



ASAM User Days 2006

Introduction to ASAM GDI

Haus Lämmerbuckel, Wiesensteig, September 12, 2006



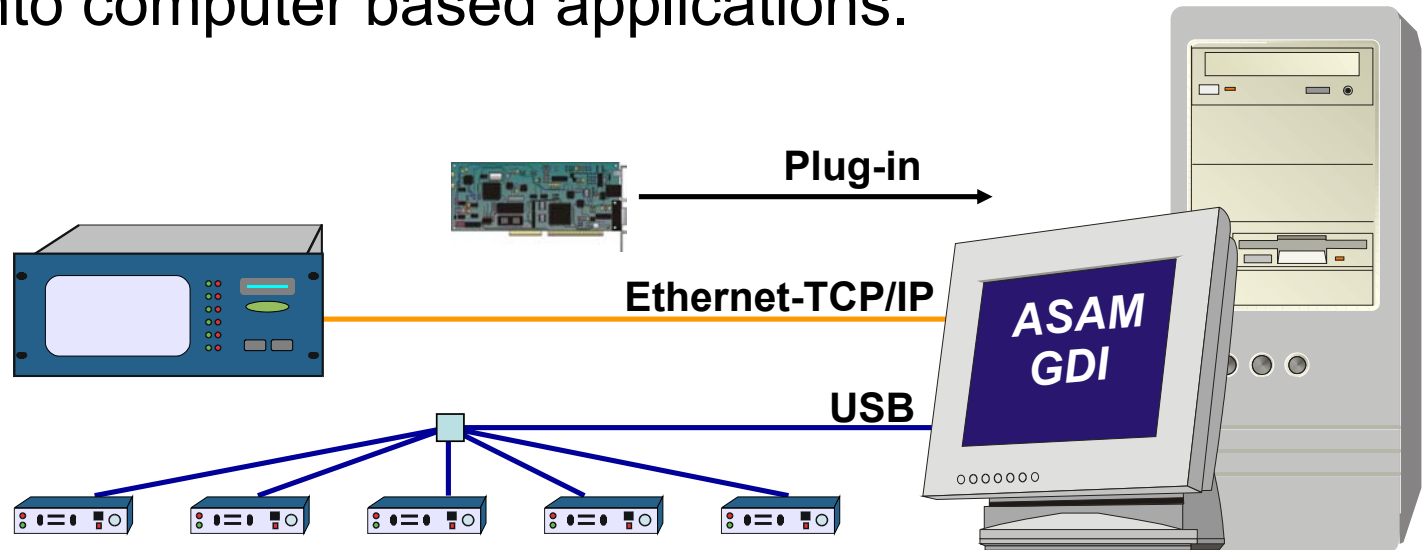
Author: Dr.-Ing. Robert Patzke

- Managing Director of MFP GmbH, Wunstorf
- Speaker of ASAM GDI Steering Committee
- Convenor of ISO/TC184/SC5/WG6
ASAM GDI into ISO 20242

Generic Device Interface

Facilitate the **integration**

of automation and measurement devices
and other peripheral components for this purpose
into computer based applications.



Main Goal of GDI

(ISO 20242 Introduction)

Provide users with

- independence from the computer operating system
- independence from the device connection technology (device interface/network)
- independence from device suppliers
- the ability to certify device drivers with connected devices and their behaviour in the context of a given computer platform
- independence from the technological device development in the future

