SORINTlab

BUILDING GREAT TECHNOLOGY

Application Performance

Digital Technology Service

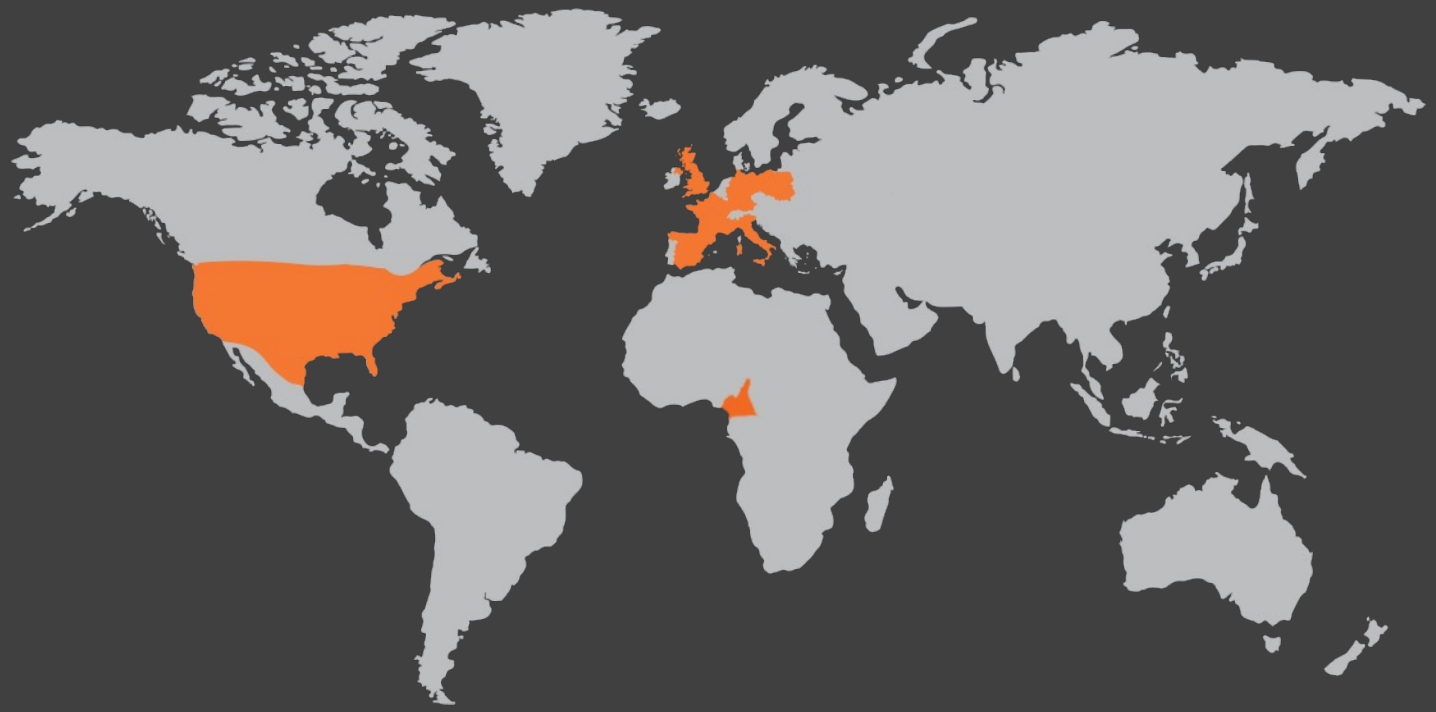
June 2023

Agenda

- Who are we
- Overview
- Monitoring and Observability
  - Pillars
- Testing
  - Type of Testing
- Analysis & Team Adoption
- Sorint’s Tailored Journey
  - Closer Look
  - Experts Involved
- Success Stories
- Bonus slide - Related by Sorintains
- Going Forward

