

DDsr Protocol

Canon Inc.

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Terminology-1

- **Device (node) Discovery**

- mfr,model# of node
- 1394.x support
- unique ID (serial number, GUID?)

- **Unit (function) Discovery**

- functional unit class (ex. printer)

- **Low-level service Discovery**

- availability of lowest layer above 1394 transaction layer-datalink

- **High-level service Discovery**

- high -level service information

Terminology-2

.....defined at PWG meeting in May

- **Transport**

- set of layers above the 1394 transaction layer
- **Thick Transport-PC printing stack**
- **Thin transport-Peer to peer stack**

- **Datalink**

- lowest layer above 1394 transaction layer

Device Discovery and status retrieval Protocol (DDsrP/1394.x)

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■ Functions:

- Main Function = Global Discovery method of
 - Device(DDSR(1394.x) compliant node)
 - Units (Functions)
 - Low-level service
- Sub Function = Minimum (login-less) unit status retrieval.(error/no error, unit active/non active)

.....**TBD**

* Global: applicable to any function device!

Device Discovery and status retrieval Protocol (DDSRP/1394.x)

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■ Features:

- Device/Function (unit) independent
- A “shortcut” method for device/unit discovery
 - Discover the unit functions first,
then their supported protocols.
- no conflict with existing Config ROM definitions
 - which discover the protocols first....
(ex. Unit_Directories of SBP-2, FCP...)

DDsrP/1394.x Usage

step1: DEVICE(node) INFO. (Function unit directory)

readout of

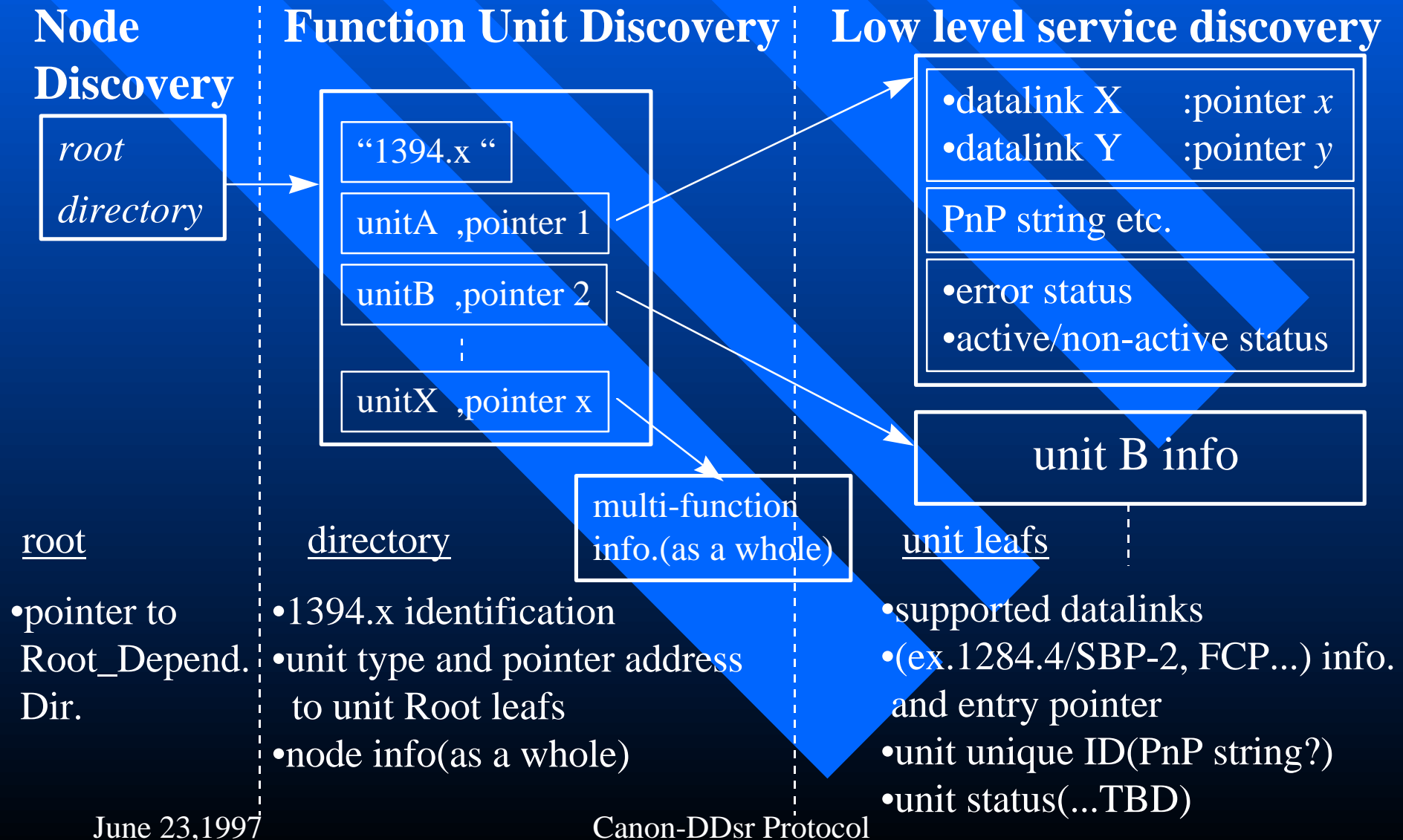
1. node description(=DDSRP device)
2. supported function (units) and pointer to unit “leafs”

