The Interconnection of TINE and STARS

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We have succeeded to connect TINE and STARS !

- TINE

-Three-fold Integrated Networking Environment

-Developed by DESY

-Accelerators etc.

- STARS

-Simple Transmission and Retrieval System

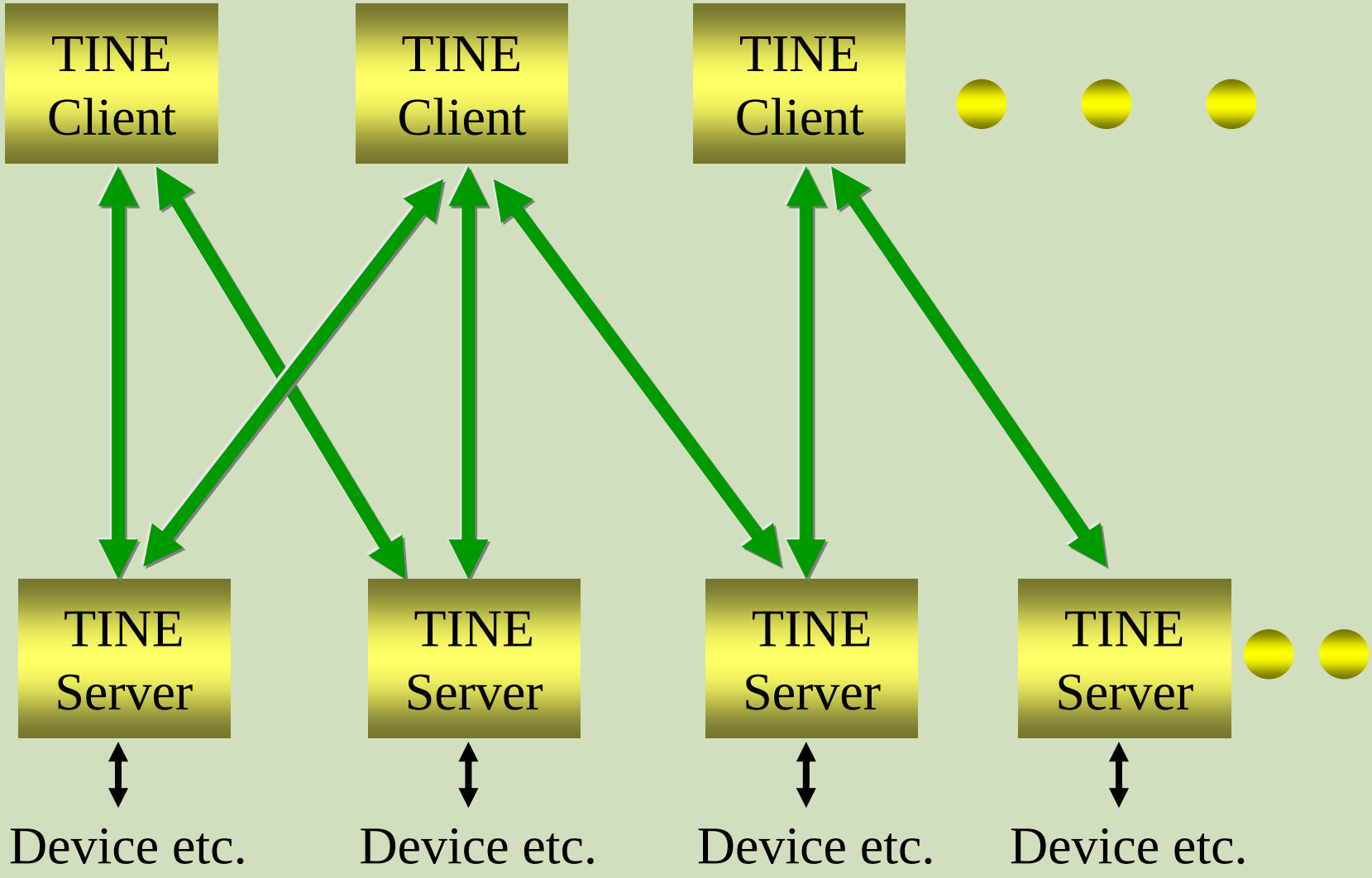
-Developed by KEK-PF

-Beamlines etc.

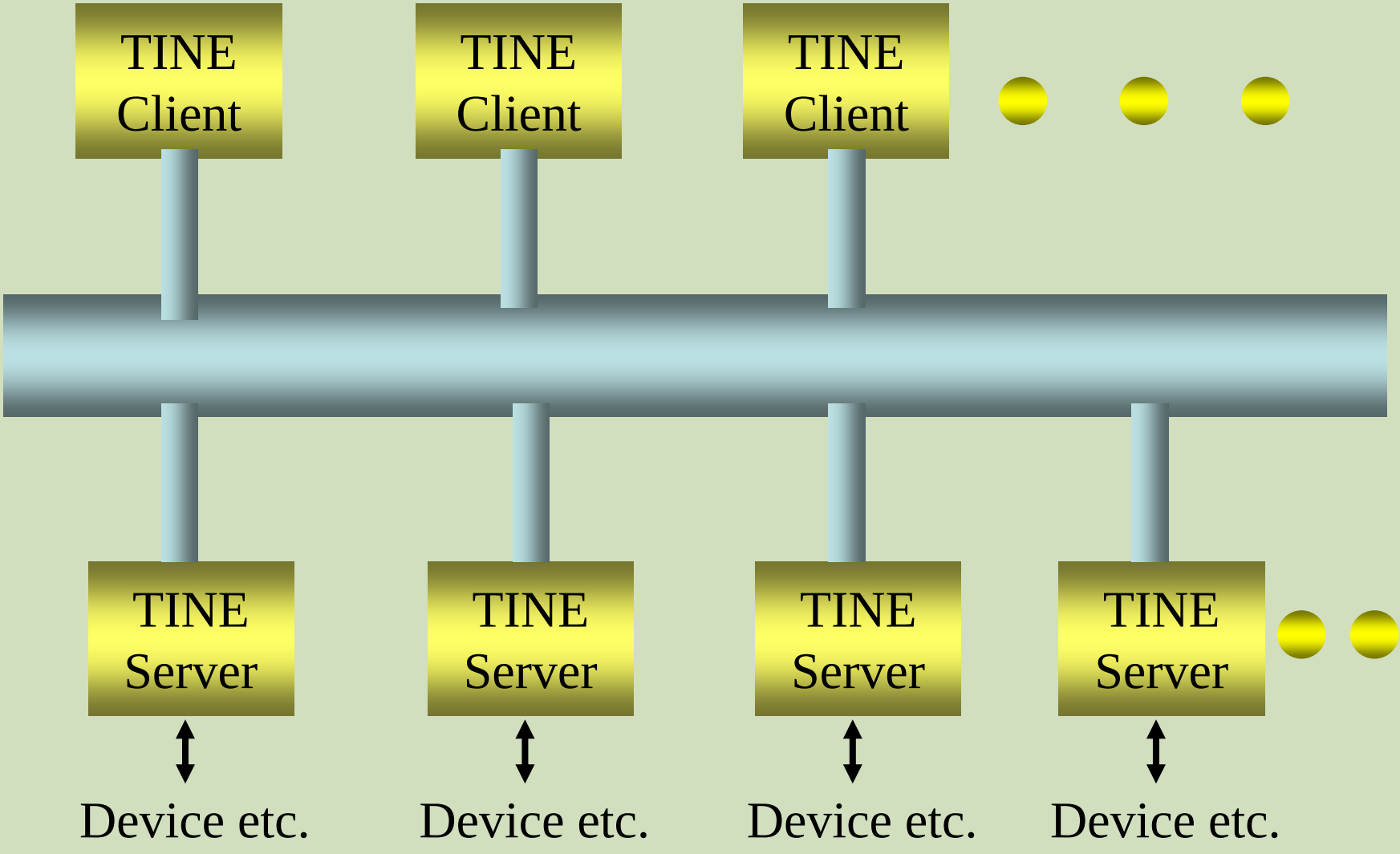
TINE

- Three-fold Integrated Networking Environment
- Multi-Platform (Windows, Unix, MAC,VMS, VxWorks, DOS, etc.)
- Multi-Protocol (IP, IPX)
- Multi-Architecture (Client-server, Publisher-Subscriber, Producer-Consumer, Producer-Subscriber)
- Plug and Play

TINE


TINE Client
TINE Client
TINE Client
TINE Server
TINE Server
TINE Server
TINE Server
Device etc.
Device etc.
Device etc.
Device etc.

