



Samba Management Console

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- **Introduction**
 - Overview
 - Goals

- **Architecture**
 - Design
 - Components
 - Functions

- **Demo (I hope)**
 - Interface
 - System Integration

- **Roadmap**
 - Status
 - Next Step

Small env

- Domestic Storage NAS
- All in one Appliance



XL env

- No i386 hw
- Heterogeneous env
- High performance FS



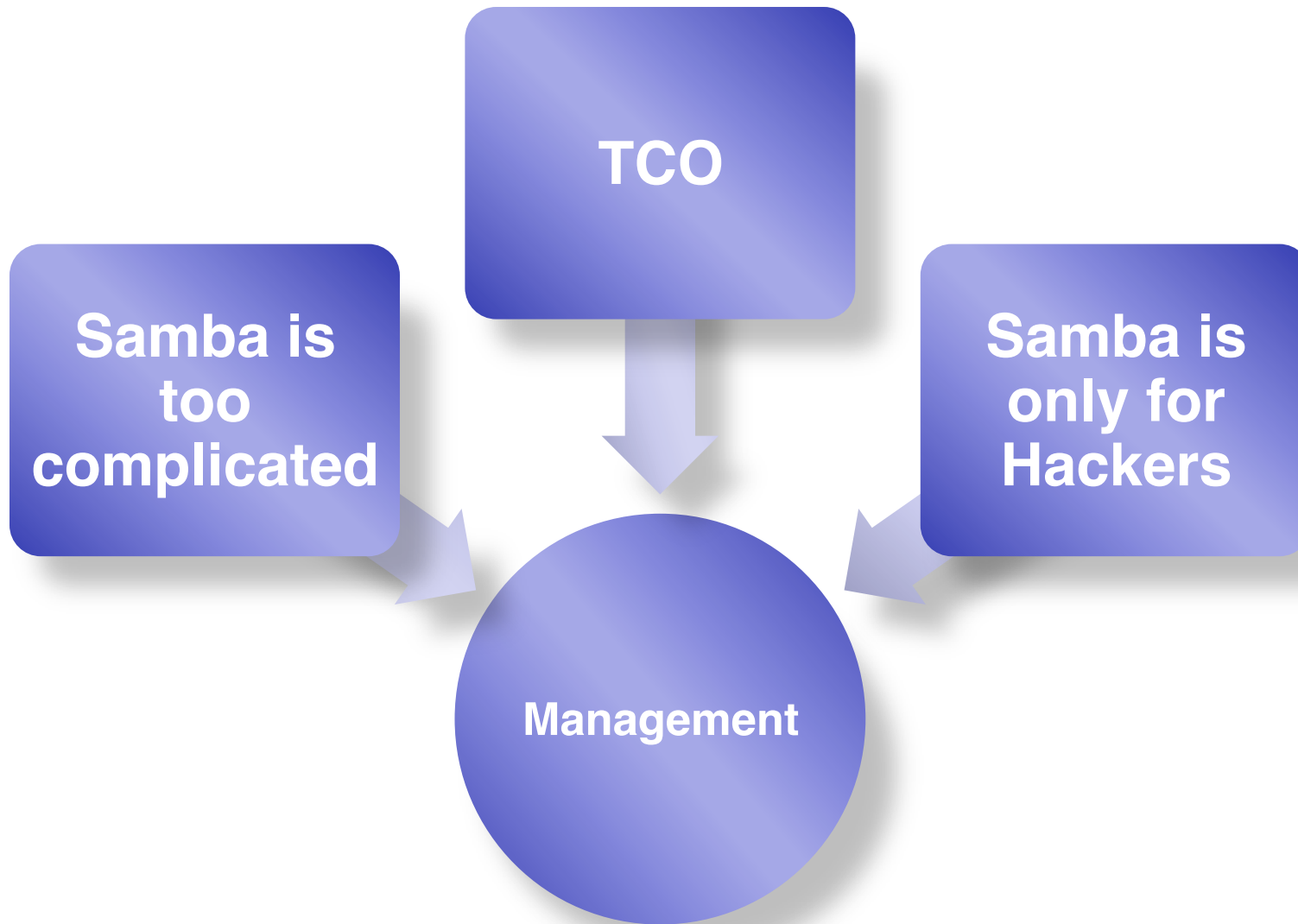
Medium env

- Fanatic
- Economic



Why middle and large companies don't want to use Samba?







