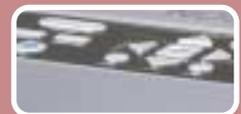# cleverdis

SPECIAL REPORT

SMART PROJECTORS
FOR CLEVER PRESENTING SOLUTIONS

EasyMP by

EPSON ®

EDITORIAL by Richard Barnes

editor in chief

*W*e often hear people talking about "Projection Networking Solutions", "Wireless Presentations" and so on, and even well oiled professionals will often glaze over when following presentations on the subject. This is due to a phenomenon that's easy to understand. There is such a plethora of new solutions, including networking, new forms of connectivity and built-in intelligence, promoted and explained in different ways – generally by AV/IT specialists but rarely interpreted by communications experts (in the true sense) that it all becomes "too much". Solutions that aim to make life easier in many ways do just the opposite through creating too many new choices. It is for this reason that Epson has decided to make a major step in truly communicating with potential end users. The aim is to help people understand, in simple terms, what exciting new possibilities there are when it comes to using an LCD projector, and how much easier using a projector is becoming thanks not only to these solutions, but also to the way in which they're explained!

In this special report, we look at how Epson projectors are becoming "smart" thanks to the various "EasyMP" modules, and what this means to the user… how their life can be made easier.

We also demystify the different kinds of networking – ways of sending digital information to a projector, as well as ways of remotely analysing and controlling a projector: two very different kinds of networking use, unfortunately often combined in information kits from projector manufacturers, making it all seem so hazy and hard to grasp.

By making things EASY, jobs get done faster and with fewer glitches, and greater efficiency means improved profitability… if I'm not wrong, the number one goal of everyone reading this!

So be creative, gain control, and… take it easy. Epson's EasyMP solutions will no doubt help.

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INTRODUCTION by Luc Bureller

Epson Europe, Projector Senior Business Manager

"Digital Image Innovation: Targeting the Convergence of Imaging Domains."

Sometimes people ask me why Epson leads the projector market. There are of course many reasons, none the least of which is the quality of our products, our people and our services. But what sets our projectors apart today more than anything else is their sheer flexibility in terms of meeting new application needs. Not only that, the development of EasyMP means our projectors can do things today that no-one could have imagined would be possible only a couple of years ago. Even today, many people are unaware of the awesome capacities of these devices in terms of facilitating and adding value to presentations and giving great Return on Investment thanks to features such as built-in timer and the possibility to keep tabs on projectors from remote locations thanks to networkability.

The development of these exciting possibilities comes as part of Epson's overall philosophy. Epson's new medium-to long-term corporate vision, known as SE07, introduces the concept of "Digital Image Innovation: Targeting the Convergence of Imaging Domains." In this era of revolutionary advances in broadcasting and telecommunications, Epson will provide cutting-edge imaging solutions that create a symbiosis of still and moving images, supporting richer communications and bringing colour to the lives of people around the world. Epson is thus

"... what sets our projectors apart today more than anything else is their sheer flexibility in terms of meeting new application needs."

implementing what we call our "I"maging target, concentrating on core devices such as semiconductors that provide value-added solutions for linking imaging products, and we are concentrating management resources on what we call the 3i imaging fields: i1 – imaging on paper (development of printers and other imaging products), i2 – imaging on screen (developments in projectors), and i3 – imaging on glass (developments in mobile displays). In other words, the development of our projector technologies is truly part of the overall vision of the company.

We're proud of what EasyMP will mean for the industry. This Special Report, compiled by Cleverdis, the industry reference in educational and informative communication, will enable you to better understand how EasyMP by Epson can help you grow and enhance your business.

INTERVIEW

EPSON®

Sophie LAYER-LE NALBAUT
Marketing Product Manager

Sophie Layer attended business school in Germany and France and graduated with a DESS in marketing and communication. She spent 2 years in Austria as project manager for Peugeot, then worked 3 years in the French subsidiary of NEC in charge of plasma and projectors as PM. In September 2004 she moved to EPSON Europe as European PM in charge of 3LCD projectors (HC and business).

