Training and Simulation Experts

Calytrix Technologies / Welcome

Calytrix is a Training and Simulation company specializing in developing and delivering integrated Live, Virtual and Constructive training solutions. Uniquely combining simulation product development with training subject matter experts, Calytrix enhances operational readiness and training outcomes in both the defense and civilian domains.

Calytrix balances innovation, technical and managerial skills with practical experience. Our continual and significant R&D investments ensure that our products and services are of the highest quality and at the forefront of the simulation, integration and training sectors. Our products and services are designed to support the development and delivery of all phases of training, wargaming and experimentation life cycles.
Calytrix Technologies / Meet the Team

Backed by a proven team of engineers, managers and subject matter experts across Australia and the USA, Calytrix delivers its products and consulting services in the Americas, Asia, Australia, Europe, the Middle East, New Zealand and the UK.

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The Calytrix Story

Calytrix Technologies / In Australia

Established in 2001, Calytrix has focused on the defense training and simulation domain, although our work has expanded to encompass the international humanitarian assistance communities. While our original focus was on software development, Calytrix has grown a substantial training and consulting division to deliver both technical and integration solutions to meet its customers’ growing needs and expectations. Calytrix maintains a careful balance between its complimentary software development and services arms.

Today, Calytrix is the largest provider of simulation integration services to the Australian Defence Force (ADF). Using a combination of ex-military officers and simulation technicians, Calytrix is responsible for designing and implementing LVC integration to Australia’s largest military exercises. We have developed a strong reputation as a software developer and our products are used throughout the ADF and the world.
Calytrix Technologies / in the USA

Calytrix Technologies Inc. is a growing and vibrant member of Orlando’s simulation and training community based in the Central Florida Research Park in Orlando, Florida. Our staff of highly experienced managers, engineers, contract experts, technical support and product manufacturing personnel, many of which are veterans, strive to exceed our customers’ expectations. Calytrix provides extensive support to military training services as the prime contractor for the US Army’s Game for Training (GFT) program with responsibility for delivering a comprehensive gaming system, training and technical support.

Calytrix has teamed with many companies to serve our military and civilian customers. As a “Small Business” by US Department of Commerce standards, Calytrix Technologies Inc. serves as a prime and a subcontractor on several important diverse modeling and simulation programs.
Proven LVC Experience

Australian Defence Simulation and Training Centre

Calytrix has been the lead systems integrator in the ADSTC since 2007. Calytrix is responsible for all the contracted technical, operational planning and governance aspects of delivering simulation integrated high level joint and combined training on behalf of Headquarters Joint Operations Command.

The ADSTC is responsible for developing and delivering synthetic training environments for Defence Joint and Combined training activities and promoting the use of modelling and simulation in support of broader Defence activities. It is a complex organization that brings together a range of systems, applications and experience to provide world class training design and effect to the Australian Defence Force (ADF).

Key areas of support include:

- WAN development and deployment at the restricted and secret level
- COTS software products (e.g. CNR - Sim and CNR - Live)
- Design, development and sustainment of the synthetic backbone
- LVC development and systems integration
- Technical authorship and accreditation
- Exercise planning and assessment (PM/AAR function)
- Operations support, logistics and facilities
**ADSTC / Architecture Diagram**

**Communications**
Integrated communications services that deliver VOIP, video and simulated and live radio.

**MIS Services**
Office, collaboration and admin systems delivered as a managed service.

**Synthetic Spine**
Simulation data is carried over a multi-protocol data service.

**Simulation**
Various Live, Virtual and Constructive systems are connected to support the training audience.

**SOE Deployment**
Desktop deployment using standard PCs and thin client terminals.

**Virtualized Servers**
Core services are delivered via a cluster of virtual machines that can be delivered as a service.

**DTEN WAN**
Using the existing Defence bearer, the ADSTC WAN services are provided across the DTEN multi-level security network.
US Army’s Games for Training

GFT / Prime Contractor

Calytrix is the prime for the U.S. Army’s Games for Training (GFT) program. GFT enables the Army to leverage and influence gaming technologies in order to rapidly deliver relevant training capabilities to support current and future soldier, leader, collective training and mission rehearsal. Calytrix is responsible for all delivery, development and training on the program.

The GFT Mission

To field and support an Army-wide, game-based training system that provides our Soldiers with a platform to train small unit tactics, techniques and procedures in Decisive Actions.

PEO-STRI, US ARMY

Key Tasks Include:

- Program Management
- Software QA and Release
- Help Desk Support and Licensing
- Conduct of Training Courses
- Scenario Terrain and Model Development
- Software Enhancements
GFT / Software Components

The complete Games For Training (GFT) software package consists of:

- **Virtual Training Environment**
  Virtual Battle Space 3 (VBS3) — *Bohemia Interactive Simulations*
- **Advanced Radio Simulation**
  Comm Net Radio (CNR-Sim + CNR-Effects) — *Calytrix Technologies*
- **DIS/HLA Integration**
  Calytrix LVC Game — *Calytrix Technologies*
- **In-game Crowd and Insurgent Generation**
  Crowd Ambience — *SimCentric*

The package reflects a comprehensive gaming system that is servicing U.S. Army's training needs today

25,000 downloads and counting...

