

PGP Benchmark and Fingerprint Contents

- Part 1:
 - Motivation
 - What it is
 - Examples
 - Delivery
 - Value proposition
 - Customer benefits
- Part 2:
 - Customer engagement
 - My Control System
 - Diagnose, Implement, Sustain
 - Summary

PGP Benchmark and Fingerprint

Customer needs

- Control systems are robust by design and development and therefore tolerant towards occurring issues
- Non-optimal system settings and conditions often do not cause incidents immediately, but might result in disturbances over time
- Cumulative effects of revisions, additions, and adjustments may degrade system performance
- This may result in unpredictable control system operations or unplanned downtime
- Degradation of system performance may go undetected without continuous diagnosis and analysis
- Therefore tools and services are required, which are capable to benchmark system performance and detect anomalies.
- In addition, the maintenance staff expects a diagnostic service with recommendations to rectify the detected issues and return the system in balanced, optimal operating condition

PGP Benchmark and Fingerprint

Customer motivation

KPI	Motivation
Productivity	Maintain production at expected level
Availability	Early detection, and fast resolution, of system degradation to avoid down-time
Performance	Keep system performance at expected level and enhance system features to increase performance
Quality	Ensure the system contains the latest product updates

PGP Benchmark and Fingerprint

What are Health Checks?



How do I know ...

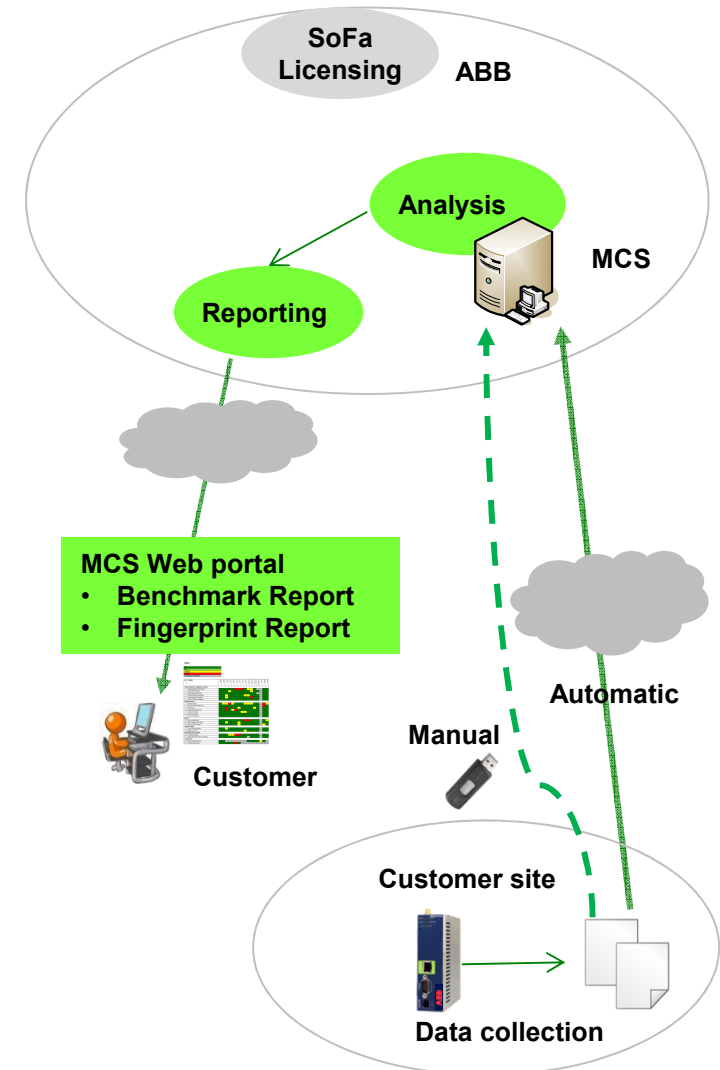
- ... that my control system is running as well as it should?
- ... if there are no underlying issues that might lead to a disruption?
- ... that my control system fulfills defined system benchmarks?

