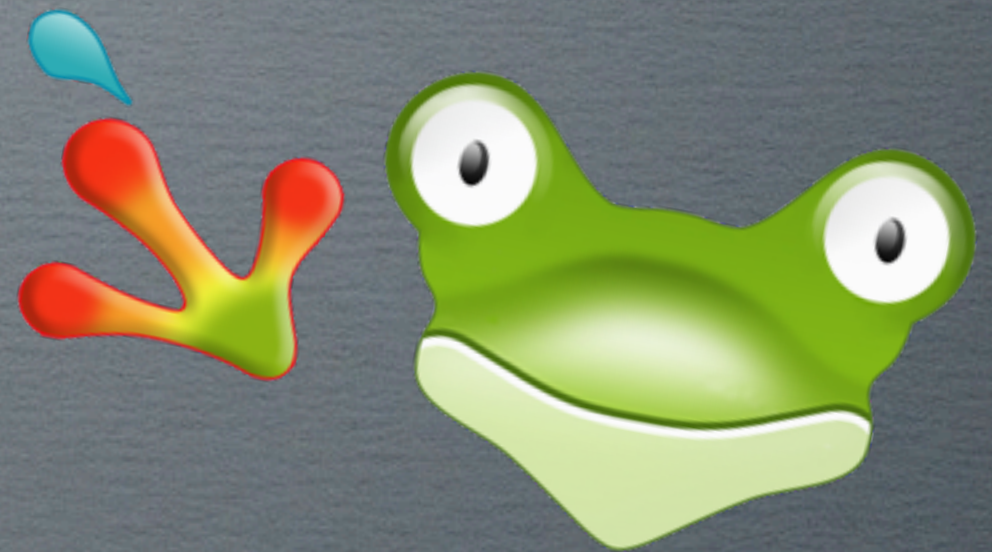


HYPERVISION

SUPERVISION 2.0

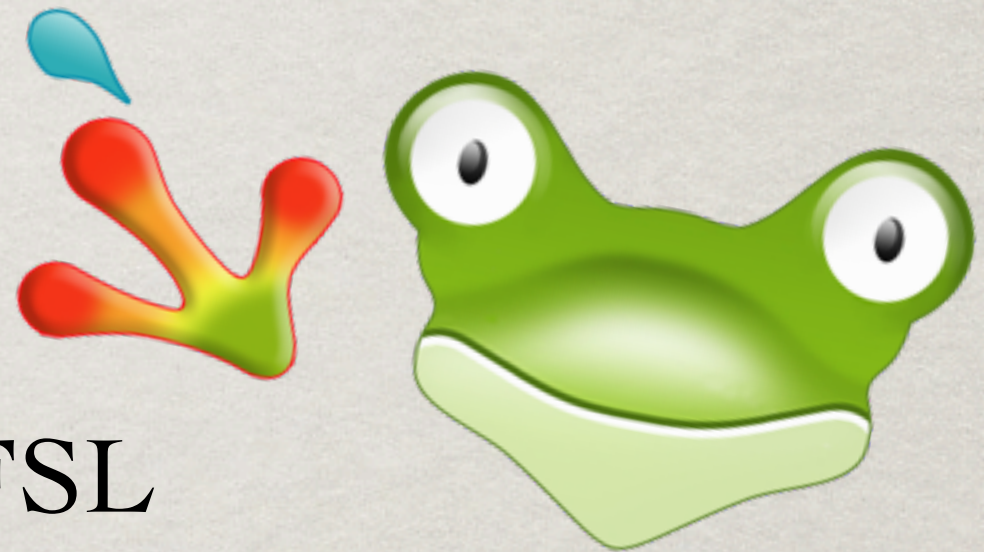


R M L L S T R A S B O U R G 2 0 1 1

© 2 0 1 1 - M O N I T O R I N G - F R . O R G

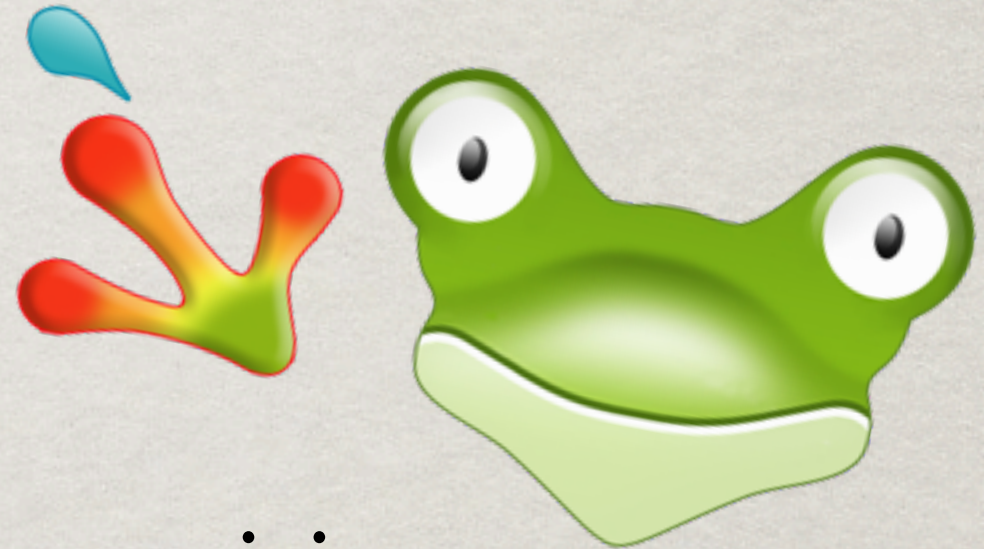
VOTRE INTERLOCUTEUR

OLIVIER JAN



- ✱ Membre fondateur CFSL
- ✱ Auteur du livre « Nagios 3 au cœur de la supervision Open Source »
- ✱ Architecte de solutions de supervision libres
- ✱ Responsable R&D --> Éditions Capensis

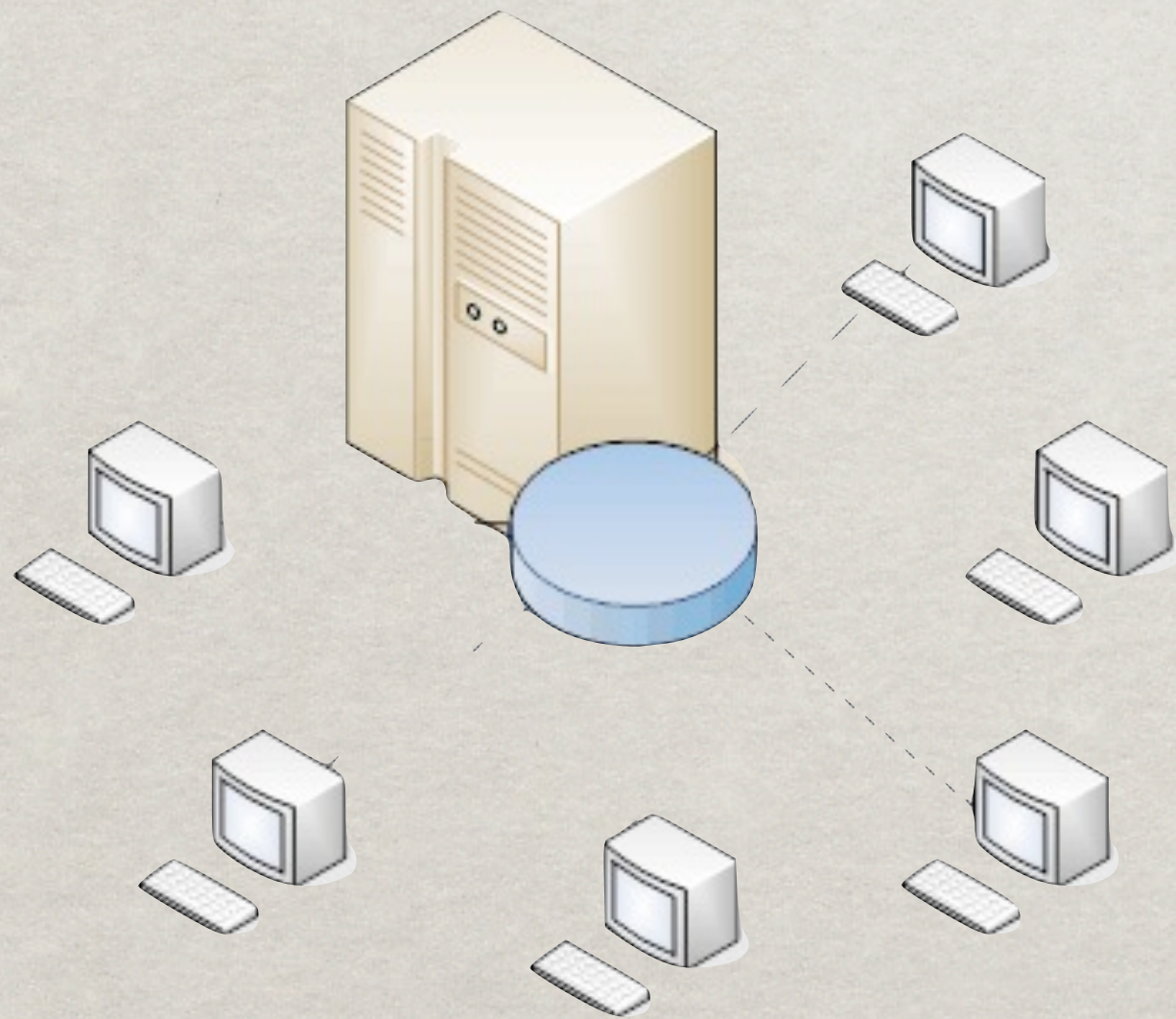
SOMMAIRE



- ✱ Les évolutions du S.I.
- ✱ Leurs impacts sur la supervision
- ✱ Comment répondre à cette nouvelle donne **sans repartir de zéro**
- ✱ **Hypervision : Réponse suivante ?**

