



Panorama X

Media Guide

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INTRODUCTION

Panorama X is a very high-performance general purpose database manager for Macintosh computers. It achieves high performance by using RAM for all database operations. Once a database file has been opened, Panorama X never touches the computer's disk drive until the database is saved (or auto-saved). Panorama X uses a highly optimized 64 bit database engine for high capacity. (Although most of Panorama X is written in Objective-C, the core of the database engine is written in C for maximum performance.)

Panorama X's raw database performance is accessible to any level of user thanks to an easy-to-use, modern macOS user interface. Many of the user interface elements are similar to Apple's iWork™ suite, including customizable toolbars and inspector panels. Panorama X also includes unlimited multi-level Undo, a feature never before seen in any database package, giving the user total freedom from fear even when performing sweeping database changes.

Panorama X is scalable from small to large tasks. It is simple enough to be quickly set up for small one off projects, but comprehensive enough to handle some or all of the information needs for a small to medium size organization. It can be used as a standalone program, or combined with other data management software.

Understanding Existing Solutions

When customers first learn about Panorama X's RAM based performance, they often wonder if it is too good to be true — if RAM based technology is so great, why isn't all database software written that way? The fact is, almost all software *is* RAM based, including all word processors, page layout, spreadsheets, graphics, and other common application categories.

The one exception is database software. This exception developed because of the hardware limitations of early computers in the 1960's and 1970's, when database software was first developed. These early computers had very limited RAM capacity, so only a few thousand characters could be kept in RAM at a time. Substantial research in the 1970's was devoted to this problem, and the ultimate solution was a complex algorithm called a "b-tree index." B-tree technology allows limited, pre-defined search operations to be performed on a database without having to load all of the data into RAM. The development of b-tree algorithms was a breakthrough that made it practical to use large databases even with the extremely limited hardware available during that early period of computer development.

There's no free lunch, of course. B-tree technology has significant limitations and costs. Most importantly, while using a b-tree makes some searches faster, it makes database modifications slower. The complex b-tree structure has to be updated every time any



change is made to the database, often requiring multiple disk write operations for every single data change. As the database gets larger, this extra delay increases, and mass database changes (like splitting a field that already contains data) are so slow that they are almost never done, or may even be impossible to do.

Another drawback of b-trees is limited search flexibility. B-trees don't optimize anything but basic searches. If the search involves any computation, for example a phonetic search, a regular expression pattern match, or a formula, the b-tree can't be used and performance falls back to slow disk speeds. In fact, such searches are so slow that searches involving computation are almost never used, removing a powerful tool for search and analysis.

An additional minor drawback of the b-tree system is the additional storage space necessary to maintain the complex b-tree structure. In many applications, the b-tree index is five to ten times larger than the actual data being stored. Of course with today's large drive sizes, the extra required space is not a major factor.

Eliminating the B-Tree Bottleneck

For nearly 50 years, database software programs have used b-tree technology to boost search performance without having to load all the data into RAM. But today, most databases can easily fit in the RAM of modern computer systems. Once the database is entirely loaded into RAM, there's no need for a b-tree index — searches are fast enough without it, and all of the drawbacks discussed in the previous section are eliminated. This is the approach taken by Panorama X.

Since the data is being searched directly, with no b-tree involved, Panorama X users are able to take full advantage of searches that involve computation, including phonetic searches, regular expressions, and formula based searches (for example a search based on the ratio between two numeric fields).

Since there is no complex b-tree structure to update, Panorama can rapidly make sweeping changes to even a very large database, and those sweeping changes can also be easily reversed with multi-level undo.

Because there is no additional storage space necessary for the b-tree index, data storage is very efficient. Panorama X databases can typically store five to ten thousand records per megabyte of RAM (about the same as a text file with the same data), allowing Panorama to easily handle extremely large databases. (One of the included demo databases contains registration details for all 314,000 aircraft in the United States, and only takes up 81 megabytes of storage.)

