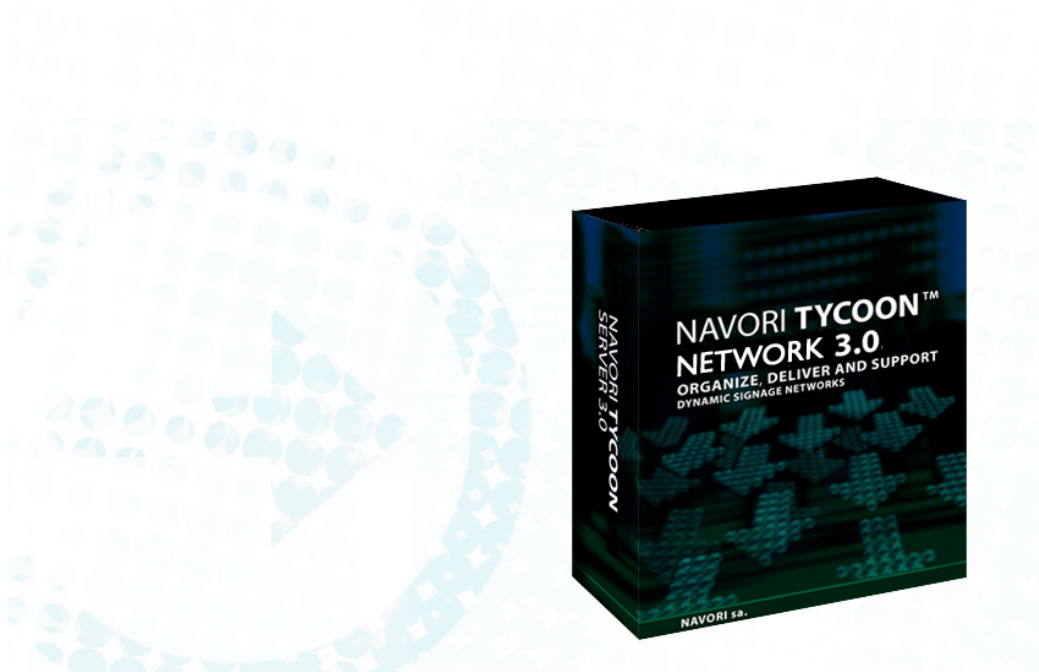


Navori[©] TYCOON Network 3.01

TYCOON Network 3.1 is an innovative technology to bring your screen based communication network under control.

- Target your audience through **unrivaled playback quality**.
- **Enhance quality of service** with permanent monitoring of your Digital Signage Network. (Hardware, PC-player and communications).
- **Reduce operational and maintenance costs** by up to 50%.
- Certified product for **large-scale deployment**, 24x7 operating system.



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Introduction

Preliminaries:

This document is an overview of Navori Tycoon Network 3.01. It shows how it can be used for user-oriented, screen-based communication.

A complete list of its capabilities and additional business information relating to Navori software is available. Please contact Jérôme MÖRI: j.mori@navori.com.

Product's commitment:

Navori Tycoon Network is a fully featured suite of software designed to power and monitor a network of screens. Its purpose is to display high impact media, and proactively organize, deliver and support dynamic signage networks.

Navori TYCOON technology is designed for companies specializing in screen-based communication. Shaped upon tenders of companies that have already deployed D.S.N. networks comprising hundreds of players, this powerful tool brings its users significant improvements in playback quality, associated with productivity of use.

It's when managing a network of PC Players that the distinctive nature of the technology makes all the difference. With TYCOON, thanks to its real time and automatic monitoring capability, it's the administrator who contacts the customer when there is a hardware breakdown, and not the reverse. This enables a better quality of service, while reducing management costs, so accelerating your return on investment.

This suite is composed of two modules:

- TYCOON Server to administer, update and monitor your network of PC players.
- TYCOON Player installed on a client PC dedicated to playback and communications with TYCOON server.

Both can communicate over a LAN or FTP server(s) or any TCP/IP network.

As the leading European company in Digital Signage Networking (D.S.N), Navori Tycoon is used daily for applications comprising several hundred players in over 15 countries. A reference in productivity and versatility, users can integrate different markets like Dynamic Signage, Kiosks, Audiovisual and Sound networks using a single technology.

Navori's operational advantages.

Navori TYCOON software provides you with a practical answer to the requirements of communication via networked screens.

- Optimized for displaying Director, Flash, PowerPoint, MPEG 2,3,4, Windows Media 6, QuickTime 6, and HTML files.
- Live video and input feeds with Direct-X compatible hardware.
- Data-driven text crawl with controllable speed & direction.
- Amazing playback quality and seamless heterogeneous media assembly.
- Ability to update on air, without interruption.
- Group's management allows broadcast content matching the demographics of a geographic region.
- Manage your media, playlists and scheduling from a centralized location.
- Update your network of PC-players simultaneously via any kind of TCP/IP network.
- Alert messages come to you directly via E-mail in case of communications, screen or PC malfunction.
- TYCOON Server monitors and acknowledges player download status in real time.
- Stable and reliable playback 24 hours a day, 7 days a week.
- No technical background required for system administrators or their assistants.

Coverage.

Navori has created a digital network. Each user has an account on the Navori intranet enabling ordering, activation and downloading of products. Everything has been designed so that services are available 24/7 for users.

Navori customers are able to download and activate software, on demand, whenever they need it.

A forum, online support, and customer's restricted access have been set up for international use in English. Applications are available in five languages (English, French, Spanish, German and Portuguese).

Navori users are currently located in the following countries: Australia, Austria, Belgium, Canada, France, Germany, Greece, Ireland, Italy, Japan, Korea, Portugal, Spain, Switzerland, The Netherlands, Turkey, United Kingdom, United States of America.

1. Target your audience with unrivaled playback quality:

Taking advantage of the impact of advertising on passing traffic, Tycoon powers screens with very high impact media. Intended for professionals, it provides seamless updates and fully automated downloads to your network.



Navori Tycoon is truly optimized for major, industry leading media types and for the Internet; especially professional authoring tools used every day by communication companies.

Thanks to a low-level multimedia application-programming interface, the Tycoon range is directly « connected » to the video chipset's core, which renders high quality display and offers a consistent, high-performance experience for consumers.