Samba Management Console !



Simple

- Graphical user interface
- Handle Samba configuration
- Handle Samba Status (Process, session management)
- Handle Samba Users/Groups
- Setup



Open

- Process Integration/Automation with other systems
- Work with samba PDC/AD
- Work with windows AD



Global view

- Control all servers from a central point
- Handle groups of servers as one
- Collect information from different servers

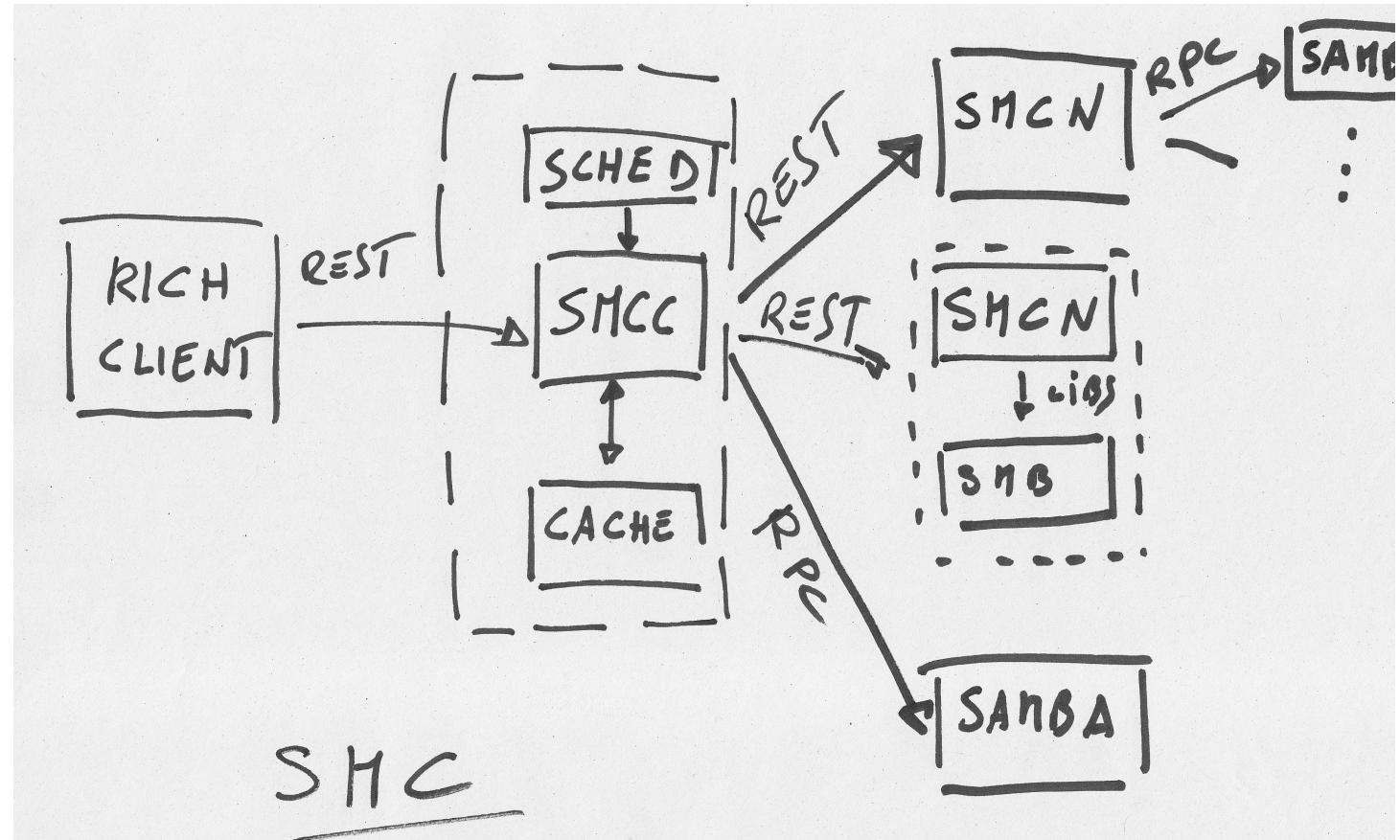
Rich Client

Node Collector

- Scheduler
- Web Int
- Cache

Node Controller

- Proxy
- Local



Simple

Web Ajax

Embedded Server

Embedded DB

Open

REST

ExtJS

Python

Sqlite

Global view

Centralized GUI

Collector

Proxy

Samba Libs

Cmd

Swig

Representational State Transfer - REST

The most important concept in Rest concerns the RESOURCES (source of specific information), each of which is referenced with a global identifier

e.g. <http://www.boeing.com/aircraft/747>

REST Web Services Characteristics

- ❑ **Client-Server:** a pull-based interaction style: consuming components pulls representations.
- ❑ **Stateless:** each request from client to server must contain all the information necessary to understand the request, and cannot take advantage of any stored context on the server.
