“TOC in ICT Service Management”

Deliver more, faster and more reliable ICT services and projects

Michel Stijlen

TOC Resultants

Objective of this presentation

- Identify and discuss issues in implementing the generic framework for (S)DBR in ICT Service Management
- Share with you applied (un)succesfull solutions for these issues
- In order for YOU to implement the framework more succesfully

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Michel Stijlen

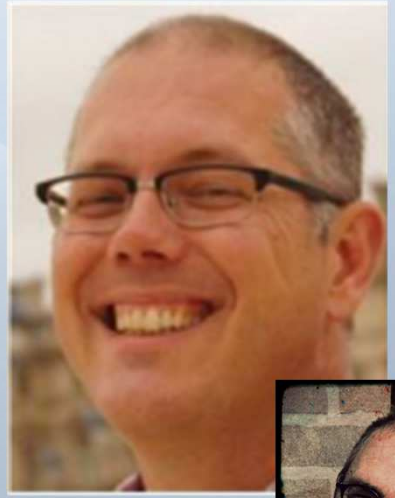
Co-owner of TOC Resultants and Critical Task Manager (CTM)

TOC implementor in service organizations; government, professional services, IT and healthcare. All implementations are aimed at delivering *more* services *faster*, with the same people and resources.

Michel worked > 20 years in ICT Service industry. Founded TOC Resultants in 2005 with **Hans Steenpoorte**. Since then, they have been implementing TOC solutions in services, and adapting them if and where necessary.

In 2009, Michel co-founded Critical Task Manager (CTM), TOC-based software for service organizations that want to deliver repetitive and/or unique services faster and more reliably.

Michel lives in Katwijk, The Netherlands with his wife and has 4 children



www.toc-resultants.com
info@toc-resultants.com
See also:
www.criticaltaskmanager.nl

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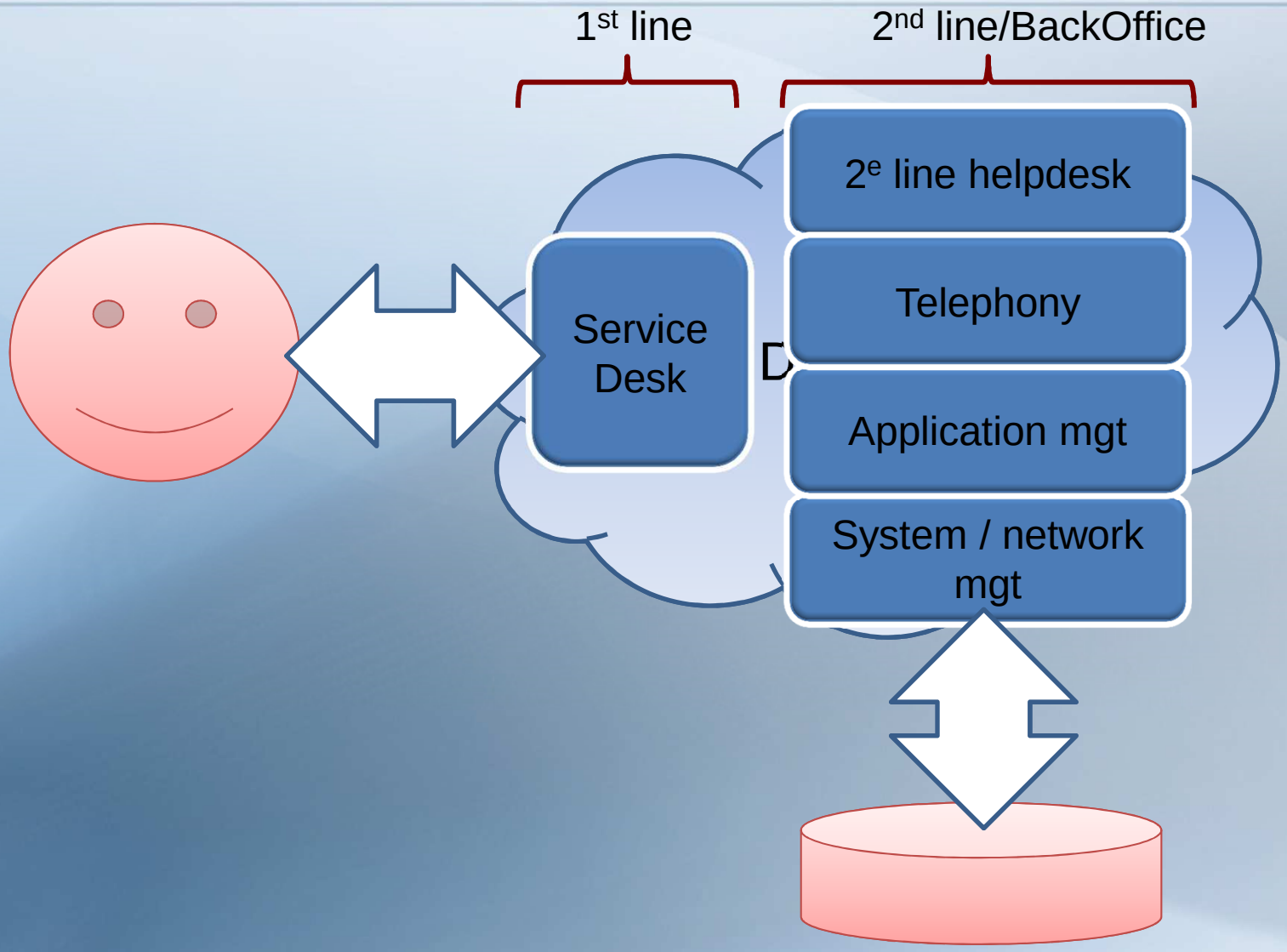
The ‘system’


