

Layer3 Systems Limited



# CustardWare Overview

V2.1

*“A vanilla solution to our  
monitoring problems.”*

*Chief Technology Officer. – Major Corporation*

# What Is CustardWare?

CustardWare is a monitoring and reconnaissance tool providing:

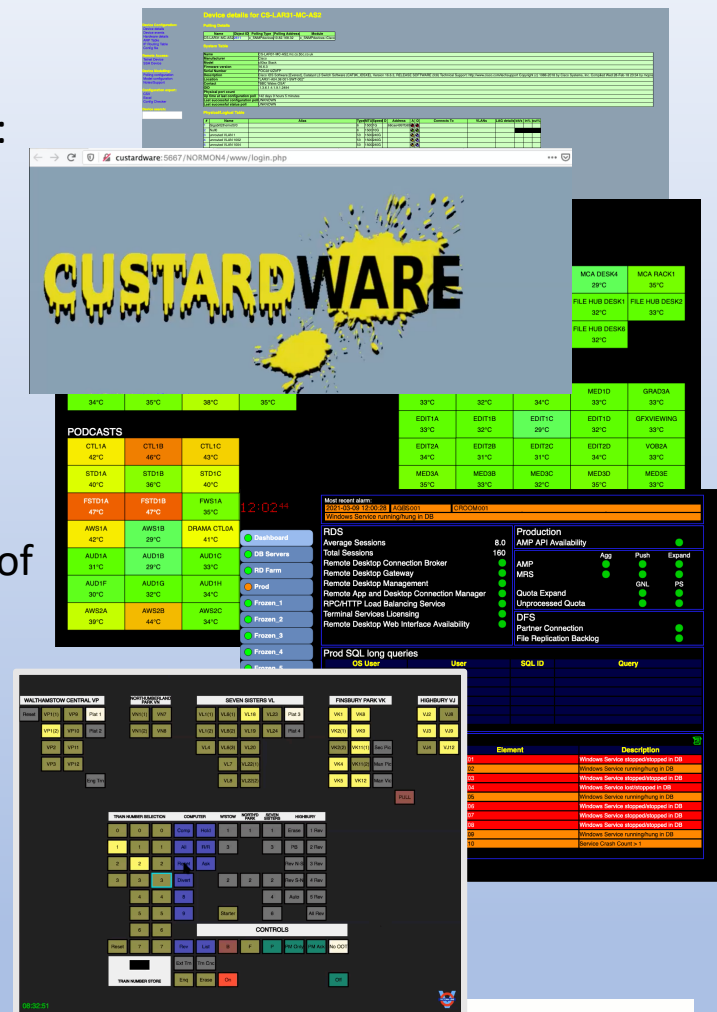
- Cost effective, efficient, powerful and intuitive operation.
- Modular data acquisition using standard protocols or interfacing techniques.
- Data storage layer.
- Front-end processing and presentation.

CustardWare is a flexible solution we can adapt to a wide range of applications and different scenarios:

- Highly adaptable, scalable and customisable by Layer3.
- A framework for a range of extensible applications
- Adaptable to suit other purposes or extend function
- A low-cost architecture designed for reuse

You could describe CustardWare software as:

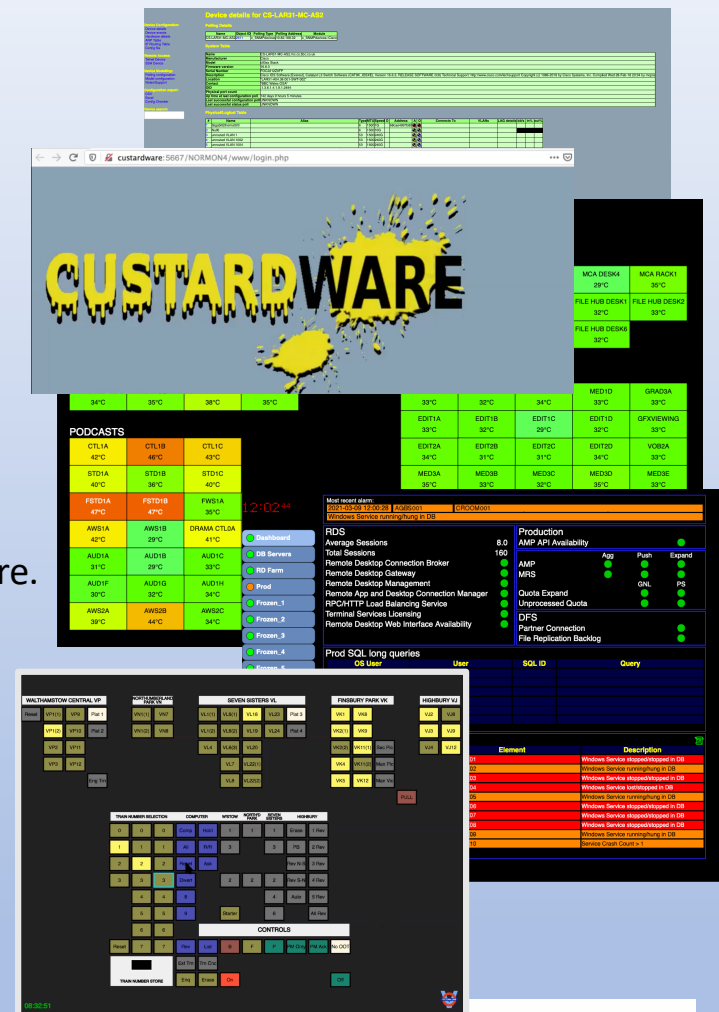
- Supervisory Control and Data Acquisition (SCADA).
- Advanced monitoring and reconnaissance software.