S.I. MONOLITHIQUE

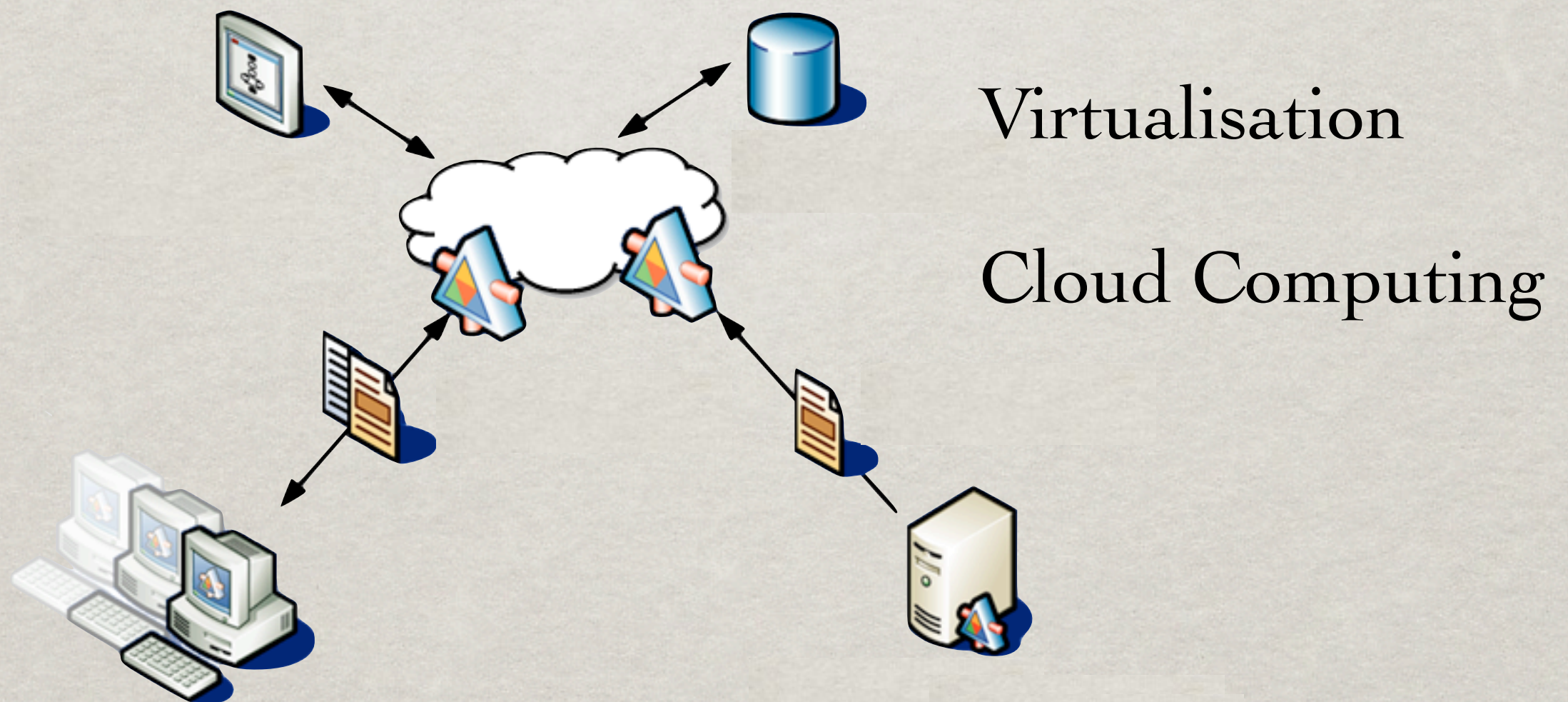
☼ Informatique interne



Terminaux «passifs»

S.I. DISTRIBUÉ

- ☼ Informatique interne, externe, public



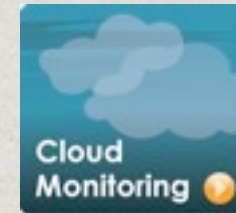
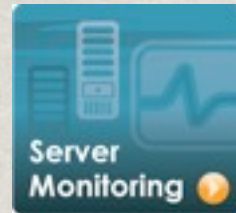
- ☼ Interconnexion des S.I.

GOUVERNANCE DU S.I.



- ✿ Passage d'une gouvernance technico centrée à une gouvernance **orientée business**
- ✿ Émergence de normes, standards et «best practices» (I.T.I.L., ValIT, CoBit...)

SUPERVISION : COMPLEXIFICATION



- ✻ Intranet (Employés)
- ✻ Extranet (Fournisseurs, clients...)
- ✻ Internet (Public, prospects...)

CONSÉQUENCES

- ✱ Pas de possibilité d'agents de supervision
- ✱ Une vision non complète de la chaîne de ressources (hardware, environnement...)
- ✱ Localisation des ressources mises en œuvre

CONTRÔLES & MESURES

☼ Techniques

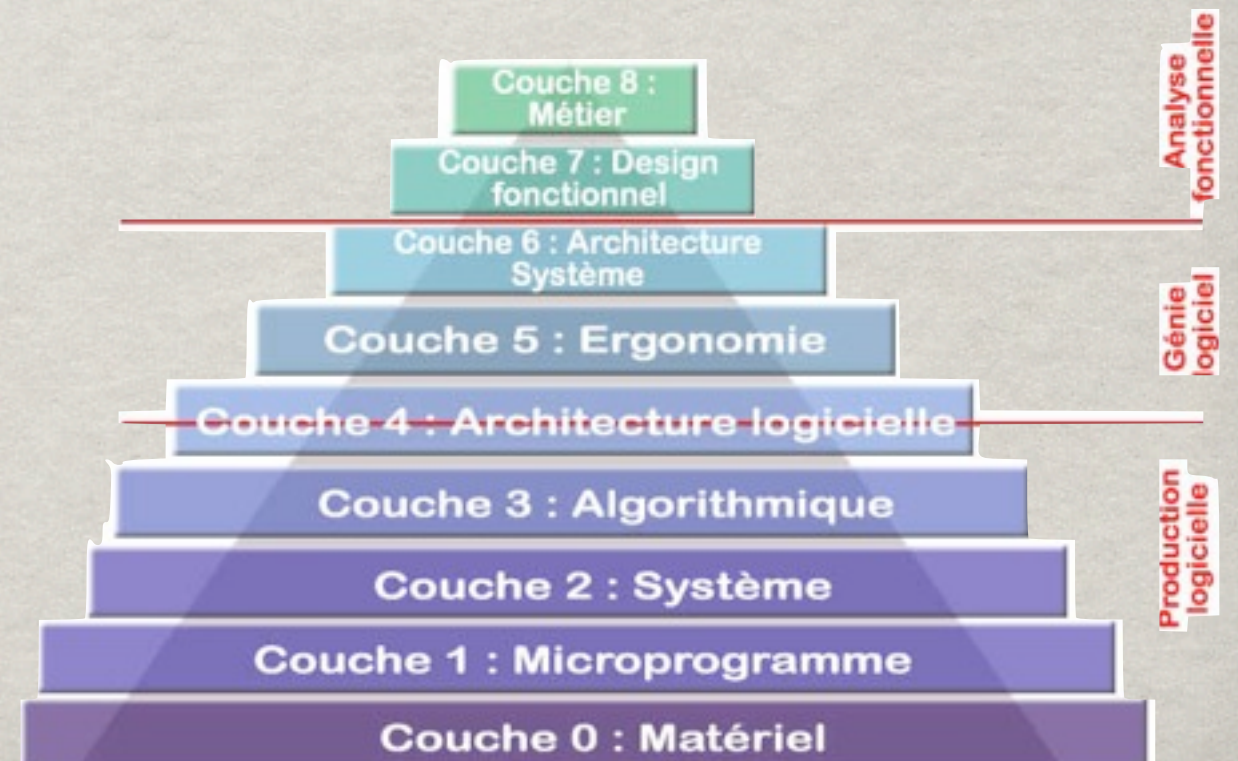
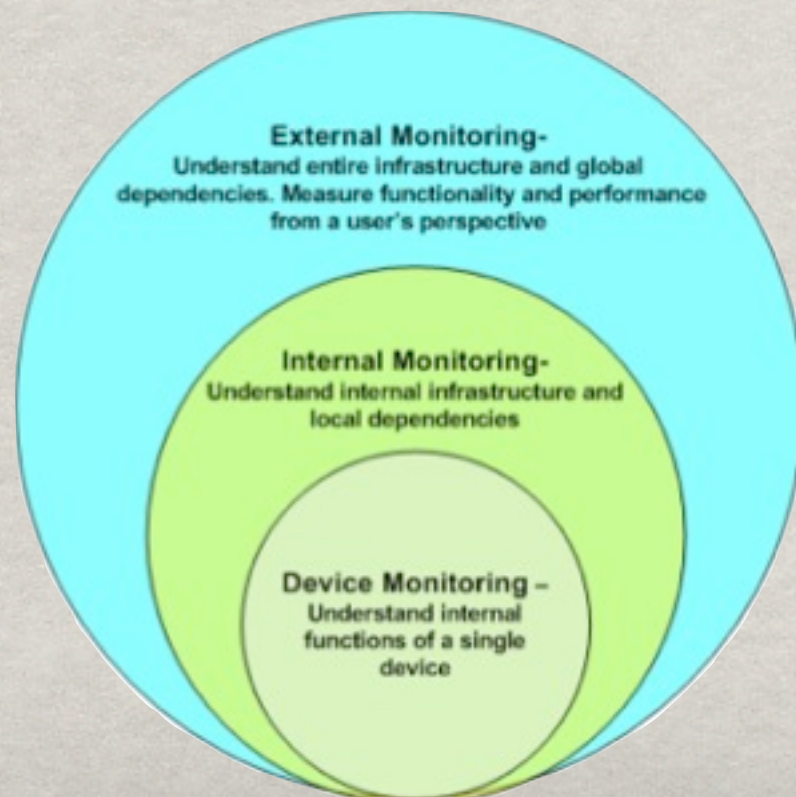
- ☼ Utilisation des ressources
- ☼ Gestion des événements
- ☼ Alertes de sécurité