1st line
2nd line/BackOffice
Service Desk
2e line helpdesk
Telephony
Application mgt
System / network mgt

Goal ICT-department (?)

Create and maintain a well functioning ICT environment and ICT solutions in order to enable endusers to work efficient and effective now and in the future

To reach this goal we deliver:

1. (ITIL) services:
- incidents
- (non) standard changes
- releases
- problems
- operational mgt

2. Projects and projecttasks:
'own' projects
or
as part of 'other' owners

3. Analysis and recommen-dations on request

Contents

Problems in ICT-departments?

Many things are working fine in ICT. Some problems tend to be persistent:

- Completion of calls takes (too) long (long leadtimes)
- Too many escalations on (potential) late delivery
- Unclear and continuously changing priorities
- Continuous disruptions in (resource)planning
- Too many enduser complaints
- Poor and overdue completion of project(task)s
- Projectresources are not available when needed
- Incorrect identification for causes of quality issues/problems
- Poor solutions for quality issues/problems

What is the dilemma?

Effect: somewhat chaotic ICT department with irregular output (both qualitative and quantitative), stress and unhappy endusers

Breaking the dilemma?

What can we change in planning and managing ICT services and projects in order to deliver:

- significantly faster
- with significantly higher reliability
- significantly more

Under the following restrictions:

- Without adding resources
- No concessions on Quality nor on stress?

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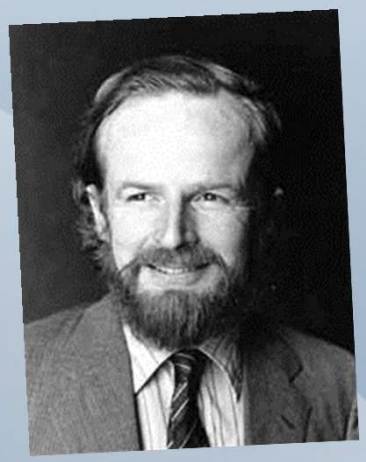
3. Injections

Injection	How	In order to achieve
3a. We have and maintain a low WIP level	Reduce WIP	Improved leadtimes
3b. The generic process is focused on completion of products and services	Focus Products and Services on Desired Endstate	Removed unnecessary steps, more efficiency
3c. Tasks are prioritized using BM	Set uniform taskpriorities using BM	Improved reliability and more efficiency
3d. Work is allocated to teams	Work in teams (aggregration)	Reduced peaks in workload
3e. Effective Operations Management is in place	Effective Operations Management	Continuous improvement

3a) Reduce WIP

- What is causing long leadtimes?
- The touchtime is just a **fraction** of the leadtime
- 'Your' request is primarily *waiting* on other products/services
- The more WIP, The longer the Leadtime



John Little
(MIT)

- Little's Law:

$$\frac{WIP\ (\#\ units)}{Output\ (\#\ units\ per\ period)} = Avg\ Leadtime\ (in\ periods)$$

3a) Reduce WIP (2)

- In order to deliver twice as fast we need to reduce WIP by 50%. How?
- Reduce planned leadtimes by 50%!

