

*CedarChestCatalog.tioga*

*Doug Wyatt, July 23, 1987 6:26:46 pm PDT*

## CedarChest Package Catalog

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**Abstract:** This catalog is a list of interesting packages and tools. The catalog is automatically created from the collection of maintainer-supplied entries.

**XEROX**

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## Catalog Components

### **Abutters:** [Cedar]<CedarChest7.0>Top>Abutters.df

**Documentation:** AbuttersDoc.Tioga

**Keywords:** Viewer, Container, Align, Constrain, Child

**Abstract:** Abutters are like Containers, except that they provide a richer set of alignment constraints.

### **ACFind:** [Cedar]<CedarChest7.0>Top>ACFind.df

**Created by:** Dave Rumph

**Maintained by:** Dave <Rumph.pasa>, Intelnet 844-2818

**Keywords:** algorithms, finding algorithm, keywords, pattern matching, ROPE, search algorithm

**Abstract:** ACFind implements the Aho-Corasick algorithm for finding multiple keywords in a section of text in a single pass. The implementation builds and then uses a deterministic finite automaton (DFA), and so is quite fast, especially for many keywords or repeated searches for the same keywords. A client-supplied ActionProc is called for each instance of each keyword found. Keywords are supplied as a LIST OF ROPE, and the target text is in the form of a ROPE. The documentation may be found in the interface.

### **AIS:** [Cedar]<CedarChest7.0>Top>AIS.df

**Created by:** Michael Plass

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** AISDoc.tioga

**Keywords:** AIS format, images, scanned Images, sampled Images, pictures

**Abstract:** A client-level package for reading and writing AIS files. (AIS stands for Array of Intensity Samples).

### **AISSampleMaps:** [Cedar]<CedarChest7.0>Top>AISSampleMaps.df

**Created by:** Eric Nickell

**Maintained by:** Eric <Nickell.pasa>

**Documentation:** AISSampleMapsDoc.tioga

**Keywords:** AIS format, images, scanned Images, sampled Images, pictures, Imager

**Abstract:** AISSampleMaps provide a client-callable bridge from AIS files to ImagerSample.SampleMaps.

### **AISTools:** [Cedar]<CedarChest7.0>Top>AISTools.df

**Created by:** Mik Lamming

**Maintained by:** Mik Lamming

**Documentation:** AISToolsDoc.tioga. BuildTRCDoc.tioga. AISCOPYDoc.tioga.  
AISToolsReleaseMessage.tioga

**Keywords:** image, graphics, AIS files, TRC

**Commands:** BuildTRC, ApplyTRC, AISCOPY

**Abstract:** A bunch of tools for processing AIS files.

**AlgebraStructures: [Cedar]<CedarChest7.0>Top>AlgebraStructures.df**

**Created by:** Dennis Arnon

**Maintained by:** Dennis Arnon <Arnon.pa>

**Documentation:** AlgebraStructuresDoc.tioga, VaxScript.tioga

**Keywords:** Computer Algebra, Symbolic Mathematical Computation, Polynomials, Matrices, Object-Oriented Programming

**Abstract:** AlgebraStructures is an object-oriented package for building complex algebraic structures and computing with their elements. For example, one can quickly read in and do simple arithmetic on matrices of polynomials with complex number coefficients, or matrices of such matrices, *ad infinitum*.

**AlpineAmbush: [Cedar]<CedarChest7.0>Top>AlpineAmbush.df**

**Created by:** Eric Nickell

**Maintained by:** Eric <Nickell.pasa>

**Keywords:** Alpine, FS, Files

**Commands:** AlpineAmbush

**Abstract:** AlpineAmbush, when started on your workstation, will make alpine servers appear to function more like a local disk. Specifically, it allows you to edit files directly on that work surface. In some respects, AlpineAmbush provides similar functionality to AlpineFTP, but it does it in a very different way, namely, while AlpineFTP exports the STP protocol from the Alpine server which FS knows how to deal with in a sense (i.e. by dealing with entire files, and caching them locally, etc), AlpineAmbush fixes it so that the individual workstation and its clients know about page-level access to Alpine files.

**AlpineBackup: [Cedar]<CedarChest7.0>Top>AlpineBackup.df**

**Created by:** Jim Donahue

**Maintained by:** AlpineImplementors†.pa

**Documentation:** AlpineBackupDoc.tioga

**Keywords:** Alpine, IFS, backup

**Commands:** AlpineBackup, AlpineRestore, AlpineVerify

**Abstract:** A package to backup the contents of Alpine servers to IFS's

**AlpineServer: [Cedar]<CedarChest7.0>Top>AlpineServer.df**

**Created by:** AlpineImplementors↑.pa

**Maintained by:** AlpineImplementors↑.pa

**Documentation:** AlpineServerDoc.tioga

**Keywords:** Alpine, Database, File Server, FTP, Page Level Access, RPC, Server, Transaction

**Abstract:** An Alpine Server provides file storage for client machines in the internet. Files are available using either the FTP protocol used by the IFSs, or an RPC protocol which delivers additional functionality: page level access and properly synchronized transactions.

**AlpineShared: [Cedar]<CedarChest7.0>Top>AlpineShared.df**

**Created by:** AlpineImplementors↑.pa

**Maintained by:** AlpineImplementors↑.pa

**Keywords:** Alpine

**Abstract:** Contains the files shared between the Alpine Client and Server components. Since the interfaces are publicly known in the Cedar release, we make the permanent home of these files the CedarChest release directory.

**AlpineUser: [Cedar]<CedarChest7.0>Top>AlpineUser.df**

**Created by:** AlpineImplementors↑.pa

**Maintained by:** AlpineImplementors↑.pa

**Documentation:** AlpineUserDoc.tioga, AlpineInterfaces.tioga

**Keywords:** Alpine

**Abstract:** Documentation for workstation clients of the Alpine File Server.

**Applied3d: [Cedar]<CedarChest7.0>Top>Applied3d.df**

**Created by:** Jules Bloomenthal

**Maintained by:** Jules Bloomenthal <Bloomenthal.pa>

**Documentation:** Applied3dDoc.Tioga

**Keywords:** geometry, three-dimensional, 3d, vectors, points, planes, lines, matrices, clipping, curves, splines

**Commands:** Applied3dHide, Applied3dVizer, Applied3dPolyModel

**Abstract:** This package provides an interface that applies the basic three-dimensional functions found in Geometry3d for the purposes of drawing, specifying, or printing various primitives. This package also provides a command to make a line drawing of a polygonal model.

**ArchivistBTree: [Cedar]<CedarChest7.0>Top>ArchivistBTree.df**

**Created by:** Tim Diebert

**Maintained by:** Tim Diebert <Diebert.pa>

**Documentation:** ArchivistBTreeDoc.tioga

**Keywords:** Cedar Archives

**Abstract:** This package contains procedures to access the Cedar Archivist BTree containing all of the names and places relating to the current archives.

**Args: [Cedar]<CedarChest7.0>Top>Args.df**

**Created by:** Jules Bloomenthal

**Maintained by:** Jules Bloomenthal <Bloomenthal.pa>

**Documentation:** ArgsDoc.Tioga

**Keywords:** Commands, arguments.

**Abstract:** This interface provides a number of procedures for parsing command-line arguments.

**ArpaQuery: [Cedar]<CedarChest7.0>Top>ArpaQuery.df**

**Created by:** John Larson

**Maintained by:** <JLarson.pa>

**Documentation:** ArpaQueryDoc.tioga

**Keywords:** Arpanet, RPC, Lupine, Database, Finger, Whois, Domain Name Service, TCP/IP

**Commands:** ArpaQueryServer, CheckArpaName, Whois, ArpaFinger

**Abstract:** This package allows Cedar users to query various useful Arpanet databases using RPC and the Arpanet mail gateway. This package provides access to the Whois database on SRI-NIC.ARPA, the distributed domain name database, and remote Finger data.

**ArpaWatch: [Cedar]<CedarChest7.0>Top>ArpaWatch.df**

**Created by:** Hal Murray

**Maintained by:** John Larson <JLarson.PA>

**Documentation:** ArpaWatchDoc.tioga

**Keywords:** ARP, ARPA, IP, ICMP, TCP, Ethernet, Monitoring

**Commands:** ArpaWatch

**Abstract:** ArpaWatch is a tool for watching packets on the ether from the Arpa protocol family.

**Artwork: [Cedar]<CedarChest7.0>Top>Artwork.df**

**Created by:** Michael Plass

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** ArtworkDoc.tioga

**Keywords:** Tioga, printing, Interpress, artwork, rules, figures

**Commands:** Artwork, ArtworkInterpress

**Abstract:** Package for including and/or displaying artwork in tioga documents.

**Asserting: [Cedar]<CedarChest7.0>Top>Asserting.df**

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** AssertingDoc.tioga

**Keywords:** Property list, property, list, atom, key, value, relation, function, database

**Abstract:** Asserting provides a generalization of property lists toward relational databases.

**AtomButtons: [Cedar]<CedarChest7.0>Top>AtomButtons.df**

**Created by:** Eric Bier and Ken Pier

**Maintained by:** GargoyleImplementors†.pa

**Documentation:** AtomButtonsDoc.tioga

**Keywords:** user interface, input handling, menus

**Abstract:** AtomButtons have replaced the standard Buttons, Labels, editable Text Viewers, TiogaButtons, and Choice buttons, in the new user interface architecture, of which Gargoyle is a first example. The chief idea behind the new architecture is that all user events, whether triggered by menus, mouse actions, or keystrokes should be encoded into a stream of tokens and handled uniformly. Using this interface style, all menu actions can be executed from the keyboard, if desired, by changing only the TIP table for the application. AtomButtons encourage this architecture by generating token streams, instead of calling a wild collection of procedures as the old buttons did. AtomButtons also provide a compact format for building several buttons at once, so building large control panels doesn't take so much code.

AtomButtons is being released at this time so that Solidviews can use it. AtomButtons should be ready for general consumption later in the year.

**AutoBackUp: [Cedar]<CedarChest7.0>Top>AutoBackUp.df**

**Created by:** Eric Nickell

**Maintained by:** Eric <Nickell.pasa>

**Documentation:** AutoBackUpDoc.tioga

**Keywords:** attachment, backup, DF file, file system, user profile, version management

**Commands:** AutoBackUp

**Abstract:** Allow a user profile entry to specify remote files to be automatically backed up. If a local file has an attachment to one of the files in this list, then a copy back out to the remote file will be made when Save is clicked in the Tioga viewer. Primary intended use: automatic backup of user profiles for public machines users.

**BasicEnvironment:** [Cedar]<CedarChest7.0>Top>BasicEnvironment.df

**Benchmarks:** [Cedar]<CedarChest7.0>Top>Benchmarks.df

**Documentation:** BenchmarksDoc.tioga, DhrystoneDoc.tioga, DhrystoneTable.tioga, WhetstoneDoc.tioga, PuzzleDoc.tioga, RichardsDoc.tioga, WhetstoneTable.tioga

**Commands:** CedarDhrystone, MesaDhrystone, InlineDhrystone, CedarWhetstone, CedarPuzzle, FastCedarPuzzle, CedarRichards, FastCedarRichards, MesaRichards, FastMesaRichards

**BigCardinals:** [Cedar]<CedarChest7.0>Top>BigCardinals.df

**Documentation:** BigCardinalsDoc.tioga

**Keywords:** Arithmetic, Multiple precision

**Abstract:** BigCardinals is a multiple-precision arithmetic package for non-negative integers.

**BinCom:** [Cedar]<CedarChest7.0>Top>BinCom.df

**Created by:** Michael Plass

**Maintained by:** <Plass.pa>

**Documentation:** BinComDoc.tioga

**Keywords:** binary, compare, file

**Commands:** BinCom

**Abstract:** A simple program to compare binary files.

**BiScrollers:** [Cedar]<CedarChest7.0>Top>BiScrollers.df

**Documentation:** BiScrollersDoc.Tioga

**Keywords:** Viewer, Scroll, Two-Dimensional, User Interface, Graphic, Screen, I/O

**Abstract:** BiScrollers are a subclass of Viewers that provide two-dimensional scrolling.

**BootTool:** [Cedar]<CedarChest7.0>Top>BootTool.df

**Commands:** Boot, BootTool

**Bravo To Tioga:** [Cedar]<CedarChest7.0>Top>Bravo To Tioga.df

**Created by:** Jim Morris

**Maintained by:** TiogaImplementors↑.pa

**Documentation:** BravoToTiogaDoc.tioga

**Keywords:** Bravo, Tioga, Conversion, Interchange

**Commands:** BravoToTioga

**Abstract:** BravoToTioga converts from bravo format files to tioga format files. Not all formatting comes through, but enough survives that the file will be recognizable.

**Bridge:** [Cedar]<CedarChest7.0>Top>Bridge.df

**Created by:** Alan Demers & Bill Jackson

**Maintained by:** Bill Jackson <BJackson>

**Keywords:** Unix, XNS, Cedar, Interoperability

**Commands:** Bridge

**Abstract:** \*\*\* this stuff is still experimental, check with me (bj) \*\*\*

Bridge seems to be the most reliable, extensible, and maintainable system for building distributed applications where Unix hosts provide the computational cycles, and Xerox software systems (XDE, Cedar) provide the user interface. Bridge has proven its worth on parcvax and is currently the preferred method for interacting with Unix based applications from XDE. For this reason, we've built a Cedar version of Bridge in the hopes that it will provide a platform upon which we can construct tools for integrating our applications (such as the DATools) with Unix applications (such as Spice/Dracula).

**BridgeSubmit:** [Cedar]<CedarChest7.0>Top>BridgeSubmit.df

**Created by:** Christian Le Cocq

**Maintained by:** Christian Le Cocq <LeCocq.pa>

**Documentation:** BridgeSubmitDoc.tioga

**Keywords:** Bridge, Unix, remote.

**Commands:** Job

**Abstract:** BridgeSubmit is a small package which adds a layer of sugar on top of the various Bridge interfaces so that a submission of a remote Job to Unix becomes easy.

**BufferedRefresh:** [Cedar]<CedarChest7.0>Top>BufferedRefresh.df

**Created by:** Bier

**Maintained by:** <GargoyleImplementors↑.pa>

**Documentation:** BufferedRefreshDoc.tioga

**Keywords:** Bitmap, Refresh, Buffer, Animation, Cartoon

**Abstract:** Cartoonists draw scenes where some objects never move, some objects move one way, and some objects move another way. To avoid redrawing each frame from scratch, they paint picture parts on transparent layers that can be moved independently. Interactive systems like Gargoyle also profit by redrawing only the part of the scene that is moving.



**BufferedRefresh** provides the abstraction of a "sandwich" made up of layers, each of which has its own `Imager.Context`. The layers are drawn back to front. The user provides a procedure to refresh each layer, and indicates which layers should have their own backing bitmap. These "backed" layers are only redrawn when the client indicates that they are no longer OK.

**CaminoReal:** [Cedar]<CedarChest7.0>Top>CaminoReal.df

**Created by:** Dennis Arnon and Carl Waldspurger

**Maintained by:** Dennis Arnon <Arnon.pa>

**Documentation:** CaminoRealDoc.tioga, TiogaMathSample.tioga, Conics.tioga, Script.tioga, Mik.tioga, MikCompute.tioga, Own.tioga, Res.tioga, Res2.tioga, SantaCruzScript.tioga

**Keywords:** Math, Technical Documents, Math Editor, Mathematical Expressions, WYSIWYG, AlgebraStructures, Computer Algebra, Symbolic Mathematical Computation, Polynomials, Matrices

**Commands:** CaminoReal

**Abstract:** CaminoReal is an environment for several kinds of manipulations of mathematical expressions: (1) interactive, syntax-directed, two-dimensional, WYSIWYG editing, (2) insertion into a Tioga document, and (3) algebraic manipulation.

**CardHashTableThreaded:** [Cedar]<CedarChest7.0>Top>CardHashTableThreaded.df

**CardTable:** [Cedar]<CedarChest7.0>Top>CardTable.df

**Cartoon:** [Cedar]<CedarChest7.0>Top>Cartoon.df

**Created by:** Bill Jackson (credits to: Byran Yamamoto, Keith Marzullo and Alan Freier)

**Maintained by:** Bill Jackson <BJackson.pa>

**Keywords:** Cartoon, CartoonTool, CourierBinding, expanding ring broadcast, XNS, Sirocco

**Abstract:** Cartoon is a direct clone of Bryan Yamamoto's XDE Hack "CartoonTool". Besides being an interesting demo, CartoonTool uses a very interesting mechanism, CourierBinding, in order to locate a nearby server using a prototype expanding ring broadcast protocol. CourierBinding has seen its day, but served a useful purpose both in proving that the concept of location based resource binding was viable, and that mechanisms like this are implementable in a natural way. I invite you to take a look at the "Cartoon of the Day", by typing CartoonViewer at the commander (this is still a "hack", so don't be surprised if you occasionally get errors).

**CartoonViewer:** [Cedar]<CedarChest7.0>Top>CartoonViewer.df

**Created by:** Bill Jackson (credits to: Byran Yamamoto, Keith Marzullo and Alan Freier)

**Maintained by:** Bill Jackson <BJackson.pa>

**Keywords:** Cartoon, CartoonTool, CourierBinding, expanding ring broadcast, XNS, Sirocco

**Commands:** CartoonViewer

**Abstract:** Cartoon is a direct clone of Bryan Yamamoto's XDE Hack "CartoonTool". Besides being an interesting demo, CartoonTool uses a very interesting mechanism, CourierBinding, in order to locate a nearby server using a prototype expanding ring broadcast protocol. CourierBinding has seen its day, but served a useful purpose both in proving that the concept of location based resource binding was viable, and that mechanisms like this are implementable in a natural way. I invite you to take a look at the "Cartoon of the Day", by typing CartoonViewer at the commander (this is still a "hack", so don't be surprised if you occasionally get errors).

**Catalog:** [Cedar]<CedarChest7.0>Top>Catalog.df

**Created by:** Richard J. Beach

**Documentation:** CatalogDoc.tioga

**Keywords:** catalog, documentation, software release

**Commands:** Catalog

**Abstract:** The Catalog command creates a catalog document of all the software packages contained in a software directory. The catalog describes each package and provides both a command index and a keyword index to the packages. Typically, a catalog is created from a Cedar released-software directory or the CedarChest software directory. However, a catalog can be created from any directory that conforms to the software naming conventions used in Cedar releases.

**CedarChestRelease:** [Cedar]<CedarChest7.0>Top>CedarChestRelease.df

**Documentation:** ConversionDoc.tioga, CedarChestDoc.tioga, CedarChestCatalog.tioga, CedarChest.depends

**CedarExamples:** [Cedar]<CedarChest7.0>Top>CedarExamples.df

**Documentation:** CedarExamplesDoc.Tioga

**Commands:** SampleTool, Calculate, ReverseName

**Abstract:** This section contains a set of examples of Cedar programs for your reading pleasure. These are actual programs that can be run, used as parts of other programs, or treated as templates to be edited into new programs with similar structures.

This memo is probably out of date if it is in hardcopy form. It documents Release 7.0 of Cedar, May 1986.

**[If you are reading this document on-line in Cedar, try using the Tioga Levels and Lines menus to browse through the top few levels of its structure before reading it straight through.]**

**CedarSyntax:** [Cedar]<CedarChest7.0>Top>CedarSyntax.df

**Created by:** Doug Wyatt

**Maintained by:** Doug Wyatt <Wyatt.pa>

**Documentation:** CedarSyntaxDoc.tioga, CedarSyntax.tioga, Cedar.grammar

**Keywords:** language, syntax, grammar

**Abstract:** This is a concise summary of the syntax of the Cedar language. If you're viewing it with Tioga, you can select a nonterminal and middle-click "Def" to walk around in it. CedarSyntax.tioga contains the same information, but just fits on one (two-sided) page. Cedar.grammar contains the syntax tables actually used by the Cedar compiler.

**Celtics:** [Cedar]<CedarChest7.0>Top>Celtics.df

**Created by:** Russ Atkinson

**Maintained by:** Russ Atkinson <Atkinson.pa>

**Documentation:** CelticsDoc.tioga

**Keywords:** debugging, performance, performance measurement, programming tools

**Commands:** BreakTool, Celtics

**Abstract:** BreakTool is an experimental package that supports various fancy breakpoint facilities, including conditional breakpoints and logging of execution traces. Celtics is a package that can be used to count how many times control passes through given points in the system.

**Chat:** [Cedar]<CedarChest7.0>Top>Chat.df

**Documentation:** ChatDoc.Tioga

**Commands:** Chat

**ChatCommands:** [Cedar]<CedarChest7.0>Top>ChatCommands.df

**Created by:** Eric Nickell

**Maintained by:** Eric Nickell <Nickell.pasa>

**Documentation:** ChatCommandsDoc.tioga

**Keywords:** CommandTool, Telnet, Pup, Chat

**Commands:** ChatCommands

**Abstract:** ChatCommands can be run on a Cedar machine to provide to Pup users a Cedar Command Tool. Its primary use is (1) to provide (appropriately restricted) remote access to server machines, (2) to provide Dorado computing power to DLion users for tasks which are not Summonable (yet), and (3) to provide some Cedar capabilities to user's who are on non-Cedar, but Pup-type, machines.

**Checksummer:** [Cedar]<CedarChest7.0>Top>Checksummer.df

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** ChecksummerDoc.tioga

**Keywords:** Checksum, File

**Commands:** Checksummer

**Abstract:** Checksummer computes the checksum of a set of files. With some help from Waterlily, it can be used to locate mashed files on file servers holding secondary copies.

**ChessHack:** [Cedar]<CedarChest7.0>Top>ChessHack.df

**Created by:** Russ Atkinson

**Maintained by:** Russ Atkinson <Atkinson.pa>

**Documentation:** ChessHackDoc.tioga

**Keywords:** chess

**Commands:** ChessHack

**Abstract:** ChessHack is a simple chess playing program that plays a beginner's level of chess at moderate speed. ChessHack is also a useful tool for browsing in chess games.

**CircularGarbage:** [Cedar]<CedarChest7.0>Top>CircularGarbage.df

**Created by:** Bob Hagmann

**Maintained by:** Hagmann.pa

**Documentation:** CircularGarbageDoc.tioga

**Keywords:** garbage collection, memory allocation, performance measurement

**Abstract:** This program is a modification of the trace and sweep program to find circular data structures that are unreferenced except from within themselves.

**CKViewer:** [Cedar]<CedarChest7.0>Top>CKViewer.df

**Created by:** Ken Pier

**Maintained by:** Ken Pier <Pier.pa>

**Documentation:** CKViewerDoc.tioga

**Keywords:** color display, hardware testing, flash

**Commands:** CKViewer

**Abstract:** Cedar version of ColorKinetic, used for exercising color display systems, with enhancements for testing and debugging color tables. Assumes it owns the color display. Color viewer windows should NOT be on when using CKViewer.

**Clock:** [Cedar]<CedarChest7.0>Top>Clock.df

**Commands:** Clock

**CmdTest:** [Cedar]<CedarChest7.0>Top>CmdTest.df

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** CmdTestDoc.Tioga

**Keywords:** Command Tool, Command, CommandProc, Result, Message, Command result, Command message, Debug

**Commands:** Answerback, ShowResult, ResultOf

**Abstract:** Provides some commands useful for debugging the return values of other commands, and for debugging what happens to those returned values.

