



ITIL Open Source Solution Stack

Bruno Cornec, HP EMEA Open Source and Linux Profession Lead
October, 2013



Introducing Myself

- **Software engineering and Unices since 1988**

- Mostly Configuration Management Systems (CMS), Build systems, quality tools, on multiple commercial Unix systems
- Discover Open Source & Linux (OSL) & first contributions in 1993
- Full time on OSL since 1995, first as HP reseller then @HP

- **Currently:**

- Master Technology **Architect** on OSL for the HP/Intel Solution Center, Grenoble
- OSL HP **Advocate**
- EMEA OSL HP **Profession Lead**
- Solutions Linux Conference and AFUL board member
- MondoRescue, Dploy.org, Project-Builder.org **Project Lead**
- LinuxCOE, mrepo, tellico, rinse, FOSSology, collectl **contributor**
- FOSSBazaar and OSL **Governance** enthusiast
- Mandriva, Mageia, Fedora **packager**



ITIL: what, why, when, how ?

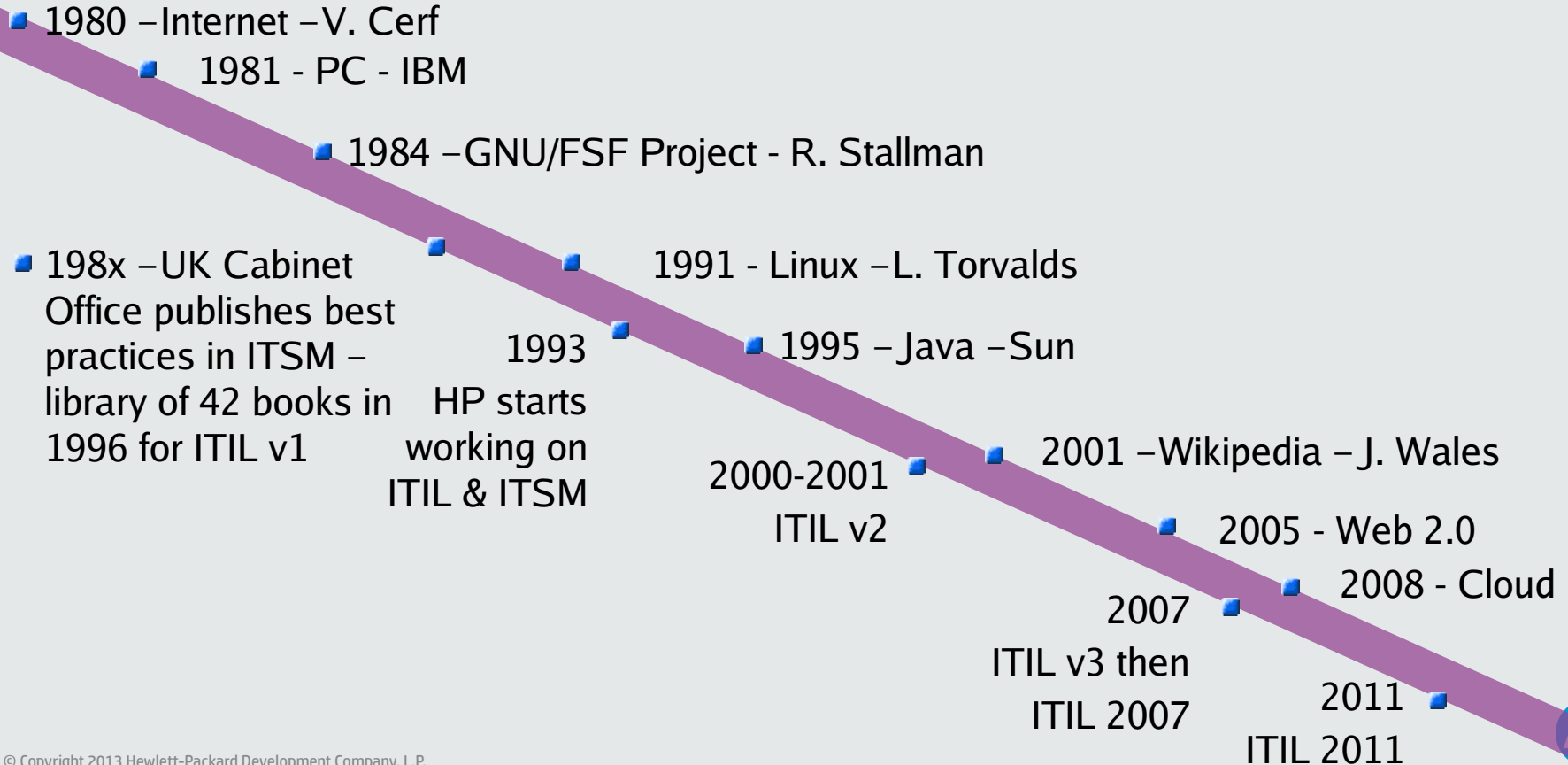


ITIL and me



**I'm not ITIL certified
but...**

A brief ITIL Timeline



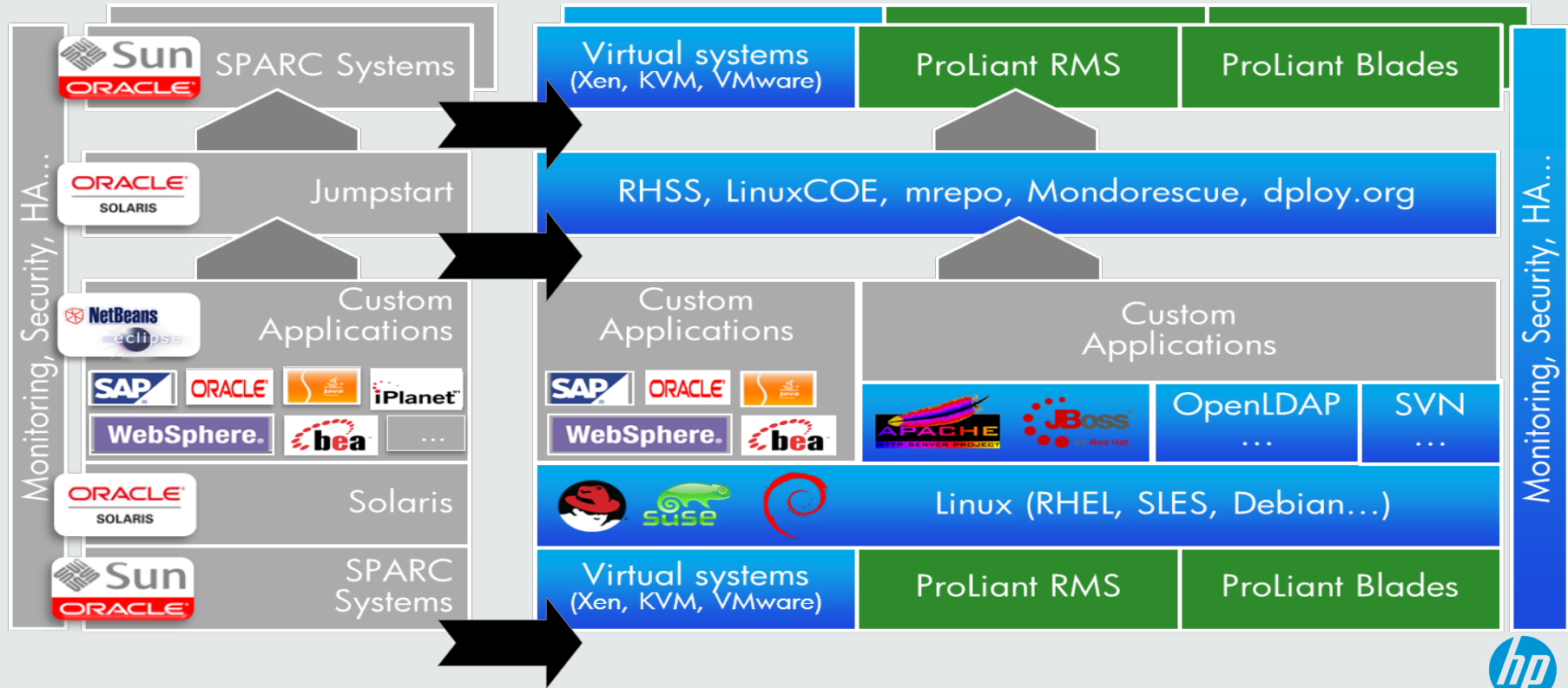
Why ITIL ?

- Your business has regularly more/new business requirements e.g:
