Kalos Information Systems

Integrity by Default

Balint Szente, Cottage Cheese team

The team behind the Art of Connecting Everything

- Started as a fusion of **Integra Soft** and **Intelligent Building Solutions** companies.

- 20 years experience in the smart-house & automation field and video conferencing solutions.

- Experience in both developing software and hardware for these fields and installing customized solutions around the globe.

Internet keep transforming and we aim to stay ahead

FIRST SCENARIO: People talking to each other. Internet get used through web pages, chat, audio/video, forums, etc. People accessing computers remotely. Computers talk to each other to solve problems.

SECOND SCENARIO: Internet of Things. Devices of all sorts, hardware and software, talking to each other with the goal of automating our environment.

THIRD SCENARIO: Internet of Everything. People, computers and devices talking together in the same unified platform with the goal of building a better life for all of us.
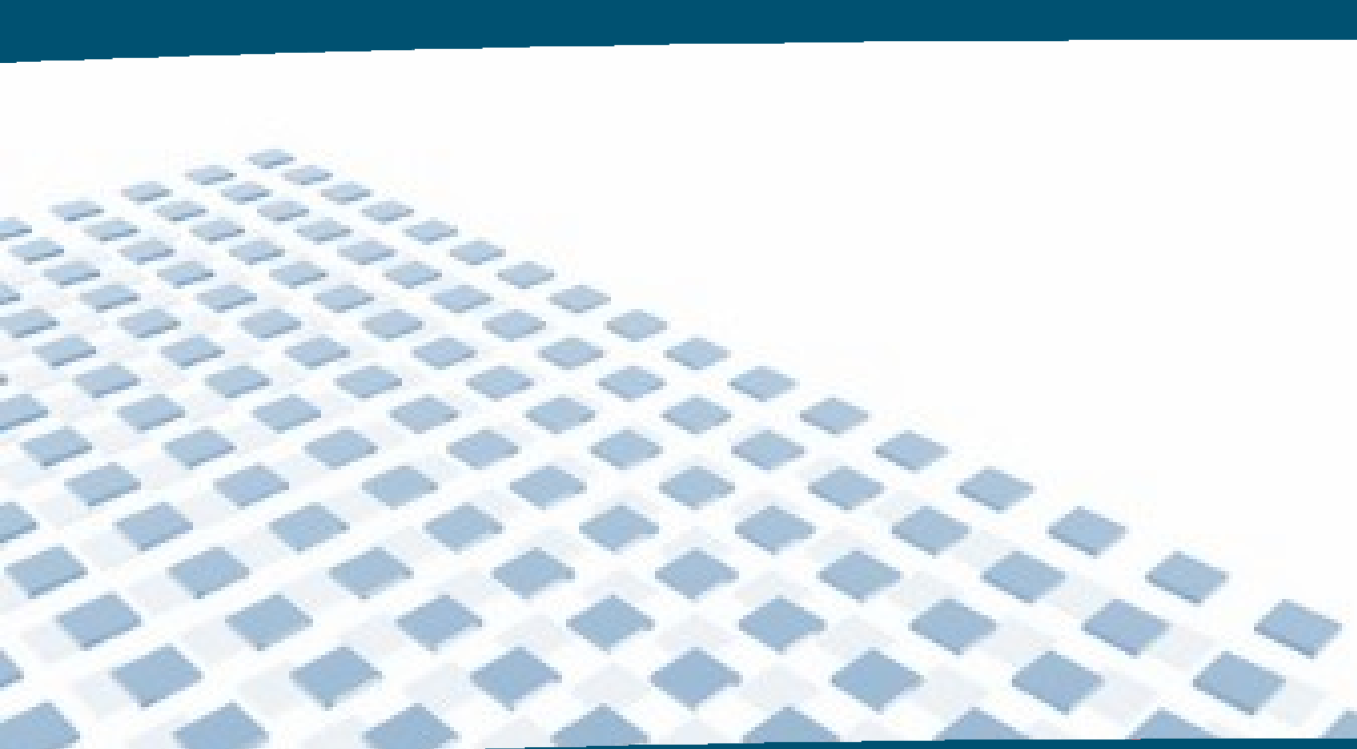
The agility of the Kalos Platform

A. **Modern, standards based platform** built over the Internet to connect any number of users and devices around the world in one unified network