- Control system **Health Checks** are non-invasive services based on state-of-the-art software tools which simplify complex diagnostics and reporting
- Configuration and lifecycle parameters are read from the installed system and compared to requirements and best practices
- **Benchmarks**
 - Show the system status and highlight deviations and potential risks
- **Fingerprints**
 - Provide a comprehensive understanding of the current system availability and reliability and recommend corrective actions as needed

PGP Benchmark and Fingerprint

What it is

- Benchmarks and Fingerprints are services aimed to assess the health and status of a system
- Data Collection:
 - Tool for system data collection, installed on-site
 - The data collection files are transferred to My Control System (MCS) of ABB
- Analysis & Reporting:
 - **Benchmarks**
Show the system status and highlight deviations and potential risks
 - **Fingerprints**
Provide a comprehensive analysis of the current system availability and reliability and recommend corrective actions as needed
- **MCS** provides the **customer web portal** for easy access to system information as well as reports



PGP Benchmark and Fingerprint Features

Features

- Analyzes most relevant system parameters and KPI's
 - Automatic data collection
 - Automatic data analysis
 - Automatic report generation
-
- Analyzes most relevant system parameters and KPI's
 - Provides a comprehensive understanding of the current system performance and reliability and recommends corrective actions as needed

Benchmark Report



Status Overview



Fingerprint Report



Detailed Report with recommendations



Results

- Shows the system status and highlights deviations and potential risks
- Traffic light assessment
 - good
 - ambiguous
 - incorrect
- Detailed description of findings incl. executive summary
- For each finding:
 - Explanation
 - Impact
 - Severity
 - Recommendation
 - Documentation Reference

PGP Benchmark and Fingerprint

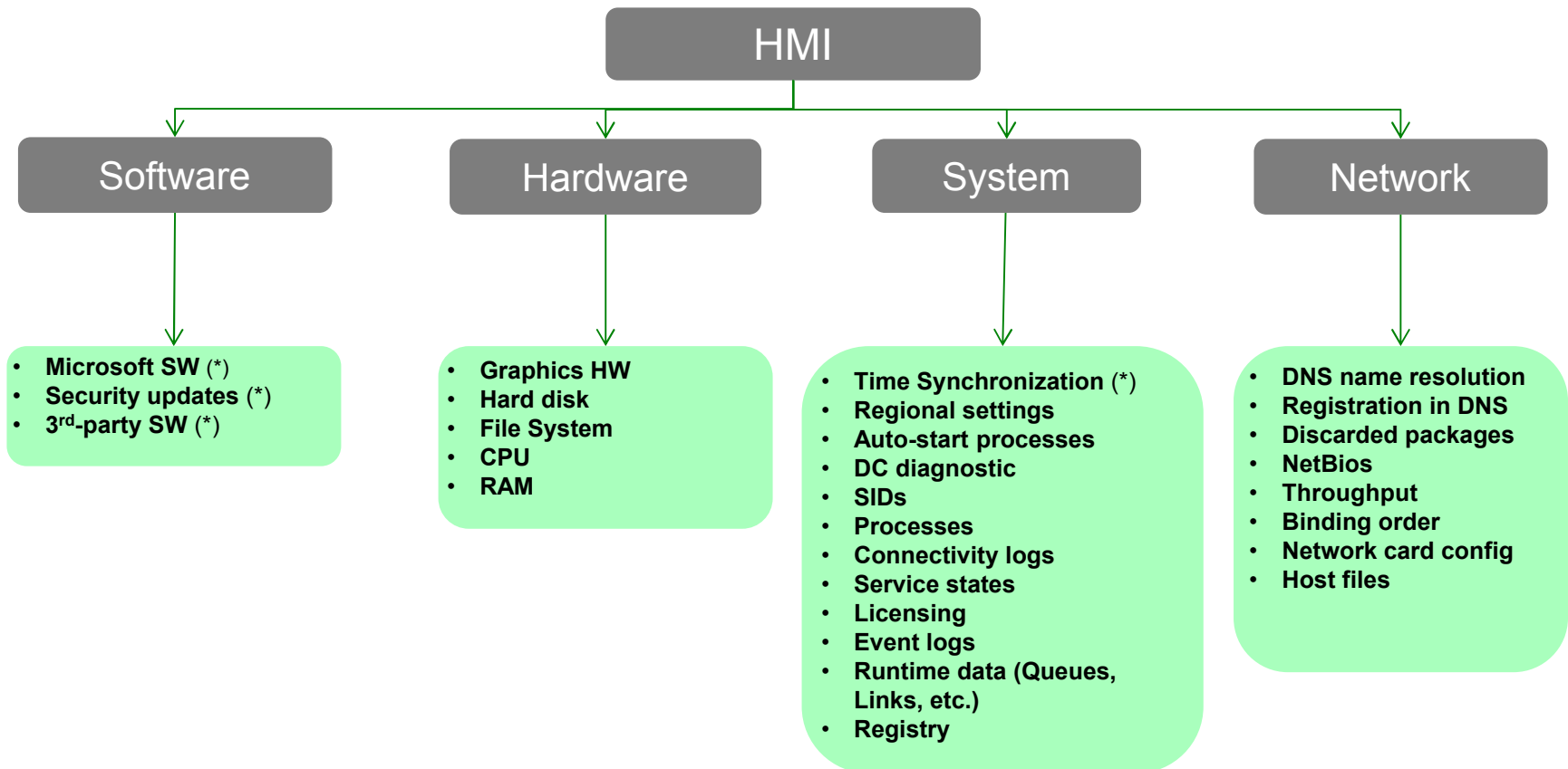
Potential issues at Operations (HMI) level