- Manage the transition
  - Assign during the transition all 'new' overdue products and services to an experienced multi-disciplined team ("cold case team")
    - Inspiration & experience for proces improvement
- Second stage:
  - Release work 1 leadtime before due date ("pull") in stead of on arrival ("push")
  - Plan projecttasks ALAP (ipv ASAP)
  - Start a new project only when at least 1 active project is finished: 1 out = 1 in ("Pull/ConWIP")

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3b) Focus Products and Services on Desired Endstate

- In most ICT departements processes are clearly defined, but more than often in 'working steps'
- Our recommendation: describe the processes in desired endstate

- How? Check whether it is clear for everybody when a product/service/task is finised
  1. When ('Due Date')?
  2. In what desired Endstate?
     - Define in- and outputcriteria
       - ✓ What is necessary to start *and*
       - ✓ What is ready upon completion?

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3c) Set uniform taskpriorities

- Reduced WIP improves reliability, but every worker still has **more than one** active task. The question for a worker is:
  - *"Which task should I execute NOW?"*
- Apply buffermanagement rules on all tasks
  - Use Remaining Duration for highly variable tasks (projecttasks)

3c) Set uniform taskpriorities

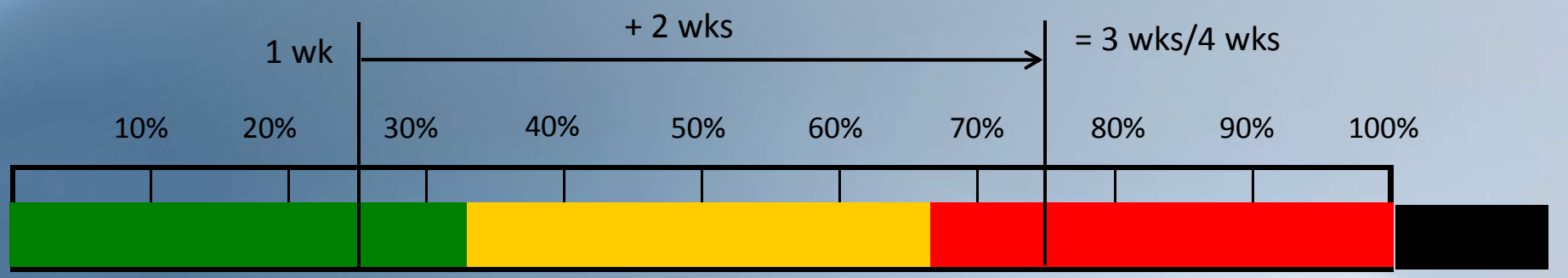
$$BM\% = \frac{(Consumed\ Leadtime + Remaining\ Duration)}{Leadtime} * 100\%$$

Suppose:

- Leadtime = 4 weeks
- After 1 week we get a taskupdate for Remaining Duration of 2 weeks

BM%?

