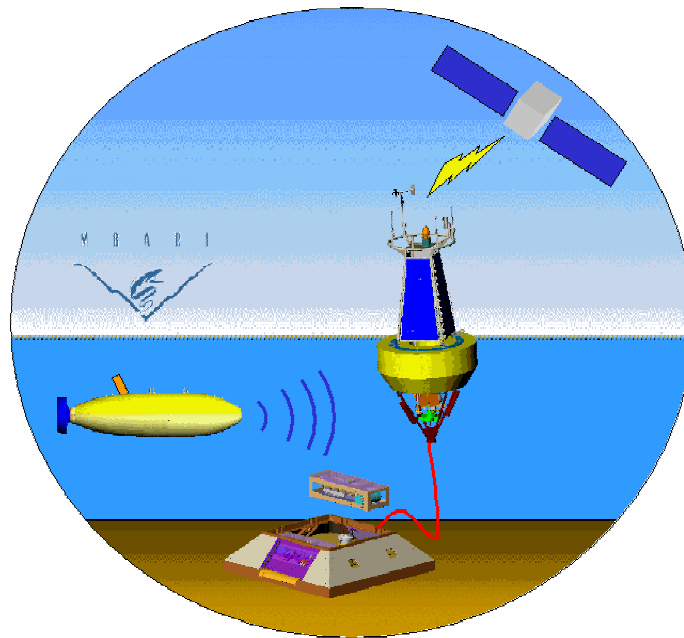


SIAM users meeting



February 5, 2004

Agenda

- Demonstration of short-haul RF console
- Demonstration of sea-to-SSDS plug-and-work
- Discussion of features for next 2-week development cycle

Short-haul RF link

- Radio connected to Linux tty port
- Script spawned at boot by inittab
 - i.e., independent of SIAM application
- Timeout on login prompt
- Timeout on user shell, after n seconds of inactivity
- Timeout action: user is logged out, radio is powered off