What we might see through long-term observation:

- System overload causing slow response rate
- Gradual performance degradation, not diagnosed or resolved until issues arise
- Issues arise sporadically which are difficult to diagnose
- Hardware devices glide slowly towards unavailability
- Redundancy problems create single points of failures
- Unavailability of operational features due to gaps in software updates
- Security vulnerabilities due to obsolete software updates

PGP Benchmark and Fingerprint

Monitored parameters at Operations level (HMI)



PGP Benchmark and Fingerprint

Example Benchmark

- Shows the system status and highlights deviations and potential risks
- Traffic light assessment
 - good
 - ambiguous
 - incorrect

18	OpcClient	G	G	G
19	OpcServer	N/A	N/A	N/A
20	TntExplorer	G	G	G
21	DataProc	G	G	G
22	EXTAPP	N/A	N/A	N/A
23	ici	G	G	G

No.	CheckItem	PGP33	SME01	SME02
24	ICIServer	N/A	N/A	N/A
25	OpcNodeServer	Y	Y	Y
26	PGPComOpcServer	N/A	N/A	N/A
27	ApmsSvc	N/A	N/A	N/A
PGP Licensing				
28	Basic Feature	G	R	R
29	Drivers	G	R	R
30	Application	G	R	R
PGP Static Information				
31	TntExplorer Information	N/A	N/A	N/A
32	OPC Client	Y	G	G
33	Scanner Instance	G	Y	Y
34	ICI Status	G	Y	Y
35	Startup System	G	G	G
36	System Running Hours	G	G	G
37	Node Weight	G	G	G
38	PlantUnit	N/A	N/A	N/A
39	Configuration Aligned	G	G	G

Legend:

Checks Passed

Checks passed with Warning(s)

Checks with Failure(s)

Not Applicable

PGP Benchmark and Fingerprint

Example Fingerprint

4 Technical Findings Checklist

Description for the Checklist: Each point in the checklist is controlled at the fingerprint service. The column "Outcome" gives an indication of where we have discovered anything.