Tycoon is fully compliant with the following types of media:

Multimedia Authoring tools: Macromedia™ Director® & Shockwave® 8.5, Flash®.

Corporate presentation tool: Microsoft™ Power Point®.

Video: MPEG 1, 2, 4, Windows Media 9, Div-x, QuickTime® 6.

Html with all implied functionalities**. It includes XML compatibility.

Sound: wav, Microsoft™ Windows Media Audio, MP3.

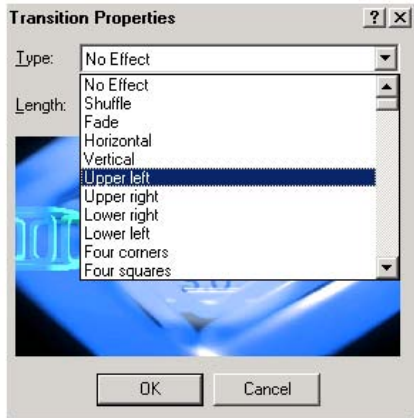
Images: Bmp, gif, jpeg...

Too many multimedia creations are limited from the beginning, since designers are not able to produce their ideas due to limitations of their tools.

Our philosophy is to widen our customer's horizon, enabling them to produce content with the tools they use every day. The media, whatever its type, is imported into Media Tycoon in its native format without conversion.

Transition effect as seen on TV₍₃₎:

Sequencing of images requires “on air” professional transition effects. Unprecedented Fx power makes Tycoon the industry leader with a wide range of transition effects.



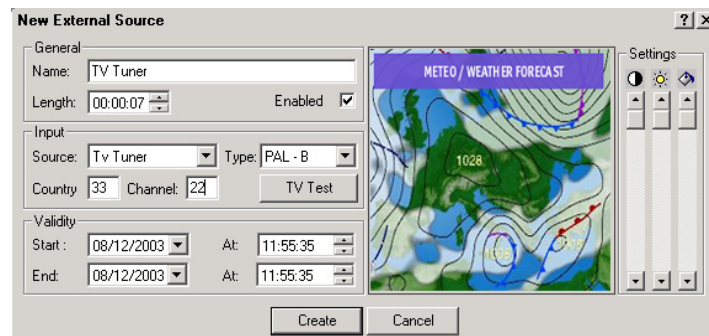
No less than 67 transitions are available, including a professional fade.

DVD – video playback₍₄₎:

Media Tycoon is compatible with DVD playback over Microsoft™ Windows XP. As soon as a DVD is inserted into the PC player, it is displayed seamlessly instead of the current playlist. When ejected, Navori Tycoon switches back to its initial playlist.

Display TV programs or an external feeds₍₃₎:

Through Direct-X 9.0, Media Tycoon is compatible with TV tuner and audio video feeds. TV is displayed like any other media, at a specified time and location.



Video feed: This component also allows you to display a video input signal and integrate it into a play list.

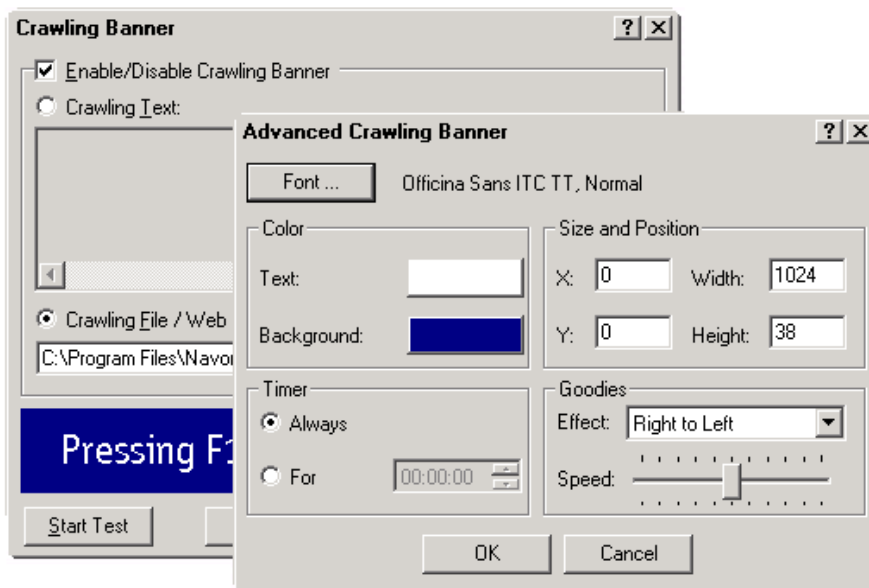
Navori crawling banner: Text based, real time information.

Size, location, speed and background parameters of the crawling banner can be set. Customizable options allow you to generate the familiar TV broadcast “look and feel”.

Text content displayed by the crawling banner can be updated in three ways:

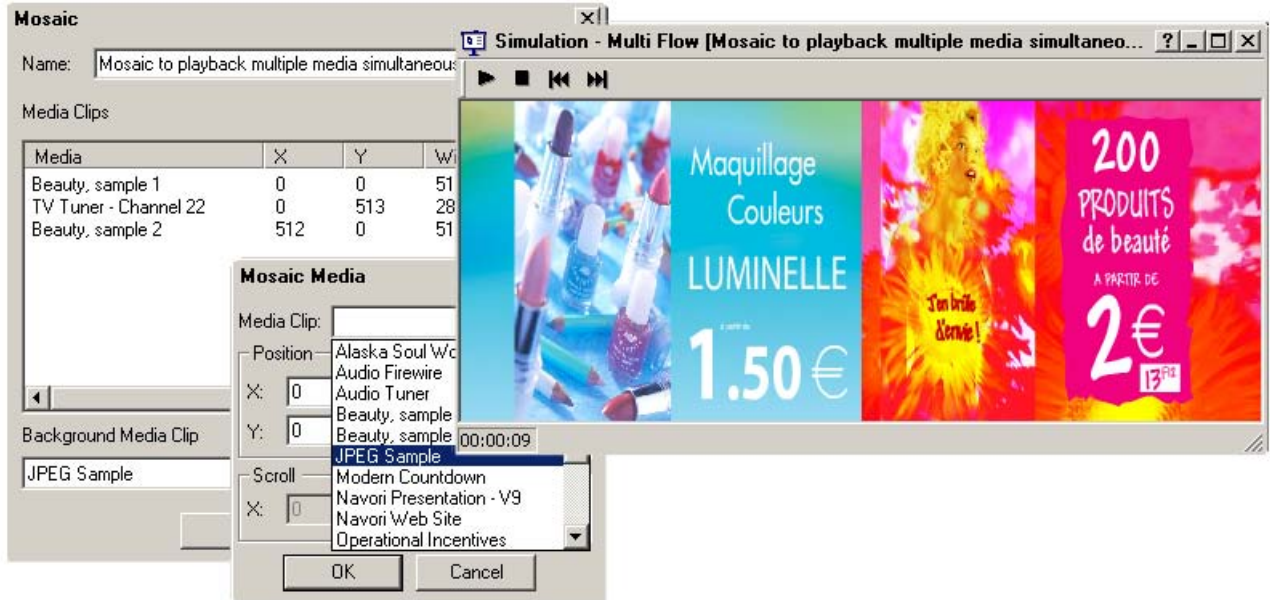
- From live information servers like Reuters, Associated Press.
- Updated by the network manager.
- On site, directly from the PC player.