Cleverdis: *Tell us about the different levels of "Intelligence" with the different kinds of EasyMP modules…*

SL: There are several different kinds of EasyMP module that are each designed to fit the needs of specific kinds of end user. Firstly, let's talk about EasyMP monitoring (IM-M). This enables people to monitor and control projectors throughout their campus or corporate structure. It allows for remote management of projectors via an easy to use (and configure) software interface that can be loaded onto virtually any current-day PC. With this, you get remote control of your projector via an EMP monitor or via a standard protocol, and e-mail alerts when your projector needs attention.

When it comes to presenting, we have a couple of different kinds of solution. EasyMP (IM-X) comes with all the advantages of IM-M monitoring, and allows the presenter to make wireless presentations, or make presentations directly from the projector using a PC card, as well as being able to be remote controlled via a browser. This solution is based on an inbuilt Linux operating system.

The top of the line solution is called EasyMP.net, or IM-XP, which is based on a built-in Windows XP operating system. With this solution, you have streaming video playback, file management via the network, remote desktop function, internet browsing, timer function, as well as screen white board, mark-up and snapshot features.

Cleverdis: *Let's concentrate on EasyMP.net as the ultimate form of intelligence. How does it work?*

SL: EasyMP.net is really an Ultra-Compact Computer. Inside the small EasyMP.net unit, you'll find a CPU, RAM memory, a hard disk and Windows XP Embedded. This allows you to install Windows XP applications and to use the projector just like a computer.

Cleverdis: *What were the basic principles behind the development of EasyMP.net?*

SL: It all came down to the idea of successful presenting. Successful presenting revolves around organization, confidence and leaving the audience with not just a positive impression, but saying "wow" at the end of the show. We designed EasyMP.net around these factors. EasyMP.net means simply turning on the projector and presenting with no delays. It saves time for everyone and makes the presenter appear truly organized. Not having to worry about video cables, compatibility and PC interfaces gives the presenter much less to worry about, vastly increasing his or her confidence.

Cleverdis: *What if there are several presenters? We've all been in a position in the past where there's been a big "gap" between presentations due to technical hitches when changing laptops…*

SL: Indeed, multiple presenters can make simple transitions from one presentation to the next. Users can send multiple presentations to the projector sequentially or direct the projector to present files from various computers on the LAN. In addition, there is no need to create and distribute copies of a presentation since meeting attendees can access the complete presentation file via the LAN!

Cleverdis: *What if the files are confidential?*

SL: Not to worry. Confidential files can still be protected from duplication with an easy-to-use menu command.

Cleverdis: *How does EasyMP.net facilitate more effective meeting management?*

SL: Oh that's easy! There's a great new feature which allows for convenient on-screen note taking which enables users to make notes on individual slides from any PC that's being used on the local network. Using the "EasyMarker" feature, users can mark action items on the actual slides or on a blank white panel known as EasyBoard. Using EasyCapture, users can save slides and annotations as JPEG files on a PC card for future review and distribution.

Cleverdis: *I suppose that being Windows XP-based, I can use all the standard kinds of software available on the market today without having to hook-up the laptop?*

SL: Exactly. EasyMP.net supports a wide array of popular presentation software without complicated conversions. Users can easily transfer and view native files on the projector in their original format from programs such as Microsoft® PowerPoint®, Word, Excel, Lotus® Freelance Graphics®, Lotus 1-2-3® and Corel Presentations™.
In addition, most presentations transfer to the projector without sacrifices to specialty features such as PowerPoint animations and sound effects.

Cleverdis: *So what you're saying is that with Epson's innovative and easy-to-use EasyMP.net technology, the beauty is in its simplicity. But in today's presentations, we find a lot of different kinds of media. How does EasyMP.net handle these?*

SL: The EasyMP.net module can project all kinds of media ranging from video to presentations wirelessly or via a wired LAN system. Easy Player lets the user enjoy a variety of media including MPEG-1, 2 and 4, WMV, RealVideo and image files.