B. **Powerful abstraction layer** to generalize the communication between heterogeneous devices and users

C. **Open and easy to integrate** with third party hardware or software platforms

D. **Made to control and monitor devices** from anywhere to anywhere

E. **Strong abilities to store and process** device and user data

F. **Powerful tools to create scenarios** involving any number of users, devices and locations
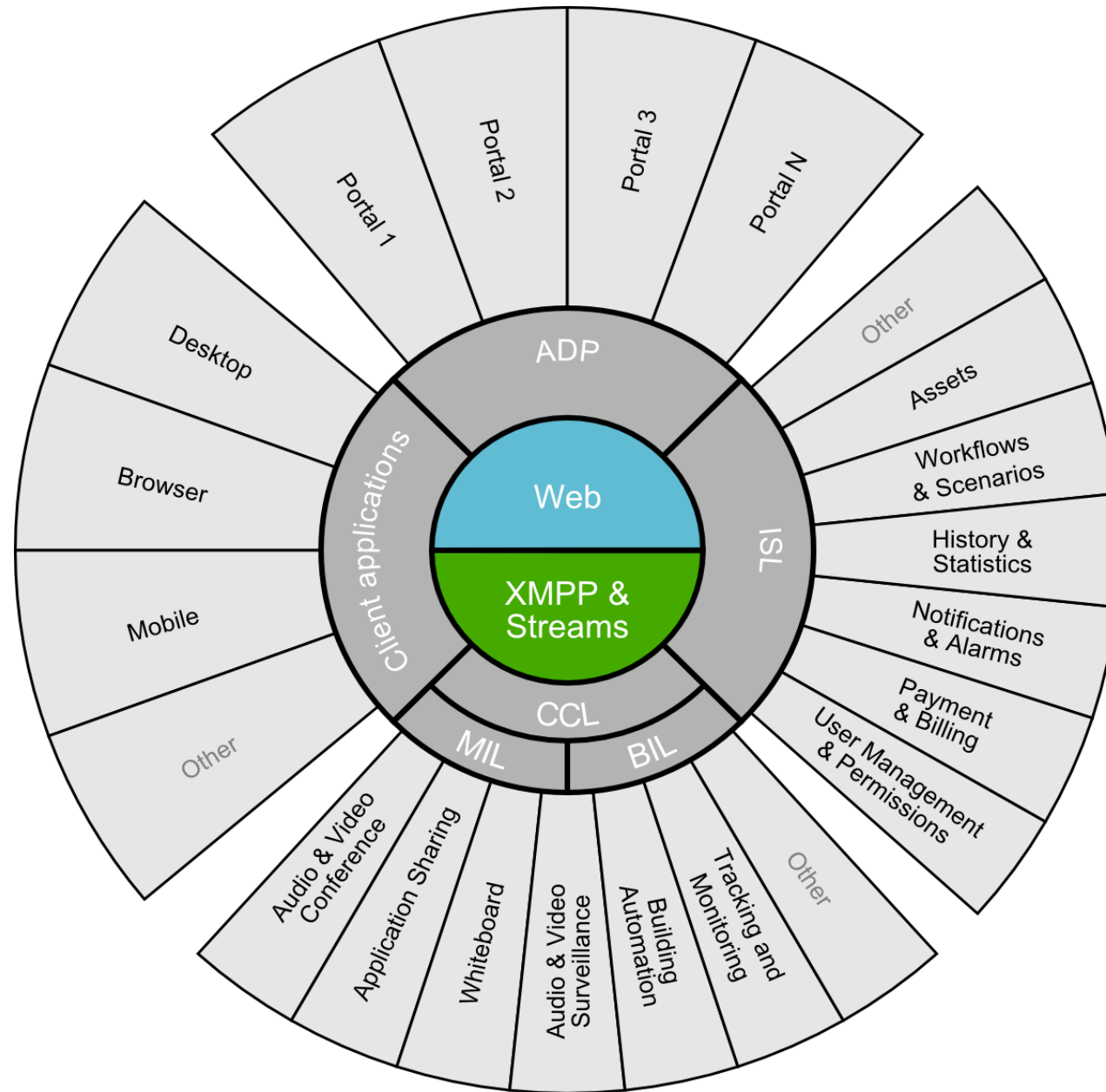
Our Architecture is built for the future