**CodeTimer:** [Cedar]<CedarChest7.0>Top>CodeTimer.df

**Created by:** Bier

**Maintained by:** <GargoyleImplementors†.pa>

**Documentation:** CodeTimerDoc.tioga

**Keywords:** Time, Performance, Instrumentation, Interval

**Abstract:** Whereas Spy can tell you what fractions of the CPU time spent between line A and line B went to which routines, CodeTimer tells you how long it took to get from A to B. Together, they tell you what to fix and how well you did. To use CodeTimer you add a procedure StartInterval before line A, and StopInterval after line B. CodeTimer maintains several tables of named intervals (e.g. one per application). For each interval, it remembers the minimum, maximum, and average time taken to execute that interval since the last time the interval counter was reset. StartInterval and StopInterval commands are intended to be fast enough that you can leave them in your code. Currently CodeTimer prints the statistics onto a STREAM in human readable format. If there is a demand, I will add procedures to query the intervals procedurally.

**ColorDisplay:** [Cedar]<CedarChest7.0>Top>ColorDisplay.df

**Created by:** Mik Lamming, Ken Pier

**Maintained by:** Tim Diebert <Diebert.pa>

**Documentation:** ColorDisplayDoc.tioga

**Keywords:** color display, display, machine profile, user profile

**Commands:** CDisplay, ColorDisplayModeBlackAndWhite, ColorDisplayModeDither1, ColorDisplayModeDither2, ColorDisplayModeDither4, ColorDisplayModeDither8, ColorDisplayModeFullColor, ColorDisplayModeGray2, ColorDisplayModeGray4, ColorDisplayModeGray8, ColorDisplayModeSmoothFullColor, ColorDisplayModeSmoothGray4, ColorDisplayModeSmoothGray8, ColorDisplayModeSmoothRed8, ColorDisplayModeSmoothGreen8, ColorDisplayModeSmoothBlue8, ColorDisplayModeHighResolution, ColorDisplayModeLeft, ColorDisplayModeLowResolution, ColorDisplayModeRight, ColorDisplayModeOff, ColorDisplayModeFile

**Abstract:** Provides ~~both a client interface and~~ user interfaces (~~command and tool~~) for controlling the state of the color display.

**ColorMaps:** [Cedar]<CedarChest7.0>Top>ColorMaps.df

**Created by:** Christian Jacobi

**Maintained by:** Christian Jacobi <Jacobi.pa>

**Documentation:** ColorMapsDoc.tioga

**Keywords:** Color display, color maps

**Commands:** ColorMaps

**Abstract:** Interactively set up the color display for different modes and color maps. Read or create color map files.

**ColorRegistry: [Cedar]<CedarChest7.0>Top>ColorRegistry.df**

**Created by:** Maureen Stone

**Maintained by:** Maureen Stone <Stone.pa>

**Documentation:** ColorRegistryDoc.tioga

**Keywords:** Color, Functional Color, Imager, Interpress

**Abstract:** A *registered color* is a special color whose behavior cannot easily be defined using a color model. Registered colors are specified using a hierarchical name, such as "Xerox/Research/Distinct/Blue". Clients generate these colors by calling `ImagerColor.Find`, or in Interpress, `FINDCOLOR`, with the name as a parameter. The ColorRegistry is a centralized repository for the implementations of these colors.

**ColorSchemeViewer: [Cedar]<CedarChest7.0>Top>ColorSchemeViewer.df**

**Created by:** Maureen Stone

**Maintained by:** Maureen Stone <Stone.pa>

**Documentation:** ColorSchemeViewerDoc.tioga

**Keywords:** viewers, color systems

**Abstract:** A color scheme viewer is a viewer class suitable for providing an interface to a three dimensional, continuous color system or any other similar system. The Viewer class implements a container with three sliders, three editable text viewers, a Set button, which sets the value of the viewer from the value in the text sliders, and a label. The viewer will automatically format itself as a function of size (within reasonable limits)

**ColorTool: [Cedar]<CedarChest7.0>Top>ColorTool.df**

**Created by:** Maureen Stone

**Maintained by:** Maureen Stone <Stone.pa>

**Documentation:** ColorToolDoc.tioga

**Keywords:** color, color spaces, color specification

**Commands:** ColorTool

**Abstract:** The ColorTool allows one to manipulate the color of a patch using any or all of a variety of color systems. The ColorTool is valuable for experimenting and learning about

the various color schemes and how they interrelate to one another. A client interface is provided so that illustrators might use the ColorTool for color specification by a user.

**ColorTrix: [Cedar]<CedarChest7.0>Top>ColorTrix.df**

**Documentation:** ColorTrixDoc.tioga

**Keywords:** color display, color map, frame buffer.

**Commands:** Ct, Cm, ColorTrix, ColorTrixMap

**Abstract:** A collection of programs and interfaces are provided. The programs emphasize interactivity through the command tool. The color display is treated simply as a frame buffer, with no regard to the placement of viewers on the display.

**Created and Maintained by:** Bloomenthal.pa

**ColumnLs: [Cedar]<CedarChest7.0>Top>ColumnLs.df**

**Documentation:** ColumnLsDoc.tioga

**Keywords:** columnation, ls, list, filename, directory

**Commands:** Ls, ColumnLs

**Abstract:** ColumnLs (Ls) lists files and subdirectories of a given directory in column form.

**Created and Maintained by:** Bloomenthal.pa

**Combiner: [Cedar]<CedarChest7.0>Top>Combiner.df**

**Documentation:** CombinerDoc.tioga

**Keywords:** computational geometry, convex decomposition, polygons

**Abstract:** The Combiner maintains a database of non-overlapping regions in the plane, with each of which some client-specified data is associated. The intended usage is to merge a succession of new convex polygons ("brushstrokes"), each with its own client data, into the database. Such merges involve two steps: first, the geometry of the new polygon is merged with that of the existing database (edge intersections are computed), resulting in a new database; second, the (previous) data of each polygon in the database that was "touched" by the input brush is combined with the brush's data, according to client-specified rules.

**CommanderPriority: [Cedar]<CedarChest7.0>Top>CommanderPriority.df**

**Created by:** Bob Hagmann

**Maintained by:** Bob Hagmann <Hagmann.pa>

**Documentation:** CommanderPriorityDoc.tioga

**Keywords:** CPU priority

**Commands:** CommanderPriority

**Abstract:** Set the CPU priority of a CommandTool via buttons. The priority change is done almost immediately; it does not wait until the end of the current command.

**CommandToolProcedures: [Cedar]<CedarChest7.0>Top>CommandToolProcedures.df**

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** CommandToolProceduresDoc.tioga

**Keywords:** Command, Command Tool, Interpreter, Function, Procedure, Print, Execute, STREAM, stdin, stdout, stderr

**Abstract:** CommandToolProcedures adds some interpreter procedures that are useful to invoke from a command tool (and maybe an interpreter tool too!): &cmd (execute command in command tool), &stdin, &stdout, &stderr (get streams from command tool), and &printRope (print on command tool).

**Compare: [Cedar]<CedarChest7.0>Top>Compare.df**

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** CompareDoc.Tioga

**Keywords:** compare files, differences, file compare

**Commands:** Compare

**Abstract:** Compare does a byte by byte compare of two sets of files.

**ComputeWorkingSet: [Cedar]<CedarChest7.0>Top>ComputeWorkingSet.df**

**Created by:** Bob Hagmann

**Maintained by:** Bob Hagmann <Hagmann.pa>

**Documentation:** ComputeWorkingSetDoc.tioga

**Keywords:** Working Set

**Commands:** ComputeWorkingSet

**Abstract:** Compute an approximation of the working set for a running system.

**Contours: [Cedar]<CedarChest7.0>Top>Contours.df**

**Documentation:** ContoursDoc.tioga

**Keywords:** contour, two-dimensional, pointset.

**Commands:** ContoursInterpolate, ContoursSimilar

**Abstract:** This software permits the creation and modification of two-dimensional contours.

**Created and Maintained by:** Bloomenthal.pa

**Controls: [Cedar]<CedarChest7.0>Top>Controls.df**

**Created by:** Jules Bloomenthal



**Maintained by:** Jules Bloomenthal <Bloomenthal.pa>

**Documentation:** ControlsDoc.Tioga

**Keywords:** Controls, sliders, dials, functions, contours, sketches, viewers, interaction.

**Commands:** ControlsTest, ControlsVernier

**Abstract:** An interface is provided for the creation of menu buttons, vertical or horizontal sliders, circular dials, a typescript, functions, and a graphics display within a viewer. Placement and sizing of these is semi-automatic. Attention has been paid to ease of interaction. A test program is provided to demonstrate some of the control capabilities.

**Cookie:** [Cedar]<CedarChest7.0>Top>Cookie.df

**Documentation:** CookieDoc.Tioga

**Keywords:** Fortune, Cookie, Saying, Addage, Do It, Quote, Snippet, Command

**Commands:** Cookie

**Abstract:** Cookie provides fortune cookies

**CopyFromVersionMap:** [Cedar]<CedarChest7.0>Top>CopyFromVersionMap.df

**Created by:** Russ Atkinson

**Maintained by:** Russ <Atkinson.pa>

**Documentation:** CopyFromVersionMapDoc.tioga

**Keywords:** copy, version map

**Commands:** CopyFromVersionMap

**Abstract:** CopyFromVersionMap allows a user to setup a local subdirectory using a pair of version maps (one for source, one for symbols) such that all of the files listed in the version maps have local attachments in that subdirectory.

**CourierBinding:** [Cedar]<CedarChest7.0>Top>CourierBinding.df

**Created by:** Bill Jackson

**Maintained by:** Bill Jackson <BJackson.pa>

**Documentation:** CourierBindingDoc.Tioga

**Keywords:** Courier, Ring Broadcast, Binding, Networking, XNS, Clearinghouse

**Abstract:** CourierBinding is a variation of the binding protocol used by XNS Authentication and the Clearinghouse. Alan Freier and Keith Marzullo made an initial attempt to come up with a protocol of general utility for locating a \*nearby\* resource. This is variant number 1, and its sole claim for immortality is that it has been used in some mesa applications, most notably, CartoonTool (and possibly a version of Fetch/Jasmine). I always thought it was a kinda neat idea, and given that we're building XNS internals, I tried this as an experiment to measure the flexibility of Alan Demers code. Needless to say, it works... You can try it out by playing with "Cartoon"

**CubicSplinePackage: [Cedar]<CedarChest7.0>Top>CubicSplinePackage.df**

**Created by:** Maureen Stone

**Maintained by:** Maureen Stone <Stone.pa>

**Documentation:** CubicSplinePackageDoc.tioga

**Keywords:** splines. cubics

**Abstract:** A collection of 2-D cubic spline routines. Supports all the curve types in Griffin. Cubic2 replaces CGCubic as a set of simple routines for dealing with parametric cubics.

**Cursory: [Cedar]<CedarChest7.0>Top>Cursory.df**

**Maintained by:** Frank Crow <Crow.pa>

**Documentation:** CursoryDoc.tioga

**Keywords:** mouse. cursor. user interface

**Abstract:** A place for cursors to hang their hacks.

**Cypress: [Cedar]<CedarChest7.0>Top>Cypress.df**

**Documentation:** CypressDoc.tioga. CypressFig1.griffin. CypressFig2.griffin. CypressFig3.griffin. CypressFig4.griffin. CypressFig5.griffin. CypressFig6.griffin

**Abstract:** This document describes the Cypress system, and is aimed at potential writers of database applications in the Cedar programming environment. It should be accurate as of the date above, and is recommended as better documentation than CSL Report 83-4, from which it was derived. Suggestions are welcomed on both the design of Cypress and its exposition in this document. We will assume little knowledge of database systems, and little knowledge of Cedar. We will not explain the motivation for this particular design of Cypress; see the CSL Report for that. You should also consult the documentation for database tools not described here; see a database wizard for details.

**DBIcons: [Cedar]<CedarChest7.0>Top>DBIcons.df**

**Commands:** OpenIconDB

**DBTools: [Cedar]<CedarChest7.0>Top>DBTools.df**

**Commands:** OpenToolDB

**DebuggingWorld: [Cedar]<CedarChest7.0>Top>DebuggingWorld.df**

**Created by:** Doug Wyatt

**Maintained by:** Doug Wyatt <Wyatt.pa>. Polle Zellweger <PolleZ.pa>

**Documentation:** DebuggingWorldDoc.tioga

**Keywords:** debugging. Imager. Viewers. Tioga. virtual terminal

**Abstract:** The DebuggingWorld configuration allows Cedar implementors to debug the lower levels of the Cedar user interface (Imager, Viewers, Tioga) by using another virtual terminal on the same machine rather than the teledebugger. It can also be useful when debugging other packages that communicate intimately with Viewers, Tioga, and friends and might cause them to lock up.

**Dependencies:** [Cedar]<CedarChest7.0>Top>Dependencies.df

**Commands:** Dependencies

**DeskTops:** [Cedar]<CedarChest7.0>Top>DeskTops.df

**Created by:** Russ Atkinson & Peter Kessler

**Maintained by:** Peter Kessler <PeterKessler.pa>

**Documentation:** DeskTopsDoc.tioga

**Keywords:** virtual desktops, Viewers

**Commands:** DeskTop, ReadDesktop, WriteDesktop

**Abstract:** DeskTops are a means for creating several "virtual desktops," each of which appears to be the normal desktop provided by Viewers. DeskTops also provide the Clean button, which cleans off excess icons into a Most Recently Used list. DeskTops formerly resided as part of the Viewers package in the Cedar release. The additional commander operations of ReadDesktop & WriteDesktop are provided for having desktops be persistent in the face of boot/rollback cycles.

**DFCaching:** [Cedar]<CedarChest7.0>Top>DFCaching.df

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** DFCachingDoc.Tioga

**Keywords:** DF File, BringOver

**Commands:** QuickBringOver, QBO

**Abstract:** DFCaching implements BringOver, but with optional caching. A cached BringOver remembers what it's already BroughtOver and avoids working on it again.

**DFCommandsExtras:** [Cedar]<CedarChest7.0>Top>DFCommandsExtras.df

**Documentation:** DFCommandsExtrasDoc.tioga

**Keywords:** DFCommands, DFCommandsExtras, BringOver, BringEnvironment, DF files, Environment, CedarChest

**Commands:** BringEnvironment

**Abstract:** DFCommandsExtras provides two commands: BringEnvironment and QuickBringOver. BringEnvironment makes attachments in the standard Command directory to the files listed in Environment.df. QuickBringOver makes attachments in the current directory to given DF files. Switches provide some more functionality.

**DFDependencies: [Cedar]<CedarChest7.0>Top>DFDependencies.df**

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** DFDependenciesDoc.Tioga

**Keywords:** DF File, Dependencies, Bringover, SModel, Verify, MakeDo

**Commands:** Update

**Abstract:** DFDependencies determines the dependency graph between a set of DF-files, and can update all the clients of a given DF-file.

**DFIncludes: [Cedar]<CedarChest7.0>Top>DFIncludes.df**

**Commands:** DFIncludes

**DFPackageExtras: [Cedar]<CedarChest7.0>Top>DFPackageExtras.df**

**Created by:** Bertrand Serlet

**Maintained by:** Bertrand Serlet <Serlet.pa>

**Keywords:** DFPackage, DF files, DF Closure

**Abstract:** DFPackageExtras defines a function *DFUtilitiesExtras.ParseFromFile*. ParseFromFile is very similar to *DFUtilities.ParseFromStream*, and has the same semantics when parsing a DF file, but caches the result of parsing. ParseFromFile is therefore much more time-efficient when DF files are enumerated several times. Ultimately, *DFUtilitiesExtras* should be merged in *DFUtilities*. DFPackageExtras also provide a *DFClosure* enumeration, that caches the DF files enumerated, so that they are only seen once.

**DFTool: [Cedar]<CedarChest7.0>Top>DFTool.df**

**Documentation:** DFToolDoc.tioga

**Commands:** DFTool, DeleteDFTools

**Abstract:** This documentation describes the Cedar DF Tool, that handles DF files.

**DicentraRS232CAsync: [Cedar]<CedarChest7.0>Top>DicentraRS232CAsync.df**

**Created by:** Tim Diebert

**Maintained by:** Tim Diebert <Diebert.pa>

**Documentation:** DicentraRS232CAsyncDoc.tioga

**Keywords:** RS232, Dicentra

**Abstract:** This interface provides access to an RS232C port attached to a Dicentra. It provides the user with a stream oriented path to the device.

**DirectoryList: [Cedar]<CedarChest7.0>Top>DirectoryList.df****Created by:** Michael Plass**Maintained by:** Michael Plass <Plass.pa>**Documentation:** DirectoryListDoc.tioga**Keywords:** directory, subdirectory, dir, subdir, files**Commands:** Dir, SubDir**Abstract:** Commands for quickly listing the subdirectory structure of the local disk.**DiskTool: [Cedar]<CedarChest7.0>Top>DiskTool.df****Created by:** Willie-Sue, Russ Atkinson**Maintained by:** Willie-Sue <Willie-Sue.pa>**Documentation:** DiskToolDoc.tioga**Keywords:** Disk**Abstract:** Program for investigating/patching raw disk pages (wizards only).**Documentation: [Cedar]<CedarChest7.0>Top>Documentation.df****Created by:** Who knows?**Maintained by:** A bunch of people <CedarSupport↑.pa>

**Documentation:** DocumentationDoc.Tioga, Copyright.tioga, ManualContents.tioga, BriefingBlurb.tioga, Glossary.tioga, Introduction.tioga, HowToUseAPublicCedarMachine.tioga, OverviewDoc.tioga, CedarProgramStyle.tioga, StyleSheet.sil, DoradoBooting.tioga, DiskErrorRecovery.tioga, PseudoServerDoc.Tioga, ExternalMail.tioga, NoviceUserProfile.Tioga, NoviceHome.DFTemplate, StandardUserRoot.DFTemplate, StandardUserVSystem.DFTemplate, StandardUserHome.DFTemplate, StandardUserHomeV.DFTemplate, StandardUser.Profile, StandardUser-Private.MachineProfile, StandardUser-LoginWork.cm, StandardUser-SetupCommandTool.cm, StandardUser-PrivateBoot.cm, StandardUser-STPServer.readAccess

**Keywords:** Cedar, Documentation, Help**Abstract:** The Documentation DF file collects a bunch of random pieces of Cedar documentation.**DoradoInfo: [Cedar]<CedarChest7.0>Top>DoradoInfo.df****Documentation:** DoradoInfo.tioga**Draw2d: [Cedar]<CedarChest7.0>Top>Draw2d.df****Created by:** Jules Bloomenthal and Michael Plass**Maintained by:** Jules Bloomenthal <Bloomenthal.pa>

**Documentation:** Draw2dDoc.Tioga

**Keywords:** 2D, Imager, Context, LineDrawing, Arrows, Squares.

**Commands:** Draw2dTest

**Abstract:** An interface is provided for drawing lines and marking points in an Imager context.

**du:** [Cedar]<CedarChest7.0>Top>du.df

**Created by:** Bob Hagmann

**Maintained by:** Bob Hagmann <Hagmann.pa>

**Documentation:** duDoc.tioga

**Keywords:** File usage

**Commands:** du

**Abstract:** *du* (Disk U sage) gives the number of pages used by each directory in a file system. All directories are considered and recursively processed. Totals are accumulated from subdirectories into their parents. Files in the cache are treated as having directories. Within a directory, the subdirectories are printed ordered by size.

**Dunn:** [Cedar]<CedarChest7.0>Top>Dunn.df

**Documentation:** DunnDoc.tioga

**Keywords:** Dunn, animation, film recorder, camera

**Commands:** DunnSnap

**Abstract:** Dunn is a package of software callable procedures and a user program to provide software control of the Dunn Instruments 632 film recorder. This film recorder uses a high quality internal monitor to expose each color primary separately for maximal color presentation. 35mm recording is done with a Yashica camera, 16mm with a Bolex. The quality of the recorded images is sufficient for presentation to large audiences.

**Created and Maintained by:** Bloomenthal.pa

**DunnCalibration:** [Cedar]<CedarChest7.0>Top>DunnCalibration.df

**Created by:** Mik Lamming

**Maintained by:** Mik Lamming <Lamming.pa>

**Documentation:** DunnCalibrationDoc.tioga

**Keywords:** Dunn Camera, Calibration

**Abstract:** These are bits of JaM code to help Imaging wizards calibrate the Dunn Camera. They are of no interest to anyone else. There is no further documentation.

**EditorComforts:** [Cedar]<CedarChest7.0>Top>EditorComforts.df

**Created by:** Russ Atkinson, Warren Teitelman

**Maintained by:** Russ Atkinson <Atkinson.pa>

**Documentation:** EditorComfortsDoc.tioga

**Keywords:** abbreviations, programming tools, Tioga extensions, user profile

**Abstract:** This document describes a collection of facilities that generally fall under the category of creature comforts: they are not essential, but they make life more pleasant. These facilities are enabled by installing EditorComforts, e.g. by including the command "Install EditorComforts" in your CommandTool.NewUser user profile entry. In addition, some of the facilities can be parameterized, or disabled, via various user profile entries described below.

**EncryptTool:** [Cedar]<CedarChest7.0>Top>EncryptTool.df

**Documentation:** EncryptToolDoc.tioga

**Keywords:** Cyphers, DES algorithm, Encryption, Security

**Commands:** EncryptTool

**Abstract:** EncryptTool includes an Encrypt programming interface and an EncryptTool viewer-based tool to perform DES encryption/decryption on entire files or Tioga selections.

**EndianDebug:** [Cedar]<CedarChest7.0>Top>EndianDebug.df

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** EndianDebugDoc.tioga

**Keywords:** Endian, debugging

**Abstract:** Simple debugging aids for printing word swapped 32 bit numbers

**Environment:** [Cedar]<CedarChest7.0>Top>Environment.df

**EtherLoad:** [Cedar]<CedarChest7.0>Top>EtherLoad.df

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** EtherLoadDoc.tioga

**Keywords:** Ethernet, Load, Graph

**Commands:** EtherLoad

**Abstract:** EtherLoad displays a bar graph of the ethernet activity

**EtherWatch:** [Cedar]<CedarChest7.0>Top>EtherWatch.df

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.pa>

**Documentation:** EtherWatchDoc.tioga

**Keywords:** Communications, Ethernet

**Commands:** EtherWatch

**Abstract:** EtherWatch is a tool for observing raw packets on an Ethernet.

**ExamineStorage:** [Cedar]<CedarChest7.0>Top>ExamineStorage.df

**Created by:** Russ Atkinson

**Maintained by:** Russ Atkinson <Atkinson.pa>

**Documentation:** ExamineStorageDoc.tioga

**Keywords:** heap storage, reference

**Commands:** FindBadGuys, TakeHeapStats, FindCyclicTypes, ValidateHeap, AutoReclaimFreePages, ForceReclaimFreePages

**Abstract:** Many programs can squander storage without presenting any obvious symptoms to the user. ExamineStorage.bcd provides commands and procedures to aid the user in examining Cedar heap storage usage. ReclaimFreePages provides commands to reclaim free pages from the SafeStorage heap.

