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PIANO NAZIONALE  
DI RIPRESA E RESILIENZA



Centro Nazionale di Ricerca in HPC,  
Big Data and Quantum Computing



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# Rilevamento di anomalie nell'infrastruttura e nei servizi offerti da INFN-Cloud

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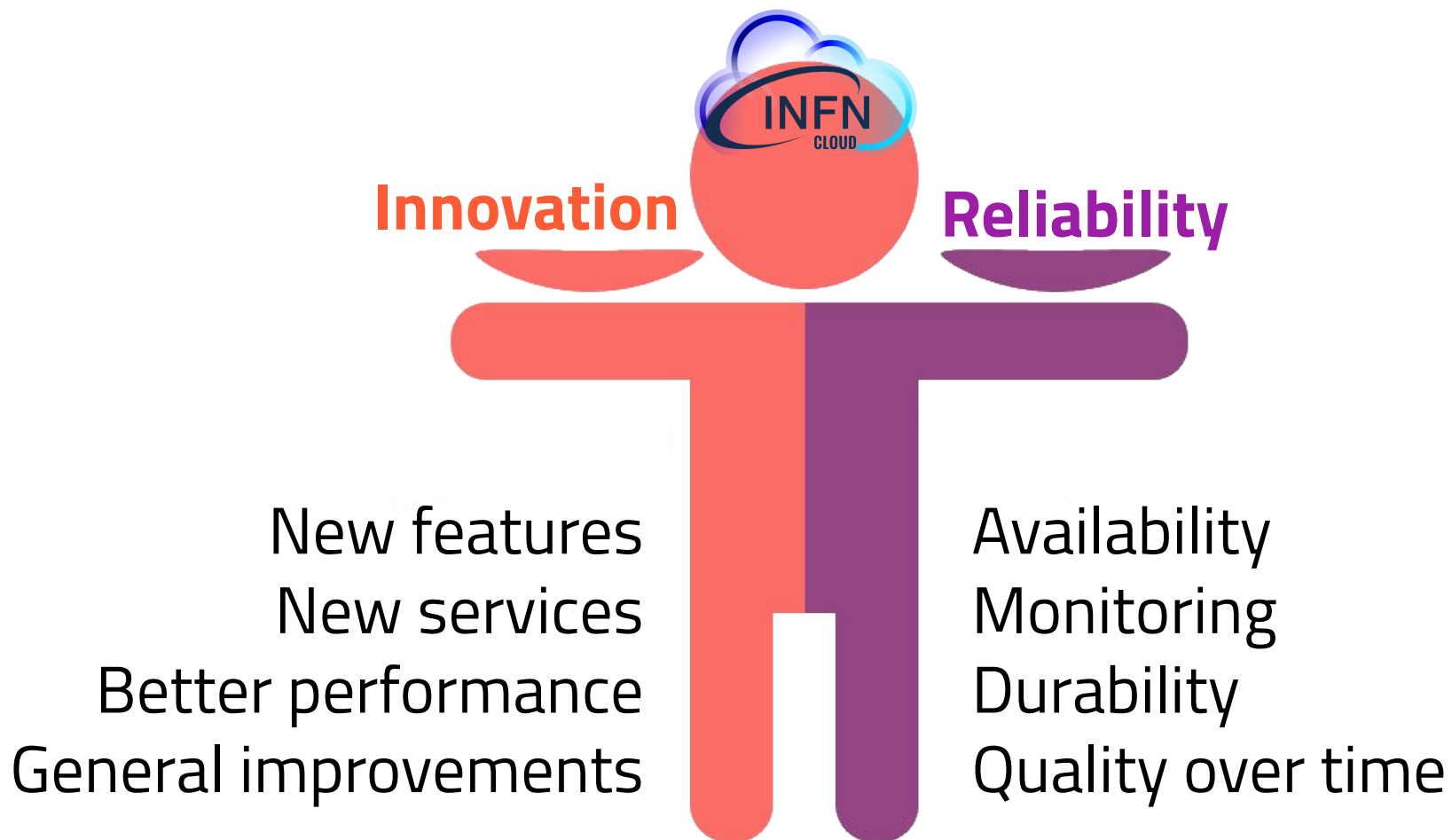


**Where?**



The background features a vibrant blue color with a dynamic, abstract pattern of light trails and particles. On the left side, numerous thin, glowing lines radiate from a central point, creating a sense of depth and movement. Interspersed among these lines are small, bright blue dots of varying sizes, some appearing as soft glows and others as sharper points of light. The overall effect is reminiscent of a digital data stream or a futuristic light tunnel.

