

Case Study of Deployment of Breeze thin clients in Automatic Ticket Vending Machine of India Railways

Customer Details:

CRIS & Indian Railways
All Over India

Brief on Unreserved Ticketing System thru ATVM's

Apart from manned counters for dispensing tickets, there are also automatic ticket vending machines (ATVM) that are operated using smart cards and touch screens. This technology was first introduced in Mumbai in Oct'2007 and its success led to proliferation to other metropolitan cities. Chennai, Secunderabad, Delhi and Kolkata are the other cities where these machines are currently commissioned.

Opportunity:

CRIS wanted to deploy ATVM's with thin client as CPU, which can sustain different climate condition across India.

Challenges:

- Highly secured & lower maintenance client required to enable lesser downtime in terms of hardware & software
- 24 x 7 working
- Should be able to sustain different climatic condition like very high & low temperatures, humid conditions and on top of that no air conditioning environment at stations
- Must be easily Manageable from remote to reduce the IT support calls and to reduce the Client down time
- Easy to Implement, Configuring & troubleshoot
- Ability to push patches etc. remotely
- Data security (Highly confidential information which should not be allowed to taken away from any of the UTS counters)
- Low footprint to ensure minimum physical space required, since it has to be installed within an ATVM has limited space

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Requirements:

- CRIS ATVM application runs on JAVA with X interface
- Two Flash, one in primary & secondary each for redundancy
- Customized Linux with support of legacy applications
- OS size not exceeding 2GB
- Minimum three Serial Ports for device connectivity
- Thermal Printer used for ticket printing with status update
- USB ports to be disabled for storage device access for data security

Solution:

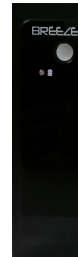
Deployed Breeze ECC LXR Thin Client

Configuration:

Operating System – Embedded Customised Linux with kernel 2.6.32 (as required by CRIS) within 800 MB

Software – X interface, Java and other required dependencies

Hardware- Min 1.1Ghz Quad Core processor with burst frequency 2.4Ghz ,
4 GB RAM, 32GB OP FLASH,USB ports, one Parallel printer Port,
Min One free Serial Port etc.



By deploying Breeze thin client following objectives were achieved in addition overcoming all the challenges mentioned above -

- ✓ *As the thin clients are without any moving part, the maintenance is very low compared to regular desktop*
- ✓ *The OS & software's are stored in Flash drive which ensured faster speed*
- ✓ *With USB storage disabled, no unauthorised access to data*
- ✓ *No fiddling with configuration etc.*
- ✓ *Protection from viruses and malware attacks*
- ✓ *Consumes 1/4 power compared to a regular desktop, ensuring Huge savings on power bills*

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