FEATURE HIGHLIGHTS

Database Engine

- RAM based 64 bit relational database engine
- Text, numeric, date and binary (blob) data types
- AES-256 encryption
- Unicode support

User Interface

- 100% native Cocoa user interface
- Multi-level universal Undo
- Customizable toolbars
- Inspector palettes
- Live scrolling
- Full screen mode
- Retina display support

Data Operations

- Searching (including with regular expressions, formulas, phonetic and geographic)
- Sorting
- Interactive analysis & summary outlines
- Find & Replace (including regular expressions)
- Morph entire field (or all fields)
- Merge/split fields
- Hide/show fields

Data Visualization & Analysis

- Summary Tables (subtotals, average, count, min, max, std deviation)
- Crosstab Tables
- Charts & Graphs (bar, stacked bar, line, area, stacked area, pie)

Graphical Layout

- Push buttons, pop-up menus, checkboxes, radio buttons, sliders and steppers
- JPEG, GIF (including animated GIFs), PNG, PDF, TIFF image display
- Font Awesome icons
- Styled text display
- Shapes (including polygons & stars) and gradients
- Tab panels
- Matrixes & multi-column lists
- Embedded web content (including maps)
- Automatic graphics layout

Printing

- Mailing labels
- Custom reports

Calculations

- Numeric calculations
- Text calculations (including regular expressions)
- Date & time calculations
- Financial calculations
- Scientific calculations

Automation

- Fully programmable
- "Watch Me" code recorder
- Conditional logic
- Subroutines
- Custom menus
- Custom alerts and dialogs
- Embedded code in fields and graphic objects
- Code syntax coloring
- Global code search
- Include AppleScript, shell script, Python, Ruby, PHP and Perl code

Import/Export

- Comma separated text (CSV)
- Tab separated text (TSV)
- JSON
- HTML (export only)
- PDF (export only)

Documentation

- Searchable HTML help
- "Quick Start" video training

NOTEWORTHY FEATURES

Media are welcome and encouraged to explore Panorama X as they see fit and to review any and all parts of Panorama X that are of interest to them. Below are a few features of Panorama X that might be noteworthy to your readers, listeners or viewers. (Where available, we've marked where each feature is demonstrated in the Panorama X Introduction Video, which can be viewed on the ProVUE web site or at <https://vimeo.com/225452340>. For example, 01:34 means that feature begins at 1 minute 34 seconds into the video.)

Data Sheet: The Panorama X data sheet displays rows and columns like a spreadsheet, but has special functions optimized for working with structured database information. The data sheet provides a simple, easy-to-use interface that is instantly available for every database. 01:34

"HyperCard like" Graphical Layout: Panorama X includes a complete application builder that enables building almost any custom interface, including custom windows, dialogs, forms, labels and custom reports. The user/developer has complete control over the layout, and if necessary, any programming needed. Layouts can be fixed or responsive to window size. Programming code can be embedded into any element, much like HyperCard™. 01:56

Flexible Searching: Panorama X can easily search all fields in a database or any combination of specific fields. Text fields can be searched for complete or partial matches, or even searched phonetically or using a regular expression. Fields can be compared to each other as well as to fixed values. Multiple searches can be combined for very specific results, and for advanced searching Boolean formulas can be used. Search results are updated live, as you type, even for the most complex and advanced searches. 03:18

Sorting: Panorama can quickly sort data by any field or combination of fields, including text, numeric and date fields. The user can also set up favorite sort configurations. 05:39

Multi Level Undo: Panorama X is the first database program ever to support universal, multi-level undo. The user can feel free to work quickly with no worries about making mistakes, because Panorama X always maintains a safety net for them. Multi-level undo isn't restricted to small changes — any operation performed in Panorama X can be instantly reversed, including data entry, inserting and deleting records, inserting, deleting, merging and splitting fields, sorting, searching, bulk data modification and graphics and code modifications. 06:02

