

Loop Performance Fingerprint

Identify opportunities for process performance improvement

Loop performance benchmarking establishes current process and control performance levels and provides a basis for evaluating and identifying improvement opportunities. The resulting implementation plan provides improvement recommendations and associated estimated ROI.

Typical savings potential: \$90,000 – \$220,000

Benefits

- Executive report facilitates management decision process by focusing on high impact opportunities for improvement
- Improvement plan provides clear path to quickly close performance gaps
- Provides a solid foundation for continuous improvement based on data analysis methodology

Features

- Access to ABB optimization experts
- Process performance benchmarking
- Detailed ROI-oriented improvement plan

The Loop Performance Fingerprint diagnostic service compares existing controls to industry standards, as well as actual operating data to expected capability. It provides a platform independent, noninvasive service that can be applied to any automated process.

Loop Performance Indicators

The Loop Performance Fingerprint provides comprehensive data mining techniques that are based on ABB's proven loop performance indicators, ABB's standard service methodology, and the experience and training of our people. The results measure performance and provide insight into improvement potential. These include:

- Control Loop and process assessments
- Root cause or interaction analysis
- Controller setup and tuning cluster measures

The Fingerprint uses a bottom-up approach to performance improvement. Data is collected to verify that basic instrumentation is working as needed, for optimized operation and control.



Process Evaluation

Each performance index is a function of specifically designed ABB indicators. The resulting indices are used to evaluate performance levels as well as provide the following insights:

- Ensure solutions are applied to process disturbance rather than band aids added to process symptoms
- Distinguish between tuning problems and physical hardware issues such as stuck or broken actuators
- Quantify signal conditioning setup problems as opposed to actual instrumentation shortcomings

Implementation Plan

The improvement plan provides recommendations for resolving identified performance bottlenecks and the steps required to move towards optimal performance. In addition, the associated financial return for each step is provided.

Based upon the findings, recommendations may include valve replacement, correcting the sources cyclic process problems, cleaning up signal conditioning problems, optimizing or adding control logic, recommend tuning techniques, updating standard operating procedures, or re-tuning controls for optimal performance.

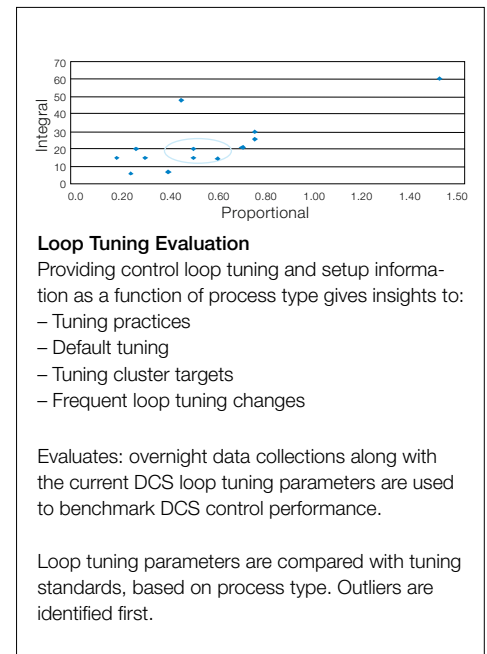
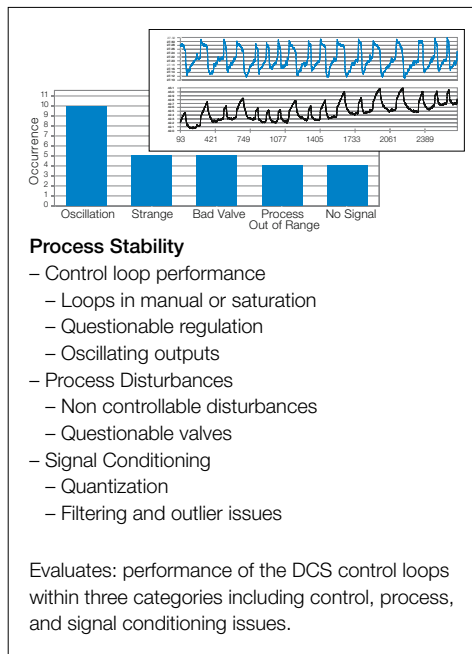
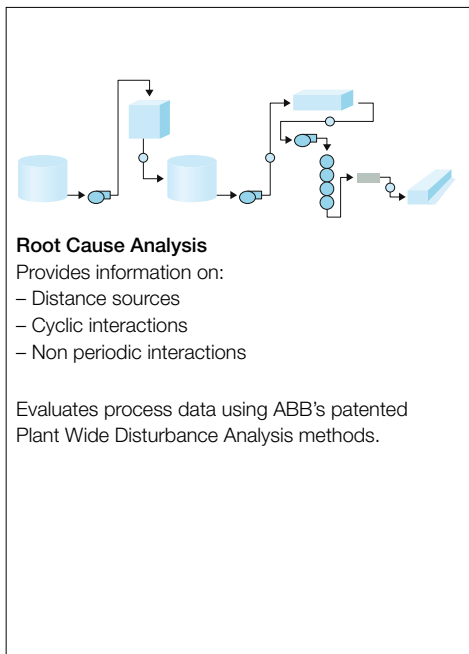


Figure 1 | Process Performance Indicators

Delivery Schedule

Communication between ABB and the plant precedes scheduled daily activities to insure the agenda is clearly communicated and coordinates with ongoing plant activities. A daily activity list produced at the end of each day of the Fingerprint diagnostic, includes items completed during the day, summary of findings, and a plan for the following day.

Reporting

At the end of the evaluation period, findings are presented to select members or groups of the site.

An Executive Report and Technical Report are provided to disclose the findings and recommendations of the process performance diagnosis.

- **Technical Report** provides supporting data collected during the process diagnosis, trends and calculations.
- **Executive Report** provides benchmark results, summary of findings, financial impact of recommendations and an actionable improvement plan, based on the process diagnostic steps.

The Loop Performance Fingerprint is the first step in achieving and sustaining higher performance levels. Annual Fingerprint, implementation, and regular loop performance checks with ABB's sustaining service, LoopSCAN, are recommended as part of your service contract agreement to achieve and continue the improvement process. These can be scheduled within a single- or multi-year service contract agreement.

Delivery Schedule

Day 1

- Project introduction meeting
- Setup data collection software and hardware
- Begin collecting DCS data for Process Stability analysis
- Define influencing ROI factors

Day 2

- Check data and update collection
- Define process areas and loop criticality

Day 3

- Complete process data collections
- Conduct operator interviews

Day 4-5

- Finalize DCS data collection and extract DCS PID loop tuning parameters
- Prepare initial Summary of Findings and perform exit presentation

Day 6-8 (off site)

- Complete final data analysis and generate Executive and Technical reports

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