- ❑ **Cache:** to improve network efficiency responses must be capable of being labeled as cacheable or non-cacheable.
- ❑ **Uniform interface:** all resources are accessed with a generic interface (e.g., HTTP GET, POST, PUT, DELETE).
- ❑ **Named resources** - the system is comprised of resources which are named using a URL.
- ❑ **Interconnected resource representations** - the representations of the resources are interconnected using URLs, thereby enabling a client to progress from one state to another.
- ❑ **Layered components** - intermediaries, such as proxy servers, cache servers, gateways, etc, can be inserted between clients and resources to support performance, security, etc.

REST – is An Architectural Style, Not a Standard !

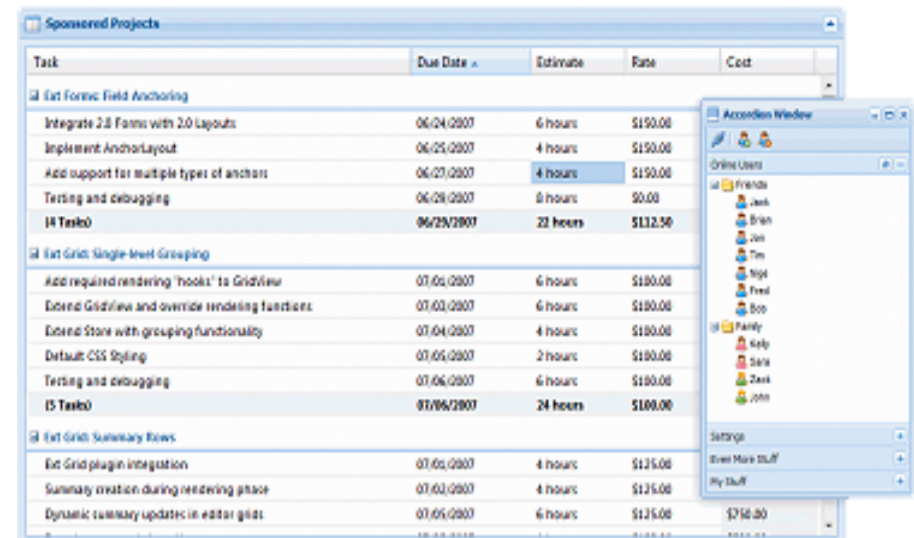


Why Python ?

- see Jelmer Vernooij sambaxp 2008
- highly scalable,
- suitable for large projects as well as small ones
- rapid development
- portable cross-platform
- embeddable easily
- extensible object-oriented
- elegant, stable and mature
- powerful standard libs wealth of 3rd party packages

ExtJS is a cross-browser JavaScript library for building rich internet applications.

