Ecole Polytechnique Fédérale de Lausanne

Strategy for EPFL-SI

Karl Aberer
Vice-president for Information Systems

Contributions from:
• Alain Wegmann
• Etienne Marclay, Nathalie Pichard, Jean-François Ricci, Didier Rey
• the EPFL schools
• Service Factory - Governance Team
• Service Factory - Communication
A strategy is a statement of intentions.
A strategy is a statement of intentions that becomes more and more concrete through shared projects.
5 key challenges for EPFL IS

CHALLENGES

Organization
- Growing dependency on information
- EPFL organization's complexity requires strong IS support to coordinate activities
- Cultural difference between start up logic in research and institutional logic in administration

Innovation
- Increasing global competition between universities
- Business innovation relies heavily on IT

Compliance & IT security
- More demanding regulatory environment
- Security and privacy challenges

IT organization & IT financing
- IT organization distributed across all EPFL
- Overall IT budget not growing
- IT budget across all EPFL (local optimization)

IT Technology
- Rapidly changing IT landscape
- New paradigms, such as mobility, cloud, virtualization

INTENTIONS

To bring value to users through IS services.

To boost EPFL innovation through IS services.

To ensure legal and regulatory compliance together with security.

To coordinate actors in the IS service organization and to efficiently allocate resources.

To respond to the IT technology revolution and to take advantage of it.
Key Values - Collaboration and Decision Making

EPFL management supports the following values:

**Efficiency and proper involvement in the decision making process**

The goal is finding technologies & architectures that best satisfy the clients while being affordable.

**Collaboration and mutual understanding**

A good understanding of the various IT teams (central, faculties, laboratories) functioning is crucial in order to develop a coordinated and efficient information system.
Summary

1. An example to illustrate concretely the strategy

From Projects to the Strategy of EPFL-SI

2. EPFL – SI

Disclaimer
the example is a combination of the real project as it happened and the ideal project as it could have happened.
Each school is managing its own infrastructure for the computer classrooms.

Could part of this infrastructure be federated and provided by the Service Factory to remove this burden from the schools?

Approx. 25 computer classrooms

Computer Classroom Administrators

Paulo De Jesus (ENAC)
Philippe Olivier Borel (SV)
Florence Hagen (SB)
Claude Mary (STI)
Carlos Perez (I&C)
and many others...

A lot of infrastructure (managed by schools)
Objectives for EPFL-SI

- Co-development and knowledge sharing
- Develop specific strategies
- Definition of a language common to all the teams & the users (using ITIL and Hermes best practices)
Objectives for EPFL-SI

Co-development and knowledge sharing

Develop specific strategies

Definition of a language common to all the teams & the users
(using ITIL and Hermes best practices)
A study was started lead E. Kerjci – project manager - & D. Perret – potential service manager (Service Factory) together with P. De Jesus (ENAC), P. Borel (SV), F. Hagen (SB), C. Mary (STI), C. Perez (I&C) and key users.

This project is called VDI (as "Virtual Desktop Infrastructure").
Technologies Recommended in the Strategy (to Use and Reuse)

- Mobile Platforms
- Virtualisation And Cloud
- Integration Technology (e.g. ESB)

Technologies of Choice (Architecture)
Technologies Recommended in the Strategy (to Use and Reuse)

- Mobile Platforms
- Virtualisation And Cloud
- Integration Technology (e.g. ESB)

Technologies of Choice (Architecture)
The VDI Project - Architecture "Validation"

The architect is involved to evaluate if the solution can be leveraged in other contexts.

The choice taken matches the overall EPFL-SI strategy.

Example

Approx. 25 computer classrooms

Paulo De Jesus (ENAC)
Philippe Olivier Borel (SV)
Florence Hagen (SB)
Claude Mary (STI)
Carlos Perez (I&C)
and many others...

Computer Classroom Administrators

Eric Krejci
Project mgr

Daniel Perret
Service mgr

Giorgio Anastopoulos
Architect
Objectives for EPFL-SI

- Co-development and knowledge sharing
- Develop specific strategies
- Definition of a language common to all the teams & the users (using ITIL and Hermes best practices)
A federated infrastructure that can manage thousands of virtual machines was selected and designed. The technology fits the preliminary architecture strategy.

Example

The VDI Project - Designing User Interactions

Approx. 25 computer classrooms

How to provide these new capabilities?

Paulo De Jesus (ENAC)
Philippe Olivier Borel (SV)
Florence Hagen (SB)
Claude Mary (STI)
Carlos Perez (I&C)
and many others...

Eric Krejci
Project mgr

Daniel Perret
Service mgr

Computer Classroom Administrators
Service – a Way to Work Together

Service = value for the users without the risks and costs of the implementation [ITIL]
Definition of the VDI (Technical) Service

A (technical) service, called VDI is developed and offered by the Service Factory to the computer classrooms administrator. It replaces the infrastructure managed in each school and remove the risks and costs from the classroom administrators.

Approx. 25 computer classrooms

Computer Classroom Administrators

Paulo De Jesus (ENAC)
Philippe Olivier Borel (SV)
Florence Hagen (SB)
Claude Mary (STI)
Carlos Perez (I&C)
and many others...

Service factory

Eric Krejci
Project mgr

Daniel Perret
Service mgr
Creation of the VDI (Technical) Service

Approx. 25 computer classrooms

VDI is now a service that brings value to the class administrators.

The service implementation is not important to the user as long as the service is provided.

