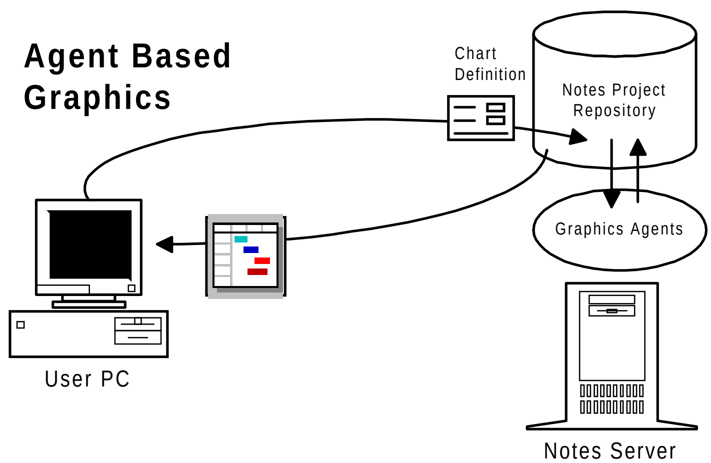
Using Graphics

Overview

Project Gateway provides agent based graphics. This allows all users of the repository to have up to date charts of project, program, participant, and departmental schedules and commitments.



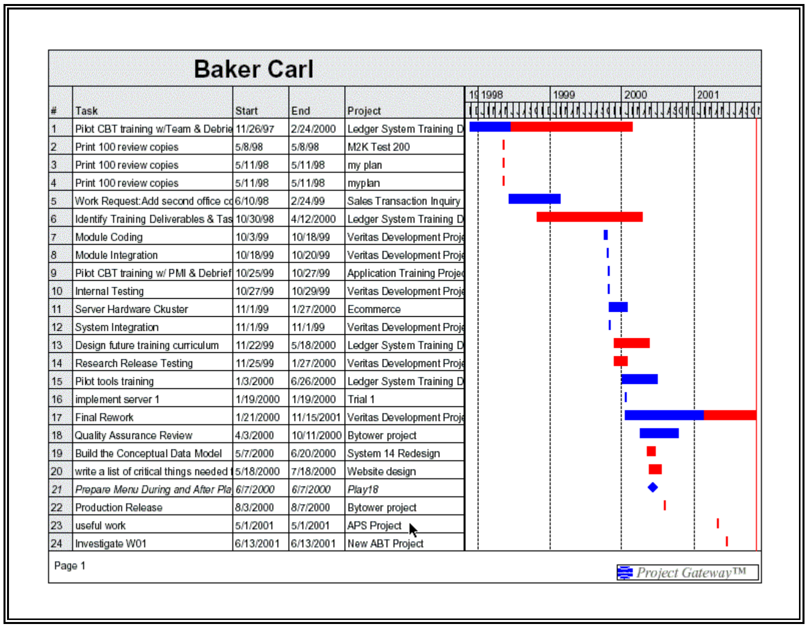
The underlying concept of agent-based graphics is simple. The user fills out a form called a *Chart Definition* that is stored in the repository. The graphics agents, running on the Notes server, create chart files according to the user's instructions. These chart files are periodically updated, usually nightly, using the current project data in the repository. In order for charts to be created automatically, the graphics agents must be scheduled for operation on the Notes server.

A local agent is provided from the Notes menu that will immediately create or update a chart for you.

Whenever the user wishes to view a chart, the user double clicks on the chart title and the chart is displayed.

The charts are created in a format called *Acrobat* (.PDF) which is a publicly defined and supported format created by Adobe Systems. Inc. This format is very similar to PostScript, the Adobe format used for printers.

In order to view a Project Gateway created chart, you must have an *Acrobat reader* installed on your computer. These readers are available free of charge from Adobe (download from http://www.adobe.com). There are readers available for all Notes and browser client platforms. Many computers already have Acrobat readers installed, because much of today's on-line documentation, including some of the Notes documentation, is published in Acrobat format.



When Project Gateway imports a project plan into the repository, it automatically creates several chart definitions for you. These may be the only charts you ever need. In any case, you can change the chart definitions or add additional ones at any time.

Charts are prepared in a two step process.