 - High standards for customer services,
 - TTM and product innovation,
 - Costs,
 - Compliance
- IT has to provide appropriate IT services to sustain business requirements which are
 - Available,
 - Secure,
 - Reliable,
 - Manageable,
 - At the best cost



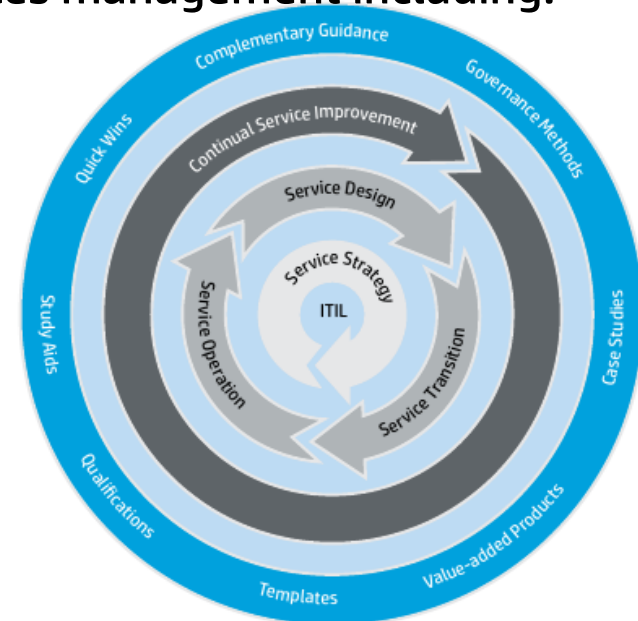
Why ITIL ? IT Infrastructure migration illustrated

Infrastructure mapping



What is ITIL ?

- Goal is to create a set of rules to plan, design, manage and deliver IT services with a continuous improvement approach to provide value to the business
- ITIL is a set of tools, mostly paper based, for IT services management including:
 - IT Services Strategy in link with Business Strategy
 - IT Architecture & Services design to meet objectives
 - IT Services transition to manage and control IT environment
 - IT Services operations to deliver and support them
- Implementation is always company dependent, evolving and partial
- Best practices are shared to build upon giants' shoulders (known FLOSS model)

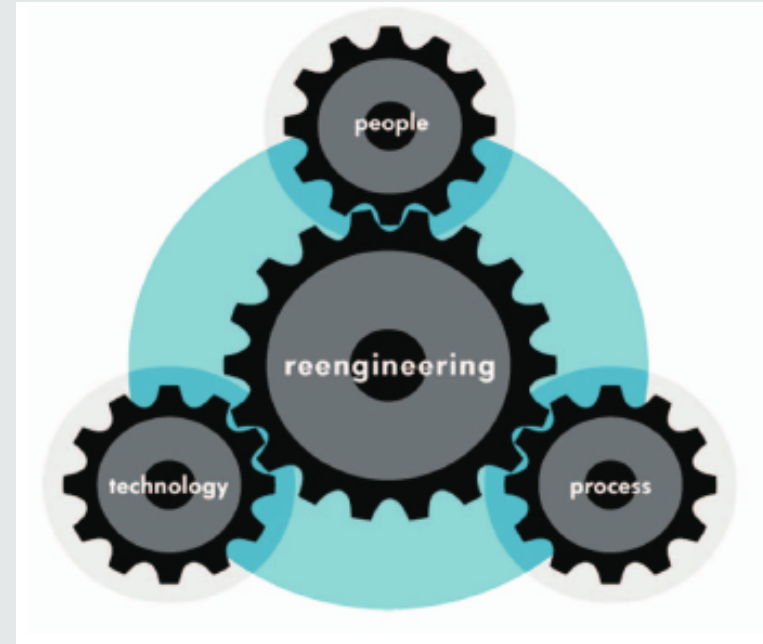


Reproduced under license from the Cabinet Office UK



When to use ITIL ?