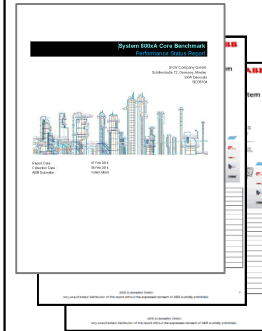
OK = No problems found, but a comment may occur.

Remark = May lead to problems later on.

Problem = Problems that should be corrected.

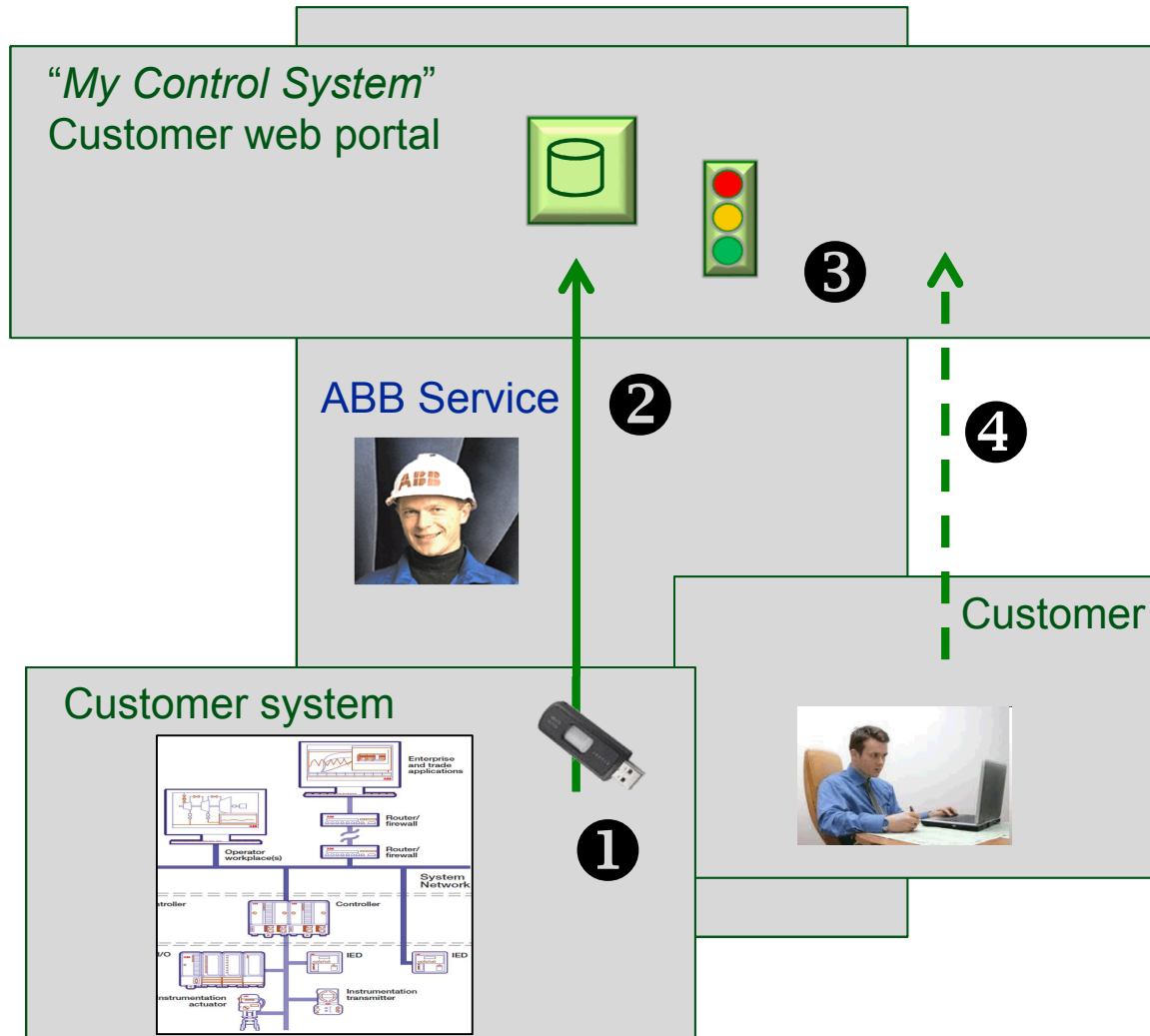
Navigating the Technical Summary: Click the link to the corresponding section you want to see ex [3.1](#) then to go back just click on [\(Checklist\)](#).