# Layer3 Systems History

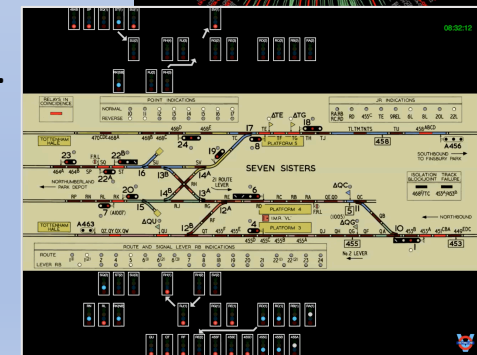
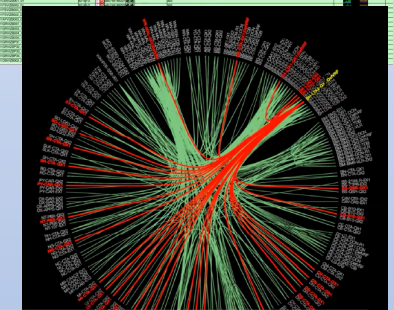
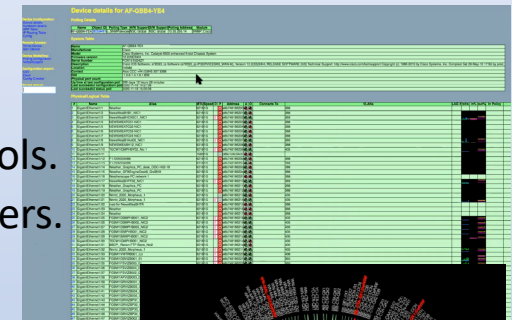
## Layer3 Systems Limited

- Formed in 1995 - 25 years of in depth technical experience.
- Supporting SME and large Enterprise environments
- Deep understanding and knowledge of networking and IT.
- Worked on many broadcast IP projects for UK broadcasters and larger broadcast technology suppliers.
- Provided technical solutions for many companies worldwide.
- Developed in-house tools to solve technical and diagnostic problems. Some developed over many years of use into products like CustardWare.



# Origins and Evolution

- CustardWare was developed in 1996 for major corporations
  - Provided Enterprise Management features missing in other network monitoring software:
    - Support for non-standard switches. Early days of VLANs and routing protocols.
    - IP Classless Inter-Domain Routing (CIDR) subnetting.
- Re-developed in 2004 as CustardWare 4.0 (Normon)
  - Highly modular approach, using libraries and external software tools.
  - Used to investigate and solve network problems for many customers.
  - Increased graphical capability.
- Further developed in 2009 into CustardWare 5.0
  - Vendor-neutral diagnostic and reconnaissance capabilities.
  - Modular framework where low cost modules may be rapidly added.
  - Resilient, multi-CPU, scalable solution provided as a “Managed Service”.
  - A simple web based front-end using standard browsers.
  - Low admin overhead – using auto-discovery in a non invasive way.
  - Able to support vendor-neutral extras such as password changing
  - Fast deployment and set up.
  - Scalable Vector Graphics support.
- Further developed in 2014 into CustardWare 6.0
- Latest development started in 2018 for CustardWare 7.0



# Graphics

Generally we keep things down to simple tables and graphs, though we have frequently developed bespoke solutions that make great use of graphics to provide detail that is hard to grasp in any other ways. We can build custom graphics or emulate other systems with ease!

**Spectrum Emulation**

**POWER USAGE**

**Power Monitoring**

MAIN STUDIOS 6.18kW			
PCROA DESK1 577W	PCROA STACK1 1108W	PCROA DESK2 477W	VIDOA DESK1 548W
GAL2A DESK1 628W	GAL2A STACK1 1007W	GAL2A DESK2 374W	
GAL2B DESK 1236W	GAL2B RACK 254W		

STREAMING 3.90kW				
MCA DESK1 383W	MCA DESK2 284W	MCA DESK3 315W	MCA DESK4 234W	MCA RACK1 590W
MCA RACK2 120W	MCA RACK4 591W	FILE HUB SUP 419W	FILE HUB DESK1 164W	FILE HUB DESK2 173W
FILE HUB DESK3 193W	FILE HUB DESK4 183W	FILE HUB DESK5 173W	FILE HUB DESK6 163W	