- When current processes and results do not satisfy customers
- When new requirements imply new IT services
- When the direction is clearly set and goals jointly agreed
- When the company is ready for a process oriented organization
- When known and manageable IT costs are searched



How to deal with ITIL ?

- First do the paper work
 - Strategy on IT Services linked to business requirements,
 - Improving IT services require measurement,
 - Measurement requires Key Performance Indicators (KPI),
 - People have roles, and are thus engaged (RACI matrix)
- Then choose and set up tools to support your design
 - There are Open Source tools to help (the goal of this presentation !!)
 - Highly flexible, customizable and providing interoperability
 - Think to that before choosing a commercial offering (exit conditions)



ITIL Open Source Solution Stack Architecture



ITIL tooling overview & approach

- Coverage of the Solution Stack:
 - Partial coverage with the first tools
 - Setting up first the base around a CMDB+
 - Focus around tooling Service Design, Transition and Operation
 - Starting continuous service improvement
- Evolution through Open Interfaces and maintain / populate with powerful import/export functions
- Open Source Applications retained:
 - **iTop** (~~i-doit.org, onecmdb.org, cmdbuild.org~~)
 - **iTop** (~~ORTS, mantis, bugzilla~~)
 - **Fusion Inventory** (~~GLPI / OCS Inventory~~)
 - **Shinken, Centreon** (~~Nagios~~)
- Useful complementary tools (**Rudder/Puppett**, **Ansible**, HP SIM, LDAP/FusionDirectory, **Talend**)

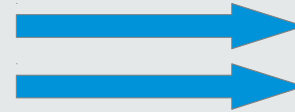


ITIL Open Source tools mapping 1/2



Covered partly by tool
Major tool goal

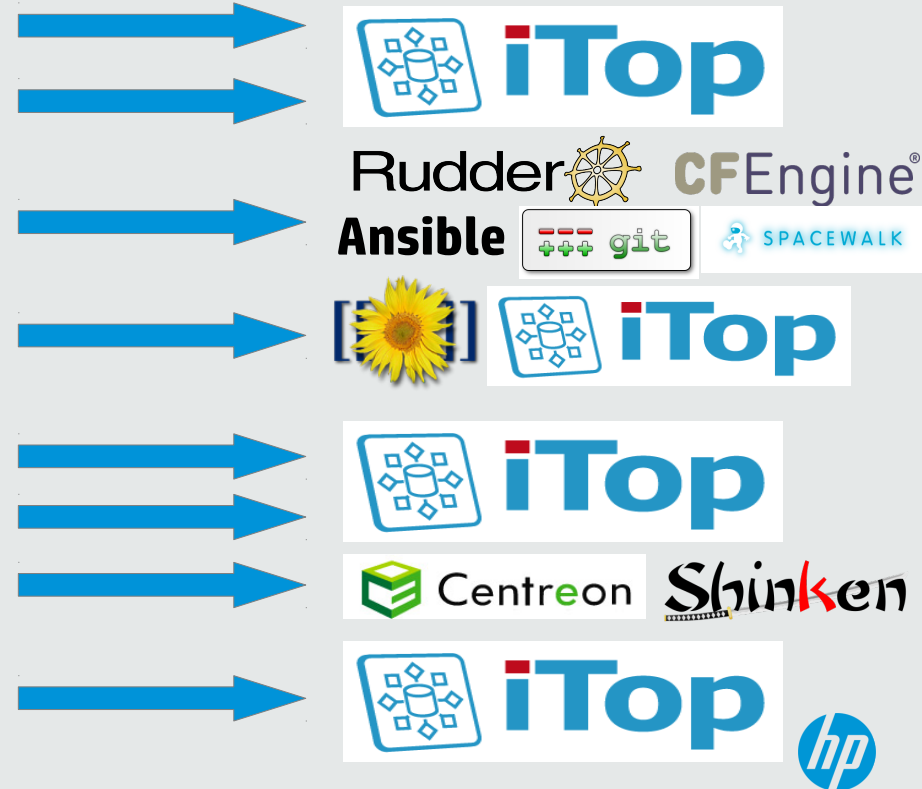
- Service Strategy
 - Service Strategy
 - Service Portfolio Management
 - Demand Management
 - Financial Management
- Service Design
 - Service Catalog Management
 - Service Level Management
 - Availability Management
 - Capacity Management
 - IT Service Continuity Management
 - IT Security Management
 - Supplier Management