☼ Utilisateurs

- ☼ Scénarios
- ☼ Réponse des applications (performance)
- ☼ Contrôles fonctionnels

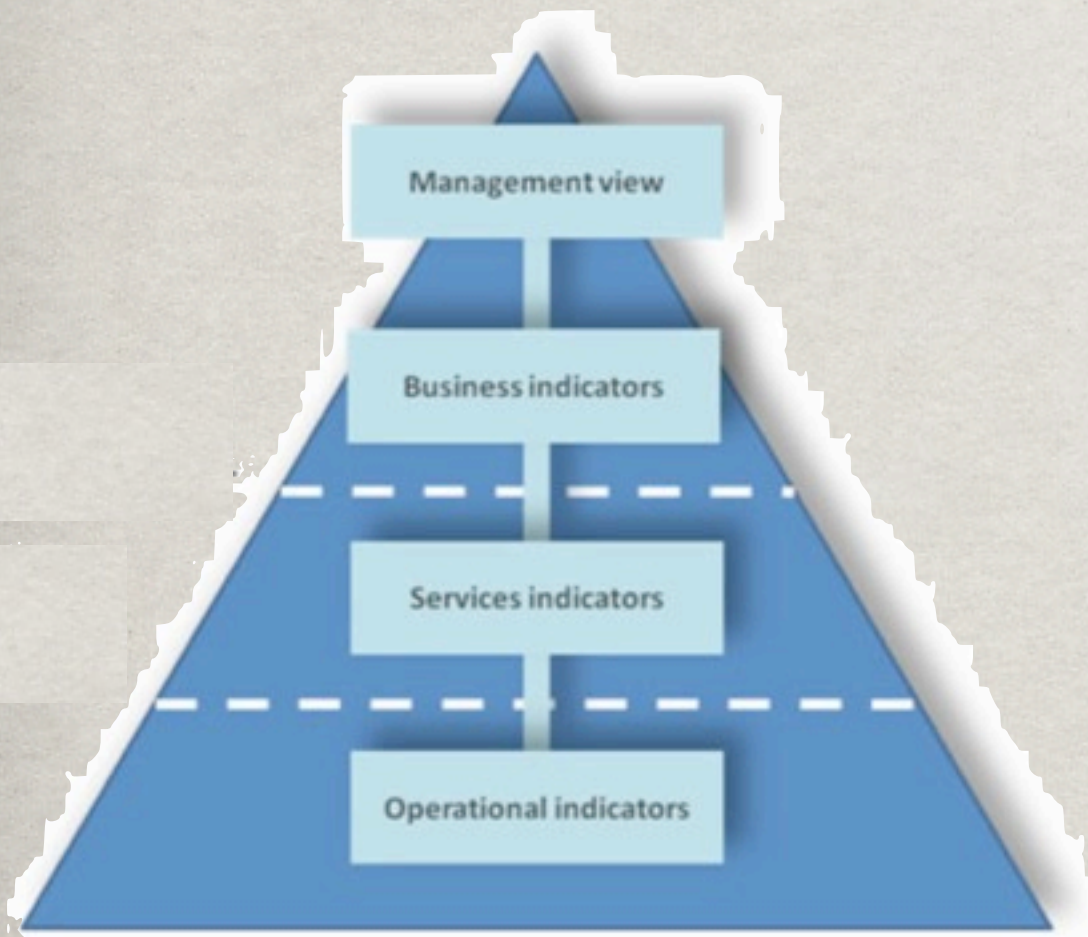
☼ Métiers

- ☼ Contrôles financiers
- ☼ Calcul des coûts d'incidents
- ☼ Calcul des impacts métiers



CONSTAT

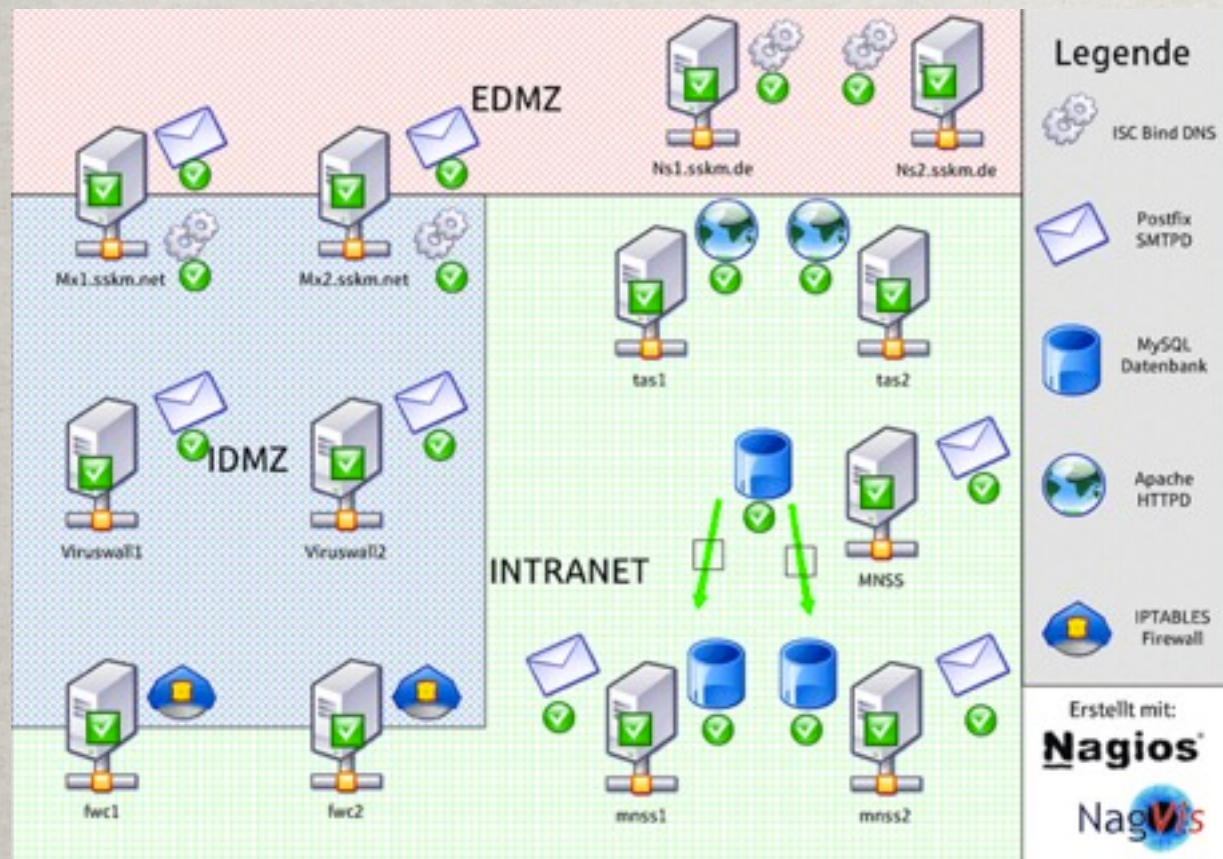
- ☼ Des solutions incomplètes



- ☼ Vision uniquement technique et morcelée
- ☼ Ressenti utilisateur non pris en compte
- ☼ Redondance non prise en compte

CONSTAT

- Des addons existants mais difficilement administrables et maintenables



Priority 1		
Alerting round the clock (24 x 7)		
Business Process	Status	Status Information
WebShop	OK	currently 48 user sessions, 17 anonymous sessions
WebSite	OK	Please note: This afternoon maintenance on WebServer1, Production only on WebServer2
Priority 2		
Alerting Monday to Sunday / 00 to 22:00		
Business Process	Status	Status Information
eMail	OK	Please note: This Saturday from 19:00 till 23:00 maintenance on the MailGateway1
Priority 3		
Alerting Monday to Thursday / 00 to 17:00, Friday / 00 to 17:00		
Business Process	Status	Status Information
Intranet Portal	OK	currently 61 user sessions
ERP System	OK	system resource usage 34%
Priority 4		
Testsystems - no Alerting		
Business Process	Status	Status Information
Testsystem 1	OK	Dummyhosts with Dummyservices
Testsystem 2	OK	The System is relocation in the new RZ
Testsystem 3	OK	The System is relocation in the new RZ