TINE


TINE Client
TINE Client
TINE Client
TINE Server
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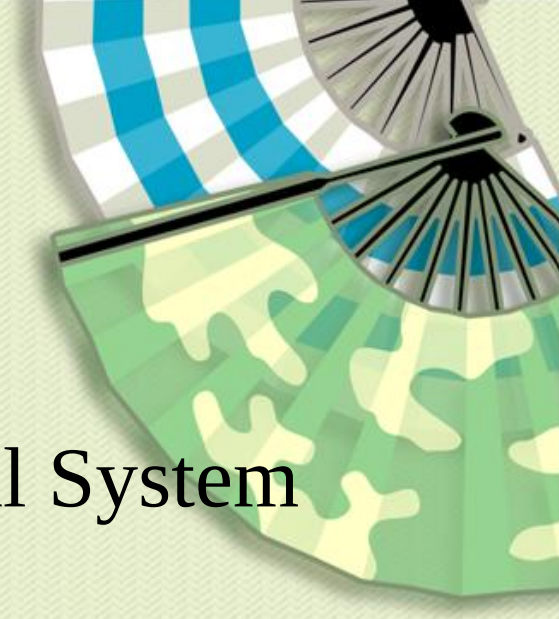
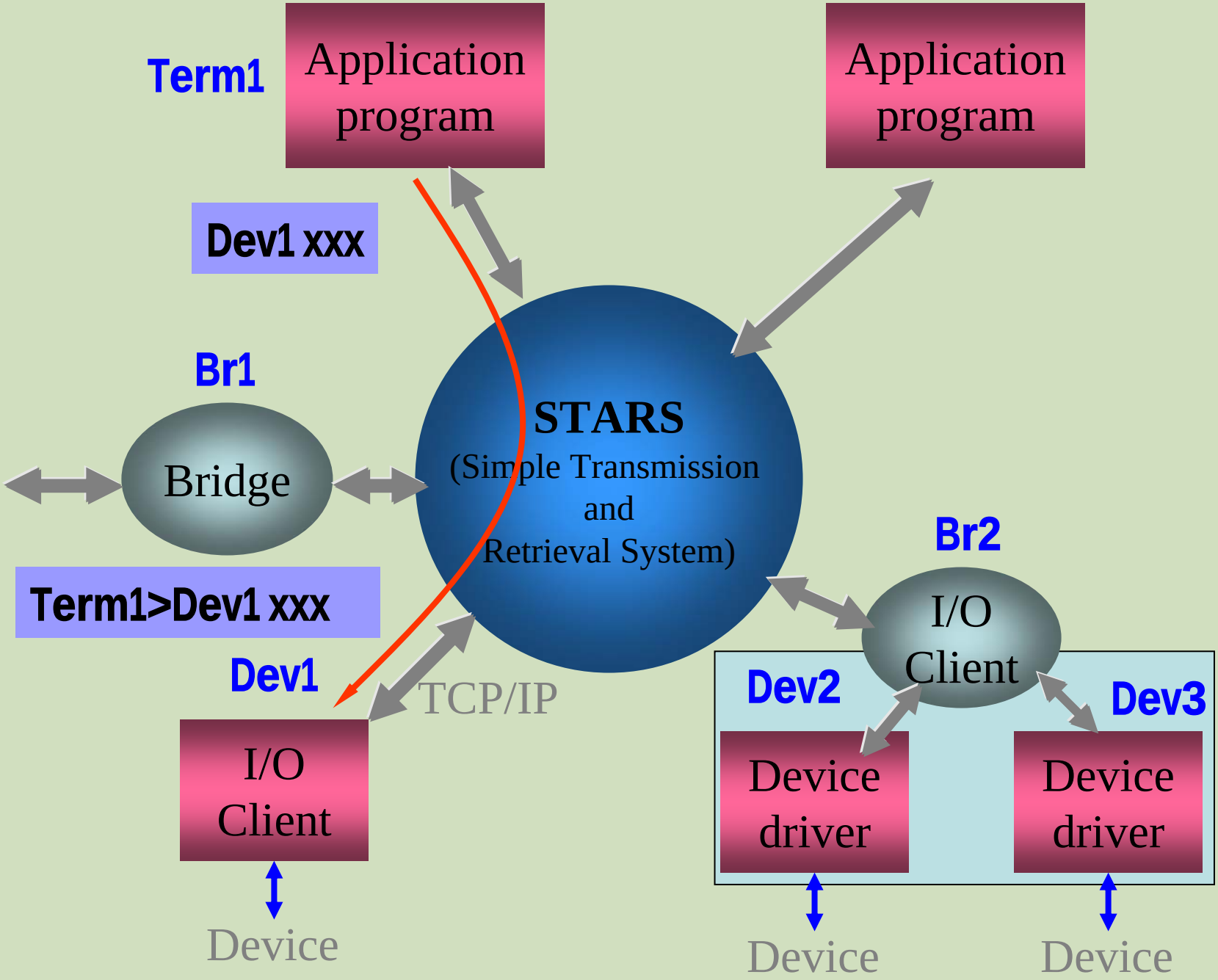
TINE Server
Device etc.
Device etc.
Device etc.
Device etc.