Introduction to the core attributes of the Kalos Technology Platform

Scalable

Distributed

Secure

Flexible

Expandable

Portable

Open

Scalable: From one home to the whole world

Kalos Software Platform supports standalone installations, in only one building or installations that connect thousand and millions of devices all over the world. Each device is an XMPP node connected to an XMPP server. There are no limits in the number of such devices.
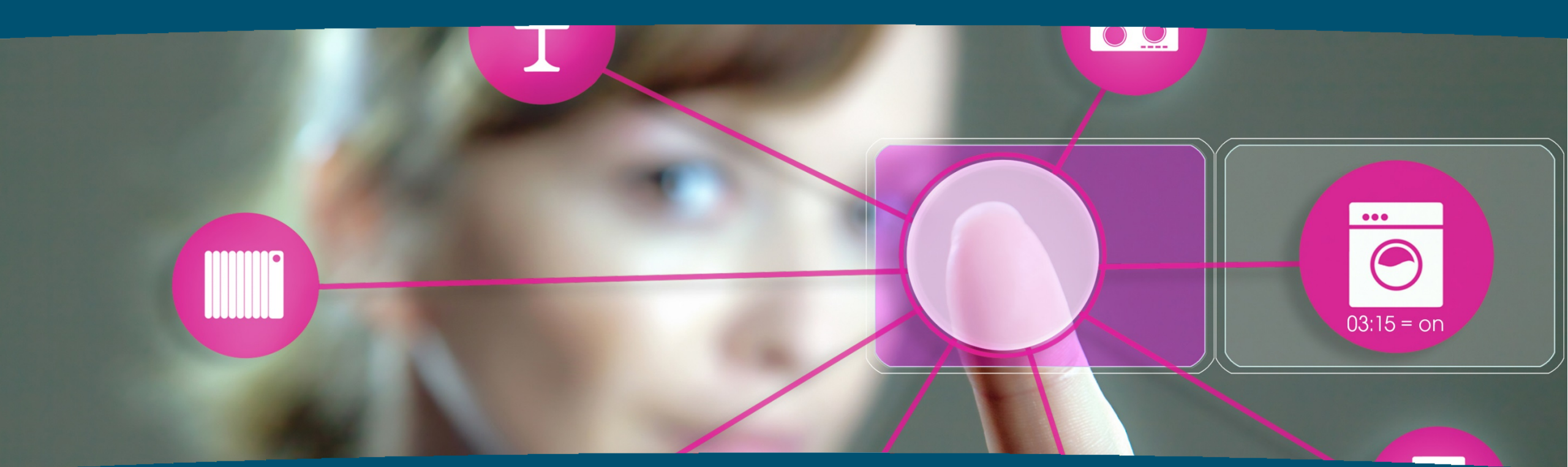
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Distributed: The power of the many

Due to the nature of XMPP communications, the devices can be connected to an unlimited number of XMPP servers, distributed anywhere in Internet, all talking to each other. There can be small servers, running on low power appliances or powerful servers supporting thousands of devices. The system can be configured exactly to meet the actual needs of any application.

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Secure: We take security very serious

All the communications inside the platform are SSL encrypted. In terms of access rights, there is a fine grained access rights management system included in the platform that can control the user access to every variable, function or event generated by the devices.

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Flexible, customisable: Handmade to meet all your needs

User interfaces can be developed in HTML 5, using our JavaScript libraries as a basis. Or one can develop standalone applications using our native APIs. Or one can use just plain XMPP to connect, authenticate and talk to devices registered with our platform. Of course, flexibility is not only for the interfaces, it is present at all the levels of the platform.

