

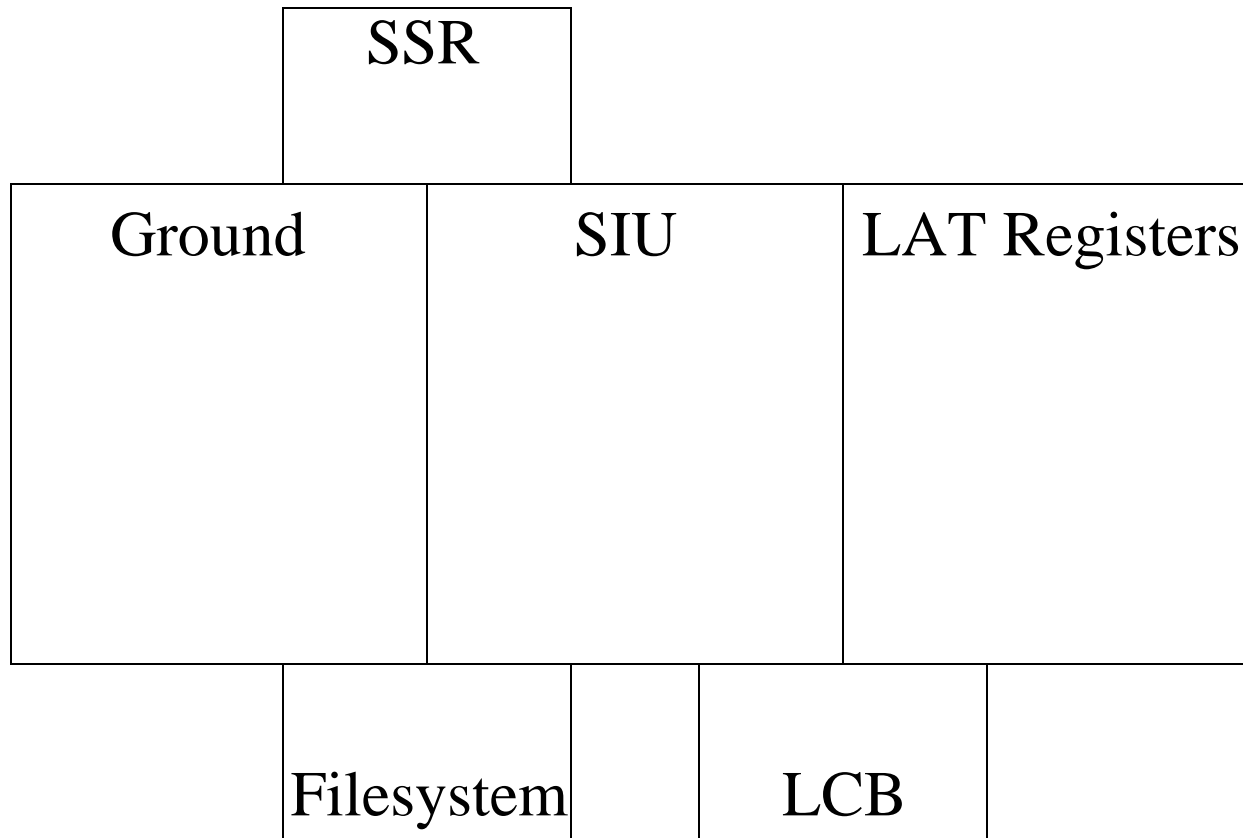
# LAT Configuration

- LATC Universe
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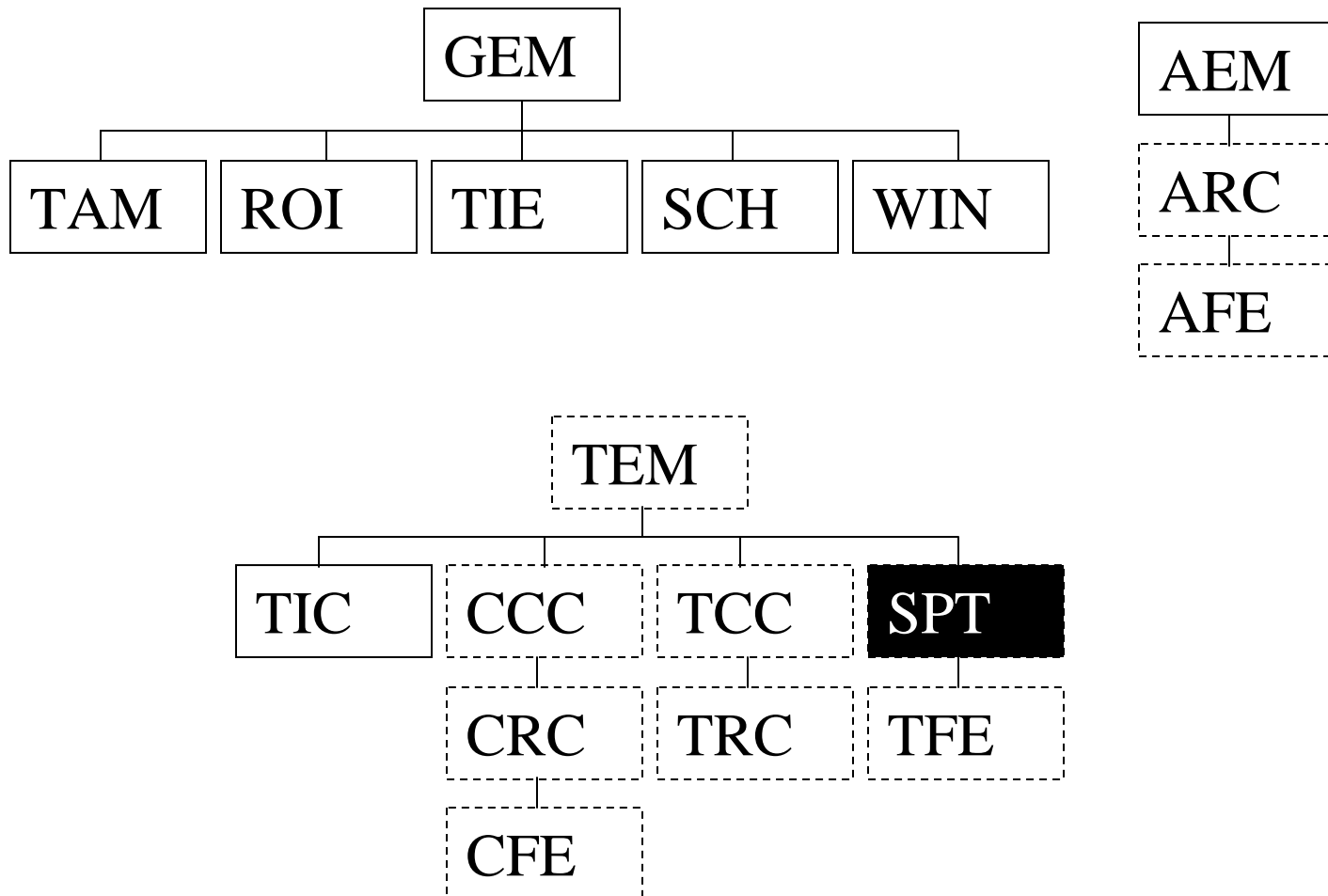
# LATC Universe



# LAT Register Classification

- Engineering/Development
  - LATp Command/Response statistics
- Application Driven
  - Command/Response masks, Power
- Monitoring
  - Voltages, Temperatures, Currents, Counters
- Write Once
  - Timeouts
- Configuration
  - TFE Data Masks

# LATC Register Hierarchy



# Sample LATC XML

```
<?xml version='1.0' standalone='yes' ?>
```

*Standard XML header*

```
<!DOCTYPE LATC_XML SYSTEM
```

```
  "/afs/slac/g/glast/flight/ICS/source/LATC/prod/LATC/latc.dtd">
```

```
<LATC_XML>
```

*LATC XML document*

```
<AEM>
```

*Component (AEM)*

```
<trigger_sequence>
```

*Register (trigger sequence)*

```
<cal_strobe> 0 </cal_strobe>
```

```
<tack> 0 </tack>
```

*Field (TACK)*

```
</trigger_sequence>
```

```
<aem_configuration>
```

*Register (configuration)*

```
<data_mask>0x3ff</data_mask>
```

```
</aem_configuration>
```

```
<ARC ID = 'BCAST'>
```

*Component (ARC)*

```
<pha_enable_0> 0xffff </pha_enable_0>
```

```
<pha_enable_1> 0x3 </pha_enable_1>
```

```
<veto_enable_0> 0xffff </veto_enable_0>
```

```
<veto_enable_1> 0x3 </veto_enable_1>
```

```
<max_pha> 18 </max_pha>
```

```
</ARC>
```