step 2: UNIT INFO.(unit leaf)

readout of

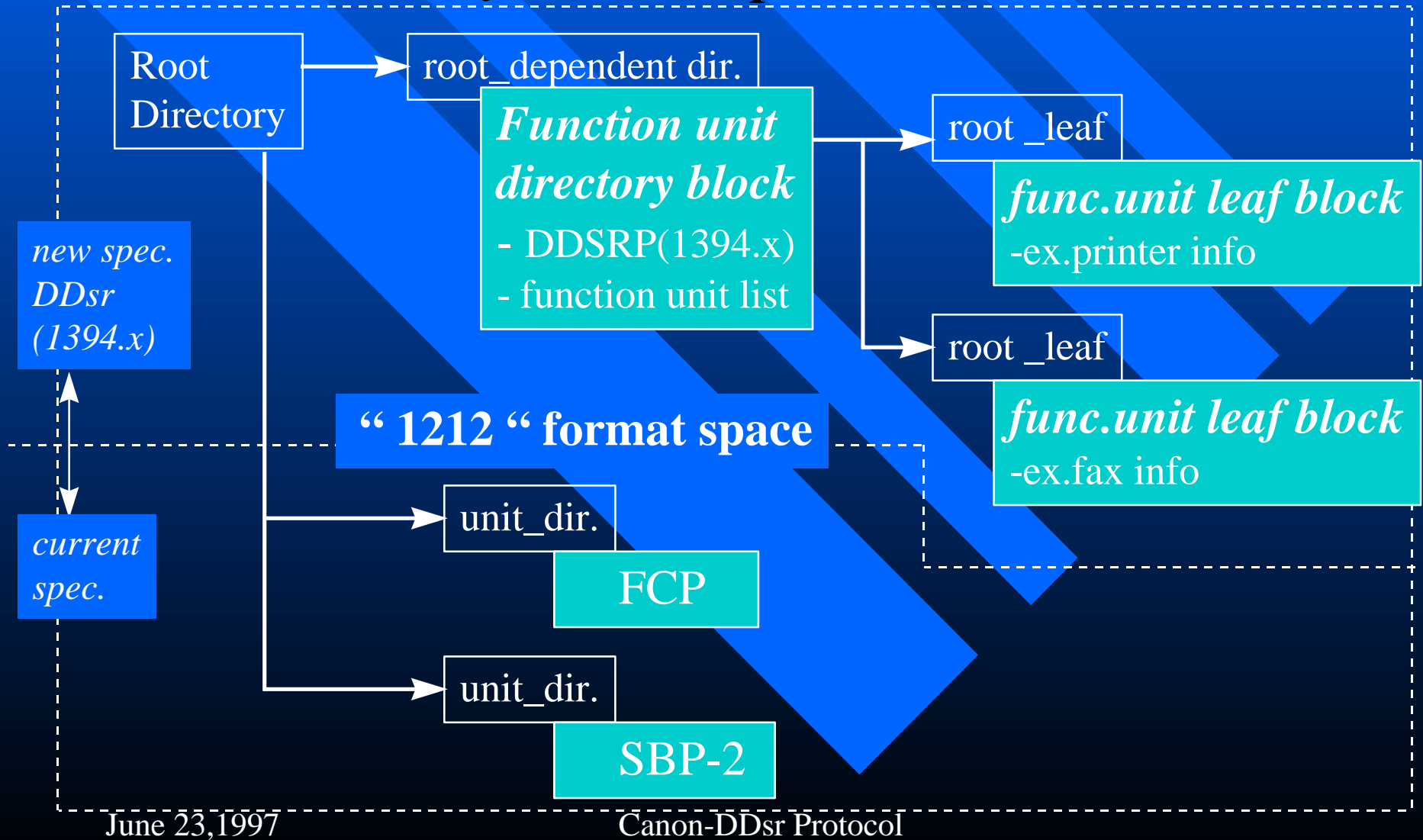
- 1.supported “datalinks” of unit(function).
- 2.Unit ID string (PnP)
- 3.vendor unique information
- 3.Unit status(...**TBD**)

DDsrP (1394.x) Architecture



DDsrP (1394.x)

IEEE1212 format implementation



Issues-1

- Implement dir.block,leaf block in IEEE1212 format ?

YES.....

1. Defined usage of key _type/_value in dir.block
2. Leafs can be defined by the specifier
3. Implemented in "ROM"

NO..... **NON-STANDARD!**

IEEE 1212 'sDefinition of ROM

ROM data should be maintained across losses of power

Can be writable by vendor specific protocols

....Acutually, RAM is OK?

- In case of RAM implementation, some rules for information updating is needed.(information refresh rules)

Issues-2

- Categorization of unit “types”
 - Does any suitable (global) registry exist?
 - Do we make the registry extensible?
- Optional command/response method needed ?
 - IEEE1212 register map is mandatory.
- (Login-less) Status retrieval...Do we need it ?
 - detailed information?, or minimum(error/ok) info.

Contact

- Comments / Documents at
 - email : pwg1394@cbs.canon.co.jp
 - URL : <ftp://ftp.canon.co.jp/pub/tmp/1394/printer/>

Thank You for your interest!