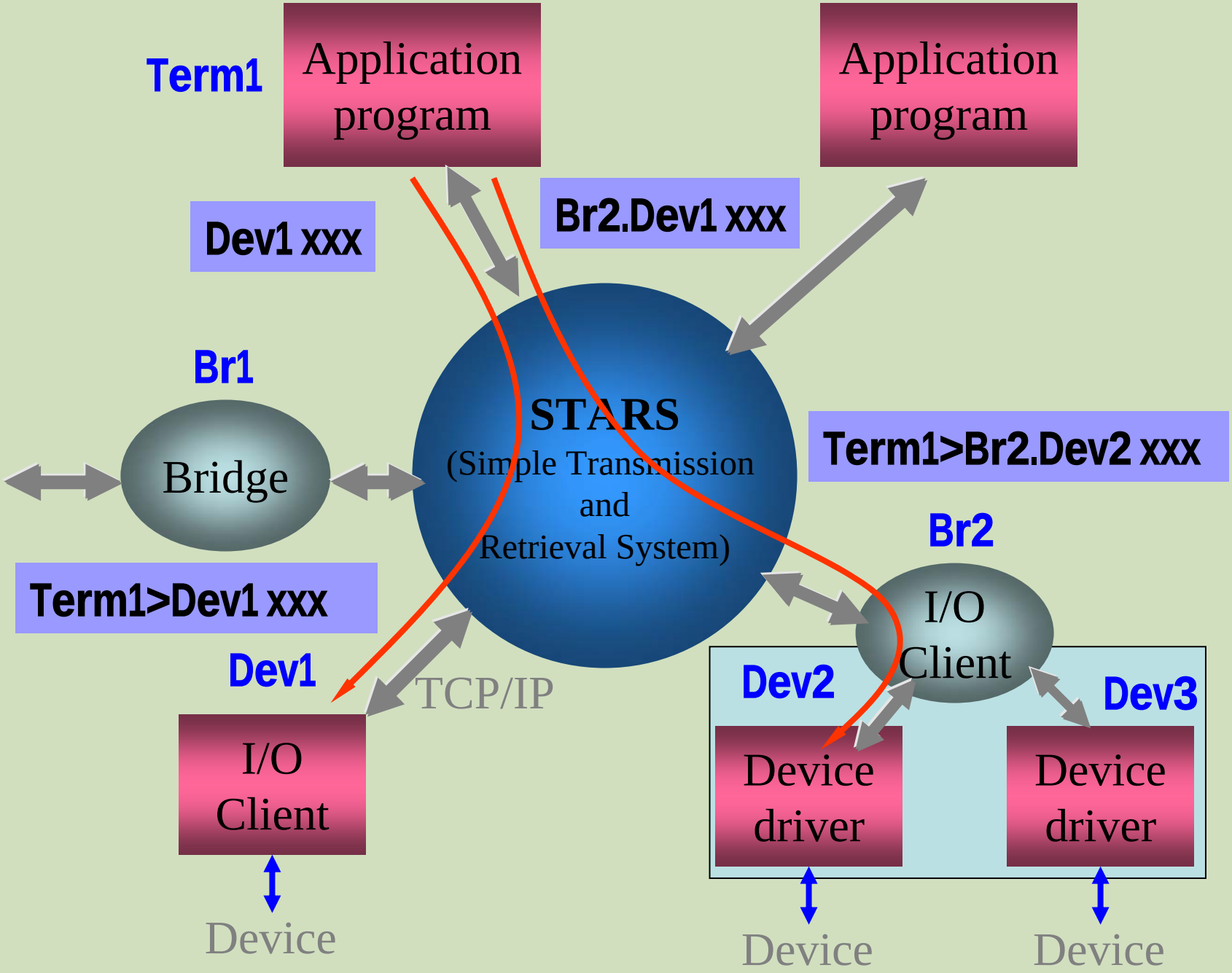
STARS

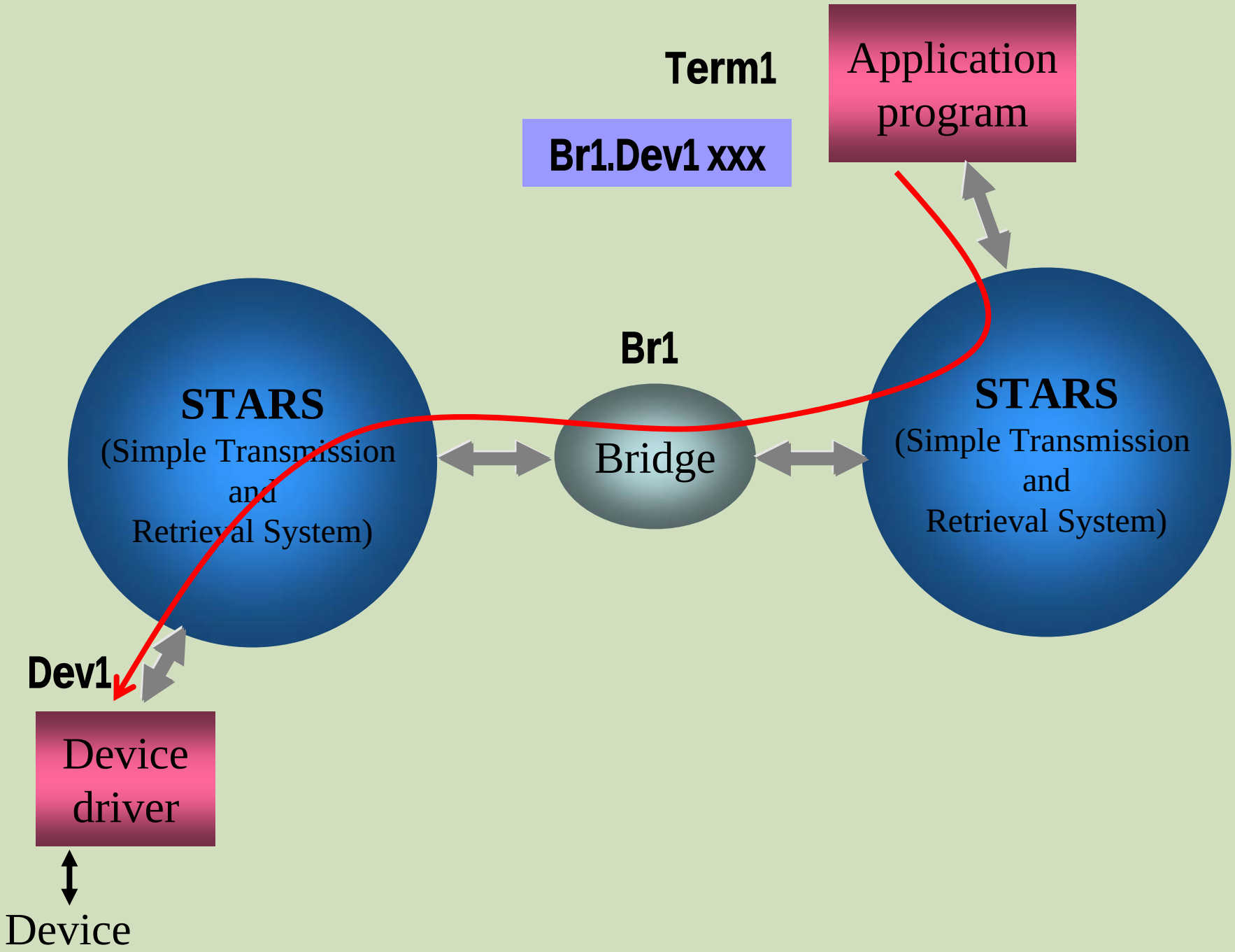


- Simple Transmission and Retrieval System
- STARS server is written in Perl

  => It works on various operating systems.
- STARS handles text messages with TCP/IP Socket. => Simple!
- STARS is designed for small system.


Term1
Application program
Application program
Dev1 xxx
Br1
Bridge
STARS
(Simple Transmission and Retrieval System)
Br2
I/O Client
Term1>Dev1 xxx
Dev1
TCP/IP
Dev2
Dev3
I/O Client
Device driver
Device driver
Device
Device
Device


Term1
Application program
Application program
Dev1 xxx
Br2.Dev1 xxx
Br1
Bridge
STARS
(Simple Transmission and Retrieval System)
Term1>Br2.Dev2 xxx
Br2
Term1>Dev1 xxx
I/O Client
Dev1
TCP/IP
Dev2
Dev3
I/O Client
Device driver
Device driver
Device
Device
Device


Term1
Br1.Dev1 xxx
Application program
Br1
STARS
(Simple Transmission and Retrieval System)
Bridge
STARS
(Simple Transmission and Retrieval System)
Dev1
Device driver
Device

Sending Commands in STARS

NodeFrom>NodeTo Message

(My node name)

