

# LYNXMiND

## TRANSFORM YOUR DEVICE INTO A SMART HOME HUB

With the release of Lynx MiND™, Lynx Technology brings its latest offering to the Smart Home market. For Consumer Electronics companies and Service Providers who want to participate in the smart home in an easy way, Lynx MiND is an OCF Certified smart home solution and utilizes the IoTivity Constrained framework. Lynx MiND, which includes a rules engine, will enable a gateway, NAS, wireless router or STB to be transformed into a central smart home hub.

Because Lynx MiND (which is an acronym for Managing Intelligent Networked Devices) is OCF Certified, it is protocol agnostic, which allows your customers to discover Zigbee, Z-Wave, Thread, DLNA and other smart devices\* in the consumer's home, and to ensure interoperability with these devices from one central hub using a companion app.

Lynx MiND has the unique ability to help your organization establish a business in the emerging smart home market, differentiate your products to increase unit sales and gross margins, and introduce innovative business models, to increase and diversify your revenue streams.

*\*Control of some smart home devices may require hardware-based and software-based bridges.*

Once embedded in your product **Lynx MiND enables interoperability** with your customers' smart home devices.



# TRANSFORM YOUR BUSINESS

## » Differentiate Your Product Lines. Increase Unit Sales and Gross Margins.

- Once embedded in your product, Lynx MiND transforms your device into a Smart Home Hub, something truly unique. This will extend the value proposition of your product, keep it relevant to your customers, and stimulate higher unit sales – while also giving you an opportunity to charge a premium price, and generate higher gross margins.
- Lynx MiND allows the management of all smart home devices through a single, easy-to-use, mobile app, rather than saddling the end user with multiple apps to manage multiple smart devices.
  - Lynx MiND has a fully user definable/editable rules engine designed to be embedded in resource constrained devices. The Lynx MiND Rules Engine is packaged with IoTivity Constrained.
  - The Lynx MiND Engine is designed with memory optimization and CPU efficiency in mind, resulting in a small daemon footprint that delivers sub-second round trip response time when communicating with devices. This provides the speed end users demand, without using up precious system resources while providing unprecedented ease of use for the end user, enabling them to truly automate their home through scene creation.
  - The Lynx MiND Engine provides an API which permits rules to be generated remotely and applied to the engine in the embedded device. Modification or deletion of these rules can be done without rebooting or restarting the software.

## » Establish Your Company in the Emerging Smart Home Market.

- According to a report published by Markets and Markets in 2016, the Smart Home market is projected to grow to \$122B by 2022 with a 6 year CAGR (compounded annual growth rate) of over 14%. With Lynx MiND, we provide a turn-key solution that will get you into the smart home market more quickly and reliably, while providing investment protection.
- Lynx MiND is a smart home solution that includes a mobile app, cloud service and embedded engine. This means you don't have to develop this capability in-house through a major investment and a large dedicated team.
  - Lynx MiND is based on the open source IoTivity Constrained implementation of the OCF standard. This provides you with investment protection through the

shared participation of OCF members, industry leaders in their own right, for the advancement of the standard.

- The wide interoperability of Lynx MiND, with support for multiple standards and devices, will increase the speed and scope of your market penetration. As more OCF Certified smart devices enter the market, the more valuable your Lynx MiND embedded product will become.
- Lynx MiND, which utilizes the open source IoTivity Constrained implementation of the OCF standard, enables devices to achieve OCF certification.

## » Introduce Innovative Business Models. Increase and Diversify Revenue Streams.

- Lynx MiND provides a framework for you to add value added services through our unique hybrid on-premise, mobile, and cloud architecture. Lynx MiND is comprised of three components, all of which are end-user touch points that can be leveraged to introduce new business models: 1) the Lynx MiND Engine, which is embedded on your device, 2) the Lynx MiND Mobile App, which is an app used for control and coordination of smart home devices and 3) the Lynx Cloud Service which provides secure remote access, real time remote notifications and reporting.
- The Lynx Cloud Service can be integrated with your existing cloud service. You maintain the direct relationship with the end-user, we enable smart home use cases.
  - The Lynx Cloud Service provides the ability to easily incorporate and integrate additional services. As Lynx MiND smart home uses cases evolve, you will be able to roll them out to your end users easily.
  - Through the Lynx Cloud Service you can offer remote access (the ability to manage smart home devices when not at home) to end-users as a premium service.
  - The Lynx MiND Mobile App allows you to introduce in-app purchases and upgrades to your end-users.
  - The Lynx MiND Engine is a single control point which can provide usage information for all smart home devices, including resource constrained ones.