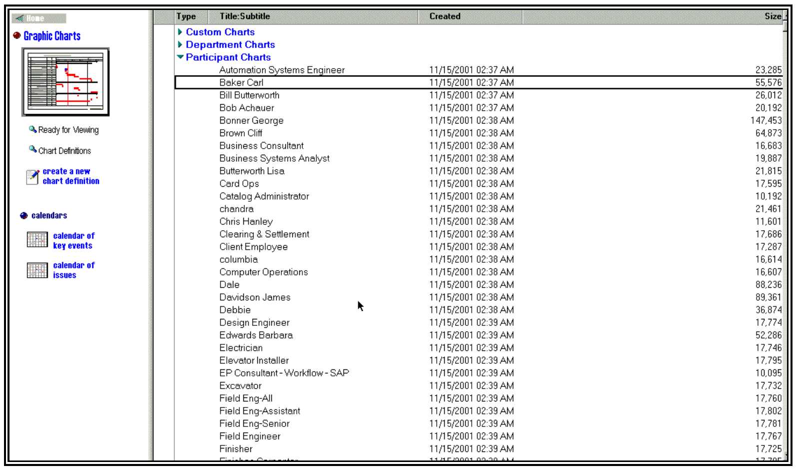
First, a definition is created that describes the contents and layout of the chart. Some chart definitions are created automatically when a new project is imported to the repository. Additional chart definitions can be created at any time.

Second, the graphic chart processing agents that are built into the database are run. When these run, they create a chart for display based upon the data in the repository and the chart definition. Project Gateway is designed so that the charts will be created or updated every night by the Domino server. However, your installation may not have this automatic feature enabled, or you may be viewing the database before the server agents have been scheduled to run.

Viewing Charts

To View a Chart (Notes)

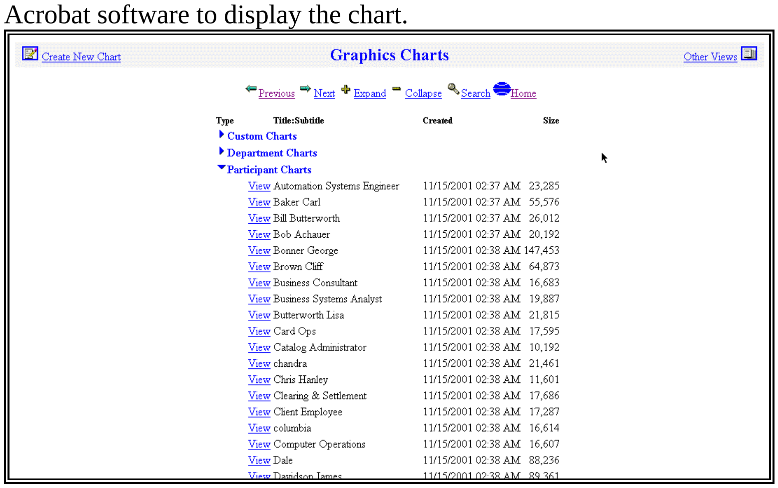
Select "Ready for Viewing" and double click on the title of the chart. This will launch the Abobe Acrobat software to display the chart. If you do not have an Acrobat reader installed on your system, you can download one from http://www.adobe.com.



Ready for Viewing - Notes Client View

To View a Chart (Web)

Select "Ready for Viewing" and click on the word "View" that is displayed at the left of the chart title. This will launch the Abobe Acrobat software to display the chart.



Select "View" to open a chart from your web browser.

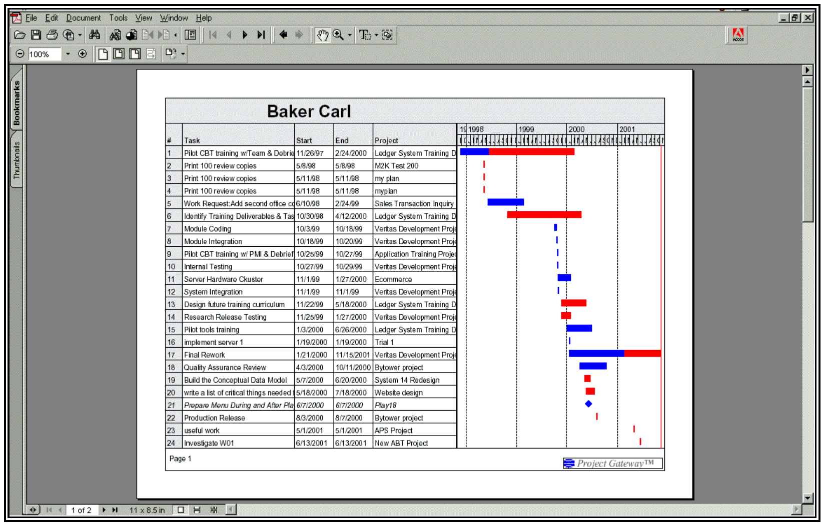
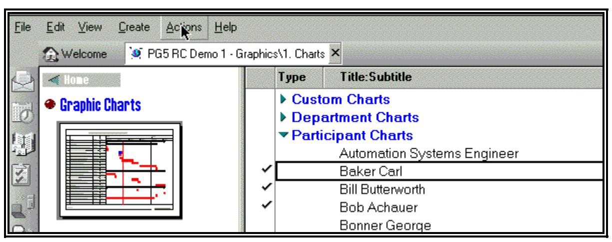


