PWG Job Monitoring Project
OS/2 Warp Assessment

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Agenda

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- ✓ Explain the relationship of the Intelligent Device Architecture in OS/2 Warp to the Job Monitoring MIB.
- ✓ Present the OS/2 Warp Team's assessment of the Job Monitoring MIB.
- ✓ Discuss suggestions for the Job Monitoring MIB.

OS/2 Warp
Intelligent Device Architecture

Overview

- Companies plug in support for their intelligent devices through a well-defined framework:
  - "Protocol Converter" to support device protocols
  - "Port Driver" to support bi-directional device communications

- The "Intelligent Device Framework" supports job submission, job management, job monitoring, device management and device monitoring of intelligent devices.

- Today, OS/2 Warp supports intelligent devices connected to IEEE 1284 parallel ports, infrared (IrDA) ports and the network (802.2 and TCP/IP).

- Companies can support protocols, **including standards-based protocols**, for their intelligent devices connected to a parallel port, an infrared port or the network. The "Framework" is designed to support new types of device connections in the future.

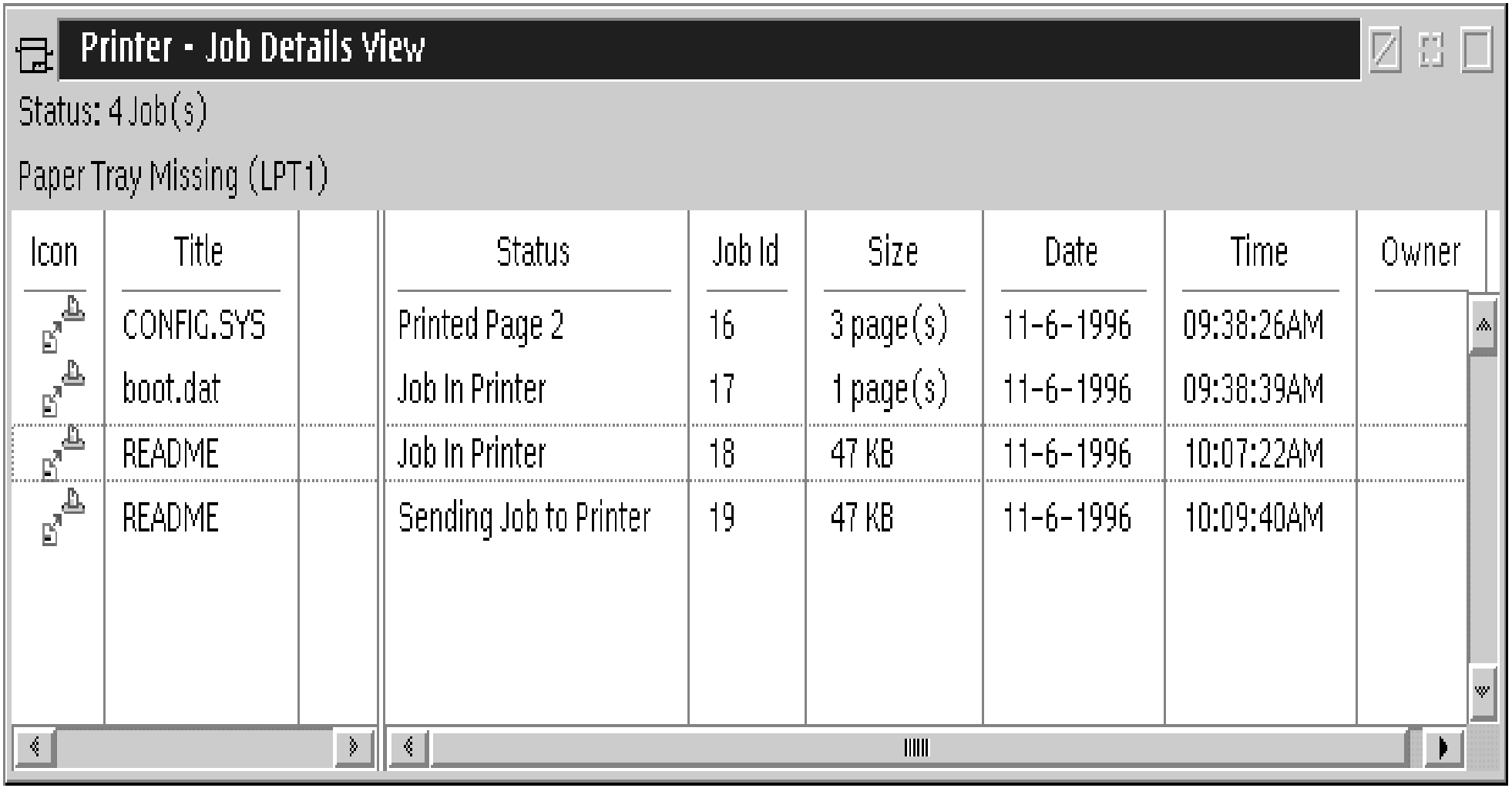
Overview (continued)