Status Details for WebShop

Host	Service	Status	Status Information
Internet Connection		OK	
Loadbalancer Cluster		OK	
DNS Cluster		OK	
WebShop Frontend Servers		OK	
ERP System		OK	

- Business Process Addon

- Nagvis

GESTION LOGS

☼ LOG.IO : Visualisation temps réel

The screenshot displays the Log.io web interface. On the left, a sidebar shows the 'localhost' environment with two active components: 'logio_harvester' (red dot) and 'logio_server' (blue dot). The main area is divided into two panels. The top panel, titled 'Stream 1', shows a live log stream with messages from both the harvester and the server. The bottom panel, titled 'History 1 - localhost:logio_harvester', shows a scrollable history of messages from the harvester. At the bottom of the interface, a status bar provides summary statistics.

```
localhost
● logio_harvester
● logio_server

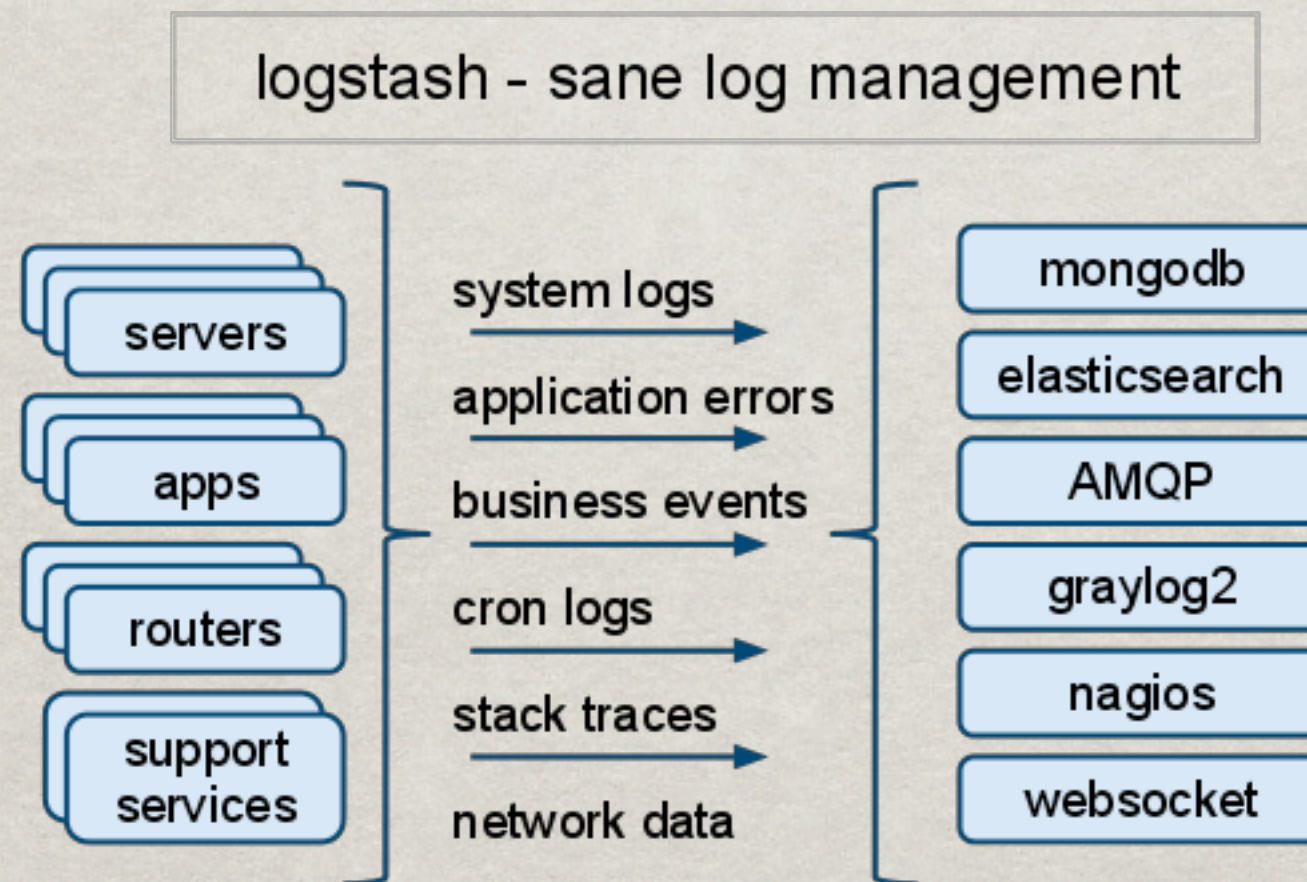
Stream 1
localhost:logio_harvester 18:44:07 - Received server heartbeat
localhost:logio_harvester 18:44:03 - Watching 2 log files, sent 100 log messages.
localhost:logio_harvester 18:43:47 - Received server heartbeat
localhost:logio_harvester 18:43:27 - Received server heartbeat
localhost:logio_server 18:43:27 - Nodes: 1, WebClients: 1, Messages Sent: 158
localhost:logio_harvester 18:43:07 - Received server heartbeat
localhost:logio_harvester 18:43:03 - Watching 2 log files, sent 95 log messages.
localhost:logio_harvester 18:42:47 - Received server heartbeat
localhost:logio_harvester 18:42:27 - Received server heartbeat
localhost:logio_server 18:42:27 - Nodes: 1, WebClients: 1, Messages Sent: 153
localhost:logio_harvester 18:42:07 - Received server heartbeat
localhost:logio_harvester 18:42:03 - Watching 2 log files, sent 90 log messages.
localhost:logio_harvester 18:41:47 - Received server heartbeat
localhost:logio_harvester 18:41:27 - Received server heartbeat
localhost:logio_server 18:41:27 - Nodes: 1, WebClients: 1, Messages Sent: 148
localhost:logio_harvester 18:41:07 - Received server heartbeat
localhost:logio_harvester 18:41:03 - Watching 2 log files, sent 85 log messages.

History 1 - localhost:logio_harvester
18:44:07 - Received server heartbeat
18:44:03 - Watching 2 log files, sent 100 log messages.
18:43:47 - Received server heartbeat
18:43:27 - Received server heartbeat
18:43:07 - Received server heartbeat
18:43:03 - Watching 2 log files, sent 95 log messages.
18:42:47 - Received server heartbeat
18:42:27 - Received server heartbeat
18:42:07 - Received server heartbeat
18:42:03 - Watching 2 log files, sent 90 log messages.
18:41:47 - Received server heartbeat
18:41:27 - Received server heartbeat
18:41:07 - Received server heartbeat
18:41:03 - Watching 2 log files, sent 85 log messages.
18:40:47 - Received server heartbeat
18:40:27 - Received server heartbeat
18:40:07 - Received server heartbeat
```

+ Stream + History 1 nodes 2 log files 106 messages 22:01 elapsed 0.08 messages/sec

