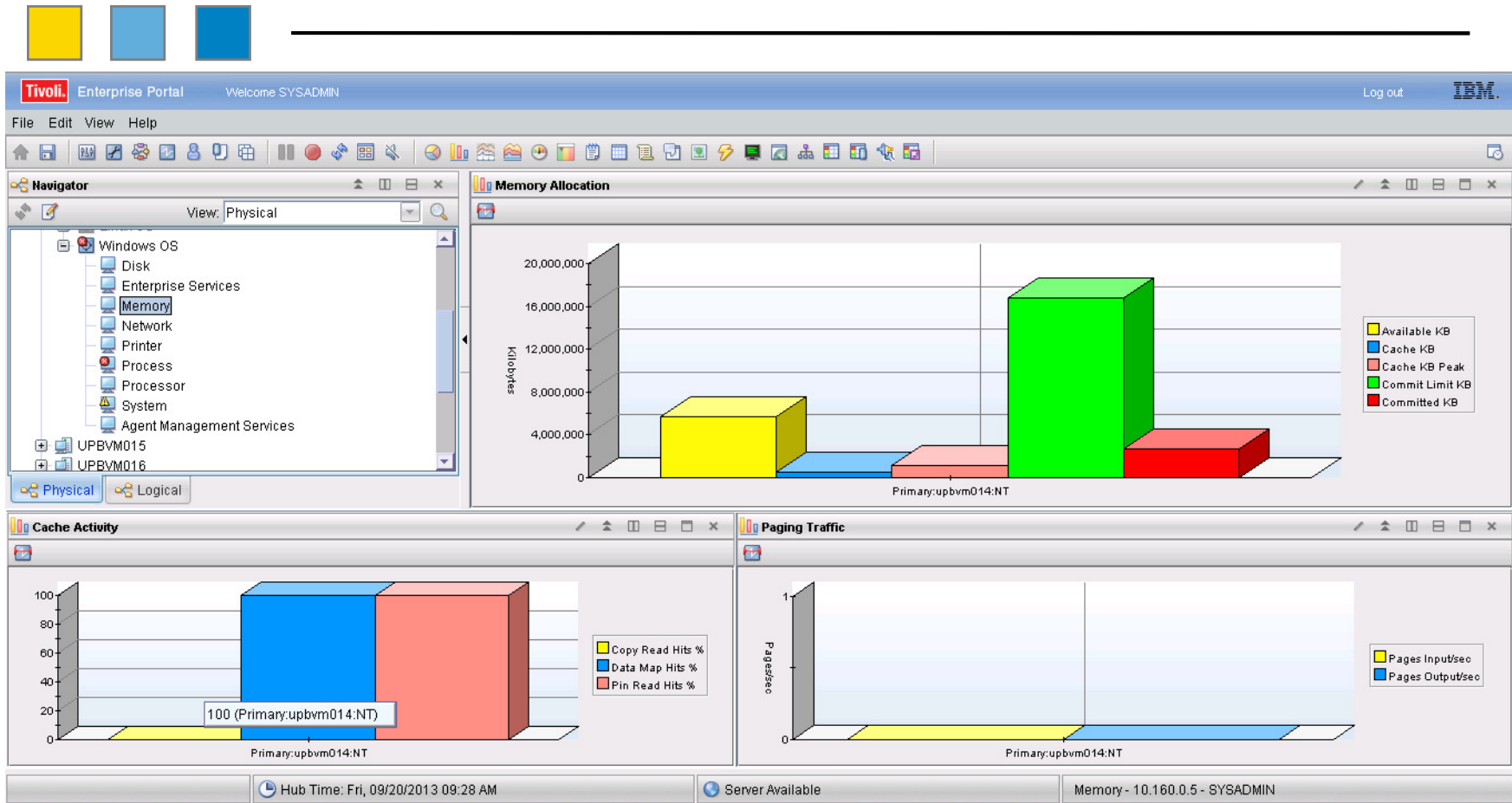


Fig. 27. VM Monitoring.



Thank you!

Questions?