Cleverdis: *It sounds like there are a lot of features to talk about. What are some of the other main ones?*

SL: With Intelligent Timer you can have comprehensive automatic control of your projectors, Easy File lets you send data files to and from your computer through the network, Easy Browser allows you to surf the Internet with just the EasyMP.net using Epson's own built-in Web browser and with Remote Desktop you can remotely control your computer through the EasyMP.net via a LAN connection. You can also take a snapshot of any screen, automatically convert it to a data file and save it to a folder.

Cleverdis: *Thanks Sophie. In the next pages, let's take the time to take a closer look at the features of EasyMP.net as well as the basic features of EasyMP (IM-X) and network control functions…*

EasyMP

SEVERAL DIFFERENT LEVELS OF "SMART"

As outlined by Sophie in the previous pages, Epson's EasyMP comes in a couple of different versions. The simplest (IM-M), allows an administrator to remotely control a projector and be alerted when something goes awry. Next level up the scale is called (IM-X) and is based on an intelligent (Linux) unit allowing for wireless presentations, direct presentations from a PC card, and remote control via a browser. The top of the scale is called EasyMP.net (IM-XP).
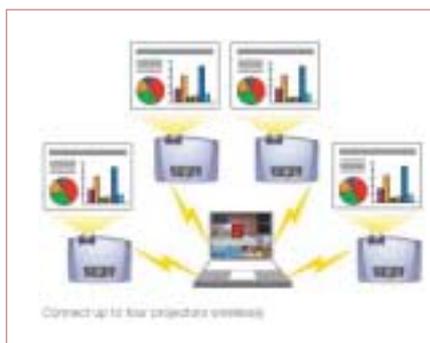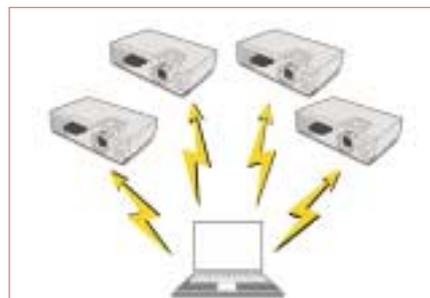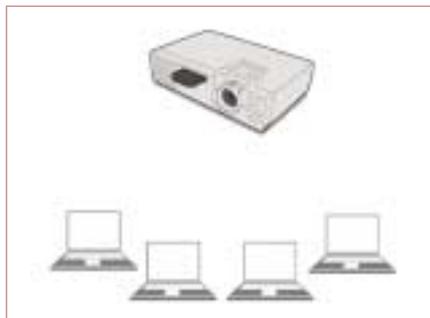
This is based on a Windows XP based processor built-into the projector, allowing for streaming video playback, file management via the network, remote desktop function, internet browsing, timer function and screen whiteboard, mark-up and snapshot functions.

WI-FI IN THE CORPORATE MEETING ROOM

"Look! No Wires!!!"

When we talk about Wi-Fi connectivity, one is led to think about a direct link between the laptop and the projector. While this is the best solution for "road warriors" making presentations "on the hop", in the corporate meeting room, it may not be the best solution for a number of reasons. Let's look at the different solutions possible and what they're best suited to.

Direct Connection – There are two different ways of wirelessly connecting to an Epson EasyMP equipped projector from a laptop

Connect up to four projectors wirelessly

– either in "Ad-hoc" mode or "Infra-structure mode". Using ad-hoc, or direct mode, the user has the advantage of connecting directly by Wi-Fi where cables may have failed. The software provided by Epson enables the user to connect easily without entering an IP address for the projector.

SCENARIO: Imagine you want to trouble shoot a projector when cable connections are failing.
The software will automatically search the projector and assign an IP address corresponding to the sub-network to which the computer is tuned. The projector in fact assigns itself the correct IP address.
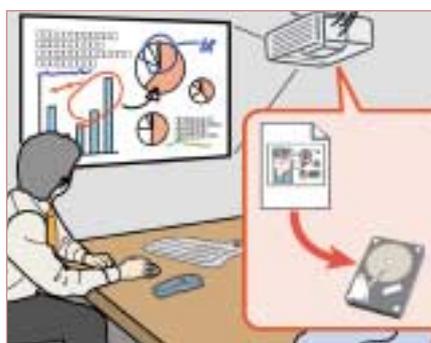
WIRED AND WIRELESS – HAND IN HAND

The best solution is often a combination of wired and wireless connectivity. In some cases, the projector may be connected by cable to a LAN hub which manages a number of activities in the conference room, and to which a wireless hub is also connected by LAN cable. In other cases, users connect their laptop by LAN cable to a central hub, which is connected wirelessly to the projector.