GESTION LOGS

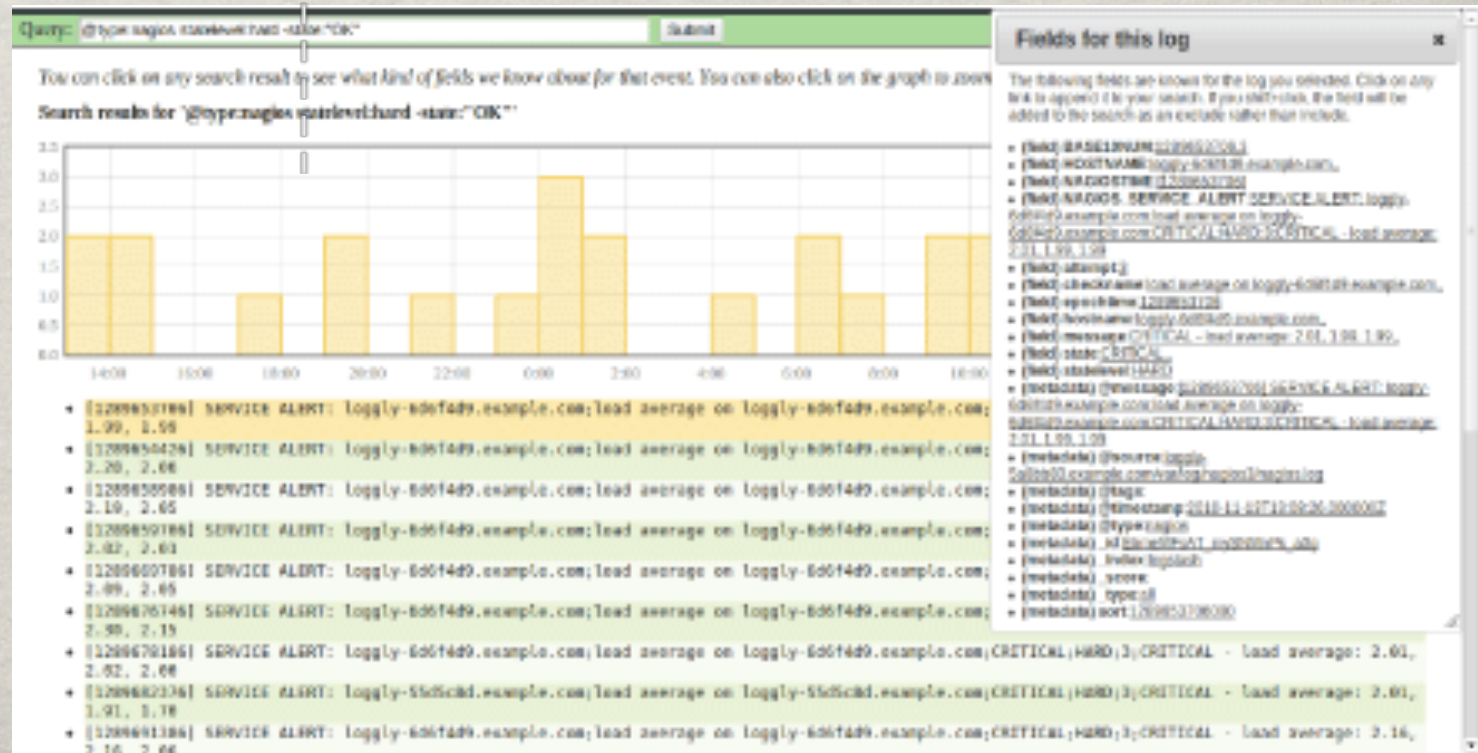
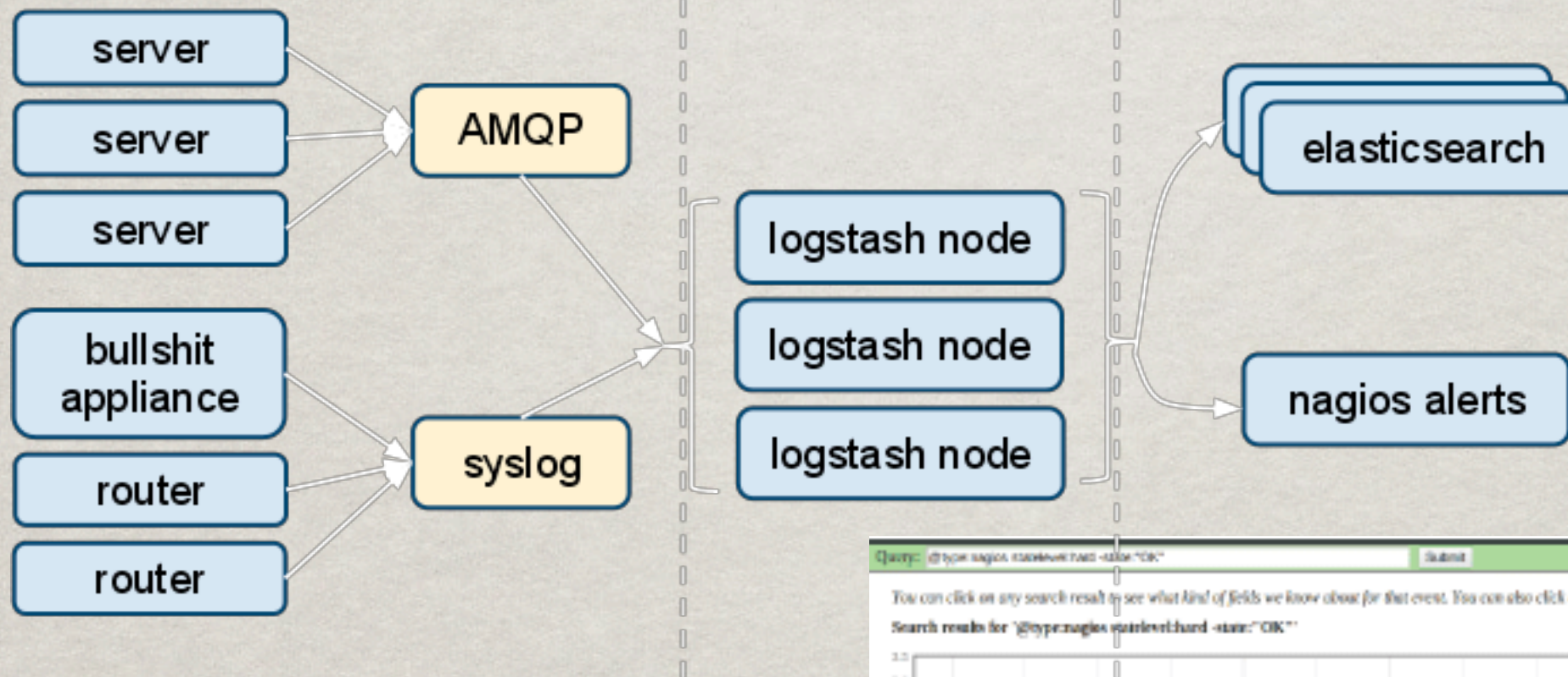
✻ LOGSTASH : Pré-processeur de logs