With Lynx Technology, your investment in the smart home is protected. Lynx has over 13 years of experience driving industry standards such as DLNA and UPnP and delivering embedded solutions and mobile apps serving Forbes Global 2000 customers across North America, Europe, Asia and Japan.

## What Can My Device Do With Lynx MiND?

### Device Interoperability

Interoperate with OCF Certified smart devices, as well as those smart devices utilizing other smart home protocols via an IoTivity bridge.

### Device Discovery

Through a mobile app, discover smart devices on the home network such as thermostats, lights, locks, cameras, appliances, motion detectors, TVs, speakers etc.

### Device Control

Directly and securely control the functions of smart devices Lynx MiND discovers, such as temperature for a thermostat, on/off and colors for lights, locking/unlocking doors, activating cameras and motion detectors, etc.

### Scene Creation

Create automated scenes such as Wake Up, Go To Bed, Leaving Home, Coming Home. For example, a Wake Up scene might turn on the bedroom light, turn up the thermostat and play music on the bedroom connected speaker – even if these devices were not made by the same manufacturer.

### Event Driven Rules

Through the Lynx Rules Engine, have an event trigger a set of actions. Example: If a motion detector detects motion in another part of the house, while you are home alone, have your lights blink and play an alarm sound on your connected speakers.

### Remote Access (a premium service)

Control and manage all of the functions listed above, while not at home, using a mobile app

## What Can My End Users Do with Lynx MiND?

### Market Adoption & Purchase Triggers

Market research suggests various reasons why consumers are adopting smart home devices and services: security, peace of mind, convenience, ease-of-use and saving money are among those cited.

What are some of the purchase triggers for these groups? Triggers include: increased affordability of products, when people move to a new location, after a significant life event (e.g. marriage, kids, aging parents), or after experiencing a security issue.

The way consumers will leverage the smart home are as varied as the consumers themselves. As more consumers purchase smart home devices, and bring them home, one thing has become increasingly clear – a smart home hub which affords the flexibility to discover and control multiple smart devices, regardless of manufacturer, in an easy-to-use and intuitive way, is a necessity.

### Some Smart Home Use Cases

Automatically Secure the House  
When it is Occupied



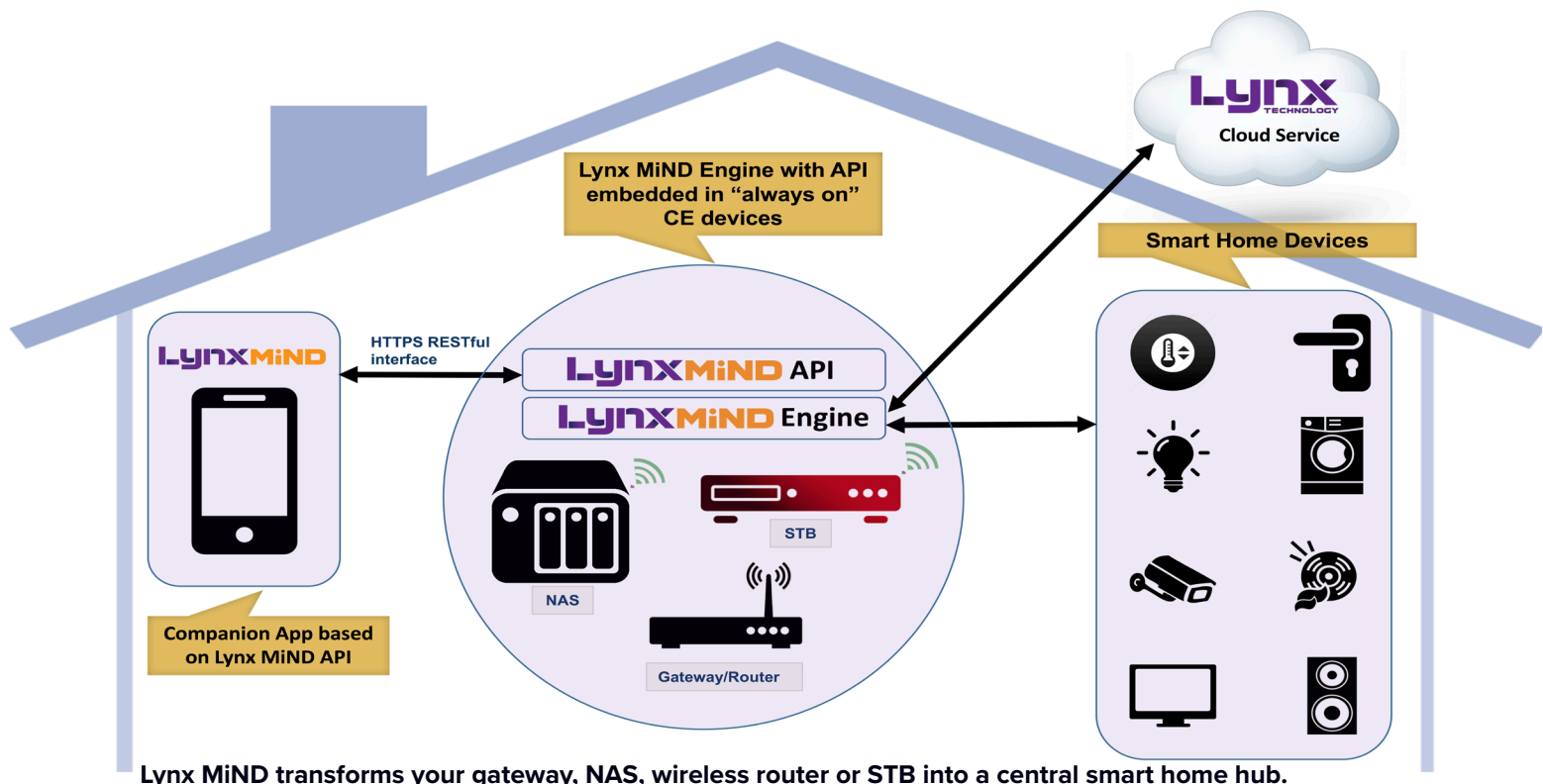
Automatically Secure the House  
When Nobody is Home