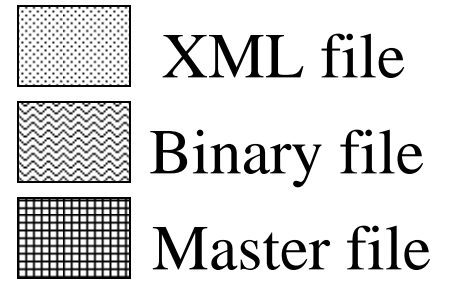
```
</AEM>
```

```
</LATC_XML>
```

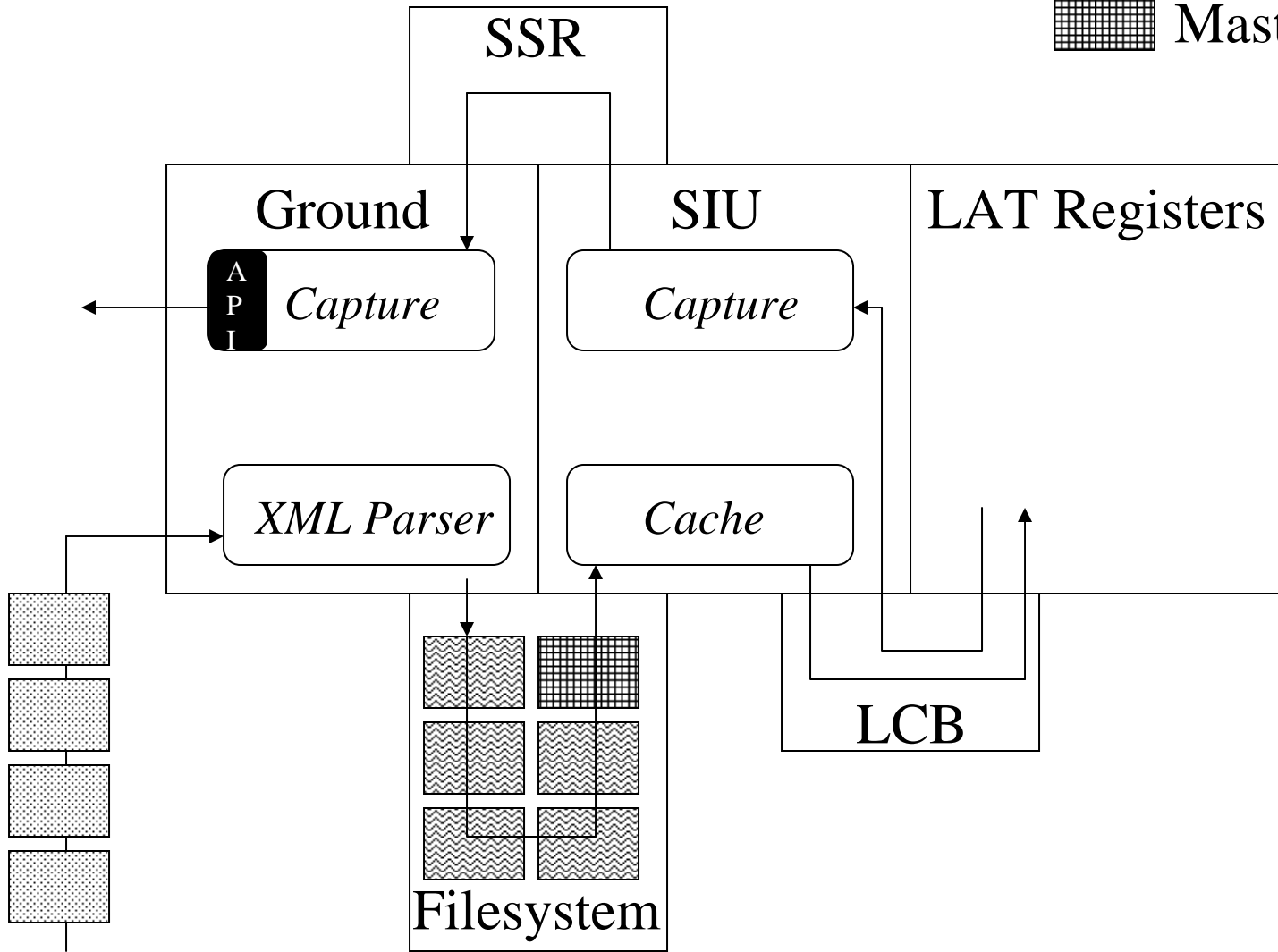
# Sample LATC XML (cont.)

```
<?xml version='1.0' standalone='yes' ?>
<!DOCTYPE LATC_XML SYSTEM
  "/afs/slac/g/glast/flight/ICS/source/LATC/prod/LATC/latc.dtd">
<LATC_XML>
  <AEM>
    <ARC ID = 'BCAST'>
      <AFE ID = 'BCAST'>
        <afe_configuration>
          <high_TCI>      0 </high_TCI>
          <HLD_discriminator> 1 </HLD_discriminator>
          <veto_discriminator> 1 </veto_discriminator>
          <high_gain_range> 0 </high_gain_range>
          <manual_gain_range> 0 </manual_gain_range>
          <TCI>          1 </TCI>
        </afe_configuration>
      </AFE>
    </ARC>
  </AEM>
</LATC_XML>
```

# Operation



ISOC (or some other form of intelligence)



# Operation (in words)

- Set of XML files describing desired configuration are prepared by ISOC.
- LATC XML parser converts these into binary LATC configuration files
- FMX tool is used to select subset of all binary configuration files in the database and create a Master File.
- All binary files not present on the LAT plus Master File are uploaded in the usual manner.



# Operation (in words) (cont.)

- Master File is identified in argument to a command to calibrate or acquire data.
- LATC is used to read the binary files into the cache and configure the LAT.
- LATC is used to interrogate the LAT and capture the configuration.
- The captured configuration and the cached configuration can be compared on the LAT.
- The captured configuration is written to the SSR.

# Operation (in words) (finale)

- The captured configuration is recovered from the downlinked data.
- LATC API is used to pull out interesting values.