- ❑ High performance
- ❑ Customizable UI widgets
- ❑ Extensible Component model
- ❑ Leader in Javascript interface
- ❑ Commercial and Open Source licenses available



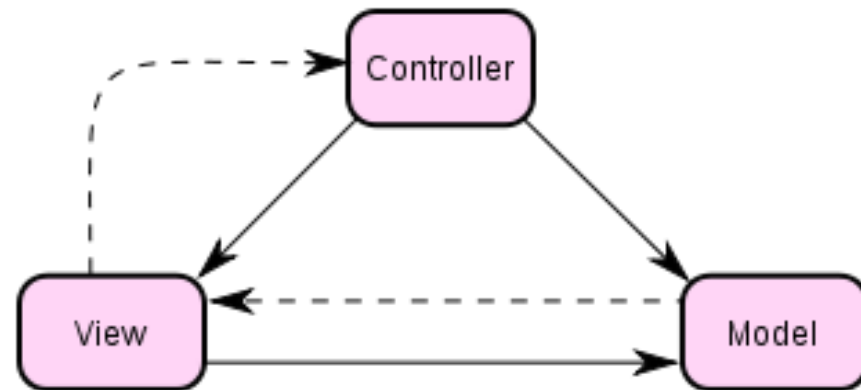
Model-View-Controller

❑ Independent on how retrieve informations

- ❑ RPC
- ❑ Command Line
- ❑ JSON/REST
- ❑ Cache
- ❑ Python

❑ Different output format and Extensible

- ❑ HTML
- ❑ JSON
- ❑ CSV



Servers

- Global configuration
- Process Control
- Backup/Restore
- Logs

Share

- Shares
- Printers

Identity

- Users
- Groups
- Workstations

Status

- Sessions
- Files
- CPU
- Queue

Install

- Satisfy requirements (python,samba)
- Uncompress the tarball

Configuration

- Define controlled server
- Define samba bin dir
- Define SMC users
- Define http port

Run

- Smcd -f configuration.file

Use

- Point your browser to the server

```
[global]
port=8080
smb_dir=/opt/samba
..

[users]
users=admin, pippo

[servers]
servers=mysrv

[user_admin]
password=admin
role=admin

[server_mysrv]
ip=127.0.0.1
name=myserver
admin=Administrator
password=domain
domain=domain
os=linux
samba=3.2
```

```
Python smcd.py -f smcd.conf -d
```

Proof of concept



URL /rest/type/resource/id

Type

Global, Identity, Status

Resources

Server, share, user,...

Id (optional)