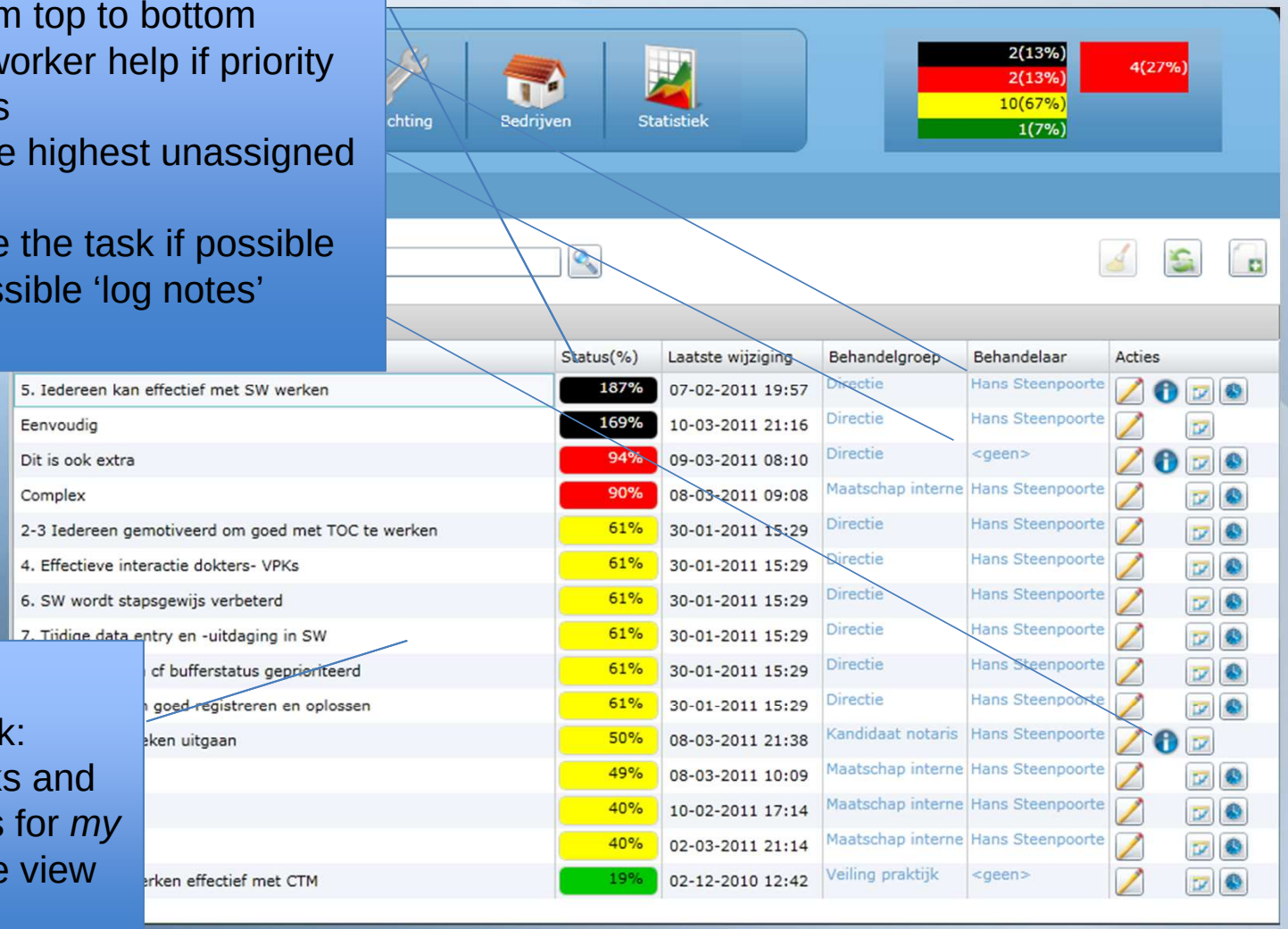
((1 + 2 wkn)/4 wkn) * 100% = 75% → red



Critical Task Manager: Tasks

Instruction:

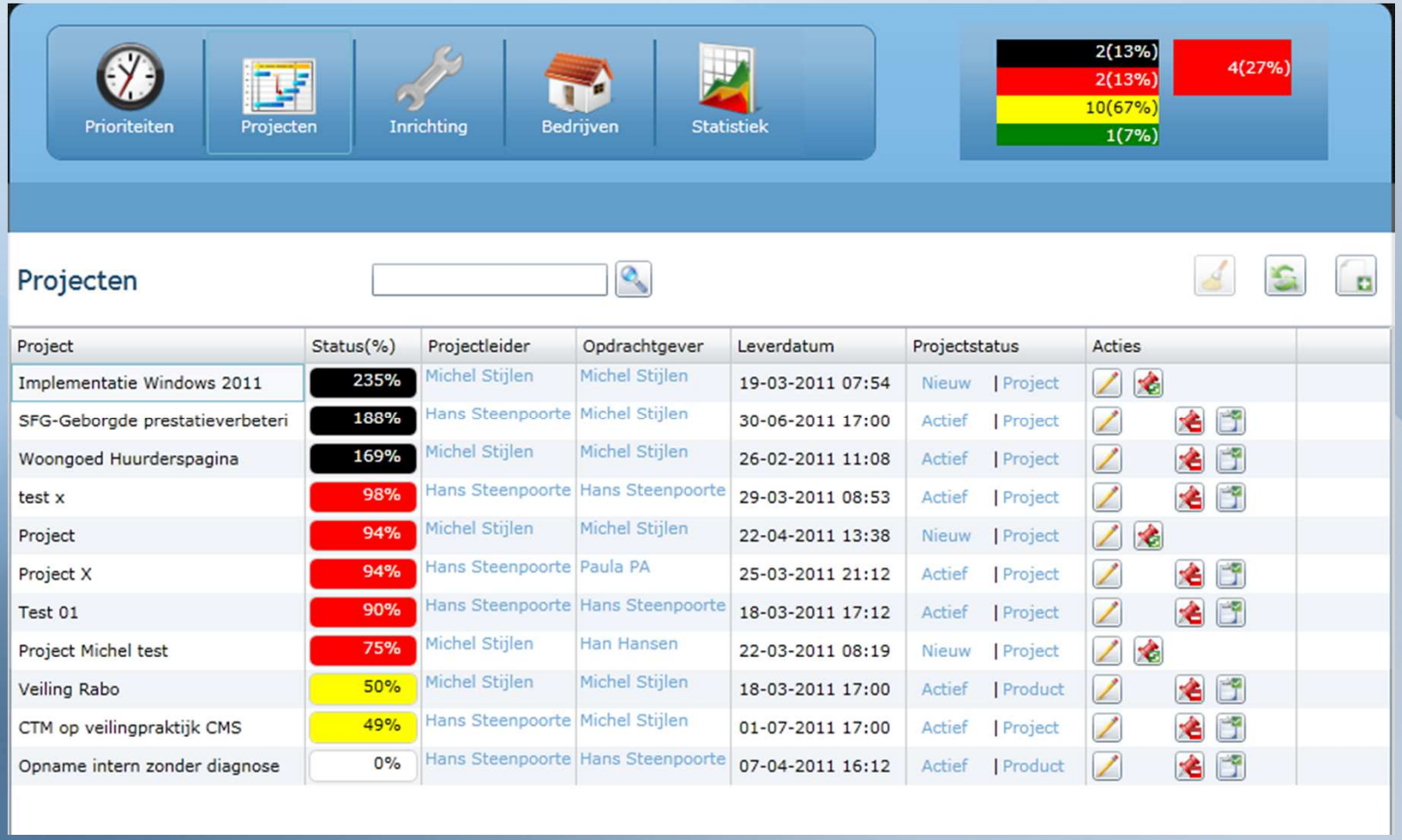
1. Work from top to bottom
2. Offer coworker help if priority increases
3. Select the highest unassigned task
4. Complete the task if possible
5. If not possible 'log notes'



	Status(%)	Laatste wijziging	Behandelgroep	Behandelaar	Acties
5. Iedereen kan effectief met SW werken	187%	07-02-2011 19:57	Directie	Hans Steenpoorte	
Eenvoudig	169%	10-03-2011 21:16	Directie	Hans Steenpoorte	
Dit is ook extra	94%	09-03-2011 08:10	Directie	<geen>	
Complex	90%	08-03-2011 09:08	Maatschap interne	Hans Steenpoorte	
2-3 Iedereen gemotiveerd om goed met TOC te werken	61%	30-01-2011 15:29	Directie	Hans Steenpoorte	
4. Effectieve interactie dokters- VPKs	61%	30-01-2011 15:29	Directie	Hans Steenpoorte	
6. SW wordt stapsgewijs verbeterd	61%	30-01-2011 15:29	Directie	Hans Steenpoorte	
7. Tijdige data entry en -uitdaging in SW	61%	30-01-2011 15:29	Directie	Hans Steenpoorte	
cf bufferstatus geprioriteerd	61%	30-01-2011 15:29	Directie	Hans Steenpoorte	
goed registreren en oplossen	61%	30-01-2011 15:29	Directie	Hans Steenpoorte	
eken uitgaan	50%	08-03-2011 21:38	Kandidaat notaris	Hans Steenpoorte	
	49%	08-03-2011 10:09	Maatschap interne	Hans Steenpoorte	
	40%	10-02-2011 17:14	Maatschap interne	Hans Steenpoorte	
	40%	02-03-2011 21:14	Maatschap interne	Hans Steenpoorte	
erken effectief met CTM	19%	02-12-2010 12:42	Veiling praktijk	<geen>	

