WinOF Updates

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Windows OpenFabrics (WinOF)

➢ Collaborative effort to develop, test and release OFA software for Windows

➢ Components – Kernel and User Space

➢ Broader test participation

➢ Add-on components for vendors to differentiate above WinOF

Supported Platforms

- ➢ Architectures
  - ▪ x86, x86_64, IA64
- ➢ Operating systems
  - ▪ Windows XP 32&64
  - ▪ Windows Server 2003
  - ▪ Windows Cluster Compute Server 2003
  - ▪ Windows Server 2008
  - ▪ Windows HPC Server 2008
- ➢ Futures
  - ▪ Win7
- ➢ WHQL'ed
  - ▪ Windows Server 2003
  - ▪ Windows Cluster Compute Server 2003
  - ▪ Windows Server 2008
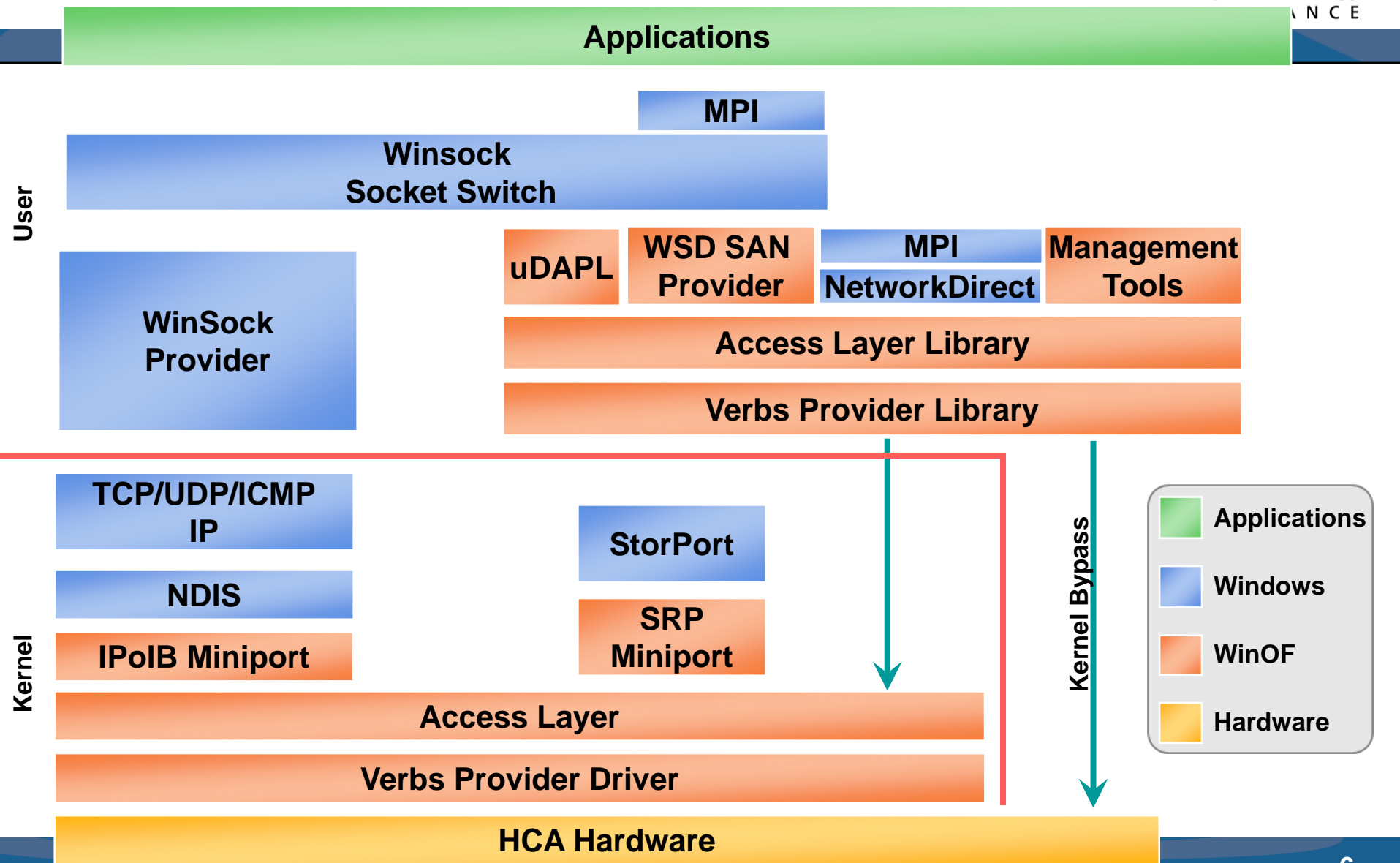 - ▪ Windows HPC Server 2008