ITIL Open Source tools mapping 2/2

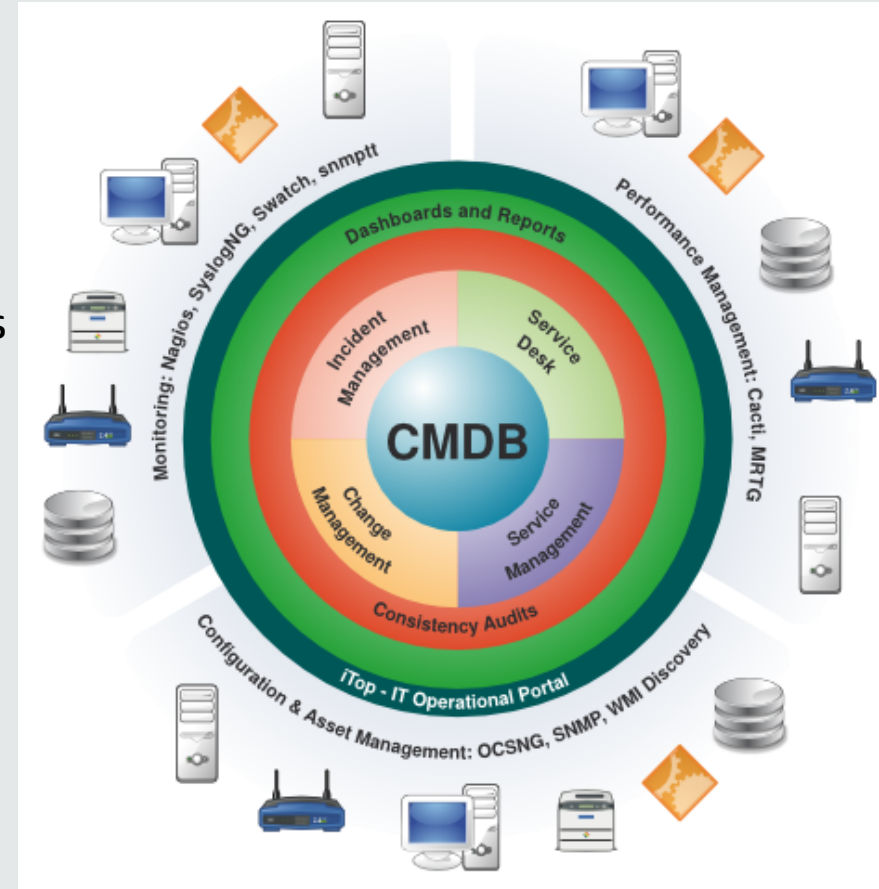
 Covered partly by tool
Major tool goal

- Service Transition
 - Change Management
 - Service Asset and Configuration Management
 - Release and Deployment Management
 - Knowledge Management *
- Service Operation
 - Incident Management
 - Problem Management
 - Event Management
 - Service Request Fulfillment
 - Access Management

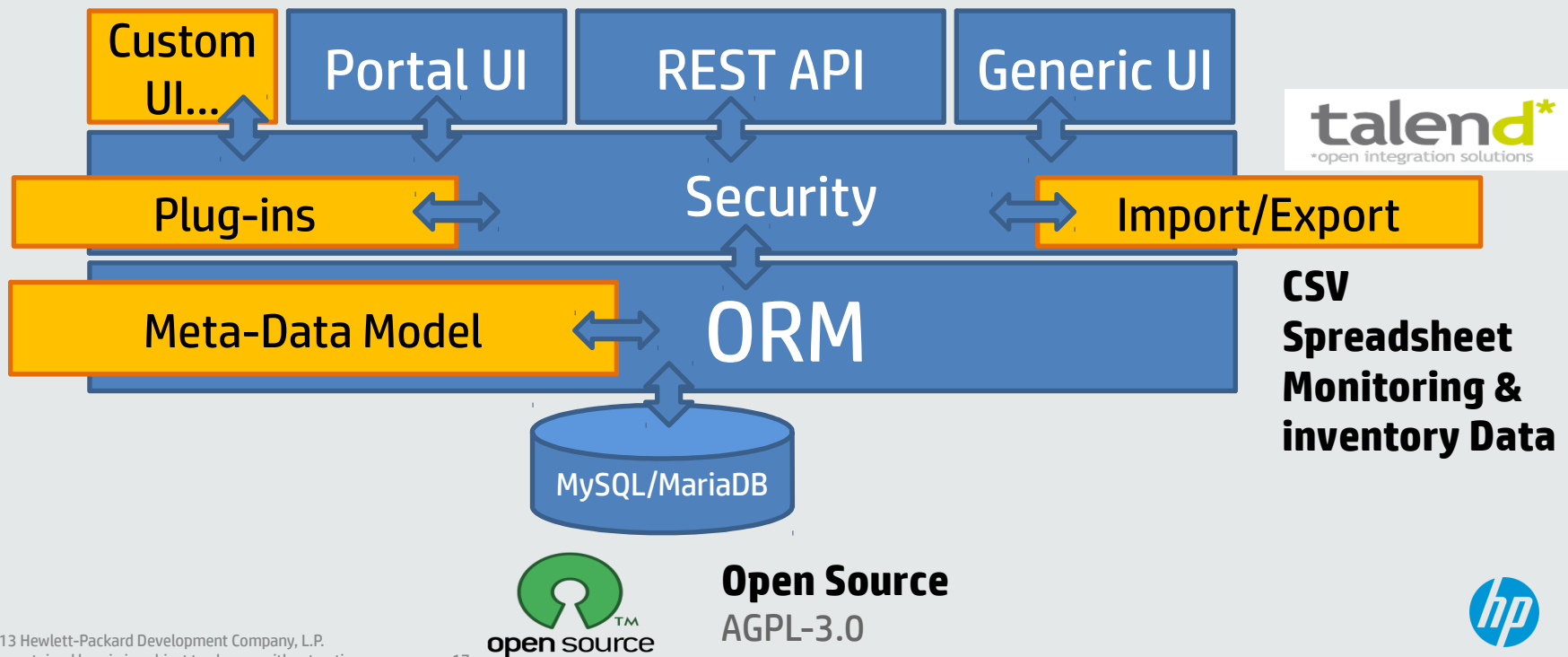


iTop main features

- A complete CMDB to document and manage IT inventory
- The Data model is fully customizable
- A Service Catalog to describe IT service available
- An Incident management module to track IT issues with a User portal
- An error DB to speed up resolution of incidents
- A Change management module to plan IT environment changes
- A Problem management module to solve repeatable issues
- Dashboards to provide 360° overview
- Impact analyse and Audit reports



iTop architecture



iTop user portal view



iTop

[Show open requests](#)

[Create a new request](#)

[Show closed requests](#)



Disconnect



[Change my password](#)

My open requests


Total: 359 objects.