Chart displayed by Adobe Acrobat reader

To prepare or update a chart manually (Notes Client Only)

Select the Chart Definitions view by clicking on the navigator item then select the specific chart you want to create by marking it as a selected document (click to the left of the document column).



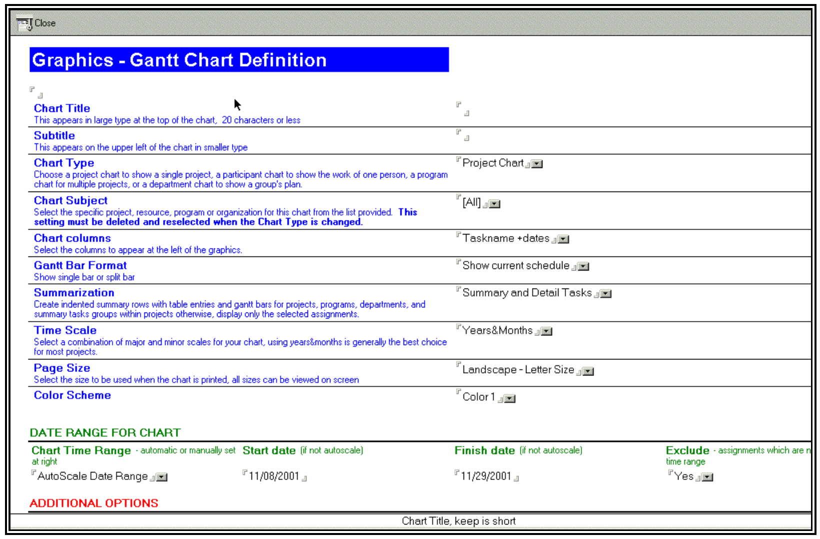
Select the menu command Actions - Graphics - Create Selected Charts

This action will cause all of the selected charts to be generated or updated if previous versions exist. Depending upon the location and size of the database and the speed of your workstation, this may take a couple of seconds per chart or substantially longer. While the processing is going on, a progress dialog is displayed although it will not change during processing. When the progress bar disappears, the charts are available for viewing.

Creating a Chart Definition

Using a Notes Client

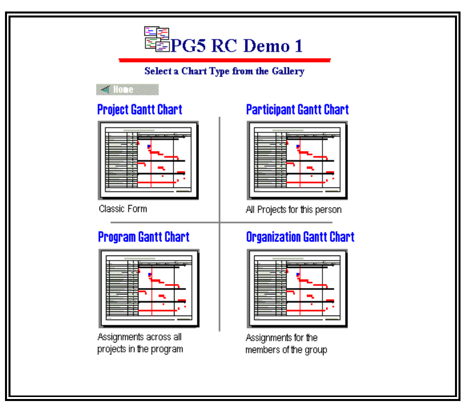
Using this navigator item or selecting the menu command "Create Graphics Gantt" will open a new Graphics Gantt Definition Form.

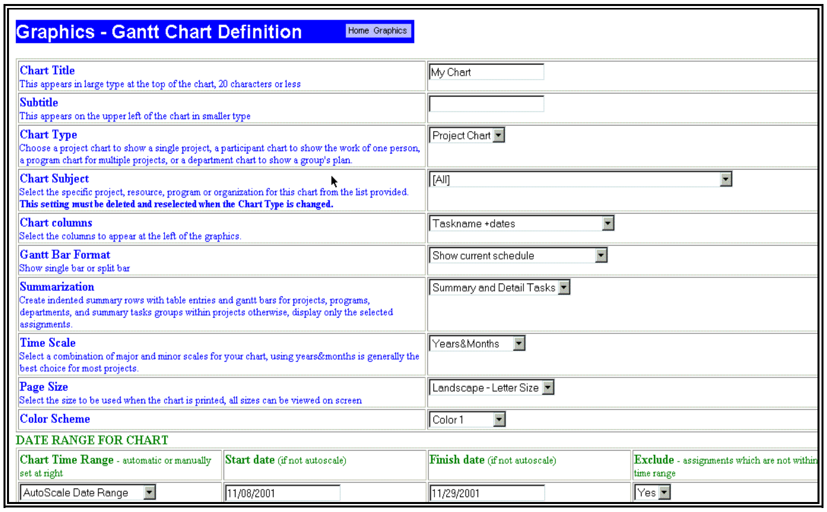


Using a Web Browser

Click on "create a new chart" from the Graphics Chart Navigator or the view header.