17 Offices
3 Continents

SORINT.lab



EUROPE
Milan, Rome, Bergamo, Turin, Padova,
London, Madrid, Frankfurt, Paris,
Wroclaw, Brasov, Bologna, Lecce

USA
San Diego

AFRICA
Douala

Other Business Units

SORINT.SEC SORINT.TEK experim a cloud of skills

Overview Facts

900+
Tech-Savvy

Cloud Engineers
SREs
DevOps Engineers
Full Stack Developers

+40000

Training
hours
per year

50+

Technical
Sircles

Methodology

ISO 27001
ISO 20000
ISO 9001
ISO 14001

PM Methodology

Prince2
PMI
Agile
SCRUM/UX

35+

Years of
experience
with a
Startup mindset

250+

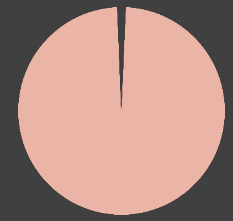
Large Enterprise
Customers

Market

Finance & Insurance,
Utility & Telco,
Industry & Services,
Transport,
Public Administration

98%

Customer
Retention
Rate



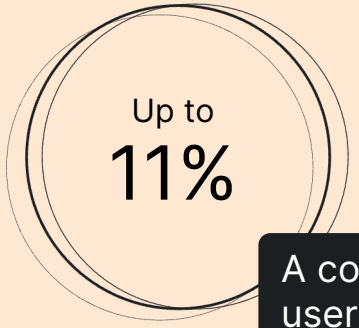

INTESA SANPAOLO
BANCA 5
Deutsche Bank
ING
BANCO BPM
widiba
CRÉDIT AGRICOLE
illimity
IBL Banca
BPER: Banca
Creval
UniCredit
BBVA
Santander
BORSA ITALIANA
nexi
sia
cdp
cassa depositi e prestiti
Vittoria Assicurazioni
REALE MUTUA
Allianz
ENGIE
2i Rete Gas
Terna
a2a smart city
iren
SKY
vodafone
TIM
FASTWEB
un passo avanti
Visura
TINEXTA GROUP
InfoCert
TINEXTA GROUP
allitude
IRIDEOS
LIS Holding
IGT
EUROBET
Sisal
CAREL
DANIELI
intercos GROUP
ICA
Q8
MBE
MAIL BOXES ETC.
MENARINI
AIFA
AGENZIA ITALIANA DEL FARMACO
Agenzia Entrate Riscossione
Ministero della Difesa
DE CECCO
ESSELUNGA
EVOCA GROUP
MARELLI
ITALDESIGN
LAMBORGHINI
brembo
SEA
Milan Airports
Orio al Serio international airport
S.A.C.B.O. S.p.A.
DIESEL
Ermenegildo Zegna
UNITED COLORS OF BENETTON.
INDITEX

Clients

Technology Partners

Application Performance

- A service that aims to achieve the “peak performance” of a given software application.
- By employing techniques and focusing on the activities of:
  - Monitoring and observability
  - Testing
  - Analysis and team adoption
- to embracing software quality assurance

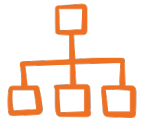


A combination of studies show that poor user experience will **directly impact** businesses' **conversion rate** from 1% up to 11%.
Beside customer’s dissatisfaction and other negative factors

According to various source/references

Addressing

Responsiveness



Scalability

Reliability

Resource utilization

Overall user experience

Monitoring & Observability

Is knowing

- On Infrastructure(environment) and application level.
- **Application Performance Monitoring (APM) and Observability techniques and tools** facilitates the analysing of health, performance and the overall user experience of a given software.
- **Monitoring** is capturing and displaying data,
- while **observability** is understanding and evaluating the internal state by analysing
  - Logs
  - Metrics (gauge, delta metrics, cumulative)
  - Distributed tracing

Pillars of Monitoring & Observability

Full-stack overview

Clarity. Data-driven

Utilize resources on cloud/infrastructure

Reduced MTTD & MTTR

Real time monitoring of security

Errors and configuration issues

Centralized data

Business value. Decisions, improve customer experience, responsiveness, and satisfaction.

