Netra™ Data Plane Software Suite 2.0 Release Notes

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Netra Data Plane Software Suite 2.0 Release Notes

These Release Notes contain last minute information about the Netra™ Data Plane Software Suite 2.0. Netra Data Plane Software is also referred to in this document as Netra DPS.

Topics include:

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The Netra Data Plane Software Suite 2.0 documentation set is located at:

`http://docs.sun.com/app/docs/prod/netra.dp`

Before Installing Netra DPS 2.0 Software

Before installing Netra DPS 2.0 software, you must remove previous versions:

- **To remove the `SUNWndps` packages, as superuser, type:**

```
# /usr/sbin/pkgrm SUNWndps SUNWndpsc
```

The Netra DPS software is removed.

Note – For more details about using the `pkgadd` and `pkgrm` commands, see the man pages.

Software Notes

Open Issues

CR 6529219: Compilation Fails if a Function Returns a Structure

Compilation fails if a function within an application returns a structure. This situation is due in part to private functions missing from `libc`.

Workaround: The function needs to return a pointer to the structure.

CR 6578957: `ipc_tx`(): chaining of messages is not supported

Chaining of messages using the `b_next` field in the `mblk_t` structure is not supported in this release. `ipc_tx`() must be called once for every message.

CR 6578962: IPC channels do not recover after one link partner is rebooted

When the Netra DPS run time domain is rebooted, Solaris domains with a virtual data plane channel (`vdpc`) client need to be rebooted before IPC channels can be reconfigured. When a Solaris domain with a vdpc client is rebooted, the Netra DPS run time domain must be rebooted as well before the IPC channels can be reconfigured. The exception to this rule is the global configuration channel (`primary-gc / tnsm-gc0`), which recovers when either end has rebooted.

CR 6621350: `teja_profiler_dump()` can dump discrepant information to the console

This bug had been resolved and will be in the next Sun Enterprise T2000 and T5220 Platform System Firmware Release.

Workaround: In a guest domain, find when LDoms is used. When using the profiler on the Netra CP3260 platform, make sure that the LDoms configuration is used.

CR 6635027: Code generation takes too long when an application has a large statically initialized data structure

`tejacc` takes a long time if an application has a large statically initialized data structure. The bug is under investigation and will be fixed in the upcoming Netra Data Plane Software release.

CR 6637959: ctr+c may not work properly on an application built by `ipsecgw_niu_multi`

This behavior only occurs on the Netra CP3260 system.

CR 6639121: `ipfwd10g_niu` under LDoms crashes when starting traffic

LDoms with NIU configurations can crash when the Netra DPS domain is not kept under the first 0-4G memory range.

Workaround: Create the Netra DPS domain within the address space of 4G.

CR 6644168: Generated code has too many warnings

`tejacc` generates code which mainly has two kinds of warnings (type mismatch and vfork). The bug is under investigation and will be fixed in the upcoming Netra Data Plane Software release.

CR 6660105: Inconsistencies in `profiler_n2.pl` output

The summary section of the `profiler_n2.pl` output shows inconsistencies. For example, the first row for each CPUID entry has bad data, the 4th column has incorrect values, and the 4th and 6th columns show the same values.

CR 6665170: `ipfwd` with `nxge` in LDoms multi queue configuration cannot handle traffic from multiple ports

When the IP forwarding reference application is compiled for the LDoms environment on the Sun UltraSPARC T1 platform to use multiple `nxge` interfaces and the forwarding table updates from the `fibctl` environment, the application exhibits degraded performance and stops passing traffic once it receives substantial packet rates on more than one port.

CR 6665699: GDB fails to connect to Netra DPS domain from Solaris domain through the `gdb` utility

CR 6671308: `ipfwd10g_niu` crashes at boot time if the application is compiled for two ports with the `MULTI_QS` flag set

All IP packet forwarding (`ipfwd`) applications when compiled with the `IPFWD_MULTI_QS` flag in `Makefile.nxge` crash at boot time.

