

Intesa Sanpaolo Bank monitors 7k servers with Zabbix

A Study case by Intesa Sanpaolo & Quadrata



QUADRATA



Francesco Giordano

Francesco is a Systems Administrator at Intesa Sanpaolo. Previously worked as a Software Developer, now focuses in ISP are UNIX systems, virtualized environments (VMware, XEN and KVM), hyperconverged and HA products. His team uses Zabbix to anticipate, investigate and study certain situations to pro-actively prevent possible issues in the future.



Pietro Antonacci

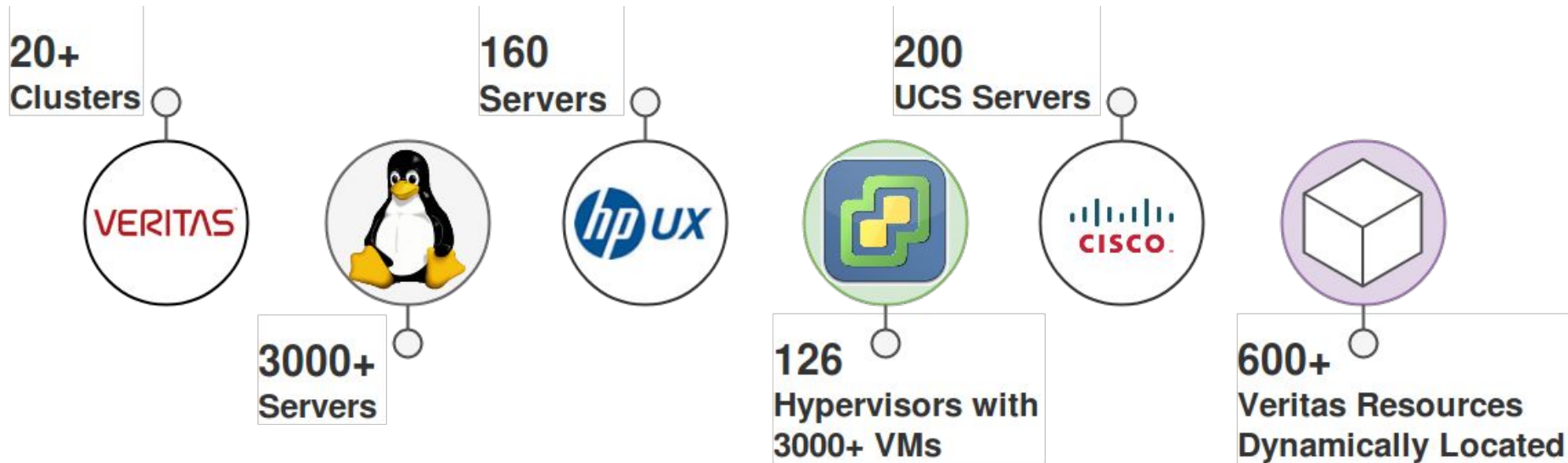
Pietro started working for Quadrata in 2012, helping customers with Unix systems administration. He soon started learning Zabbix as a core platform for infrastructure monitoring, becoming a Zabbix Trainer in 2015. Pietro is also interested in operations automation, scripting, front-end development.

- Large domestic network: approximately 4400 branches and 11.1M clients
- Strategic international presence
 - Selected commercial banking presence in Central and Eastern Europe and Middle Eastern and North African countries reaching **8.3 million clients in 12 countries through a network of approximately 1400 branches**