Omissible

Blank character

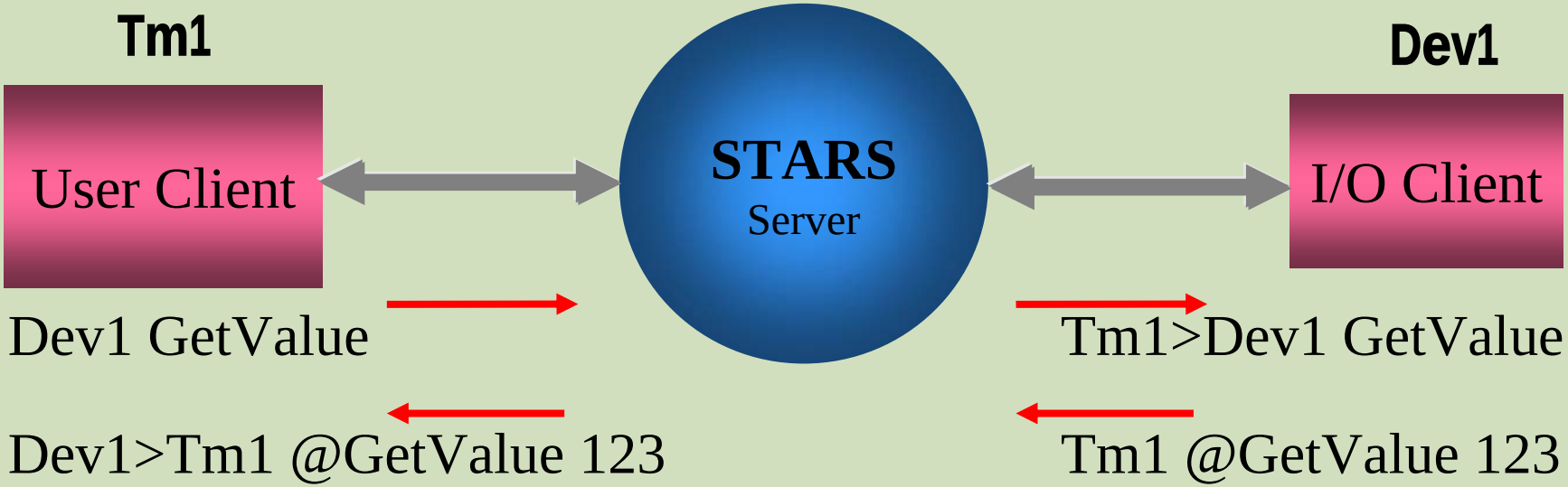
Messages

@Message : Reply

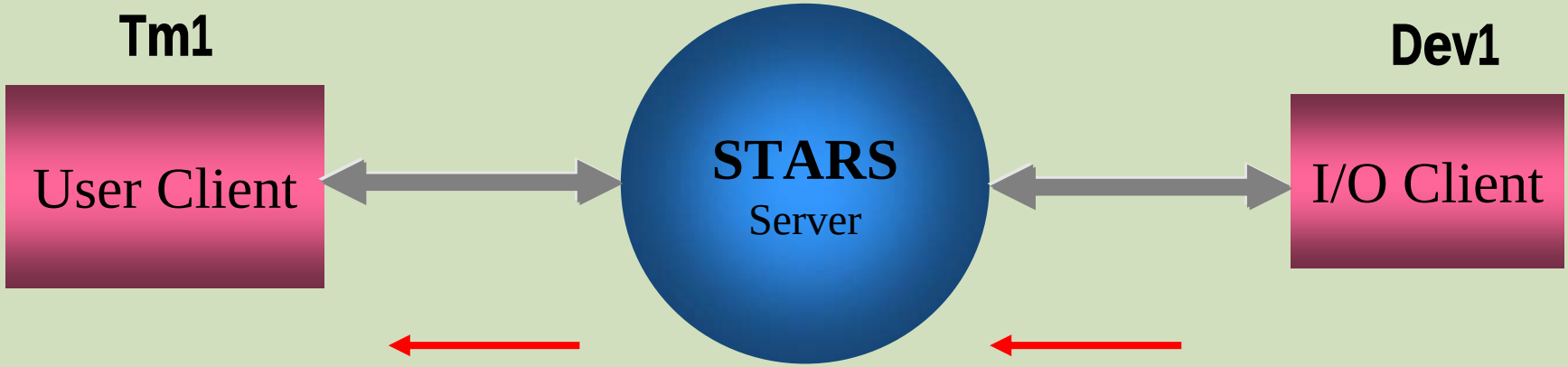
_Message : Event

Message : Command

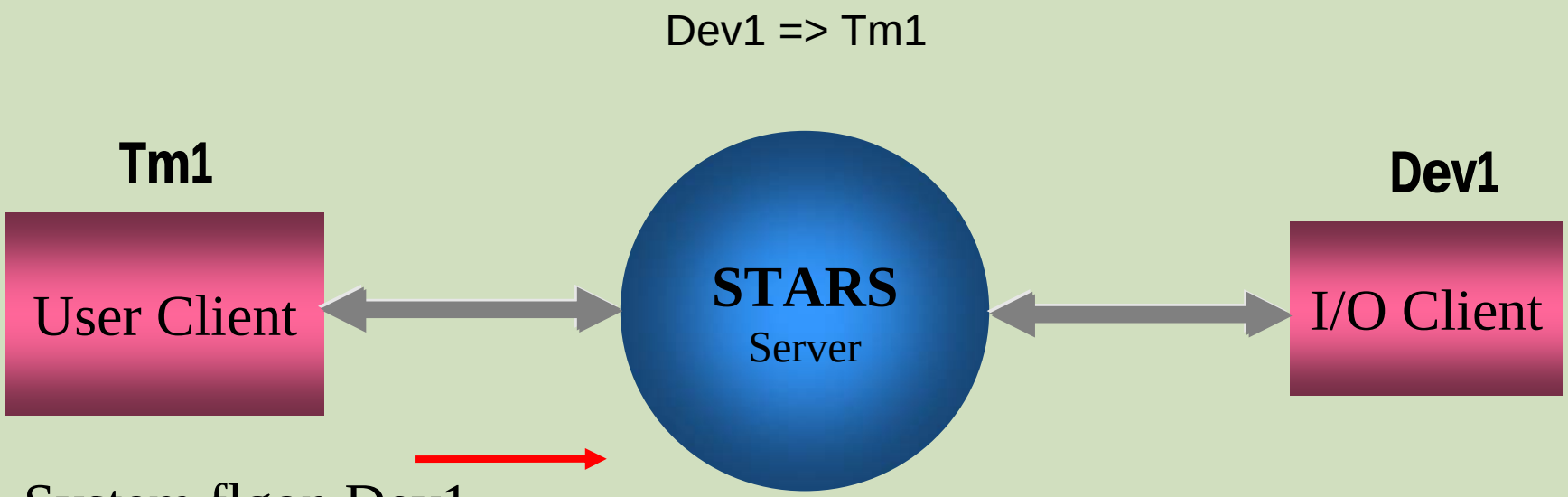
Command and reply message



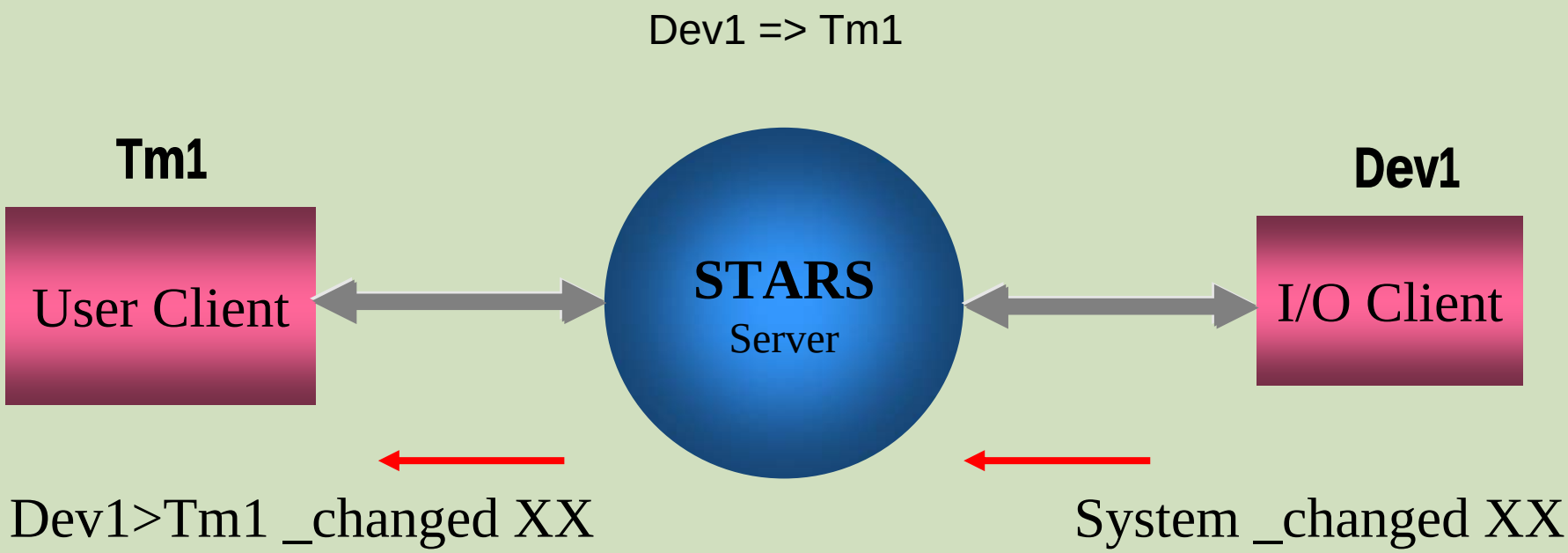
Event message



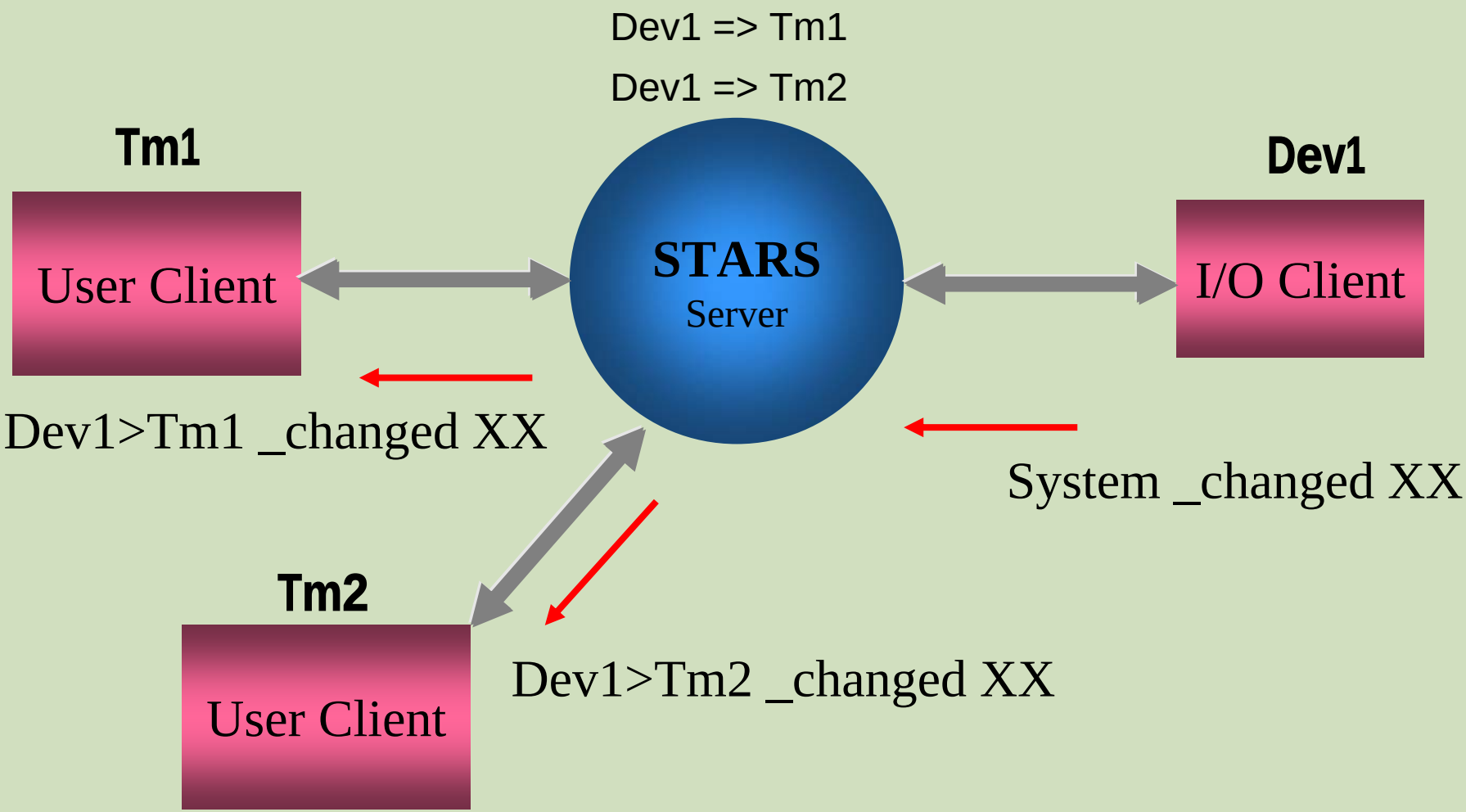
Event message delivery request



