Time Period Definitions

Frequency Definitions

To define synchronization frequencies in *up.time*, you input a string that represents the amount of time between actions. These units of time can be days, hours, minutes, seconds, or a combination. Frequency definitions are used when configuring user detail synchronization, when configuring up.time to use an Active Directory or LDAP listing for user authentication and management. (See Changing How Users Are Authenticated for more information.)

All time units are represented by a one-letter abbreviation:

days: d

• hours: h

minutes: mseconds: s

Frequency definitions can be a combination of any of these time units and their values, in descending order, without spaces:

- 1d
- 1d12h
- 1h30m
- 30s

Time Period Definitions

When defining new, or editing existing, Maintenance Profiles and Monitoring Periods, you need to use precise definitions that *up.time* can correctly interpret. Time period definitions use a controlled vocabulary that allow you to precisely define, combine, and exclude time periods. The following sections provide you with information on accurately defining time period definitions:

Note - Although all examples listed in the following sections are written in mixed case (e.g., "Every Oct 28"), none of the terms used in time period definitions is case sensitive.

Building Blocks

The following tables outline the basic components of all time period definitions.

Time Units

• Units of time that act as building blocks in definitions include times of day, days of the week, months, years, and exact dates.

Times			
Required	hour of day	correct:	
	• 12-hour clock suffix, inputted as " AM" or " PM"	8:00 PM	
Optional	• minutes of the hour	correct:	
	• spaces	8 PM , 8:00PM , 8PM	
Not Accepted	missing 12-hour clock suffix	incorrect:	
	• 24-hour clock convention	8:00	
		20:00 , 20:00 PM	
Days			
Required	three-letter abbreviation	correct:	
		Sun , Mon , Tue	
		Wed , Thu	
		Fri , Sat	
Not Accepted	• full spellings	incorrect:	
	other abbreviation styles	S, M, T	
		We , Th	
		Friday , Saturday	
Dates			
Required	single- or two-digit number	correct:	
		8,09,10	

Not Accepted	• ordinal suffixes	incorrect:	
	• full spellings	8th , 9th , tenth	
Months			
Required	three-letter abbreviation	correct:	
		Jan , Feb , Mar , Apr	
		May , Jun , Jul , Aug	
		Sep , Oct , Nov , Dec	
Not Accepted	other abbreviation styles	incorrect:	
		J, F, M, A	
		June , July , August	
		Se, Oc, No, De	
Years			
Required	full year	correct:	
		2008	
Not Accepted	any abbreviation of the year	incorrect:	
		08 , '08 , Y2K+8	

Lists and Ranges

Days can be inputted as a list:

- each day is separated by a comma (e.g., "mon, tue, wed")
 spaces are optional (e.g., "mon,tue,wed")

Times and days can be inputted as ranges:

- Elements in the range must be separated by hyphens
- spaces are optional; the following examples are correct:
- 8AM-8PM
- 8:00 AM 8:00 PM
- Fri Mon
- Fri-Mon
- ranges wrap around day and week boundaries:
- "10PM 2AM" is interpreted as 10:00 p.m to 11:59 p.m. on one day, and 12:00 a.m. to 2:00 a.m. the following calendar day
- "Fri-Mon" is interpreted as Friday through Saturday on one week, then Sunday through Monday the following week
 up.time converts day ranges to lists (e.g., "Fri-Mon" becomes
- - " Fri, Sat, Sun, Mon")
- day ranges and lists can be mixed; the following examples are correct:
- Fri Sun, Mon
- Fri-Sun,Mon

Basic Expressions

Use the following templates to create basic expressions that are used to define time periods in up.time. Note that underlined components of a template are optional.

Fixed Dates

<month> <date< th=""><th>9> ,</th><th><year></year></th><th><time range=""></time></th></date<></month>	9> ,	<year></year>	<time range=""></time>
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Basic example:

Oct 28, 2008

Spaces are optional:

Oct28,2008

Time ranges are optional:

Oct 28, 2008 7 PM - 11 PM

Oct28,20087PM-11PM

Note: Fixed dates that do not include a time range are interpreted to include the entire day (i.e., 12:00 a.m. through 11:59 p.m.), although this will not automatically appear in the defined time period.