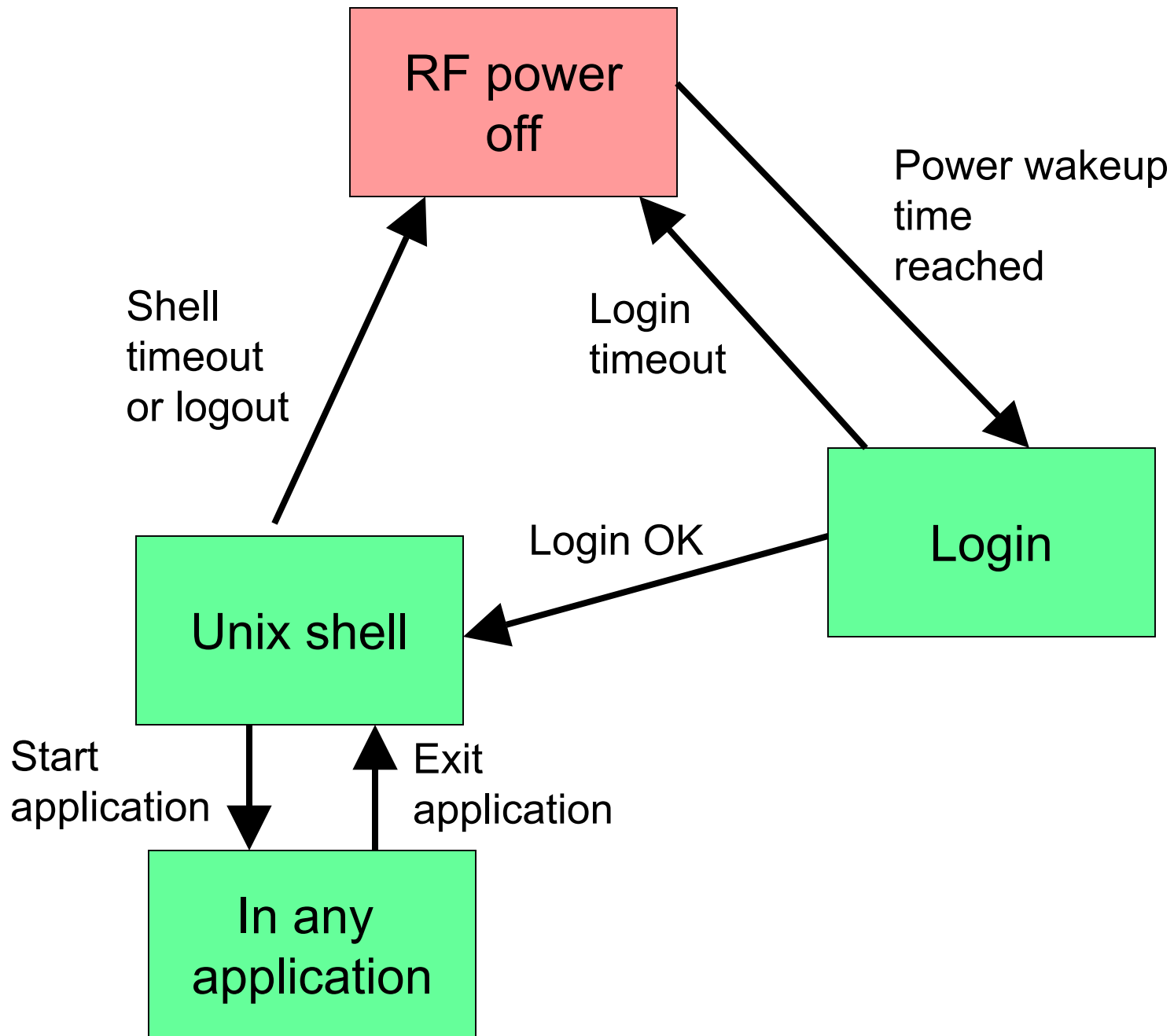


Short-haul RF link

- Timeout interval can be easily modified once user is logged in, using *rftimeout* utility
 - Can even disable timeout: *rftimeout 0 - dangerous!*
- Note some Unix-isms
 - E.g. “keyboard activity” means pressing ENTER