**ExecHacks:** [Cedar]<CedarChest7.0>Top>ExecHacks.df

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** ExecHacksDoc.tioga

**Keywords:** binder, compiler, command file, DF files, DWIM, EditorComforts, programming tools, user profile

**Commands:** ExecHacks

**Abstract:** ExecHacks adds some handy menu buttons to CommandTool viewers: "DoIt" and "Redo". "DoIt" deduces a filename from the selection, and depending on the extension executes some interesting command: for .Mesa files, it compiles; for .DF files it SModels and VerifiesDF, etc. "Redo" performs two functions. Left-clicking or middle-clicking "Redo" will replay the command currently pointed to. Right-clicking "Redo" will list the last 10 commands issued to the CommandTool, with duplicates removed. ExecHacks also registers two commands. "Redo <string>" re-executes the most recent command beginning with "<string>". "History -d 10" does the same thing as right buttoning "Redo". Finally, ExecHacks modifies the "Save" button on tioga viewers, so that right-clicking Save will save the file and DoIt, depending on the extension of the file.

**ExpungeOpens:** [Cedar]<CedarChest7.0>Top>ExpungeOpens.df

**Created by:** Michael Plass

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** ExpungeOpensDoc.tioga

**Keywords:** prettyprint, OPEN, programming style

**Commands:** ExpungeOpens



**Abstract:** Command for expanding unnamed OPEN statements in Cedar programs, and prettyprinting them.

**FastMouse:** [Cedar]<CedarChest7.0>Top>FastMouse.df

**Maintained by:** Frank Crow <Crow.pa>

**Documentation:** FastMouseDoc.tioga

**Keywords:** cursor, mouse, tuning, user interface, user profile

**Commands:** FastMouse

**Abstract:** A cursor accelerator for those who like to minimize arm motion.

**Ferret:** [Cedar]<CedarChest7.0>Top>Ferret.df

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** FerretDoc.Tioga

**Keywords:** IFS, Reload, Files, Rescue

**Commands:** Ferret

**Abstract:** Ferret is a Command to find interesting files in your FS Cache after an IFS gets reloaded and *forgets* the truth.

**Fig:** [Cedar]<CedarChest7.0>Top>Fig.df

**Created by:** Joan Feigenbaum

**Maintained by:** Dan Greene <Greene.pa>

**Documentation:** FigDoc.tioga

**Keywords:** encryption, mail, walnut

**Commands:** Fig

**Abstract:** A primitive encrypted-mail program that runs under walnut.

**FileCmds:** [Cedar]<CedarChest7.0>Top>FileCmds.df

**Documentation:** FileCmdsDoc.Tioga

**Keywords:** File, Set, Pattern, Enumeration, DF-File, Command, List, Directory, Delete, Archive, Retrieve, Message, Version Map, Walnut

**Commands:** CmdPerFile, CmdAllFiles, ListFileSet, lfs, DeleteFileSet, dfs, ArchiveFileSet, afs, RetrieveFileSet, rfs

**Abstract:** FileCmds provides command-tool commands for computing and operating on sets of files.

**FileSpecification: [Cedar]<CedarChest7.0>Top>FileSpecification.df**

**Created by:** Eric Nickell

**Maintained by:** Eric <Nickell.pasa>

**Documentation:** FileSpecificationDoc.tioga

**Keywords:** keyword1, keyword2, ... 6

**Commands:** ListSet

**Abstract:** FileSpecification is an attempt to provide a standard way to talk about groups of files

**FileStreamTest: [Cedar]<CedarChest7.0>Top>FileStreamTest.df****FileUtil: [Cedar]<CedarChest7.0>Top>FileUtil.df**

**Created by:** Bob Hagmann

**Maintained by:** Hagmann.pa

**Documentation:** FileUtilDoc.tioga

**Keywords:** File Package Utilities, VAM

**Commands:** VAMStats, ComputeVAM, DeleteOrphanPages

**Abstract:** This package does some File system maintenance. All these commands will be of interest to experts only. You can compute and print the VAM from the file headers, force the VAM to match the file headers, or scan the disk looking for pages that are not in any file. The VAM is the "Volume Allocation Map" and is a hint where free pages are on disk. If the disk headers and the VAM become out of sync, performance will suffer.

**Filing5: [Cedar]<CedarChest7.0>Top>Filing5.df**

**Created by:** Bill Jackson

**Maintained by:** Bill Jackson <BJackson.pa>

**Documentation:** Filing5Doc.Tioga

**Keywords:** Filing, Courier, Sirocco, XNS, Cedar, FS

**Abstract:** Nuthin yet...

**Finch: [Cedar]<CedarChest7.0>Top>Finch.df**

**Created by:** Severo Ornstein, Larry Stewart, Dan Swinehart, Ken Pier, Polle Zellweger

**Maintained by:** LarkSupport <LarkSupport.pa>

**Documentation:** FinchDoc.tioga

**Keywords:** mail message, telephone management, voice synthesizer, voice mail

**Commands:** Finch, WalnutVoice

**Abstract:** This document describes the Etherphone system: the Lark voice terminal

hardware and software and the Finch telephone control program which runs in Cedar. It also describes an extension to the Walnut electronic mail system that supports voice messages.

**FindKeywords:** [Cedar]<CedarChest7.0>Top>FindKeywords.df

**Created by:** Michael Plass

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** FindKeywordsDoc.tioga

**Keywords:** keyword, search, find, ACFind

**Commands:** FindKeywords

**Abstract:** A command for searching a collection of files for occurrences of keywords from a specified set.

**Finger:** [Cedar]<CedarChest7.0>Top>Finger.df

**Created by:** Donahue.pa

**Maintained by:** <CHauser.pa>

**Documentation:** FingerDoc.Tioga, FingerSchemaDoc.Tioga

**Keywords:** Finger, databases, Cedar users

**Commands:** Finger, FingerServer, FingerTool, Who, WhereIs, FreeMachines, Host

**Abstract:** Finger is a package to record the information about Cedar users and machines

**Fit:** [Cedar]<CedarChest7.0>Top>Fit.df

**Created by:** Michael Plass and Maureen Stone

**Maintained by:** <GargoyleImplementors↑.pa>

**Documentation:** FitDoc.tioga, fit.tioga

**Keywords:** Fit, edge-finder, contouring

**Commands:** Fit

**Abstract:** Fit generates a set of synthetic curves given a sampled image. It does this in two steps. First, it uses an edge-finder to produce a set of fine-grained polygons (also known as sample sequences or contours). Then, it uses PiecewiseFit to find a compact set of piecewise parametric cubic curves that approximate the samples.

**FontEdit:** [Cedar]<CedarChest7.0>Top>FontEdit.df

**Created by:** Michael Plass

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** FontEditDoc.tioga

**Keywords:** AIS format, bitmap editing, contour fonts, editor, font formats, font metrics.

fonts, raster fonts, spline fonts, stipple pattern, typefaces

**Commands:** FontEdit, FontBold, FontSlant, FontMerge, FontWidthsCopy, SDtoSF, MakeRasterFont, StippleEdit, FontDictAnalyze, FontDictAssemble, FixGDFont, FontToSF, FontToFIS, FontToFISMetrics, FontToProof

**Abstract:** Provides tools and commands for editing raster fonts, and other forms of bitmaps, and for manipulating font dictionaries.

**FontTune:** [Cedar]<CedarChest7.0>Top>FontTune.df

**Commands:** MakeTunedRasterFont, BitTuneAIS, ViewFontTuningParameters

**Football:** [Cedar]<CedarChest7.0>Top>Football.df

**Created by:** John Maxwell

**Maintained by:** John Maxwell <Maxwell.pa>

**Documentation:** FootballDoc.Tioga

**Keywords:** football, game

**Commands:** Football

**Abstract:** A multi-machine, multi-player game

**Forms:** [Cedar]<CedarChest7.0>Top>Forms.df

**Created by:** Jim Horning, Rick Beach, Doug Wyatt, and many others

**Maintained by:** Rick Beach <Beach.pa>

**Documentation:** FormsDoc.tioga, SampleSheet.tioga, FontCache.tioga

**Keywords:** abbreviations, archives, CedarChest, Cedar documentation, Cedar interface, Cedar release, DF file, documentation, forms, mail message, style files

**Commands:** Form, FormSearchRules

**Abstract:** This package consists of a collection of fill-in forms for use with Tioga, as well as their associated styles. Also provided is a command for making a new viewer from a form.

**FrameBufferReader:** [Cedar]<CedarChest7.0>Top>FrameBufferReader.df

**Created by:** Rick Beach

**Maintained by:** Rick Beach <Beach.pa>

**Documentation:** FrameBufferReaderDoc.tioga

**Keywords:** AIS, frame buffer, image, color, Lucasfilm, GSL electron microscope

**Commands:** ReadFrameBuffer, ReadFrameBufferBottomUp, ReadLucasfilm, ReadJPL, ReadGSLImage

**Abstract:** This package contains commands for creating AIS files from several different formats for computer generated pictures stored as frame buffer images. A frame buffer is a color display with memory. The simplest format is a succession of records for each of the

three color separations (red, green, blue) with each record containing all the pixels for a scan line. Additional formats are supported for images stored in the Lucasfilm image format, the JPL format and GSL electron microscope format.

**FSRope:** [Cedar]<CedarChest7.0>Top>FSRope.df

**Created by:** Doug Wyatt

**Maintained by:** Doug Wyatt <Wyatt.pa>

**Documentation:** FSRopeDoc.tioga

**Keywords:** FS, Rope, OpenFile, stream

**Abstract:** FSRope creates an FS.OpenFile from the content of a ROPE, using the FSBackdoor facilities for client-provided open files. Given such an OpenFile, you can use a file stream to read from the rope: this should be much faster than an IO.RIS.

**FSUtil:** [Cedar]<CedarChest7.0>Top>FSUtil.df

**Documentation:** FSUtilDoc.tioga

**Commands:** OpenFiles, ActiveFiles, FileStreams, LRUChain, LRUInfo, LRUFlush, ForceClose, FSEstablishInvariants, AllLabeled, CheckLeaders

**Abstract:** Utilities for FS to list open files, active files, file streams, and cache LRU chain. FS open files can also be closed, the statistics of the FS cache flusher printed, and the user "invariants" re-established for the workstation file system. All these commands will be of interest to experts only.

**FTP:** [Cedar]<CedarChest7.0>Top>FTP.df

**Created by:** Bob Hagmann

**Maintained by:** AlpineImplementors↑.pa

**Keywords:** File Transfer Protocol (FTP), File Server, Alpine, IFS

**Abstract:** FTP is a skeleton File Transfer Protocol (FTP) server into which you can plug a lower layer accessing most any basic file storage mechanism. Prime candidates are Alpine (implemented) and Cedar FS (not implemented). The result is a server that mimics an IFS.

**Gargoyle:** [Cedar]<CedarChest7.0>Top>Gargoyle.df

**Created by:** Eric Bier and Ken Pier

**Maintained by:** GargoyleImplementors↑.PA

**Documentation:** GGHelp.Tioga, GGFontSampler.tioga, GargoyleDoc.tioga, GargoyleTutorial.tioga, GGPath.tioga, GGPerformance.tioga, GGToDo.tioga, GGPriorities.tioga, GGAnecdote.tioga, GGScraps.tioga, GGDepends.tioga, GGConventions.tioga, OutlinesToSlices.tioga

**Keywords:** graphics, illustrators, interactive, snap-dragging, alignment objects

**Commands:** Gargoyle, GGToIP

**Abstract:** Gargoyle is an interactive 2D illustrator for creating color pictures. Gargoyle includes novel features to aid the user in precise geometric placement of objects in the scene. These features are called "snap-dragging" and "alignment objects." Refer to the Gargoyle tutorial (GargoyleTutorial.tioga) for an introduction to the features and uses of Gargoyle. Gargoyle is under constant development; the user should be prepared for changes in both functionality and user interface.

**GargoyleCore:** [Cedar]<CedarChest7.0>Top>GargoyleCore.df

**Created by:** Bier

**Maintained by:** <GargoyleImplementors↑.pa>

**Documentation:** GargoyleCoreDoc.tioga

**Keywords:** Gargoyle. Gargoyle3d. parsing. box

**Abstract:** GargoyleCore contains a set of routines that are used by both Gargoyle and Gargoyle3d but are probably not of interest outside of the Gargoyle project. Three packages are currently included: GGParseOut writes ASCII representations of Cedar and Imager objects. GGParseIn reads ASCII representations of Cedar and Imager objects and rebuilds the objects. GGBoundingBox implements operations on a generalized two-dimensional box. The generalizations include that the box may be null or may be infinite.

**Geometry3d:** [Cedar]<CedarChest7.0>Top>Geometry3d.df

**Created by:** Jules Bloomenthal

**Maintained by:** Jules Bloomenthal <Bloomenthal.pa>

**Documentation:** Geometry3dDoc.tioga

**Keywords:** geometry. three-dimensional. 3d. vectors. points. planes. lines. matrices. clipping. curves. splines

**Abstract:** This package comprises several interfaces of geometric functions: vector arithmetic for operating on vectors and points, planar arithmetic for operating on planes, matrix arithmetic for representing simple geometric transformations, and an interface for three dimensional splines. The interfaces are exported by Geometry3dPackage.bcd.

**GetFromRelease:** [Cedar]<CedarChest7.0>Top>GetFromRelease.df

**Created by:** Michael Plass. Rick Beach

**Maintained by:** Rick Beach <Beach.pa>

**Documentation:** GetFromReleaseDoc.tioga

**Keywords:** Cedar interface. compiler. compiler errors. DF file. MakeDo. programming tools. version map

**Commands:** GetFromRelease

**Abstract:** GetFromRelease helps remove compiler errors that complain about missing BCD files for interfaces referenced in the DIRECTORY clause. Use GetFromRelease after a compilation with errors due to missing interface BCDs (interface 'cannot be opened' in compiler jargon). It reads the Compiler.log (and hence any Foo.errlog files if you use

separate logs) looking for the interface names that are missing. GetFromRelease uses the Cedar version maps to discover the released files containing the interfaces, makes the necessary attachments, and suggests the necessary IMPORTS clauses to add to your DF file (or add them itself). GetFromRelease can also get its list of goals from the command line or MakeDo.log, instead of Compiler.log.

**GFtoAC:** [Cedar]<CedarChest7.0>Top>GFtoAC.df

**Created by:** Pavel Curtis

**Maintained by:** Pavel Curtis <Pavel.pa>

**Documentation:** GFtoACDoc.tioga

**Keywords:** METAFONT, fonts, font format, raster fonts, typefaces

**Commands:** GFtoAC

**Abstract:** GFtoAC converts a GF ("generic font") file produced by METAFONT into an AC ("aligned characters") file as needed for installation on any of the PARC printers.

**GFtoPress:** [Cedar]<CedarChest7.0>Top>GFtoPress.df

**Created by:** D. E. Knuth and Pavel Curtis

**Maintained by:** Pavel Curtis <Pavel.pa>

**Documentation:** GFtoPressDoc.tioga

**Keywords:** METAFONT, Press, GF files, font, proofs

**Commands:** GFtoPress

**Abstract:** GFtoPress converts the GF ("generic font") files produced by METAFONT into Press files, one page per METAFONT character, showing an enlarged copy of the character and labelled dots at the control points used in the character's METAFONT description.

**GFTYPE:** [Cedar]<CedarChest7.0>Top>GFTYPE.df

**Commands:** GFTYPE

**GList:** [Cedar]<CedarChest7.0>Top>GList.df

**Created by:** Bertrand Serlet

**Maintained by:** Bertrand Serlet <Serlet.pa>

**Documentation:** GListDoc.tioga

**Keywords:** Genericity, Lisp, List, Type Generic

**Abstract:** GList is an interface for dealing with lists. Lists must be of the form LIST OF REF <AType>. Contrarily to List.mesa, you can really use this interface, since it takes REFS as arguments instead of LORA. Speed measurement indicate that GList is only a few % slower than inline code. Implementation of GList uses 2 LOOPHOLES, but usage is entirely safe. Current restrictions in the abstract machine forbids using GList on LIST OF ROPE.

**GmtDebug: [Cedar]<CedarChest7.0>Top>GmtDebug.df**

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** GmtDebugDoc.tioga

**Keywords:** GMT, debugging

**Commands:** GmtDebug

**Abstract:** Simple debugging aid for Printing out BasicTime.GMT

**GoodTimes: [Cedar]<CedarChest7.0>Top>GoodTimes.df**

**Commands:** GoodTimes

**GPIB: [Cedar]<CedarChest7.0>Top>GPIB.df**

**Created by:** Gasbarro.pa. Gunther.pa

**Maintained by:** Jim <Gasbarro.pa>, Tim <Diebert.pa>

**Documentation:** GPIBDoc.tioga

**Keywords:** GPIB, IEEE-488, Busmaster, DandeTiger, RPC

**Abstract:** GPIB is an interface which provides a communication path from Cedar machines to devices which speak the IEEE-488 General Purpose Interface Bus (GPIB) protocol.

**Graphs: [Cedar]<CedarChest7.0>Top>Graphs.df**

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** GraphsDoc.Tioga

**Keywords:** Graph, Tree, Directed, DiGraph, DAG, Network, Navigate, Traverse, Neighbor, Vertex, Edge, Link, Node, Browse, Object-Oriented

**Abstract:** This package defines an object-oriented representation of graphs, and provides a general-purpose browser.

**Graphs0: [Cedar]<CedarChest7.0>Top>Graphs0.df**

**Documentation:** Graphs0Doc.tioga

**Grep: [Cedar]<CedarChest7.0>Top>Grep.df**

**Created by:** Bob Nix (after Unix)

**Maintained by:** Russ Atkinson <Atkinson.pa>

**Documentation:** GrepDoc.tioga

**Keywords:** searching



**Commands:** Grep, GrepI

**Abstract:** Grep will search a list of files for lines that match a pattern and print the lines that match the given regular expression (see RegularExpressionDoc.tioga for a description of the syntax for a regular expression).

**Griffin:** [Cedar]<CedarChest7.0>Top>Griffin.df

**Created by:** Maureen Stone et al.

**Maintained by:** Maureen Stone <Stone.pa>, Ken Pier <Pier.PA>

**Documentation:** GriffinDoc.tioga, GriffinNameDifs.tioga, GriffinBugFixes.tioga, GriffinDepends.tioga

**Keywords:** Illustrator, interactive graphics

**Abstract:** Griffin is an interactive illustrator for creating full-page color illustrations composed of lines, curves, filled areas, and captions. Illustrations are constructed on the screen using the mouse and menus and can then be printed at high resolution on a monochrome or color printer. Griffin has been converted to the Cedar environment. Since it uses Cedar's virtual memory, there is no longer a practical limit on the number of objects in a Griffin file. This memo describes Cedar Griffin.

**GriffinToIP:** [Cedar]<CedarChest7.0>Top>GriffinToIP.df

**Created by:** Eric Nickell

**Maintained by:** Eric Nickell <Nickell.pasa>

**Documentation:** GriffinToIPDoc.tioga

**Keywords:** Griffin, illustrator, interpress

**Commands:** GriffinToIP

**Abstract:** Provides facilities for converting Griffin files to interpress files. These facilities consist of a client interface and a CommandTool command.

**GVMail:** [Cedar]<CedarChest7.0>Top>GVMail.df

**GVTools:** [Cedar]<CedarChest7.0>Top>GVTools.df

**Created by:** Birrell, Schroeder, Murray, et al.

**Maintained by:** John <JLarson>, Hal <Murray>

**Documentation:** GVToolsDoc.tioga

**Keywords:** Grapevine, Tools, Administration

**Commands:** DBCompare, DBPurge, GVWatcher, InboxCount, InvertDLs, DLMap

**Abstract:** A collection of Cedar based Grapevine tools

**Heap:** [Cedar]<CedarChest7.0>Top>Heap.df

**Histograms: [Cedar]<CedarChest7.0>Top>Histograms.df**

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** HistogramsDoc.Tioga

**Keywords:** Histogram. Scatter Plot. Data. Graphics. Viewer. Visible. Screen. Plot

**Abstract:** Histograms provides one and two dimensional histograms.

**Histogram: [Cedar]<CedarChest7.0>Top>Histogram.df**

**Created by:** Russ Atkinson

**Maintained by:** Russ <Atkinson.pa>

**Documentation:** HistogramDoc.tioga

**Keywords:** histogram. strip chart. Viewers

**Abstract:** A Histogram viewer displays a history graph of samples. Each sample is displayed as a one-pixel wide vertical bar. A Histogram viewer can be either a top-level viewer or an embedded viewer. A Histogram viewer can be historical, as with a strip-chart, or random access, as with a histogram.

**HistoVAM: [Cedar]<CedarChest7.0>Top>HistoVAM.df**

**Created by:** Carl Hauser

**Maintained by:** Carl Hauser <CHauser.pa>

**Documentation:** HistoVAMDoc.tioga

**Keywords:** VAM, Volume Allocation Map, VM

**Commands:** HistoVAM

**Abstract:** A hack to analyze the distribution of free run sizes on a logical volume.

**HostButton: [Cedar]<CedarChest7.0>Top>HostButton.df**

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** HostButtonDoc.tioga

**Keywords:** communications, debugging, host name, network address, PUP, processor id

**Commands:** HostButton

**Abstract:** HostButton just creates a button containing this machines PUP host name, PUP address in octal, and 48 bit processor ID.

**HostName: [Cedar]<CedarChest7.0>Top>HostName.df**

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** HostNameDoc.tioga

**Keywords:** address, communications, host name, machine name, name, network address, PUP, PUP address, server name

**Commands:** HostName

**Abstract:** HostName provides a command tool command for identifying machines by name and/or address.

**IconEditor:** [Cedar]<CedarChest7.0>Top>IconEditor.df

**Documentation:** IconEditorDoc.tioga

**Commands:** IconEditor

**Abstract:** The Icon Editor is a tool which enables users to create and modify icons and to register icons with the Cedar Icon Registry for use by all users. This document is a user's guide for the Icon Editor Tool in Cedar 7.

**IconHacks:** [Cedar]<CedarChest7.0>Top>IconHacks.df

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>, Michael Plass <Plass.pa>, Eric Nickell <Nickell.pasa>

**Documentation:** IconHacksDoc.Tioga

**Keywords:** Viewer, Label, Icon

**Commands:** IconHacks

**Abstract:** This package hacks Viewer labels by replacing common long substrings with shorter ones. It also selects icon shapes, based on the extension of the file, and whether the viewer is considered to be edited or not.

**IconRegistry:** [Cedar]<CedarChest7.0>Top>IconRegistry.df

**Created by:** Warren Teitelman

**Maintained by:** Rick Beach <Beach.pa>

**Documentation:** IconRegistryDoc.tioga

**Keywords:** icons, registry, icon flavors

**Abstract:** The IconRegistry interface associates a name with an icon and allows clients to obtain an IconFlavor without having to worry about which file contains the actual definition (and its index). Furthermore, a cache of icon flavors is kept so that the client can call IconRegistry.GetIcon each place that the corresponding icon flavor is needed, without having to distinguish the first from subsequent calls.

**IdleHacks:** [Cedar]<CedarChest7.0>Top>IdleHacks.df

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** IdleHacksDoc.Tioga

**Keywords:** Idle, DMT, Virtual Terminal, Starfield, Kaleidoscope, Color

**Abstract:** This package provides some random animations to run while idle.

**ImagerColorDisplay: [Cedar]<CedarChest7.0>Top>ImagerColorDisplay.df**

**Created by:** Michael Plass

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** ImagerColorDisplayDoc.tioga

**Keywords:** Imager, Color Display, Sampled Images

**Abstract:** This package contains the implementations for various kinds of Imager contexts that can use the color display for output.