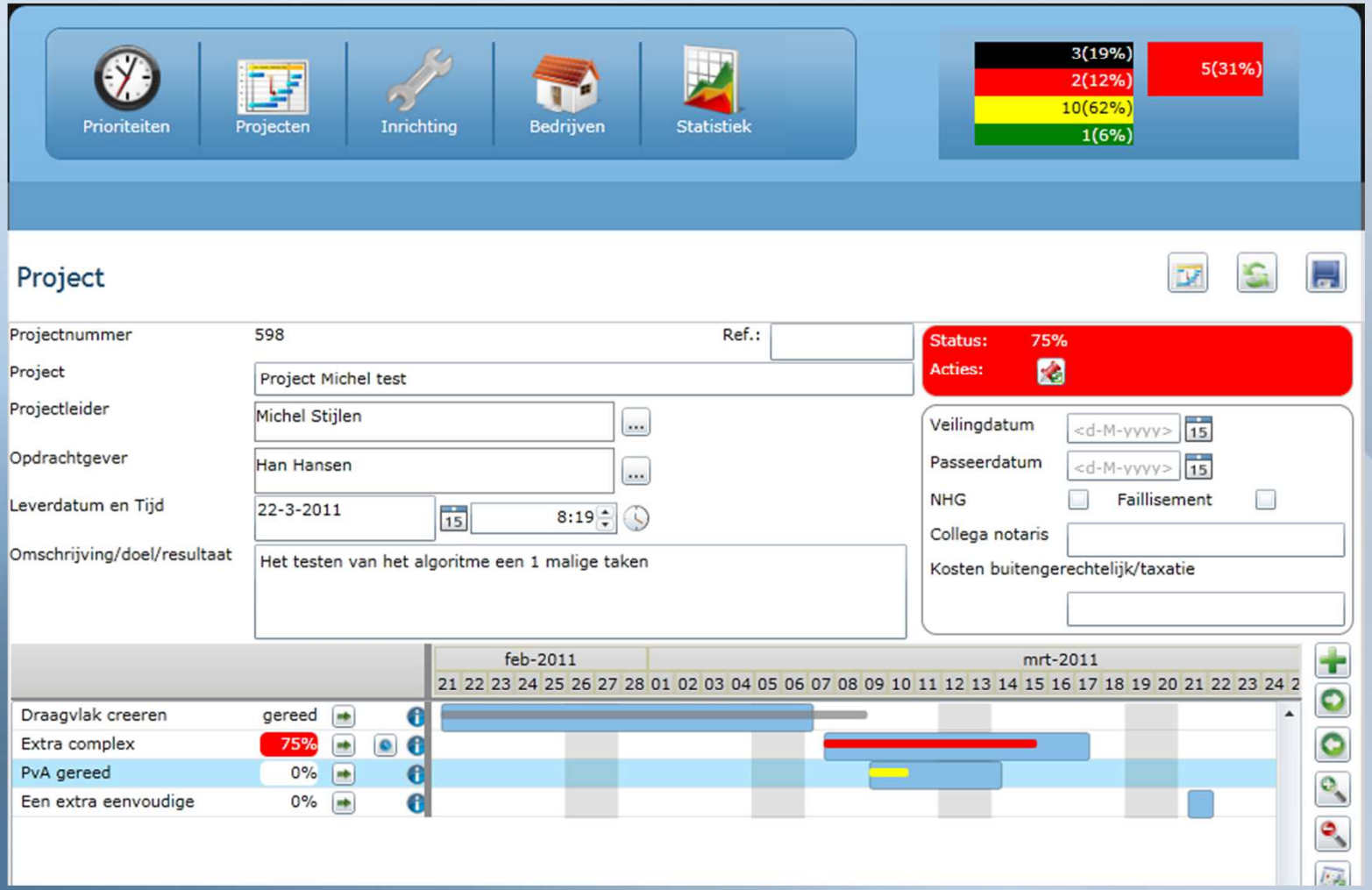
All work: Projecttasks and Servicetasks for *my skills* in one view