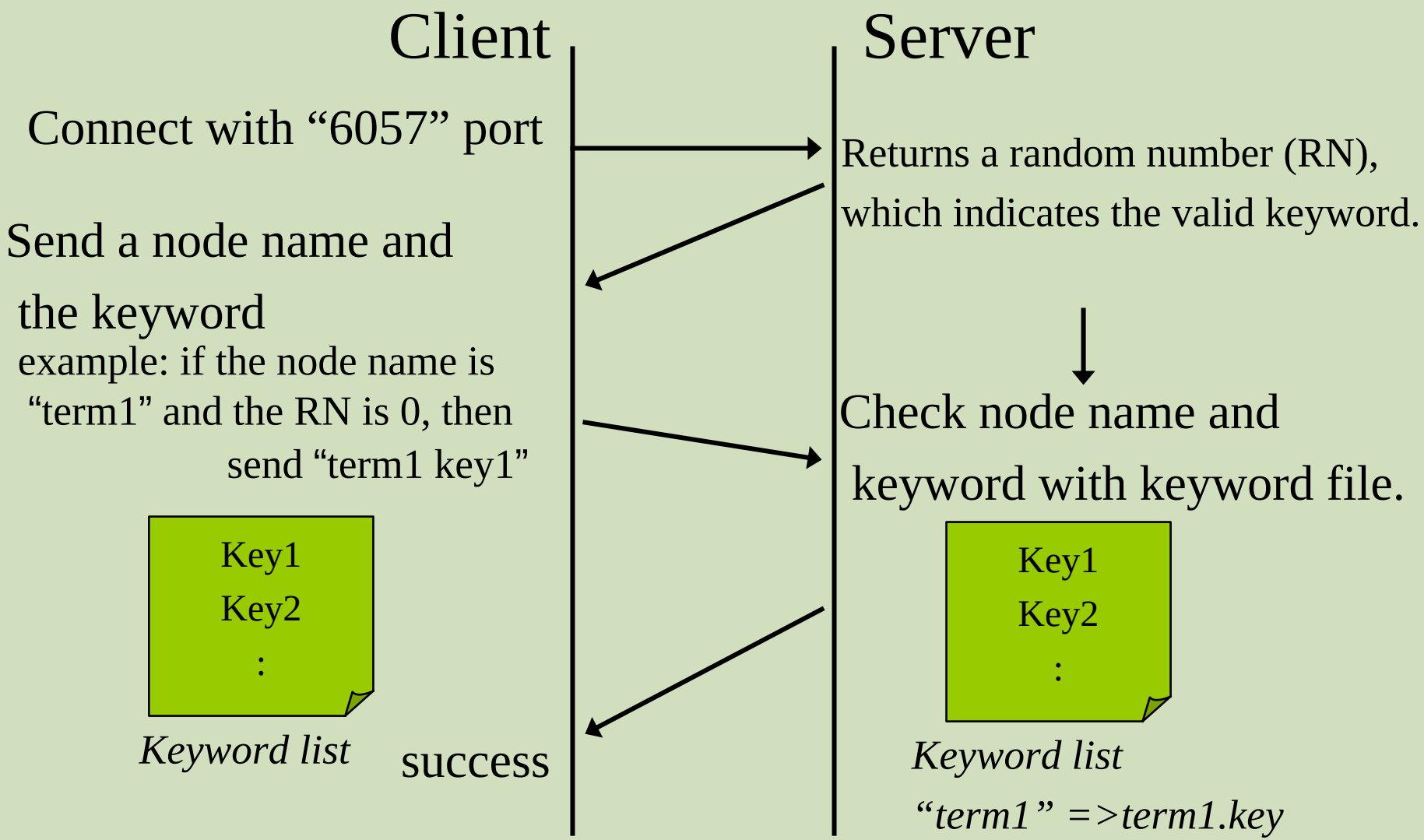
Event message delivery request



Event message delivery request

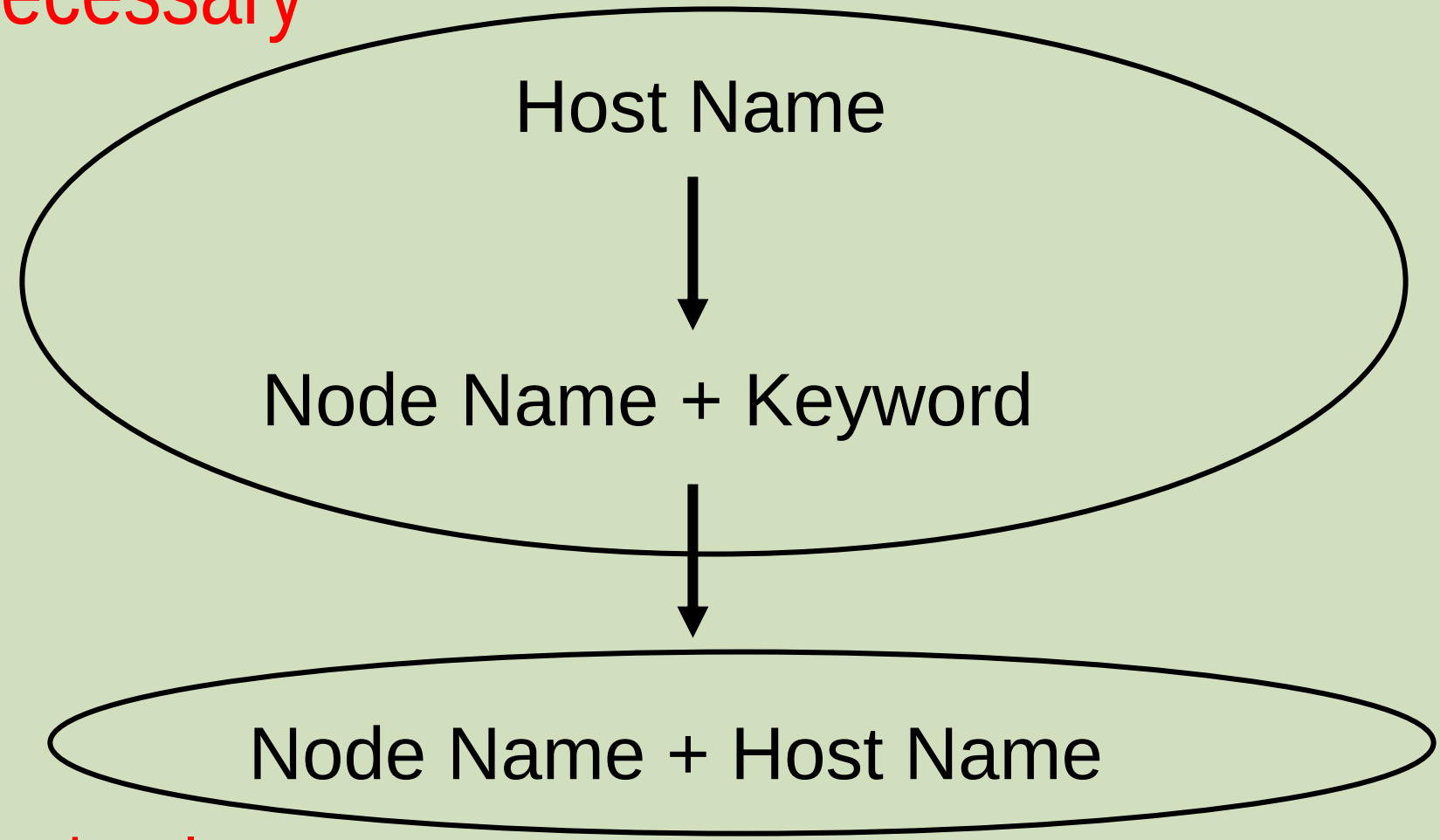


Node Name and Keyword Certification



3-step certification

necessary



optional

PF-AR
PF 2.5GeV Ring

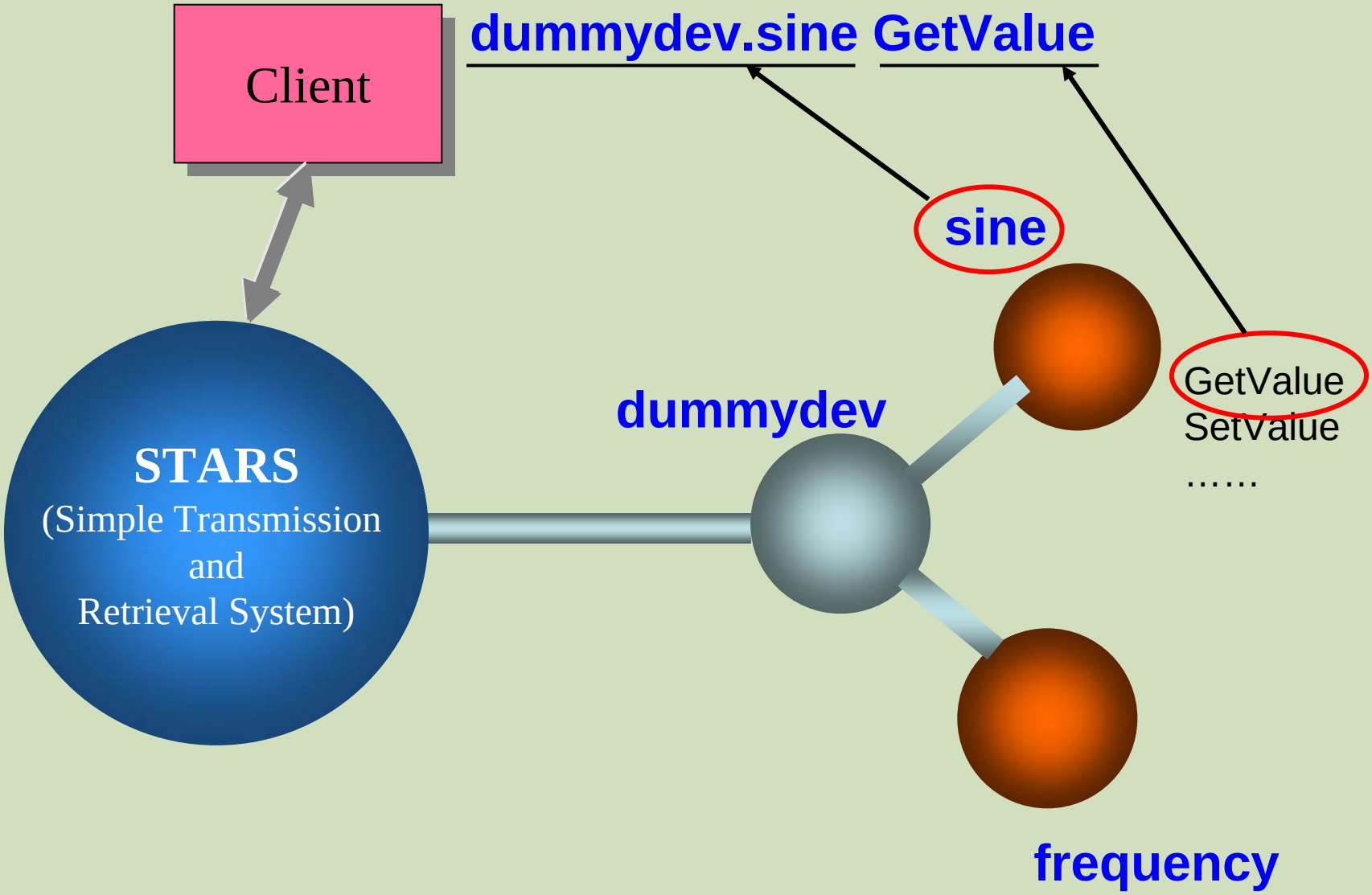
STARS is operating at

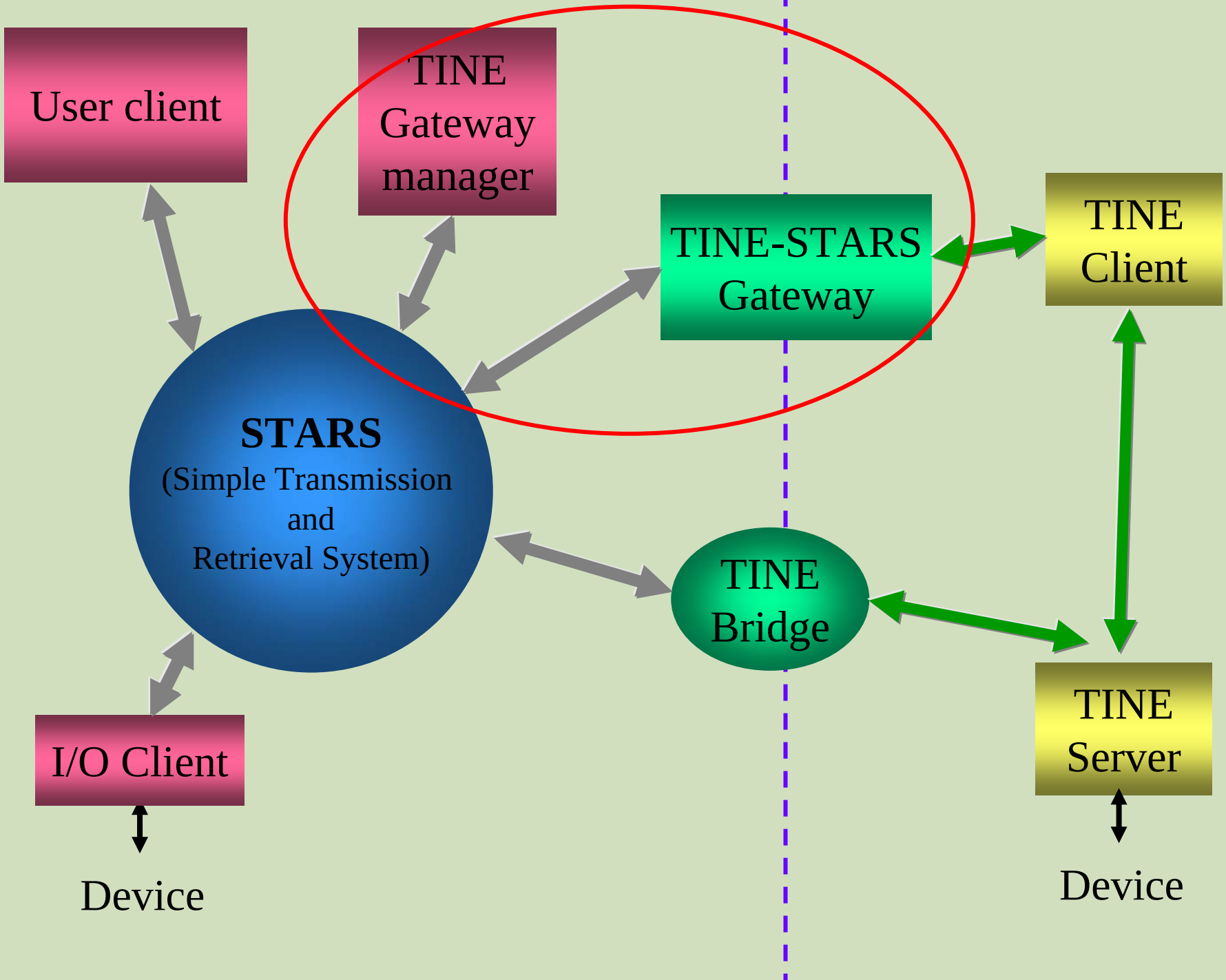
BL-1A, BL-1B, BL-3A, BL-5A, BL-6A, BL-6C,
