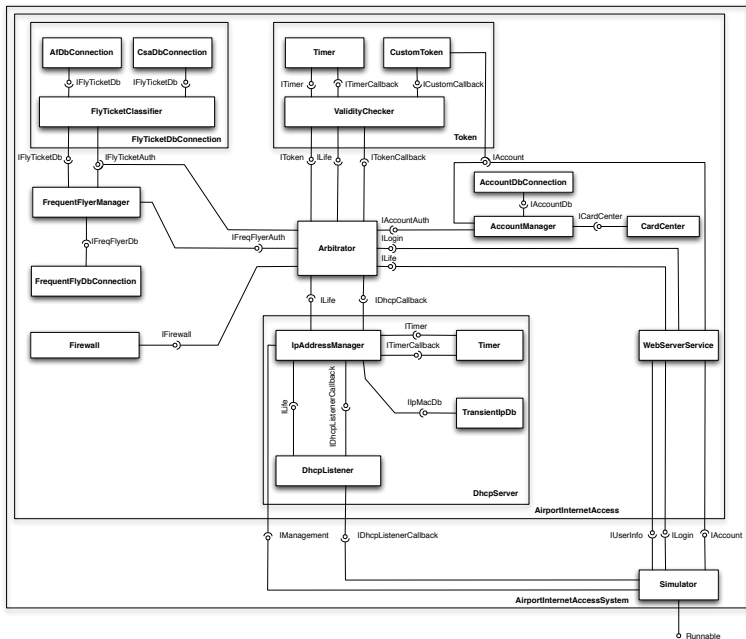


Airport Internet Access Example

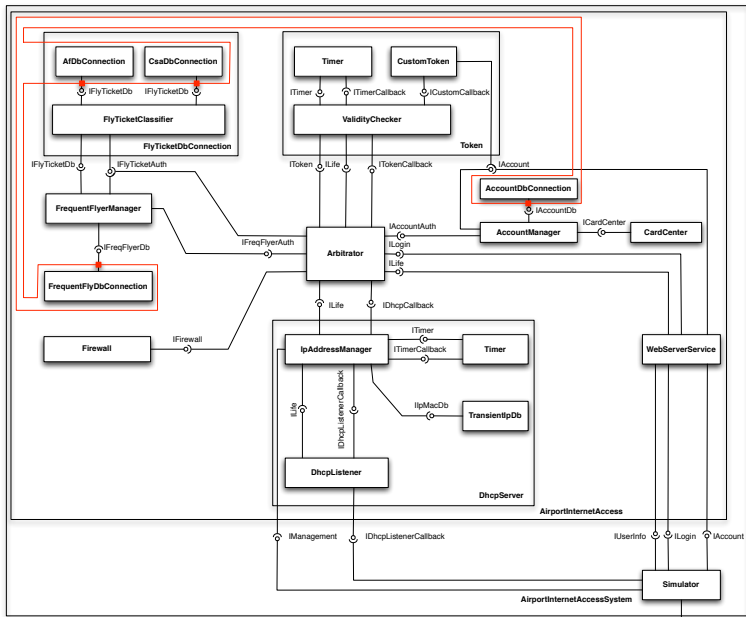
Abdelhakim Hannousse

April 7, 2010

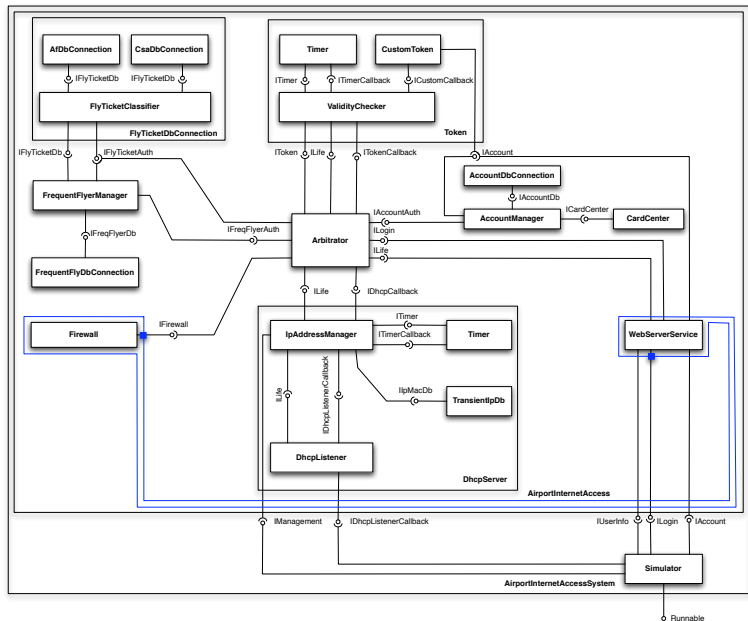
Airport Internet Access Example: Fractal Component Architecture