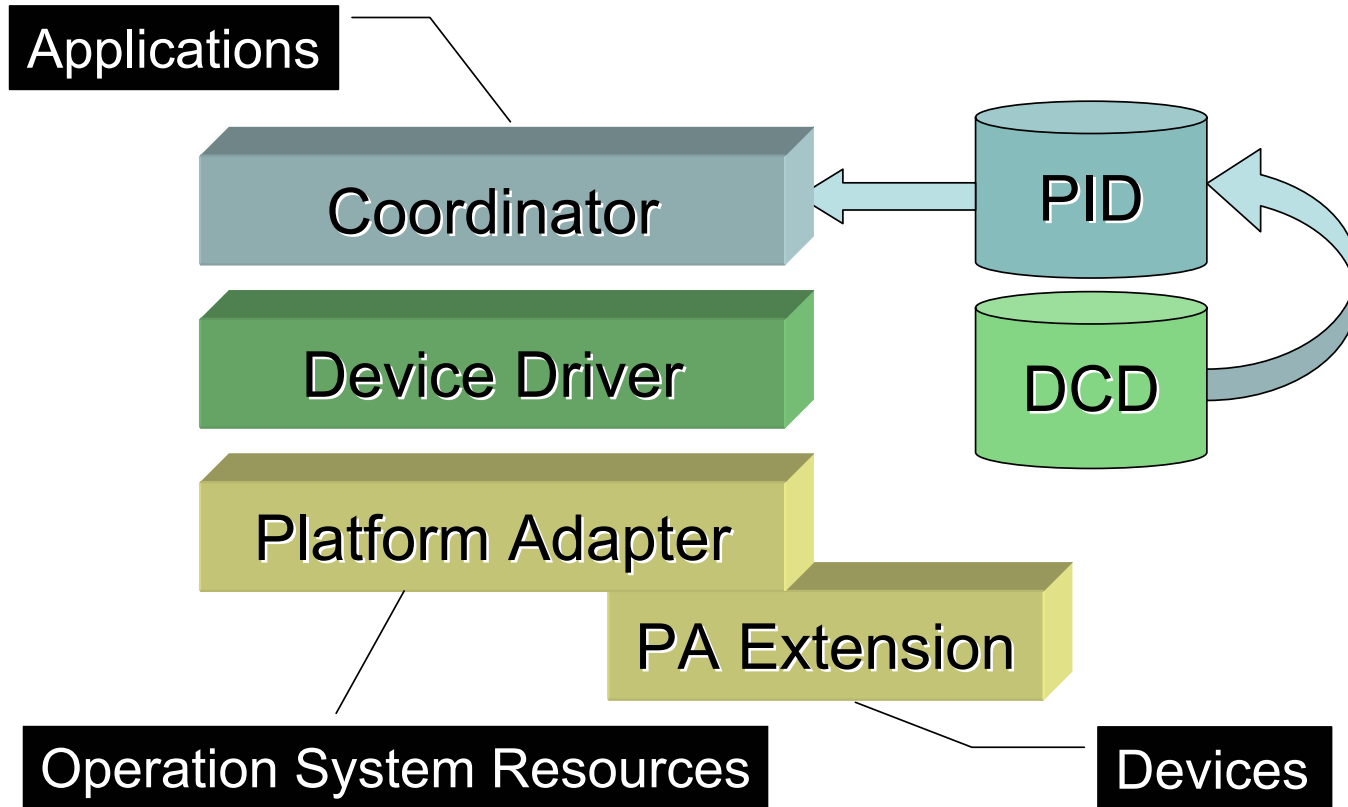
Claims of GDI

(ISO 20242 Introduction)

GDI will not involve the development of new device families or the use of special interface technologies (networks).

GDI encapsulates a device and its communication interface to make it compatible with other devices of that kind for a given application.

Components of GDI



Platform Adapter and PA Extensions

Platform Adapter

- prepared for a specific operating system
- provided by OS specialists
- staple article

Platform Adapters dynamically load PA Extensions by request of Device Drivers

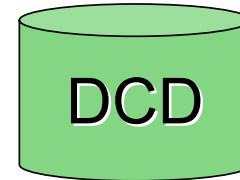
PA Extension

- prepared for a specific operating system and a specific peripheral interface
- provided by communication specialists
- staple article e.g. for USB, CAN, Ethernet-TCP/IP

Device Driver and Device Capability Description



- prepared for a specific kind of device (multiple)
- provided by device supplier
- staple article if supplier applies GDI principally



- prepared for a specific kind of device or a companion standard
- provided by device supplier or public available on ASAM server

Coordinator and Parameter Instance Description



Coordinator

- prepared for a specific operating system and application environment (JAVA, C++, CORBA,...)
- provided by system supplier
- staple article