1st
of 20

For 12 consecutive years.

Dynatrace is the number one “Leader” in Gartner’s Magic Quadrant for Application Performance Monitoring and Observability tools.

Sorintains offering the service are certified experts.

*Gartner June 2022

Testing

Keystone to ensure the best user experience

- Functional and non-functional testing

- The process of evaluating a software code, application, or system to identify bugs, defects, or functional issues. Ensure project meets requirements.

Types of Testing

Assess the functionality of a software in operation in various contexts. BE – FE – DB – Infra

Performance, resilience, and availability

Types of test that help ensure that the software performs optimally, is robust in handling failures, and remains available to users when needed.

End-To-End

Using simulated real data, the test focuses on verifying real-life scenarios that will then be execute by the end user, validating build stability and data integrity. The scripts can be repurposed and reused in regression testing.

Regression

Performed to validate that changes made have not introduced new defects or caused any regression in existing functionality. Involves retesting the previously tested features to ensure they still work correctly.

User acceptance (UAT)

Involves testing the software from the user's perspective to ensure that it fulfils the intended purpose and meets user/clients requirements.

Analysis & Team Adoption

How to approach

- **Assessment** of project team's competencies, training, communication, and collaboration (flow and responsibilities).
- Key factors:
  - Methodologies
  - Inspections
  - Requirements definition service application/architecture
  - CI/CD, version control, branching strategy
  - Design, code reviews, & code quality
  - Testing strategy & testing environment
  - Test planning, case design, execution, analysis, reporting
  - Monitoring & observability techniques and tools

Sorint’s Tailored Journey

Embracing Software Quality Assurance

Application performance

Analysis & Team adoption

Defining Quality Standards
Requirement Analysis
Documentation and Reporting
Compliance and Standards

Monitoring & Observability

Defect Tracking, management and continuous monitoring

Testing

Test Planning
Test Execution

Sorint’s Tailored Journey

Know-how

Every journey is a unique challenge, but our know-how to the key aspects:

Clear Quality Objectives

Well-defined QA Processes

Skilled team

Tools Knowledge

Test coverage

Test automation

Metrics & Reporting

Continuous improvement

Sorint’s Tailored Journey

The make it model approach is instantiated from

Industries

Nourished experience from huge variety of business sectors. At least 15

Adaptation

Adapting to client and project’s needs, technologies and context

Meticulous compliance

Extensive knowledge of “highly regulated” industries

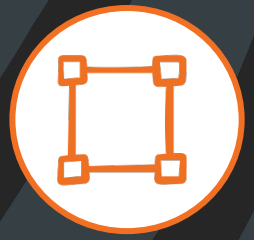
Agility

Easy access to full-stack and cross functional expertise

Involvement

Imparting knowledge, support and resources to help acquire the skills necessary

Automation



A mechanism aiming to streamline operations

Day x — Continues support — Continues support — Continues support — Day y

Experts Involved

- Application Performance
- DevArch
- NGMS
- CI/CD DevOps Engineering
- Other tech related sircles

Senior masterminds

Luigi Savio

QA Test Engineer & Performance Manager | Dynatrace Specialist

+10 years of experience in sftw. testing & performance analysis. QA evangelist

Giorgio Cassia

QA Test Engineer Functional & Non-functional Specialist

+5 years of experience in developing & testing sftw.