Resource Identification

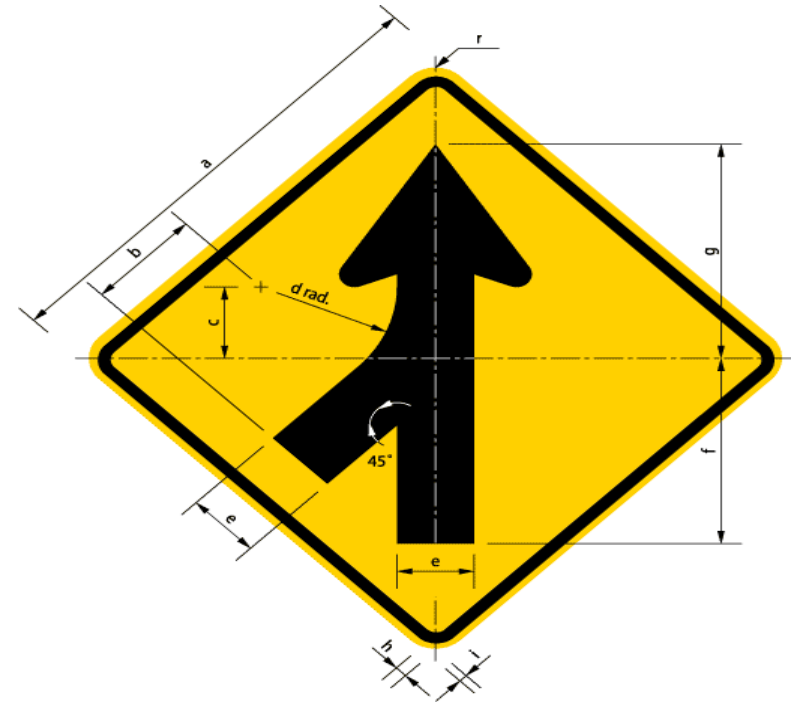
Operations

Get: list elements/attributes in resource

Post: create new resource

Put: update resource

Delete: remove resource



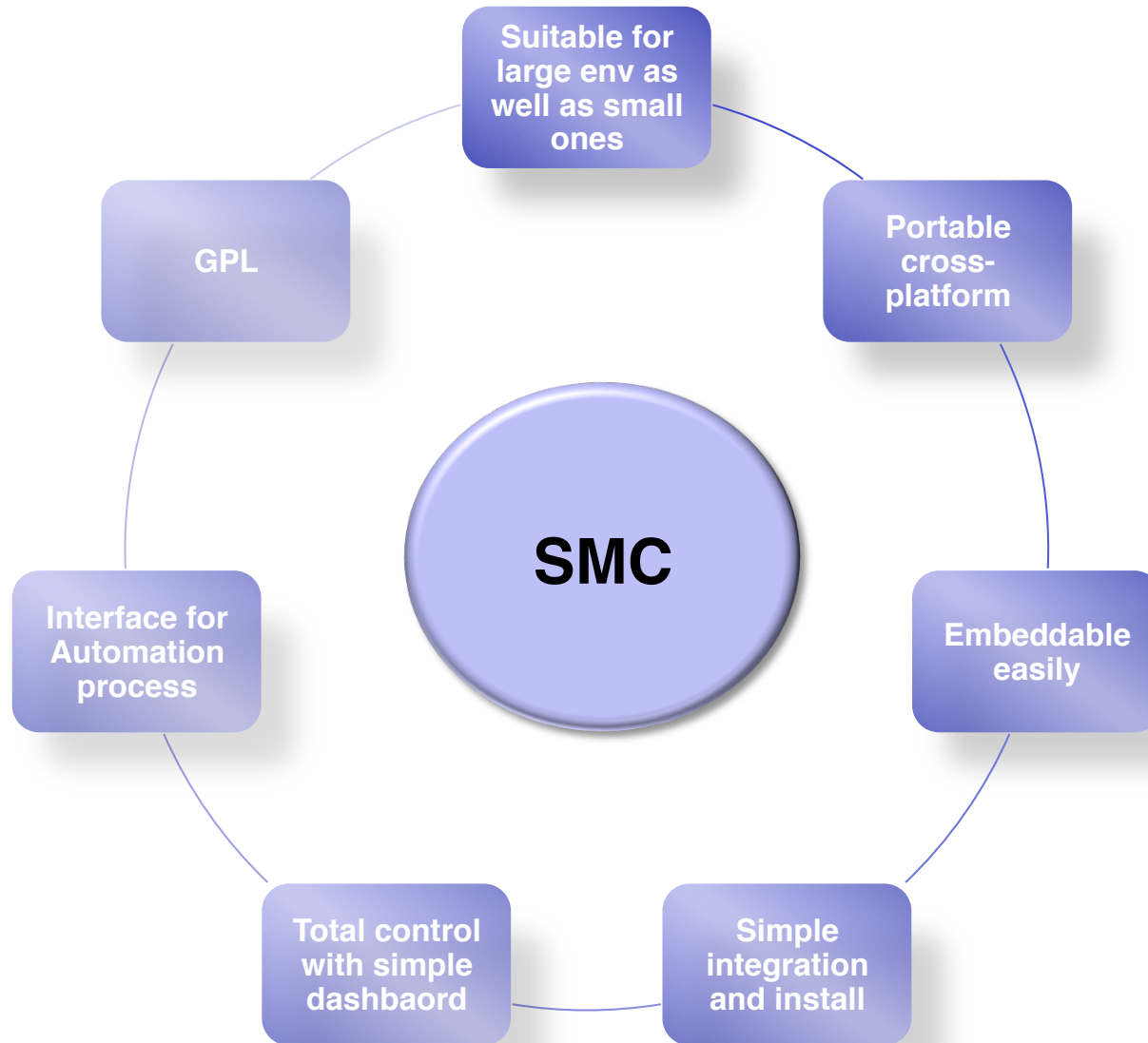
The Rest interface gives all the functions and information present in the web client

- Retrieve information with simple url
- Interconnect to monitoring system
- User/group provisioning
- User Administration (password, lock..)