	Outcome	Done?	Link to Chapter
Queue Status			
Dip Queue	OK		6.1.1
Scan Queue	OK		6.1.2
Net Queue	OK		6.1.3
OPC Queue	OK		6.1.4
ICI Queue	OK		6.1.5
ALAC Queue	OK		6.1.6
SOE Queue	OK		6.1.7
ODBC Queue	OK		6.1.8
Playback Queue	OK		6.1.9
PTL Queue	OK		6.1.10
Tags			
Digital Tags	Warnings		6.2.1
Analog Tags	Warnings		6.2.2
Correct mapped OPC atoms			6.2.3
PGP Runtime Components			
APMSNetServer	Warnings		6.3.1
APMSNetWorker	OK		6.3.2
IntScanner	OK		6.3.3
ApmsRt	OK		6.3.4
OpcClient	OK		6.3.5
OpcServer			6.3.6
IntExplorer	OK		6.3.7
DataProc	OK		6.3.8
EXTAPP			6.3.9
Ici	OK		6.3.10
ICIServer			6.3.11
OpcNodeServer	Warnings		6.3.12
PGPComOpcServer			6.3.13
ApmsSvc			6.3.14



- Detailed description of findings incl. executive summary
- For each finding:
 - Explanation
 - Impact
 - Severity
 - Recommendation
 - Documentation Reference