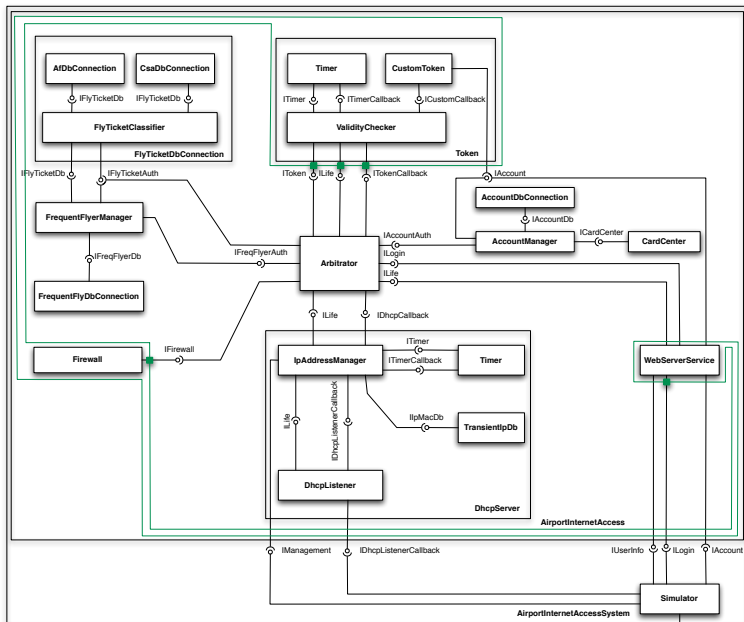
Airport Internet Access Example: Database (Logging/Transaction/Cache) View



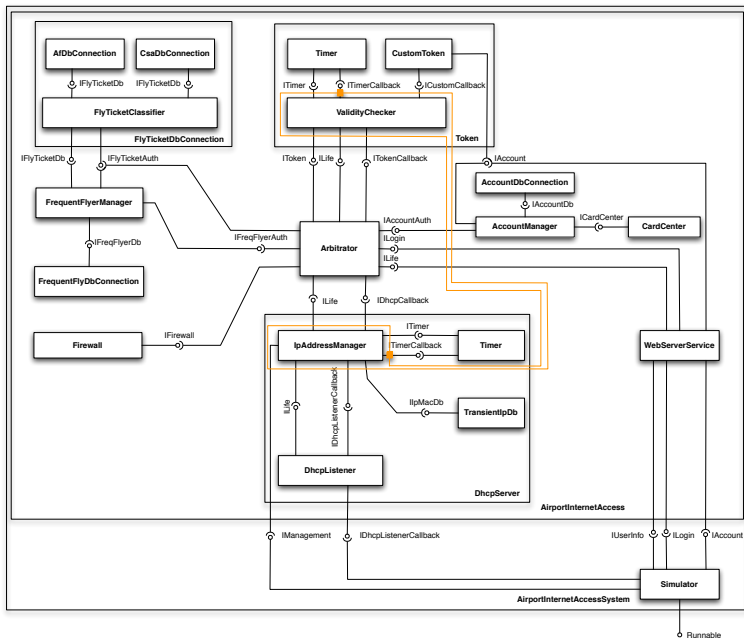
Airport Internet Access Example: Connection (Real-Time) View



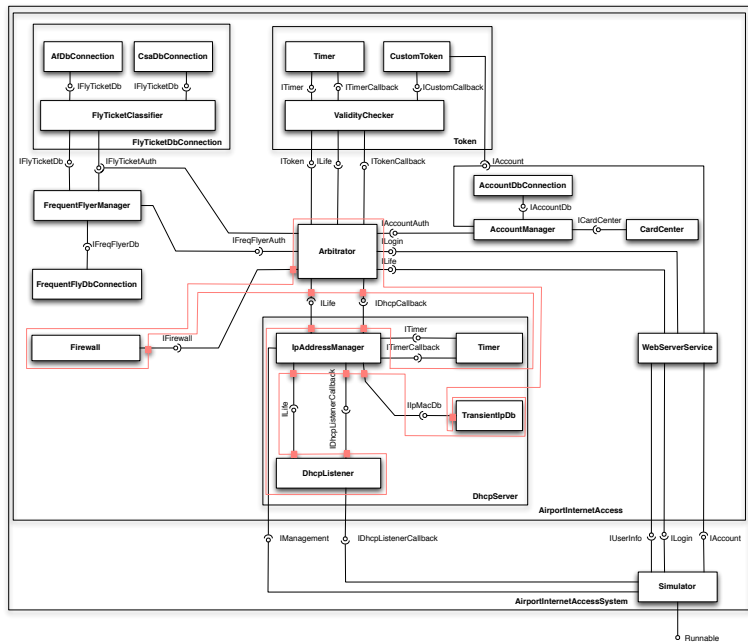
Airport Internet Access Example: Session (LifeCycle) View



Airport Internet Access Example: TimerUser (Bonus-Time) View



Airport Internet Access Example: IPFlow (Encryption) View



VIL Language

$s \in BSelector$::= $id \mid *$

$IType, st \in Selector$::= $s \mid st_1 st_2 \mid \bar{st}$

$sig \in Signature$::= $s_1 s_2(\bar{s} \mid \setminus s)$

$v \in View$

```
 ::= st // a specific component or all the components
 | child [+] v // all the direct childs of e; [+] is used for tranistive closure
 | parent [+] v // all the direct parents of e; [+] is used for tranistive closure
 | instance v // all the components that have the same type as e
 | provide v [IType* | sig*] // all the components in e providing a set of interfaces of type that belong to sig
 | require v [IType* | sig*] // all the components in e requiring a set of interfaces of type that belong to sig
 | cbound v // all the components bound to a client interface of e
 | sbound v // all the components bound to a server interface of e
 |  $v_1 \ominus v_2$  // all the components belonging to  $e_1$  and not to  $e_2$ 
 |  $v_1 \oplus v_2$  // all the components belonging to  $e_1$  and to  $e_2$ 
 |  $v_1 \otimes v_2$  // all the components belonging to  $e_1$  and  $e_2$ 
```

Expression Examples:

$v_1 = *DbConnection$

$v_4 = \mathbf{require} * \{ITimerCallBack\}$

$v_5 = \mathbf{provide} * \{(* * (\setminus IP))\} \oplus \mathbf{require} * \{(* * (\setminus IP))\}$