OpenPOWER TM

OpenPOWER Ecosystem for Accelerator Solutions on Power

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Revolutionizing the Datacenter

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A Scale-Out Server Socket contains 2 six-core POWER8 chips.

Each chip has one CAPI accelerator interconnect.
Enabling CAPI Protocol vs I/O Device Driver

Typical I/O Model Flow: Total ~13µs for data prep

- DD Call: 300 Instructions, 7.9µs
- Copy or Pin Source Data: 10,000 Instructions
- MMIO Notify Accelerator
- Acceleration
- Poll / Interrupt Completion: 3,000 Instructions
- Copy or Unpin Result Data: 1,000 Instructions
- Ret. From DD Completion

Flow with a Coherent Model: Total 0.36µs

- Shared Mem. Notify Accelerator: 400 Instructions, 0.3µs
- Acceleration
- Shared Memory Completion: 100 Instructions, 0.06µs
Accelerator Solution Development

- Building Block Providers
- Independent Software Vendor
- Business Partners, Channels, Integrators, Distributors
- End Customers
CAPI Solution Components

- Accelerator Building
  - Accelerator on FPGA
  - Accelerator Library
  - Function API
  - Application

Application + Accelerator

Full Solution

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Create an OpenPOWER Foundation Ecosystem of Developers, ISVs, and Business Partners Who Bring Leading Accelerator Technology Solutions and Business Value to Our Customers
Accelerator Solution Channel

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Solution Developer Ecosystem

Building Block and ISV Developer Ecosystem

- Development Resources
  - Access to Technical Specs and Documents
  - CAPI Developer Kits
  - PIC and SuperVessel Development Clouds
  - Poughkeepsie Benchmarking Facilities
  - Montpellier Benchmarking and Center of Competency

- Go to Market Resources
  - OPF Website to Advertise Solution
  - Business Partner Channel with WW Sales Teams
  - Solution Exposure: Conferences, CoCs, Exec Briefing Centers
Accelerator Solution Channel

Building Block Providers

Independent Software Vendor

Business Partners, Channels, Integrators, Distributors

End Customers
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Business Partner and Reseller Ecosystem

Business Partner and Reseller Ecosystem

▪ Business Advantages
  – Add High Margin Services to the Sale
    ▪ Integration Services
    ▪ Installation Services
    ▪ Customization Services
    ▪ Service and Support Contracts
    ▪ Selling Solutions Increases Customer satisfaction

▪ Go to Market Resources
  – Marketing Collateral, Benchmarks, Proof Points, Reference Configs
  – Sales Training
  – Participation in Demand Generation Events
  – Incentive Programs
Examples

- US ISV with Encryption and Text Search Solutions
  - Growing Awareness and Fulfillment Channel
    - Introduced Solution to IBM GBS and Client Execs for Intelligence Community
    - Introducing Solutions IBM Channel Business Partners

- ISV with Image Analytics Solution
  - Require Fulfillment & Services Engagement to Deliver Solution
    - Introduced ISV to IBM GBS and Client Exec
    - Proposed New Use Cases and Parallel Industry Opportunities
    - Developing Engagement and Management Model for Client
OpenPOWER Creates a Winning Ecosystem

- CAPI Accelerators on Power is a Winning Technology
- OPF Members Collaborate for Leading Products
- Ecosystem Provides Routes to Market and Services
- Increases Market Segments and Generates Customers
Contacts and Websites

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- Solution Incubation Officer
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- CAPI Development Website:
  - https://www.ibm.com/developerworks/community/groups/community/CAPI_Developers_Community

- SuperVessel Website:
  - https://ptopenlab.com/cloudlabconsole/#!/