This will display a transaction form called the Graphics Gallery with 4 choices of chart. Click on one of the four charts and a new chart definition document will be opened.





New Chart Definition Form (Web)

Using the Gantt Chart Definition Form

In addition to data selection, each chart definition specifies the layout of the chart in detail.

You must specify a Title, Chart Type, and Chart Subject. All other specifications are preset with default values.

Title

Enter a short title that will be shown in a large font in the heading area of the chart. This should be 25 characters or less.

Subtitle

Enter a subtitle that will be shown in a small font at the left side of the heading area. This should be 30 characters or less to fit in the space provided.

Chart Type

Select one of the predefined types from the list provided. This will have been preset if you are using a web browser and cannot be changed.

Project Gateway Graphics Agents can generate Gantt style charts in one of following types:

1. Project Chart (assignments in one project)
2. Program Chart (multiple projects)
3. Participant Chart (all assignments of a specific participant, across projects)
4. Department Chart (assignments of multiple participants, across projects)

5. Custom Charts - assignments selected using a user provided view.

Chart Subject

Notes' users should backspace to remove the existing entry of this field and then press enter to display the list of choices. Whenever you change the Chart Type, you must also delete the selection in the Chart Data field and reselect. The list is pregenerated for web users.

The choices presented in this list are based upon the current information in the repository.

Chart Type=Project Chart

Chart Subject List = List of Project Names

Chart Type=Participant Chart

Chart Subject List = List of Participant Names

Chart Type=Program Chart

Chart Subject List = List of Programs in use including all subparts.

If you have not setup programs in the database, then this list will only contain the entry "[All]", otherwise each program that has been created will be shown. When programs are multi-level, each individual subset will be listed. For example, if the program Development\Technology\Hardware is used in the repository, then the Chart Subject List will show

Development

Development\Technology

Development\Technology\Hardware

You should choose the level that encompasses the projects that you want to show.

Chart Type = Department Chart

Chart Subject List = List of organizations in the repository.

If no organizations have been defined, the only entry that will appear will be "[All]", otherwise each organization that has been created will be shown. When multi-level organization codes have been used, each level will be provided as a selection. For example if the organization code US\Western Region\Oakland was used, the Chart Data Dialog list will show

US
US\Western Region
US\Western Region\Oakland

Chart Columns

This is a selection of which data columns are to be shown on the chart. There are many predefined choices including:

Taskname
Taskname +dates
Taskname +reference dates
Taskname +dates +reference dates
Taskname +dates +percentcomplete
Taskname +dates +projectname
Taskname +dates +projname +work (actual and remaining hours)
Taskname +dates +work
Taskname +dates +work +% complete
Taskname +dates +refdates +work
Taskname +dates +who (participant name)
Task +dates +work+ % +who
Task +dates +proj +work +% +who
Task +dates +ref + projectname+work+%+who

The last selection is Custom that is for advanced users only, please see the section later in this chapter entitled Setting Custom Columns.

Gantt Bar Format

This is a selection between getting one bar for each task showing the start and finish dates or two stacked bars, one showing the reference dates and the other showing the start and finish dates. You probably do not want to show reference dates unless your project managers are tracking against baselines.

Summarization

The choice is whether to show summary rows and schedule bars or not. For Participant charts, you probably do not want summary bars, for project charts you probably do want them.

Time Scale

This defines the configuration of the timescale on the chart. The timescale has a major and minor scale that are set here. If the chart spans more than 12 months, it will look better if Years + Quarters are used to minimize crowding in the minor scale.

The date format used in the major and minor fields is dependent upon the periods used and system settings. For day periods, the day number is used. For weeks, the short date format set on the server that runs the agents is used. For months, the format is mmm yy (Jan 96) which will be a function of the international settings of the Notes server. For Quarters, the letter Q is followed by the quarter number (1234) and the two digit year. For Years, the 4 digit value is used.