**Why?**

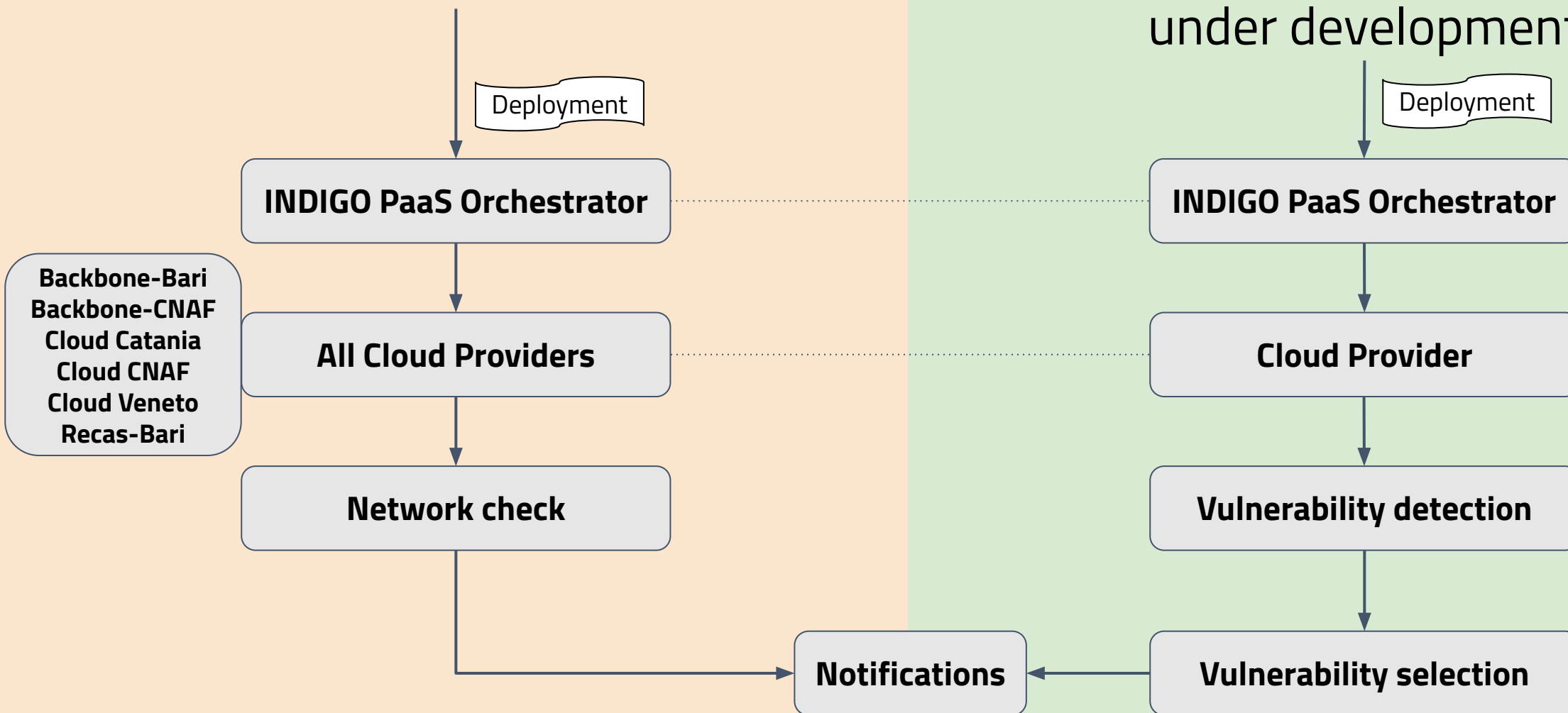


The background features a vibrant blue color with a dynamic, abstract pattern of light trails and particles. These elements are concentrated on the left side, creating a sense of depth and movement as they appear to recede into the distance. The overall effect is reminiscent of a digital or data-driven environment.