Bulk Data Modification: Panorama allows huge data sets to be bent, reshaped or refactored at will. Fields can be added, removed, rearranged, hidden, merged or split at any time. Entire datasets can be rapidly altered based on parsing/manipulation rules set up from pop-up menus (advanced users can also use arbitrary formulas and regular expressions). 07:28

Data Import/Export: Panorama X can import text files in comma separated (csv), tab separated (tsv), or json format. Export supports the same formats plus HTML and PDF. Data can be restructured as it is imported or exported to match up with external programs (for example re-arranging, merging or splitting fields as the data is imported or exported). 09:16

Data Restructuring: Panorama X can restructure existing data, including splitting or merging fields, or even repairing fields that are partially misaligned (a common problem with imported data). 09:50

Automated Graphic Layout: To reduce the tedium of setting up complex layouts, Panorama X can set up common layout arrangements automatically from a template, reducing or eliminating the need to fiddle with a multitude of individual graphic objects. Available templates include data entry form, mailing label, searchable list/matrix, and calendars. 11:30

Font Awesome Icons: Panorama X includes the complete suite of over 675 Font Awesome vector icons, with an easy-to-use interface for selecting an icon and creating beautiful customized buttons in seconds. 12:45

Automation: Every aspect of Panorama X operation can be automated -- database manipulation, modifying database structure, even graphical layout tasks can be automated. Basic automation doesn't require any programming at all — the Panorama X program recorder can watch the user's action and automatically write the corresponding code. For developers, Panorama's programming language includes conditional logic, variables, subroutines, and a complete IDE. 13:42

Data Analysis: Summary and Crosstab tables enable rapid, interactive exploration of the data space, and can be displayed in tabular format or as a chart or graph. Data outlines summarize raw data in a multi-level outline, with each higher level corresponding to higher level categorizations of the data. The outline is interactive, so it can be collapsed to show overall trends or selectively expanded to reveal specific details at lower levels. 15:05

Regular Expressions: Panorama X includes full support for industry standard regular expressions, enabling powerful and lightning fast pattern match based searches and search/replace. There are literally thousands of regular expression pattern matching examples online (as well as in books) that can be plugged directly into Panorama X.

Relational: Panorama X's relational model supports one record-to-one record links, range-to-one record (shipping and tax tables, for example), and one record-to-many records. Relational keys are not limited to a single field, and can even be defined with a formula.

Documentation: Panorama X includes detailed reference and tutorial documentation built right into the app, as well as step-by-step video training.

PRICING

Panorama X takes a new flexible approach to software subscriptions. Unlike a traditional subscription, the user only pays for months when they actually use the software. If they don't use it every month, they don't pay every month.

After the free trial period (see below), the user starts by setting up an account linked to their e-mail address and then making an in-app transaction to purchase credits in advance for one or more months. The monthly price depends on how many credits are purchased in advance, as shown in this table.

Prepaid Pricing Plans

Period	Amount	Cost/Month [†]
1 month	\$15	\$15
12 months	\$100	\$8.33
30 months	\$200	\$6.67
60 months	\$300	\$5

[†] Unused credits don't expire, so for example if the user pre-pays for a year, and only uses Panorama part time, those credits may actually last for much longer than a year, reducing the effective cost per calendar month.

When the pre-paid credits expire, the user will be reminded to renew, but the renewal payment is not automatic (ProVUE Development doesn't keep the user's credit card on file). Like shareware, the software remains operational in between reminders, so the user is never locked out of his or her data. If the user decides not to renew, there is no onerous cancellation process, in fact, there is no cancellation process at all — to cancel, the user simply stops using software (i.e., does nothing).

The user can install Panorama X on as many computers as they like. As long as they use it on only one computer at a time, they pay nothing extra. Business users pay for each computer in use during a month, but without any serial numbers or activation hassles. A business can scale up or down the number of computers in use at any time -- it's all taken care of automatically within the app. For more information about this flexible subscription system see this video:

<https://vimeo.com/230711355>

FREE TRIAL

When Panorama X is first installed, the user is offered a 7 day free trial. The trial days don't have to be consecutive, they can be spread out over any time period.