Page Size

Each chart is divided into print pages based upon the desired print page size. All the standard English and Metric sizes are listed. Any page size can be viewed on the screen. When printing, if the page size is different from the available paper size supported by the printer, you must check the "shrink to fit" option in Acrobat to get the entire chart.

The standard Letter size sheet is configured to hold about 24 tasks. If you set "C" size, this expands to about 100 lines. Thus you may be able to fit your whole project on a single page by changing the paper size and then using the "shrink to fit" option when printing.

Color Scheme

We have provided three preset sets of color selections. Color 1, Color 2, and Black&White (gray scale). It is also possible to customize the color settings.

Date Range for Chart

The date range of the chart can be determined automatically based upon the data selected, or may be set to show specific start and finish dates.

Chart Time Range

Select either Autoscale or User Entered Date Range

Start Date, Finish Date

Enter the dates for the earliest and latest edges of the time scale. These entries will be used if User Entered Date Range is selected. They will be replaced during chart generation if Autoscale is selected.

Exclude

If Yes, then tasks that fall outside the date range will not appear on the chart, if No then these tasks will be listed, but no Gantt bar will appear.

If Autoscale is used, this option setting will not have any effect because all tasks will be included in the date range.

Example.

If you wanted to define a Participant chart showing your work for the fourth quarter you would set

Chart Type to *Participant* - *date order*

Chart Subject to *you*

Chart Time Range to *User Entered*

Start Date to *9/1/96*

Finish Date to *12/31/96*

Exclude to *Yes*

Additional Options

These options are somewhat more advanced in that you need an understanding of the data being shown to use them effectively

Selection of Detail

1. Show All **-** all tasks will be shown and all summary groups to which they belong will be shown.
2. Show Key Events with their parents **-** only key events will be shown, but any summary groups that they belong to will also be included as summary bars.
3. Show Key Events Only **-** only key events are shown with project or participant level summary bars; intermediate summary groupings are not shown.
4. Show Top Level Summary Only **-** only project or participant level summary bars are shown, no details below this level are displayed.

Note: Summary bars will not be displayed unless they are selected in the summarization option.

Depth of Detail

If you think of the chart as a large outline, the top level is 1. This option allows you to limit the depth of the chart shown to any arbitrary level. For example, if you wanted a Project chart that shows only phases, you would set the Depth of Detail to 2.

Date Format

The choices are to show just the date, or both date and time. The layout of these values is determined by the international settings of the Notes Server on which the graphics agents are run.

Show Tasks that are Planned, InProgress, Completed

These three Yes/No fields can be used to filter tasks by their status. For example, late in a project you might eliminate Completed tasks from a chart to help the viewer focus on those tasks that still need to be done.

Name of chart request

This is a text item that can be used to differentiate between multiple charts with similar titles.

Description attached to chart

This is a text item that will be displayed in the summary information of the Acrobat viewer. Acrobat command File, Summary Information, General.

Status

This can be active or inactive. An inactive chart definition will be ignored by the graphics agents. No new charts will be produced. An active chart will be updated whenever possible.

Created

This is the date the chart definition was created.

Making the Chart

After closing and saving the chart definition, you will see the chart title appear in the Chart Definitions View. If you are using a Notes client, you can prepare the chart immediately by following the procedure shown in the first part of this chapter. If you are using a browser, you must wait for the next scheduled update. For most sites, this will be during the upcoming evening.

Advanced Definition

There are many ways to customize the appearance of your chart by using the options available in this section.   However most of these are very low level options. You may spend quite a lot of time tinkering with them. So, unless you really need to apply some of these customizations, we suggest you do not use them.

This normally collapsed section consists of three subparts - Advanced definition setting, Style settings, and Logo settings.

As a user, you may never need to look at or change any of these settings because the values have been set automatically based upon the options in the upper part of the form.

However, if you want to use Chart Type=Custom, Columns=Custom, or Page Size=Custom. or Color Scheme=Custom, you will need to understand and adjust some of the parameters in these sections.

Note also that the easiest way to get the chart you want is to first use the automated settings, save the definition, examine the resulting chart, and then change the appropriate features to Custom, and adjust the advanced definition settings as needed to make the changes you want.