- ✓ 32-bit framework APIs allow applications to query (PrtQuery) and set (PrtSet) information on intelligent devices.
- ✓ 32-bit framework APIs allow applications to register (SplRegister) and unregister (SplUnregsiter) for alerts from intelligent devices.
- ✓ Companies provide an application, called a "Remote Control Panel", that uses the 32-bit framework APIs to query and manage their intelligent devices.
- ✓ 32-bit framework APIs (PrtXXX) allow printer drivers to query an intelligent device for its capabilities and configuration, to format print jobs accordingly and to submit the print jobs to the device.

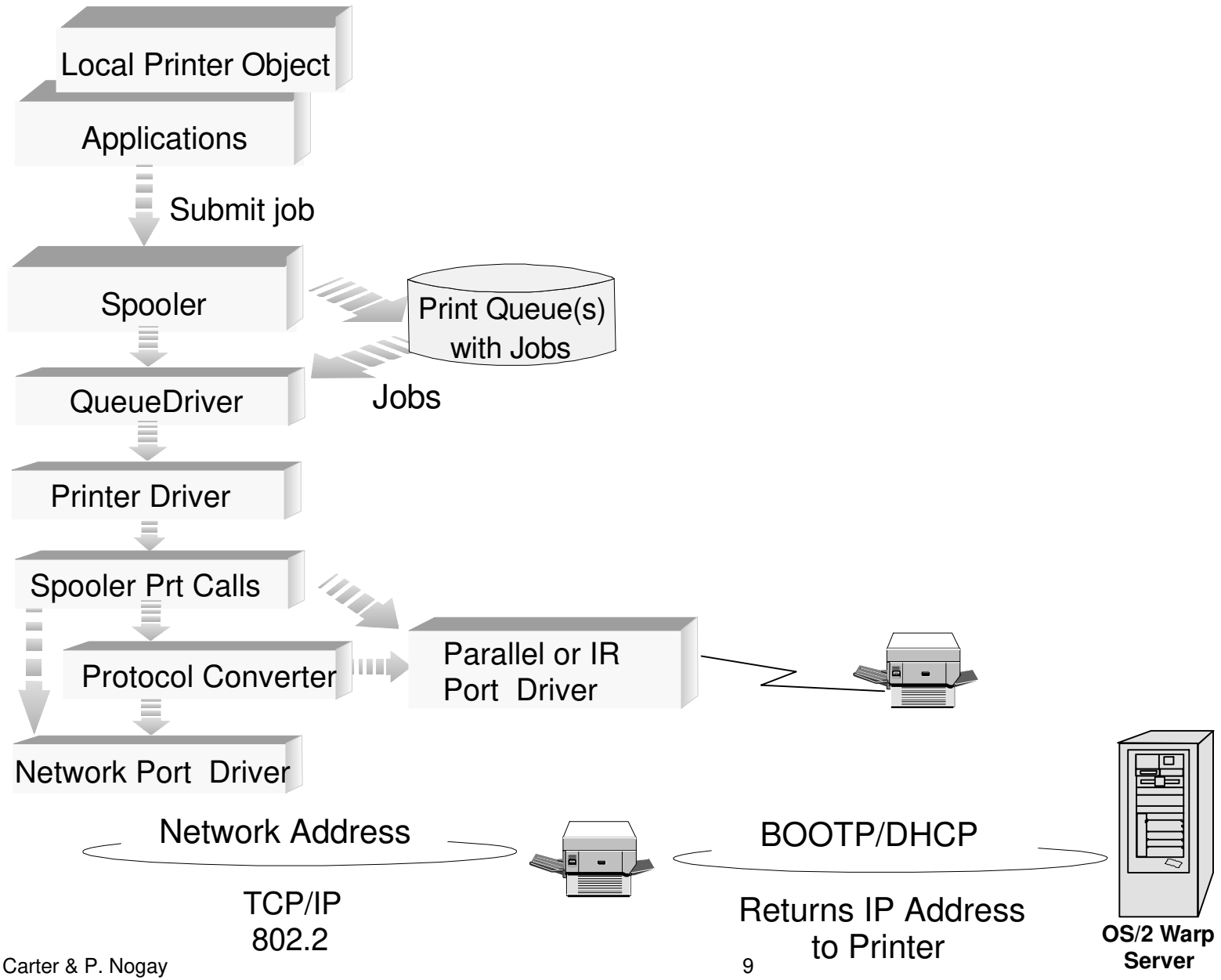
Overview (continued)