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Comm Net Radio

CNR / Advanced Simulated Radio Platform

Calytrix Comm Net Radio (CNR) is a family of affordable simulated radio and hardware products. The CNR suite provides a full set of communications services from basic voice communications to highly realistic environmental degradation.

Accompanied by tools to monitor, manage and record radio traffic and bridge to live radios, Calytrix CNR is designed to meet all your live, virtual and constructive radio simulation and training needs.

**Tech Notes**

- Unlimited Channels
- Radio Profiles
- Configurable Hotkeys
- Left Ear/Right Ear Audio
- Voice Activated Keying (VOX)
- Text Chat
- External Sound Injection
- Customizable Squelch Tones
- Adjustable Ambient Sounds
- Dynamic, Environment-Based Degradation with CNR-Effects
- Antenna Modelling
- Full API
CNR / Family

**CNR-Sim**
An enterprise level simulated radio solution delivering unlimited channels, intercom, VOX, text chat, hot keys, sound degradation effects and a full API.

**CNR-Log**
Records and replays all CNR communications with the ability to filter and export WAV format files, all with a full API for external AAR integration.

**CNR-Monitor**
Displays and manages all CNR radios on a network from one location with centralized configuration and remote access.

**CNR-Effects**
Dramatically increases radio realism by replacing clear-comms with physics-based signal propagation/degradation effects based on terrain and radio type.

**CNR-Skins**
Adds realistic, interactive, graphical radio interfaces to deliver greater realism and operator training capabilities.

**CNR-Live**
Connects real radios into the simulated radio network, bridging live and virtual communications to allow all training participants to communicate.

**CNR-Sidetone**
Maximizes audio realism, incorporating sidetone processing, environmental noise mixing and hardware based PTT interfaces to deliver a true audio experience.

**CNR-Intercom**
Mimics the audio realism of a vehicle intercom system by mixing the voices of multiple users into a composite audio heard by all users.

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Radios in Virtual Worlds

**CNR Effects / Radio Check**

Radio communications aren't perfect in the real world, and now simulated radio comms aren't perfect in the virtual world.

Effective communications is an essential component of military training and at the heart of this training is the radio. Regardless of the mix between live, virtual or constructive approaches to training events, there is a clear need to ensure that trainees, instructors, observers and other participants are provided with a comprehensive, realistically limited and flexible communications layer that presents the same challenges, capabilities and limitations imposed in real world operations.

Calytrix CNR-Effects delivers realistic radio degradation effects within the virtual world. The system combines radio properties (power, frequency, antenna type), terrain topology, distance and line of sight (LOS) between transmitter and receiver to deliver realistic radio reception to each player. Further enhancing realism, CNR-Effects in VBS3 also takes into account the effects on simulated radio signals around and within buildings, vegetation and weather.
Radios in Training

CNR DTTS / Delivering Real Savings in Operational Radio Training

The Calytrix CNR Desktop Training Solution (DTTS) enables effective low cost communication training without the need for expensive real radios.

CNR DTTS can deliver a wide range of features without the need to use real and costly radios:

• Use the simulated radios to conduct initial radio training
• Practice radio procedure across simulated networks
• Maintain radio currency and competency without accessing the real radios
• Link the simulated networks with real radios
• Training basic radio fault finding skills
• Instructor can communicate and listen on all networks.

With CNR DTTS you can meet the majority of your radio training needs without ever touching a real radio.

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LVC Game

LVC Game / Integrating Everything

Live, Virtual and Constructive (LVC) systems integration is driven by standards, and there are many to choose from. Calytrix's suite of LVC Game products allow the most popular serious games and training systems to connect directly with one another, and with military standard C2 and simulation systems.

Using LVC Game, Calytrix has developed a number of off-the-shelf products to support the most widely deployed games-based training systems so that most users have an instant solution to solve their integration challenges.

Tech Notes

- Existing support for VBS, Steel Beasts, Unity, Prepar3D, X-Plane, Havok, Genesis RTX... and more!
- Supports DIS and HLA 1.3, HLA 1516, and HLA 1516 Evolved using all major HLA RTIs and FOMs
- Geographic coordinate transformations
- Dead reckoning
- Entity mapping support
- Configuration and Monitoring Tools
- A full Software Developers Kit (SDK)
LVC Game / DIY Integration

LVC Game provides a Software Development Kit (SDK) allowing developers to rapidly add DIS/HLA/C2 capabilities to their products, gaining not only an immediate, extended feature set, but the ability to leverage a proven technology base that is continually updated and fully supported.

Whether you are the user of a training system, or writing your own, LVC Game has a solution to quickly and efficiently link into the live, virtual and constructive domains.
Inject Planner

Inject Planner / Training Results by Design

Exercises don’t just run themselves. They require deep, thorough and meticulous planning. Inject Planner provides you and your team a collaborative online solution for complex exercise planning and result management. Inject Planner is an online tool for developing, managing and accessing training events. Inject Planner lets exercise and training managers develop and deliver realistic training events with the support of an intuitive and competitively priced exercise event management system.