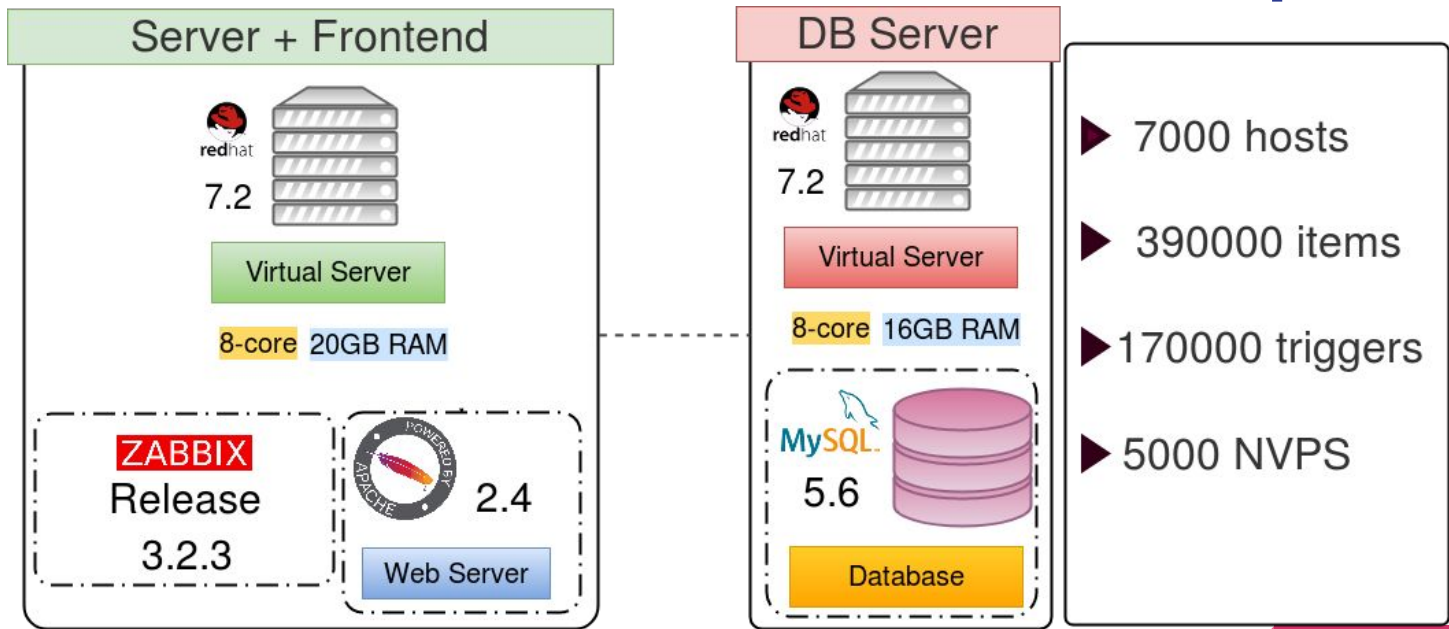
- 90 mln of transactions per day supported by our ICT infrastructure
- 4 Data Centers to allow high reliability of data in case of disaster
- Availability of 2 sites in each of the 3 production centers (Turin, Milan and Parma) in synchronous copy mode
- Disaster recovery assured by a third site availability for each site in asynchronous copy mode

- IT company with long experience in supporting medium/large Enterprises
- Proud to accomplish tasks using exclusively Open-Source software
- Been using Zabbix since 2004, version 1.0
- Main partners: HP, IBM and EMC