Critical Task Manager: Projects



Project	Status(%)	Projectleider	Opdrachtgever	Leverdatum	Projectstatus	Acties
Implementatie Windows 2011	235%	Michel Stijlen	Michel Stijlen	19-03-2011 07:54	Nieuw | Project	
SFG-Geborgde prestatieverbeteri	188%	Hans Steenpoorte	Michel Stijlen	30-06-2011 17:00	Actief | Project	
Woongoed Huurderspagina	169%	Michel Stijlen	Michel Stijlen	26-02-2011 11:08	Actief | Project	
test x	98%	Hans Steenpoorte	Hans Steenpoorte	29-03-2011 08:53	Actief | Project	
Project	94%	Michel Stijlen	Michel Stijlen	22-04-2011 13:38	Nieuw | Project	
Project X	94%	Hans Steenpoorte	Paula PA	25-03-2011 21:12	Actief | Project	
Test 01	90%	Hans Steenpoorte	Hans Steenpoorte	18-03-2011 17:12	Actief | Project	
Project Michel test	75%	Michel Stijlen	Han Hansen	22-03-2011 08:19	Nieuw | Project	
Veiling Rabo	50%	Michel Stijlen	Michel Stijlen	18-03-2011 17:00	Actief | Product	
CTM op veilingpraktijk CMS	49%	Hans Steenpoorte	Michel Stijlen	01-07-2011 17:00	Actief | Project	
Opname intern zonder diagnose	0%	Hans Steenpoorte	Hans Steenpoorte	07-04-2011 16:12	Actief | Product	

Critical Task Manager: Project



3c) Set uniform priorities: workinstruction

1. Work from top to bottom
2. Work ideally on one task at a time and *finish* it if possible
3. If not possible *'log notes'* and *decide* if the task can be unassigned (=released to the skillgroup)
4. *Check* if tasks in your skillgroups (assigned to someone else) have a higher priority and *offer help* if needed
5. *Select* the first unassigned task at that moment

3c) Set uniform priorities: side effect

- Uniform priorities and the workinstruction increases reliability *and* has a positive side effect!
  - It reduces multitasking which consumes a lot of 'wasted' time

Experiment:

- Three sets of work (with total of 78 taken)
  1. Set of work 1: Schrijf 1 t/m 26
  2. Set of work 2: Schrijf a t/m z
  3. Set of work 3: Schrijf I t/m XXVI
- Problem: All 3 sets of work have priority!
- Solution: We work totally in parallel. Write …
  - 1, a, I
  - 2, b, II etc etc
- Work in pairs, register performance along the way

3c) Set uniform taskpriorities: Simulation

Project 1	Project 2	Project 3
1	a	I
2	b	II

Ready? Write down:

- Time set of work 1 finished?
- And 2 and 3?
- # errors?

Second run:

- First finish set of work 1 than 2, than 3
- Register times and errors

Summary	Run 1	Run 2
• Efficiency	2’30”	1’30”
• Errors	> 3	<=1
• LT first	2’28”	<13”

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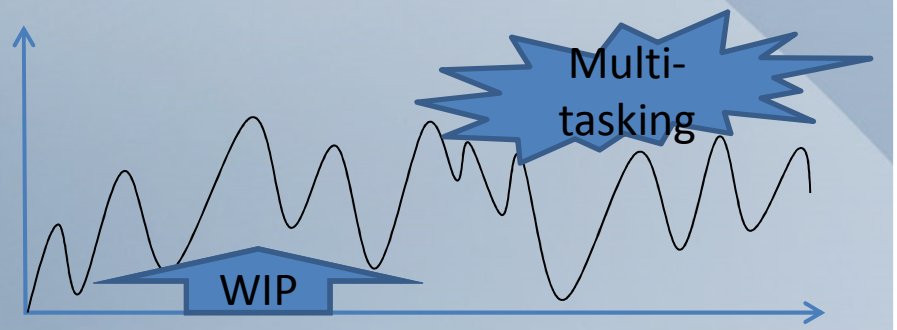
3d) Work in teams

- In ICT services demand and (resource)capacity show very high variations over time
  - This variation is a high contributor for stress
- Classic solution: Reserve more leadtime
- This enhances the problem!
  - Why?