FREQUENTLY ASKED QUESTIONS

GENERAL QUESTIONS

Why is Panorama X RAM based?

Computers have two kinds of memory: RAM and disk. Even if a system has an SSD instead of a mechanical disk drive, RAM memory is still thousands of times faster. Panorama takes full advantage of this speed by loading entire databases into RAM memory. Unlike other database software, Panorama never touches the disk drive once the database is open. All searching, sorting, editing, and everything else occurs directly in your computer's high speed RAM.

How much data can fit in RAM?

A lot. Panorama's efficient storage techniques can pack from 3 to 15 thousand records in each megabyte of memory, so on even an older 4 GB computer that is up to 60 million records. As a real-world example, the Panorama X includes a demo database that packs all 313,000 aircraft registered in the entire United States into only 81 megabytes — only enough to fill a tiny percentage of RAM on modern Mac systems.

What are the minimum system requirements for Panorama X?

The minimum system requirement for Panorama X is macOS 10.9 (Mavericks) or later (including macOS 10.14 Mojave).

How is Panorama X installed?

Simply download and drag the application into the *Applications* folder. No special installer software is required.

How is Panorama X pronounced?

We pronounce it Panorama-TEN.

Is Panorama X available for iOS?

Not currently, but an iOS version is planned for the future.

Is Panorama X available for Windows or Android?

For technical and marketing reasons, we are not planning support for Windows or Android devices.

FREE TRIAL

How does a user start the free trial?

The user simply downloads the software, copies *PanoramaX.app* from the *Downloads* folder into the *Application* folder, then double clicks to launch. If this is the first time the software has been launched on this computer, the free trial will be offered.

Is an email address or credit card needed to start the free trial?

No additional information is needed to start the trial.

How long does the free trial last?

The Panorama X free trial lasts seven days. These seven days don't have to be consecutive, so they can be spread out over two weeks, a month, whatever is needed. When the user is ready to buy, the purchase from inside the application itself (see [How does a user purchase Panorama X?](#)).

What are the capabilities and limitations of the Panorama X free trial?

During the trial period, Panorama X is fully functional — the user can create new databases of any size, analyze, manipulate data, print, create layouts and reports, write programs — anything that can be done with the full version of Panorama X. This allows a full evaluation of Panorama X before making a purchase. If the user needs a bit more time, they can purchase additional time in one month increments (see [How does a user purchase Panorama X?](#)).

What happens after the free trial ends?

Panorama X remains fully functional after the free trial ends. However, until the user pays for an account, the software will periodically stop and request that they establish an account and make a payment.

ACCOUNTS & PRICING

How does a user purchase Panorama X?

When a user is ready to buy, purchasing credits is done in the app itself (not on the web), from the *Site License* window in the *Panorama X* menu.

How much does Panorama X cost?

Instead of requiring a large up-front payment, Panorama X takes a pay-as-you go approach — approximately \$5 to \$15 per month of active use. The price varies depending on how many months you purchase in advance — the user gets the best price if you purchase a block of 60 months (5 years). See the [Pricing](#) section of this guide for further details.

How much will future upgrades cost?

Nada. Zip. Zilch. All upgrades are included with an active account, and Panorama X can automatically update itself when new versions are available (with the user's approval, of course).

Is Panorama X available in the Mac App Store?

No. Panorama X is only available directly from ProVUE Development. The software is downloaded from <http://www.provue.com>, and purchases are made from within the app.

Are there any separate options or add-on packages?

No. Everything is included.

What is a Panorama X flexible subscription?

Panorama X takes a new flexible approach to software subscriptions. Unlike a traditional subscription, the user only pays for months when they actually use the software. If they don't use it every month, they don't pay every month. Unused credits don't expire, so if they pre-pay for a year, and only use Panorama part time, those credits may actually last for two years or more. See the [Pricing](#) section of this guide for further details.