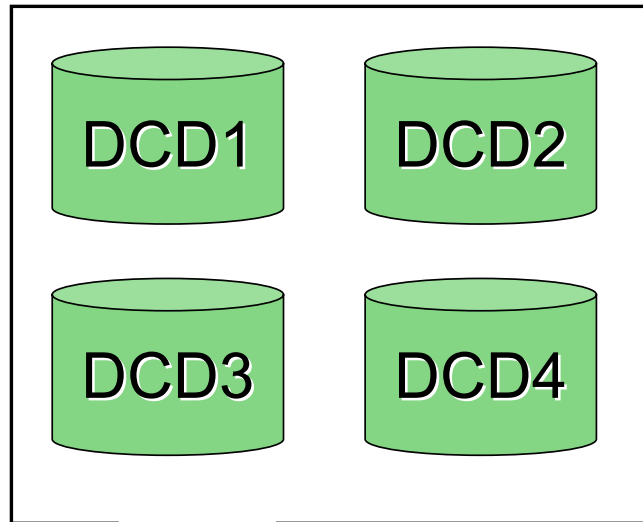
PID

- prepared for a specific application
- provided by user or application supplier (configurator output)
- contains configuration data for actual application

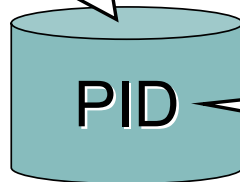
Universal Configurators may be used for PIDs of any Application

Application Scenario for GDI

1. Configuration



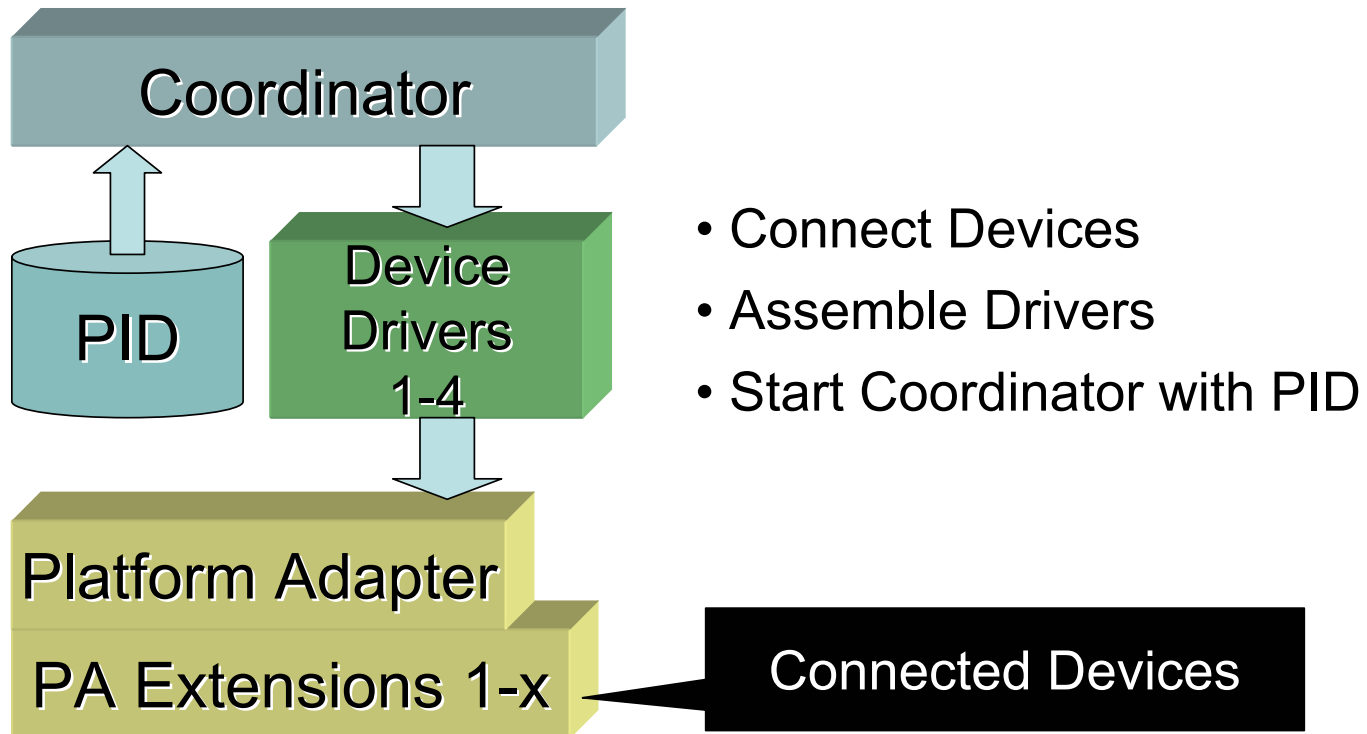
- Select DCDs
- Define Application Parameters
- Use a Tool for creating PID (text editor possible) containing DCDs plus Application Parameters



Application Parameters
scanning frequency, filters, triggers, conditions,
number of channels, identifications, sensors, etc.

