

Program Command Routing Services

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Program Command Routing Services (PCRS)

- Enables a TPF program to generate TPF operator commands
 - ▶ Commands are sent to the System Message Processor (SMP) package to be processed.
- Output of the command is sent to a different specified TPF program.
- New APIs:
 - ▶ *tpf_pcrs()* function for C/C++ programs
 - ▶ PCRSC macro for assembler programs.



PCRS Functions

■ REGISTER

- ▶ Registers an LNIATA and the TPF program associated with that LNIATA
- ▶ All output destined for this LNIATA will be routed to the specified TPF program.

■ UNREGISTER

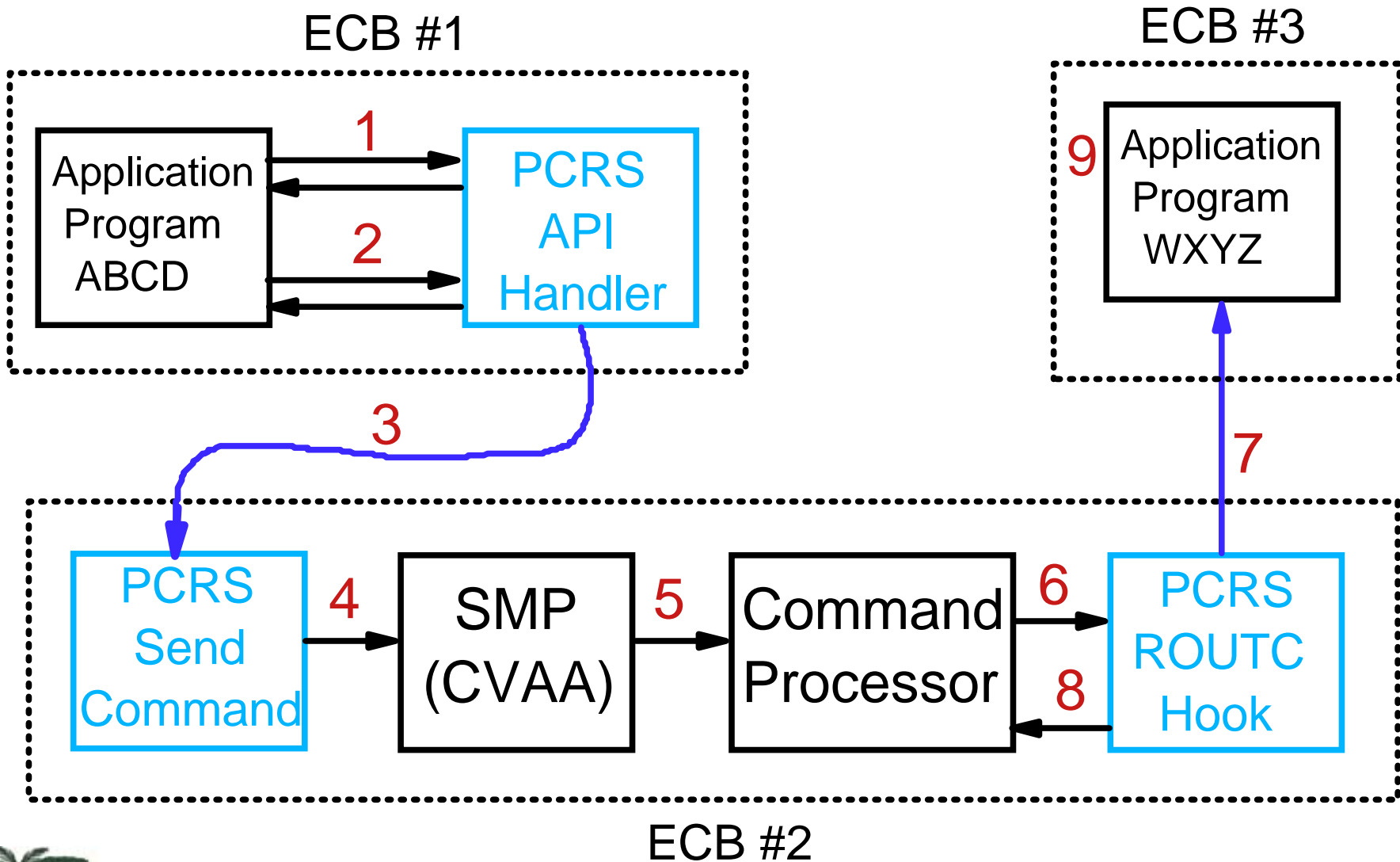
- ▶ Output for the specified LNIATA is no longer intercepted by PCRS.

■ ROUTE MESSAGE

- ▶ Sends the specified operator command to the SMP
- ▶ Origin of the command is the specified LNIATA.



Sample Processing



Sequence of Events

1. Application program ABCD issues the *tpf_pcrs()* function to register LNIATA 101502 with PCRS indicating that output destined for that LNIATA should be routed to program WXYZ.
 - WGTA entry for LNIATA 101502 is marked as registered with PCRS.
 - Program name WXYZ is also saved in the WGTA entry.
2. Program ABCD issues another *tpf_pcrs()* function to send a ZDSYS command to PCRS.
 - LNIATA 101502 is also specified on the function call.



Sequence of Events (continued)

3. PCRS API Handler creates a new ECB (ECB #2), passing it the operator command and the LNIATA
 - Control is returned to program ABCD indicating that the command has been sent.
4. An RCPL is built and the ZDSYS command is passed to SMP segment CVAA in the new ECB.
 - Origin field in the RCPL is LNIATA 101502.
5. SMP routes the command to the appropriate command processor, which in this case is the ZDSYS command processor.



Sequence of Events (continued)

6. The ZDSYS command processor builds the output message ("THE SYSTEM IS IN NORM STATE") and issues the WTOPC macro.
 - Destination field in the RCPL is LNIATA 101502
 - WTOPC processing eventually generates a ROUTC call
7. The ROUTC code looks up the destination (LNIATA 101502) in the WGTA:
 - Sees that this LNIATA was registered to PCRS
 - Creates a new ECB (ECB #3) passing the output message to the program (WXYZ) specified in the WGTA entry.



Sequence of Events (continued)

8. The ROUTC code returns to the caller, allowing the ZDSYS command processor to exit.
9. Application program WXYZ gets control in a new ECB (ECB #3).
 - EBROUT = 101502 (LNIATA registered to PCRS)
 - Data Level 0 = output message in OMSG format.



TPF Debugger Command View

- First PCRS user
- Allows users to enter TPF operator commands from the debugger's command view on the workstation
 - ▶ Command responses are sent back to the debugger's command view.
- For example, while debugging a program you want to see the contents of a file on TPF.



Summary

- PCRS allows TPF programs to introduce TPF operator commands and process the output of those commands.
- TPF Debugger Command View uses PCRS
- You can create your own middleware modeled after the TPF Debugger Command View design to accept TPF operator commands from remote devices over the network.