The advantage in the latter case is avoiding ungainly wiring to the projector, and enabling the movement of a projector from one room to another, or around the same room, while maintaining the same sophisticated network structure. This solution is the most secure, thanks to LEAP protocol (see separate section on security issues).
In addition, thanks to Epson's unique compression/decompression algorithm wireless presentation quality is outstanding.

As soon as the the projector in installed in a room, it is better to use it wire and to access to it from the network threw an access point for the mobile computer instead of the direct wireless connection. Like that the security is again improve and the projector could be secure and control centraly easely.

Then you could imagine to use it as a nice complement for your videoconferences and get the screen of your collegue from any were in your intranet world.

Improved Frame rate

One of the biggest problems with wireless connectivity to projectors has been the frame rate or throughput. Epson has vastly improved rates, offering around 13-14 frames per second, as opposed to previous rates of 8-9.
The rate is constantly improving, and it appears that soon we'll be seeing full screen video sent through wireless on Epson EasyMP equipped projectors.

Scribble on the screen? Yes it's possible!

Thanks to screen white-board, mark-up and snapshot functions enabled by EasyMP.net, the presenter is able to use the projected screen in place of a whiteboard, writing with a mouse or electronic tablet. They can save what they wrote as an image file, make marks on presentations while they are being projected and save them as image files, and even print them – direct from the projector (see direct print function). This is highly convenient for gatherings and meetings at work, as well, of course, as all kinds of classroom activities.

PRINT SCREEN FUNCTION

For the first time ever, it's now possible to print directly from a projector. Using EasyMP.net, the user can simply print what's on the screen.

SCENARIO: Imagine a sales meeting where objectives are being worked on, interactively, thanks to EasyMP.net. Not only can the files be sent directly from the projector's memory to the PCs of all those present, the screen content can also be immediately printed out for those attending the meeting, in order for them to be able to get straight to work.
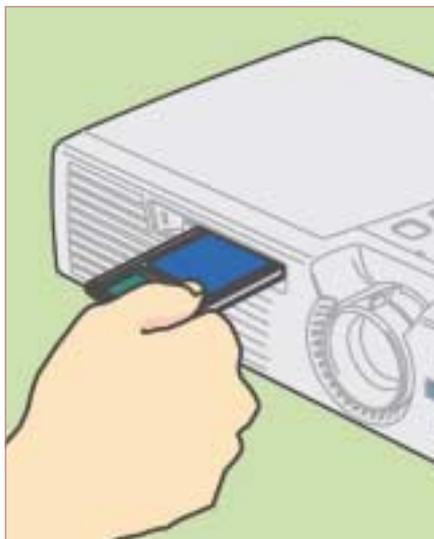The time savings and increased efficiency will increase the Return on Investment for the projector, and the printed sheets will assist in reinforcing the message given at the meeting.

EasyMP

COMPUTERLESS SOLUTIONS

EasyMP.net – A Veritable PC

The EasyMP.net module turns the Epson projector into a full-blown PC in its own right. Like any Windows XP based computer, it can be accessed through the network from anywhere in the world. Files can be transferred to and from shared folders and status can be easily controlled,

videos or presentation files can be changed and played with commands being made from a central location anywhere you want.

Remote Desktop – While it's possible to access the files stocked in the projector's "on-board PC", by the same token, Remote Desktop can be used directly from the projector to access the user's computer anywhere in the world. While at a first glance this may not seem all that necessary, it does open up possibilities for new kinds of presentation, allowing real time presentation from applications in distant computers.