Computer Classroom Administrators
Paulo De Jesus (ENAC)
Philippe Olivier Borel (SV)
Florence Hagen (SB)
Claude Mary (STI)
Carlos Perez (I&C)
and many others…
Objectives for EPFL-SI

- Co-development and knowledge sharing
- Develop specific strategies
- Definition of a language common to all the teams & the users (using ITIL and Hermes best practices)
Designing (Business) User Interactions

VDI is now a service that brings value to the class administrators.

**How to organize the service of the computer classroom to bring value for the users?**

**Example**

Approx. 25 computer classrooms

- Paulo De Jesus (ENAC)
- Philippe Olivier Borel (SV)
- Florence Hagen (SB)
- Claude Mary (STI)
- Carlos Perez (I&C)
- and many others...

**Computer Classroom Administrators**

- Olivier Burdet
- Student
- and many others...

- Nina Desnica
- and many others...

**VDI Service factory**
Service – a Way to Work Together

Service = value for the users without the risks and costs of the implementation [ITIL]
A (business) service, called Computer Classroom is developed and offered by schools IT to teachers and students.

Olivier Burdet
Teacher

Nina Desnica
Student

and many others…

Paulo De Jesus (ENAC)
Philippe Olivier Borel (SV)
Florence Hagen (SB)
Claude Mary (STI)
Carlos Perez (I&C)
and many others…
Creation of the Computer Classrooms Services

The teachers do not need to get involved in the implementation of the service, they benefit of the value of the service.

Example

Schools (ENAC, I&C, SV, SB, STI)

Computer Classroom

Olivier Burdet
Teacher

and many others...

Nina Desnica
Student

and many others...
Objectives for EPFL-SI

Co-development and knowledge sharing

Develop specific strategies

Definition of a language common to all the teams & the users (using ITIL and Hermes best practices)
Who dreams of the synergy / strategy between the different services targeting the same kinds of users?

The segment manager!
Segment strategies

- How to organize exams?
- How can the computer classroom management service be integrated with other services targeting students?
- Should we promote a "notebook only" strategy?

Architecture strategy/ies

- Can the virtual desktop infrastructure be used outside the classrooms?
  - For central services?
  - For admin in labs?

Laurent Ramelet
Segment mgr teaching

Giorgio Anastopoulos
Architect

Architect delegates

Segment mgr
& 6 other strategies
5 key challenges for EPFL IS

**CHALLENGES**

- Value
- Innovation
- Compliance & IT security
- IT organization & IT financing
- IT Technology

**INTENTION**

- To bring value to users through IS services.
- To boost EPFL innovation through IS services.
- To ensure legal and regulatory compliance together with security.
- To coordinate actors in the IS service organization and to efficiently allocate resources.
- To respond to the IT technology revolution and take advantage of it.
Summary

1. An example to illustrate concretely the strategy

2. EPFL – SI
Creation of Computer Classroom Services

The creation of EPFL-SI

Computer Classroom Administrators

Paulo De Jesus (ENAC-IT)
Philippe Olivier Borel (SV-IT)
Florence Hagen (SB-IT)
Claude Mary (STI-FORM)
Carlos Perez (SiFAC – I&C)
and many others...

Eric Krejci
Project mgr
(Service Factory)

Daniel Perret
Service mgr
(Service Factory)

Giorgio Anastopoulos
Architect
(Service Factory)

Laurent Ramelet
Segment mgr
Teaching
(Service Factory)

Olivier Burdet
Teacher
and many others...

Nina Desnica
Student
and many others...

EPFL IS strategy, May 2016
EPFL IS strategy, May 2016

The way to work together

- **Governance**
  - Co-development and knowledge sharing
  - Develop specific strategies
  - Definition of a language common to all the teams & the users

- **Human resources**

- **Services**

- **Architecture strategy**
  - Mobile Platforms
  - Virtualisation And Cloud
  - Integration Technology (e.g. ESB)

- **Technologies of Choice (Architecture)**

**Segment strategy**
The Birth of EPFL-SI

Human resources / members of EPFL-SI:

- CDM/CDH-IT
- CEDE
- DII
- ENAC-IT
- OGIF
- OS
- Service Factory
- SB-IT
- SCITAS
- SDSC
- SIFAC (I&C)
- SISB
- STI-IT
- SV-IT
- Local IT support (labs)
- ... and many others

Lead by the different governance bodies
Governance to Help Federating

Governance bodies - to make explicit the feedback loops and to integrate all relevant parties in decisions.

Committees:

- EPFL-SI coordination & strategy
- EPFL-SI Project and Service portfolio Management (PSPM)
- Segment Strategies (research, teaching…)
- Architecture and know-how
- Security

The vice-president of VPSI in the role of CIO assumes the coordination of the governance bodies together with EPFL direction.
**Timeline**

**2014**
- Analysis of VPSI situation
- Design of new VPSI organization

**2015**
- Sep 2014 – Dec 2014: First draft of a strategy.
- Jan 2015 - Sep 2015: First contacts with schools.
- Sep 2015 – Dec 2015: First version of strategy Agreement with VPAA, VPRI, VPIV on how IT people could work together.

**2016**
- Jan 2016 - Sep 2016: Implementation of EPFL-SI in IT groups of VPAA, VPRI, VPIV.
- Jan 2016 - Sep 2016: Development of specific strategies.
- Jan 2016 - Sep 2016: Discussion with schools on their roles in EPFL-SI.

**Future**
- Based on shared projects
- Yearly update of overall strategy
- Development of specific strategies.
To Know More...

http: it.epfl.ch (in construction to become EPFL-SI web site)
Allow IT professionals to grow and evolve in their IT career

Promote all collaboration and encourage shared and agreed best practices

Develop services according to users’ needs in every segment while including architectural considerations.
Next IS Forum will be held on October 4