Using Custom Chart Types

View/Folder

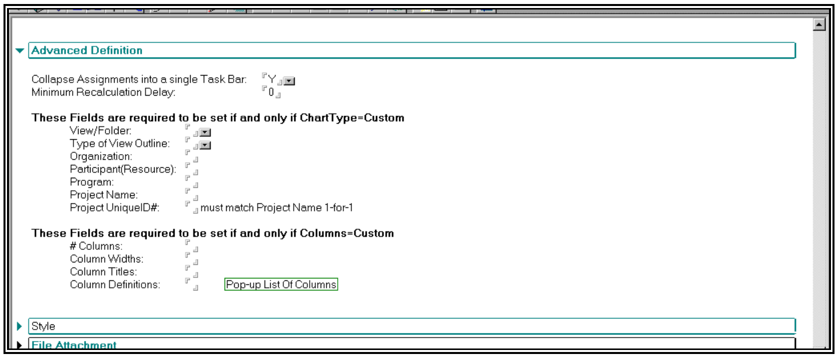
The Graphics Agents use Notes Views to find the assignments that appear in the charts. Several views are prebuilt specifically for the purpose of generating graphics. If necessary, you can create your own view or folder.

Type of View Outline

If the view is organized in an outline structure, the agents can read only those documents that belong to the targeted projects or participants, if the view does not have such a natural organization, the agents read every document in the view to find those of interest. This may take longer in a large repository. In this parameter, you tell the agents how the view selected is organized. If you select "no outline", all documents in the view will be processed.

Organization

This option specifies the organization code (pg_groupname) that assignments must have in order to be selected. If blank, the code is ignored in the selection.



Participant

This option specifies the participant name that the assignments must have in the "resourcename" field in order to be selected. If blank, then this is ignored in the selection.

Program

This options specifies the program name that assignments must have to be included.

Project Name

This option specifies the Project name of projects whose assignments are included.

Project Unique ID

This option specifies the uniqueProjectID number that must be present in an assignment for it to be included. Note that both Project Name and uniqueProjectID must be provided. This number is found in the Project Profile.

Using Custom Columns

Columns

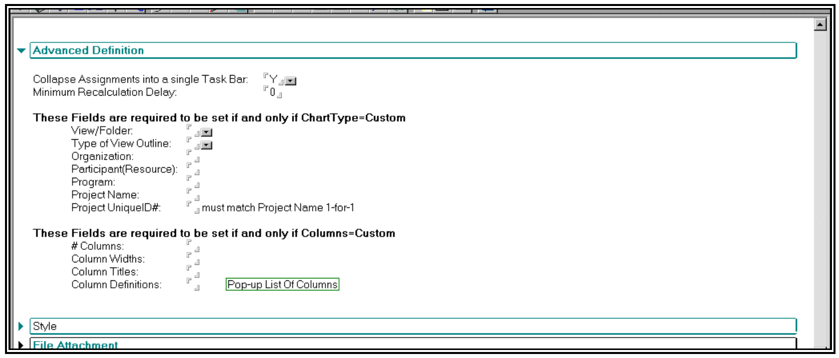
This is just the number of columns to be included

Column Widths

This is a semicolon separated list (24; 144; 44; 44) of the widths of each column from left to right. The widths are specified in units of 1/72 inch. So a width of 2 inches is 144.

Column Titles

This is a semicolon separated list (#;Task;Start;End) for the text that will appear in the heading of the column from left to right. The text specified here has no effect on the data shown in the column.



Column Definitions

This is a semicolon separated list (0; 1; 2; 3) of the information that will appear in each column. Each number corresponds to a particular data field from the list below.
0=line#
1=taskname,
2=calculated start date
3=calculated finish date
4=reference start date
5=reference finish date
6=% Complete (0-100)
7=indent level
8=detail(0) or summary(1) or key event(-1)
9=actualwork
10=workremaining
11=projectname
12=resourcenames

Example

To show Taskname and percent complete and actual workhours
#Columns [3]
Column Widths [150;44;44]
Column Titles [Task;%;ActHrs]
Column Definitions [1;6;9]

Using Custom Page Sizes

Page size parameters are normally set automatically. However, if you set Paper Size to Custom, you can adjust all these parameters. They are all expressed in units of 1/72 of an inch.

Page Width - 792 for letter size (max. 32,000)
Page Height - 612 for letter size (max. 32,000)
Row Height - 18 for 24 lines/page (16 to 24 is recommended)

Top Margin Height - 36 default
Bottom Margin Height - 16 default
Time Scale Row Heights - 16 default
Left Margin - 40
Right Margin - 40
Top Margin - 40
Bottom Margin - 40
Gantt Bar Height as percent of Row Height - 50% is default

Using Custom Color Schemes and Fonts

User Defined Font Styles

Project Gateway provides four standard text fonts which are identified as 1, 2, 3, 4.
1 is Helvetica 10 point
2 is Helvetica Bold 10 point
3 is Helvetica Bold 24 point
4 is Helvetica Italic 10 point
5-16 are reserved

You can create up to 16 additional fonts which will be identified as 17,18.... Think of these fonts as resources that can be applied to particular portions of the chart. If you don't need any new fonts or sizes, leave these items blank.