**ImagerExamples: [Cedar]<CedarChest7.0>Top>ImagerExamples.df**

**Created by:** Michael F. Plass

**Maintained by:** Michael F. Plass <Plass.pa>

**Documentation:** ImagerExamplesDoc.tioga

**Keywords:** color display, conversion, debugging, device independence, examples, fonts, graphics, illustration, Imager, images, Interpress, printing, random testing, sampled images, scanned images

**Commands:** ImagerExamples, RandomImager

**Abstract:** This package is a guide to the use of the Cedar Imager package, consisting of a collection of examples, useful hints, and a conversion guide to aid in converting packages from earlier Graphics and Imagers to the Cedar 6.1 Imager.

**ImagerForkContext: [Cedar]<CedarChest7.0>Top>ImagerForkContext.df**

**Created by:** Lamming.pa

**Maintained by:** Mik Lamming <Lamming.pa>

**Documentation:** ImagerForkContextDoc.tioga

**Keywords:** Imager

**Abstract:** An imager context that drives two others.

**ImagerFourColor: [Cedar]<CedarChest7.0>Top>ImagerFourColor.df**

**Created by:** Eric Nickell

**Maintained by:** Eric <Nickell.pasa>

**Keywords:** Imager, Context, Printer, Color, Grey Component Removal

**Abstract:** Provides a context which can produce four-color separations...mostly for printers.

**ImagerIKTypeface: [Cedar]<CedarChest7.0>Top>ImagerIKTypeface.df**

**Created by:** Michael Plass and Debra Adams

**Maintained by:** Richard J. Beach <Beach.pa>

**Documentation:** ImagerIKTypefaceDoc.tioga, LucidaSampler.tioga, ReadMe2.tioga

**Keywords:** contour fonts, font formats, fonts, Imager, spline fonts, typefaces

**Commands:** ImagerIKTypeface

**Abstract:** ImagerIKTypeface implements an additional Imager typeface to support fonts encoded in the Ikarus spline font format. Fonts stored in files with the extension ".ik" are understood to conform to the Ikarus font format.

**ImagerMemory: [Cedar]<CedarChest7.0>Top>ImagerMemory.df**

**Created by:** Doug Wyatt <Wyatt.pa>, Eric Nickell <Nickell.pasa>

**Maintained by:** ImagerImplementors†.pa

**Documentation:** ImagerMemoryDoc.tioga

**Keywords:** Display list, Graphics list, Imager, Replay

**Abstract:** ImagerMemory is a client package. It provides a class of Imager.Context that is capable of memorizing a sequence of Imager calls, and playing them back into another context.

**ImagerPD: [Cedar]<CedarChest7.0>Top>ImagerPD.df**

**Documentation:** ImagerPDDoc.tioga

**Keywords:** device dependence, device independence, fonts, graphics, Imager, images, Interpress, PD format, printing, sampled images, scanned images, thermal transfer printer, Versatec color plotter

**Commands:** CheckPD, TypePD

**Abstract:** Client package for writing PD files (printer-dependent page image files) with or without using the Cedar Imager package.

**ImagerPress: [Cedar]<CedarChest7.0>Top>ImagerPress.df**

**Documentation:** ImagerPressDoc.tioga

**Keywords:** conversion, formatting, Imager, Spruce, Press, printing, typesetting

A client interface for writing a restricted subset of Press files through the Imager interface.

**ImagerToJaM: [Cedar]<CedarChest7.0>Top>ImagerToJaM.df**

**Documentation:** ImagerToJaMDoc.tioga

**Keywords:** Imager, JaM, Interpress

**Commands:** InterpressToJaM

A client interface for writing JaMImager code, plus a simple command to use it to convert Interpress masters to JaM

**ImagerViewer:** [Cedar]<CedarChest7.0>Top>ImagerViewer.df

**Documentation:** ImagerViewerDoc.tioga

**Keywords:** Imager

A client interface for creating an Imager context with a viewer.

**IntChainedHashTable:** [Cedar]<CedarChest7.0>Top>IntChainedHashTable.df

**Created by:** Mike Spreitzer and Bertrand Serlet.

**Maintained by:** Mike Spreitzer <Spreitzer.pa>, Bertrand Serlet <Serlet.pa>

**Documentation:** IntChainedHashTableDoc.tioga

**Keywords:** Hash, Re-Hash, RefTab, SymTab, Hash Table, Integer, INT

**Abstract:** IntChainedHashTable is a variant of IntHashTable that stores the data directly in the table, rather than allocating separate list nodes for the buckets.

**Interpress:** [Cedar]<CedarChest7.0>Top>Interpress.df

**Created by:** Doug Wyatt

**Maintained by:** ImagerImplementors†.pa

**Documentation:** InterpressDoc.tioga

**Keywords:** Imager, Interpress, page description language, printing, compression

**Abstract:** This package provides client interfaces for producing Interpress masters via the Imager, and for interpreting Interpress masters into an Imager context.

**InterpressConverters:** [Cedar]<CedarChest7.0>Top>InterpressConverters.df

**Created by:** Doug Wyatt, Michael Plass

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** InterpressConvertersDoc.tioga

**Keywords:** AIS format, color, conversion, fonts, Imager, Interpress, JaM, printing, Press

**Commands:** AISToInterpress, ColorAISToInterpress, PressToInterpress, InterpressToPress, SnapShot, InterpressToCompressedIP, InterpressToAIS

**NOTE:** InterpressToAIS and InterpressToJaM are currently disabled

**Abstract:** InterpressConverters provides a collection of conversion routines between Interpress and other formats, specifically Press, AIS, and JaM. Included in this package is SnapShot, which makes an Interpress master from a framebuffer.

**Interpress Tools:** [Cedar]<CedarChest7.0>Top>InterpressTools.df

**Created by:** Doug Wyatt

**Maintained by:** Doug Wyatt <Wyatt.pa>

**Documentation:** InterpressToolsDoc.tioga

**Keywords:** composition, debugging, Imager, Interpress, page description language, printing, TeX

**Commands:** IPWrittenFromXerox, IPXeroxFromWritten, InterpressOverlay, InterpressBreakup, InterpressConcatenate, InterpressExtract, IPOverlay, IPBreakup, IPConcatenate, IPEXtract, InterpressArrows

**Abstract:** InterpressTools provides a collection of tools for manipulating Interpress masters. Included are conversions between written and encoded form, and tools for breaking-up, overlaying, concatenating and extracting pages.

**InterpressToPD: [Cedar]<CedarChest7.0>Top>InterpressToPD.df**

**Created by:** Michael Plass, Maureen Stone

**Maintained by:** Maureen Stone <Stone.pa>

**Documentation:** InterpressToPDDoc.tioga

**Keywords:** color correction, font tuning, fonts, halftone, Interpress, PD format, platemaker, printing, thermal transfer printer, Versatec color plotter

**Commands:** IPToPD, InterpressToPD

**Abstract:** This package generates PD files from Interpress masters. It contains a new hook for color correction and black printer generation, and optionally supports font-tuning.

**Intervals: [Cedar]<CedarChest7.0>Top>Intervals.df**

**Created by:** Bertrand Serlet

**Maintained by:** Bertrand Serlet <Serlet.pa>

**Documentation:** IntervalsDoc.tioga

**Keywords:** Hash, Geometrical Sort, Intervals, Rectangles, Rectangle Intersection

**Abstract:** Definitions for handling tables of association interval - value. Enumeration of all values that overlap a given interval is a fast operation. The range of all intervals must be known at the creation of the table. A value should be with the same interval during the lifetime of the table. Tables are implemented by hashing, and grow when the number of elements in table is too large. Operations (except enumeration) are monitored. A 2 dimension abstraction using the one-dimension model is also part of the package.

**IntervalTimer: [Cedar]<CedarChest7.0>Top>IntervalTimer.df**

**Created by:** Russ Atkinson

**Maintained by:** Russ <Atkinson.pa>

**Documentation:** IntervalTimerDoc.tioga

**Keywords:** Interval Timer, wait, pause

**Commands:** IntervalTimerTest

**Abstract:** IntervalTimer is a package to give access to fine-grain timing of intervals. On supported machines (currently only Dorados) a program can wait for a period of time with a finer resolution than afforded by either Process.Pause or Terminal.WaitForBWVerticalRetrace. On unsupported machines, the resolution is that of Process.Pause, but the interface is unchanged. This package was completely rewritten for Cedar 7.0.

**InterVoice:** [Cedar]<CedarChest7.0>Top>InterVoice.df

**IntHashTable:** [Cedar]<CedarChest7.0>Top>IntHashTable.df

**Created by:** Mike Spreitzer and Bertrand Serlet.

**Maintained by:** Mike Spreitzer <Spreitzer.pa>, Bertrand Serlet <Serlet.pa>

**Documentation:** IntHashTableDoc.tioga

**Keywords:** Hash, Re-Hash, RefTab, SymTab, Hash Table, Integer, INT

**Abstract:** IntHashTable is a companion of HashTable that uses INTs as keys.

**IntToIntTab:** [Cedar]<CedarChest7.0>Top>IntToIntTab.df

**Created by:** Christian Jacobi.

**Maintained by:** Christian Jacobi <Jacobi.pa>

**Documentation:** IntToIntTabDoc.tioga

**Keywords:** Hash, Re-Hash, RefTab, SymTab, Hash Table, Integer, INT, IntHashTable

**Abstract:** IntToIntTab is a companion of RefTab that uses INTs for keys and for values.

**JaM:** [Cedar]<CedarChest7.0>Top>JaM.df

**Created by:** John Warnock and Martin Newell

**Maintained by:** Doug Wyatt <Wyatt.pa>

**Documentation:** JaMDoc.tioga, JaMObsoleteDoc.tioga

**Keywords:** graphics, interpreter, JaM language, programming tools, stack-based language

**Commands:** JaM

**Abstract:** JaM is a simple stack-based interactive system with graphics utilities. JaM is intended to be a flexible system giving the user rather direct control over the primitives; it is not intended to be a fault tolerant system for beginning users.

**JaMIImager:** [Cedar]<CedarChest7.0>Top>JaMIImager.df

**Created by:** Tim Diebert & friends

**Maintained by:** Tim Diebert <Diebert.pa>

**Documentation:** JaMIImagerDoc.tioga



**Keywords:** JaM, Imager

**Commands:** JaMImager

**Abstract:** This document describes the current set of JaMImager primitives implemented by the JaMImagerPackage. It is assumed that the reader is familiar with the JaM language.

**KeyboardTioga: [Cedar]<CedarChest7.0>Top>KeyboardTioga.df**

**Documentation:** KeyboardTiogaDoc.Tioga, StandardTiogaAtoms.Tioga

**Keywords:** Tioga, Editor, Mouse, Keyboard, Button, Branch, Node, Line, Word, Subword, Logical Word, Character, Select, PendingDelete, Delete, Caret, Point

**Abstract:** KeyboardTioga allows to user to do with the keyboard some Tioga selection operations normally done with the mouse. It also provides a richer set of selection grains.

**Kipper: [Cedar]<CedarChest7.0>Top>Kipper.df**

**Created by:** Howard Sturgis

**Maintained by:** Howard Sturgis <Sturgis.pa>

**Documentation:** KipperDoc.Tioga

**Keywords:** Pickle, Marshall

**Commands:** Kipper, TestSubject

**Abstract:**

Kipper *vt*: to cure (split dressed fish) by salting and smoking

Kipper is a general purpose marshalling package, providing an external representation for complex Cedar data structures. It can handle structures containing multiple allocated records, linked together by REFS. Cyclic data structures are permitted. Kipper accepts a description of a Cedar Type Structure, and generates a set of Cedar stub procedures. These stub procedures convert data objects of the given type into a sequence of 16 bit words sent to an IO.STREAM, and convert from a sequence of 16 bit words obtained from an IO.STREAM into a copy of the original data structure.

**KipperSupport: [Cedar]<CedarChest7.0>Top>KipperSupport.df**

**KissOfDeath: [Cedar]<CedarChest7.0>Top>KissOfDeath.df**

**Created by:** Bill Jackson

**Maintained by:** Bill Jackson <BJackson.pa>

**Documentation:** KissOfDeathDoc.tioga

**Keywords:** debugging, swat

**Commands:** KissOfDeath

**Abstract:** Another way in to a catatonic machine when it won't listen to a keyboard swat.

**Knobs: [Cedar]<CedarChest7.0>Top>Knobs.df**

**Created by:** Eric Nickell

**Maintained by:** Eric <Nickell.pasa>

**Keywords:** knob, keyset, sliders, user-interface

**Abstract:** Knobs provides an interface for decoding a pair of optical knobs attached to the keyset hardware interface on the back of a standard LF display. Unfortunately, the display must be modified to provide power to the knobs.

**LFBoundingBox: [Cedar]<CedarChest7.0>Top>LFBoundingBox.df**

**Documentation:** LFBoundingBoxDoc.tioga

**Lightning: [Cedar]<CedarChest7.0>Top>Lightning.df**

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** LightningDoc.tioga

**Keywords:** Debugging, Retransmission, Zap

**Commands:** Lightning

**Abstract:** Lightning zaps some of your packets so you can debug retransmission heuristics.

**Lines2d: [Cedar]<CedarChest7.0>Top>Lines2d.df**

**Created by:** Eric Bier

**Maintained by:** Eric Bier and Ken Pier <GargoyleImplementors†.pa>

**Documentation:** Lines2dDoc.tioga

**Keywords:** Angle, Vector, Line, Plane Geometry

**Abstract:** Supplies interfaces Angles2d, Vectors2d, and Lines2d. Angles2d provides an interface for dealing with angles in a careful fashion. It distinguishes between position angles (slopes) and relative angles (the difference between slopes) and normalizes results to lie between -180 and 180 degrees. Vectors2d provides the standard dot product, cross product and includes some more isoteric operations like making a unit vector with a given slope. Lines2d provides a rather storage-hungry representation of lines, which however leads to fast implementations of line-line, and line-segment intersections, computing distances from points to lines and segments, and dropping perpendiculars. All three modules use Imager.VEC as the base type for points and vectors and REAL as the base type for angles.

**ListArchives: [Cedar]<CedarChest7.0>Top>ListArchives.df**

**Created by:** Tim Diebert

**Maintained by:** Tim Diebert <Diebert.pa>

**Documentation:** ListArchivesDoc.tioga

**Keywords:** Archives

**Commands:** ListArchives

**Abstract:** This program provides a way to list files from the BTree maintained by the Cedar Archive system from the user workstation.

**Lister:** [Cedar]<CedarChest7.0>Top>Lister.df

**Documentation:** ListerDoc.tioga

**Commands:** BcdLister, BodyLister, CodeLister, ExportsLister, FGTLister, FilesLister, GlobalFramesLister, RTBcdLister, ShortBcdLister, SortedDefsLister, SortedSymbolLister, SymbolLister, UnboundLister, UsingLister

**LoganBerry:** [Cedar]<CedarChest7.0>Top>LoganBerry.df

**Created by:** Doug Terry

**Maintained by:** Doug Terry <Terry.pa>

**Documentation:** LoganBerryDoc.tioga

**Keywords:** database, logs, btrees, query, servers, RPC

**Commands:** LBExport, TestLoganBerry

**Abstract:** LoganBerry is a simple facility for managing databases. Data is stored in one or more log files and indexed using btrees. A database survives processor crashes, but the data management facility does not provide atomic transactions that span multiple operations. Databases may be shared by multiple clients and may reside on a workstation's local disk or be accessed remotely via RPC.

**LoganBerryTools:** [Cedar]<CedarChest7.0>Top>LoganBerryTools.df

**Created by:** Doug Terry

**Maintained by:** Doug Terry <Terry.pa>

**Documentation:** LoganBerryToolsDoc.tioga

**Keywords:** database, queries, browsing, pattern-matching

**Commands:** LoganBerryBrowser, LBBrowser, LBBuildIndices, LBClose, LBCompactLogs, LBDelete, LBDescribe, LBQuery, LBRead, LBWrite

**Abstract:** LoganBerry is a simple facility for managing databases. LoganBerry tools include LoganQuery, which allows complex queries to be formulated such as those involving filters and mergers, LoganBerryCommands for invoking operations from a CommandTool, and the LoganBerry Browser, which permits one to browse (and update) a LoganBerry database interactively.

**Logs:** [Cedar]<CedarChest7.0>Top>Logs.df

**Created by:** Eric Nickell

**Maintained by:** Eric <Nickell.pasa>

**Keywords:** STREAM. Log. Typescript

**Abstract:** Logs provides process-based access to IO.STREAMs. so that packages may log their progress to a STREAM if their clients have provided a STREAM to Log to.

**LRUCache:** [Cedar]<CedarChest7.0>Top>LRUCache.df

**Created by:** Christian Jacobi

**Maintained by:** Christian Jacobi <Jacobi.pa>

**Documentation:** LRUCacheDoc.tioga

**Keywords:** lru. cache

**Abstract:** Definitions for least recently used cache abstraction.

**Lupine:** [Cedar]<CedarChest7.0>Top>Lupine.df

**Documentation:** LupineUsersGuide.tioga

**Commands:** Lupine

**LupineStubs:** [Cedar]<CedarChest7.0>Top>LupineStubs.df

**Magnifier:** [Cedar]<CedarChest7.0>Top>Magnifier.df

**Created by:** Michael Plass

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** MagnifierDoc.tioga

**Keywords:** color display. demo. Imager

**Commands:** Magnifier

**Abstract:** Provides a magnifier for examining the display at twice its normal size.

**Maintain:** [Cedar]<CedarChest7.0>Top>Maintain.df

**Created by:** .... John Larson. Wesley Irish

**Maintained by:** Wesley Irish <WIrish.pa>

**Documentation:** MaintainDoc.tioga

**Keywords:** authentication. clearinghouse. Grapevine. groups. password. registration. RName. user credentials. XNS

**Commands:** Maintain. GvNsMap

**Abstract:** Maintain allows the user to query and update both the Grapevine and ClearingHouse databases. This document describes the use of the Maintain Tool and gives a small amount of background on both the Grapevine (GV) and XNS (NS) registration systems.

**MakeDo: [Cedar]<CedarChest7.0>Top>MakeDo.df**

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** MakeDoDoc.Tioga

**Keywords:** Make, Dependency, Consistency, Derive, File, DF File, Command, Compile, Bind, Order, Sequence

**Abstract:** MakeDo automatically determines dependencies between files, and can issue whatever commands are necessary to bring derived files up to date.

**MakeDoCommands: [Cedar]<CedarChest7.0>Top>MakeDoCommands.df**

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** MakeDoCommandsDoc.Tioga

**Keywords:** Make, Dependency, Consistency, Derive, File, DF File, Command, Command Tool Interface, Compile, Bind, Order, Sequence

**Commands:** MakeDo, MakePrediction, MakeCommandList, MakeExcuses, MakeSuspicion, MakeEmpty, MakeProducer, RederiveSummonerLoad

**Abstract:** MakeDo automatically determines dependencies between files, and can issue whatever commands are necessary to bring derived files up to date. MakeDoCommands implements a command-tool interface to MakeDo.

**MarginalPageReporter: [Cedar]<CedarChest7.0>Top>MarginalPageReporter.df**

**Created by:** Bob Hagmann

**Maintained by:** Bob Hagmann <Hagmann.pa>

**Documentation:** MarginalPageReporterDoc.tioga

**Keywords:** Disk errors

**Commands:** MarginalPageReporter

**Abstract:** Reports marginal pages discovered by File in the message area

**Math: [Cedar]<CedarChest7.0>Top>Math.df**

**Created by:** Michael Plass, Maureen Stone, Tim Diebert

**Maintained by:** Tim Diebert <Diebert.pa>

**Documentation:** MathDoc.Tioga

**Keywords:** MathPackage, Math functions

**Abstract:** This package comprises several "pure math" routines, callable directly from a Cedar program. All interfaces are exported via MathPackage.bcd

**MathLib: [Cedar]<CedarChest7.0>Top>MathLib.df**

**Created by:** may be Ed McCreight, perhaps Russ Atkinson, probably a few others.

**Maintained by:** ?

**Keywords:** FFT, Fourier Transform.

**Abstract:** Performs direct and reverse Fourier Transformation using the Cooley-Tukey Fast Fourier Transform (FFT) algorithm.

**MazeWar: [Cedar]<CedarChest7.0>Top>MazeWar.df**

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** MazeWarDoc.Tioga, MazeWarCmds.Tioga

**Keywords:** MazeWar, Game

**Commands:** MazeWar

**Abstract:** MazeWar is a Cedar implementation of the popular net game.

**MemoryMonitor: [Cedar]<CedarChest7.0>Top>MemoryMonitor.df**

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** MemoryMonitorDoc.tioga

**Keywords:** Memory, Allocation, Reclamation, Garbage Collection, Viewer, Monitor, Average, Heap, Dynamic Memory

**Abstract:** MemoryMonitor provides an on-line display of running averages of the rate of memory allocation and reclamation and the net memory consumption.

**MetaCedar: [Cedar]<CedarChest7.0>Top>MetaCedar.df**

**Created by:** Michael Plass

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** MetaCedarDoc.tioga

**Keywords:** hack, macro

**Commands:** MetaCedar

**Abstract:** MetaCedar allows the use of Cedar as a meta-language for generating Cedar code, sort of a poor-man's macro expander. It is most useful for unrolling loops and such.

**MF: [Cedar]<CedarChest7.0>Top>MF.df**

**Created by:** Pavel Curtis

**Maintained by:** Pavel Curtis <Pavel.pa>

**Documentation:** MFDoc.tioga

**Keywords:** METAFONT, Knuth, fonts

**Commands:** MF, IniMF

**Abstract:** METAFONT is Don Knuth's famous program for helping typographers design families of fonts in a machine-independent fashion. This document describes only how to use the Cedar implementation.

**MickeyMouse: [Cedar]<CedarChest7.0>Top>MickeyMouse.df**

**Created by:** Michael Plass

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** MickeyMouseDoc.tioga

**Keywords:** Animation, Illustrators, Interpress

**Commands:** MickeyMouse

**Abstract:** A package for doing rudimentary 2D non-real-time animation by in-betweening of key frames.

**MidStop: [Cedar]<CedarChest7.0>Top>MidStop.df**

**Misp: [Cedar]<CedarChest7.0>Top>Misp.df**

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** MispDoc.Tioga

**Keywords:** Misp, LISP, Interpreter, Interactive, Evaluate

**Commands:** Misp

**Abstract:** Misp (*My LISP*) is a LISP-like interpreter.

**MonitorTool: [Cedar]<CedarChest7.0>Top>MonitorTool.df**

**Documentation:** MonitorToolDoc.tioga

**Commands:** MonitorTool

**MoreFileCommands: [Cedar]<CedarChest7.0>Top>MoreFileCommands.df**

**Commands:** SetCreateTime, GetFileType, SetFileType, SetFileProp, GetFileProp, GetFileProps

**NamedColors: [Cedar]<CedarChest7.0>Top>NamedColors.df**

**Created by:** Darlene Plebon, Maureen Stone, Frank Crow

**Maintained by:** Maureen Stone <Stone.pa>

**Documentation:** NamedColorsDoc.tioga

**Keywords:** color, color spaces, color specification

**Abstract:** The color naming system lets a user specify an English language description to select a color. This implementation is based on system that was derived from the National Bureau of Standards Universal Color Language. The package maps a description such as "Dark Vivid Blue" to an RGB triple using the HSL color ordering system as an intermediate representation.