Automate Your Evening



Automatically Wake Your Home



## TECHNICAL SPECIFICATIONS

### Lynx MiND Engine

- »Fully OCF Certified, including OCF security specification utilizing DTLS-based authentication, encryption and access control
- »RESTful API
- »Supports all major operating systems (Linux, Windows, MacOS)

### Lynx MiND App and APIs

- »Zero configuration engine discovery
- »Android 7 and above
- »Apple iOS 10 and above

### Lynx Cloud Service

- »TLS/SSL security
- »RESTful API

## STANDARDS

OCF (the Open Connectivity Foundation) was formed to address the problem of interoperability, in order that device makers might benefit from the large opportunity IoT can afford them.

The OCF Mission is Two-Fold:

- »Provide specifications, code and a certification program to enable manufacturers to bring OCF Certified products to the market that can interoperate with current IoT devices and legacy systems.
- »Make the end user's experience better by seamlessly bridging to other ecosystems within a user's smart home and ensure interoperability with OCF Certified devices.

Lynx Technology is an OCF member. Lynx MiND is an OCF Certified smart home connectivity solution.

### What is IoTivity?

IoTivity is an Open Source software framework, hosted by the Linux Foundation, as a reference implementation of the OCF Specification. IoTivity is a framework for secure interoperability for multiple operating systems, platforms, modes of communication, transports and use cases.

Lynx MiND is an implementation of the IoTivity Constrained framework. IoTivity Constrained is an implementation of IoTivity designed for resource constrained devices with low RAM and flash capacity, and lower power CPUs with low clock cycles.

Lynx is a member of the IoTivity Steering Group and the Planning Function Leader for IoTivity.

## Linux MiND can easily be embedded in the following devices:

Router/Gateway



Set Top Box



NAS



## Summary

As you are enabling existing devices and designing new ones to deliver media and smart home use cases for consumers in the home, Lynx is the perfect partner to provide device connectivity software that allows consumers to quickly and securely discover and enjoy their media libraries and smart home devices, while coordinating and controlling them from any mobile device.

Unlike other providers, Lynx connectivity solutions have been deployed in tens of millions of consumer electronics devices worldwide for over a decade, and support all major media types, platforms, and industry standards. Our world-class Professional Services team can quickly and cost-efficiently integrate our solution into yours, and provide unparalleled technical support worldwide.

## Ready to Get Started?

If you are ready to establish a business in the emerging smart home market, differentiate your products to increase unit sales and gross margins and introduce innovative business models to your customers, please contact us at: [sales@lynxtechnology.com](mailto:sales@lynxtechnology.com) or +1 (855) 596 9832 ext 1.



Lynx is a member of OCF