Calytrix’s Inject Planner offers a server based system with a simple intuitive interface that is scalable from small team to multi-agency events, offering the ability to collaboratively plan training events, and to re-use data for future training.
Inject Planner / Save Time — Achieve More

Utilizing Calytrix’s Inject Planner, training developers have an affordable and intuitive means by which to collaboratively plan and execute collective training events within a coherent storyline, focused on desired learning outcomes. Organizations have the ability to rapidly validate training outcomes against desired objectives.

Inject Planner saves time and resources in the exercise planning process and ensures that exercise scenarios can be linked to, and measured against, specified training outcomes.

**Tech Notes**

- Distributed planning over a LAN, WAN or the public Internet
- Reuse of training scenarios and event
- Support for small individual to large collective exercise planning tasks
- A link between exercise activities to training objectives
- Assessment against defined training objectives
- Real-time monitoring of performance
- An interactive timeline to monitor status
-Ability to attach and retrieve supporting documentation, notes and exercise material
- Reporting for training performance and AAR

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**LVC Cost Counter**

**LVC Cost Counter / Measuring What You're Not Spending**

Utilizing Calytrix LVC Cost Counter, Commanders and staff can accurately articulate the savings being made by their simulation systems.

Calytrix LVC Cost Counter is a software system that monitors the simulation network, and accumulates and displays the individual, category and total entity costs associated with LVC simulation events. Cost Counter is able to work on any DIS or HLA systems. Cost Counter enables users to accurately measure and conduct deeper analysis into the cost savings being achieved through the use of simulation.

LVC Cost Counter provides the hard financial data that definitively justifies your simulation system.

**TECH NOTES**

- Supports DIS and HLA networks using all major HLA RTIs and FOMs
- Set the units of measure (e.g. kilometers or miles)
- Set the units of currency (e.g. dollars, pounds, or euros)
- Define reporting periods for sessions and exercises
- Multiple costing models
- Data export
LVC Cost Counter / In Training

From a budget development and operational analysis perspective, Calytrix LVC Cost Counter lets the user:

• Develop budgets for live training by modeling and running the planned exercise in simulation
• Generate accurate and consistent costing data across multiple simulated experiments
• Apply different costing models to compare and contrast results, and
• Export all cost data for further external analysis

LVC Cost Counter / For Analysis

From a simulation and training perspective, Calytrix LVC Cost Counter:

• Accurately calculates the savings being delivered by the simulation, based on user provided data (known costs)
• Presents relevant financial information in real time, showing total cost and costs by category
• Allows accurate cost information to be part of simulation-based decisions.

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The Portico Project

Portico / We Know HLA

Supported by Calytrix, Portico is an open source, cross-platform, fully supported HLA RTI implementation. Designed with modularity and flexibility in mind, Portico is a production-grade RTI for the Simulation and Training Community.

With some 15,000 downloads across 60 countries, Portico is the de-facto open source (free) RTI. Providing C++ and Java support for HLA 1.3, 1.3 DLC and 1516e, Portico is a viable development option for your research and development projects.

As an open source project, Portico embraces an active and vibrant user community. You can participate in many different ways. Making suggestions, contributing code, or notifying developers of any bugs that you might find are just the beginning.

the poRTIco project

www.porticoproject.org
Exercise Planners

Realistic Training / Exercise Design and Delivery

Calytrix’s Operational and Exercise Planners blend state of the art technology systems with experienced military professionals to deliver high quality, focused operational training and support. All of our planners are experienced military professionals with a wealth of real-world experience.

Combining innovative training with world leading simulation systems, Calytrix provides realistic, cost effective training. Calytrix’s Operational and Exercise Planners can deliver professional services in the following areas:

- Training expertise: training design, delivery and evaluation
- Military (joint, air, land, sea) Subject Matter Experts
- Training focused on operational and strategic planning
- Exercise design, conduct and evaluation
- Outcome assessment
- LVC systems architecture, development and delivery
- Role players in support of training activities

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Creating a Pattern of Life

Role Players / Exercise Design and Delivery

Effective training outcomes require realistic training effects. Calytrix has a dedicated role playing group representing a wide range of skills and diverse backgrounds able to replicate realistic training environments.

Calytrix understands the importance of replicating as near as possible the environment for which the training is being conducted. Whether there’s a requirement to replicate Africa, the Middle East, South East Asia or the South West Pacific region, Calytrix can provide role players with the necessary props (including weapons), skills, background and language proficiencies to create a realistic “pattern of life” for your live training.

Whether working with Defense, government or non-government organizations, Calytrix can provide experienced trainers and role players to meet the desired outcomes. Whether the requirement is for two role players or 200, Calytrix can provide men and women with various backgrounds to undertake any number of diverse scenarios.
Contact

Calytrix / Talk To Us

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