Information is usually broadcast over the Internet or a local area network.



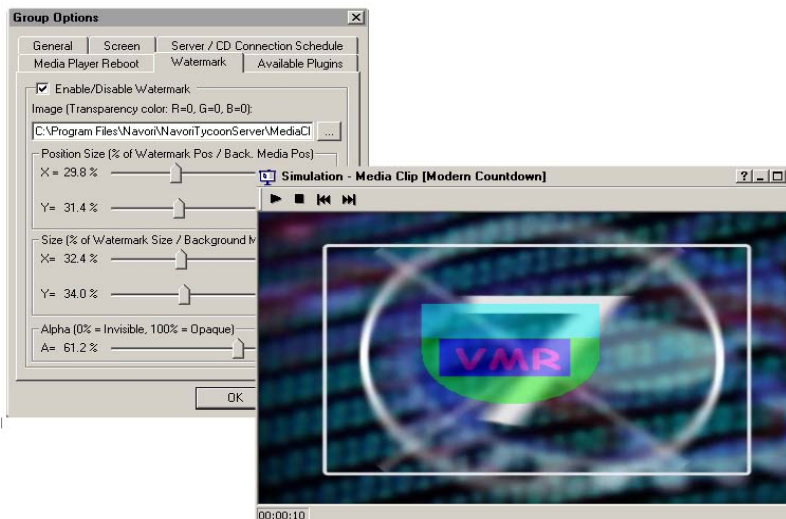
Text direction, color, speed and display duration are among parameters the user can define, upon its customer needs.

Navori Mosaic⁽¹⁾ makes it possible to play back different media simultaneously at a specified location and size. For example, you can display TV channel, a Flash file and a crawling banner simultaneously.



Watermarking⁽¹⁾:

An animated or nailed logo is PIP displayed, whatever the media scheduled. This capability increases productivity when it comes to operation. Indeed, it is not necessary to physically insert a logo in each media; Navori Tycoon Player will take care of it on the fly.



TYCOON includes management of watermark transparency in relation to background media.

The 100% black color is automatically removed from the picture, allowing logo outline.

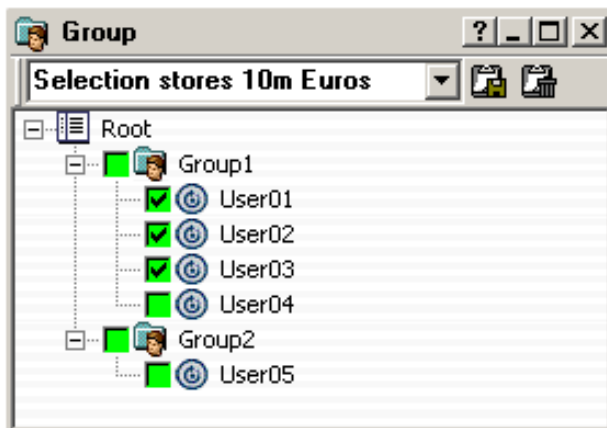
Watermarking is available only with Direct-X compatible media.

2. Administer your screen network from a centralized location

- ⇒ **Group's management** allows broadcast content matching the demographics of a geographic region.
- ⇒ **Customized storefronts:** Boost sales by displaying the right merchandise for a particular geography, taking into account connection speed or time of day.
- ⇒ **Targeted advertising:** The right Ad, the right time, and the right people.

Groups and players:

TYCOON server enables you to organize and distribute screens according to broadcasting groups and sub-groups. A customer or a point of sale network may constitute a group.



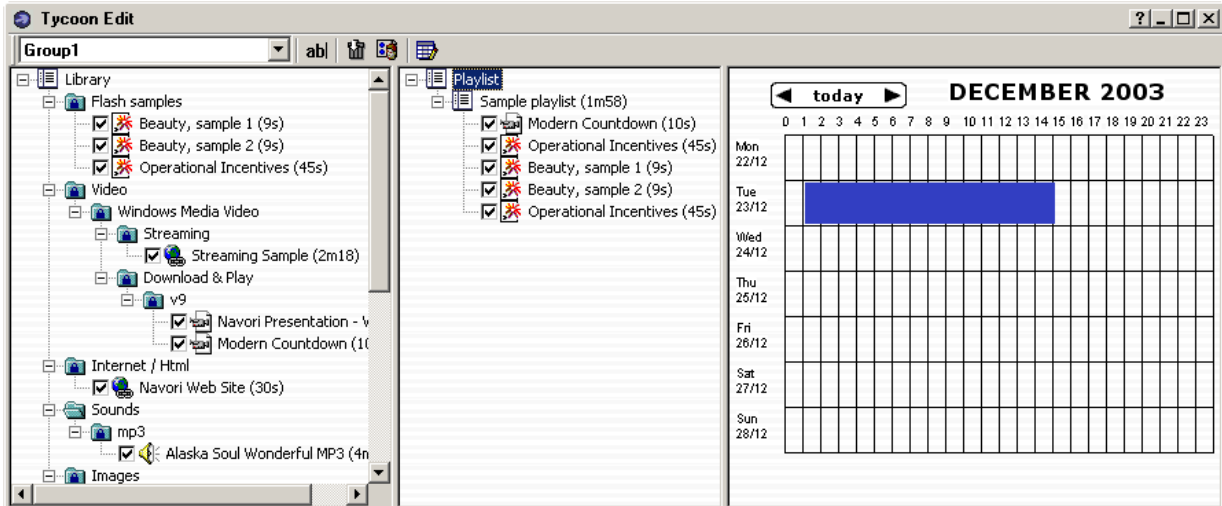
A sub-group is a selection of players within a group. For example, a sub-group may comprise a point of sale classification (Turnover > 10 million Euros). It's a productive means of directing specific content according to predefined marketing criteria.