BL-18B, BL-20A, BL-28, NW-12, NW-14
Beamline Interlock System,
Access control system for experimental halls,
Key handling system

Will be installed at

BL-14A, NW-2, NW-10

Name space and commands of STARS



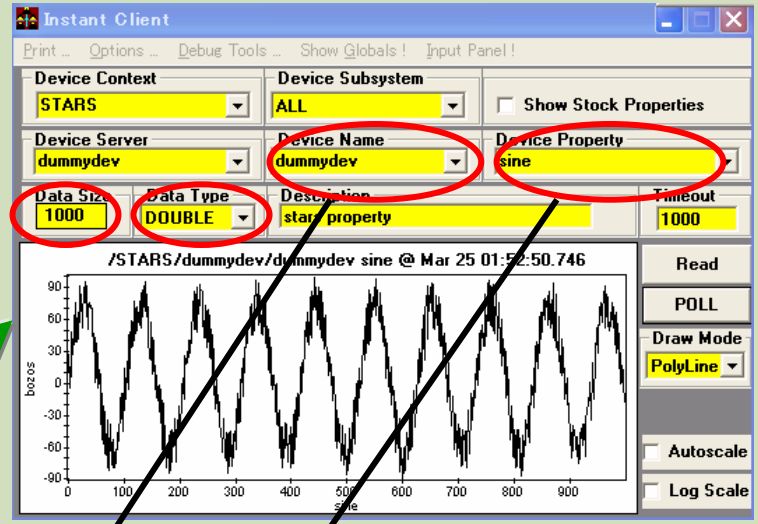

User client
TINE Gateway manager
TINE-STARS Gateway
TINE Client
STARS
(Simple Transmission and Retrieval System)
TINE Bridge
TINE Server
I/O Client
Device
Device

