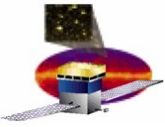


ISOC Telemetry Monitor

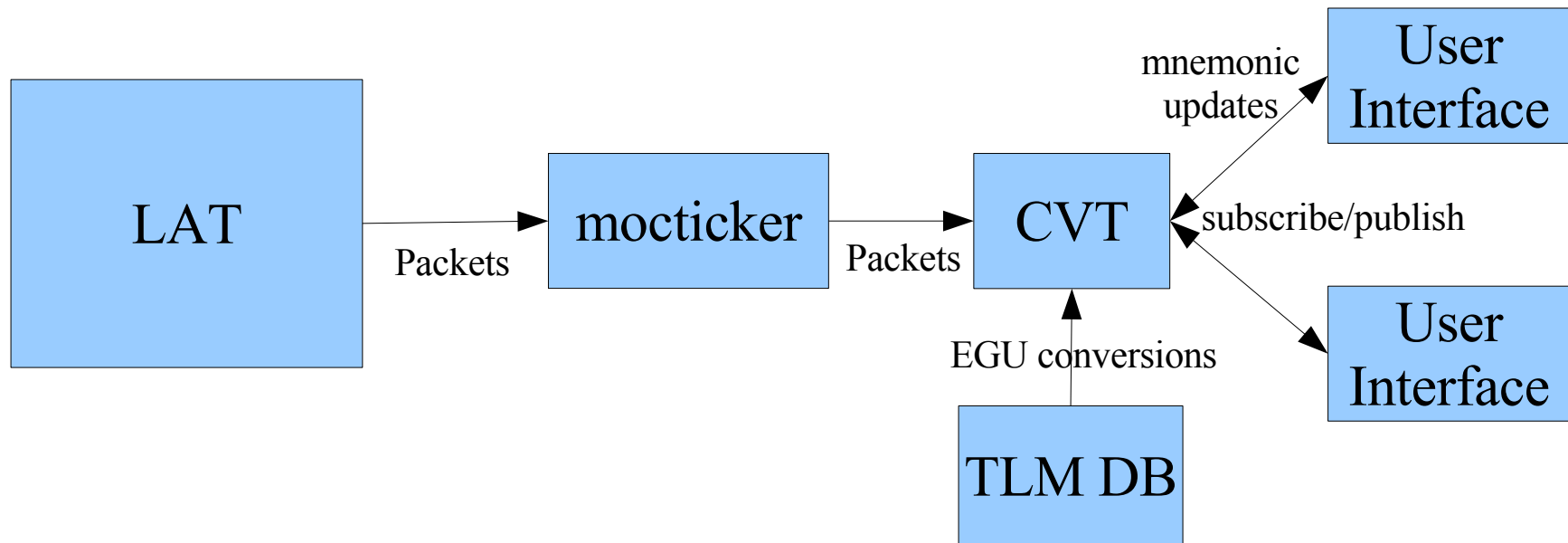
Some comments about javascript development

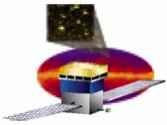
D. Decotigny

decot@slac.stanford.edu
ext. 3427



Dataflow





QT GUI

Verbose Clear Pause

Telemetry

```
2006/11/18 00:50:53.424195: IEMENVLEMP7 Apid: 0x21d:541
2006/11/18 00:50:53.624192: PDUENV0 Apid: 0x21e:542
2006/11/18 00:50:54.024205: PDUENV1 Apid: 0x21f:543
2006/11/18 00:50:54.224896: PDUENV2 Apid: 0x220:544
2006/11/18 00:50:54.424182: PDUENV3 Apid: 0x221:545
2006/11/18 00:50:54.624183: PDUENV4 Apid: 0x222:546
2006/11/18 00:50:54.641354: EPU2STATS Apid: 0x22d:557
2006/11/18 00:50:55.224894: PDUENV5 Apid: 0x223:547
2006/11/18 00:50:55.424199: PDUENV6 Apid: 0x224:548
2006/11/18 00:50:55.624191: PDUENV7 Apid: 0x225:549
2006/11/18 00:50:56.024221: AEMENV0 Apid: 0x226:550
2006/11/18 00:50:56.224897: LRS0 Apid: 0x227:551
2006/11/18 00:50:56.424184: CMDCNT0 Apid: 0x228:552
2006/11/18 00:50:56.624182: CMDCNT1 Apid: 0x229:553
```

Filter: []