PC Players belonging to a group share and be updated from TYCOON Server:

- A library of media available for broadcast.
- Broadcast lists containing a list of media to be played in a given time slot.
- A program schedule.
- Technical options.

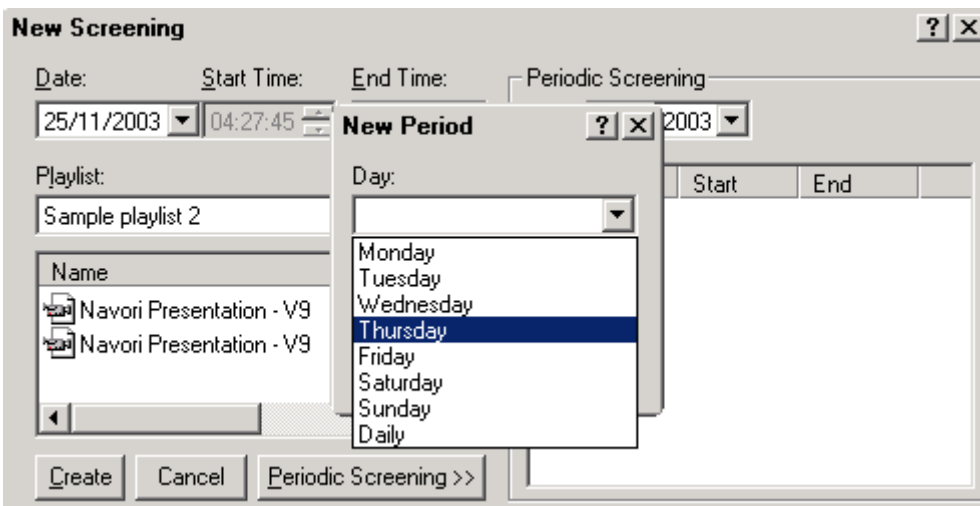
Media library, playlists, scheduling and simulation:

Thanks to its simple and easily used interface, the media library is organized in the form of a tree structure. Its advanced functionality allows this library to be updated automatically, so saving time for the administrator.



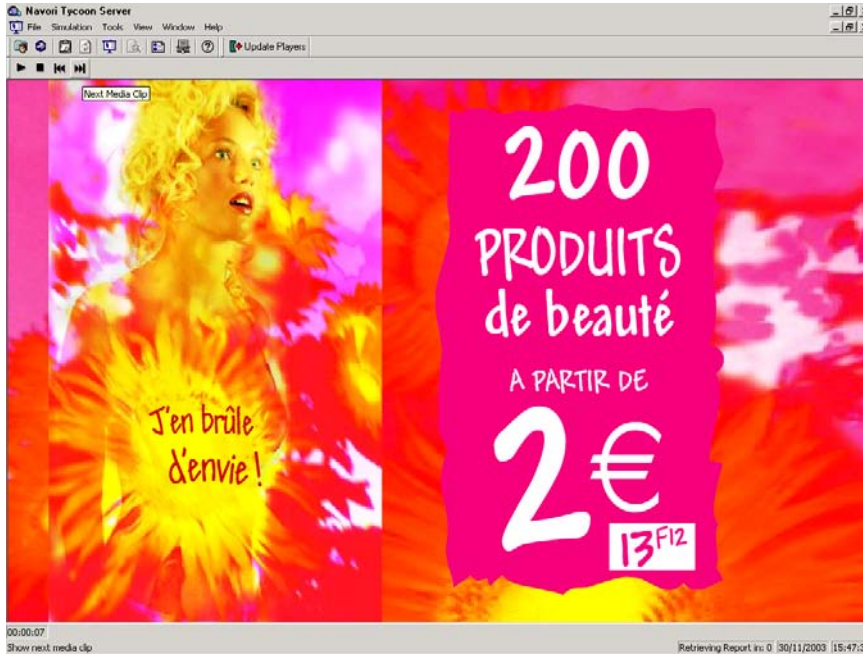
Simply create play lists and drag and drop them in a timeline as for a TV schedule. A simple and clear display enables you to optimize the length of time of the broadcast lists and their scheduling.

An advanced module enhances this functionality by providing an option to schedule periodic screening via pre-determined criteria.



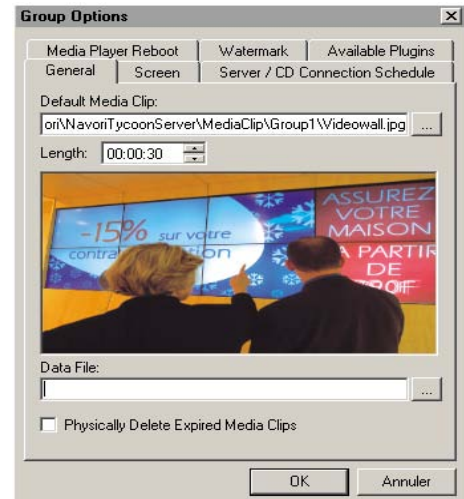
Simulation:

A module allows visual display and monitoring of the program schedule direct from TYCOON Server before an update to the PC Players is launched.