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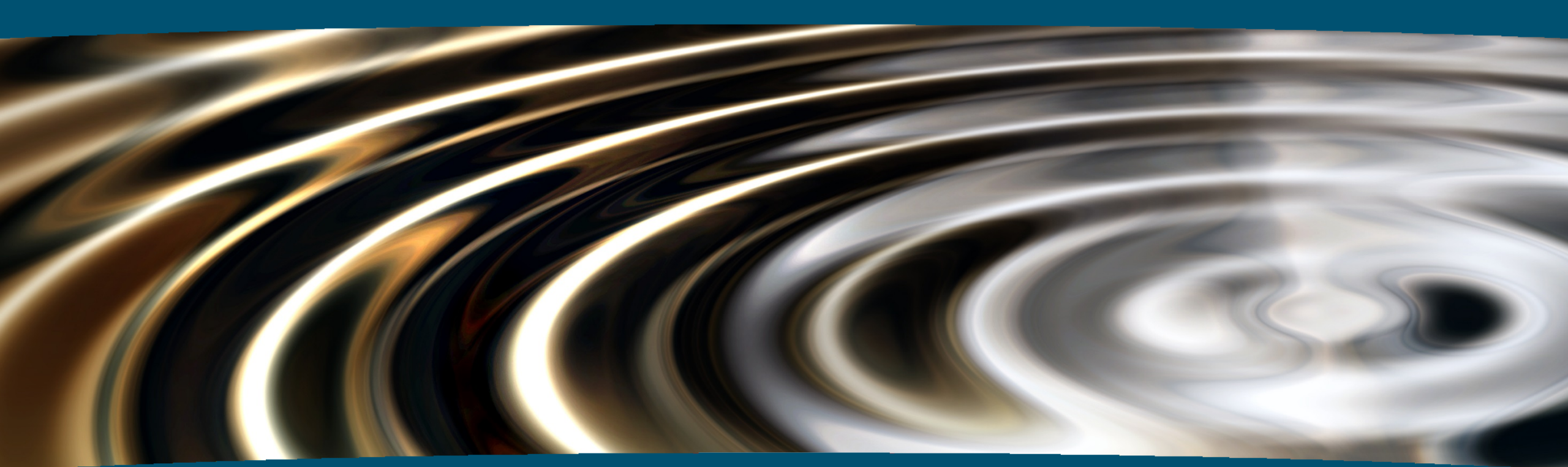
Expandable: Want to work with us? Plug in!

You can easily expand the platform at several levels: you can implement drivers for new hardware and protocols, you can develop new scenarios to add functionality to the system, you can build entire new applications using our platform at the core.
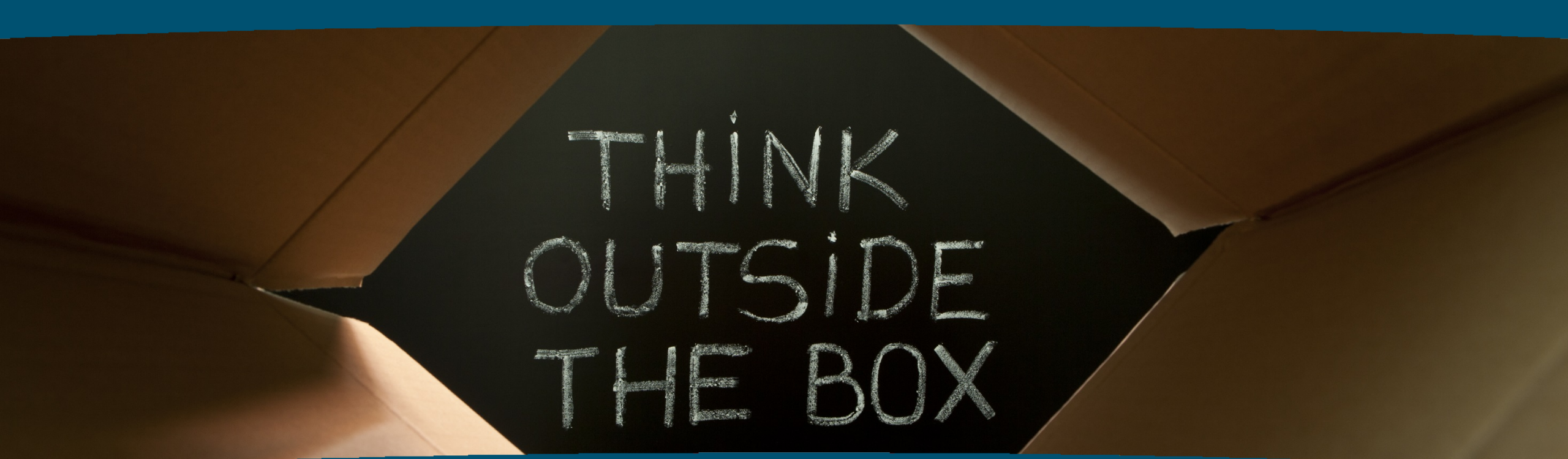
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Portable: No need to change your habits!

The server side components are built on Linux, Windows and MacOS X so you can take your choice. Client side, we have plugins for the Chrome, Safari and Firefox browsers, that you can use to develop browser based applications. We also have libraries available to develop HTML 5 or standalone applications on Android or iOS devices.