ship any event to anywhere over any protocol

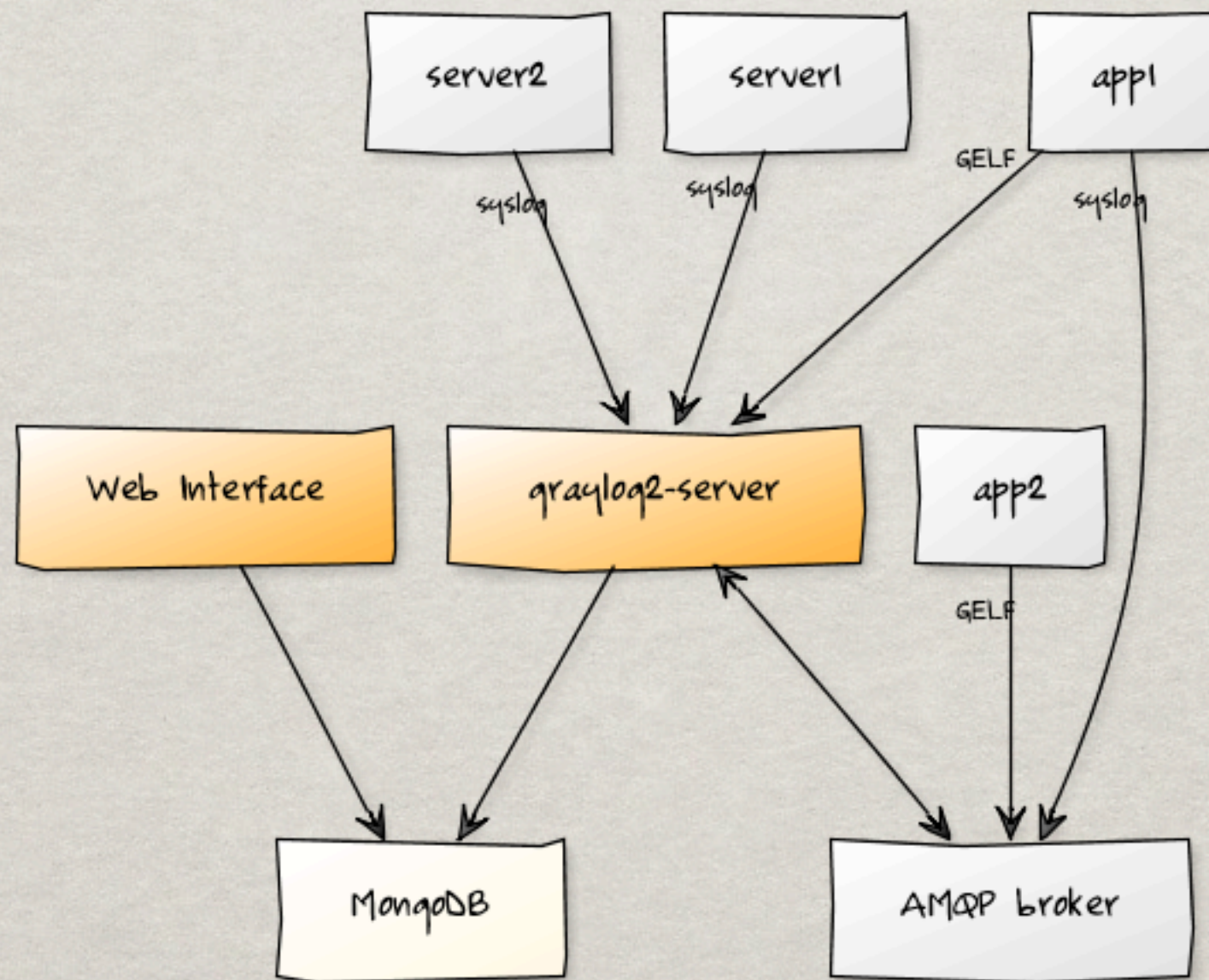
GESTION LOGS

LOGSTASH : Transport de logs



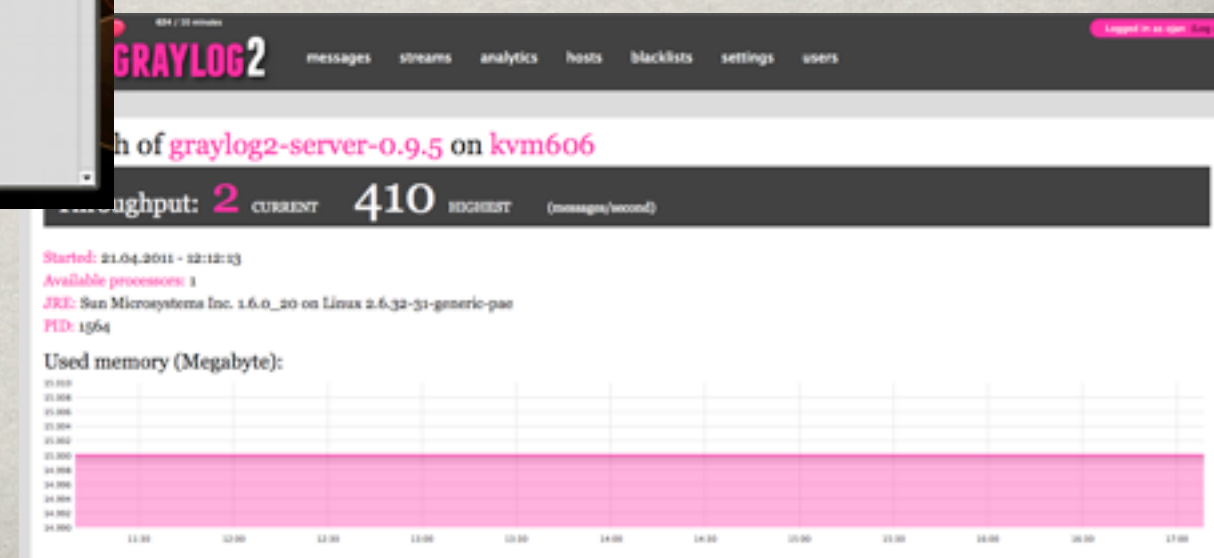
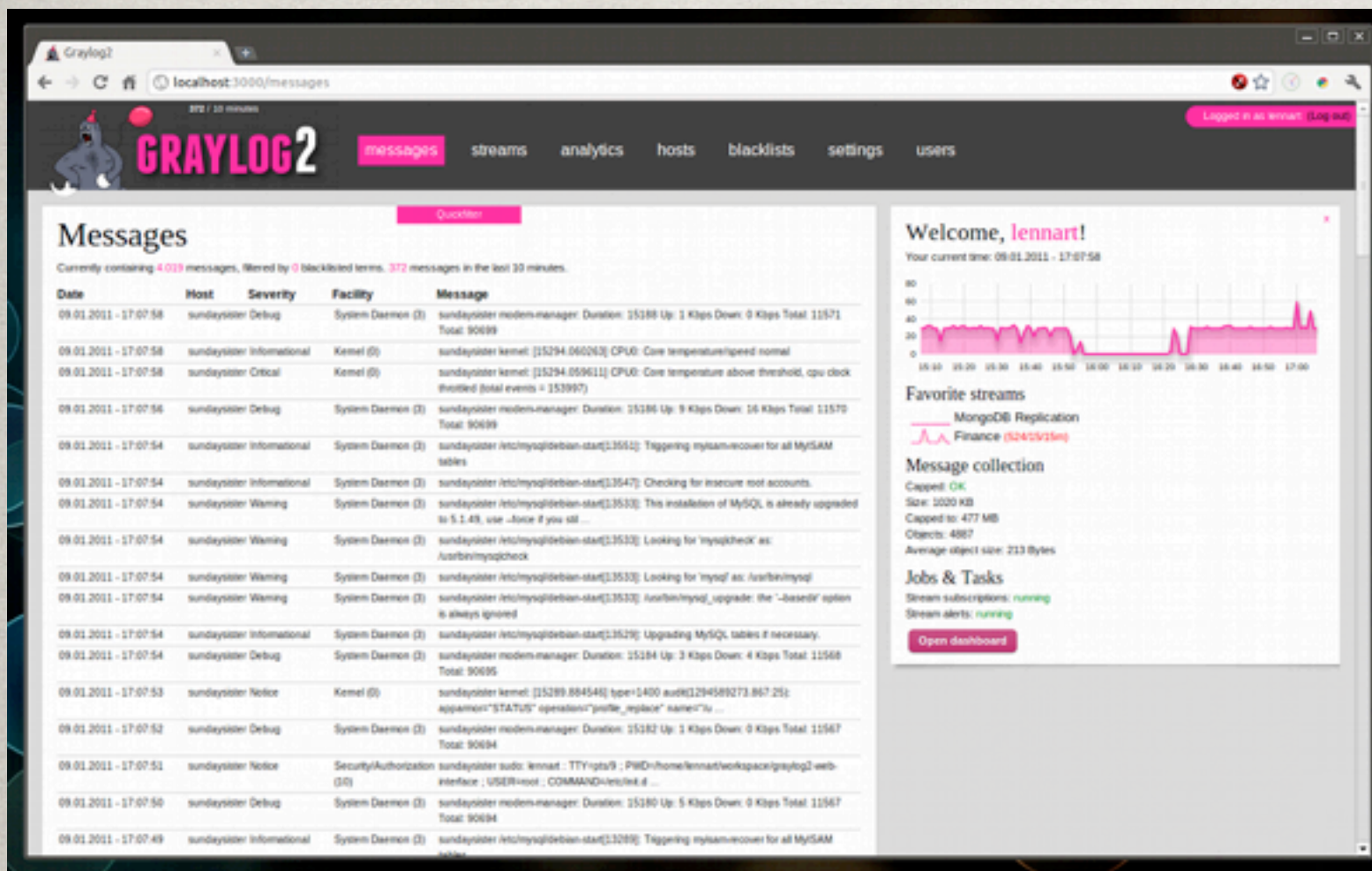
GESTION LOGS

☼ GRAYLOG2 : Architecture

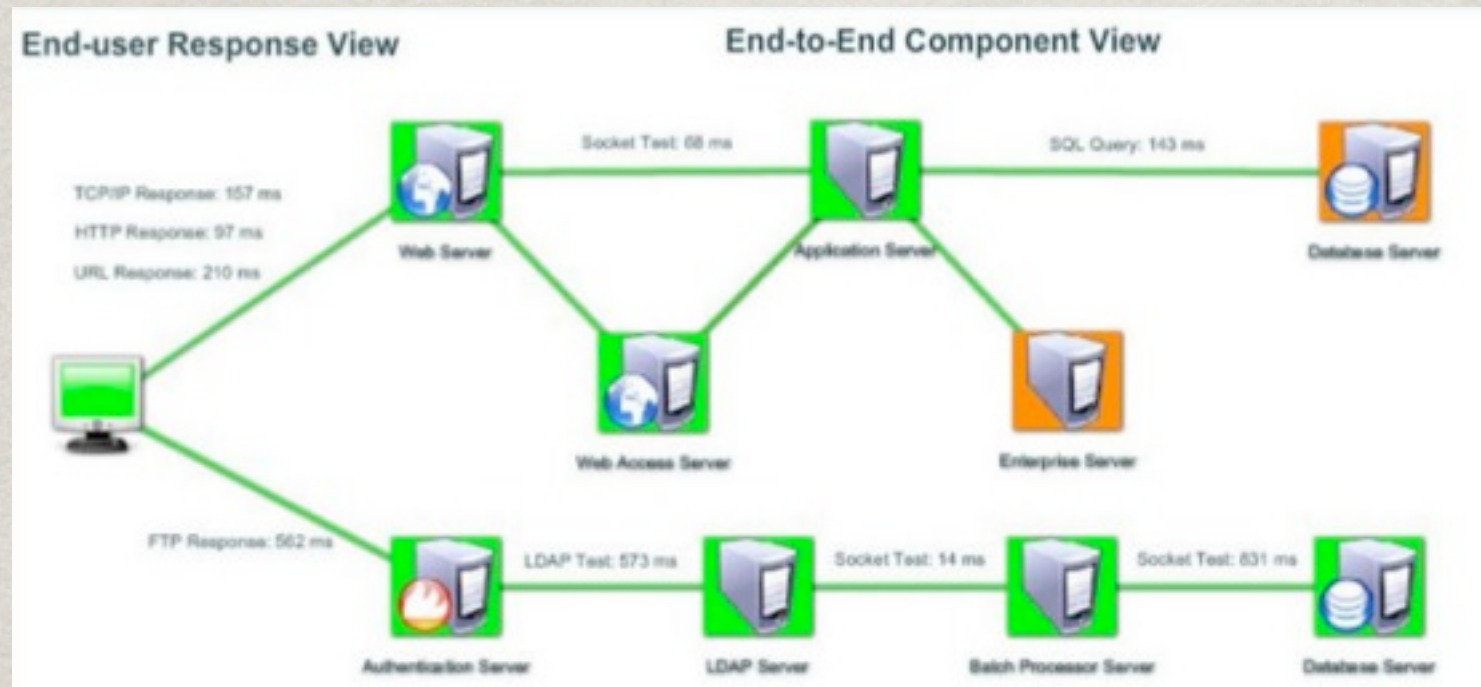


GESTION DE LOGS

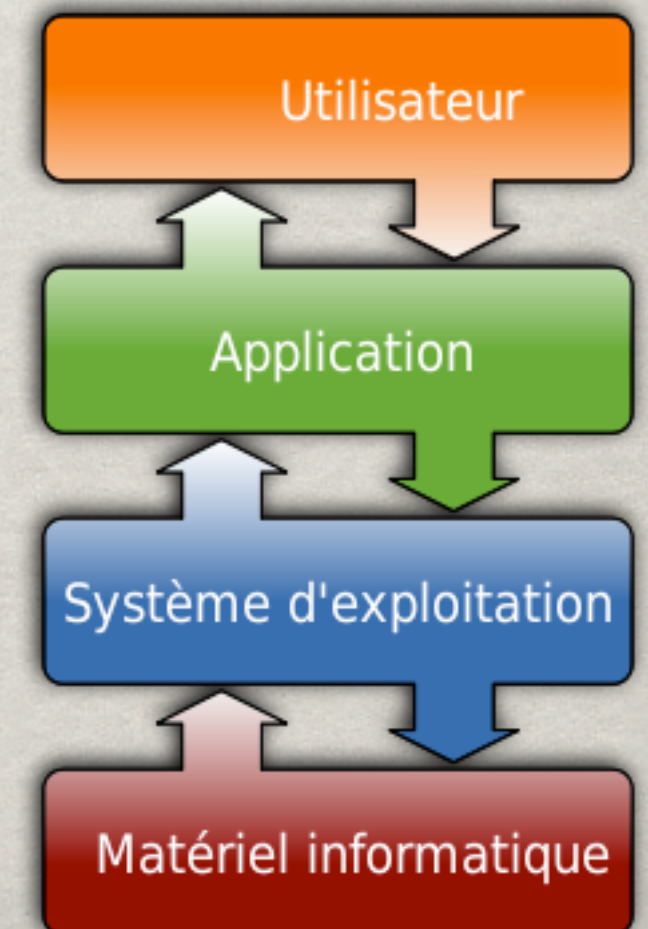
☼ GRAYLOG2 : Centralisation de logs



SUPERVISION DE BOUT EN BOUT



- ✱ End User Experience
 - ✱ Ressenti utilisateur
 - ✱ Scénarios fonctionnels
 - ✱ Performance