Will Panorama X warn the user in advance when a payment is needed?

Yes, Panorama X will warn the user when the account balance is low, and it also allows the administrator to view the account status and history at any time. Then it's up to the user to decide whether not to renew and continue using Panorama X.

How does account renewal work?

When the user's account expires, renewal is opt-in, not opt-out. There are no recurring payments — we don't keep the user's credit card on file and the user is in control at all times. ProVUE Development is not looking to lock anyone into never ending payments, only for a fair return in exchange for use of the software.

Will the user be locked out of their databases if they haven't made a payment?

No. Panorama will never hold data hostage. If a payment is due, Panorama X will politely request that a payment be made. If the user declines, it will keep asking periodically until the payment is made. The user can continue working between requests. If the user no longer wishes to use Panorama X this will give them an opportunity to export their data without making any additional payment.

Can Panorama X be used without an Internet connection?

Yes, but not indefinitely. Panorama X needs to periodically contact the ProVUE server to monitor usage and maintain account security. If it can't connect for a while, it won't complain. Eventually, however (after several days), Panorama X will politely request to be connected to the Internet. If the user declines, it will keep asking periodically until the connection is made. The user can continue working between requests.

USING PANORAMA X WITH MULTIPLE COMPUTERS

Are multiple purchases needed to use Panorama X on multiple computers?

No. A Panorama account can be associated with one computer or a hundred. All that is needed to start using a computer is to log on with the same e-mail address and password used when originally setting up the Panorama X account.

If Panorama X is being used by a single person, they can log on and use Panorama X on multiple computers at no extra charge, as long as only one computer is used at a time. The user doesn't need to log off or even quit Panorama when they are not using it on a particular computer, Panorama only counts actual usage, i.e. mouse and keyboard activity.

If a Panorama X account is being actively used on multiple computers at the same time (for example in a company), charges will be accrued for each computer used during the month for more than one hour. No one needs to keep track of serial numbers (there aren't any), and more or less computers can be used each month as needed. Essentially, a Panorama account is a form of site license, except that instead of paying in a lump sum, payments are made based on ongoing usage.

Can multiple users access the same database at the same time?

Multi-user access requires *Panorama X Server*, which will be available in the first half of 2019.

PANORAMA X DEVELOPMENT

What were the development goals of the Panorama X project?

Since the first release in 1988, Panorama has gone through ten major updates, but all of those updates have been incremental, built on the same original technology. When the first line of code was written in assembly language in 1986, Mac's were 24 bit, black and white, and used ASCII text. The Panorama development team has managed to bend that original technology a very very long way since then, but there is only so far that can be bent, and it was time for a clean re-do.

The goal of the Panorama X project was to take all the great concepts of Panorama, the RAM based speed, the flexibility and programmability — everything users have loved about Panorama over the decades — and re-implement them from scratch using the latest technology and a completely modern user interface design. Panorama X jettisons all of the old technology and crusty UI from Panorama 6, the entire code base is completely new (much like Apple did when transitioning from Mac OS 9 to OS X, and Final Cut 7 to Final Cut X).

As the Panorama X project neared completion, Apple announced at WWDC 2017 that support for 32 bit applications like Panorama 6 would be dropped in the near future (at WWDC it was announced that macOS 10.14 Mojave would be the last to support 32 bit). Fortunately, Panorama X is now ready to take up the slack and carry Panorama forward for decades to come.

How long did Panorama X take to develop?

Development began on March 4, 2012. The first beta release was on August 29, 2015, and the GM release was on October 10, 2017.

What language is Panorama X written in?

As of August 6, 2018, the Panorama X source code includes 175,535 lines written in Objective-C, 1,183 written in C, and 32,032 written in Panorama's own programming language (we strongly believe in "eating our own dog food"). Except for Apple's standard Open, Save and Print dialogs, all of the dialogs and menus in Panorama X were designed and programmed using Panorama X's own graphic layout and programming tools.