The case: Monitor a Large IT Infrastructure



The Infrastructure: Zabbix Setup

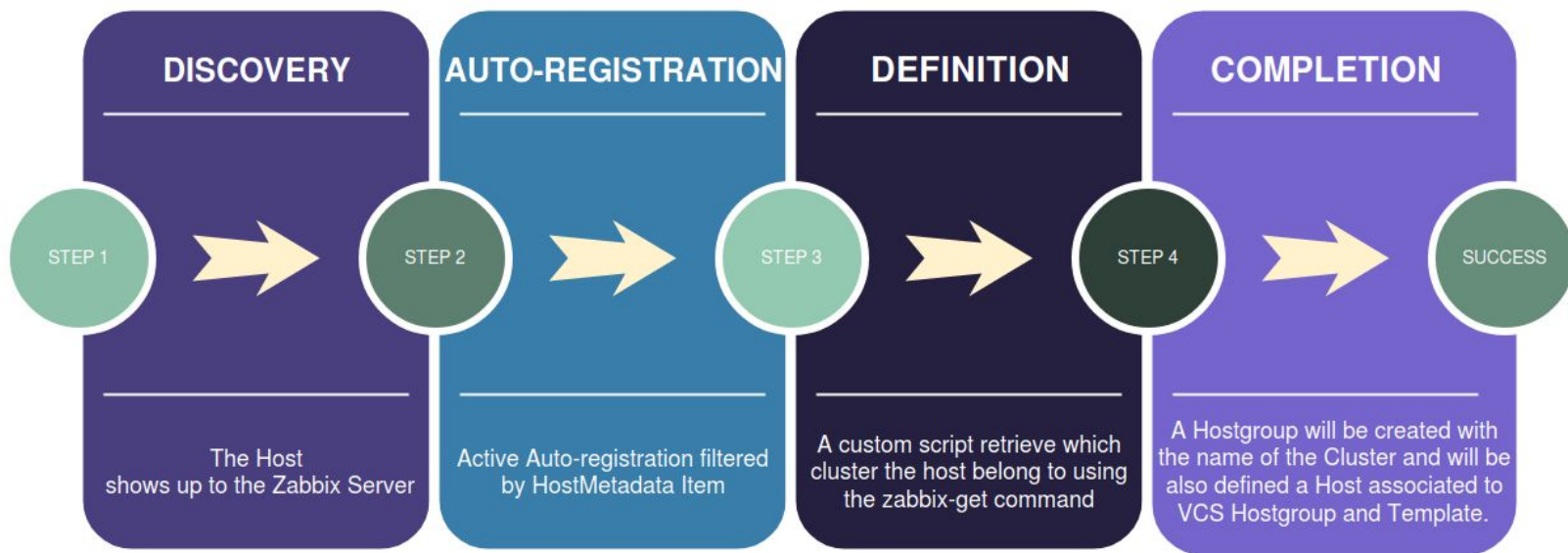


Cluster Automatic Discovery

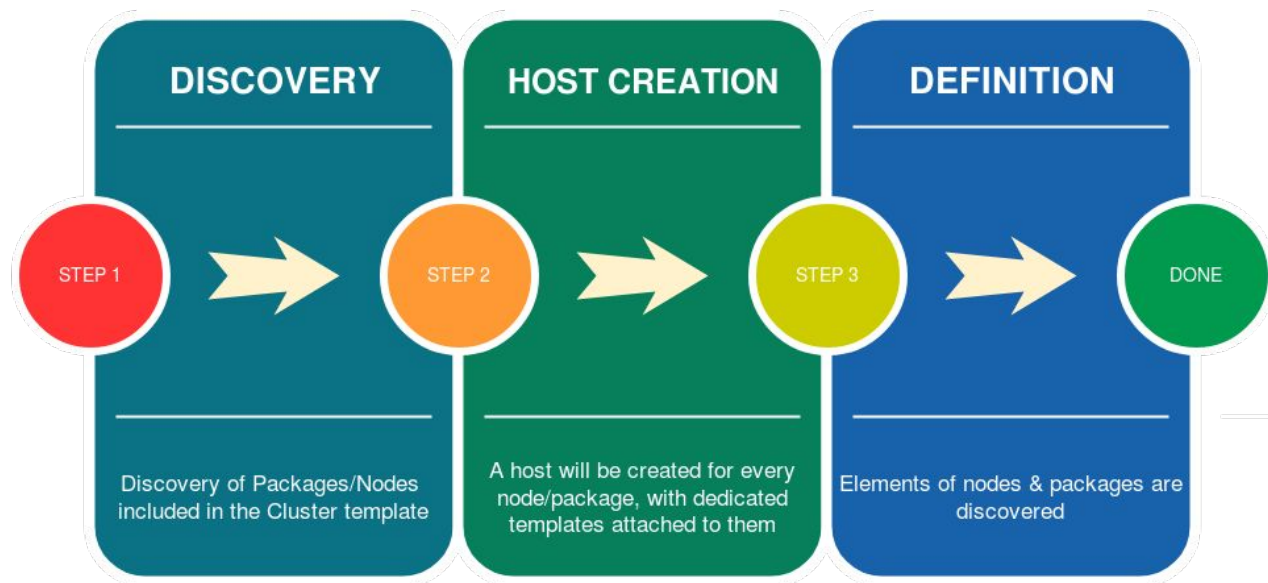
- Zabbix Agent on cluster nodes with use of HostnameItem and HostMetadataItem

The last one is the *source* for auto-registration action

Veritas Cluster auto-registration example



Node/Package Auto-discovery



Templates in details: Veritas Cluster Template

- Item to check the alignment of kernel parameters between all cluster nodes
- Item to monitor node status
- Item to monitor Zabbix Agent availability on cluster nodes
- List of packages and their status

We also monitor the good execution of the following scripts:

- Cluster Node Discovery
- Cluster Packages Discovery
- VCS dump update

Veritas Nodes and Packages

Nodes and Resources of ISP Infrastructure are discovered by Zabbix with two different Low Level Discovery (LLD)

- Cluster Node Discovery
- Cluster Packages Discovery

Veritas Nodes Discovery

If the node is defined on Zabbix Server as host the discovery is completed, otherwise Zabbix will associate a template to it based on the node type [VCS-Linux / VCS-HP-UX]

These templates have *active* items.

Veritas Packages Discovery

- The script associated to the LLD, discovers the packages trough info retrieved from the cluster.
- Packages will be defined as hosts into the Zabbix Server
- A custom template will be associated to them (ISP -Template VCS Package).