TINE Client

Device Information file

TINE Gateway manager

TINE-STARS Gateway



dummydev.sine GetValue

sine

GetValue
SetValue
……

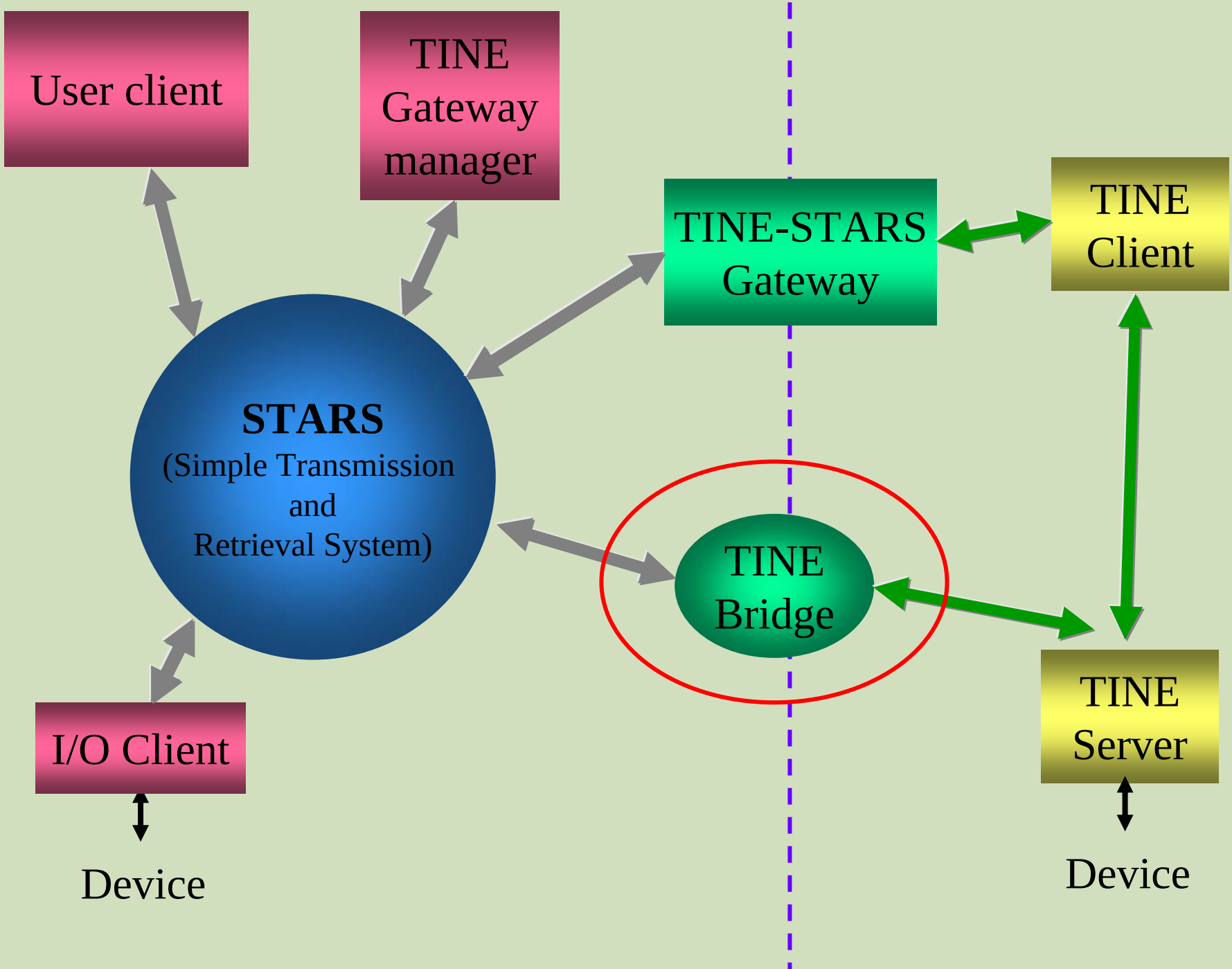
STARS
(Simple Transmission and Retrieval System)

dummydev

Example of device information file

dummydev.sine: type=double size=1000 egu=volts min=-100 max=100
 access=read array=waveform readcommand=GetValue writecommand=SetValue