PC Players options can be updated from TYCOON Server. The following items are taken into account:

- The default media clip to be played when nothing is scheduled, in order to avoid a black screen.
- The default data file to store local variables to be published using Macromedia Flash or Director. For instance, one media can be broadcasted over a network of player but prices can be different from one site to another one.
- The ability to ask TYCOON player to activate, deactivate or delete automatically expired media.
- Automatic screen power on/off depending on the day of the week.
- To define and update upon your needs PC-players time slots and connection frequency for updates check.



3. Communicate and update your players in a scalable way:

The **Tycoon networking capacities** has been designed following two basic principles:

- **It has the capability to update PC players simultaneously** via any kind of TCP/IP transmission mode: Satellite, DSL, WIFI or even a LAN.
- **It is compatible with various transmission modes.** TYCOON works transparently resulting in complete versatility, enabling it to meet all tender requirements and provide a solution to technical and financial constraints with regard to DSN implementation.

Network diagram:



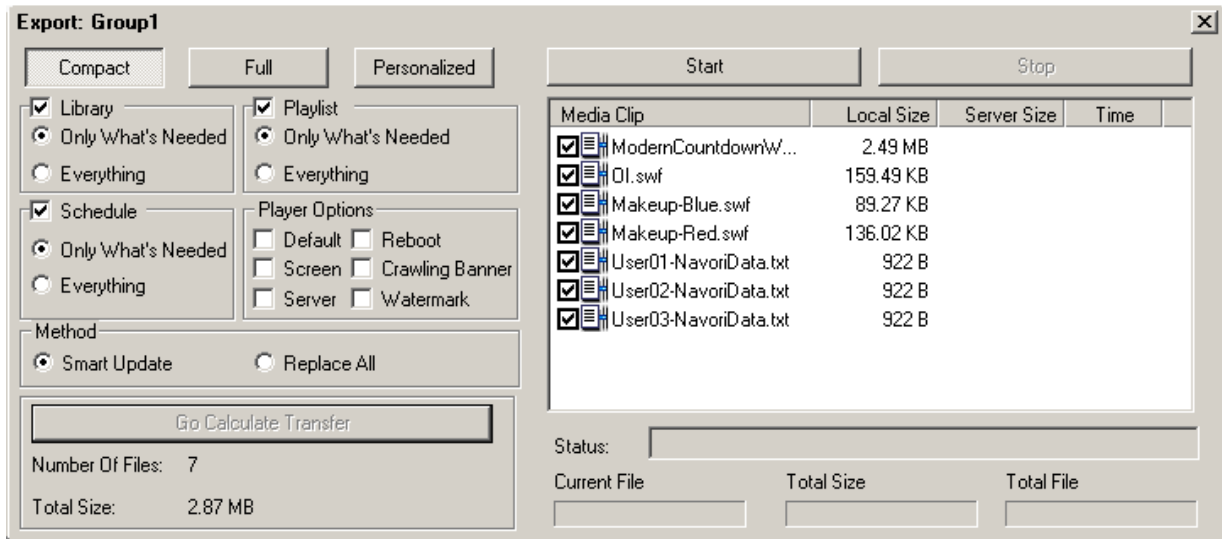
For large-scale deployments (50+ PC players to control), an FTP server is required. This well-known technology permits control of hundreds of communications simultaneously from one server.

Setting up a multiple FTP server solution allows you to update thousands of PC-players from Tycoon server at one keystroke.

This standard also allows you to control your large-scale network with several servers operating simultaneously. Load is optimized, providing a high level of reliability for large scale or intensive use deployments.

PC players can also be updated using a CD, DVD, USB hard drive or floppy disk. This feature is used for non-connected PC players or mixed with low bandwidth connections.

Just click on the Go Button and, depending on how the systems are set up, remote sites will start to download their respective content and instructions.



Multiple options allow player's update options to be managed, depending on the time available, bandwidth and operational requirements.

4. Real time control and monitoring of your network of PC-players:

Each PC player is in contact with Tycoon Server, creating a flow of digital information continuous or not. The administrator is informed of what is happening on the network. The dynamic signage network is managed in a real proactive way, providing customer satisfaction.

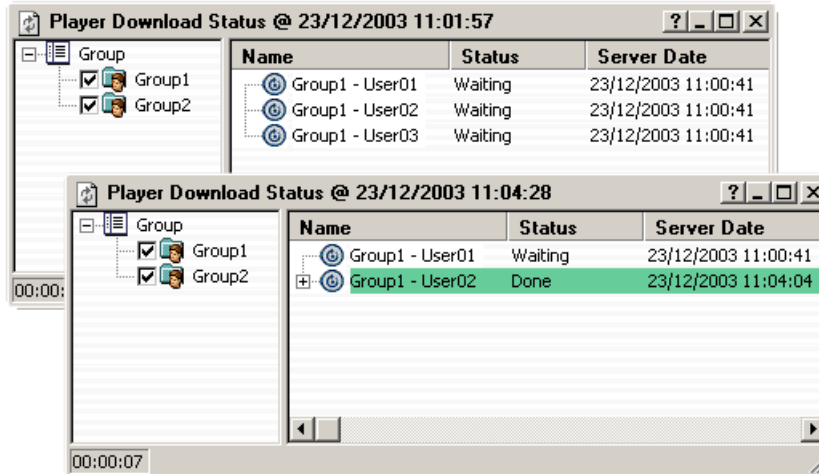
Tycoon server delivers real time feedback on your Digital Signage Network status. It provides you with a dashboard and automated E-mail summaries showing that:

⇒ **The right content is delivered to its respective location.** This functionality is called **Players download status.**

TYCOON Server allows you to monitor the progress of each group and PC Player's downloads in real time.

Information and preventive actions turn Tycoon into a cost-effective platform for supporting business critical applications and virtually eliminate downtime.

A designated window displays to the system administrator a list of players invited for download by the server.



While updating, a real time progress report on the download status of each PC player is displayed in the administration window.

When the operation is complete, a visual receipt is displayed on the screen, and then disappears. Only sites where the requested operation has not yet finished remain on display.

It is now easy to get precise information about the real status of PC players' updates, knowing exactly which one has not yet been updated.

⇒ The hardware status monitoring, screens and telecommunications are UP and OK.

Navori recognizes the value of appropriate and prompt feedback. Products have a unique communication feature that generates and sends alert messages automatically to administrators and their assistants.