Windows Working Group

➢ Charter
  ▪ Produce validated WinOF releases on a regular basis.
➢ Participation open to those who wish to contribute on a regular basis
  ▪ HP
  ▪ Intel
  ▪ Mellanox
  ▪ Microsoft
  ▪ Qlogic
  ▪ Voltaire

WWG - Contributors

- ➤ Mellanox
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- ➤ Voltaire
  - ▪ Anatoly Greenblatt
- ➤ Microsoft
  - ▪ Fab Tillier
- ➤ HP
  - ▪ Perry Schmidt
- ➤ Intel
  - ▪ Stan Smith
  - ▪ Sean Hefty
  - ▪ Arlin Davis

Thank You!

WinOF Software Stack

WinOF 2.1 – Install Changes

➢ PNP Installs HCA for Server 2008/Vista
- Plug-n-Play installs the correct HCA driver(s)
- HCA device selection no longer required

➢ Server 2003 & XP require HCA selection
- Default HCA install type is Mellanox InfiniHost
- Override HCA device type @ cmd-line
  - msiexec /I WinOF_wnet_x64.msi /passive HCA=cx
  - 'HCA=+cx' installs ConnectX + InfiniHost drivers.

WinOF 2.1 – Install Changes

➢ Cmd-line OpenSM Service Startup

 ▪ msiexec /I WOF.msi /passive OSMS=1

➢ SRP+/VNIC drivers cmd-line selectable

 ▪ msiexec /I WOF.msi /passive SRP=1 VNIC=1

 ▪ Feature not selected unless specified.

WinOF 2.1 – HPC Support

- ➢ **WinOF supports no-drivers installed mode**
  - ▪ Driver '.inf' files not processed during install
  - ▪ WDS node template will install WinOF drivers
    - Windows Deployment Services
  - ▪ WinOF files installed to standard WinOF location
  - ▪ msiexec /I WOF.msi /passive NODRV=1

- ➢ **WinOF driver extraction**
  - ▪ msiexec /A WOF.msi TARGETDIR=%TEMP%
  - ▪ Creates %TEMP%\PFiles\WinOF
  - ▪ 'TARGETDIR' case sensitive

WinOF 2.1 – OFED Compatibility

➢ **WinVerbs and WinMad filter drivers load by default**
  - Support for multiple RDMA transports
  - Simplify porting between Linux and Windows
  - Default WinOF components

➢ **OFED compatibility layers**
  - Easy porting of OFED code into WinOF environment
    - Making sure code is under the right license
  - libibverbs - OFED verbs API library
  - libmad - IB MAD (Management Datagram) library
  - libumad - IB MAD exported user-mode interface library

WinVerbs

- ➤ Usable by a wide variety of applications
  - ND, DAPL, OFED compatibility libraries
- ➤ WinOF 2.1
  - OFED Verbs and connected QP support
  - libibverbs, librdmacm ports
  - Common Linux/Windows DAPL providers
- ➤ WinOF 2.2
  - ND provider
  - UD QP support
  - IBAL compatibility library

WinMad

- ➢ Provide behavior needed for OFED libibumad compatibility library
  - ▪ Allow WinOF to take advantage of OFED IB management utilities
- ➢ Completed
  - ▪ libibumad port
  - ▪ Common Windows/Linux libibmad and IB diagnostics
- ➢ Future (far, far away)
  - ▪ Common Windows/Linux OpenSM

WinOF 2.1 – IPoIB

➢ Connected mode IPoIB
- Ensures higher performance IPoIB
- OFED (Linux) IPoIB (CM) compatibility
- IPoIB (Datagram) mode is a fallback option
  - If IPoIB CM not available between systems.

➢ NDIS 6.0 performance enhancements
- Beyond 2.1 release

WinOF 2.1 – Schedule

➢ Functionality Freeze in April'09

➢ General Availability (GA) release in June'09

If You Want to Help….

➢ Developing code

➢ Sending patches and comments to the mailing list (**ofw@lists.openfabrics.org**)

➢ Doing QA

➢ Opening bugs in Bugzilla (https://bugs.openfabrics.org/)

  ▪ When opening a new bug you can choose OpenFabrics Windows