TRANSITIONING FROM PANORAMA 6 TO PANORAMA X

Can Panorama X open existing Panorama 6 databases?

Yes. Panorama X can open any database saved with Panorama 6 on an Intel platform (Mac or Windows). All of the fields, data, forms, procedures and permanent variables will be brought over from Panorama 6 into a new Panorama X database (the original Panorama 6 database is never touched).

Can Panorama 6 open Panorama X databases?

No. Panorama has used the same file format for 29 years, but that format (originally designed in 1986) was tied to old technology. To support newer technologies like Unicode, 64 bit, and encryption, a new file format was required. The new format is very flexible, based on Apple's object technology, so we expect to be able to use it for decades into the future.

Can Panorama X and Panorama 6 be used on the same computer?

Yes, and both Panorama 6 and Panorama X can be running at the same time — they won't interfere with each other. So if a user has one or more databases that need extra work to transition to Panorama X, they can continue to use them on Panorama 6 while working on any necessary reprogramming.

Will Panorama 6 continue to work on future versions of macOS?

Panorama 6 is a 32 bit application, and Apple has announced that support for 32-bit applications will be removed in macOS 10.15 (expected in the fall of 2019). So the future for Panorama 6 is limited. We urge all Panorama 6 users to transition to Panorama X as soon as possible.

Will forms and programs created in Panorama 6 still work in Panorama X?

Mostly, but if some advanced features of Panorama 6 have been used, some minor rework may be necessary.

How different is Panorama X from Panorama 6?

Panorama 6 users will be instantly familiar with all of the basic components of Panorama X — the data sheet, forms, procedures, data input, searching and sorting, etc. However, since the entire user interface has been revised and completely modernized, the transition may take a bit longer and a bit more study than with previous Panorama upgrades. Panorama X includes four training videos specifically geared to helping Panorama 6 users make the jump to the new version.

How much are upgrades from earlier versions of Panorama?

Because Panorama X uses a completely different “pay-as-you-go” pricing scheme, there is no upgrade pricing from earlier versions.

COMPANY & PRODUCT HISTORY

ProVUE Development was founded in 1977 by Jim Rea, while he was an electronic engineering student at Cal Poly Pomona. The company's first product was PolyVUE, a visual text editing program for the CP/M operating system, which in 1980 was followed by SuperVUE, a visual word processing program for Alpha Micro minicomputers.

In August of 1984 ProVUE Development entered the Macintosh software market with OverVUE, our first RAM based database package. OverVUE was one of the first dozen software programs available for the Macintosh, and we have been publishing Mac software continuously since that time (33 years as of August 2017). Except for Microsoft, no other company has been publishing Macintosh software longer than ProVUE Development.

In November of 1988, OverVUE 2.0, was followed up with Panorama 1.0, a more advanced RAM based database package. Unlike OverVUE, Panorama took full advantage of the Mac's graphical capabilities. Over that past 33 years, OverVUE and Panorama have won two "Eddy" awards, one MacUser "Reader's Choice" award, and have been featured in numerous articles and reviews.

Other products developed by ProVUE Development have included SiteWarrior, Appcuity, iPod Organizer, SurfScout and Power Team. ProVUE Development is currently based in Huntington Beach, California.

APPLICATION ICON & SCREENSHOTS

A collection of Panorama X application icons and screenshots can be downloaded from:

http://www.provue.com/downloads/PanoramaX_Media_Assets.zip

Feel free to use whichever ones best fit your intended use. You are free to resize the images or make minor changes if need-be. You may also create your own screenshots of Panorama X and use those if you'd prefer. Sample databases can be downloaded from within the application by choosing *Panorama Database Exchange* from the *Help* menu.

FURTHER QUESTIONS & PRESS CONTACT

If you have any more questions about Panorama X, wish to ask general questions about software development or the Mac application industry, or wish to request an evaluation copy of Panorama X, please don't hesitate to contact:

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