Pages: [1](#) [2](#) [3](#) [4](#) ... [36](#) [10](#) objects per page

User Request	Type	Title	Start date	Status	Service subcategory	Priority	Caller
R-000996	User Request	titulo incidencia	2013-10-23 13:44:20	New	New desktop ordering	high	Claude Monet
R-000992	User Request	Door trouble	2013-10-22 19:41:44	Assigned	Troubleshooting	high	Claude Monet
R-000989	User Request	eee	2013-10-22 06:41:00	Assigned	Mobile phone/SIM unlocking	medium	Claude Monet
R-000987	User Request	test	2013-10-21 21:05:20	New	Software Installation / Upgrade	critical	Claude Monet
R-000986	User Request	PC malograda	2013-10-21 19:31:05	New	New desktop ordering	critical	Claude Monet
R-000981	User Request	fgdfg	2013-10-21 08:17:20	New	Microsoft Office Support	critical	Claude Monet
R-000980	User Request	Renew my laptop please	2013-10-20 16:10:40	Assigned	New laptop ordering	medium	Claude Monet
R-000976	User Request	A impressora não imprime	2013-10-19 09:02:25	New	Troubleshooting	high	Claude Monet
R-000975	User Request	WinRAR needed	2013-10-18 21:49:14	New	Software Installation / Upgrade	high	Claude Monet
R-000974	User Request	myszka	2013-10-18 14:46:15	Assigned	Troubleshooting	critical	Claude Monet



iTop operator view



All Organizations

My Shortcuts

Group

Sc_Teste

Sc_Teste

Servicepmmm

Configuration Management


Helpdesk

Change management





Service Management


Data administration

Admin tools





Your Search








Configuration items


 Business Process: 74


 Application Solution: 69


 Contact: 523

 Location: 170

 Contract: 38

 Server: 91

 Network Device: 33



Helpdesk

Open Requests - 758


New	Assigned	Escalated TTO	Escalated TTR	Resolved
573	140	-	-	12

My requests

No object to display.

[Create a new User Request](#)

iTop admin view



All Organizations

My Shortcuts

Configuration Management

Helpdesk

Incident Management


Problem Management

Change management




Service Management


Data administration


Admin tools





Your Search





**Configuration items**


Business Process: 0


Application Solution: 4


Contact: 18

Location: 5

Contract: 1

Server: 4

Network Device: 2

**Helpdesk**

Open Requests - 0

NewAssignedEscalated TTOEscalated TTRResolved

- - - - -


My requests

No object to display.

[Create a new User Request](#)

© Copyright 2013 Hewlett-Packard Development Company, L.P.
The information contained herein is subject to change without notice.

21



FusionInventory main features



Multi mode

Push or pull / cron or daemon

Network discovery

Nmap, SNMP, NetBIOS
Printers, Network elements

Multi-platform

Supports: Linux, Windows, MacOSX,
BSD, AIX, HP-UX, Solaris, Vmware
ESX, Android

Open Source

GPL-2.0

```
<?xml version="1.0" encoding="UTF-8" ?>
<REQUEST>
  <CONTENT>
    <ACCESSLOG>
      <LOGDATE>2013-10-23 02:29:15</LOGDATE>
    </ACCESSLOG>
    <BATTERIES>
      <CAPACITY>55080</CAPACITY>
      <MANUFACTURER>83-24</MANUFACTURER>
      <NAME>SX06055</NAME>
      <VOLTAGE>10800</VOLTAGE>
    </BATTERIES>
    <BIOS>
      <ASSETTAG>CNU2091GZF</ASSETTAG>
      <BDATE>12/22/2011</BDATE>
      <BMANUFACTURER>Hewlett-Packard</BMANUFACTURER>
      <BVERSION>68SSU Ver. F.22</BVERSION>
      <MMANUFACTURER>Hewlett-Packard</MMANUFACTURER>
      <MMODEL>162B</MMODEL>
      <MSN>PCEYA001Y2E2KB</MSN>
      <SKUNUMBER>SN189UC#ABF</SKUNUMBER>
      <SMANUFACTURER>Hewlett-Packard</SMANUFACTURER>
      <SMODEL>HP EliteBook 2560p</SMODEL>
      <SSN>CNU2091GZF</SSN>
    </BIOS>
    <CONTROLLERS>
      <CAPTION>2nd Generation Core Processor Family DRAM Controller</CAPTION>
      <MANUFACTURER>Intel Corporation</MANUFACTURER>
      <NAME>2nd Generation Core Processor Family DRAM Controller</NAME>
      <PCICLASS>0600</PCICLASS>
      <PCIID>8086:0104</PCIID>
      <PCISLOT>00:00.0</PCISLOT>
      <REV>09</REV>
      <TYPE>Host bridge</TYPE>
    </CONTROLLERS>
```



Centreon main features



Real time system monitoring

- Outage detection
- Availability detection
- Fine-grained thresholds definitions for alerts
- Active (pull) queries
- Passive (push) queries
- SNMP trap receipts
- Hosts group metrics compositing
- Services group metrics compositing
- Aggregate reporting
- SLA metrics aggregation (Meta service)
- Downtimes scheduling
- Issue acknowledgments mechanisms
- Comments recording
- Search filters for log interrogations
- Configurable frequencies for KPI collection



Flexible configuration

- Nagios® 3 compatibility
- Configuration template management
- Hosts and services template interaction
- Application template library management
- N-level template inheritance
- Automatic SNMP traps collection and management
- Customised macro
- Network topology management
- Atomic KPI configuration



Load balancing/High availability

- Load analysis breakdowns as per:
 - strategy (security);
 - geography (WAN);
 - network topology.
- Fail-over satellite server configuration
- Pre-production satellite server configuration
- High availability configuration using:
 - replicated MySQL databases;
 - web interfaces;
 - monitoring engines;
 - graphs/reports.