Short-haul RF link

- Radio power can be manually controlled with *rfpower* utility



Short-haul RF link

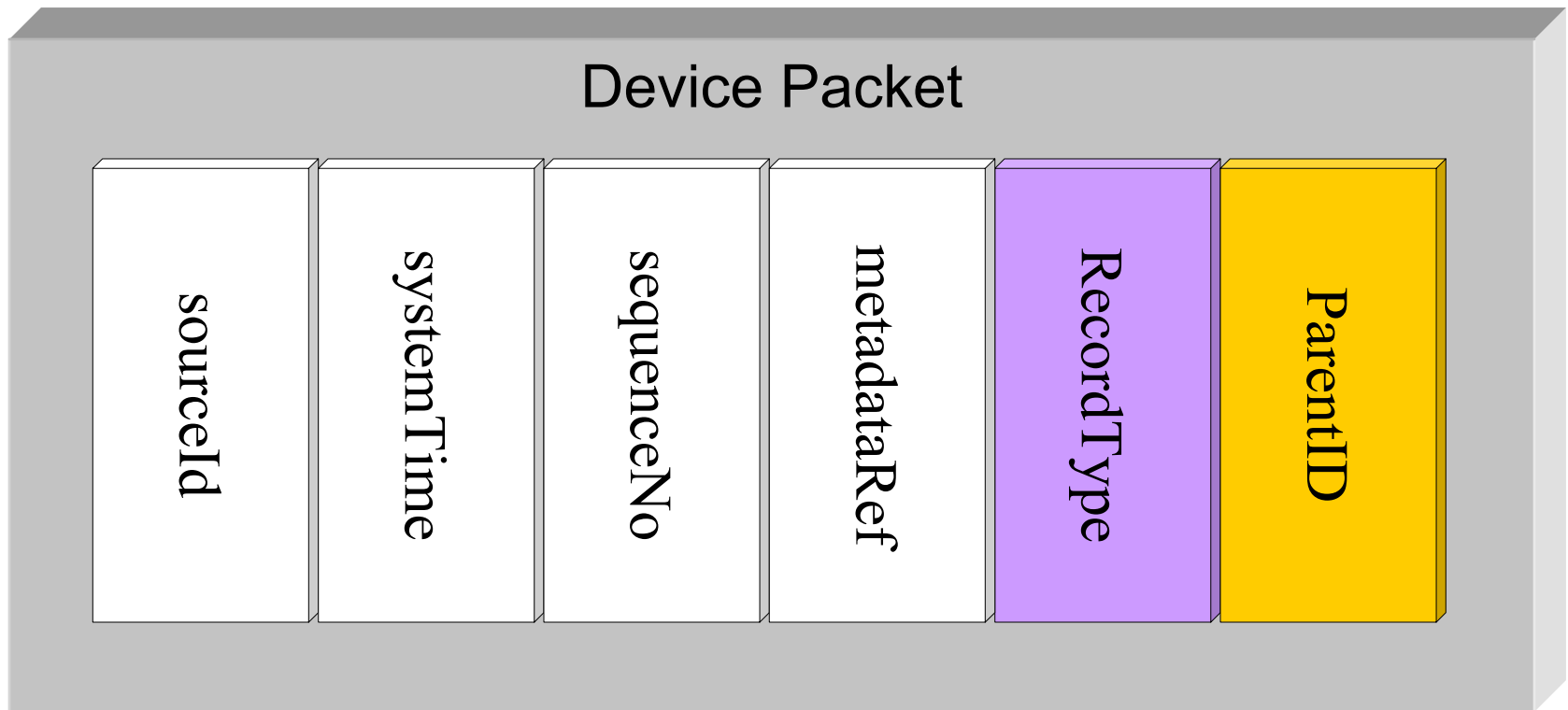
- Suggested parameter values:
 - Radio powers on every 15 minutes
 - $1.2 \text{ Watt} \times 6\% \text{ duty cycle} = 76 \text{ mWatt continuous}$, if no one logs in
 - Login timeout after 30 seconds
 - User shell times out after 10 minutes of inactivity
- Do these values look okay?

Metadata Handling: Current Objectives

- Previously, additional custom metadata handling steps were required to process SIAM data in SSDS
- Changes have been made to remove these steps, making metadata handling truly automatic:
 - Puck XML now complies with SSDS schema
 - Additional fields in packet structure allow SSDS
- Demonstrate fully automatic metadata handling by SIAM and SSDS

DevicePacket Structure Changes

DevicePacket Contains New Fields:



Metadata Handling: Description

- When service starts, puck XML is sent to SSDS
- Puck XML includes description of data formats produced by instrument
- When data packets are sent, SSDS uses RecordType field to retrieve metadata and basic parsing information

Metadata Handling: Open Issues

- Metadata parsing on SIAM nodes
 - Allows SIAM to read and use puck XML metadata
 - Test code written, not yet integrated into SIAM platform
- Strategy for conveying parsing information to SSDS
 - Currently, regular expressions are used
 - Other ideas include:
 - parser binaries (code) could be supplied by instrument service
 - some other parsing language could be used/developed
- Development of tools to allow developer users to generate record description XML
- Metadata packet payload format: schema compatible XML



Next 2 weeks

- Node diagnostics
 - Message contents, sampling strategy, user interface, etc.
- Sea-to-SSDS plug-and-work (continued)
 - Plug-and-work data visualization
- Power service implementation
 - Power switching, data retrieval
- Globalstar integration
 - Demonstrate portal, utilities, via satellite