PGP Benchmark and Fingerprint Benchmark generation and delivery

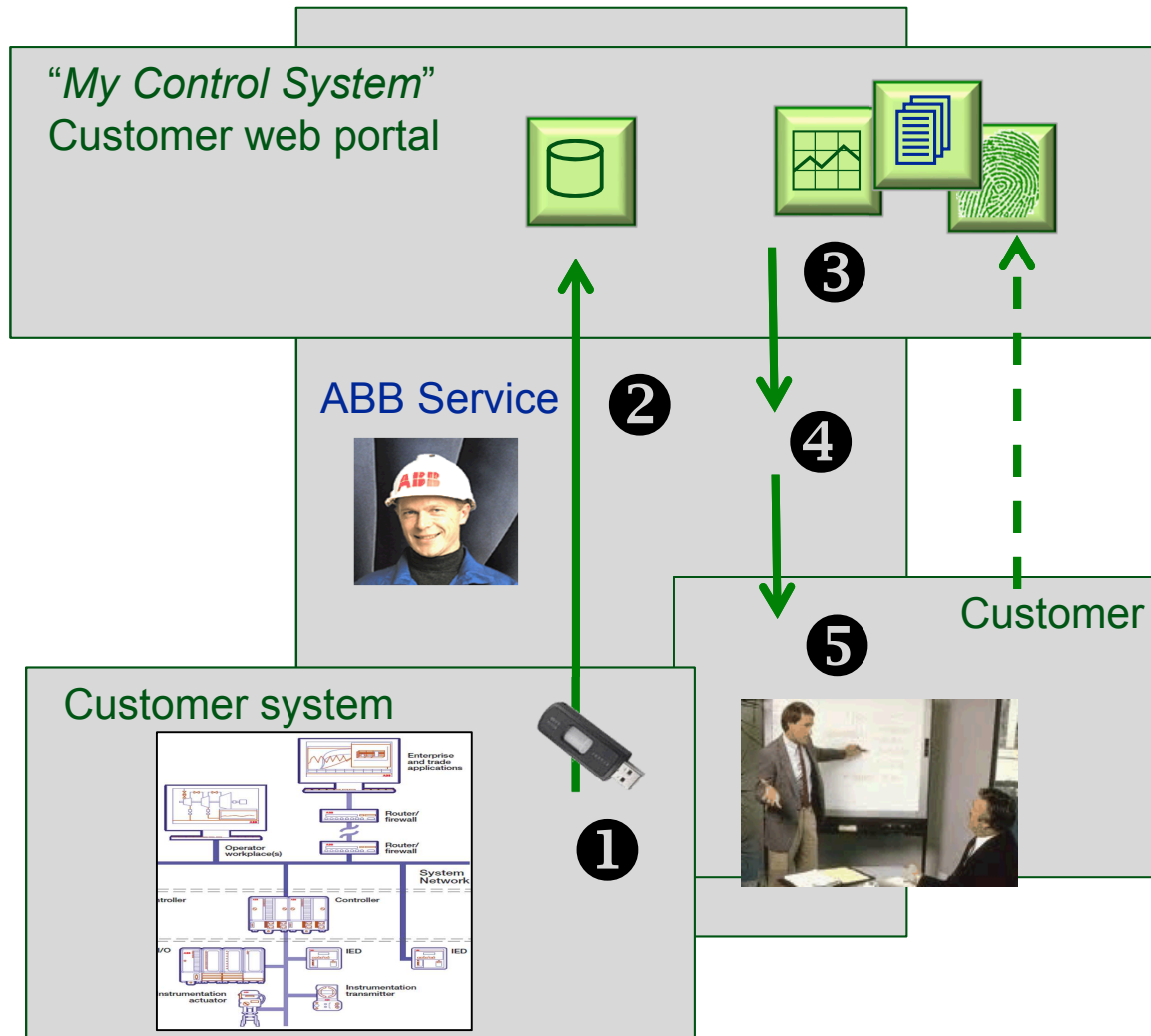


- ❶ Data collection
- ❷ Data upload to MCS
- ❸ Benchmark generation
- ❹ Customer can access the Benchmark Report

MCS: My Control System

PGP Benchmark and Fingerprint

Fingerprint generation and delivery



- ❶ Data collection
- ❷ Data upload to MCS
- ❸ Fingerprint generation
- ❹ Fingerprint customization
- ❺ Introduction to Customer

MCS: My Control System

PGP Benchmark and Fingerprint Summary

Value proposition	Customer benefits
<ul style="list-style-type: none">• Identify root cause and corrective actions before and after detection of system issues• Use Benchmarks for frequent, low effort system verification• As one-time service, e.g. before system delivery by ABB or system integrator• <i>My Control System</i> as customer web portal	<ul style="list-style-type: none">• Detection of hidden system degradation before problems occur• Adopt a proactive maintenance strategy• Extend the life of the control system• Take advantage of new technology• Customer web portal for customized access to their system data and reports• Use Health Checks to prepare an Evolution plan

Can we handle this through a single web portal, having easy access to our control system assets and all related services?

Yes!

My Control System

Customer engagement

PGP Benchmark and Fingerprint My Control System – access point for all customers

- Contact persons and addresses
- Safety Reports and Product Alerts
- Cyber Security info
- Available trainings
- The subscriptions and SW licenses of the control system in terms of:
 - Scope of licenses
 - Expiry dates
 - License keys


HOME | OFFERINGS | MEDIA | CAREERS | INVESTORS | ABOUT | CONVERSATIONS | MY ABB

Power and productivity for a better world™ **ABB**

Site Actions Browse Page

Home Reports

System details >



System Details
SID31352, Stora systemet - MCS Demo, MCS SE
General information, service and support deliverables regarding the selected control system.