Dashboards

- Daily statistics of status durations
- Daily statistics on alerts frequencies
- Single server online reporting
- Hosts online reporting
- Service group online reporting
- Configurable update frequencies
- CSV report export
- Interactive timeline for report monitoring



Centreon



User access controls

- Access group definitions
- Interface access restrictions
- Hosts group resource view restrictions
- Service groups resource view restrictions
- Service category resource view restrictions
- LDAP Authentication
- User action logs



Flexibility

- Integration of customised or user-written extensions:
 - Centreon Syslog;
 - Centreon WeatherMap;
 - Centreon Map;
 - Centreon Business Activities Monitoring;
 - Centreon Business Intelligence;
 - Centreon Auto Deployment Tool;
 - Centreon Disco;
 - Centreon NTOP;
 - Centreon CLAPI.



System Management

- Optional command line operation of Centreon for:
 - adding hosts;
 - restarting Nagios;
 - generating configurations.
- Configuration loading from CSV or Nagios files.



Hierarchical notification system

- Business dependencies
- Network dependencies
- Ticketing tools interfaces (Request Tracker, etc)
- Notification via mail, SMS or other systems
- Hierarchical escalation configuration

Scalable architecture

of items monitored

Dedicated web UI

Based on user's profile

Reporting

Stats, availability, capacity, trends



Centreon architecture

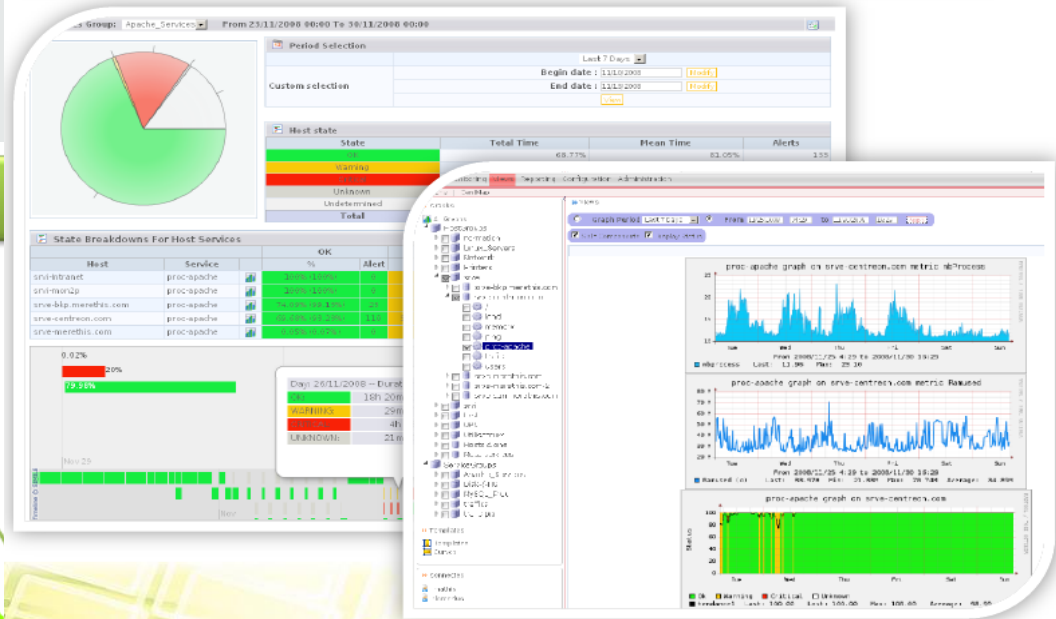
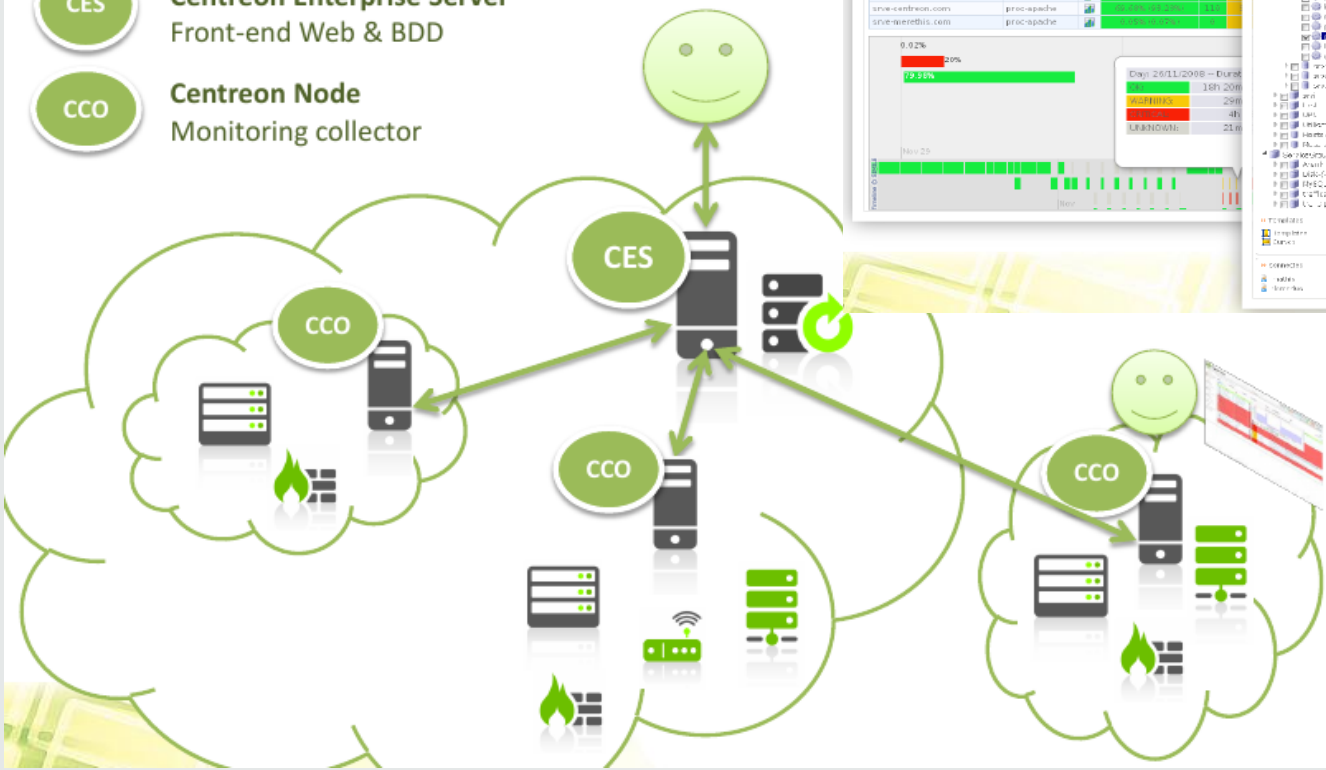
Distributed Architecture