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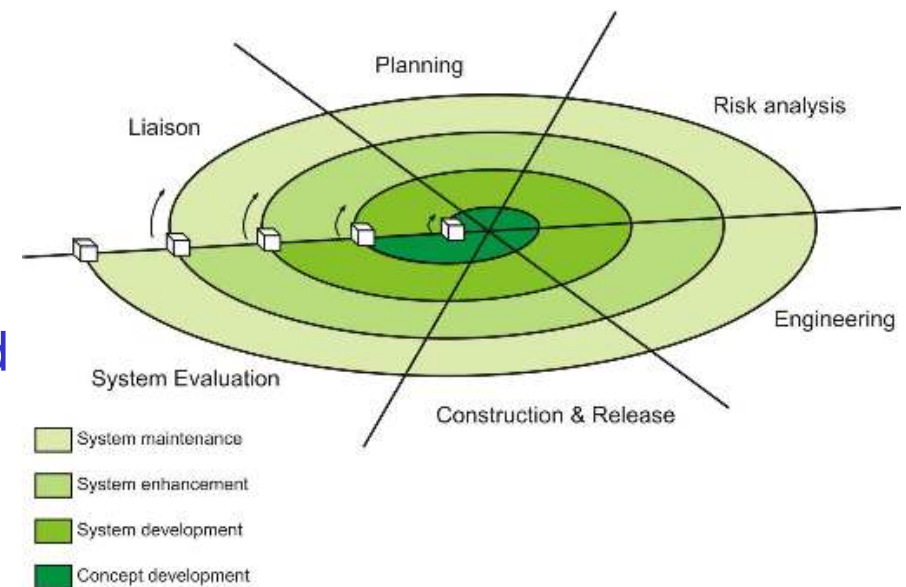
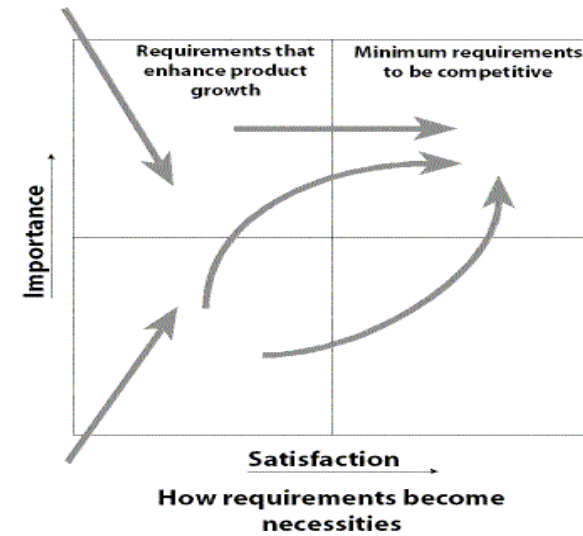


❑ Requirements

- ❑ > samba 3.2
- ❑ > python 2.6
- ❑ Registry for RW operations

❑ More prototype than product

- ❑ Status section completed
- ❑ Users / groups readonly sections
- ❑ Most Configuration section is ro
- ❑ Centralized cache not implemented



Not clear yet but ..

- Better integration
 - smcncd → integrated in Swat
 - python Samba library (swig)
- Cache for speed performance in large env (sqlite)
- Django for smcclcd
- Operations on all nodes, single view
- Better support for different samba releases
- Cluster ctdb
- Upgrade software (deploy)
- Adobe Air
- User integration
- Web Configuration





XVII European AFS meeting 2010 PILSEN - CZECH REPUBLIC September 28-30



Who should attend:

- Everyone interested in deploying a globally accessible file system
- Everyone interested in learning more about real world usage of Kerberos authentication in single realm and federated single sign-on environments
- Everyone who wants to share their knowledge and experience with other members of the AFS and Kerberos communities
- Everyone who wants to find out the latest developments affecting AFS and Kerberos



More Info: <http://afs2010.civ.zcu.cz/>



Thank you

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