A systems profile allows TYCOON Server software to ensure 100% automatic monitoring of the state of equipment, i.e. hardware (PC, Screens), software and telecommunications. When a fault occurs, the administrator is informed in real time via a detailed Email, or visually via a dashboard.

Delivering the most accurate information on: general watchdog, hardware, software and communication real time monitoring. This guarantees you total control of the situation.

It includes, for instance:

- **General watchdog:** the maximum length of time a connection can be dropped between the player and the server before an alert is generated. This functionality helps to detect powered off PC.
- **A bi-directional communications module** that can process and analyze responses automatically. This can be used so that TYCOON Player requests a screen's status and analyzes the response to see if there is a fault or not. By the way, **you are informed in real time about the status of each individual display in your network.**
- **PC:** Status and disk threshold are some of the types of information that you can get with just a few mouse clicks. A minimum threshold of disk space available on the PC Player beyond which an alert will be generated automatically.
- **Software:** The administrator is informed about software activity, any start and shut down, Navori TYCOON Player and operating system serial numbers and text crawl displayed.
- **Telecommunications:** Optimize your FTP strategy and track down your Internet service provider by checking bit rates, connection duration, and adjust players' connection instructions from TYCOON Server (time, frequencies depending on the day of the week).

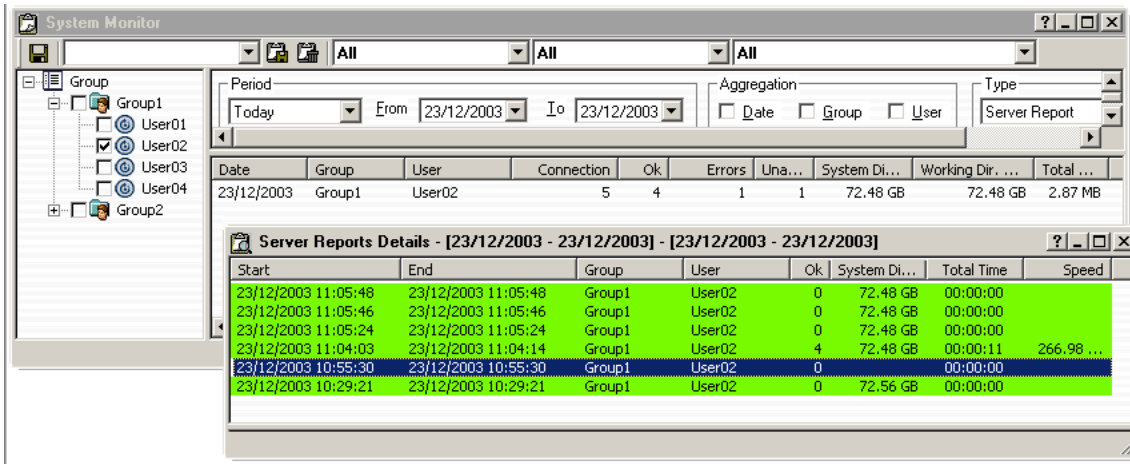
Software activity report sample. TYCOON Server track PC-players operating system an TYCOON serial number, application activity, crawling banner displayed.

The screenshot shows the 'System Monitor' application window. On the left is a tree view of groups and users. The main area displays a table of software activity for the date 23/12/2003. A pop-up window titled 'Media Statistics Details - [23/12/2003 - 23/12/2003]' is open, showing details for User02.

Date	Group	User	Media Clip	File	Total
23/12/2003	Group1	User02	Version 3.0.1 (Dec 16 2003 - 15:37:54)...	STARTING APPLICATION	11.
23/12/2003	Group1	User02	Version 3.0.1 (Dec 16 2003 - 15:37:54)	ENDING APPLICATION	11.

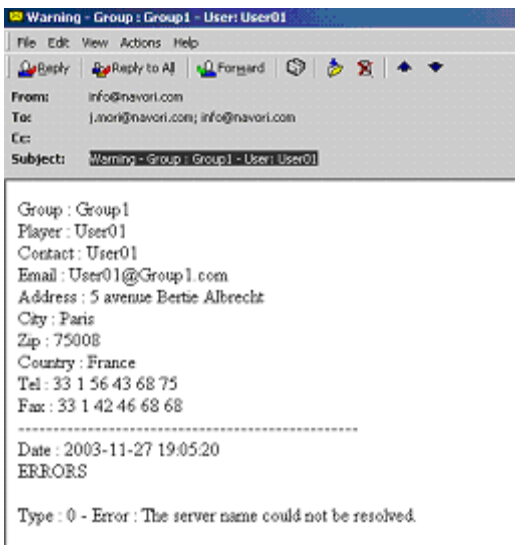
User	Media Clip
User02	Version 3.0.1 (Dec 16 2003 - 15:37:54) - License (Navori = 35027-UBJVT-13484 - XP = 55711-...

Screenshot below : User 2, Group 1 has downloaded 4 files @ 11:04 on Dec 23rd. The operation took 11 seconds @ at 266 K bitrate.

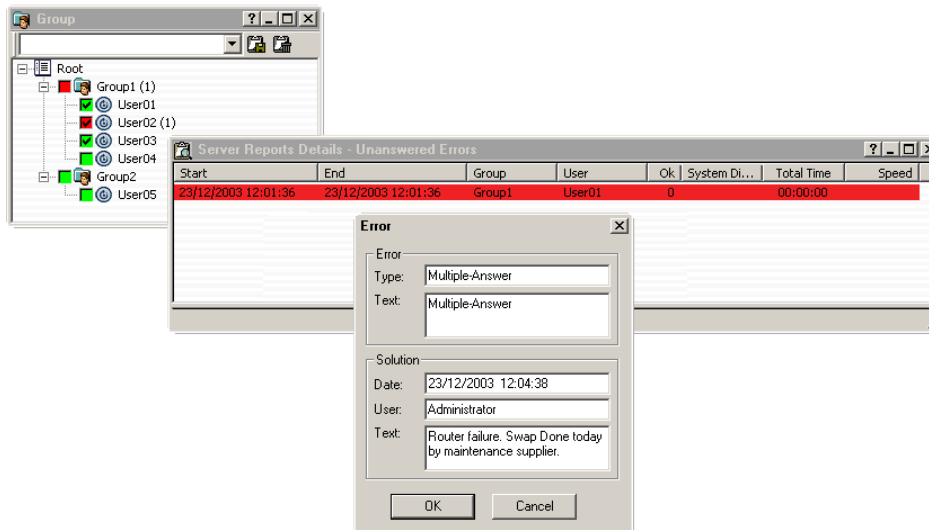


System status keeps a summary or detailed record of information regarding downloading of files, start times, the number and length of connections, as well as monitoring available disk space on the PC Player.

