

# ABN Malaysia

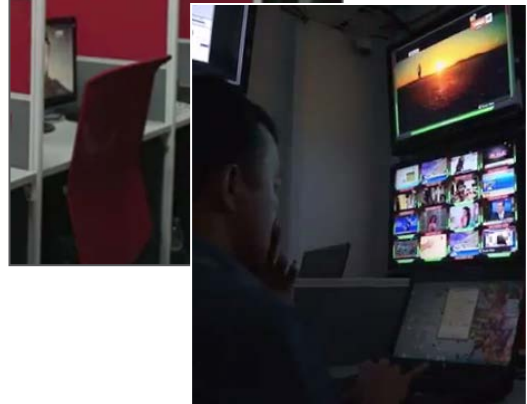
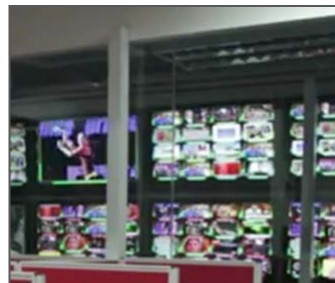
## Network Operations Centers

### ARRIS Global Services

## Case Study

### KEY HIGHLIGHTS:

- Location: Malaysia
- Industry: Cable
- Challenge: Develop, build, and support network monitoring centers for a new HFC network
- Business Value
  - Regulatory-compliant censorship facility
  - Video quality monitoring and improvement
- ARRIS Solution
  - Consulting, design, turnkey integration
  - ARRIS and third party systems
  - Delivered ARRIS and third party training
  - As-built documentation
  - NOC Staffing plan
  - Troubleshooting guides



### SERVICE OVERVIEW:

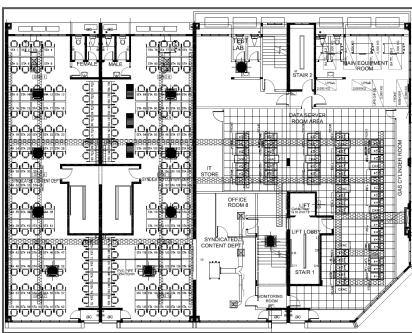
#### The Business Challenge

ABN Malaysia, Malaysia's first cable TV operator, had a vision to provide "Access for All," eliminating the digital divide between the rich and the poor. ABN required certain Network Operating Center (NOC) monitoring capabilities to comply with government requirements for censorship and to ensure video quality. ARRIS was responsible for the design and implementation of this new HFC network and the headend and NOC facilities.

## The Services Solution

ABN secured ARRIS Global Services to design and build a 200-channel MPEG4 Digital Video Headend, NOC, and their first five hub sites. Our teams guided ABN through the complete construction process and consulted on international construction guidelines. The team installed Encoders, M3 VOD Servers, a DM6400, and a CAP1000 in the headend and helped deploy HMC3000 set-top boxes to ABN’s customers. ARRIS Services coordinated third-party integration services for CAS, Middleware, Ad Insertion, and IP network infrastructure.

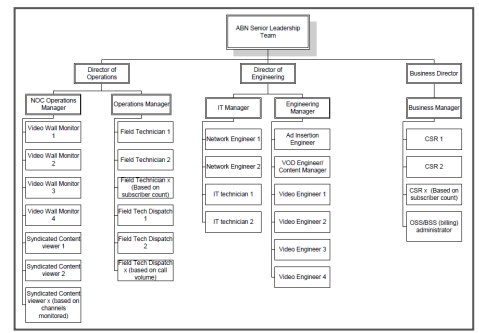
The NOC build included custom censorship and video quality monitoring capabilities. The Censorship Room was equipped with 200 workstations for real time monitoring and censorship of video content in accordance with Malaysian law. The Video Monitoring Wall allowed ABN to monitor video quality and remotely log into headend equipment – traditional encoder-based and IPTV platforms to troubleshoot and isolate off-air issues. Redundant systems with automatic failover preserved the integrity of the video signal while maintenance was performed on the failed equipment. The NOC controlled failback to the primary system.



NOC Floor Plan

Task Name	Duration	Start	Finish	Actual Finish	Predecessors	Feb 26, '12	Mar 4
						S S M T W T F S S M	
ABN HE Rework	88.89 days	Mon 2/27/12	Fri 3/12/12	NA			
Floor Plan (FP) spreadsheet	0.89 days	Mon 2/27/12	Mon 2/27/12	Mon 2/27/12			
ABN approval of FP Spreadsheet	1.78 days	Tue 2/28/12	Wed 2/29/12	Wed 2/29/12			
Floorplan drawing revised	1.78 days	Tue 2/28/12	Wed 2/29/12	Wed 2/29/12			
ABN approval of Floor Plan drawing	1.78 days	Tue 2/28/12	Wed 2/29/12	Wed 2/29/12			
T & E Capture	3.56 days	Mon 2/27/12	Thu 3/1/12	Thu 3/1/12			
Gather redesign time	2.67 days	Mon 2/27/12	Wed 2/29/12	Wed 2/29/12			
Gather Commissioning rework time	1.78 days	Mon 2/27/12	Tue 2/28/12	Tue 2/28/12			
Gather Route Rework time and cost	1.78 days	Mon 2/27/12	Tue 2/28/12	Tue 2/28/12			
Submit Rework Time and Expense for ABN approval	2.67 days	Mon 2/27/12	Wed 2/29/12	Wed 2/29/12			
Create new SOW and PO for Route	3.56 days	Mon 2/27/12	Thu 3/1/12	Thu 3/1/12			
Redesign tasks	19 days	Wed 2/29/12	Thu 3/29/12	NA	5		
Encoder Subsystem	3 days	Wed 2/29/12	Mon 3/5/12	Fri 3/2/12			
Content Processing	5 days	Fri 3/2/12	Fri 3/9/12	NA			
Ad-insertion drawing and wirelist	5 days	Fri 3/2/12	Fri 3/9/12	NA			
Seincore drawing and wirelist	5 days	Fri 3/2/12	Fri 3/9/12	NA			
EMARCS drawing and wirelist	5 days	Fri 3/2/12	Fri 3/9/12	NA			

Project Plan



Staffing Plan

ARRIS documented the as-built conditions of the NOC and recommended staffing for ongoing operations. Initially, three full-time ARRIS personnel provided on-site support to the headend and NOC. The team provided Program and Project Management services for the entire project. ARRIS met all of ABN’s project milestones in a timely fashion. In addition, the team provided full, turnkey training and documentation for NOC operation to bring up and take down channels and provided ABN’s engineering team with 24x7 support.

## ARRIS Global Services Values

### Accelerate time to market:

Stay competitive with rapid deployment of new services

### Reduce costs:

Contain costs on deployment, integration, and support

### Maximize revenue and profits:

Optimize operations, ensure service quality, increase customer loyalty, grow revenue and profit margins

## Why ARRIS ?

### Multi-technology experience that is unique in the industry:

ARRIS has designed, delivered, and optimized end-to-end network solutions for service providers.

### Flexible business model and approach:

ARRIS can build a customized operations solution for virtually any network operations requirement.

### World-class support:

ARRIS provides support from committed and highly trained, experienced professionals, complete with state-of-the-art local support centers, test labs, and repair depots.

### Voice, Data, and Video Technology leadership:

ARRIS has a wealth of experience and expertise in introducing and operating new technology network systems.

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