SCENARIOS:

- Imagine the user works for a corporation with several main sites around the world. It's possible to access photos that have just been stocked on a computer in Tokyo, then pop-over to New York to show what progress is being made there.
- Imagine a company using AutoCAD with a number of projects currently under way. It might be nice to project several images from different servers in different locations. The heavy AutoCAD applications can be run on the various remote computers,

allowing for presentations which until now would have been very difficult to organise.

Built-in Web Browser

The EasyMP.net unit is equipped with its own browser allowing you to view the Web without connecting to a computer. Unlike some other brands on the market, it supports plug-ins, allowing you to display Flash and Acrobat files.

Look! No Source!!!

Both Linux and Windows XP versions of EasyMP allow for the presentation of video direct from the projector, without attaching a laptop or other video source.

On the Linux version, it's possible to run MPEG 2 files direct from a USB key. They may even be inserted, using EMP SlideMaker as part of a Powerpoint-like presentation (see detail on EMP SlideMaker).

On EasyMP.net (IM-XP), any kind of video can be played direct from the projector. This is due to the fact that Windows XP is built-in, including Windows Media Player, and any other software, such as WinAmp® may be installed. In addition,

video-on demand is possible direct from the projector using MediaEdge client software. When connected to a Media-Edge server, high quality video can be played directly from the projector.

CASE EXAMPLE – This solution is extremely interesting for advertising. Where many people have been using solutions where a PC client was needed until now, this is no longer the case, as everything can now be included in the projector which becomes an "all in one" device. Not only does this save room, it gets around connectivity problems, maintenance and incompatibility issues.

ONE STEP FURTHER

SCENARIO: Taking this one step further, by using EasyMP.net (IM-XP), let's look at an interesting scenario in the retail sector. The same could be true for banking, corporate or other. Imagine a fashion chain with 80 shops around the UK. Rather than sending DVDs to each shop, from a central location,

each projector can be accessed just like a normal PC network with remote desktop. Old video files can be deleted and new ones transferred at the click of a button. From one day to the next, the video content changes seamlessly. The local personnel don't even have to touch the projector. In addition, the unit of course turns on and shuts down according to pre-arranged parameters, which can also be changed at will at any time from the central IT hub.

TIMER – Important ROI

Until now, the only solutions enabling projectors to be turned on and off automatically were units connected externally to the beamer, meaning a lot of extra cost and hassle. This module allows the administrator to set the time, input source, file, etc. ahead of time to have the EasyMP.net unit play them back in their absence. With the Timer function of EasyMP.net, no external unit is needed. The projector can be programmed to boot up and shut down at given times, or change video sources at different times, and these times may be changed by remote control from a central location, by simply logging into the computer at the heart of the unit.

ADVANTAGES – Staff no longer have to worry about turning the machine on and off - the Return on Investment of such a feature goes without saying.

SCENARIO: Imagine- in a retail or public display environment, the projector can start working before the staff arrive (beaming messages as morning and evening passers stroll past a shop, for example)… Other applications: This solution would also be a great boon at corporate or hotel reception areas, at tradeshows and other events, and with ads and PoP displays at fast-food restaurants, boutiques, etc.

THE ROAD WARRIOR

Mobile presentations just got easier

Using the various possibilities offered by EasyMP, Epson projectors can be used to their utmost by mobile workers, or "road warriors" with amazing effectiveness.

SCENARIO: By using a Tablet PC and direct wireless connectivity, presenting to potential clients or in training room situations becomes infinitely more dynamic. For even more surprising results, various presentations (including high quality video) can be saved in the memory of the EasyMP.net (IM-XP) projector, and the laptop can be left back in the office. No more fiddling and fumbling to connect cables between the laptop and the projector!

INTERVIEW

EPSON®

Mario SILIC

Technical Product
Manager Video Projectors

Mario Silic holds a DESS in Networking & Telecommunications
He started at EPSON in 2002 as Software Support Specialist
(3rd level support on Linux/UNIX/Windows) He has been
working in the marketing division (Epson Europe) since
November 2004 as Technical Product Manager responsible for
'Solutions' (EasyMP technology, Wireless, 3rd party solutions..)