SUPERVISION SCÉNARIOS

Supervision pilotée par le comportement

- ✻ Rédaction par des fonctionnels
- ✻ Basé sur le comportement attendu

Feature: google.com

It should be up

And I should be able to search for things

Scenario: Searching for things

When I go to "<http://www.google.fr/>"

And I fill in "q" with "wikipedia"

And I press "Google Search"

Then I should see "www.wikipedia.org"

END USER EXPERIENCE

TEST REPORT: GOOGLE SEARCH

FILE NAME:	google_search-2011.02.11-16.28.32.CET.html				
TEST DATE:	2011.02.11 @ 16.28.32.CET	TEST RESULT:	100.00% Passed, 0.00% Failed		
RUN TIME:	0 min, 12.32 sec	BROWSER:		ENV:	PROD

TEST STEP	RESULT
Verify controls	
Check search text field	PASS
Check Google Search button	PASS
Check Feeling Lucky button	PASS
Perform Waterfall	
Check valid search results (1)	PASS
Check valid search results (2)	PASS
Check valid search results (3)	PASS

Page Speed Grade:

(79%)

C

YSlow Grade:

(80%)

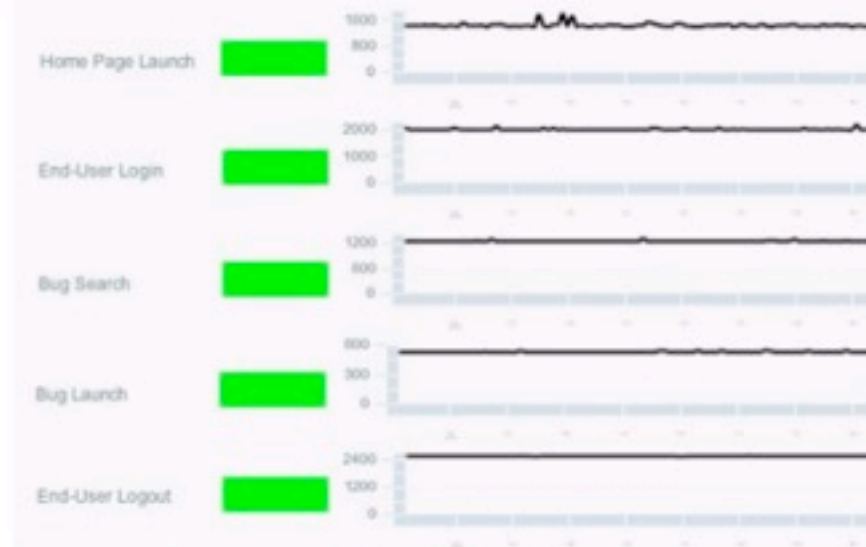
B

Page load time: 2.78s

Total page size: 198KB

Total number of requests: 45

End User Experience Performance Stats for www.monitoring-fr.org



Wordpress Application

Apache

MySQL

Linux

Last events for www.monitoring-fr.org

[14:44]		: CPU 20%
[14:05]		: CPU 200% for 10 mn on Linux server
[13:52]		: Apache process number is higher than the max threshold (20)
[12:52]		: Some slow queries on MySQL

☼ Temps réel

☼ Dashboards

HYPERVISION SUPERVISION 2.0

- ✱ Hypervision aka Supervision 2.0
 - ✱ Consolidation des solutions existantes
 - ✱ Alignement de la technique sur le métier
 - ✱ Approche Globale vers détail (Top Down)
 - ✱ APM & BAM & BDM

HYPERVISION MÉTHODOLOGIE

✻ Itération #1

- ✻ Répondre à « Est-ce que mes services sont rendus d'un point de vue utilisateur ? »

✻ Itération #2

- ✻ Répondre à « Qu'est-ce qui ne fonctionne pas, pourquoi, quel impact ? »

HYPERVISION ÉVÉNEMENTS

☼ Tout est événement



HYPERVISION

RÈGLES

- ✱ Contraintes
 - ✱ Métier
 - ✱ Financières
 - ✱ Techniques
 - ✱ Calendaires
 - ✱ Géographiques
- ✱ Impactent ce qui est observé depuis nos solutions de supervision (out)
- ✱ Impactent les paramètres de nos solutions de supervision (in)

HYPERVISION CORRÉLATION

- ✻ Liaisons

- ✻ Réseau

- ✻ Systèmes

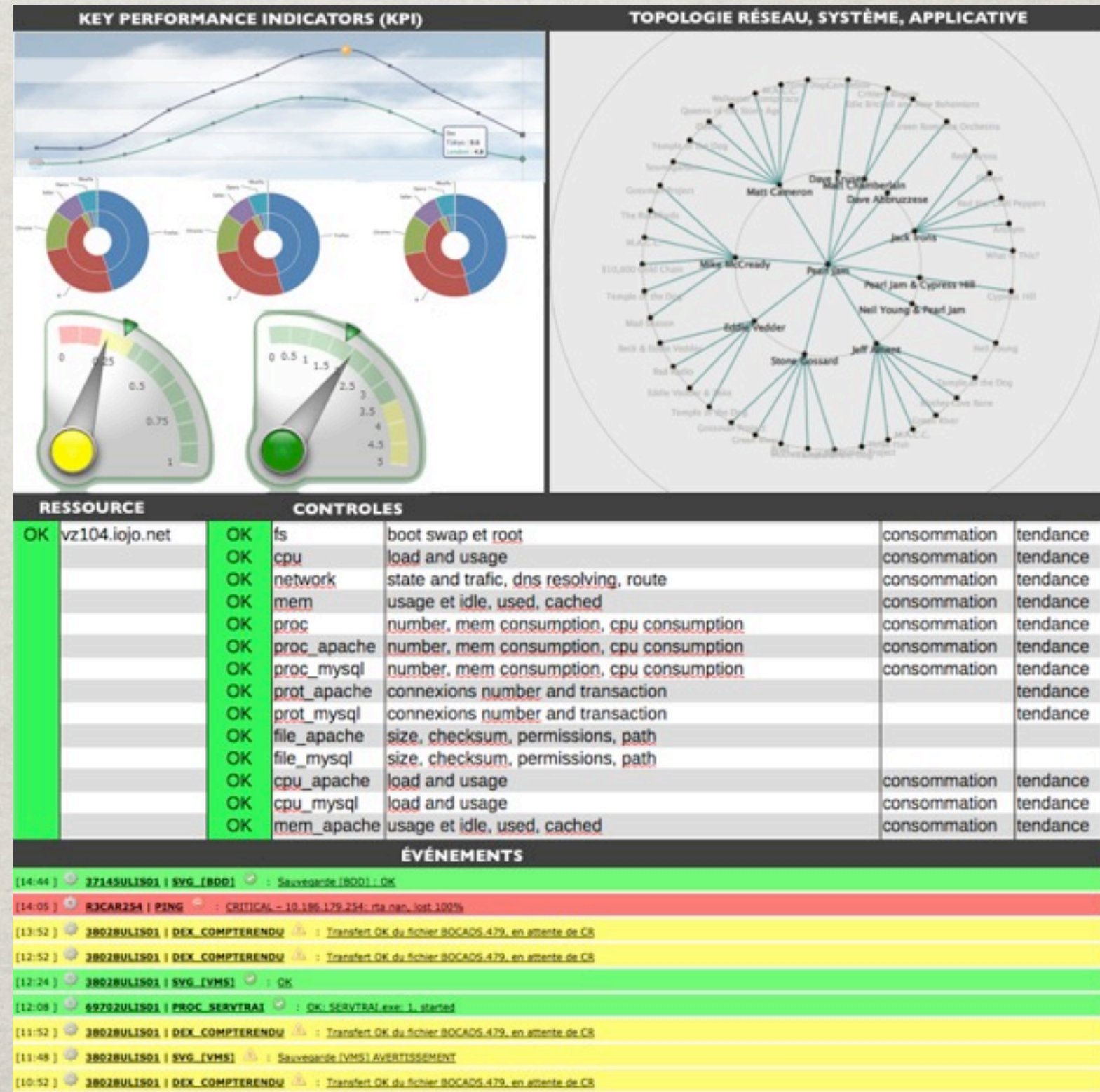
- ✻ Applicatives

- ✻ Complex Event
Processing (CEP)

- ✻ Root Cause
Analysis

- ✻ Impact Analysis

PILOTAGE DU S.I



⌘ Temps réel

⌘ Dashboards

PILOTAGE DU S.I



✻ Prise en compte de l'ensemble du S.I.