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Open: Born in Babylon

It is easy to connect to our platform from other platforms.
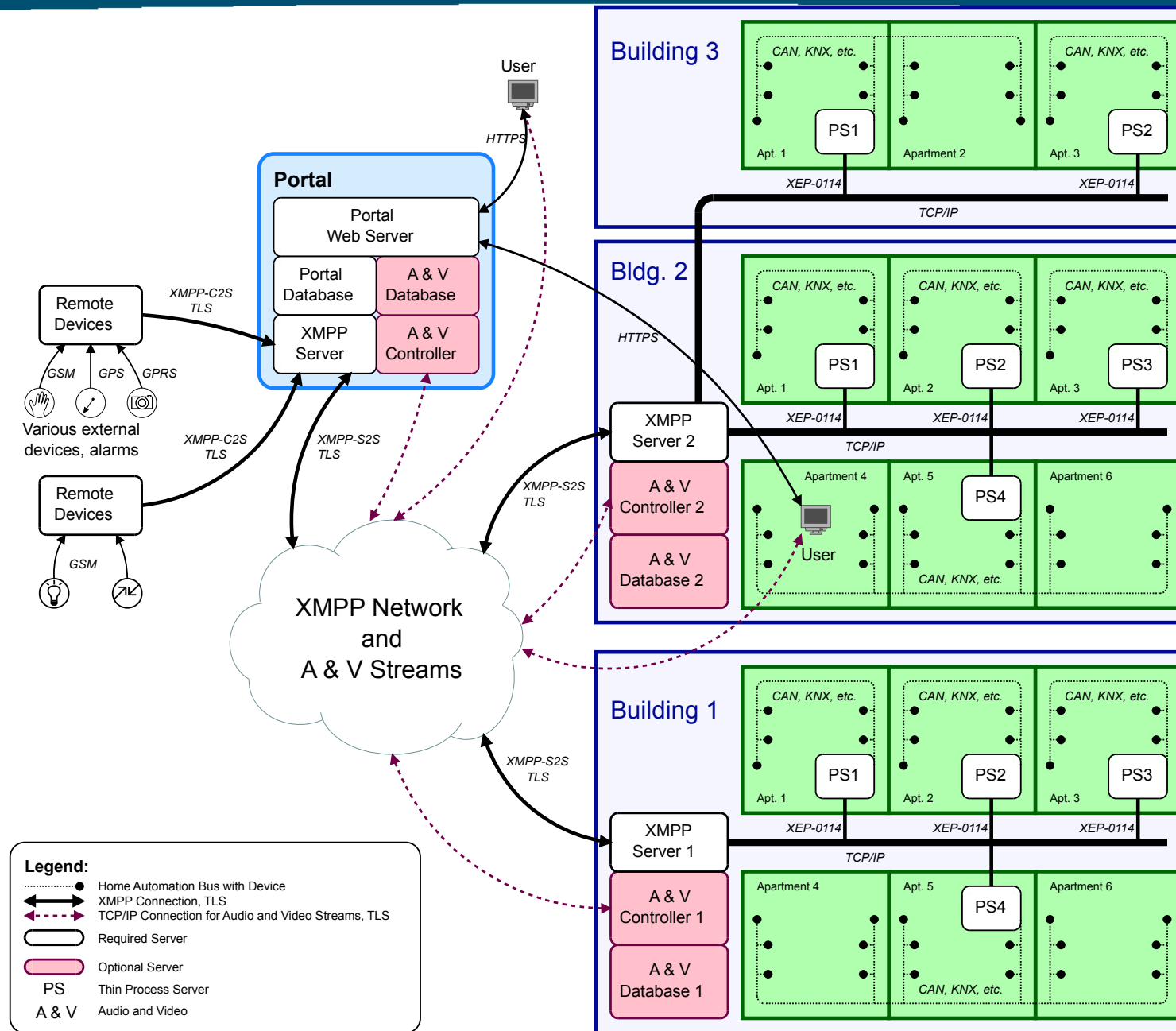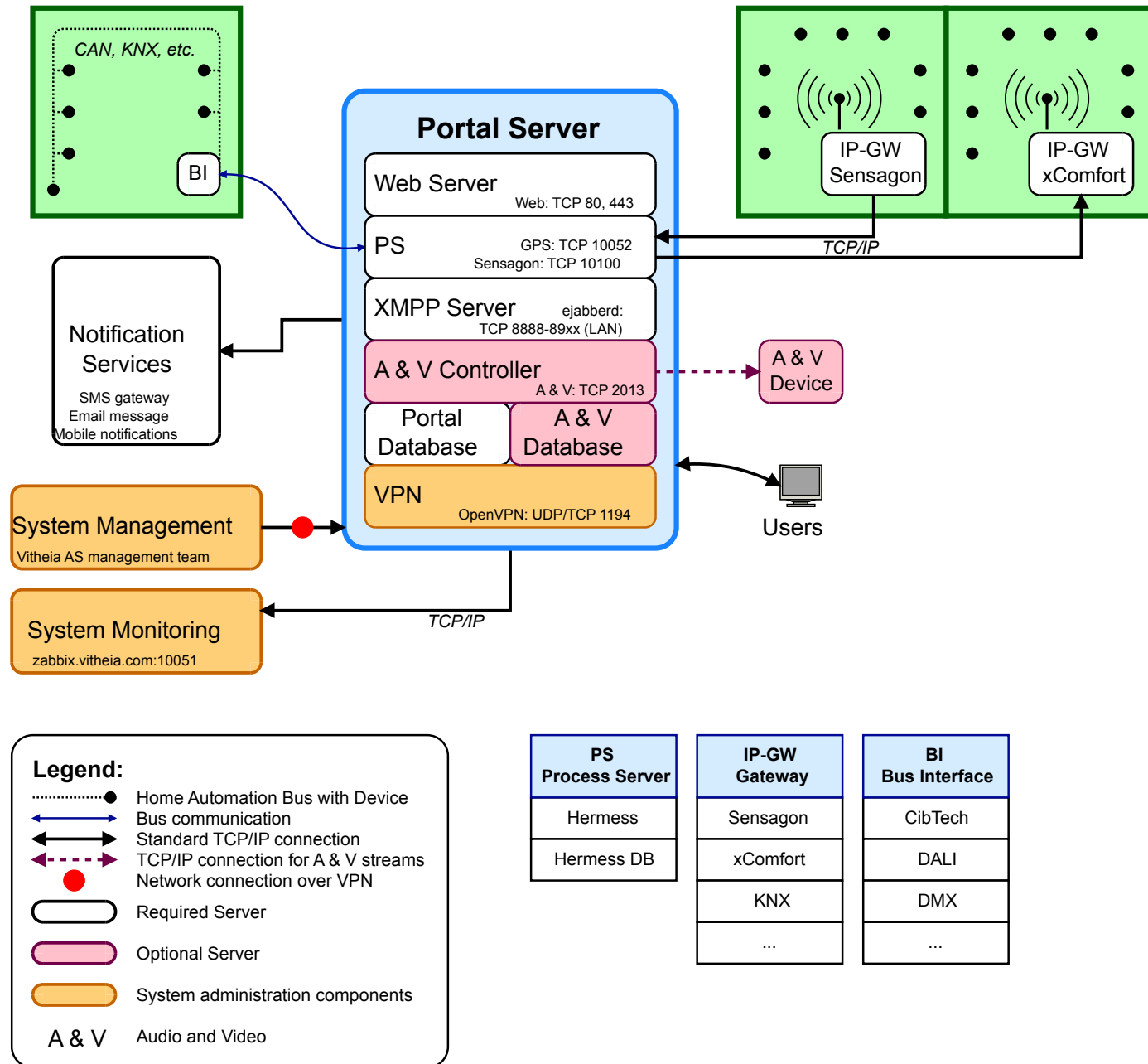
And if there isn't a bridge between Kalos Services Platform and your own technology, we will build it gladly! So we can talk to anybody that want to talk to us, no matter the language.

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General System Architecture

Portal Server

CAN, KNX, etc.

BI

Web Server
Web: TCP 80, 443

PS
GPS: TCP 10052
Sensagon: TCP 10100

XMPP Server
ejabberd:
TCP 8888-89xx (LAN)

A & V Controller
A & V: TCP 2013

Portal Database

A & V Database

VPN
OpenVPN: UDP/TCP 1194

IP-GW Sensagon

IP-GW xComfort

TCP/IP

A & V Device

Notification Services
SMS gateway
Email message
Mobile notifications

Users

System Management
Vitheia AS management team

System Monitoring
zabbix.vitheia.com:10051

TCP/IP

Legend:

·········●	Home Automation Bus with Device
←→ (blue)	Bus communication
←→ (black)	Standard TCP/IP connection
←→ (dashed purple)	TCP/IP connection for A & V streams
● (red)	Network connection over VPN
⬭ (white)	Required Server
⬭ (pink)	Optional Server
⬭ (orange)	System administration components
A & V	Audio and Video

PS Process Server	IP-GW Gateway	BI Bus Interface
Hermess	Sensagon	CibTech
Hermess DB	xComfort	DALI
	KNX	DMX
	...	...

Use case: Home monitoring & control

Use case: Office building