- Support for intelligent devices is **integrated** into the OS/2 Warp Print Subsystem through the Printer, Job, Port Driver and Printer Driver objects.
  - Users can open a Printer icon and see the status of their jobs submitted to that printer throughout the printing process.
- Support for intelligent devices is **integrated** into OS/2 LAN Server which remotely executes the 32-bit APIs invoked from the client on a server with the intelligent device.
- This means "Remote Control Panels", Printer objects and other applications can query and manage an intelligent device (and its jobs) when the device is connected to the local system or to an OS/2 LAN Server print server on another machine.

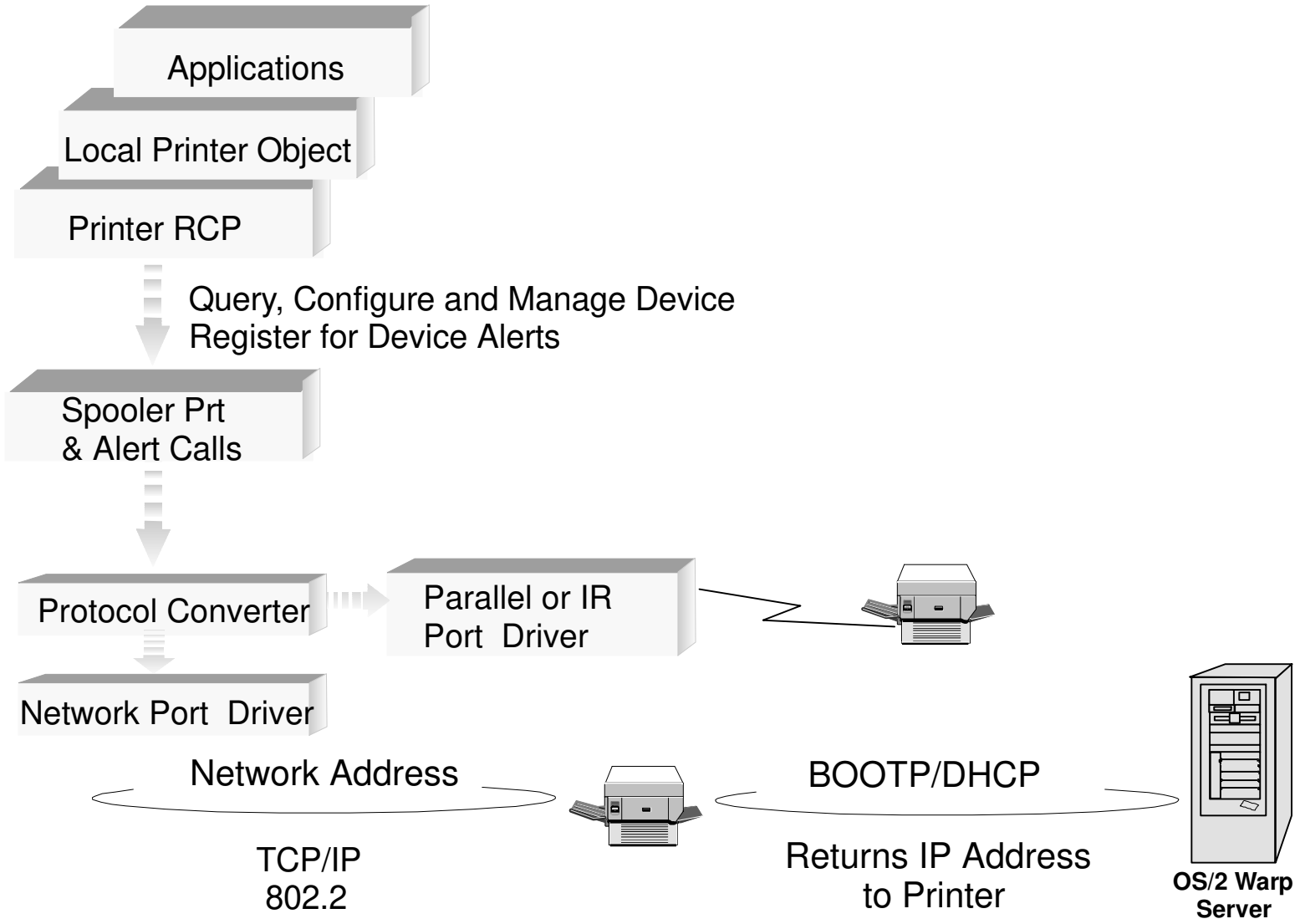
Overview (continued)