**What?**

## VM network reachability

## Vulnerability detection of services under development

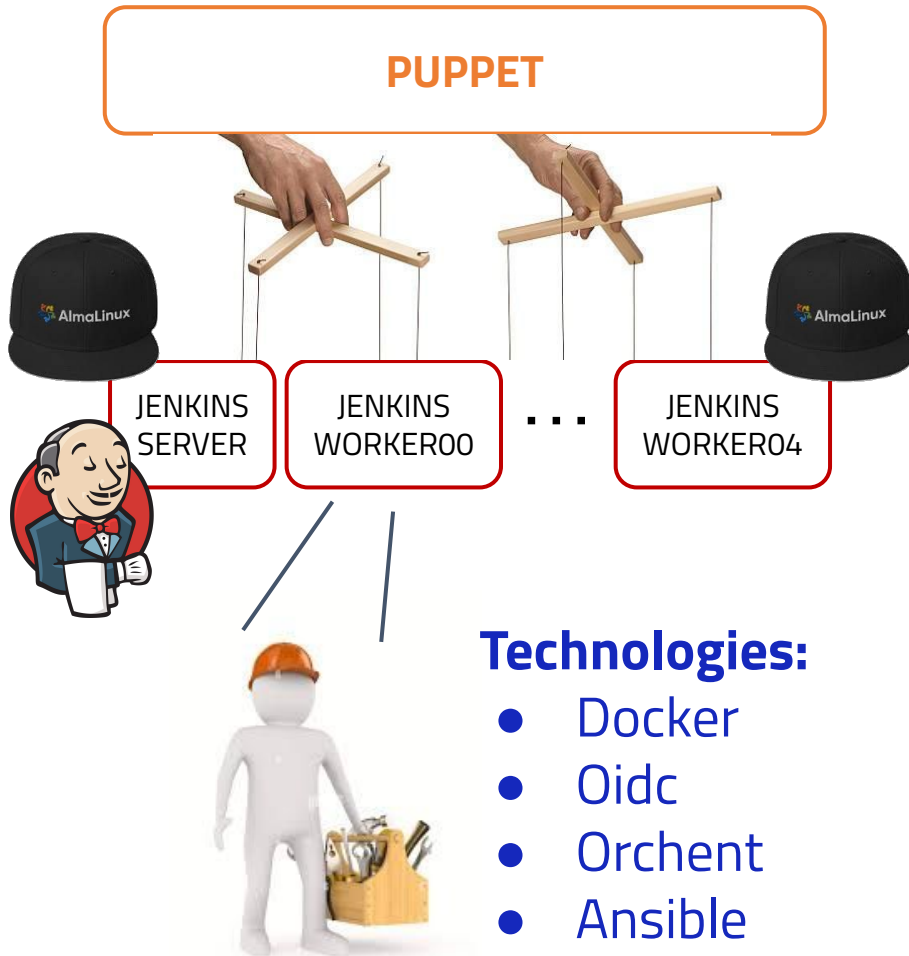


The background is a deep blue gradient. On the left side, there is a vertical column of light trails and particles. These trails are composed of many thin, parallel lines that curve slightly towards the center. Interspersed among these lines are numerous small, bright blue dots of varying sizes, some appearing as larger, more prominent spheres. The overall effect is that of a digital or data stream, possibly representing a network or a complex system. The right side of the image is a solid, uniform blue color.

**How?**



# Jenkins: self-contained, open source automation server used for building, testing, delivering and deploying software



	Declarative: Checkout SCM	Test environment	Create test deployment	Scan endpoints	Declarative: Post Actions
Average stage times: (Average full run time: ~46min 50s)	5s	9s	25min 1s	5min 21s	10s
#609 May 16 16:16 No Changes	5s	11s failed	3s failed	2s failed	9s
#608 May 15 16:16 No Changes	6s	8s	35min 31s	7min 55s	12s

S	W	Name ↓	Last Success	Last Failure
✓	☀️	test-elasticsearch-service	10 hr #164	N/A
✗	☁️	test-jupyter-cygn-service	23 days #135	14 hr #161
✓	☀️	test-jupyter-matlab-service	21 hr #160	N/A
✗	☁️	test-jupyter-ml-infn-service	1 day 17 hr #166	17 hr #167
✓	☀️	test-jupyter-vm-service	3 hr 13 min #810	N/A

# Greenbone: trusted provider of open source vulnerability management by developing algorithms and programs that detect vulnerabilities



**Greenbone Security Assistant**

Results Vulnerabilities

Results Vulnerability Word Cloud

Results by CVSS (Total: 93)

Vulnerability	Severity	QoD	Host IP	Name	Location	Created
SSL/TLS: Report Weak Cipher Suites	5.0 (Medium)	98 %	192.168.1.1		443/tcp	Fri, Mar 26, 2021 3:20 PM UTC
DCE/RPC and MSRPC Services Enumeration Reporting	5.0 (Medium)	80 %	192.168.1.123		135/tcp	Fri, Mar 26, 2021 3:38 PM UTC
SSL/TLS: Deprecated TLSv1.0 and TLSv1.1 Protocol Detection	4.5 (Medium)	98 %	192.168.1.1		443/tcp	Fri, Mar 26, 2021 3:20 PM UTC
SSH Weak Encryption Algorithms Supported	4.3 (Medium)	95 %	192.168.1.100		22/tcp	Fri, Mar 26, 2021 3:18 PM UTC
TCP timestamps	2.6 (Low)	80 %	192.168.1.1		general/tcp	Fri, Mar 26, 2021 3:19 PM UTC
SSH Weak MAC Algorithms Supported	2.6 (Low)	95 %	192.168.1.100		22/tcp	Fri, Mar 26, 2021 3:18 PM UTC
TCP timestamps	2.6 (Low)	80 %	192.168.1.100		general/tcp	Fri, Mar 26, 2021 3:18 PM UTC
Services	0.0 (Log)	80 %	192.168.1.100		8080/tcp	Fri, Mar 26, 2021 3:14 PM UTC
Services	0.0 (Log)	80 %	192.168.1.100		22/tcp	Fri, Mar 26, 2021 3:14 PM UTC

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## Conclusions:

- **Reliability** matters
- Procedures have been implemented to evaluate and report **failures** and **vulnerabilities** in INDIGO-PaaS Orchestrator System, Cloud providers, and deployments.
- **Jenkins** is a valid tool to accomplish these kind of tasks.
- Jenkins will support other management tasks in the futures (periodical docker image building, code testing, etc.).
- **Greenbone** is used for vulnerability detection in deployment.



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*Supercomputing  
shaping the future*

**Thanks for your  
attention**

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