dummydev.frequency: type=double size=1 egu=volts min=0.1 max=100
 access=readwrite readcommand=GetFrequency writecommand=SetFrequency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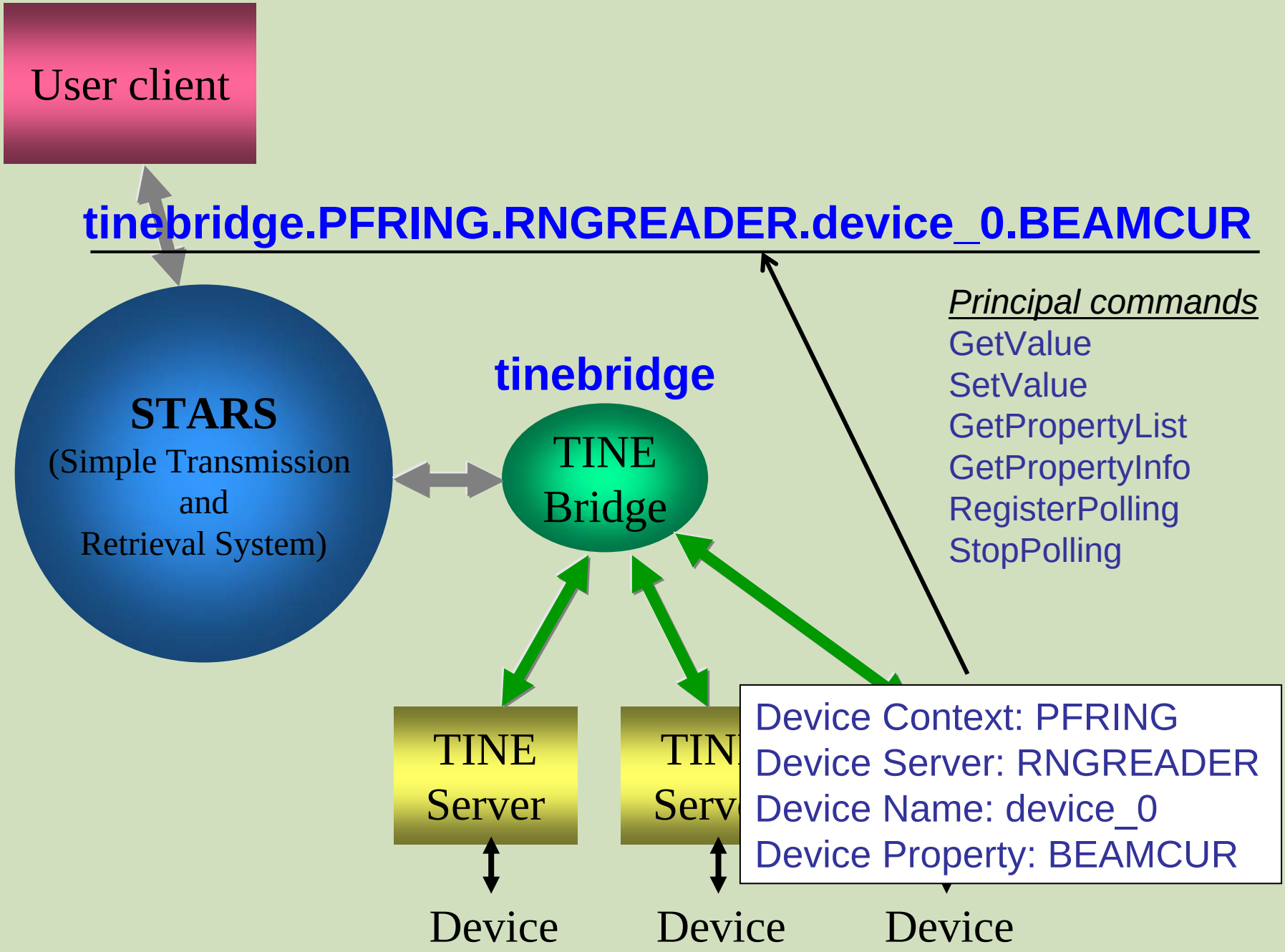
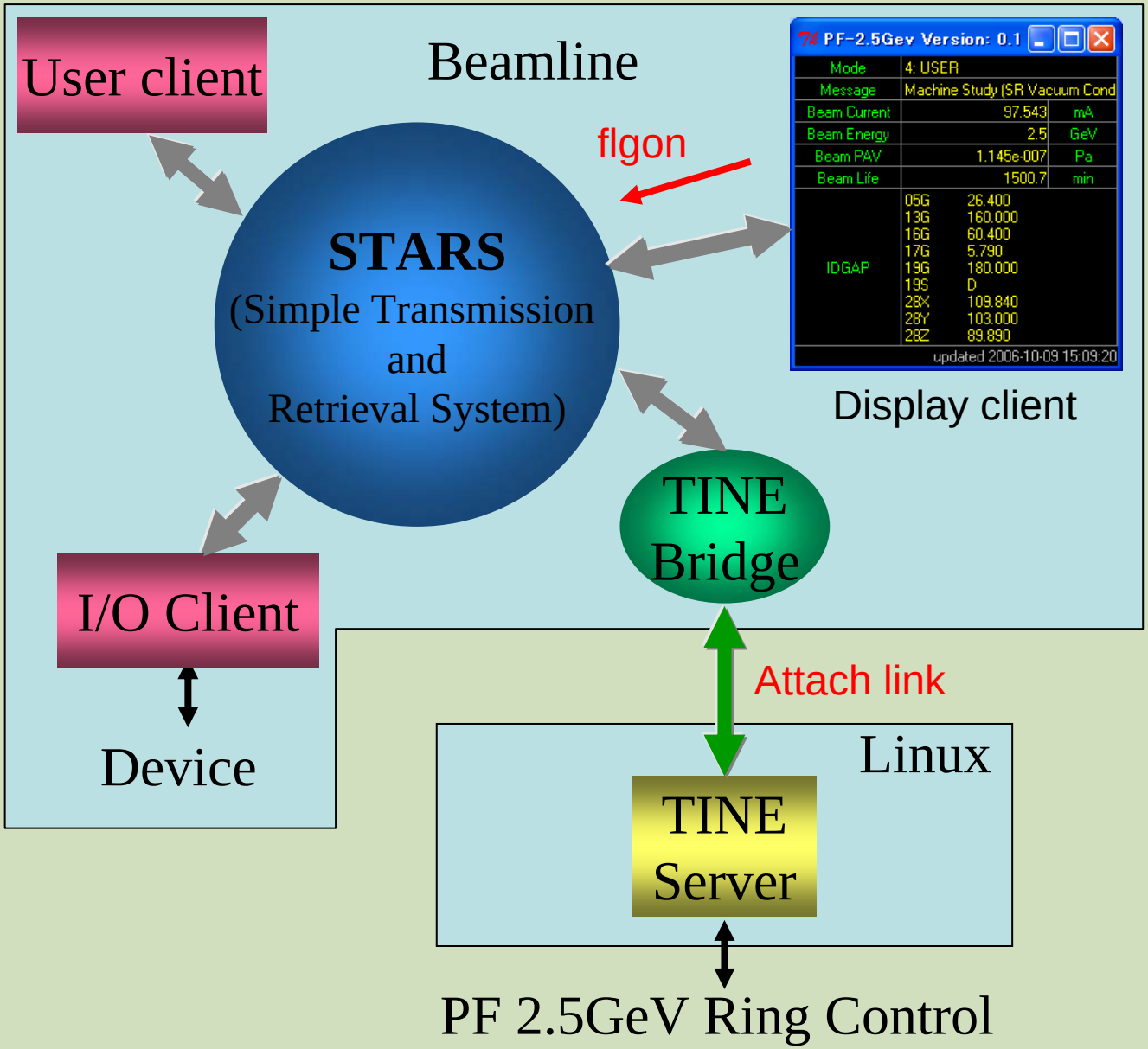
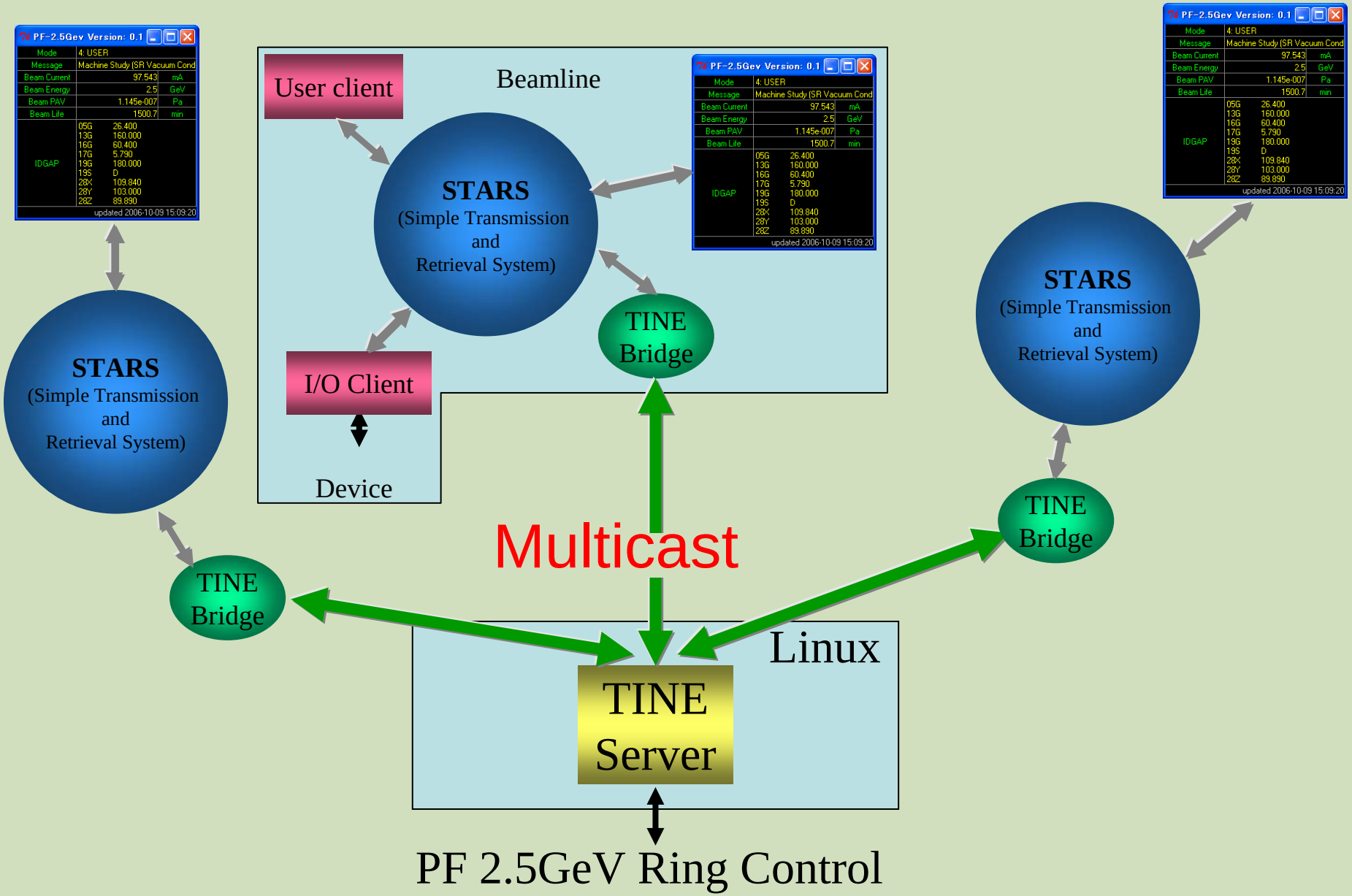

User client
tinebridge.PFRING.RNGREADER.device_0.BEAMCUR
Principal commands
GetValue
SetValue
GetPropertyList
GetPropertyInfo
RegisterPolling
StopPolling
STARS
(Simple Transmission
and
Retrieval System)
tinebridge
TINE
Bridge
TINE
Server
TIN
Serv
Device Context: PFRING
Device Server: RNGREADER
Device Name: device_0
Device Property: BEAMCUR
Device
Device
Device

PF Ring Information Display



PF Ring Information Display



Conclusion

- We have succeeded to connect TINE and STARS.
- STARS can connect various systems via TINE.
- TINE can connect COACK etc. via STARS.
- Efficient function on TINE and STARS is available.

- To do… Bring solutions to fix character problem (blank characters etc.) of name space.

TINE http://adweb.desy.de/mst/tine/

STARS http://pfwww.kek.jp/stars/