CR 6681093: `remotecli`: coredump dumps core to a different location than the one being documented

Workaround: By default, the core is dumped in `/tmp` instead of `/var/lwrtedump`, therefore, you can find the core file in `/tmp`.

CR 6681124: `remotecli`: Not able to quit the “console” mode

GNU Project Debugger (GDB) Showcase Application Known Issues

- This showcase currently runs only over LDC, not over IPC, for simpler configuration.
- GDB does not support a 64-bit SPARC bare hardware target, although Netra DPS is running 64-bit. GDB will not display 64-bit register files returned from Netra DPS due to lack of support in GDB. Therefore, Netra DPS returns 32-bit values only by truncating the upper 32-bit value of the registers leading to possibly missing important information
- Backtrace does not work properly. GDB has its own algorithm to retrieve the stack trace from somewhere, and malfunctions. If you know the formula for SPARC frames, you can retrieve all the frames. but GDB does not perform this at this time. This issue is part of future work on GDB support in Netra DPS.

  The right algorithm is to retrieve the `sp` value (same as register `%o6`) from the output of "info reg". For example, for `sp = 0x10e01031`, do the following math: sp - 1 + 0x800 = 0x10e01830

  This gets the next level stack frame from the calculated address above and checks the value at offset 15th of 64-bit. It is the caller function address and the next level `sp` is located at offset 14th 64-bit. Use that value to do the same math of `"sp - 1 + 0x800"` to go to next level trace. [Tip: do this in GDB: `x/16xg 0x10e01830`. The caller function is the last 64-bit value of the output and second to the last one is the next `sp` value]. GDB does not follow this algorithm.
- Continue with breakpoint

GDB supports software breakpoint. It inserts a breakpoint and is followed by a step breakpoint. As a result, currently you need to type two consecutive `cont` in GDB to have the one single `cont` affect.

- `step/next` is in instruction level instead of C code level.

Configuring LM-X Licenses

Working with Licenses Using LM-X

You must have a license file to use the software. When you invoke compilation of any application, Netra DPS reads the license file. A valid license file must be present at `/opt/LM-X/license`. Sun Microsystems issues two kinds of licenses:

- Node-locked licenses (multiple user); see Node-Locked Licenses.
- Time bound evaluation licenses (multiple user); see "Evaluation Licenses" on page 8

Node-Locked Licenses

A node-locked license, or uncounted license, is a license that runs on a single machine. The license file contains permission to run various tools for multiple users simultaneously.

Obtaining a Node-Locked License File

To obtain a license file, email the following information to `NetraDPSlicense@sun.com`:

- Name of the license user name, address, and phone number of your company
- Product and target processor
- Purchase order number
- The host ID of the host computer where the distribution is installed

You can find the host ID by running `hostid` (located under `/usr/bin/`).

Installing a Node-Locked License

When you receive the license file (for example, license), simply copy it to the following folder: `/opt/LM-X/` (create this folder if not present).

Compiling any of the reference applications or your own application automatically finds the license file.

Set the LM_LICENSE_FILE environment variable to include the location of the new license file. For example, in UNIX or Linux, use the setenv command in a C shell:

```
setenv LM_LICENSE_FILE /opt/LM-X/license
```

Evaluation Licenses

An evaluation license, or counted license, is a temporary license for a specified number of days. An evaluation license allows multiple users to use a single license file on a single computer for a limit of 90 days.

Obtaining an Evaluation-License File

To obtain an evaluation license file, email the following information to NetraDPSlicense@sun.com:

- Name of the license user (or contact name)
- Name, address, and phone number of your company
- Product and target processor
- The host ID of the license server

You can find the host ID by running hostid (located under /usr/bin/).

Feedback and Support

You can request Sun support and provide feedback to Sun at the following email address:

ndps-feedback@sun.com