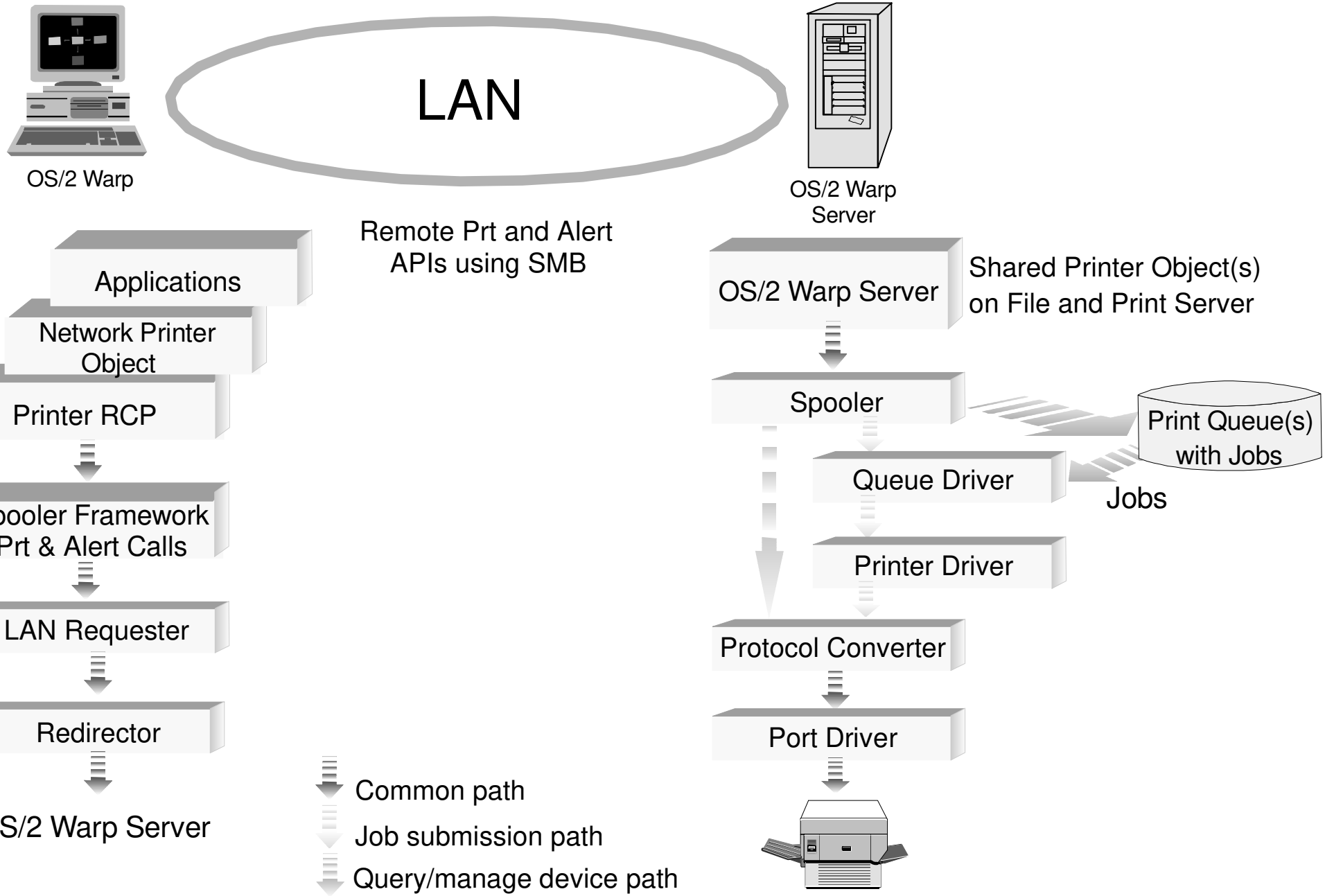
Job Submission Architecture



Device Management Architecture



LAN Architecture



Assessment

Assessment

- ✓ This assessment is based on the "Proposed Specification of Information Objects/Attributes for the Job Monitoring MIB/MIF", Version 0.3 dated October 31, 1996.
- ✓ The Job Monitoring MIB is a very good mechanism to provide customers with information on jobs throughout the printing process.
- ✓ The "Intelligent Device Framework" in OS/2 Warp supports many of the attributes in the Job Monitoring MIB.
- ✓ The OS/2 Warp Team has suggestions to make the Job Monitoring MIB more applicable to NOS that support protocols other than ISO DPA 10175.

Suggestions

Suggestions on Job Identification

- ✓ **Specify 1 Document per Job (M)**
- ✓ **Specify Multiple Documents per Job (CM)**
- ✓ **T(255)->Integer32**
  - jmJobClientId
- ✓ **A(255)->Integer32**
  - jmJobCurrentId -> jmJobLocalId for clarity?
  - jmJobUpstreamId
  - jmJobDownStreamId
  - Clarify the use of these job id's
- ✓ **Specify jmJobSourceChannel/ChannelInfo are only mandatory for devices**
- ✓ jmJobDeviceNameRequested (**M->CM**)

Suggestions on Job Parameters

- ✓ **Add jmJobPosition Integer32 (CM)**
- ✓ **Add jmJobNotify A(255) (CM)**

Suggestions on Job Status & Accounting

- ✓ **Clarify M/CM for jmJobCurrentState:**
  - unknown (**M**)
  - pre-processing (**M**)
  - held (**M**)