REPORTING DU S.I

☼ Temps différé = Reporting

☼ SLA $\neq$ Uptime

☼ Planifiés et à la demande

SI DISPONIBLE...	A.K.A...	INDISPONIBILITÉ ANNUELLE
90%	n/a	876 hours
95%	n/a	438 hours
99%	two 9's	87 hours, 36 minutes
99.9%	three 9's	8 hours, 45 minutes, 36 seconds
99.99%	four 9's	52 minutes, 33.6 seconds
99.999%	five 9's	5 minutes, 15.36 seconds
99.9999%	six 9's	31.68 seconds

☼ PDF

☼ HTML

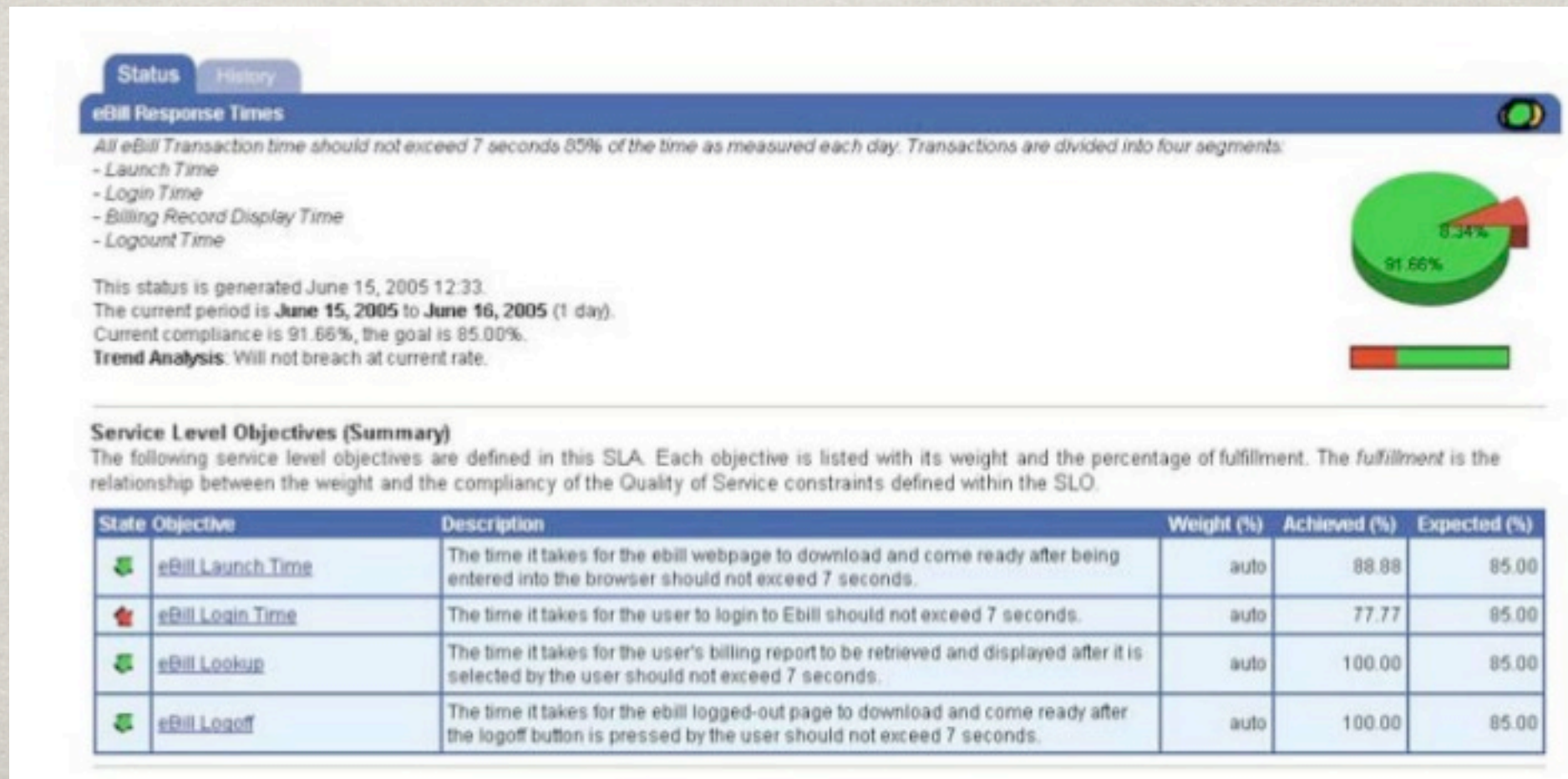
☼ CSV

☼ ODT



REPORTING DU S.I

- ☼ SLA basés sur l'End User Experience
- ☼ Prédéfinis pour être rapide

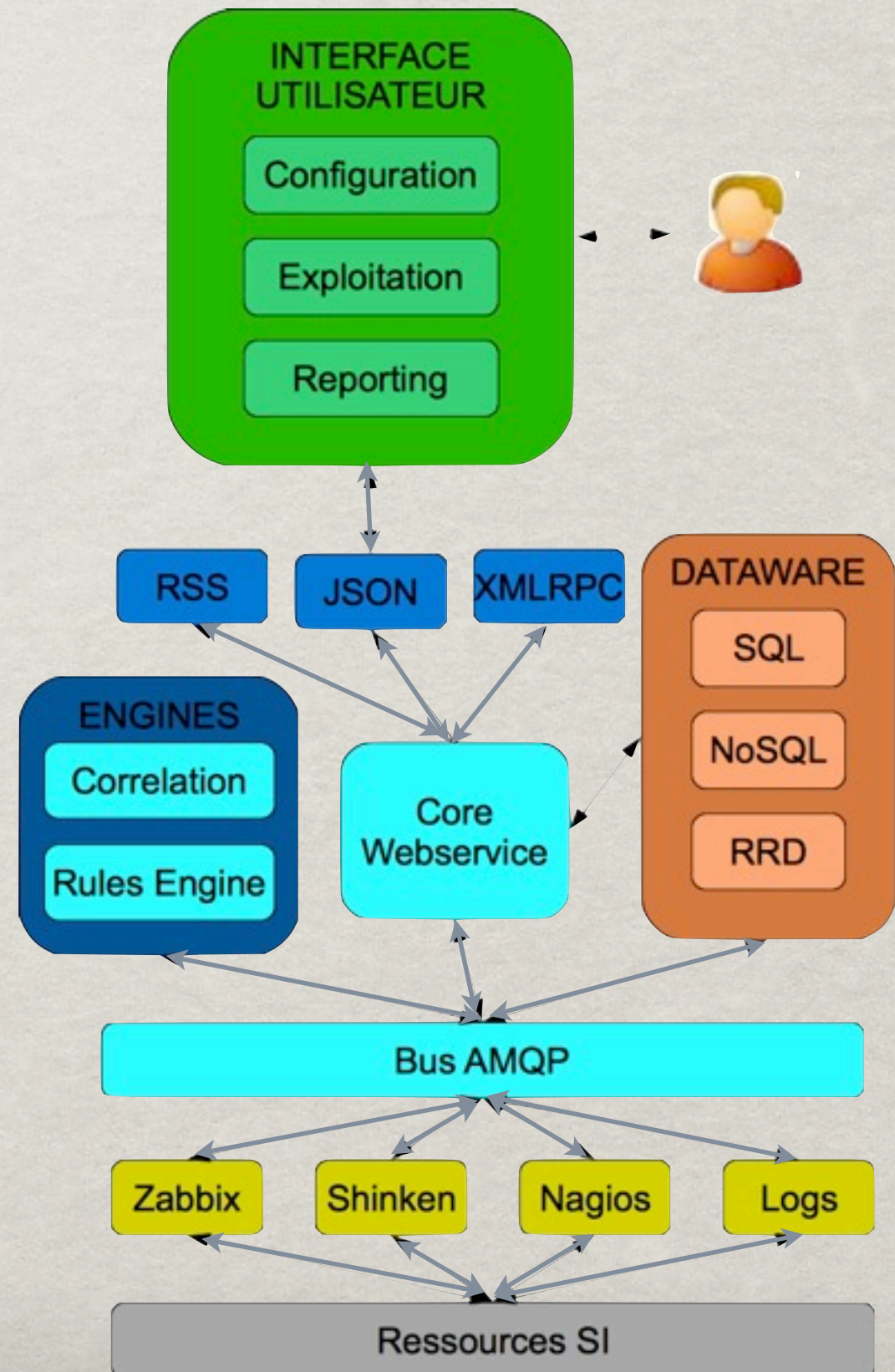


CAPACITY PLANNING

- ✻ Métrologie
- ✻ Redéfinition des graphes de supervision
 - ✻ Temps réel
 - ✻ Dynamique
 - ✻ Historique

ARCHITECTURE

- ✱ Event Driven Architecture
- ✱ REST
- ✱ Bus messages
- ✱ Moteur d'hypervision



REMERCIEMENTS

Pour leurs remarques, suggestions, idées...

✻ CFSL

✻ Jean Gabès

✻ Romuald Franteau

✻ David Guénault



✻ Nos sponsors

✻ Merethis



✻ Somone



✻ Capensis



QUESTIONS REMARQUES