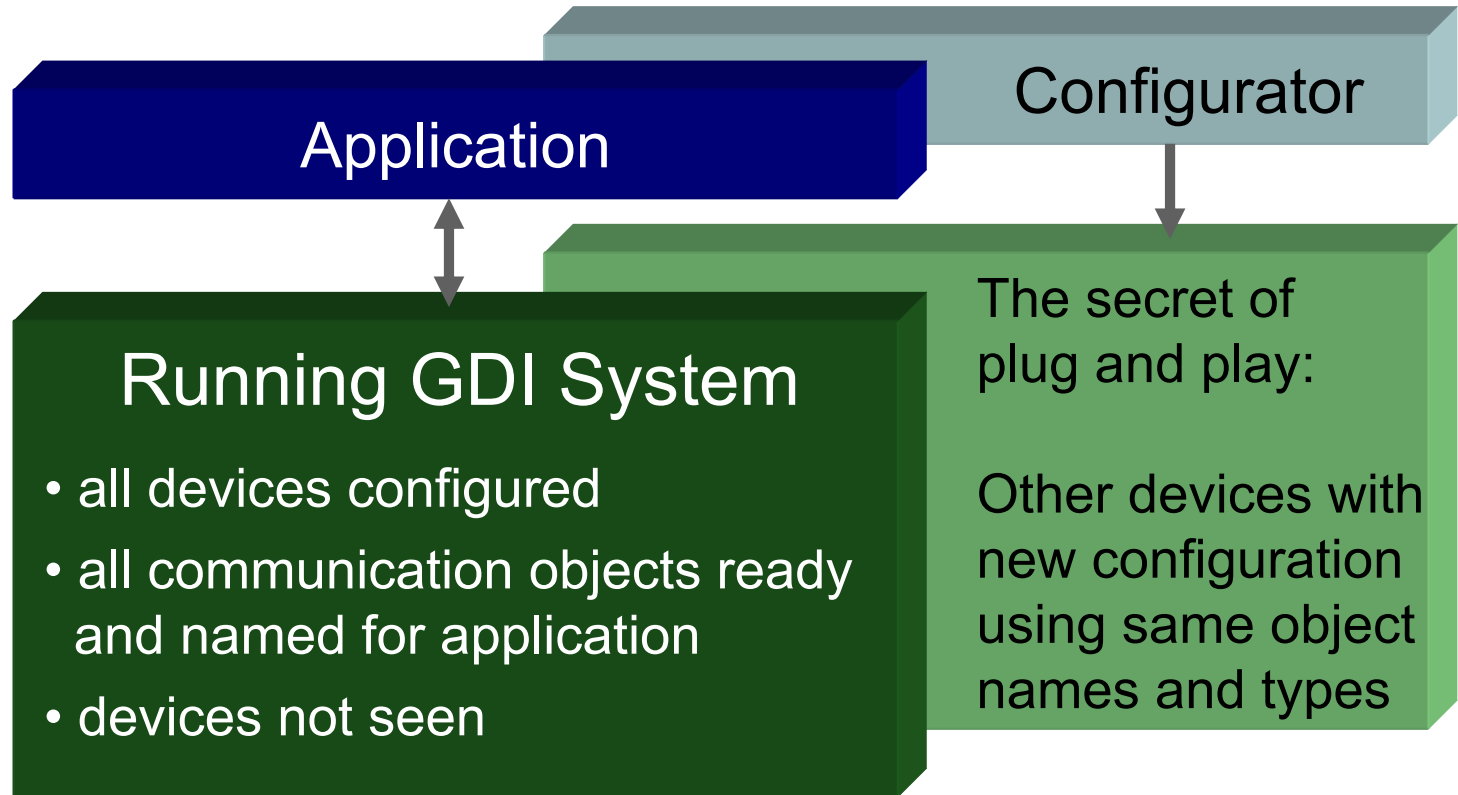
Application Scenario for GDI

2. Booting the System

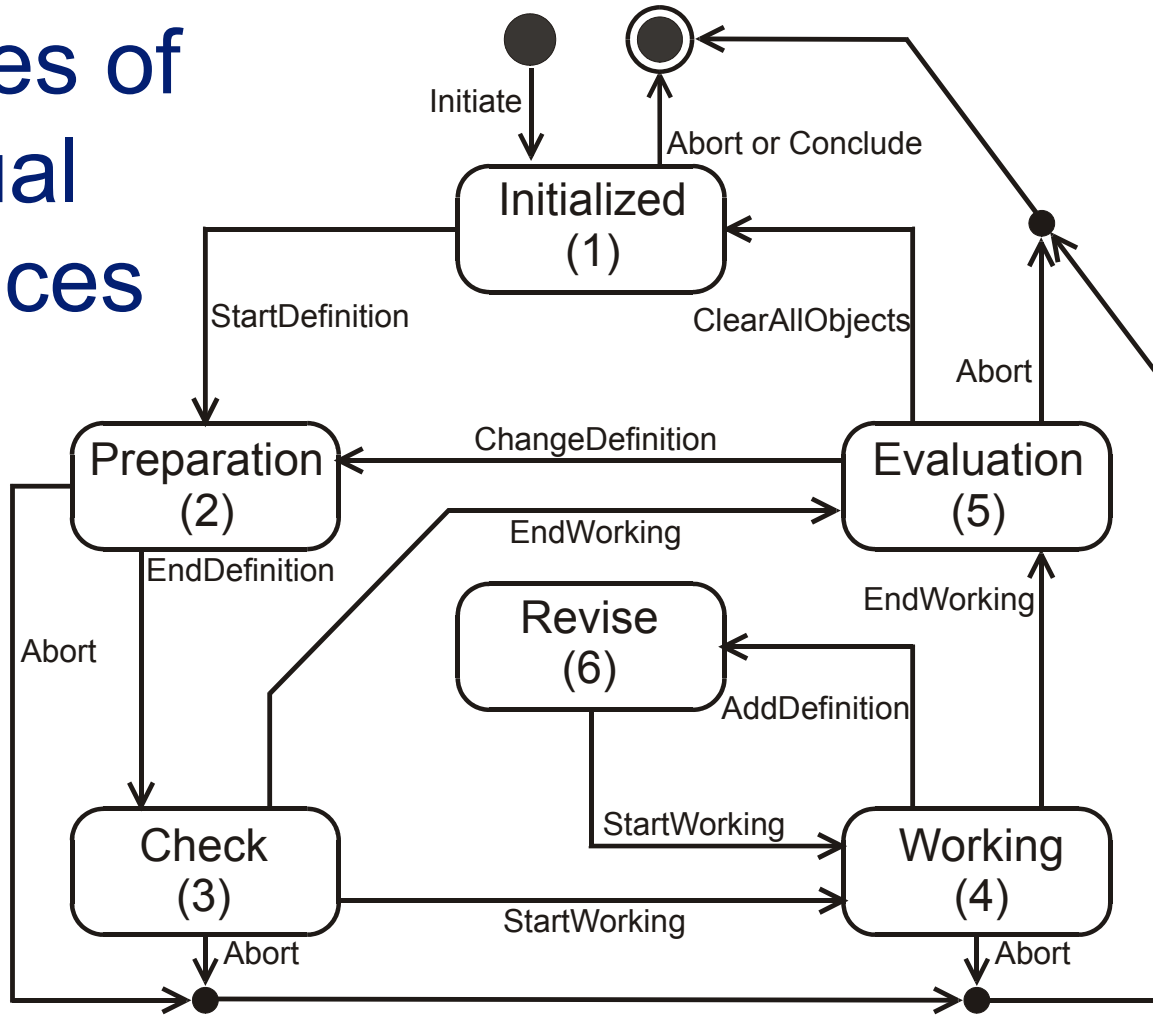


Application Scenario for GDI

3. Using the System



States of Virtual Devices



GDI in ISO 20242 parts 1 - 6

