CMX
Take more Control over your C/C++ Services

Felix Ehm @ IT Lighting Talks
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www.cern.ch/cmx
Background

• Accelerator Controls System: C, C++ & Java services
• Constant monitoring is essential: (pre-) failure detection
• Introspection of running process is very useful
  • Java = Java Management Extension (JMX)

Can I have the same for C/C++ services
Unsuitable existing solutions ...

- SNMP
- syslog
- Embedded HTTP
- Embedded JMX (JVM + JNI)

Too complicated, dependency hell, heavy, not scalable
CMX

• C & C++ Library
• Simple API to expose numeric and character information
• Low memory footprint
• No external dependencies
• Non-blocking operations
• No additional background tasks

Goal:
Simplify Monitoring, Debugging and Diagnostic of C / C++ Processes

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Instrument

1

CMX API

cmx_process_register();

double value = 10f;
...

cmx_metric_set(comp, "clients", value);

C / C++ Process

Agent

Explore

2

Integrate

3

clients requests build time version ...

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Example: The MX Viewer – Read metrics remotely

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Don’t give up on monitoring C/C++ programs. CMX helps us – it may do for you!

Available as open source project on http://cern.ch/cmx