CES

Centreon Enterprise Server
Front-end Web & BDD

CCO

Centreon Node
Monitoring collector



Centreon



open source

Open Source
GPL-2.0



Shinken main features



Scalable architecture

One/Many daemon per role

Distributed IT monitoring

Multi-sites, DMZ, Virtualization, HA

Business & Prod oriented monitoring

Correlation & impact focus

Multi-plateform

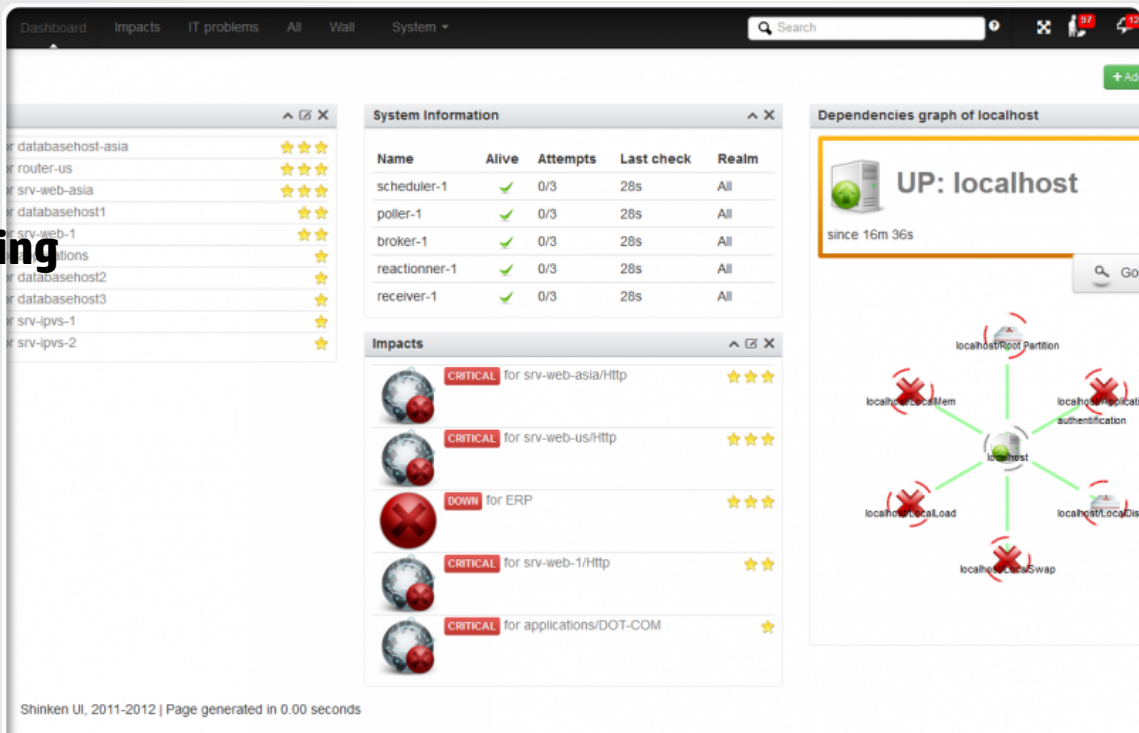
Linux, Windows, Mobile (HTML5 UI)

Nagios® compatibility

Conf, Plugins, NRPE poller, NCSA agent

Open Source

AGPL-3.0



Rudder main features



Continuous control

Keeping operation conditions
CMS/VCS usage



Simplified UI

Web based



Multi-plateform

Linux, Unix, Windows, Android...



Open Source

Apache-2.0, AGPL-3.0



Security improvements

System Hardening
Continuous Audit



Included libraries

Best practices infrastructure

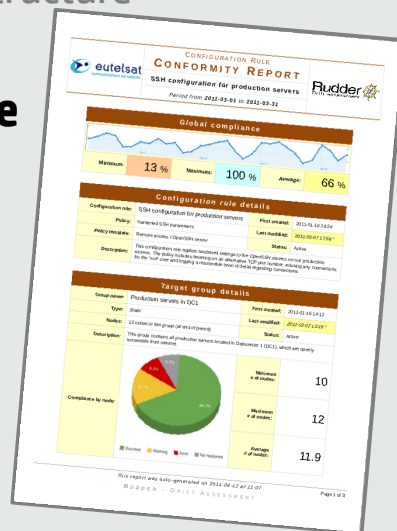


Based on CFEngine

standard since 1993



Graphical reports



Other tools of interest

- Configuration Management: Puppet / Chef
- Version Control: SVN / Mercurial
- Role management: FusionDirectory
- Reporting: Jaspersoft
- Deployment: mrepo / cobbler / LinuxCOE
- Packaging: Project-Builder.org / OBS
- Security: SELinux / Hardening
- Compliance: FOSSology
- Cloud: OpenStack
- SDN: OpenDaylight



HP provides comprehensive IT FLOSS services

Mission critical support
Proactive planning & assistance
Reactive multi-vendor hardware & software support