An example of an Email alert sent by TYCOON Server to administrators and their assistants. In this case, it means that the FTP Server is not reachable by the player.



An example of an alert via the dashboard: Information below is displayed to the user in a Visual Administration Panel. Hunting for the right information is no longer required. **It comes to you directly via the Dashboard or Email.**



Each PC Player is represented by a green or red diode, depending on its status. When an error occurs, it changes to red automatically. A double click on the player displays the error and gives the administrator the option of responding to it.

TYCOON Server handles errors via Email and/or a dashboard, and monitors follow-up by the network administrator. This information is stored automatically in a database for later analysis via a simplified module described in the following chapter.

All data likely to influence the quality of service and response is presented in a single administration panel that is updated in real time.

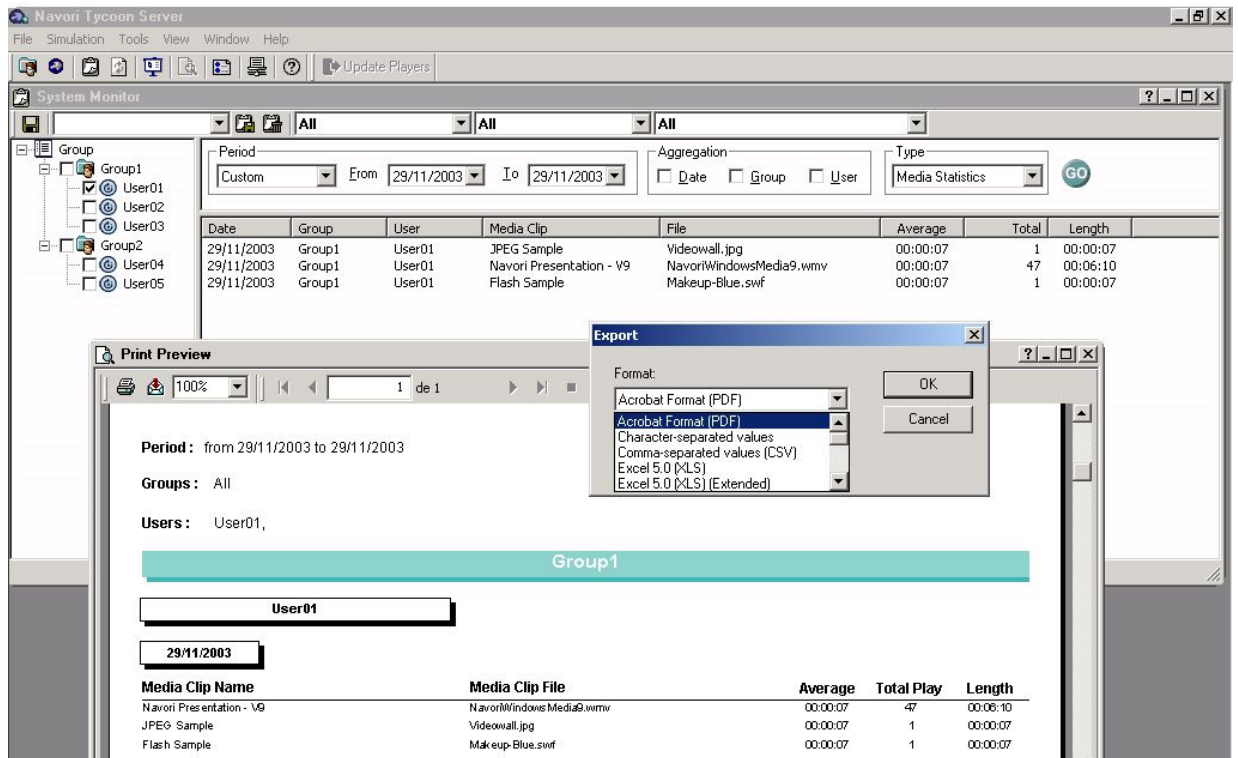
5. Analyze and study your network activity in detail. Share this information with your customers.

It is critical for today's organization to focus on the customer in a scientific and predictable manner. It is arguably the most important component in the long-term success of any enterprise.

Through this, Navori has achieved a built-in post-playback analysis tool.

Witness reporting:

Database analysis reports can be generated, providing "proof of placement" based on a period of time, groups of PC players and Media.



By means of this example, you can see how Tycoon Server is able to provide statistics with just a few clicks. These reports are summarized or displayed in detail.

Communicate and share reports using Excel, Acrobat and many other applications.

Because information is stored in a database, it can also be published to your customers.

Played media statistics requests: An intuitive interface allows Tycoon server manager(s) to define, store and export any query relative to played media statistics and technical details.

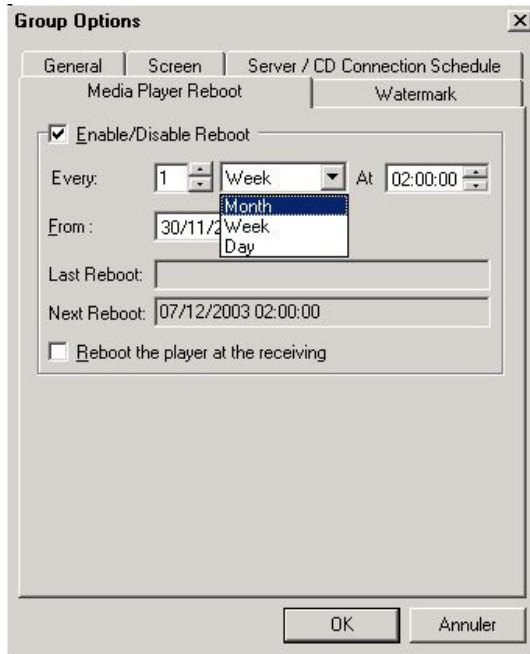
6. 24/7 reliability:

TYCOON reliability enables users to stay focused on network operation, without wasting time and money solving unexpected situations.