Some prestigious certifications

ISTQB® Certified Tester

dynatrace CERTIFIED PLATFORM ASSOCIATE

dynatrace CERTIFIED PLATFORM PROFESSIONAL

splunk> CERTIFIED Splunk O11y Cloud Certified Metrics User

Closer Look

Areas and field of focus

Monitoring & Observability	Testing	Analysis and Team Adoption	NGMS Support	All the journey
Full stack, End-End monitoring.	Planning to execution and reporting	Proved analysis reports and advice on problem solving and required QA improvements.	Level 1 – 2 – 3 of support	Side by side with client's team
From tools, configurating, reading outputs, consultation, to reporting and educating	Methodology of testing	Embrace QA culture and know-how	24x7 Service plans	
Infrastructure, application, user experience and log	Testing Culture and know-how			
	Implement automation testing and custom framework testing			

Some Common Tools

Application monitoring & observability full stack (APM)	dynatrace, DATADOG, splunk>, elastic, New Relic., VMware Tanzu, APPDYNAMICS
Application monitoring open Source	OpenTelemetry, Grafana, SigNoz, Skywalking, Prometheus
Performance test	webperformance, APACHE JMeter™
Resilience test	
End-to-End – Regression / Mobile	cypress.io, cucumber, Katalon

Success stories

Delivered by: Sorintians

Confidential

European Certification Authority and Digital Trust Leader

Automated End-To-End Testing

Challenge

Client's requirement included:

- Introduce the concept of "testing application" in the enterprise.
- Introduce automated E2E testing to some software applications.

Going forward

Carried out regular assessment-based meeting
to understands the environment and Client's team skills.

Accepting the challenge - Solution and Implementation

In a proposal form. We divided the solution into three phases

- Phase 1: Details on the testing strategy, implementation + vendor selection
- Phase 2: Timing, Solution info, testing info, team involvement
- Phase 3: Details on the tool, how to create tests, methodology. Test source files

Result & delivery

- In total we delivered 13 file features. 120 Test cases.
- Integrated tests in CI pipelines.
- Client's team involvement. Introduces and practice BDD methodology.
- Shared a hands-on experience and knowledge to client's team in various projects.
- Project expanded to include application performance monitoring (APM) and Observability on more applications.

Success stories

Delivered by: Sorintians

Confidential

A Leading Healthcare Provider in Italy

Monitoring Application Performance

Challenge

- Complete coverage of everything happening on app and infrastructure level.
- Identify optimal size of infrastructure's resources and eliminate waste
- Detect issues with calls to 3rd party services.
- Main activities happen on the core application. Impacts the quality of service and the operation-side of the hospital
- Poor synergy with software vendor.

Result & delivery

- No impacting problems recorded during Going live and now.
- Intelligent monitoring with full stack observability.
- Examples of issues detected are:
  - Error on request http 4xx / 5xx with stacktrace code level
  - User action slowdown related issues.
  - Performance trends. E.g. non optimized queries
  - Libraries/service subject to security vulnerability e.g. (logj4)

Going forward

Carried out regular assessment

Accepting the challenge - Solution and Implementation

In a proposal form. The solution proposed was divided into 4 phases:

Titled as POC, Monitoring CUPS, Customization, Analysis.

- POC includes design for several units operating in the hospital.
- Monitoring CUPS which focused on the implementation of the backend replacement
- Customization user action, dashboard, availability test, session replay…
- Analysis and consultation on slowdowns, application exceptions/errors, slow or overly burdensome queries

Problems with 3rd party services.

Bonus Slide

Related Solutions and Tools by Sorintians

SSL – Shift Security Left

Technology Consulting Service

SSL promotes security as a common responsibility shared by all teams involved in software development. The service follows DevSecOps as a methodology.

inquire

NGMS

Core IT Services

Remotely manages IT infrastructures ensuring the correct functionality, support for vendor and Open Source products. Reducing response times to new problems. Speed, flexibility, method and technical preparation are part of our DNA.

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Going Forward

How we can move forward from here

One hour workshop

Read more on /sorintlab

Alternative approach

BUILDING GREAT
TECHNOLOGY

SORINT lab

IT | ES | UK | DE | US | FR | PL | CMR | RO