Automation Sentinel [Request quotation](#)

Status: Active
Level: Maintain Plus
Valid to: 2014-03-31
Commitment end: -

[System reports](#) [Product documents](#) [Software downloads](#)
[Web Coach](#) [System service files](#) [Cyber security premium](#)

[Web Tech Talks](#)
Valid to: 2013-09-07

General availability

[Safety Reports and Product Alerts](#) [Available trainings](#)

Licenses

License	Product	License class	Hardware id
[+/-] SL106164806014032	800xA 5.1 System	1	5.1
[+/-] SL348154004021042	System 800xA Core Fingerprint Report	1	1.0
[+/-] SL284362904075092	Web Tech Talks	1	1.0

ABB Local Service Contact

Bo Söderberg
ABB AB
Tvåvågen 2
721 59 Västerås Västmanland
Sweden

+4621342218
bo.c.soderberg@se.abb.com
[Request change](#)

Call center info
[Link](#)

Control System Administrator

Anna Karlsson
MCS SE
Nya Gatan 1
98765 Stora Staden
Sweden

+46 321 456789
ec.adm.se@gmail.com
[Request change](#)

Maintenance Engineers

[+/-] Per Svensson

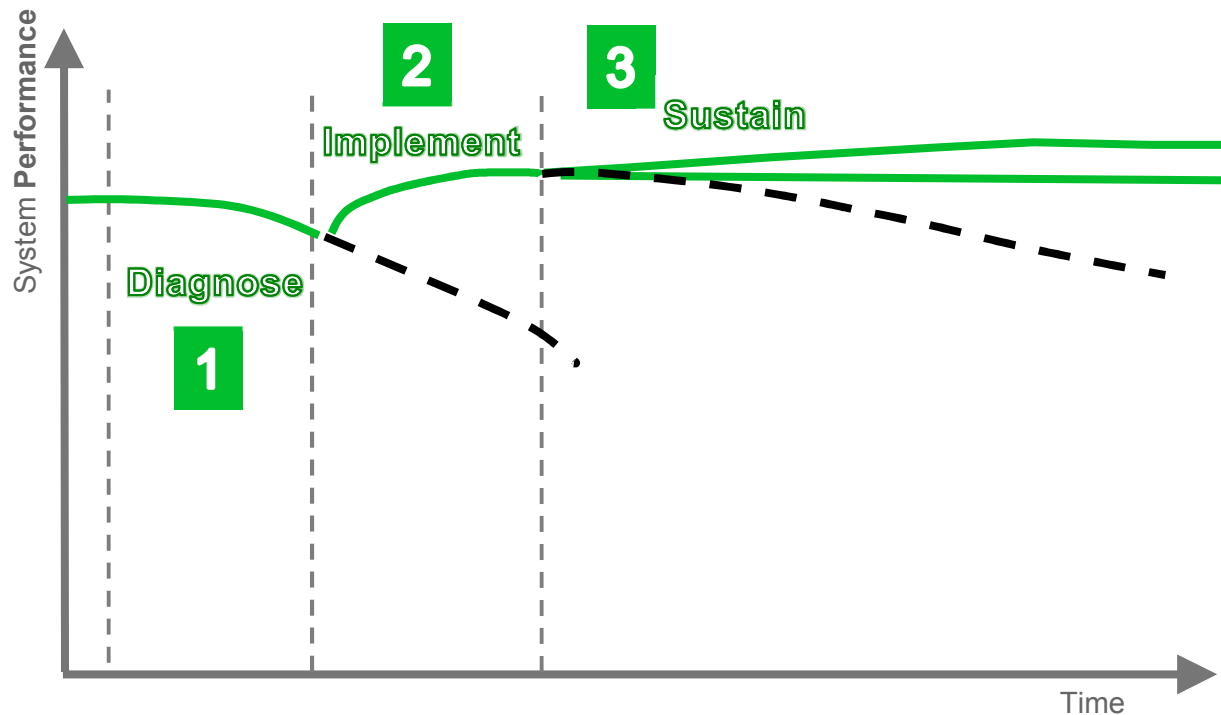
PGP Benchmark and Fingerprint My Control System – for lifecycle program subscribers