**NetTool:** [Cedar]<CedarChest7.0>Top>NetTool.df

**Created by:** Wesley Irish

**Maintained by:** Wesley Irish <WIrish.pa>

**Documentation:** NetToolDoc.tioga

**Keywords:** PUP, XNS, NS, name lookup, address lookup, Pup-Network.txt, translation, routing information, echo, chat, time, network, internet

**Commands:** NetTool

**Abstract:** Net Tool is a collection of functions that one might find useful when doing network debugging or related work. These functions include things such as name and address lookup, echo, routing information, etc. All functions (where ever possible) cover both the PUP and NS (XNS) world.

**NewCalc:** [Cedar]<CedarChest7.0>Top>NewCalc.df

**Documentation:** NewCalcDoc.tioga

**Commands:** NewCalc

**Abstract:** This document gives a brief tour of the features of NewCalc.

**NewClock:** [Cedar]<CedarChest7.0>Top>NewClock.df

**Created by:** Eric Nickell

**Maintained by:** Eric Nickell <Nickell.pasa>

**Documentation:** NewClockDoc.tioga

**Keywords:** Clock

**Commands:** NewClock

**Abstract:** Running NewClock will put a digital clock up with the static buttons.

**NewRun:** [Cedar]<CedarChest7.0>Top>NewRun.df

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>  
>

**Documentation:** NewRunDoc.Tioga



**Keywords:** Command. Run. Unbound Import

**Commands:** NewRun

**Abstract:** NewRun implements an improved form of the 'Run' command (under the name 'NewRun' and also under 'Run' if you ask for that). You may specify interfaces that can have unbound imports via the -u switch. When there are unbound imports to complain about, the interface elements are reported by name, rather than by number.

**NSFileOps:** [Cedar]<CedarChest7.0>Top>NSFileOps.df

**Created by:** Bill Jackson

**Maintained by:** Bill Jackson <BJackson.pa>

**Documentation:** NSFileOpsDoc.Tioga

**Keywords:** Filing, XNS, Sirocco, FS, STP, Cedar, Clearinghouse, Authentication

**Commands:** NSList, NSRetrieve, NSStore

**Abstract:** NSFileOps is a package specifically designed for freeing Cedar from one of its pup chains. In general, we want to be able to run a Cedar system with the services provided by a "Xerox Network Services" environment rather than the research systems available at PARC. In particular, we want to be able to have FS use servers exporting the "Filing" courier program.

"Filing"...

**Nthtone:** [Cedar]<CedarChest7.0>Top>Nthtone.df

**Created by:** Eric Nickell

**Maintained by:** No one

**Keywords:** Printing, Imaging

**Abstract:** Nthtone is a quick hack to investigate multi-level "halftones". Not ready for general consumption.

**Nut:** [Cedar]<CedarChest7.0>Top>Nut.df

**Octree:** [Cedar]<CedarChest7.0>Top>Octree.df

**Documentation:** OctreeDoc.tioga

**Keywords:** octree, three-dimensional, geometry.

**Commands:** OctreeFancy, OctreeDraw, OctreeNeighbors, OctreeAddDel

**Abstract:** This software permits the creation and modification of octrees.

**Created and Maintained by:** Bloomenthal.pa

**OneCasaba:** [Cedar]<CedarChest7.0>Top>OneCasaba.df

**Created by:** Sturgis.pa

**Maintained by:** Sturgis.pa

**Documentation:** OneCasabaDoc.Tioga

**Keywords:** Parsing, ParserGenerator, CompilerCompiler

**Commands:** GenOneCasabaParser, DemoOneCasaba

**Abstract:**

OneCasaba is an LR parsing package, containing a parser generator (GenOneCasabaParser) and a parser package (OneCasabaParser). Like YACC in Unix, or PGS in Mesa, OneCasabaParser calls client code as it performs each parsing action, allowing the client code to perform such actions as building a parse tree. OneCasaba is intended for use on small as well as large grammars. I intend for OneCasaba to be relatively easy to use, and to play a role in Cedar similar to that played by YACC in Unix.

OneCasaba differs from YACC and PGS in two ways. First, OneCasaba can handle any LR[1] grammar, where YACC and PGS are limited to LALR[1]. The reason that YACC and PGS are limited is that the canonical LR[1] construction leads to enormous table sizes, even for LALR[1] grammars, while there is a reasonable construction for LALR[1] grammars. OneCasaba avoids these large tables by using a new algorithm with the property that if the grammar is only "slightly" non LALR[1], then the resulting tables will be only slightly larger than those that would have been constructed if the grammar had been LALR[1].

Second, if the presented grammar is not LR[1], i.e., there is some canonical LR[1] state which contains conflicting LR[1] items, then OneCasaba not only names the conflicting items (as do YACC and PGS) but also provides derivations of the items which demonstrate that the two items must lie in the same canonical LR[1] state.

**PascalRuntime:** [Cedar]<CedarChest7.0>Top>PascalRuntime.df

**Created by:** Ed McCreight, Lyle Ramshaw, and Pavel Curtis

**Maintained by:** Pavel Curtis <Pavel.pa>

**Keywords:** Pascal, PasMesa, translation, compiler, runtime support

**Abstract:** The PascalRuntime package provides the runtime support necessary for programs translated from Pascal to Mesa by the program PasMesa. Normally, users of the package will not need to be aware of its contents; PasMesa takes care of most of it. Accordingly, no real documentation is provided except the code itself.

**PasMesa:** [Cedar]<CedarChest7.0>Top>PasMesa.df

**Created by:** Ed McCreight, Lyle Ramshaw

**Maintained by:** Pavel Curtis <Pavel.pa>

**Documentation:** PasMesaDoc.tioga

**Keywords:** Pascal Mesa translation compiler

**Commands:** PasMesa, CapsArrows, Maze

**Abstract:** PasMesa is a Pascal-to-Mesa source translation tool that runs in Cedar. It can help import Pascal programs into either the Cedar or Alto Mesa 6 environments.

**PeachCommon: [Cedar]<CedarChest7.0>Top>PeachCommon.df**

**Created by:** Tim Diebert, Michael Plass

**Maintained by:** Tim Diebert <Diebert.pa>

**Documentation:** PeachCommonDoc.tioga

**Keywords:** Printing, PD

**Abstract:** Peach Common is a collection of pieces that allow the construction of PD output devices. The package provides a user interface for both network and local requests.

**PeachPrint: [Cedar]<CedarChest7.0>Top>PeachPrint.df**

**Created by:** Don Curry

**Maintained by:** Don Curry <Curry.pa>

**Documentation:** PeachPrintDoc.tioga, PeachPrintMsg.tioga

**Keywords:** PD format, printing, Versatec color printer, thermal transfer printer, Peach

**Commands:** PeachPrint

**Abstract:** This hack just lets you print pd files at Peach print servers using the CommandTool rather than the Chat tool. The default behavior is to not fork so when it returns your file should have been printed. This is useful for serializing actions such as local expansions (using PeachExpand for instance) followed by remote prints. The STOP button may take some time since it tries to remove the print request from the servers' queue. There is also a procedure interface.

**Peanut: [Cedar]<CedarChest7.0>Top>Peanut.df**

**Created by:** Bill Paxton

**Maintained by:** Doug Wyatt and Michael Plass <Wyatt.pa, Plass.pa>

**Documentation:** PeanutDoc.tioga

**Keywords:** mail, message, Grapevine, Tioga

**Commands:** Peanut

**Abstract:** Peanut is a simple mail reading and sending package. It maintains sets of messages as structured Tioga documents.

**PeekMail: [Cedar]<CedarChest7.0>Top>PeekMail.df**

**Created by:** Andrew Birrell

**Maintained by:** Daniel Brotsky <DBrotsky.pa>

**Documentation:** PeekMailDoc.tioga

**Keywords:** Grapevine, mail

**Commands:** PeekMail

**Abstract:** PeekMail lets you see Grapevine mail without flushing it from the mail servers. A

typescript containing any retrieved mail message text is created. The messages are still available for mail programs such as Walnut and Peanut.

**PhoneList:** [Cedar]<CedarChest7.0>Top>PhoneList.df

**Created by:** Eric Nickell

**Maintained by:** Eric Nickell <Nickell.pasa>

**Documentation:** PhoneListDoc.tioga

**Keywords:** Phone. Directory. Hack

**Abstract:** PhoneList implements a CommandTool command to look up the phone list entry from files (in Parc phonelist format) which are maintained (e.g. the Parc PhoneList on [Indigo]<Registrar>).

**PiecewiseFit:** [Cedar]<CedarChest7.0>Top>PiecewiseFit.df

**Created by:** Maureen Stone and Michael Plass

**Maintained by:** <GargoyleImplementors†.pa>

**Documentation:** PiecewiseFitDoc.tioga

**Keywords:** curve. fitting. parametric. cubics. fit

**Abstract:** This is the wonderful package written by Maureen Stone and Michael Plass that resulted in a 1983 Siggraph paper. It uses dynamic programming to choose a small sequence of cubic splines that nonetheless closely approximate a given sequence of sample points.

**PigsInSpace:** [Cedar]<CedarChest7.0>Top>PigsInSpace.df

**Documentation:** PigsInSpaceDoc.tioga

**Keywords:** FS cache

**Commands:** PigsInSpace

Finds the largest files on a logical volume.

**PlotGraph:** [Cedar]<CedarChest7.0>Top>PlotGraph.df

**Created by:** The Will of Rosemary's Users, who was obeyed by Rick Barth and Christian Le Cocq.

**Maintained by:** Christian Le Cocq <LeCocq,PA>

**Documentation:** PlotGraphDoc.tioga

**Keywords:** Viewers. Imager. InterPress. oscilloscope. Rosemary.

**Commands:** PlotGraph

**Abstract:** PlotGraph is a display package which provides the ability to show a collection of axis (i.e. display frames) layed out bottom up. Each axis is the local reference for one or more graphs (i.e. visualization of a set of data). The graphs can be displayed as curves, or

the values can be written along the horizontal direction either horizontally or vertically.

**PLtoTF: [Cedar]<CedarChest7.0>Top>PLtoTF.df**

**Created by:** Donald Knuth, Pavel Curtis

**Maintained by:** Pavel Curtis <Pavel.pa>

**Documentation:** PLtoTFDoc.tioga, PLFormatDoc.tex

**Keywords:** PL, TFM, TeX, Tioga, Font Metrics, Property Lists

**Commands:** PLtoTF

**Abstract:** PLtoTF is used for translating PL ("property list") files into the TFM ("TeX Font Metric") files used by TeX and Tioga for determining the widths of characters and other font information. PL files provide a textual format for TFM files, making it easier to create and edit them. There is a companion program, TFtoPL, which performs the opposite translation.

**PolyHack: [Cedar]<CedarChest7.0>Top>PolyHack.df**

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** PolyHackDoc.Tioga

**Keywords:** Polygon Hacks

**Abstract:** This is a collection of graphics hacks, centered around the idea of polygons whose vertices move through time.

**PopUpButtons: [Cedar]<CedarChest7.0>Top>PopUpButtons.df**

**Created by:** Mike Spreitzer, according to ideas with a long history

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** PopUpButtonsDoc.tioga, TestPopUpButtonsDoc.Tioga

**Keywords:** Button, Pop-Up Menu

**Abstract:** PopUpButtons are the long-discussed and anticipated attack on the problem of overloading buttons. A PopUpButton normally looks like a Button, and can decode mouse button and control and shift keys like a Button. But if the user is too slow (i.e., not fast) in hitting the button, a pop-up menu is presented. The first 12 (or 6 or 4 or 3 or 2 or 1) entries in the pop-up menu correspond to the mouse button and control/shift key decoded possibilities.

**PopUpCommand: [Cedar]<CedarChest7.0>Top>PopUpCommand.df**

**Created by:** Eric Nickell

**Maintained by:** Eric Nickell <Nickell.pasa>

**Documentation:** PopUpCommandDoc.tioga

**Keywords:** ExecHacks, DoIt, CommandTool

**Commands:** PopUpCommand

**Abstract:** Implements a command which provides a pop-up menu allowing the user to select the actual command to execute. Since most users would have little desire to type in commands, only to mouse select the one they *really* wished to perform, the application for this command is to provide choice where automated mechanism currently execute a single command – i.e. the ExecHacks DoIt button.

**PopUpMenus:** [Cedar]<CedarChest7.0>Top>PopUpMenus.df

**Created by:** Christian Jacobi

**Maintained by:** Christian Jacobi <Jacobi.pa>

**Documentation:** PopUpMenusDoc.tioga

**Keywords:** popup, menu, user-interface

**Abstract:** packages which implement pop up menu abstractions.

**PowerOff:** [Cedar]<CedarChest7.0>Top>PowerOff.df

**Created by:** Bob Hagmann

**Maintained by:** Bob Hagmann <Hagmann.pa>

**Keywords:** power off, viewer

**Commands:** PowerOff

**Abstract:** When this package is installed (that is, issue the command "Install PowerOff" to the CommandTool), it puts up a button on the top of the screen labeled "PowerOff". A double click of this button will cause the machine to power itself off. It checks for unsaved viewers, and refuses to power off if there are any unsaved viewers. It also attempts to do an orderly shutdown of the system (like checkpoint) before turning the power off. If PowerOff is used as a CommandTool command, it will power the machine off if there are no unsaved viewers.

**PressFileUtilities:** [Cedar]<CedarChest7.0>Top>PressFileUtilities.df

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** PressFileUtilitiesDoc.tioga

**Keywords:** Press file, PressEdit, IncludePress

**Commands:** PressExtract, PressPages, PressOverlay, PressBBox, PressRescue, PressImageExtract, ListFontsInPressFile, SetPressPrintingMode

**Abstract:** This package provides commands for operating on Press files.

**PressReader:** [Cedar]<CedarChest7.0>Top>PressReader.df

**PressScreen: [Cedar]<CedarChest7.0>Top>PressScreen.df****Documentation:** PressScreenDoc.Tioga**Keywords:** AIS format, bitmaps, display screen, Interpress, Press, printing, sampled images, screen bitmaps, viewer**Commands:** PressScreen**Abstract:** The PressScreen tool provides capabilities for printing screen images.**PrettyPrint: [Cedar]<CedarChest7.0>Top>PrettyPrint.df****Documentation:** PrettyPrintDoc.Tioga**Keywords:** pretty, whitespace, format, print, evaluate, interpret, expression**Commands:** PrettyPrint**Abstract:** PrettyPrint implements a command-tool command and an interpreter function that evaluates an expression and prints the result prettily (formatting with whitespace).**PreView: [Cedar]<CedarChest7.0>Top>PreView.df****Created by:** Ken Pier**Maintained by:** Ken Pier <Pier.PA>**Documentation:** PreViewDoc.tioga, PreViewFiles.tioga**Keywords:** AIS format, artwork, color display, Griffin, illustration, Imager, Interpress, PD format, Press, preview, Tioga documents, Versatec color plotter, viewer**Commands:** PreView, PVRedGreenBlue, PVRedGrnBlu, ShowPress, IPPreview, AISPreView, GGPreView, GriffinPreView, PDPreView, PressPreView**Abstract:** PreView is a Cedar tool which allows users to open a viewer on any one of six file types: Interpress, Press, PD, Griffin, Gargoyle, and AIS. There is also an option to use three color separation AIS files to get a full color picture. The user may scroll horizontally and vertically on any file page, and may flip through pages of a multi-page file. The user interface is the same for all the file types. PreView also provides interactive scaling, rotation, and cropping of file pages on display, with the option to either write a new Interpress file with the selected contents or to stuff the selected contents directly into a Tioga document in the form of a TiogaArtwork node.**Print: [Cedar]<CedarChest7.0>Top>Print.df****Documentation:** PrintDoc.tioga**Commands:** Print**PrintColor: [Cedar]<CedarChest7.0>Top>PrintColor.df****Created by:** Michael Plass, Maureen Stone**Maintained by:** Michael Plass, Maureen Stone <Plass.pa, Stone.pa>

**Documentation:** PrintColorDoc.tioga

**Keywords:** color, Printing

**Abstract:** The common base for all the color printing software

**ProcessWatcher:** [Cedar]<CedarChest7.0>Top>ProcessWatcher.df

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** ProcessWatcherDoc.Tioga

**Keywords:** Process, Ready

**Commands:** InstantaneousProcessWatcher, TraceProcessWatcher

**Abstract:** The ProcessWatcher package provides two kinds of displays of the active processes of a workstation. One is a "blinking light" display, with one light per process number. The other is a cyclical "strip chart", showing the activity of the past minute. Mouse clicks on these displays can provoke stack printouts.

**Promptery:** [Cedar]<CedarChest7.0>Top>Promptery.df

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** PrompteryDoc.tioga

**Keywords:** Command Tool, Prompt

**Commands:** Promptery

**Abstract:** Promptery gives you a different prompt every command. The prompts are chosen randomly from a (user-specified) weighted list. The default list is somewhat eccentric.

**Properties:** [Cedar]<CedarChest7.0>Top>Properties.df

**Created by:** Christian Jacobi

**Maintained by:** Christian Jacobi <Jacobi.pa>

**Documentation:** PropertiesDoc.tioga

**Keywords:** properties

**Abstract:** Implements property lists similar to Atom, but uses less memory and is faster.

**PupBootServer:** [Cedar]<CedarChest7.0>Top>PupBootServer.df

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** PupBootServerDoc.tioga

**Keywords:** booting, PUP, EtherBooting



**Commands:** PupBootServer

**Abstract:** PupBootServer tests Pup Byte Streams.

**PupBSPTool: [Cedar]<CedarChest7.0>Top>PupBSPTool.df**

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** PupBSPToolDoc.tioga

**Keywords:** BSP (byte stream protocol), debugging, performance, PUP, stream, throughput

**Commands:** PupBSPTool

**Abstract:** PupBSPTool tests Pup Byte Streams.

**PupDebug: [Cedar]<CedarChest7.0>Top>PupDebug.df**

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** PupDebugDoc.tioga

**Keywords:** debugging, PUP, PUP address

**Abstract:** Simple debugging aids for Pup

**PupDocs: [Cedar]<CedarChest7.0>Top>PupDocs.df**

**Documentation:** EtherBoot.tioga, LookupFile.tioga, MiscServices.tioga, NetConstants.tioga

**PupEchoTool: [Cedar]<CedarChest7.0>Top>PupEchoTool.df**

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** PupEchoToolDoc.tioga

**Keywords:** debugging, echo, network tools, performance measurement, PUP

**Commands:** PupEchoTool

**Abstract:** PupEchoTool lets you bounce Pups off of other machines. It optionally prints a response time histogram.

**PupEtherBoot: [Cedar]<CedarChest7.0>Top>PupEtherBoot.df**

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** PupEtherBootDoc.tioga

**Keywords:** booting, debugging, EtherBooting, germs, PUP

**Commands:** PupEtherBoot

**Abstract:** PupEtherBoot is just a quick hack for testing germs.

**PupNetWatcher:** [Cedar]<CedarChest7.0>Top>PupNetWatcher.df

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** PupNetWatcherDoc.tioga

**Keywords:** debugging, network tools, PUP, routing tables

**Commands:** PupNetWatcher

**Abstract:** PupNetWatcher prints a line of info whenever the Pup routing tables change.

**PupRouterTool:** [Cedar]<CedarChest7.0>Top>PupRouterTool.df

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** PupRouterToolDoc.tioga

**Keywords:** debugging, network tools, PUP, routing tables

**Commands:** PupRouterTool

**Abstract:** PupRouterTool prints the local Pup routing table, or the routing table from a Pup Gateway.

**PupWatch:** [Cedar]<CedarChest7.0>Top>PupWatch.df

**Created by:** Andrew Birrell

**Maintained by:** Hal Murray, <Murray.pa>

**Documentation:** PupWatchDoc.tioga

**Keywords:** communications, debugging, network tools, PUP

**Commands:** PupWatch

**Abstract:** PupWatch is a tool for observing Pup traffic on a research Ethernet (the 3 megabit kind). It is especially useful for debugging communications problems.

**QFind:** [Cedar]<CedarChest7.0>Top>QFind.df

**Created by:** Richard E. Sweet

**Documentation:** QFindDoc.tioga

**Keywords:** searching

**Commands:** QFind

**Abstract:** QFind is a file scanning program similar in spirit to Grep. It lacks most of the functionality of Grep, but makes up for it by being 3-4 times as fast.

**RasterController: [Cedar]<CedarChest7.0>Top>RasterController.df**

**Created by:** Dave Rumph

**Maintained by:** The Monterey Implementors <MontereyImplementors†.pasa>

**Keywords:** Dorado. Hardware. URDC. Colorado. Platemaker. Raster. Color Display. Color. Frame Buffer. Printing

**Abstract:** This is a client package which supports access to the Monterey Universal Raster Device Controller boards. currently RastA.

**ReadWalnutArchiveFile: [Cedar]<CedarChest7.0>Top>ReadWalnutArchiveFile.df**

**Created by:** Willie-Sue Orr

**Maintained by:** Willie-Sue Orr <Willie-Sue.pa>

**Documentation:** ReadWalnutArchiveFileDoc.tioga

**Keywords:** Walnut. Archive

**Commands:** ReadWalnutArchiveFile

**Abstract:** ReadWalnutArchiveFile allows quick access to messages that have been archived from a Walnut database.

**RecoverFromCache: [Cedar]<CedarChest7.0>Top>RecoverFromCache.df**

**Documentation:** RecoverFromCacheDoc.tioga

**Keywords:** FS cache. File Server Disaster

**Commands:** RecoverFromCache

Restore files to a file server from the cached copies on the workstation. Files can be either copied or listed.

**RecursivelyNIL: [Cedar]<CedarChest7.0>Top>RecursivelyNIL.df**

**Created by:** Bob Hagmann

**Maintained by:** Bob Hagmann <Hagmann.pa>

**Documentation:** RecursivelyNILDoc.tioga

**Keywords:** nil data structures

**Abstract:** RecursivelyNIL will take a REF. and recursively processes all objects reachable from the REF. For each object encountered, all REF containing fields are NILEd. A callback is provided to limit the destruction.

**RedirectDF: [Cedar]<CedarChest7.0>Top>RedirectDF.df**

**Created by:** Victor Shoup

**Maintained by:**

**Documentation:** RedirectDFDoc.tioga

**Keywords:** DF, Directory, Release

**Commands:** RedirectDF

**Abstract:** RedirectDF is a command to change the directory to which a DF file is relative. This is useful in releasing a package or making a working version of a released package.

**RefID:** [Cedar]<CedarChest7.0>Top>RefID.df

**Created by:** Doug Terry

**Maintained by:** Doug Terry <Terry.pa>

**Documentation:** RefIDDoc.tioga

**Keywords:** CardTab, RefID, RefTab

**Abstract:** RefID uses CardTab to maintain associations between IDs and REFs. An ID is simply a laundered REF, which can be passed across an RPC connection.

**RefTabPrint:** [Cedar]<CedarChest7.0>Top>RefTabPrint.df

**Created by:** Michael Plass

**Maintained by:** Rick Beach <Beach.pa>

**Documentation:** RefTabPrintDoc.tioga

**Keywords:** data structures, interpreter, print proc, RefTab, symbol tables

**Commands:** RefTabPrint, SymTabPrint

**Abstract:** RefTabPrint registers a print proc for RefTab symbol tables, causing the Interpreter to display a more readable and informative result.