  - pending (**M**)
  - processing (**M**)
  - paused (**M**)
  - interrupted (**CM**)
  - terminating (**M**)
  - retained (**CM**)
  - completed (**M**)

Suggestions on Job Status & Accounting

- ✓ **Clarify M/CM for jmJobStateReasons:**
  - documents-needed (**CM**)
  - job-hold-set (**M**)
  - job-print-after-specified (**CM**)
  - required-resources-not-ready (**M**)
  - successful completion (**M**)
  - completed-with-warnings (**CM**)
  - completed-with-errors (**CM**)
  - cancelled-by-user (**M**)
  - cancelled-by-operator (**CM**)
  - aborted-by-system (**CM**)
  - logfile-pending (**CM**)
  - logfile-transferring (**CM**)
- ✓ **Explain how jmJobStateReasonMessage sends messages in the language of the client.**

Suggestions on Job Status & Accounting

- ✓ **Clarify M/CM for jmDeviceStateOfDevicesAssigned:**
  - unknown **(M**)
  - idle (**M**)
  - processing (**M**)
  - needs-attention (**M**)
  - shutdown (**CM**)
  - job-start-wait (**CM**)
  - job-end-wait (**CM**)
  - job-password-wait (**CM**)
  - connecting-to-a-device (**CM**)
  - timed-out (**CM**)
- ✓ **Add jmJobTotalPagesSpooled Counter32 (CM)**
- ✓ **Add jmJobTotalPagesSent Counter32 (CM)**
- ✓ **Add jmJobTotalPagesPrinted Counter32 (CM)**

Suggestions on Job Status & Accounting

- ✓ jmJobAccountName (**M->CM**)
- ✓ jmResourceName (**M->CM**)
- ✓ jmResourceUnits (**M->CM**)
- ✓ jmResourceAmount (**M->CM**)