Font Size (pt.)

This is a user defined list of one or more font sizes. If it is empty, then it means that there are no user defined fonts. If there is more than one entry in this list, then they are separated by semicolons. The exact same number of entries must be provided in the next list.

PDF Font#s

This is a list of number for each of the user defined fonts. These numbers identify which of the built in Acrobat font are used for that user defined font. Acrobat has 14 built in fonts that all Acrobat viewers can properly image. You can make any of these fonts in any size as a custom font for use in your chart.
1 Helvetica
2 Helvetica-Bold
3 Helvetica-Oblique
4 Helvetica-BoldOblique
5 Times-Roman
6 Times-Bold
7 Times-Italic
8 Times-BoldItalic
9 Courier
10 Courier-Bold
11 Courier-Oblique
12 Courier-BoldOblique
13 Symbol

14 ZapfDingbats

User Defined Color Styles

Project Gateway predefines a series of 6 colors that it associates with numbers 1-6.
1 Grayscale BLACK (-1,0,0)
2 Grayscale White (-1,1,0)
3 Red (1,0,0)
4 Green (0,1,0)
5 Blue (0,0,1)
6 20% Gray (-1,.8,0)
7-16 are reserved

User Defined Colors

You can create additional colors by supplying the Red, Green, and Blue intensity values for each color. Each value is a number between 0 and 1. An intense color is a high number. These numbers are entered into three lists.

Red Array	**0.2;1**
Green Array	**0;1**
Blue Array	**0;0**

This defines two new colors, the first is light red (.2,0,0) and the second is bright Yellow (1,1,0). Colors that you define are numbered 17,18,19... for use in the Color/font selection Array.

Gray Scale Colors

If you want to a shade of Gray, then set the Red value as -1 and use the Green value to specify the brightness. For black, the Green array entry is 0. It should be 0.2 for dark gray, 0.8 for light gray, 0.1 for white.

Color/font Selection Array

This is a 24 entry, semicolon separated list that defines the look and feel of the chart. You should change this carefully to make sure that you are changing the table entry that you really want to change. Color numbers used herein must be either one of the predefined color numbers (1-6) or a user defined color specified above. Font number must be one of the predefined fonts (1-4) or must be predefined above.
1 Color used for detail task bar edges for actual work
2 Color used for detail task bar fill for actual work
3 Color used for detail task bar edge for to go work
4 Color used for detail task bar fill for to go work
5 Color used for detail task bar edge for baseline (reference bar)
6 Color used for detail task bar fill of baseline bar
7 Color used for summary task bar edge
8 Color used for summary task bar fill
9 Color used for summary task bar edge for baseline (reference bar)
10 Color used for summary task bar fill for baseline
11 Font used for column data for summary tasks

12 Font used for column data for detail tasks (note also item 25)
13 Font used for Chart Subtitle
14 Font used for Chart Title
15 Font used for Page Number in lower right side of bottom margin
16 reserved
17 Font used for column headers
18 Font used for major timescale
19 Font used for minor timescale
20 Color used for the As of Date Line
21 reserved
22 reserved
23 reserved
24 reserved
25 Font used for column data for detail key events (note also item 12)

The Color Scheme selection presets all these values. If you set ColorScheme to Custom, then you can edit the values to create any combination you want.

If you wanted summary bars to be yellow, for example, you would defined the custom colors as described in the preceding section and then enter 18 into entries 7 and 8.

Using a Custom Logo

In the upper right part of the top margin is an area reserved for user defined logos. Installing a logo requires some knowledge of postscript graphics format. Customers needing to use this capability should contact Marin Research.

Gantt Bar Dates and Colors

Percent Complete

The percent complete shown for an assignment will be the same value found in the corresponding assignment document. The percent complete value for a task composed of more than one assignment will be the average of the assignment values. The percent complete is not calculated for a summary task.

The task bar for detail tasks is colored proportionally to the percent complete value. The summary task bars are not colored.

If the task is started, the percent complete is forced to a minimum of 1 percent. If the task is not finished, the percent complete is limited to a maximum value of 99%.

Summary Bars

Summary Bars always span the start and end dates of the items they summarize. They are drawn with descending arrowheads at each end.