**RegularExpression:** [Cedar]<CedarChest7.0>Top>RegularExpression.df

**Created by:** Bob Nix

**Maintained by:** Russ Atkinson <Atkinson.pa>

**Documentation:** RegularExpressionDoc.tioga

**Keywords:** regular expressions, matching

**Abstract:** RegularExpression is a package that implements a syntax for specifying a kind of text matching pattern called *regular expressions*.

**ReleaseTools:** [Cedar]<CedarChest7.0>Top>ReleaseTools.df

**Commands:** CheckRoot, RootCompare, CheckBasicLoadees, BootSmash, CountReleaseSize, SetDateLikeRemote, BindLoadeeVersions

**Remember:** [Cedar]<CedarChest7.0>Top>Remember.df

**Created by:** Warren Teitelman

**Maintained by:** Ken Pier <Pier.pa>

**Documentation:** RememberDoc.Tioga

**Keywords:** calendar, icons, mail message, reminder, user profile

**Commands:** Remember, ShowRem, ShowReminders

**Abstract:** Remember is a calendar minder for Cedar. Users may enter events either from a command or a mail message that will occur some time in the future. Times for events may be given in almost any reasonable phrasing. Remember posts reminders when the corresponding time arrives as an appropriately shaped blinking icon viewer that contains the information. Extensive user profile entries control the behavior of Remember.

**RemoteSimpleTerminal:** [Cedar]<CedarChest7.0>Top>RemoteSimpleTerminal.df

**RemoteTerminal:** [Cedar]<CedarChest7.0>Top>RemoteTerminal.df

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** RemoteTerminalDoc.tioga, SendByteCode.Tioga

**Keywords:** Terminal, Remote Terminal, Terminal Location

**Abstract:** The RemoteTerminal package allows a Cedar workstation to be used from anywhere on the network.

**RepeatCommand:** [Cedar]<CedarChest7.0>Top>RepeatCommand.df

**Created by:** Carl Hauser

**Maintained by:** Carl Hauser <CHauser.pa>

**Documentation:** RepeatCommandDoc.tioga

**Keywords:** Command, delay, postpone, iterate

**Commands:** Repeat

**Abstract:** A Cedar interface and command for executing other commands on a schedule comprising a start time, a period, and a number of iterations.

**RollbackAndAnything:** [Cedar]<CedarChest7.0>Top>RollbackAndAnything.df

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** RollbackAndAnythingDoc.Tioga

**Keywords:** Rollback, Checkpoint, Command, Idle, Logout, Logoff

**Commands:** DoRollbackStuff, RollbackAnd

**Abstract:** RollbackAndAnything provides a way to have commands automatically executed after a rollback. It also exports a command file that implements an "Idle" command.

**RPCEchoTool: [Cedar]<CedarChest7.0>Top>RPCEchoTool.df**

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** RPCEchoToolDoc.tioga

**Keywords:** RPC, Echo, Response time

**Commands:** RPCEchoTool

**Abstract:** RPCEchoTool runs simple RPC tests and prints a response time histogram.

**SampleMapUtils: [Cedar]<CedarChest7.0>Top>SampleMapUtils.df**

**Created by:** Eric Nickell

**Maintained by:** Eric <Nickell.pasa>

**Documentation:** SampleMapUtilsDoc.tioga

**Keywords:** AIS format, images, scanned Images, sampled Images, pictures, Imager

**Commands:** SampleMapUtilsTest

**Abstract:** SampleMapUtils is a collection of client-callable utilities for various operations dealing with SampleMaps. It includes the modules AISSampleMaps, BandCache, SampleMapUtils, and Vignettes.

**ShowVAM: [Cedar]<CedarChest7.0>Top>ShowVAM.df**

**Created by:** Andrew Birrell

**Maintained by:** Bob Hagmann, Michael Plass <Hagmann.pa, Plass.pa>

**Documentation:** ShowVAMDoc.tioga

**Keywords:** VAM, Volume Allocation Map, VM

**Commands:** ShowVAM, ShowVM

**Abstract:** A program to show bitmaps in viewers of the volume allocation map (VAM) for any Cedar volume, and to show the state of pages in VM. There are 512 dots to a line, and a black dot normally means allocated.

**Sil: [Cedar]<CedarChest7.0>Top>Sil.df**

**Created by:** Ken Pier and Tracy Larrabee

**Maintained by:** Ken Pier <Pier.pa>

**Documentation:** SilDoc.Tioga, SilToDo.Tioga, SilInternalDoc.Tioga

**Keywords:** illustrator, image, graphics, design automation

**Abstract:** Sil is a Simple Illustrator that runs in Cedar. It provides facilities for producing simple drawings, circuit diagrams, and illustrations that use only text strings and boxes. Sil was originally written for the Alto environment, and Cedar Sil allows compatibility with files produced by Alto Sil while providing a richer set of facilities to the Cedar user.

This document describes how to obtain and use the latest version of Sil released on the Cedar directory.

**SimpleMailer: [Cedar]<CedarChest7.0>Top>SimpleMailer.df**

**Created by:** Carl Hauser

**Maintained by:** Carl Hauser <CHauser.pa>

**Documentation:** SimpleMailerDoc.tioga

**Keywords:** mail, send, Grapevine

**Abstract:** SimpleMailer provides a programmer's interface for sending a Grapevine message with a single procedure call.

**SimpleViewer: [Cedar]<CedarChest7.0>Top>SimpleViewer.df**

**Documentation:** SimpleViewerDoc.tioga

**Keywords:** viewers.

**Commands:** SimpleViewer

**Abstract:** This software provides no interface but serves as a sample for viewer programming.

**Created and Maintained by:** Bloomenthal.pa

**Sirocco: [Cedar]<CedarChest7.0>Top>Sirocco.df**

**Created by:** Sunil Bhargava, Alan Demers, Bill Jackson

**Maintained by:** Bill Jackson <BJackson.pa>, Alan Demers <Demers.pa>

**Documentation:** SiroccoDoc.tioga, SiroccoCourierSyntax.tioga

**Keywords:** Sirocco, Courier, XNS, Cedar, Casaba

**Commands:** Sirocco

**Abstract:**

**SiroccoDWIM: [Cedar]<CedarChest7.0>Top>SiroccoDWIM.df**

**Created by:** Bill Jackson

**Maintained by:** Bill Jackson <BJackson.pa>

**Documentation:** SiroccoDWIMDoc.Tioga

**Keywords:** Courier, DWIM, MakeDo, programming tools, Sirocco, XNS

**Abstract:** I expect that this could become a catch all for many Sirocco related tool modules. Initially, it has SiroccoDeps, the MakeDo Action Class implementor for Sirocco.

**SirPress: [Cedar]<CedarChest7.0>Top>SirPress.df**

**Documentation:** SirPressDoc.tioga

**Keywords:** obsolete, Press, printing, typesetting

SirPress is a client package for writing Press files, and for sending them to the printer.

**SlackProcess:** [Cedar]<CedarChest7.0>Top>SlackProcess.df

**Created by:** Eric Bier

**Maintained by:** Bier.PA, Pier.PA

**Documentation:** SlackProcessDoc.tioga

**Keywords:** Cedar, queue, input

**Abstract:** SlackProcess solves a problem in user interfaces that employ smooth motion. User input actions (e.g. from a TIP table) are placed on a queue. The slack process takes these actions from the queue, doing as many as it can. When the slack process gets behind, it ignores some actions to catch up. The client indicates which actions can be ignored using a callback procedure. SlackProcess can be used in place of MBQueues to provide sequentialization as well to take up slack during smooth motions.

**SleepPeek:** [Cedar]<CedarChest7.0>Top>SleepPeek.df

**Created by:** Michael Plass

**Maintained by:** Plass <Plass.pa>

**Documentation:** SleepPeekDoc.tioga

**Keywords:** Idle, Screen

**Commands:** SleepPeek

**Abstract:** Provides a sleep button that allows any portion of the screen to be displayed during idle.

**SnipSnap:** [Cedar]<CedarChest7.0>Top>SnipSnap.df

**Created by:** Levenson

**Maintained by:** Levenson <Levenson.pa>

**Documentation:** SnipSnapDoc.tioga

**Keywords:** Video Frame Grabber, Color Scanner, Canon Still Video, AIS

**Commands:** SnipSnap

**Abstract:** Describes how to operate the SnipSnap Scanner

**Snoopy:** [Cedar]<CedarChest7.0>Top>Snoopy.df

**Created by:** Eric Nickell

**Maintained by:** Eric <Nickell.pasa>

**Documentation:** SnoopyDoc.tioga

**Keywords:** Mail, Peekmail, Grapevine



**Commands:** Snoopy

**Abstract:** Snoopy permits you to look at your Grapevine mail without flushing it from the mail servers. The messages are still available for mail programs like Walnut and Peanut. Like Peekmail, it is a low-cost (in gfis) mail reader, but providing a pop-up menu to select from the various messages. Like Peanut, Snoopy also understands tioga formatting in mail messages.

**SortLabels:** [Cedar]<CedarChest7.0>Top>SortLabels.df

**Documentation:** SortLabelsDoc.tioga

**Commands:** SortLabels

**SpellingTool:** [Cedar]<CedarChest7.0>Top>SpellingTool.df

**Created by:** Robert Nix

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** SpellingToolDoc.tioga

**Keywords:** dictionary, proofread, spelling checker, Tioga documents, user profile, writing aids

**Commands:** SpellingTool, BuildBitTable

**Abstract:** The Spelling Tool is an efficient, lightweight tool for checking spelling in text. It is used much like a string search command: however, rather than locating the next piece of text that matches a particular pattern, it locates the next misspelled word. The Tool also provides facilities that assist in correcting misspelled words and that retrieve definitions from the Dictionary Server.

**Spy:** [Cedar]<CedarChest7.0>Top>Spy.df

**Created by:** John Maxwell

**Maintained by:** Russ Atkinson <Atkinson.pa>

**Documentation:** SpyDoc.tioga

**Keywords:** performance measurement, tuning, page faults, memory allocations, timing, CPU usage

**Commands:** Spy

**Abstract:** The Cedar Spy is a tool for monitoring the performance of programs. It can measure several different aspects of performance: CPU usage, page faults, allocations, or process time. Hopefully a programmer will find that the Spy is the only tool he needs for the bulk of his performance analysis.

**StatementInterpreter:** [Cedar]<CedarChest7.0>Top>StatementInterpreter.df

**Documentation:** StatementInterpreterDoc.Tioga

**Keywords:** Interpreter, Cedar, Statement, Interactive, Evaluate

**Abstract:** The StatementInterpreter extends the Cedar interpreter's capabilities into the world of statements.

**StatementInterpreterCommands:** [Cedar]<CedarChest7.0>Top>StatementInterpreterCommands.df

**Documentation:** StatementInterpreterCommandsDoc.Tioga

**Keywords:** Interpreter, Cedar, Statement, Interactive, Evaluate, Command Tool, Command

**Abstract:** The StatementInterpreterCommands package provides a command-tool interface to the StatementInterpreter

**STPServer:** [Cedar]<CedarChest7.0>Top>STPServer.df

**Created by:** Michael Plass

**Maintained by:** Rick Beach <Beach.pa>

**Documentation:** STPServerDoc.tioga

**Keywords:** conversion, file server, protocol, server name, STP, Tioga documents

**Commands:** STPServer

**Abstract:** The STPServer is a Cedar program that allows your machine to be used as a simple file server.

**StructuredStreams:** [Cedar]<CedarChest7.0>Top>StructuredStreams.df

**Documentation:** StructuredStreamsDoc.tioga

**Keywords:** Stream, Format, Whitespace, Pretty Print, Structure, Object, Nest

**Abstract:** StructuredStreams provides streams that format with whitespace according to a nested object structure. The basic formatting mechanism, UnparserBuffer, is also exported.

**StyleTool:** [Cedar]<CedarChest7.0>Top>StyleTool.df

**Created by:** Linda Gass

**Maintained by:** Richard J. Beach <Beach.pa>

**Documentation:** StyleToolDoc.tioga

**Keywords:** composition, documents, fonts, formatting, JaM language, styles, Tioga Tioga, typesetting

**Commands:** StyleTool

**Abstract:** The StyleTool allows Tioga users to examine and modify existing styles as well as some rudimentary facilities to create new styles.

**Summoner:** [Cedar]<CedarChest7.0>Top>Summoner.df

**Documentation:** SummonerDoc.tioga, ComputeServerNotes.tioga

**Keywords:** Compute Server, Summoner, Process Server, distributed computing

**Commands:** SubmitSummonerPackage, RemoveSummonerPackage, SummonerInfo, SummonerCluster, SummonerClient, StartClient, SummonerClientOn, SummonerClientOff, SummonerServerOff, SummonerServerOn, SummonerEnableAutoIdle, SummonerDisableAutoIdle

**Abstract:** The Summoner, also called the *Compute Server* or the *Process Server*, is a framework for doing computation on multiple machines in Cedar. It provides the facilities for using the processing power a more powerful workstation from a lower powered workstation for doing computations like CommandTool Commands. It also has facilities for doing multi-machine computations.

The system is not complete, and suggestions are actively solicited.

**SummonerMonitor:** [Cedar]<CedarChest7.0>Top>SummonerMonitor.df

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** SummonerMonitorDoc.Tioga

**Keywords:** Summoner, Monitor, Viewers

**Abstract:** This package provides monitoring of Summoner activity on behalf of the user.

**Sweep:** [Cedar]<CedarChest7.0>Top>Sweep.df

**Commands:** ShowSweep, ShowWind, ShowColor, ShowHide

**SynChart:** [Cedar]<CedarChest7.0>Top>SynChart.df

**Created by:** Michael Plass

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** SynChartDoc.tioga

**Keywords:** syntax chart, TEX

**Abstract:** TEX macro package for creating syntax charts.

**Tangle:** [Cedar]<CedarChest7.0>Top>Tangle.df

**Documentation:** TangleDoc.tioga

**Keywords:** WEB, Pascal, PasMesa, compiler, translator

**Commands:** Tangle, ShowPosition

**Abstract:** Tangle is the program which translates WEB programs into legal Pascal. More information can be gotten from the WEB Users Manual, a copy of which Pavel owns.

**Tank:** [Cedar]<CedarChest7.0>Top>Tank.df

**Created by:** John Maxwell

**Maintained by:** Russ <Atkinson.pa>

**Documentation:** TankDoc.tioga

**Keywords:** Tank, game

**Commands:** Tank

**Abstract:** Tank is a simple network multi-player arcade game. Each player controls a tank which can turn and move. Each tank can also fire at and destroy tanks of other players.

**TapeTool:** [Cedar]<CedarChest7.0>Top>TapeTool.df

**Documentation:** TapeToolDoc.tioga, CopyTapeDoc.tioga

**Commands:** TapeTool, PGTape, CopyTape

**Abstract:** This documentation describes the Cedar Tape Tool.

**TBQueue:** [Cedar]<CedarChest7.0>Top>TBQueue.df

**Commands:** TBQueue

**Tempus:** [Cedar]<CedarChest7.0>Top>Tempus.df

**Created by:** Warren Teitelman

**Maintained by:** Ken Pier <Pier.pa>

**Keywords:** time, time parser

**Abstract:** Tempus is a time parser that accepts a wide variety of time formats. Relative times, narrative times, and general forms of times are accepted.

**TerminalEmulator:** [Cedar]<CedarChest7.0>Top>TerminalEmulator.df

**Documentation:** TerminalEmulatorDoc.Tioga, ASCII-man.Tioga

**Keywords:** terminal, emulate, simulate, TTY, glass, character, screen

**Commands:** TerminalEmulator

**Abstract:** TerminalEmulator emulates a standard array-of-characters style terminal.

**TerminalIO:** [Cedar]<CedarChest7.0>Top>TerminalIO.df

**Created by:** Christian Jacobi

**Maintained by:** Christian Jacobi <Jacobi.pa>

**Documentation:** TerminalIODoc.tioga

**Keywords:** IO, Terminal, Ascii, Log

**Commands:** TerminalIO

**Abstract:** Package which implements a single, shared log viewer.

**TeX:** [Cedar]<CedarChest7.0>Top>TeX.df

**Created by:** Donald E. Knuth, Michael Plass, Lyle Ramshaw

**Maintained by:** Pavel Curtis <Pavel.pa>

**Documentation:** TeXDoc.tioga, BuildingTeX.tioga

**Keywords:** TeX82, formatting, documents, typesetting

**Commands:** TeX, IniTeX, RTeX, RIniTeX

**Abstract:** The TeX82 document compiler has been ported from Pascal to Cedar, and this document describes how to run it in Cedar. This document is somewhat obsolete, but Pavel hasn't had time to update it sufficiently. Talk to Pavel if you have problems.

**TextReplace: [Cedar]<CedarChest7.0>Top>TextReplace.df**

**Created by:** Mike Spreitzer

**Maintained by:** Mike Spreitzer <Spreitzer.pa>

**Documentation:** TextReplaceDoc.tioga

**Keywords:** Text, ROPE, String, Characters, Function, Map, Replace, Substitute, Pattern, Match, Search, Find, EditTool

**Abstract:** TextReplace defines a representation for members of the algebra of  $ROPE \rightarrow ROPE$  functions, and some useful functions on them (spanning the functionality of the EditTool).

**Texture2D: [Cedar]<CedarChest7.0>Top>Texture2D.df**

**Created by:** Ken Perlin, Michael Plass

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** Texture2DDoc.tioga

**Keywords:** texture, AIS, bark, drops, marble, rock, smoke

**Commands:** Texture2D, Wedge

**Abstract:** A program for creating various 2-dimensional textures (as AIS files), using methods developed by Ken Perlin.

**TFtoPL: [Cedar]<CedarChest7.0>Top>TFtoPL.df**

**Commands:** TFtoPL

**Thesaurus: [Cedar]<CedarChest7.0>Top>Thesaurus.df**

**Created by:** Jack Kent

**Maintained by:** Jack Kent <Kent.pa>

**Documentation:** ThesaurusDoc.tioga

**Keywords:**

**Commands:** Thesaurus

**Abstract:****ThreeC4Support:** [Cedar]<CedarChest7.0>Top>ThreeC4Support.df**ThreeCasabaFour:** [Cedar]<CedarChest7.0>Top>ThreeCasabaFour.df**Created by:** Howard Sturgis, John Field, Victor Shoup**Maintained by:** Bill Jackson <BJackson.pa>**Documentation:** ThreeCasabaFourDoc.Tioga**Keywords:** compiler-compiler, Casaba, parsing, recursive functions**Commands:** ThreeCasabaFour, ThreeC4, TestThreeC4, XTran7**Abstract:** ThreeC4 is a component of the more general Casaba package.**ThreeDWorld:** [Cedar]<CedarChest7.0>Top>ThreeDWorld.df**Created by:** Frank Crow**Maintained by:** Frank Crow <Crow.pa>**Documentation:** ThreeDWorldDoc.tioga**Keywords:** 3-D, antialiasing, shading, highlights, image synthesis, texture, transparency**Commands:** ThreeDDemo

**Abstract:** This package provides shaded renditions of numerically-described three dimensional shapes on Cedar displays (LF, Dorado Color display) or Interpress devices. Quick display for line drawings and faceted objects allows near-real-time display of simple shapes. For more complex scenes or more expensive shading techniques, a short sequence of images may be computed and then played back at real-time rates. More elaborate shading techniques include: smoothly varying shading for curved surfaces, highlights, simulated transparency, mapped and space-filling textures, and antialiasing. Currently, this package supports only shapes approximated by polygons and Bezier patches.

**TiogaButtons:** [Cedar]<CedarChest7.0>Top>TiogaButtons.df**Created by:** Richard J. Beach**Maintained by:** Richard J. Beach <Beach.pa>**Keywords:** TiogaButtons, Tioga, buttons, menus, user interface techniques, formatting**Commands:** TiogaButtons

**Abstract:** TiogaButtons provides a user interface technique with all the formatting capabilities of the Tioga document formatter. TiogaButtons is a viewer class that behaves like a menu but is formatted by Tioga. The client prepares either a Tioga document or a set of text strings to be identified as buttons. The Tioga formatter displays the content but a special input notifier provides similar user interaction to a Viewers menu. All of the Tioga formatting capabilities, including line folding, looks, formats, and styles are available to the client.

TiogaButtons is experimental. Please request additional functionality you feel is necessary.

**TiogaDWIM: [Cedar]<CedarChest7.0>Top>TiogaDWIM.df****Created by:** Mike Spreitzer**Maintained by:** Mike Spreitzer <Spreitzer.pa>**Documentation:** TiogaDWIMDoc.Tioga**Keywords:** DWIM (do what I mean). file. DF file. Tioga extensions. attachment. file lookup. definition search. Cedar language. Mesa language. Lisp language. JaM language. style files**Abstract:** TiogaDWIM provides smarts for the "Get", "GetImpl", and "Def" buttons in Tioga viewers. These smarts understand the common languages and practices used in programming in CSL. Thus, the "Get" smarts understand DF-file contents, and also the idea of following the attachment to Foo.BCD to find Foo.Mesa. The "Def" button tries to determine the language of the file being searched, and search according to the rules of that language. The "GetImpl" button first does a "Def" search, and then looks for the implementation of the result. Cedar sources are recognized by their filename extension. TiogaDWIM understands these features of the Cedar language: type renaming, DIRECTORY and IMPORTS statements, and the optional OPEN on the outermost block, and the fact that declarations are of the form *id/list: Type*. It's been known to work on object-oriented invocations too. TiogaDWIM also understands JaM files and Style files, and has a rudimentary understanding of LISP files.**TiogaExecCommands: [Cedar]<CedarChest7.0>Top>TiogaExecCommands.df****Created by:** Michael Plass (moved from EditTool.df)**Maintained by:** TiogaImplementors↑.pa**Documentation:** TiogaExecCommandsDoc.Tioga**Keywords:** Cedar language. conversion. editor. formatting. hyphenation. Mesa language. Tioga documents. TIP tables**Commands:** AnnotateProperties. PruneAnnotations. EditProperties. Hyphenation. DoTiogaOps. ReadIndent. ReadTiogaTipTables. TiogaMesa. WriteMesaPlain. WritePlain. WriteAscii. WriteBrokenAscii**Abstract:** Executive commands for the Tioga editor.**TiogaImager: [Cedar]<CedarChest7.0>Top>TiogaImager.df****Created by:** Michael Plass**Maintained by:** Michael Plass <Plass.pa>**Documentation:** TiogaImagerDoc.tioga**Keywords:** artwork. composition. formatting. illustration. Imager. Interpress. page layout. styles. Tioga documents. TSetter. typesetting**Commands:** TiogaToInterpress**Abstract:** This package provides a command (TiogaToInterpress) for converting a Tioga file to an Interpress master suitable for printing. It also provides a client interface (TiogaImager) for formatting tioga nodes.

**TiogaRenumber: [Cedar]<CedarChest7.0>Top>TiogaRenumber.df**

**Commands:** RenumberFootnotes, RenumberFigures, RenumberReferences, Renumber, TiogaRenumber

**TiogaStreams: [Cedar]<CedarChest7.0>Top>TiogaStreams.df**

**Documentation:** TiogaStreamsDoc.tioga

**Keywords:** Tioga, Stream, IO, read, write

**Abstract:** TiogaStreams provides a way to read and write Tioga documents mostly through the standard streams interface.