Fixed Date Ranges

from	<month></month>	<date></date>	<year></year>	<time range=""></time>
to	<month></month>	<date></date>	<year></year>	<time range=""></time>

Basic example:

From Oct 28, 2008 to Oct 29, 2008

Spaces are optional:

FromOct28,2008toOct29,2008

Time ranges are optional:

From Oct 28, 2008 7 PM to Oct 29, 2008 2 AM

Note: A fixed date without a time that is at the end of a date range is interpreted to include the first minute of the next day (e.g., up.time converts " From Oct 28, 2008 to Oct 29, 2008" into " From Oct 28, 2008 12:00AM to Oct 30, 2008 12:00AM").

Note: The time range in a fixed date range merely acts as a more precise start point and end point; a fixed date range is a contiguous block of time that has no gaps.

Weekly Recurrence

every	<day> / <day list="" range=""></day></day>	<time range=""></time>
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Basic example:

Sun

Sun - Tue

Every Sun, Mon, Tue

Spaces are optional:

Sun-Tue

EverySun,Mon,Tue

Time ranges are optional:

Sun 9 AM - 5 PM

Sun - Tue 9AM - 5PM

EverySun,Mon,Tue9AM-5PM

Note: Recurring days that do not include a time range are interpreted to include the entire day (i.e., 12:00 a.m. through 11:59 p.m.), although this will not automatically appear in the defined time period.

Yearly Recurrence

	every	<month></month>	<date></date>	<time range=""></time>	
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Basic example:

Every Oct 28

Ordinal suffixes are optional:

Every Oct 28th

Time ranges are optional:

Every Oct 28 7PM - 11PM

Note: You cannot define a date range within a yearly recurrence; instead, combine a separate yearly recurrences for each date in the date range. Monthly Recurrence

every month on the	<date></date>	<time range=""></time>
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Basic example:

Every month on the 28

Ordinal suffixes are optional:

Every month on the 28th

Time ranges are optional:

Every month on the 28 6 PM - 11 PM

Every month on the 28th 6PM-11PM

Monthly Ordinal Recurrence

every month on the | <ordinal_as_word> | <day> | <time range>

Basic example:

Every month on the last Fri

Time ranges are optional:

Every month on the last Fri 6 PM - 11 PM

Every month on the last Fri 6PM-11PM

Note: The ordinal must be stated as a word: first, second, third, fourth, and last.

Combining Expressions and Excluding Time Periods

Elaborate time period defintions are built from a combination of the basic expressions defined in the previous section:

- · fixed dates
- fixed date ranges
- weekly recurrences
- · monthly recurrences
- · monthly ordinal recurrences
- yearly recurrences

Combinations

Combine basic expressions by writing each one on a new line in the *Definition* box when defining a Maintenance Profile or Monitoring Period. The following examples demonstrate combinations of different basic expressions used to define a maintenance window:

Combining fixed dates:

Dec 25, 2008 12AM - 12PM Jan 1, 2009 12AM - 12PM

Combining a fixed date and a fixed date range:

Dec 25, 2008 12AM - 12PM From Dec 31, 2008 11PM to Jan 1, 2009 12PM

Combining weekly recurrences:

Mon-Fri 1AM-3AM Sat 1AM-5:30AM Sun

Combining yearly recurrences:

Every Dec 25 12AM-12PM Every Dec 31 11PM-11:59PM Every Jan 1st 12AM-12PM

Combining monthly recurrences:

Every month on the 2 Every month on the 16th

Combining monthly ordinal recurrences:

Every month on the first Fri Every month on the third Fri Every month on the last Fri

Note that when a time period consists of more than one component time period expression, a condition met within any of those component time periods applies to the entire time period. For example, if a Monitoring Period named "Open Hours" is defined as:

Mon-Fri 9AM-5PM Sat 10AM-5PM Sun 12PM-5PM

An alert-worthy event that occurs on Sunday at 1:00 p.m. means the entire time period definition has been fulfilled.

Exclusions

Time periods can be excluded from greater time period definitions by using the term " exclude" as a prefix to the exclusionary expression. The following examples demonstrate the use of exclusions in time periods:

Excluding a monthly recurrence from a weekly recurrence:

Sun 3PM-5PM Exclude every month on the last Sunday

Defining two yearly recurrences to exclude from a weekly recurrence:

Mon-Fri 2AM-3AM Exclude every Jan 1 Exclude every Jan 2