- Solution: Use aggregration:
  - Combining highs and lows cancels out the extremes (under the assumption they do not have a common cause)

3d) Three sources of aggregation

1. Within leadtimes (the “buffers”)
   - Plan when a task needs to **finish** and *not* when it needs to be executed
   - Within the leadtime highs and lows cancel out
2. *Within* a skillgroup (team)
   - Assign tasks to skillgroups and *as late as possible* to a person
   - Within the team highs and lows cancel out
3. *Between* skillgroups (teams)
   - Persons are member of at least 1 but preferably more than 1 skillgroup (seniority/job rotation)
   - Between teams the highs and lows cancel out

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3e) Effective Operations Management

- **Daily Standup**: workers are assigned to teams and their Teamleads assure completion of ‘red’ or ‘black’ tasks and decrease ‘cherry picking’
- **Weekly**: Operations Management Meeting
  ICT Manager plus Teamleads. Agenda:
  - Action en Decisionlist last week
  - Output, Leadtimes en –reliability vs plan
  - Top 20 (what help is needed for finishing ‘black’ tasks NOW?)
- **Bi Weekly**: Projectstatus (incl changes) ICT Manager, Teamleads en Projectleads/Changemanagers
- **Monthly:** weekly meeting with additional improvement item regarding the Top3 causes for delay and (the implementation of) their resolution

3e) Effective Operations Management

- CTM leads to improved performance. However continuous improvement is not assured yet:
- For further improvement of flow and output we register :
  1. Where (=team) a call entered the red or black zone (= ***source*** of delay)
  2. What is causing the delay? (= ***cause*** for delay). Teamlead registers causes for delay
- Improvement initiatives focus on the Top3 source/cause for delay

3e) Effective Operations Management

<u>Tactical improvement</u>
Focus on the main sources and causes for delay

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Results

Performance	Before	After
ITIL services		
Reliability (initial commitment)	≤ 50%	Ca. 95%
Leadtimes	Appr. 50%	
WIP	Appr. 50%	
Quality	Inconsistent intake and completion	Consistent intake and completion
Project(task)s		
Reliability (initial commitment)	≤ 50%	Ca. 90%
Leadtimes	Appr. 50%	
WIP	Appr. 50%	
Quality	Problems with incomplete or irrelevant tasks/work	Effective quality

Reference Sites

- ICT department Viecuri (hospital)
  - 2.500 endusers, over 2 locations, 30 ICT empl.
- ICT department ZGV (hospital)
  - 2.650 endusers, 1 location, 30 ICT empl.
- ICT department Mammoet (heavy lifting industry)
  - 3.200 enduser, worldwide, 3 time zones, 50 ICT empl.

Contents

Planning/deliverables (mnth.)

Deliverable	-1	0	1	2	3	4	5	6
PSC: In- en output criteria defined								
New leadtimes defined								
Teams en teamleads defined								
Cold Case Team selected								
Critical Task Manager configuration								
Users are trained in CTM and instruction								
Cold Case Transition								
Daily Standup Coaching								
Effective Operations Mgt coaching								
Effective Monthly Improvement cycle coaching								
Bi-weekly project/change meeting coaching								
Weekly projectstatus meeting								

Live

Contents

Lessons applied (succesfull)!

- In the Service Industry many people work on operations and on projects simultaneously
- In the Service Industry many people work parttime and transfer to coworkers is no exception
- One view with log what to do NOW is key!

Lessons applied (succesfull)!

- Major buy-in obstacle: How can we deliver 30% more without adding capacity. We are overloaded now
- We do not exactly understand how output is increased
- Multitasking is a plausible cause for higher production levels found (20-30%)

  → show effect multitasking, decrease multitasking

Lessons applied (unsuccesfull)!

- Using Remaining Duration is compelling for buy-in, but *not* necessary to achieve results
- We have implemented it only at one site

Lessons applied (succesfull)!

- Reduce WIP with multi experienced team
  - Problem solved ‘inbox waiting’
  - Shuffeling work to each other takes a *long* time

Lessons applied (succesfull)!

- Collecting reasons for delay is hard to implement consistently
  - Consistently choosing the right reason for delay (in order to be statistically more correct) is the problem

- Automatic source of delay is good alternative

Lessons learned

- Setting priorities at first line help desk works ‘great’. Workinstruction is mostly followed precisely. Chaotic work and number of escalations decreased
- Second line or backoffice is harder to implement (takes longer):
  - smaller teams → harder to aggregate
  - related tasks → harder to follow the rules…

Lessons learned

- Implementing Effective Operations Management *meetings* is difficult in Service Industry (in NL?)
- The meetings are crucial part because they change behaviour.
- Mainly meetings 'until we meet' do not discuss performance, Top20 problems and are focused on HR matters
- We put high focus (and touchtime) on the meetings in our implementation

Questions?