**TopButtons: [Cedar]<CedarChest7.0>Top>TopButtons.df**

**Created by:** Bertrand Serlet

**Maintained by:** Bertrand Serlet <Serlet.pa>

**Documentation:** TopButtonsDoc.tioga

**Keywords:** Buttons, Open, New, Doc, Help, Documentation, Tioga, DWIM, Catalog, MasterScope, Cross Reference, Callers, Grep

**Commands:** TopButtons

**Abstract:** TopButtons turns the *Open* and *New* buttons, located on top on a regular Cedar screen, into something useful. When the user clicks *Open* or *New*, a choice of files or directories is proposed, which entries are settable by user profile. The button labelled *Doc* allows easy on-line documentation: if a filename is selected, it looks for a file ending in *Doc.tioga*, and if there is no selection, it proposes a menu of Catalogs. An optional button labelled *Refs* permits to search for all references of the selected function. The intended semantic for those buttons is: DWIM (Do What I Mean).

**Trans: [Cedar]<CedarChest7.0>Top>Trans.df**

**Created by:** Dan Swinehart

**Maintained by:** Dan Swinehart <Swinehart.pa>

**Documentation:** TransDoc.tioga

**Keywords:** Regular Expression, Text, Replace, Substitution, Text Replace, Grep, Pattern Searching

**Commands:** Trans

**Abstract:** Trans does a pattern-directed global substitution to a group of files. Trans has a subset of the functionality of the EditTool's substitute command; however, it is better suited to the task of performing different global substitutions to several files. Trans's main shortcoming is that it cannot deal with Tioga node structure.

**Trc: [Cedar]<CedarChest7.0>Top>Trc.df**

**Created by:** Eric Nickell



**Maintained by:** Eric Nickell <Nickell.pasa>

**Documentation:** TrcDoc.tioga

**Keywords:** TRC. Tone Reproduction Curve, Function

**Commands:** TrcTool

**Abstract:** Trc provides capabilities for manipulating and viewing single-valued functions of one variable. It derives its name from "Tone Reproduction Curve", a particular type of function the authors wished to work with.

**TrickleChargeServer:** [Cedar]<CedarChest7.0>Top>TrickleChargeServer.df

**Created by:** Russ Atkinson

**Maintained by:** AlpineImplementors↑.pa

**Documentation:** TrickleChargeServerDoc.tioga

**Keywords:** Cedar. pseudo servers. replicated directories

**Commands:** TrickleChargeServer

**Abstract:** The TrickleChargeServer provides a command to replicate a directory (or a DF file) from one server onto another preserving version numbers.

**Tube:** [Cedar]<CedarChest7.0>Top>Tube.df

**Documentation:** TubeDoc.tioga

**Keywords:** tube. generalized cylinder. modeling. three-dimensional geometry. splines.

**Commands:** Tube

**Abstract:** This software permits the creation and modification of tubular structures.

**Created and Maintained by:** Bloomenthal.pa

**UserProfileOps:** [Cedar]<CedarChest7.0>Top>UserProfileOps.df

**Documentation:** UserProfileOpsDoc.tioga. UserProfileOpsReleaseMessage.tioga

**UsingDependencies:** [Cedar]<CedarChest7.0>Top>UsingDependencies.df

**Created by:** Michael Plass

**Maintained by:** Michael Plass <Plass.pa>

**Documentation:** UsingDependenciesDoc.tioga

**Keywords:** Dependencies. Lister. USING

**Commands:** UsingDependencies

**Abstract:** Command for generating a list of interface-item dependencies from a collection of BCDs.

**Values:** [Cedar]<CedarChest7.0>Top>Values.df**Created by:** Christian Jacobi**Maintained by:** Christian Jacobi <Jacobi.pa>**Documentation:** ValuesDoc.tioga**Keywords:****Abstract:** Values provides a general means to store properties to arbitrary types and to register property keys. A propagation mechanism is provided.**VBounce:** [Cedar]<CedarChest7.0>Top>VBounce.df**Created by:** Russ Atkinson**Maintained by:** Russ Atkinson <Atkinson.pa>**Documentation:** VBounceDoc.tioga**Keywords:** animation, demonstration, Viewers**Commands:** VBounce**Abstract:** VBounce is an animation demonstration that runs in Cedar on Dorados. It creates a viewer that has 32 bouncing boxes inside of it.**VersionMapBuilder:** [Cedar]<CedarChest7.0>Top>VersionMapBuilder.df**Documentation:** VersionMapBuilderDoc.tioga**Commands:** GenMap, GenCedarMap, MergeMap, MergeCedarMap, GenSortedClosure**VersionMapBuilder** is a program that builds version maps from the closure of files touched by a DF file. These version maps are used to make it easier to find source and symbols files.**VersionOf:** [Cedar]<CedarChest7.0>Top>VersionOf.df**Created by:** Mike Spreitzer**Maintained by:** Mike Spreitzer <Spreitzer.pa>**Documentation:** VersionOfDoc.Tioga**Keywords:** Loadstate, Loaded, Module, VersionStamp, BCD file, Config, Bound Modules, Nested Modules, Module Nesting**Commands:** VersionOf**Abstract:** VersionOf provides a procedural and a command-tool interface for discovering the version stamps of loaded modules and BCD files. The command also shows the nesting of modules in the loadstate.**ViewerAbort:** [Cedar]<CedarChest7.0>Top>ViewerAbort.df**Created by:** Eric Nickell**Maintained by:** Eric Nickell <Nickell.pasa>

**Documentation:** ViewerAbortDoc.tioga

**Keywords:** Viewer, Abort, Stop

**Abstract:** ViewerAbort is a client-callable package which lets a user abort (via SHIFT-SWAT or DLion STOP) actions associated with viewers.

**ViewersToIP: [Cedar]<CedarChest7.0>Top>ViewersToIP.df**

**Created by:** Eric Nickell

**Maintained by:** Eric Nickell <Nickell.pasa>

**Documentation:** ViewersToIPDoc.tioga

**Keywords:** artwork, bitmaps, display documentation, illustration, images, Interpress, printing, sampled screen, typesetting, viewer

**Commands:** ViewersToIP, ViewerToIP

**Abstract:** ViewersToIP creates an interpress master given a viewer. Thus, it is possible to print anything (well, almost) that can be displayed in a viewer.

**ViewRec: [Cedar]<CedarChest7.0>Top>ViewRec.df**

**Documentation:** ViewRecIntroduction.Tioga, ViewRecDoc.Tioga

**Keywords:** User Interface, Viewer, Record

**Abstract:** ViewRec is a tool for constructing pieces of user interfaces. It provides a combination of extended menus (the procedures can take arguments) and forms fill-in.

**VisibleMouseClicks: [Cedar]<CedarChest7.0>Top>VisibleMouseClicks.df**

**Created by:** Peter B. Kessler

**Maintained by:** Peter B. Kessler <PeterKessler.pa>

**Documentation:** VisibleMouseClicksDoc.tioga

**Keywords:** visible, mouse, button, click, cursor, teaching

**Commands:** VisibleMouseClicks

**Abstract:** Displays mouse button clicks in the cursor.

**VoiceUtils: [Cedar]<CedarChest7.0>Top>VoiceUtils.df**

**VTables: [Cedar]<CedarChest7.0>Top>VTables.df**

**Walnut: [Cedar]<CedarChest7.0>Top>Walnut.df**

**Documentation:** WalnutDoc.Tioga, WalnutInterfacesDoc.tioga, WallabyDoc.tioga

**Commands:** Walnut, WalnutScavenge

**Abstract:** Walnut is a computer mail system interface that runs in Cedar. It provides facilities to send and retrieve mail (using the Grapevine mail transport system), and to display and

classify previously retrieved messages. This document describes how to use Walnut: the document WalnutInterfacesDoc.tioga gives information about programmer access to a Walnut database.

**WalnutKernel: [Cedar]<CedarChest7.0>Top>WalnutKernel.df**

**Created by:** Willie-Sue Orr

**Maintained by:** WalnutSupport↑.pa

**Documentation:** WalnutKernelDoc.Tioga, NewWalnutUserDoc.tioga

**Keywords:** Walnut, database

**Commands:** NewWalnutUser

**Abstract:** WalnutKernel provides a database and log system for storing and classifying grapevine messages. It is responsible for maintaining certain invariants. WalnutKernel exports the WalnutOps interface, which provides programmer's access to a Walnut database: WalnutInterfacesDoc.tioga gives a complete description of WalnutOps and the other interfaces that Walnut provides.

**WalnutRegistry: [Cedar]<CedarChest7.0>Top>WalnutRegistry.df**

**Created by:** Willie-Sue Orr

**Maintained by:** Willie-Sue Orr <Willie-Sue>

**Keywords:** Walnut

**Commands:** WalnutRegistry

**Abstract:** WalnutRegistry is a facility that allows programs to be notified when various interesting events occur in a Walnut database. The interface WalnutRegistry is the documentation.

**WalnutRescue: [Cedar]<CedarChest7.0>Top>WalnutRescue.df**

**Created by:** Willie-Sue Orr

**Maintained by:** Willie-Sue Orr <Willie-Sue.pa>

**Documentation:** WalnutRescueDoc.Tioga

**Keywords:** Walnut, recovery

**Commands:** ScanWalnutLog, PageScanWalnutLog, FixWalnutLog, QuickFixWalnutLog, MoveWalnutFiles, Recover, ScanForMsgs

**Abstract:** WalnutRescue provides a number of facilities to be used to recover from problems with or changes to Walnut.

**WalnutSend: [Cedar]<CedarChest7.0>Top>WalnutSend.df**

**Created by:** Willie-Sue Orr

**Maintained by:** Willie-Sue Orr <Willie-Sue>

**Documentation:** WalnutSendDoc.tioga

**Keywords:** Grapevine

**Commands:** WalnutSend

**Abstract:** WalnutSend is a tool for sending messages using Grapevine. The interface WalnutSendOps also provides procedures for parsing, answering and forwarding messages.

**WalnutSort:** [Cedar]<CedarChest7.0>Top>WalnutSort.df

**Created by:** Eric Nickell and Dave Rumph

**Maintained by:** Eric Nickell <Nickell.pasa> and Dave Rumph <Rumph.pasa>

**Documentation:** WalnutSortDoc.tioga

**Keywords:** database application, mail message, Walnut

**Commands:** WalnutSort

**Abstract:** WalnutSort is a facility which automatically selects message set buttons in the Walnut Control window, on the basis of the contents of the message.

**Watcher:** [Cedar]<CedarChest7.0>Top>Watcher.df

**Created by:** Hal Murray

**Maintained by:** Hal Murray <Murray.PA>

**Documentation:** WatcherDoc.tioga

**Keywords:** Watch, CPU, Disk, Ethernet

**Commands:** Watcher

**Abstract:** Yet another toy to Watch things

**Waterlily:** [Cedar]<CedarChest7.0>Top>Waterlily.df

**Created by:** Karen Kolling

**Maintained by:** Dan Swinehart <Swinehart.pa>, Russ Atkinson <Atkinson.pa>

**Documentation:** WaterlilyDoc.tioga

**Keywords:** file comparison, source comparison, file merging

**Commands:** Waterlily, Cedarlily, Tigerlily, Mergelily

**Abstract:** Waterlily will compare two files and produce either a difference file or a merged version of the two files. The minimal documentation here is extracted from the help prompts provided by the three Waterlily commands.

**Weave:** [Cedar]<CedarChest7.0>Top>Weave.df

**Commands:** Weave

**Whiteboard:** [Cedar]<CedarChest7.0>Top>Whiteboard.df

**Documentation:** WhiteboardDoc.tioga, WhiteboardScreen.ais, DumpGrammar.tioga

**Commands:** Whiteboard, WBOpen, WBDump

**WordCount:** [Cedar]<CedarChest7.0>Top>WordCount.df

**Documentation:** WordCountDoc.tioga

**Commands:** WordCount

**WorkingDirectory:** [Cedar]<CedarChest7.0>Top>WorkingDirectory.df

**Created by:** Peter Kessler

**Maintained by:** Peter Kessler <PeterKessler>

**Documentation:** WorkingDirectoryDoc.tioga

**Keywords:** CommandTool, working directory, directory stack, icon labels

**Commands:** WorkingDirectory

**Abstract:** This program manipulates the same data structures as the CommandTool that define the current working directory and stack of working directories of a command tool. The printing of the current working directory (e.g. in the label of an iconic CommandTool) has been shortened, and the directory stack can now be printed out and rolled.

**XBus:** [Cedar]<CedarChest7.0>Top>XBus.df

**Created by:** Jim Gasbarro

**Maintained by:** Jim <Gasbarro.pa>

**Documentation:** XBusDoc.tioga

**Keywords:** Multibus, Busmaster, DandeTiger

**Commands:** TestMultibus

**Abstract:** This interface is a driver for the Busmaster card. It is connected via the XBus expansion port to a DandeTiger. Such a system allows direct control of Multibus peripherals from Cedar.

**XNSChat:** [Cedar]<CedarChest7.0>Top>XNSChat.df

**Created by:** Demers

**Maintained by:** Demers <Demers.pa>

**Documentation:** XNSChatDoc.tioga

**Keywords:** chat, communications, GAP (Gateway Access Protocol), network tools, Telnet, XNS

**Commands:** XNSChat

**Abstract:** A client implementation of the XNS Gateway Access Protocol (GAP) for chatting

to product servers. It's very primitive, but it works.

**XNSPrinting: [Cedar]<CedarChest7.0>Top>XNSPrinting.df**

**Created by:** Bill Jackson

**Maintained by:** Bill Jackson <BJackson.pa>

**Documentation:** XNSPrintingDoc.Tioga

**Keywords:** XNS, Anacapa, Courier, NCP, late-night-hackery, Print Service

**Abstract:** XNSPrinting supplies the *Programmers interface* to the procedures exported by the Printing Courier Program. If you want to be a real consumer, look in XNSPrintingUIDoc.tioga.

The Printing Courier Program is exported by product printers (8044's, 8045's, 4045's, and 4050's) All the procedures of Printing are exported by this stub, and Aux Procs are exported thru the interface PrintingP4V3Aux. XNSPrinting is just a convenient spot for the code automatically generated by Sirocco and it isolates programmers from some of the transport details.

**XNSPrintingUI: [Cedar]<CedarChest7.0>Top>XNSPrintingUI.df**

**Created by:** Bill Jackson (with credits to Jules Bloomenthal)

**Maintained by:** Bill Jackson <BJackson>

**Documentation:** XNSPrintingUIDoc.Tioga

**Keywords:** Courier, fonts, Interpress, network tools, printing, Sirocco, Tioga documents, XNS

**Commands:** FaxIPMaster, GetPrintStatus, GetPrintProperties, SendIPMaster, XNSPrintRequestWatcher

**Abstract:** XNSPrintingUI supplies a user interface and a client interface to procedures exported by the Printing Courier Program which is available on product printers (8044's, 8045's, and 4050's) and on experimental Cedar based Interpress printer. The Commander Operations of SendIPMaster, GetPrintStatus, GetPrintProperties, and XNSPrintRequestWatcher are supported. I've added the manipulative interface XNSPrintRequestWatcher which allows one to check on the progress of a print request: it's just a little too hard for users to type a multi word Opaque data type at the commander, and I'd rather not invent a heuristic (since my creativity is pretty drained right now).

**XNSTools: [Cedar]<CedarChest7.0>Top>XNSTools.df**

**Created by:** Demers

**Maintained by:** Demers <Demers.pa>

**Documentation:** XNSToolsDoc.tioga

**Keywords:** keyword1, keyword2, ... &

**Commands:** XNSEchoTool, XNSSpyTool, XNSRouterTool

**Abstract:** A few simple tools for XNS debugging – XNSSpyTool, XNSRouterTool,

XNSEchoTool.

**XRef:** [Cedar]<CedarChest7.0>Top>XRef.df

**Created by:** Russ Atkinson

**Maintained by:** Russ <Atkinson.pa>

**Documentation:** XRefDoc.tioga

**Keywords:** cross-reference, xref

**Commands:** XRef

**Abstract:** XRef is a simple program to cross-reference either Cedar programs or simple text. It registers the XRef command, which takes a list of files and produces a cross-reference file with the extension "xref".

**XTSetter:** [Cedar]<CedarChest7.0>Top>XTSetter.df

**Created by:** Jean-Marc Frailong

**Maintained by:** Jean-Marc Frailong <Frailong.pa> -- Reluctantly --

**Documentation:** XTSetterDoc.Tioga

**Keywords:** typesetting, Tioga documents, InterPress, XTSetter, XNS print servers

**Commands:** XTSetter

**Abstract:** XTSetter is a user interface to InterPress formatting and XNS printing. It is functionally comparable to TSetter. XTSetter knows how to format Tioga files and viewers, the screen and screen columns, and offers a general mechanism to format viewers. XTSetter prints exclusively on XNS InterPress print servers. A programming interface is also available.

**Yodel:** [Cedar]<CedarChest7.0>Top>Yodel.df

**Created by:** Bob Hagmann <Hagmann.pa>

**Maintained by:** AlpineImplementors†.pa

**Documentation:** YodelDoc.tioga

**Keywords:** Alpine, administrator, file, server

**Commands:** Yodel

**Abstract:** Yodel is a program that provides a Button-style interface to the remote user commands to the Alpine File Servers, Interim File Servers (IFS), and the workstation file system FS. It allows the user to list, delete, rename, and copy files, as well as changing the file and owner properties for files stored on Alpine File Servers. Yodel also supports some functions (i.e., list, delete, rename and copy) on FS and IFS files. Thus, an IFS file can be copied to an Alpine file via Yodel. There also is an administrator interface for doing such things as adding or removing users, and changing quotas.



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Tangle: Tangle  
Tank: Tank  
TapeTool: TapeTool  
TBQueue: TBQueue  
TerminalEmulator: TerminalEmulator  
TerminalIO: TerminalIO  
TestLoganBerry: LoganBerry  
TestMultibus: XBus  
TestSubject: Kipper  
TestThreeC4: ThreeCasabaFour  
TeX: TeX  
Texture2D: Texture2D

TFtoPL: TFtoPL  
Thesaurus: Thesaurus  
ThreeC4: ThreeCasabaFour  
ThreeCasabaFour: ThreeCasabaFour  
ThreeDDemo: ThreeDWorld  
Tigerlily: Waterlily  
TiogaButtons: TiogaButtons  
TiogaMesa: TiogaExecCommands  
TiogaRenumbr: TiogaRenumbr  
TiogaToInterpress: TiogaImager  
TopButtons: TopButtons  
TraceProcessWatcher: ProcessWatcher  
Trans: Trans  
TrcTool: Trc  
TrickleChargeServer: TrickleChargeServer  
Tube: Tube  
TypePD: ImagerPD  
UnboundLister: Lister  
Update: DFDependencies  
UsingDependencies: UsingDependencies  
UsingLister: Lister  
ValidateHeap: ExamineStorage  
VAMStats: FileUtil  
VBounce: VBounce  
VersionOf: VersionOf  
ViewersToIP: ViewersToIP  
ViewerToIP: ViewersToIP  
ViewFontTuningParameters: FontTune  
VisibleMouseClicks: VisibleMouseClicks  
Walnut: Walnut  
WalnutRegistry: WalnutRegistry  
WalnutScavenge: Walnut  
WalnutSend: WalnutSend  
WalnutSort: WalnutSort  
WalnutVoice: Finch  
Watcher: Watcher  
Waterlily: Waterlily  
WBDump: Whiteboard  
WBOpen: Whiteboard  
Weave: Weave  
Wedge: Texture2D  
WhereIs: Finger  
Whiteboard: Whiteboard

Who: Finger  
 Whois: ArpaQuery  
 WordCount: WordCount  
 WorkingDirectory: WorkingDirectory  
 WriteAscii: TiogaExecCommands  
 WriteBrokenAscii: TiogaExecCommands  
 WriteDesktop: DeskTops  
 WriteMesaPlain: TiogaExecCommands  
 WritePlain: TiogaExecCommands  
 XNSChat: XNSChat  
 XNSEchoTool: XNSTools  
 XNSPrintRequestWatcher: XNSPrintingUI  
 XNSRouterTool: XNSTools  
 XNSSpyTool: XNSTools  
 XRef: XRef  
 XTran7: ThreeCasabaFour  
 XTSetter: XTSetter  
 Yodel: Yodel

## Keyword Index

...: FileSpecification, XNSTools  
 2D: Draw2d  
 3-D: ThreeDWorld  
 3d: Applied3d, Geometry3d  
 abbreviations: EditorComforts, Forms  
 Abort: ViewerAbort  
 ACFind: FindKeywords  
 Addage: Cookie  
 address: HostName  
 address lookup: NetTool  
 Administration : GVTools  
 administrator: Yodel  
 AIS: FrameBufferReader, SnipSnap, Texture2D  
 AIS files: AISTools  
 AIS format: AIS, AISSampleMaps, FontEdit, InterpressConverters, PressScreen, PreView, SampleMapUtils  
 AlgebraStructures: CaminoReal  
 algorithms: ACFind  
 Align: Abutters  
 alignment objects: Gargoyle  
 Allocation: MemoryMonitor

Alpine: AlpineAmbush, AlpineBackup, AlpineServer, AlpineShared, AlpineUser, FTP, Yodel  
Anacapa: XNSPrinting  
Angle: Lines2d  
Animation: BufferedRefresh, Dunn, MickeyMouse, VBounce  
antialiasing: ThreeDWorld  
Archive: FileCmds, ReadWalnutArchiveFile  
archives: Forms, ListArchives  
arguments.: Args  
Arithmetic: BigCardinals  
ARP: ArpaWatch  
ARPA: ArpaWatch  
Arpanet: ArpaQuery  
Arrows: Draw2d  
artwork: Artwork, PreView, Tiogalmager, ViewersToIP  
Ascii: TerminalIO  
atom: Asserting  
attachment: AutoBackUp, TiogaDWIM  
authentication: Maintain, NSFileOps  
Average: MemoryMonitor  
backup: AlpineBackup, AutoBackUp  
bark: Texture2D  
BCD file: VersionOf  
binary: BinCom  
Bind: MakeDo, MakeDoCommands  
binder: ExecHacks  
Binding: CourierBinding  
Bitmap: BufferedRefresh  
bitmap editing: FontEdit  
bitmaps: PressScreen, ViewersToIP  
booting: PupBootServer, PupEtherBoot  
Bound Modules: VersionOf  
box: GargoyleCore  
Branch: KeyboardTioga  
Bravo: BravoToTioga  
Bridge: BridgeSubmit  
BringEnvironment: DFCommandsExtras  
BringOver: DFCaching, DFCommandsExtras, DFDependencies  
Browse: Graphs  
browsing: LoganBerryTools  
BSP (byte stream protocol): PupBSPTool  
btrees: LoganBerry  
Buffer: BufferedRefresh