BROADCAST 1.53kW			
CON 3A 485W	CON 3B 495W	CON 3C 48W	CON 3D 481W

EDIT/PRODUCTION 18.38kW				
MEDI1A 244W	MEDI1B 365W	MEDI1C 367W	MEDI1D 374W	GRADSA 678W
EDIT1A 455W	EDIT1B 540W	EDIT1C 505W	EDIT1D 534W	GFVIEWING 298W
EDIT2A 388W	EDIT2B 344W	EDIT2C 351W	EDIT2D 349W	VOBSA 31W
MED3A 624W	MED3B 251W	MED3C 211W	MED3D 658W	MED3E 530W
MED3F 564W	MED3G 133W	MED3H 280W	MED3I 447W	EDIT3D 463W
EDIT3E 567W	EDIT3F 158W	EDIT3G 179W	EDIT3H 199W	EDIT3J 180W

**Application Monitoring**

**System Control**

**Sophisticated Custom Graphics**

**System Simulation**

# CustardWare (Applications and Uses)

Custardware provides fault tolerant non-stop operation for monitoring and diagnostics and supports a wide range of usage cases.

- **Major Broadcaster Network Audit** - Reconnaissance and In-Service Improvement tool.
- **VOIP Analysis** - Assess bandwidth and understand layer 1, 2 and 3 topologies for customer.
- **Multicast Network Training** – Provided Multicast training for customers.
- **Corporate offices fit-out project** - PC Asset delivery + management, VLAN confirmation, bandwidth/utilisation, port/usage.
- **Cisco Analysis** - Used to assess/compare Cisco solutions against competitors.
- **Site Closure** - Identify system/network connectivity for migration of physical and virtual systems during major move of site.
- **Mikrotik Traffic Shaping** - Used to understand and manage networks on a customers International sites.
- **Broadcast Network Control System (BNCS)** - Resolving issues integrating into customer network.
- **CustardWare LAN Uptime reporting** - Uptime statistics reporting software module.
- **Vodafone network issue** - Understanding topology on new Vodafone network and prove packet loss on networks over Vodafone.
- **Multiprotocol Label Switching (MPLS)** - Additional software module written for a customers Vodafone QinQ implementation.
- **Network Core Migration** - Site assessment before, during and after roll-out.
- **Network Design** - Understanding pre- and post- network design and performance, identification of vendor network issues.
- **Network Security** - CustardWare used to identify aspects of network routing topology.
- **Network supplier issue** – Packet corruption issue diagnosed/resolved.
- **IP Radio Instability** - Understanding of network design, diagnostics, and Control Plane Policing.
- **Network and Environmental Monitoring** – Eventing and alerting support for Bryant MDU devices .
- **Power Usage Effectiveness** - PUE measurement and Room Heat Maps/Power Usage diagrams.
- **Interoperability** - Integration with other monitoring tools.
- **Application Monitoring** - Process, database and host monitoring with eventing and alerting.
- **Graphics** - Custom built dashboard displays, modern, web-based, richly featured Graphical User Interface.
- **Deployment Options** - On-premise, physical and virtual machine options.

# Cost Benefits

- **CustardWare** is cost-effective, efficient and powerful.
- **Intuitive** and easy to use.
- **Vendor-neutral** and extendable, all devices managed in a similar way, regardless of make, model, version.
- **Highly automated.**
- **Fully managed service** provided by Layer3:
  - Requiring no day to day maintenance or management by internal staff.
  - You don't need specialist staff or people dedicated to integrating or supporting the tool.
- **CustardWare** has an excellent track record:
  - 20+ years of development and use.
  - Developed under active use in monitoring or tackling existing or emerging real customer problems.

# Design Philosophy

- **Our design philosophy encompasses** - Creating useful diagnostic, support and management tools, intuitive, highly automated.
- **Enterprise-wide, expert assistance** - Assists specialists in understanding operation devices, systems and applications.
- **Systems, Databases and Network devices don't work in isolation** - Helps understand connectivity and function as a whole.
- **Vendor and device neutral** - All equipment managed in a similar way, regardless of make, model, version.
- **Near zero configuration for the user**, staff only input:
  - Device Name + Management Address + Authentication details (our plugins handle the donkey work!).
- **Web browser-based** - with a resilient fully structured database back-end.
- **Flexible, modular design** - Making additions cost effective for us to design and implement.

# Further Presentations

- CustardWare v6.0 - Enterprise Monitoring
  - Monitoring a large network.
- CustardWare v6.5 - Site Monitoring Solutions
  - Regional broadcaster monitoring and reporting.
- CustardWare v6.5 – Application Monitoring Solutions
  - Application monitoring on a broadcast management system.
- CustardWare v6.5 – System Simulation and Display
  - Victoria Line Signaling System Simulator.
- CustardWare v7.0 – Future Development and Solutions
  - Scalability and Design into the future.
  - Uses beyond monitoring.



# Any Questions?

- We would be pleased to answer questions and explore possible use cases:
  - [email vivg@layer3.co.uk](mailto:vivg@layer3.co.uk)
  - or call 0208 769 4484.
- Please contact us directly if you have more in depth questions or would like to discuss requirements or ideas in more detail.
- Demonstrations can be arranged at your request...

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