When reference bars are displayed, the task bars are split in half, but the summary bars overlap each other. So it is important that the color of the

Reference summary be different from the color of the Task summary. In the preset schemes, the task summary bars are black and the Reference summary bars are white with black edges.

Task Bars

Task Bars display the start and end dates of the task when the end date is known, or span the actual start and current date when the end date is not known.

Task Start Date

1. The start of a task bar will be the actual start date if the task is started or the planned start date if it is not started.

Task Finish Date

1. The end of the task bar will be the actual finish date if it is finished.
2. If it is not started, the end will be the planned finish date.
3. If it is started but not finished, the following rule is used. If the planned finish date is later than the As Of Date (the date the chart is made) then the task end will be the planned finish date. If the planned finish date is earlier than the As Of Date, then the task finish will be the as of date.

Task Coloration

1. If the task is complete, the bar will be drawn in using the "actual" colors. If the task is not started, the bar will be drawn using the "planned" colors.
2. If the task is actually started, then the percent complete of the task is used to split the bar into two areas with the actual color on the left and the planned color on the right.

Key Events and Milestones

1. If the task is a key event, and the duration is less than 1 day, then a milestone symbol (diamond) is used rather than a task bar. The color of milestone will be the Actual color if the milestone is complete or the to-go color if the milestone is not complete.
2. If the key event is started but not completed, the duration will have been stretched to the As Of Date so that it will appear as a task bar rather than a milestone symbol.
3. A font selection is provided for the text on key event rows. This is defaulted to italic. All key events will be shown in this font, only key events spanning less than or equal to one day will appear with the milestone symbology.

Reference Bars

Reference Start Date

The start of the reference bar will be the reference start date stored in the assignment. This will have been derived from the baseline value in the project plan.

Reference Finish Date

The end of the reference bar will be the reference finish date stored in the assignment. This will have been derived from the baseline value in the project plan.

Reference Coloration

The reference bar will be drawn in the color specified for reference data.

Reference Key Events and Milestones

Reference Milestones appear as diamonds when reference bars are shown and the reference duration is less than one day.

Reference Summary Bars

The start and finish dates are the earliest and latest dates of the detailed tasks being summarized.

Charts created for New Projects

When a project is imported or manually created, several chart definitions will be automatically created by the Project Gateway system from predefined templates stored in the repository.

For each imported participant, a "Participant Chart" will be created, titled with the participant name. This chart will show all assignments for that participant in date order. As additional projects are added to the database, assignments from those projects will appear in this chart. During a Synchronize Update Notes process, if a new participant has been added to the database, a new Participant chart definition will be created.

These charts are created by copying preconstructed chart definitions called templates. Templates do not appear in the Graphics views, but can be found by displaying the "All documents in database" view.

Creating and Modifying Chart Templates

A chart definition becomes a template by setting the Name field to text beginning with the word "Template." Project Gateway looks for certain specific templates when importing projects and participants into the repository. "TemplateProgramGantt" templates are used to make the Program Summary chart when the database is created, "TemplateProjectGantt" templates are used to make Project chart for each new project that is added, and "TemplateResourceGantt" templates are used to make Participant charts for each new Participant added. Once the name "Template..." is set in the chart definition document, the definition will be excluded from the Graphics Definitions view.

You can have up to 9 templates of each type in the database, each should be named with the root template name and an additional phrase for uniqueness. e.g."TemplateProjectGantt-Key Events".

By changing the contents of these template documents in the database, you can define the look and contents of the automatically created charts. By eliminating these documents, you prevent Project Gateway from creating new charts during import.

Adobe Acrobat

Adobe makes several tools for it's Acrobat technology. The simplest of these is the Acrobat Reader. The Reader is available for all Lotus Notes client and web browser platforms. It can be downloaded from www.adobe.com.

Viewing multiple charts simultaneously.

The Adobe Acrobat Reader allows many documents to be open simultaneously in separate windows. Double click on the first chart to launch the reader and display that chart, switch back to Notes, double click on the next chart, and repeat. Each will become a separate Acrobat Window. Go to Acrobat and select Window Cascade or Tile to show all the opened charts.

Zoom options

In the lower status bar area is a zoom control. By selecting the "visible" area option, you get the maximum size that shows the entire chart.

Note for system administrators.

If you are familiar with Acrobat, you will know that .PDF files are usually created by a special printer driver. This is not the case with Project Gateway. No Adobe software needs to be installed on the Notes Server, and only the Acrobat Reader is needed on the Notes Client.