**C**

Busmaster: GPIB, XBus  
Button: KeyboardTioga, PopUpButtons, VisibleMouseClicks  
buttons: TiogaButtons, TopButtons  
cache: LRUCache  
calendar: Remember  
Calibration: DunnCalibration  
Callers: TopButtons  
camera: Dunn  
Canon Still Video: SnipSnap  
CardTab: RefID  
Caret: KeyboardTioga  
Cartoon: BufferedRefresh, Cartoon, CartoonViewer  
CartoonTool: Cartoon, CartoonViewer  
Casaba: Sirocco, ThreeCasabaFour  
catalog: Catalog, TopButtons  
Cedar: Bridge, Documentation, Filing5, NSFileOps, Sirocco, SlackProcess, StatementInterpreter, StatementInterpreterCommands, TrickleChargeServer  
Cedar Archives: ArchivistBTree  
Cedar documentation: Forms  
Cedar interface: Forms, GetFromRelease  
Cedar language: TiogaDWIM, TiogaExecCommands  
Cedar release: Forms  
Cedar users: Finger  
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Character: KeyboardTioga, TerminalEmulator  
Characters: TextReplace  
Chat: ChatCommands, NetTool, XNSChat  
Checkpoint: RollbackAndAnything  
Checksum: Checksummer  
chess: ChessHack  
Child: Abutters  
Clearinghouse: CourierBinding, Maintain, NSFileOps  
click: VisibleMouseClicks  
clipping: Applied3d, Geometry3d  
Clock: NewClock  
Color: ColorRegistry, ColorTool, FrameBufferReader, IdleHacks, ImagerFourColor, InterpressConverters, NamedColors, PrintColor, RasterController  
color correction: InterpressToPD  
color display: CKViewer, ColorDisplay, ColorMaps, ColorTrix, ImagerColorDisplay, ImagerExamples, Magnifier, PreView, RasterController  
color map: ColorTrix  
color maps: ColorMaps  
Color Scanner: SnipSnap  
color spaces: ColorTool, NamedColors

color specification: ColorTool, NamedColors  
 color system: ColorSchemeViewer  
 Colorado: RasterController  
 columnation: ColumnLs  
 Command: CmdTest, CommandToolProcedures, Cookie, FileCmds, MakeDo, MakeDoCommands, NewRun, RepeatCommand, RollbackAndAnything, StatementInterpreterCommands  
 command file: ExecHacks  
 Command message: CmdTest  
 Command result: CmdTest  
 Command Tool: CmdTest, CommandToolProcedures, Promptery, StatementInterpreterCommands  
 Command Tool Interface: MakeDoCommands  
 CommandProc: CmdTest  
 Commands: Args  
 CommandTool: ChatCommands, PopUpCommand, WorkingDirectory  
 Communications: EtherWatch, HostButton, HostName, PupWatch, XNSChat  
 compare: BinCom  
 compare files: Compare  
 Compile: MakeDo, MakeDoCommands  
 compiler: ExecHacks, GetFromRelease, PascalRuntime, Tangle  
 compiler errors: GetFromRelease  
 compiler-compiler: ThreeCasabaFour  
 CompilerCompiler: OneCasaba  
 composition: InterpressTools, StyleTool, TiogaImager  
 compression: Interpress  
 computational geometry: Combiner  
 Compute Server: Summoner  
 Computer Algebra: AlgebraStructures, CaminoReal  
 Config: VersionOf  
 Consistency: MakeDo, MakeDoCommands  
 Constrain: Abutters  
 Container: Abutters  
 Context: Draw2d, ImagerFourColor  
 contour: Contours  
 contour fonts: FontEdit, ImagerIKTypeface  
 contouring: Fit  
 contours: Controls  
 Controls: Controls  
 Conversion: BravoToTioga, ImagerExamples, ImagerPress, InterpressConverters, STPServer, TiogaExecCommands  
 convex decomposition: Combiner  
 Cookie: Cookie  
 copy: CopyFromVersionMap

Courier: CourierBinding, Filing5, Sirocco, SiroccoDWIM, XNSPrinting, XNSPrintingUI  
 CourierBinding: Cartoon, CartoonViewer  
 CPU: Watcher  
 CPU priority: CommanderPriority  
 CPU usage: Spy  
 Cross Reference: TopButtons  
 cross-reference: XRef  
 cubics: CubicSplinePackage, PiecewiseFit  
 cursor: Cursory, FastMouse, VisibleMouseClicks  
 curve: PiecewiseFit  
 curves: Applied3d, Geometry3d  
 Cyphers: EncryptTool  
 DAG: Graphs  
 DandeTiger: GPIB, XBus  
 Data: Histograms  
 data structures: RefTabPrint  
 Database: AlpineServer, ArpaQuery, Asserting, LoganBerry, LoganBerryTools,  
           WalnutKernel  
 database application: WalnutSort  
 databases: Finger  
 Debug: CmdTest  
 debugging: Celtics, DebuggingWorld, EndianDebug, GmtDebug, HostButton,  
           ImagerExamples, InterpressTools, KissOfDeath, Lightning, PupBSPTool,  
           PupDebug, PupEchoTool, PupEtherBoot, PupNetWatcher, PupRouterTool,  
           PupWatch  
 definition search: TiogaDWIM  
 delay: RepeatCommand  
 Delete: FileCmds, KeyboardTioga  
 demo: Magnifier  
 demonstration: VBounce  
 Dependencies: DFDependencies, UsingDependencies  
 Dependency: MakeDo, MakeDoCommands  
 Derive: MakeDo, MakeDoCommands  
 DES algorithm: EncryptTool  
 design automation : Sil  
 device dependence: ImagerPD  
 device independence: ImagerExamples, ImagerPD  
 DF: RedirectDF  
 DF Closure: DFPackageExtras  
 DF file: AutoBackUp, DFCaching, DFDependencies, Forms, GetFromRelease, MakeDo,  
           MakeDoCommands, TiogaDWIM  
 DF files: DFCommandsExtras, DFPackageExtras, ExecHacks  
 DF-File: FileCmds  
 DFCommands: DFCommandsExtras



DFCommandsExtras: DFCommandsExtras  
DFPackage: DFPackageExtras  
dials: Controls  
Dicentra: DicentraRS232CAsync  
dictionary: SpellingTool  
differences: Compare  
DiGraph: Graphs  
dir: DirectoryList  
Directed: Graphs  
directory: ColumnLs, DirectoryList, FileCmds, PhoneList, RedirectDF  
directory stack: WorkingDirectory  
Disk: DiskTool, Watcher  
Disk errors: MarginalPageReporter  
display: ColorDisplay  
display documentation: ViewersToIP  
Display list: ImagerMemory  
display screen: PressScreen  
distributed computing: Summoner  
DMT: IdleHacks  
Do It: Cookie  
Doc: TopButtons  
documentation: Catalog, Documentation, Forms, TopButtons  
documents: StyleTool, TeX  
DoIt: PopUpCommand  
Domain Name Service: ArpaQuery  
Dorado: RasterController  
drops: Texture2D  
Dunn: Dunn  
Dunn Camera: DunnCalibration  
DWIM: ExecHacks, SiroccoDWIM, TopButtons  
DWIM (do what I mean): TiogaDWIM  
Dynamic Memory: MemoryMonitor  
echo: NetTool, PupEchoTool, RPCEchoTool  
Edge: Graphs  
edge-finder: Fit  
editor: FontEdit, KeyboardTioga, TiogaExecCommands  
EditorComforts: ExecHacks  
EditTool: TextReplace  
emulate: TerminalEmulator  
Encryption: EncryptTool, Fig  
Endian: EndianDebug  
Enumeration: FileCmds  
Environment: DFCommandsExtras

EtherBooting: PupBootServer, PupEtherBoot  
Ethernet: ArpaWatch, EtherLoad, EtherWatch, Watcher  
Evaluate: Misp, PrettyPrint, StatementInterpreter, StatementInterpreterCommands  
examples: ImagerExamples  
ExecHacks: PopUpCommand  
Execute: CommandToolProcedures  
expanding ring broadcast: Cartoon, CartoonViewer  
expression: PrettyPrint  
FFT: MathLib  
figures: Artwork  
file: BinCom, Checksummer, FileCmds, MakeDo, MakeDoCommands, TiogaDWIM, Yodel  
file compare: Compare  
file comparison: Waterlily  
file lookup: TiogaDWIM  
file merging: Waterlily  
File Package Utilities: FileUtil  
File Server: AlpineServer, FTP, STPServer  
File Server Disaster: RecoverFromCache  
file system: AutoBackUp  
File Transfer Protocol (FTP): FTP  
File usage: du  
filename: ColumnLs  
Files: AlpineAmbush, DirectoryList, Ferret  
Filing: Filing5, NSFileOps  
film recorder: Dunn  
find: FindKeywords, TextReplace  
finding algorithm: ACFind  
Finger: ArpaQuery, Finger  
Fit: Fit, PiecewiseFit  
fitting: PiecewiseFit  
flash: CKViewer  
font: GFtoPress  
font format: GFtoAC  
font formats: FontEdit, ImagerIKTypeface  
font metrics: FontEdit, PLtoTF  
font tuning: InterpressToPD  
fonts: FontEdit, GFtoAC, ImagerExamples, ImagerIKTypeface, ImagerPD, InterpressConverters, InterpressToPD, MF, StyleTool, XNSPrintingUI  
football: Football  
format: PrettyPrint, StructuredStreams  
formatting: ImagerPress, StyleTool, TeX, TiogaButtons, TiogaExecCommands, Tiogalmager  
forms: Forms

Fortune: Cookie  
 Fourier Transform.: MathLib  
 frame buffer: FrameBufferReader, RasterController  
 frame buffer.: ColorTrix  
 FS: AlpineAmbush, Filing5, FSRope, NSFileOps  
 FS cache: PigsInSpace, RecoverFromCache  
 FTP: AlpineServer  
 function: Asserting, CommandToolProcedures, TextReplace, Trc  
 Functional Color: ColorRegistry  
 functions: Controls  
 game: Football, MazeWar, Tank  
 GAP (Gateway Access Protocol): XNSChat  
 garbage collection: CircularGarbage, MemoryMonitor  
 Gargoyle: GargoyleCore  
 Gargoyle3d: GargoyleCore  
 generalized cylinder: Tube  
 Genericity: GList  
 Geometrical Sort: Intervals  
 geometry: Applied3d, Geometry3d  
 geometry.: Octree  
 germs: PupEtherBoot  
 GF files: GFtoPress  
 glass: TerminalEmulator  
 GMT: GmtDebug  
 GPIB: GPIB  
 grammar: CedarSyntax  
 Grapevine: GVTools, Maintain, Peanut, PeekMail, SimpleMailer, Snoopy, WalnutSend  
 Graph: EtherLoad, Graphs  
 Graphic: BiScrollers  
 graphics: AISTools, Gargoyle, Histograms, ImagerExamples, ImagerPD, JaM, Sil  
 Graphics list: ImagerMemory  
 Grep: TopButtons, Trans  
 Grey Component Removal: ImagerFourColor  
 Griffin: GriffinToIP, PreView  
 groups: Maintain  
 GSL electron microscope: FrameBufferReader  
 hack: MetaCedar, PhoneList  
 halftone: InterpressToPD  
 Hardware: RasterController  
 hardware testing: CKViewer  
 Hash: IntChainedHashTable, Intervals, IntHashTable, IntToIntTab  
 Hash Table: IntChainedHash Table, IntHash Table, IntToIntTab  
 Heap: MemoryMonitor

heap storage: ExamineStorage  
 Help: Documentation, TopButtons  
 highlights: ThreeDWorld  
 Histogram: Histograms  
 histogram: Histogramph  
 host name: HostButton, HostName  
 hyphenation: TiogaExecCommands  
 I/O: BiScrollers  
 ICMP: ArpaWatch  
 Icon: IconHacks  
 icon flavors: IconRegistry  
 icon labels: WorkingDirectory  
 icons: IconRegistry, Remember  
 Idle: IdleHacks, RollbackAndAnything, SleepPeek  
 IEEE-488: GPIB  
 IFS: AlpineBackup, Ferret, FTP  
 illustration: ImagerExamples, PreView, TiogaImager, ViewersToIP  
 Illustrator: Griffin, GriffinToIP, Sil  
 illustrators: Gargoyle, MickeyMouse  
 image: AISTools, FrameBufferReader, Sil  
 image synthesis: ThreeDWorld  
 Imager: AISSampleMaps, ColorRegistry, DebuggingWorld, Draw2d, ImagerColorDisplay,  
     ImagerExamples, ImagerForkContext, ImagerFourColor, ImagerIKTypeface,  
     ImagerMemory, ImagerPD, ImagerPress, ImagerToJaM, ImagerViewer, Interpress,  
     InterpressConverters, InterpressTools, JaMImager, Magnifier, PlotGraph, PreView,  
     SampleMapUtils, TiogaImager  
 images: AIS, AISSampleMaps, ImagerExamples, ImagerPD, SampleMapUtils,  
     ViewersToIP  
 Imaging: Nthtone  
 IncludePress: PressFileUtilities  
 input: SlackProcess  
 input handling: AtomButtons  
 Instrumentation: CodeTimer  
 INT: IntChainedHashTable, IntHashTable, IntToIntTab  
 Integer: IntChainedHashTable, IntHashTable, IntToIntTab  
 interaction.: Controls  
 interactive: Gargoyle, Misp, StatementInterpreter, StatementInterpreterCommands  
 interactive graphics: Griffin  
 Interchange: BravoToTioga  
 internet: NetTool  
 Interoperability: Bridge  
 Interpress: Artwork, ColorRegistry, GriffinToIP, ImagerExamples, ImagerPD,  
     ImagerToJaM, Interpress, InterpressConverters, InterpressTools, InterpressToPD,  
     MickeyMouse, PlotGraph, PressScreen, PreView, TiogaImager, ViewersToIP,

## XNSPrintingUI, XTSetter

interpret: PrettyPrint

Interpreter: CommandToolProcedures, JaM, Misp, RefTabPrint, StatementInterpreter,  
StatementInterpreterCommands

Interval: CodeTimer

Interval Timer: IntervalTimer

Intervals: Intervals

IntHashTable: IntToIntTab

IO: TerminalIO, TiogaStreams

IP: ArpaWatch

iterate: RepeatCommand

JaM: ImagerToJaM, InterpressConverters, JaMImager

JaM language: JaM, StyleTool, TiogaDWIM

Kaleidoscope: IdleHacks

key: Asserting

Keyboard: KeyboardTioga

keyset: Knobs

keyword: FindKeywords

keyword1: FileSpecification, XNSTools

keyword2: FileSpecification, XNSTools

keywords: ACFind

knob: Knobs

Knuth: MF

Label: IconHacks

language: CedarSyntax

late-night-hackery: XNSPrinting

Line: KeyboardTioga, Lines2d

LineDrawing: Draw2d

lines: Applied3d, Geometry3d

Link: Graphs

Lisp: GList, Misp

Lisp language: TiogaDWIM

list: Asserting, ColumnLs, FileCmds, GList

Lister: UsingDependencies

Load: EtherLoad

Loaded: VersionOf

Loadstate: VersionOf

Log: Logs, TerminalIO

Logical Word: KeyboardTioga

Logoff: RollbackAndAnything

Logout: RollbackAndAnything

logs: LoganBerry

lru: LRUCache

ls: ColumnLs  
Lucasfilm: FrameBufferReader  
Lupine: ArpaQuery  
machine name: HostName  
machine profile: ColorDisplay  
macro: MetaCedar  
mail: Fig, Peanut, PeekMail, SimpleMailer, Snoopy  
mail message: Finch, Forms, Remember, WalnutSort  
Make: MakeDo, MakeDoCommands  
MakeDo: DFDependencies, GetFromRelease, SiroccoDWIM  
Map: TextReplace  
marble: Texture2D  
Marshall: Kipper  
MasterScope: TopButtons  
Match: TextReplace  
matching: RegularExpression  
Math: CaminoReal  
Math Editor: CaminoReal  
Math functions: Math  
Mathematical Expressions: CaminoReal  
MathPackage: Math  
Matrices: AlgebraStructures, Applied3d, CaminoReal, Geometry3d  
MazeWar: MazeWar  
Memory: MemoryMonitor  
memory allocation: CircularGarbage  
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menu: PopUpMenus  
menus: AtomButtons, TiogaButtons  
Mesa language: TiogaDWIM, TiogaExecCommands  
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Misp: Misp  
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Module Nesting: VersionOf  
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Monitoring: ArpaWatch  
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Multibus: XBus  
Multiple precision: BigCardinals  
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Navigate: Graphs

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XNSPrintingUI  
Networking: CourierBinding  
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Node: Graphs, KeyboardTioga  
NS: NetTool  
Object: StructuredStreams  
Object-Oriented: Graphs  
Object-Oriented Programming: AlgebraStructures  
obsolete: SirPress  
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OPEN: ExpungeOpens, TopButtons  
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PendingDelete: KeyboardTioga

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           XNSPrintingUI  
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 Process Server: Summoner  
 processor id: HostButton  
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 programming tools: Celtics, EditorComforts, ExecHacks, GetFromRelease, JaM,  
                     SiroccoDWIM  
 Prompt: Promptery  
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Ready: ProcessWatcher  
Reclamation: MemoryMonitor  
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recovery: WalnutRescue  
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Rectangles: Intervals  
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Refresh: BufferedRefresh  
RefTab: IntChainedHashTable, IntHashTable, IntToIntTab, RefID, RefTabPrint  
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registry: IconRegistry  
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regular expressions: RegularExpression  
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Remote Terminal: RemoteTerminal  
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PressScreen, SampleMapUtils  
sampled screen: ViewersToIP  
Saying: Cookie  
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Scroll: BiScrollers  
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Security: EncryptTool  
Select: KeyboardTioga  
send: SimpleMailer  
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sliders: Controls, Knobs  
SModel: DFDependencies  
smoke: Texture2D  
snap-dragging: Gargoyle  
Snippet: Cookie  
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source comparison: Waterlily  
spelling checker: SpellingTool  
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Statement: StatementInterpreter, StatementInterpreterCommands  
stderr: CommandToolProcedures  
stdin: CommandToolProcedures  
stdout: CommandToolProcedures  
stipple pattern: FontEdit  
Stop: ViewerAbort  
STP: NSFileOps, STPServer  
STREAM: CommandToolProcedures, FSROpe, Logs, PupBSPTool, StructuredStreams,  
TiogaStreams  
String: TextReplace  
strip chart: Histogram  
Structure: StructuredStreams  
style files: Forms, TiogaDWIM  
styles: StyleTool, TiogaImager  
subdir: DirectoryList  
subdirectory: DirectoryList  
Substitute: TextReplace  
Substitution: Trans  
Subword: KeyboardTioga  
Summoner: Summoner, SummonerMonitor  
swat: KissOfDeath  
symbol tables: RefTabPrint  
Symbolic Mathematical Computation: AlgebraStructures, CaminoReal  
SymTab: IntChainedHashTable, IntHashTable, IntToIntTab  
syntax: CedarSyntax  
syntax chart: SynChart  
Tank: Tank  
TCP: ArpaWatch

TCP/IP: ArpaQuery  
teaching: VisibleMouseClicks  
Technical Documents: CaminoReal  
telephone management: Finch  
Telnet: ChatCommands, XNSChat  
Terminal: RemoteTerminal, TerminalEmulator, TerminalIO  
Terminal Location: RemoteTerminal  
TeX: InterpressTools, PLtoTF, SynChart  
TeX82: TeX  
Text: TextReplace, Trans  
Text Replace: Trans  
texture: Texture2D, ThreeDWorld  
TFM: PLtoTF  
thermal transfer printer: ImagerPD, InterpressToPD, PeachPrint  
three-dimensional: Applied3d, Geometry3d, Octree  
three-dimensional geometry: Tube  
throughput: PupBSPTool  
Time: CodeTimer, NetTool, Tempus  
time parser: Tempus  
timing: Spy  
Tioga: Artwork, BravoToTioga, DebuggingWorld, KeyboardTioga, Peanut, PLtoTF,  
TiogaButtons, TiogaStreams, TopButtons  
Tioga documents: PreView, SpellingTool, STPServer, TiogaExecCommands, TiogaImager,  
XNSPrintingUI, XTSetter  
Tioga extensions: EditorComforts, TiogaDWIM  
Tioga Tioga: StyleTool  
TiogaButtons: TiogaButtons  
TIP tables: TiogaExecCommands  
Tone Reproduction Curve: Trc  
Tools: GVTools  
Transaction: AlpineServer  
translation: NetTool, PascalRuntime  
translator: Tangle  
transparency: ThreeDWorld  
Traverse: Graphs  
TRC: AISTools, Trc  
Tree: Graphs  
TSetter: TiogaImager  
TTY: TerminalEmulator  
tube: Tube  
tuning: FastMouse, Spy  
Two-Dimensional: BiScrollers, Contours  
Type Generic: GList  
typefaces: FontEdit, GFtoAC, ImagerIKTypeface

Typescript: Logs  
 typesetting: ImagerPress, SirPress, StyleTool, TeX, TiogaImager, ViewersToIP, XTSetter  
 Unbound Import: NewRun  
 Unix: Bridge, BridgeSubmit  
 URDC: RasterController  
 user credentials: Maintain  
 user interface: AtomButtons, BiScrollers, Cursory, FastMouse, ViewRec  
 user interface techniques: TiogaButtons  
 user profile: AutoBackUp, ColorDisplay, EditorComforts, ExecHacks, FastMouse, Remember, SpellingTool  
 user-interface: Knobs, PopUpMenus  
 USING: UsingDependencies  
 value: Asserting  
 VAM: FileUtil, HistoVAM, ShowVAM  
 Vector: Lines2d  
 vectors: Applied3d, Geometry3d  
 Verify: DFDependencies  
 Versatec color plotter: ImagerPD, InterpressToPD, PreView  
 Versatec color printer: PeachPrint  
 version management: AutoBackUp  
 version map: CopyFromVersionMap, FileCmds, GetFromRelease  
 VersionStamp: VersionOf  
 Vertex: Graphs  
 Video Frame Grabber: SnipSnap  
 Viewer: Abuttons, BiScrollers, Histograms, IconHacks, MemoryMonitor, PowerOff, PressScreen, PreView, ViewerAbort, ViewersToIP, ViewRec  
 viewers: ColorSchemeViewer, Controls, DebuggingWorld, DeskTops, Histogram, PlotGraph, SummonerMonitor, VBounce  
 viewers.: SimpleViewer  
 virtual desktops: DeskTops  
 virtual terminal: DebuggingWorld, IdleHacks  
 Visible: Histograms, VisibleMouseClicks  
 VM: HistoVAM, ShowVAM  
 voice mail: Finch  
 voice synthesizer: Finch  
 Volume Allocation Map: HistoVAM, ShowVAM  
 wait: IntervalTimer  
 walnut: Fig, FileCmds, ReadWalnutArchiveFile, WalnutKernel, WalnutRegistry, WalnutRescue, WalnutSort  
 Watch: Watcher  
 WEB: Tangle  
 whitespace: PrettyPrint, StructuredStreams  
 Whois: ArpaQuery  
 Word: KeyboardTioga

working directory: WorkingDirectory

Working Set: ComputeWorkingSet

write: TiogaStreams

writing aids: SpellingTool

WYSIWYG: CaminoReal

XNS: Bridge, Cartoon, CartoonViewer, CourierBinding, Filing5, Maintain, NetTool,  
NSFileOps, Sirocco, SiroccoDWIM, XNSChat, XNSPrinting, XNSPrintingUI

XNS print servers: XTSetter

xref: XRef

XTSetter: XTSetter

Zap: Lightning