- Benchmark reports
- Direct access to
 - SW updates
 - Specific technical information
 - User documentation
 - Cyber Security premium
- File sharing
- Web Tech Talk
- Fingerprint reports

[illegible]

PGP Benchmark and Fingerprint

Customer engagement process



A three-step process:

1. Diagnose:

- Identify existing system reliability issues

2. Implement:

- Deliver identified improvement services

3. Sustain:

- Manage and continue the improvement process through service renewals

Customer engagement through a business-oriented partnership

PGP Benchmark and Fingerprint

Diagnose, Implement, Sustain (based on Fingerprints)

Diagnose (Fingerprints)

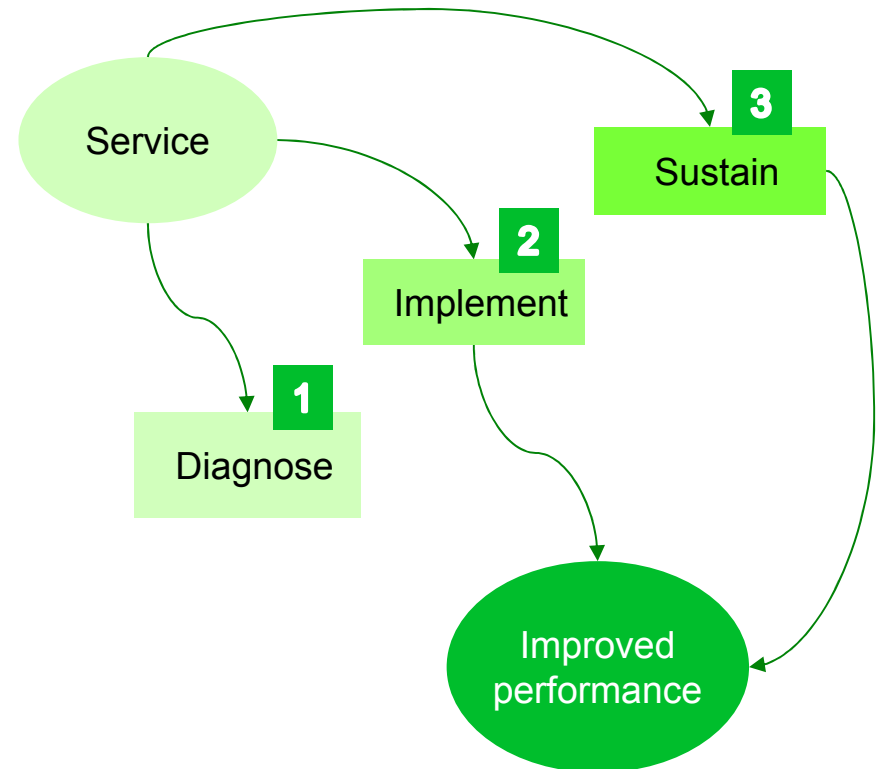
- Measure performance gap
- Estimate ROI
- Define implementation plan

Implement

- Fix performance gap
- Monitor implementation plan

Sustain

- Define condition triggers
- Schedule maintenance
- Manage performance gap



Sustainable results through renewal of service subscriptions

PGP Benchmark and Fingerprint

Key take-away points

1

PGP Benchmark and Fingerprint support customers in moving to a **proactive maintenance** strategy, which reduces down-time, keeps system performance high, and extends system life

2

Health Checks are services on an annual subscription base. They add value to existing service contracts and are embedded in broader service agreements (ServiceGrid, Sentinel)

3

Through the web portal “**My Control System**”, both the customer and ABB have an efficient overview of the control systems **assets** and their **related services**

Power and productivity
for a better world™