Planning, implementation, staffing, and ongoing operations



OS application porting & migration

<http://www.hp.com/services/linux>



Solution design & implementation



ITSM & ITIL
Database apps
Financial services
HPTC / Big Data
Telco



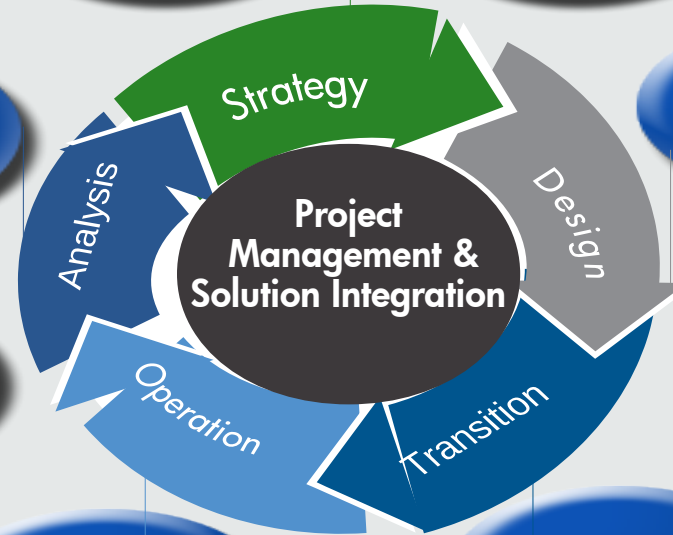
Single point of accountability



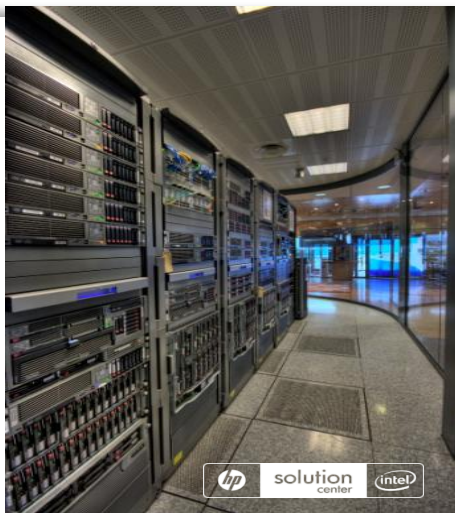
Integration services
Onsite installation
Data center services



Linux education & industry (LPI) certification
ITSM & ITIL



HP Innovation Solution Center



Key Facts from 10 years of Success

- » World wide programs, incl. RISC Migrations
- » Over 200 projects conducted successfully
- » Complete IT (400+ systems) & Telecom infrastructure (incl. SS7 network)
- » End-to-End solutions set up with in-depth expertise on Telecom domains.
- » Portfolio of 40+ solutions with access to HP & Intel ecosystem of Partners
- » Complete test & validation environment
- » Strategic partnership with Intel, 10-year long standing collaboration
- » Strategic partnership with Red Hat
- » Unique proof point in the industry
- » Now also the EMEA HP Networking Customer Center



A Unique Initiative with a Worldwide Coverage

Mission: Accelerate the adoption of new and innovative solutions by creating simple and rewarding end-to-end customer experiences that benefit our Service Providers, NEPs, Communications Media & Entertainment customers and partners, in a compelling and engaging collaborative environment.

...more information available at <http://www.hpintelco.net>

The Open Source Solutions Initiative



OPEN SOURCE SOLUTIONS INITIATIVE

Test
Deploy
Application porting
Benchmark
Proof of concept
Workshop
Assessments

WHEN LEADERS JOIN FOR
BEST IN CLASS SOLUTIONS.

- » **Customers** are highly interested in Open Source Solutions (cost + control)
- » **Red Hat** is the leader in Open Source and #1 vendor gaining MS of IT budgets
- » **HP** #1 in Linux server market share, \$12+B cumulative server revenues; 4+M servers sold. Leader in OpenStack contributions
- » **Intel** is in the top-3 commercial entities contributing Open Source code

- Executive briefings and discovery sessions
- Open Source workshops
- Innovative Solutions
- Proof-of-Concepts

Drive awareness and adoption of Intel, HP and Red Hat solutions as the highest value platform for today's + tomorrow's enterprise solutions

...more information available at <http://www.hpintelco.net/hp-intel-redhat.htm>

Links

ITIL docs

- <http://www.best-management-practice.com/Knowledge-Centre/White-Papers>
- <http://wiki.en.it-processmaps.com/index.php>

Tools

- <http://www.combodo.com/itop> (online demo)
- <http://www.rudder-project.org> (online demo)
- <http://www.shinken-monitoring.org> (online demo)
- <http://www.centreon.com>
- <http://www.ansibleworks.com>
- <http://www.mondorescue.org>
- <http://www.hp.com/go/sglx>
- <http://opensource.hp.com>
- <http://www.hpintelco.net>



Contact - Thanks

Bruno.Cornec@hp.com

Open Source and Linux Technology Architect

<http://www.hp.com/linux>

<http://opensource.hp.com>

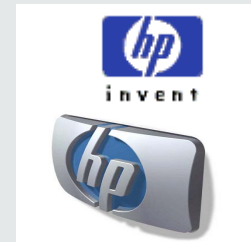
Thanks goes to:

Linus Torvalds, Richard Stallman, Eric Raymond,
Nat Makarevitch, René Cougnenc, Eric Dumas,
Rémy Card, Bdale Garbee, Bryan Gartner, Craig
Lamparter, Lee Mayes, Gallig Renaud, Andree
Leidenfrost, Phil Robb, Bob Gobeille, Martin
Michlmayr among others, for their work and
devotion to the Open Source Software cause... and
my family for their patience :-)



"Changes are never easy to make.
There is comfort and safety in tradition,
but change must come, no matter how
painful or expensive it may be."

Bill Hewlett



Thank you