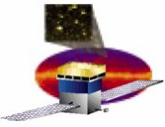
Verbose Clear Pause

Telemetry

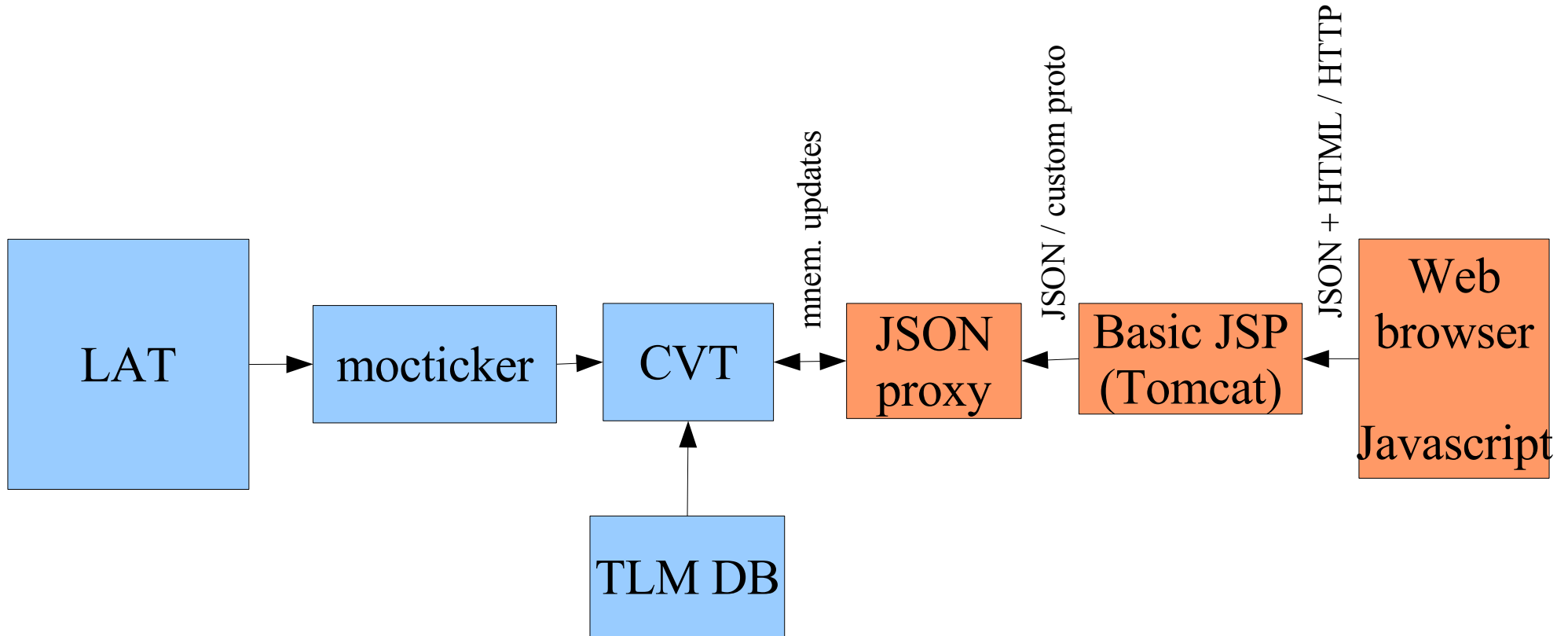
```
2006/11/18 00:50:44.040852: SUCCESS Command confirmation - ITC_!
2006/11/18 00:50:49.040842: SUCCESS Command confirmation - LCM_!
2006/11/18 00:50:49.554872: SUCCESS SIU : 2006/11/18 00:50:49.5!
```

Filter: []

Web tlm monitor, Sept. 28 2007

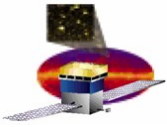


Web Telemetry Monitor Overview



Prod: <http://glast-ground.slac.stanford.edu/TelemetryMonitor/>

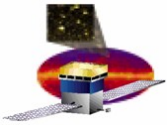
Demo: <http://dhcp-130-254.slac.stanford.edu:8084/org-glast-telemetry-monitor-web/>



Implementation decisions

- ❑ **Cannot “push” messages to the browser**
 - **Polling necessary**

- ❑ **Full-window refresh: not eye-candy**
 - **Client-side generation of the page contents**
 - **javascript polling to a TCP server**
 - **javascript HTML tree (DOM) dynamic modifications**



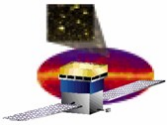
javascript polling

□ TCP server sends JSON Data

– “JavaScript Object Notation”

– **small overhead: directly interpreted by the javascript engine**

```
{ cmd: "summaries",
  server: "('bicrobe', 1190995032.651469, 10989)",
  summaries: [
    { msg_idx: 169,
      apid: 548,
      groups: [ "lathk", "lat", "all" ],
      summary: "2006/11/18 00:50:47.224898: PDUENV6 Apid: 0x224:548" },
    { msg_idx: 170,
      apid: 549,
      groups: [ "lathk", "lat", "all" ],
      summary: "2006/11/18 00:50:47.424185: PDUENV7 Apid: 0x225:549" },
    { msg_idx: 171,
      apid: 550,
      groups: [ "lathk", "lat", "all" ],
      summary: "2006/11/18 00:50:47.624184: AEMENV0 Apid: 0x226:550" }
  ]
}
```



javascript DOM updates

□ manipulate the XML tree the usual way:

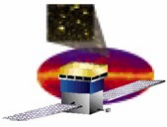
```
var myElement = document.createElement('div');  
myElement.setAttribute('class', 'monitor_entry');  
myElement.reset_idx = this.reset_idx;
```

```
var icon = document.createElement('img');  
icon.setAttribute('src', 'icons/plus.png');  
icon.setAttribute('class', 'monitor_detail_folded');  
icon.onclick = bindMethod(this, this._download_details, details_url, myElement, icon);  
myElement.appendChild(icon);
```

```
txt = document.createElement("span");  
txt.setAttribute("class", "summary");  
txt.innerHTML = summary;  
myElement.appendChild(txt);
```

```
this.el.appendChild(myElement);
```

http://developer.mozilla.org/en/docs/Gecko_DOM_Reference



Debugging, etc.

- ❑ **Firefox: use firebug !**
 - <http://www.getfirebug.com/>
 - explore the DOM, live !
 - up-to-date version of the modified HTML code
 - backtrace upon javascript exceptions
 - explore the CSS actual configuration
 - lookup the actual DOM element by pointing with the mouse

- ❑ **Problem: is there the equivalent for IE, konqueror, safari ?**