Cleverdis: *Security is one of the main issues for buyers when considering wireless solutions. Epson has addressed this question through several means. Can you tell us about this?*

MS: We have made security a priority in the design and concept of the EasyMP modules. Epson has indeed won a number of tenders due to the proprietary security functions in EasyMP when it comes to wireless connectivity. The following security protocols are supported:

• LEAP (CISCO) : Light Extensible Authentication Protocol) is available for advanced security

• WPA (Wi-Fi Protected Access)

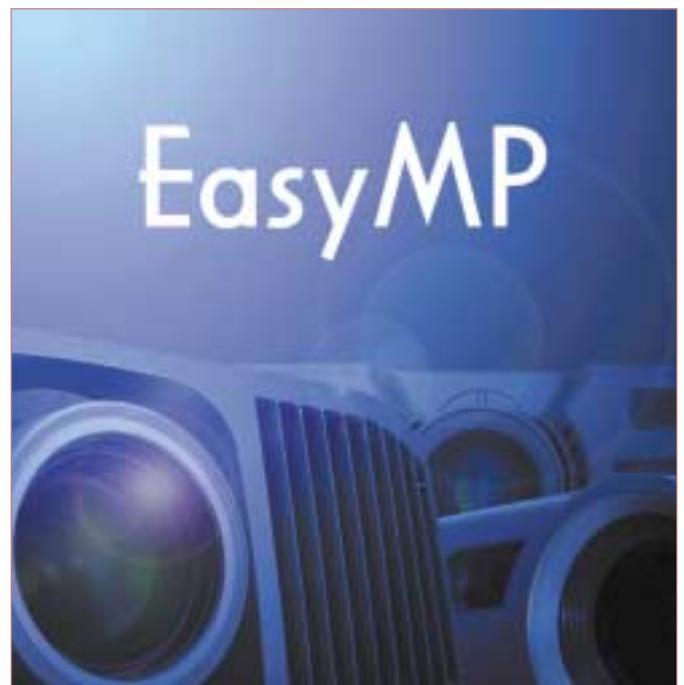• WEP (Wired Equivalent Privacy) can be enabled for added security.

Cleverdis: *Apparently Epson is the only manufacturer to offer LEAP security protocol at the moment. How important is LEAP??? …and can you tell us a little more about it?*

MS: Companies such as Peugeot and Renault, when buying projectors from Epson, had a primary criterion in terms of security. Peugeot, with an inventory of around 2,000 wireless laptops, needed to have the most advanced security available for wireless projectors. The fact we had included LEAP was a major determining factor.

Cisco LEAP is an 802.1X authentication type for wireless LANs (WLANs) that supports strong mutual authentication between the client and a RADIUS server using a logon password as the shared

secret. It provides dynamic per-user, per-session encryption keys. Cisco LEAP overcomes major limitations of 802.11 wireless security through extensible authentication support to other back-end directories (Windows NT, Windows Active Directory, and Open Database Connectivity [ODBC]) or to Cisco LEAP proxy RADIUS servers such as Cisco Secure Access Control Server (ACS) and Cisco Network Registrar®.

Epson is, for the moment, the only projector manufacturer to offer this security feature, which is available on either Linux and Windows versions of EasyMP.net.

CONCLUSION by Gérard Lefebvre

O*ur company name "Cleverdis" is derived from CLEVER DISPLAY: legacy of the fact that over the past few years, we have seen an increasing number of display devices "getting smart". The increasing intelligence of displays is at the heart of the evolution of the display industry. Not too many years ago, even the thought of hooking a laptop PC up to a data projector was quite novel.*

With time, PC's have become smaller and smaller, and while becoming more powerful, have by the same token become infinitely more discreet. At the same time, projection technology has vastly evolved as well, with Epson leading the charge in the development of LCD microdisplays. Epson's move to be at the forefront in Smart Projection solutions is evidence of the company's vision, at a very high level, of the direction being taken by the display industry in general.

Epson are not resting on their laurels, but are proactively seeking to remain at the crest of the technological wave. Wonderful new frontiers being opened-up by the inclusion of a Windows XP computer inside a projector, coupled with wireless networking capabilities, mean the horizons for industry growth are almost limitless.

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