This template has only *passive items*, because the resources have a changing location between the cluster nodes.

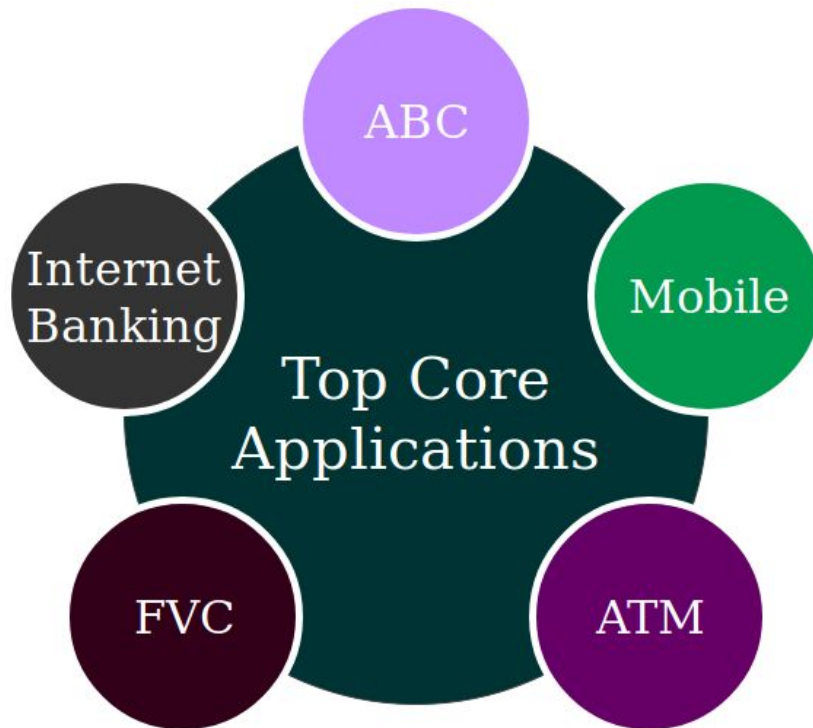
Templates in details: Veritas Node Template

- It contains items monitoring Operating System status
- Check filesystems contained into the FSTAB (by policy in it there are only filesystem regarding bare metal server)

Templates in details: Veritas Package Template

- Item regarding the location of the package (in which node the package is running)
- Check only the filesystem that belongs to the VCS package
- Monitor the resources status of the package
- Package status (ONLINE/OFFLINE)

Monitoring Critical Core Services



Custom Dashboard - Top Core Services

The screenshot shows a Zabbix web interface with a custom dashboard. The top navigation bar includes the ZABBIX logo, a search bar with the text 'Cerca...', and a sidebar menu with options: Filiera, Cluster View, Problemi OS, Admin, Logout, and Admin. The main content area displays three large horizontal bars: 'ABC' (green), 'MOBILE' (green), and 'ATM' (red). Below the 'ATM' bar, there are three service status boxes: 'MTA30' (green), 'ATMW0' (red), and 'MFRK0' (green). Each box shows the service name, its status (ONLINE or OFFLINE), and the status of its database.

Service	Status	Database
MTA30	ONLINE	Database MTA9
ATMW0	OFFLINE	Database ATMW0
MFRK0	ONLINE	Database MTA9

Custom Dashboard API based focused on monitoring Top Core Services.

Custom Dashboard - Veritas Cluster View

ZABBIX

Cluster CDLMOP12

CLUSTER

Ricerca per cluster: CDLMOP12

CDLMOP12

SDLMOP18	SDLMOP12	SDLMOP13	SDLSTP15
SDLSTP14	SDLSTP19		
ONLINE PDLCAP102			
ONLINE PDLCCP123			

Graph View on the components of the cluster and relative status

Custom Dashboard - Ticketing System

ZABBIX

Filiera

Cluster View

Problemi OS

Admin


Logout

Admin

Host **cerca**

Filiera All selected (8) **cerca**

Cluster **cerca**

 **PROBLEMI OS**

In carico Non gestiti Tutti **Risolti**

Nessun problema presente.

Ticketing system focused on reducing SLA period and punctual problem solving.

Future Scenario

- Monitoring of Oracle VMs Exalogic
- Monitoring of Docker containers
- Tuning metrics for specific applications (Web Servers, Databases...)

Issue / Feature Requests

1- ZBXNEXT-2072 ==> Add host interfaces to Host Prototype

2- ZBXNEXT-3205 ==> Add support for wildcards and / or global regular expressions in context macros

Thanks for watching!

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