Navori Tycoon is validated in laboratories for each format supported in order to ensure stability of playback.

Navori's experience has lead us to develop additional management features such as:

- PC player scheduled reboot or shut down.



- Software update controlled remotely from Tycoon Server.
- Display panel on/off and system status in order to prevent, diagnose and in some cases fix the situation.
- In case of major failure or if no media is scheduled, Tycoon Player will display a default sequence automatically, avoiding blank screens.

Solid development environment:

Tycoon is developed in Visual C++, the Choice of Professional Applications Developers for creating robust applications.

C and C++ are key languages for the development of efficient, portable software, ranging from operating systems and machine control to databases and other business applications. Visual C++ (language used in our current development) provides high performance and finely tuned control for hard-core C++ developers. Visual C++ lets developers build applications that run natively on the operating system. Visual C++ developers can interact natively with Microsoft™ Windows.

This language has been chosen to:

- Enable our customers to benefit from the Microsoft™ background and frequent improvements.
- Achieve high performance by using low-level access to the system.

- Open a window guaranteeing upwards compatibility with future standards such as the .NET platform (Microsoft latest server technology).

7. Security: Navori provides an industrial and unmatched security level.

At Navori, we recognize that security is of the utmost importance, and we have devoted a great deal of effort to ensure content privacy and protection. Transactions are not only supported by industry-standard encryption but also protected by our own encryption methods.

Encryption algorithms.

Two distinct encryption algorithms ensure TYCOON security. Both are based on “Non deterministic Polynomial Complete (NP-Complete) problems, a super class for which there are no known polynomial solutions schematics.

From a computational theory perspective, NP-Complete problems are the most difficult to crack. The key generation structure embedded within one of the algorithms is highly chaotic, causing any polynomial time approximation attempt to fail. This result is a problem, which grows exponentially more difficult to solve as its size increases. Breaking either of the encryption algorithms is computationally intractable, in layman’s terms: “as easy as moving to a beach, one grain of sand at a time, twice over”.

Floating key schemes.

In addition to being NP-complete, these encryption algorithms are “**time loaded and dynamically-generated floating key schemes**” that limit the relevant domain during which an encrypted element may be used. This domain is based on the perceived level of sensitivity for the area under consideration, hence, providing an increased level of security to the most sensitive portion of the system.

Players log tracker.

The Navori software range maintains a log of all player activity. While providing valuable information to administrators, this feature also offers an additional level of security because administrators can track the time and location of every player’s interaction with the system and offer them full control of network transactions.

Navori provides other security features, at player, transmissions, FTP and Media server levels.

8. Get productivity and ease of use:

Tycoon is Microsoft™ windows-based software. It offers unprecedented ease of use while being designed to streamline daily operations and minimize supply chain inefficiencies.

Customizable

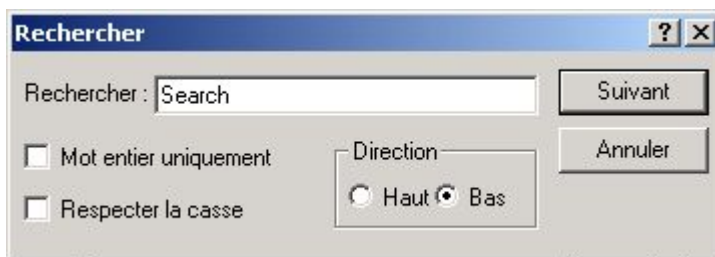
Users can organize windows by size and location according to their needs, using drag and drop to create an ergonomic graphical user interface.

No technical background required for system administrators or their assistants.

Products use an intuitive user interface so that first time users can concentrate on day-to-day tasks rather than on how to use the program.

Wizards are used for repetitive tasks, in order to increase productivity. Comprehensive on-screen help and an interactive manual make it very easy to operate.

Built-in content indexing and search: Navori Tycoon includes built-in indexing for high-speed, accurate, full-text searches, enabling users to find content quickly and easily. All content in Navori Tycoon is indexed.



Multiple level access rights enable administrators to stay focused on productivity while Tycoon ensures security and integrity of data storage and use.

Intuitive user interface

An intuitive user interface and logical ordering of tasks are implemented for ease of use. On every screen, navigation is provided by:

- An expandable, tree-structured menu that allows direct access to media files.
- Context-sensitive tool tips that pop-up on mouse over to provide additional information.
- Right click on most of the items for routine operations such as copying, importing, grading, deleting.

It only takes a day's effort to install & configure the server, and for network setup and training! The interactive manual enables quick and easy software installation for people who have a basic knowledge of computers, networking and multimedia.

9. TYCOON Network 3.01 system requirements:

TYCOON Player 3.01:

MicrosoftTM Windows XP professional Sp1.
MicrosoftTM Direct-X 9b and Windows Media operational.
Single processor Céléron.
128 Mb RAM.
Graphical card 64Mb compliant Direct-X, VGA or video outputs. Accelerated video card for improved rendering of graphics.
Direct sound compatible card.

TYCOON Server 3.01:

Workstation, Single or Dual processor PIV or Xéon 1.5ghz.
MicrosoftTM Windows XP professional Sp1.
MicrosoftTM Direct-X 9b and Windows Media Player 9 operational.
RAM 512 Mb.
VGA four outputs 1024 x 768 each.
Accelerated video card for improved rendering of graphics (Direct-X 9 compatible).

Some Internet functionality may require Internet access and payment of a separate fee to a service provider; local or long-distance charges may apply.
56,000 or higher baud modem /xDSL/cable modem.

Legal information

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- (1) Subject to customer validation. Playback or effect quality depends on PC and components abilities.
- (2) All online features/services require Internet access with at least a 128 Kbps connection speed (ISDN/xDSL,T1,T3)
- (3) All Special FX/External feeds and TV features require Direct-X 9.0 or later (testing in progress with Direct-X 8.0, 8.1) Uses hardware 3D accelerator (if any). This improves performance and output quality.
- (4) DVD playback requires third party plug in or software.