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THE POWER OF PI**

MONTEREY CALIFORNIA



OSIsoft™

PI Auto Point Synchronization & PI Interface Configuration Utility

Holly A. Beeson & Dave C. Oda

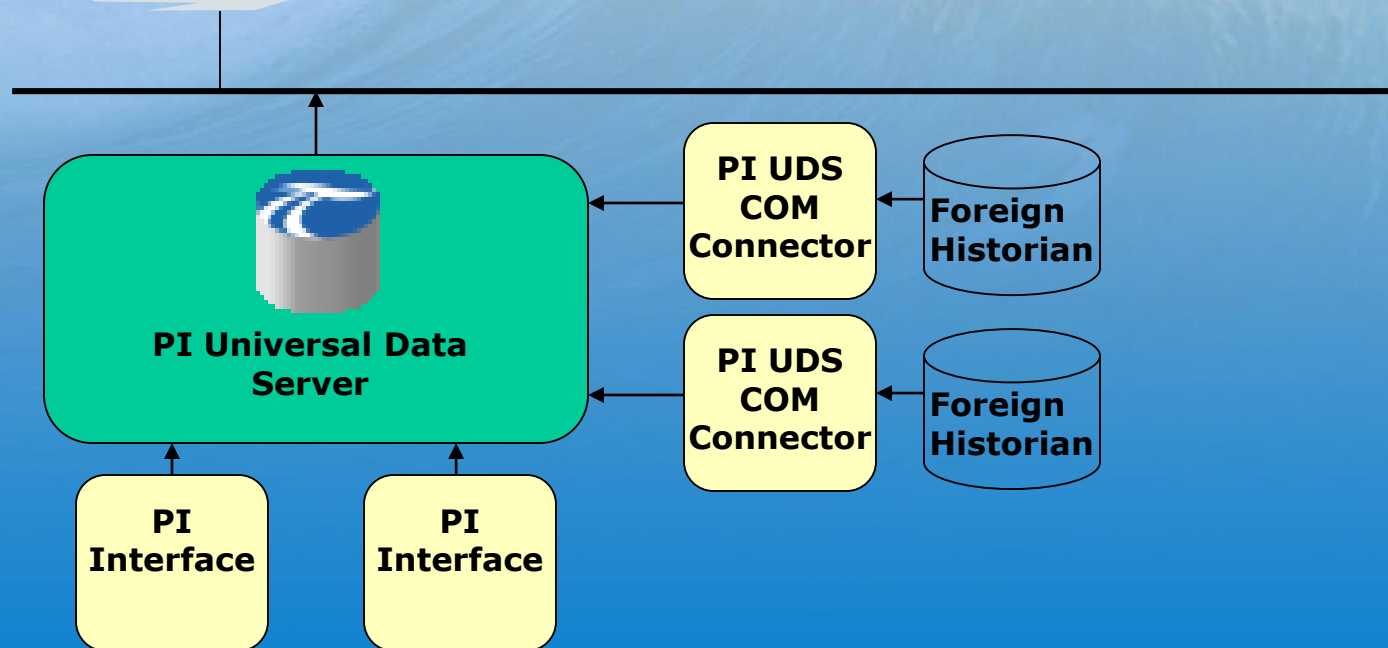
Agenda

- Interfaces and UDS COM Connectors
- PI Interface Configuration Utility
- PI Auto Point Sync
- PI APS Connectors
- Questions at the End

Interfaces and UDS COM Connectors



PI Clients (PI Process Book, PI Datalink, PI-Profile...)



Interface Configuration

```
Command Prompt - apisnap

D:\PI\adm>apisnap

PI-API version 1.3.4
Attempting connection to Default homenode
Connected to dragon (208.243.230.10)

Enter tagname: sinusoid

Tag = SINUSOID    Snapshot Report
Point Number = 86    Type = Real-32
Steve is a ...
Value = 29.19 degrees    09-Mar-02 11:00:30
Status = Good
```

```
IORates.dat ...

File Edit Format View Help

sy.io.rmp_sk1,5
sy.io.piintstatus1,3
sy.io.rmp_sk2,4
sy.io.batchfl1,2
sy.io.batchfl2,6
```

```
piclient.ini ...

File Edit Format View Help

[APIBUFFER]
BUFFERING=1
PAUSERATE=2
RETRYRATE=120
MAXFILESIZE=100000
MAXTRANSFEROBS=500
SENDERATE=100
BUF1SIZE=32768
BUF2SIZE=32768
```

Microsoft Excel - Book1

	A	B	C	D	E	F
1	Select (x)	Tag	archiving	changedate	changer	compe
2	x	ALMTEST_0.asciimg	1	06-Mar-02 08:21:31	piadmin	

Ready NUM

```
chiptopi.bat - Notepad

File Edit Format View Help

chiptopi.exe /ps=F /id=1 /host=dragon /f=00:00:01
```

```
PILOGIN.INI ...

File Edit Format View Help

[Services]
PI1=PI
[PINODEIDENTIFIERS]
PI2=dragon,74362,5450
PI1=king,69764,5450
[DEFAULTS]
PISERVER=dragon
PI1USER=piadmin
PI2USER=piadmin
[NETWORK]
Timeout=60
```

```
PIPC.INI - Notepad

File Edit Format Help

[PIPC]
PIPCSHARE=C:\PIPC
MAXPIPCLOGS=21
MAXLOGSIZE=512
PIHOME=C:\PIPC
```

Services

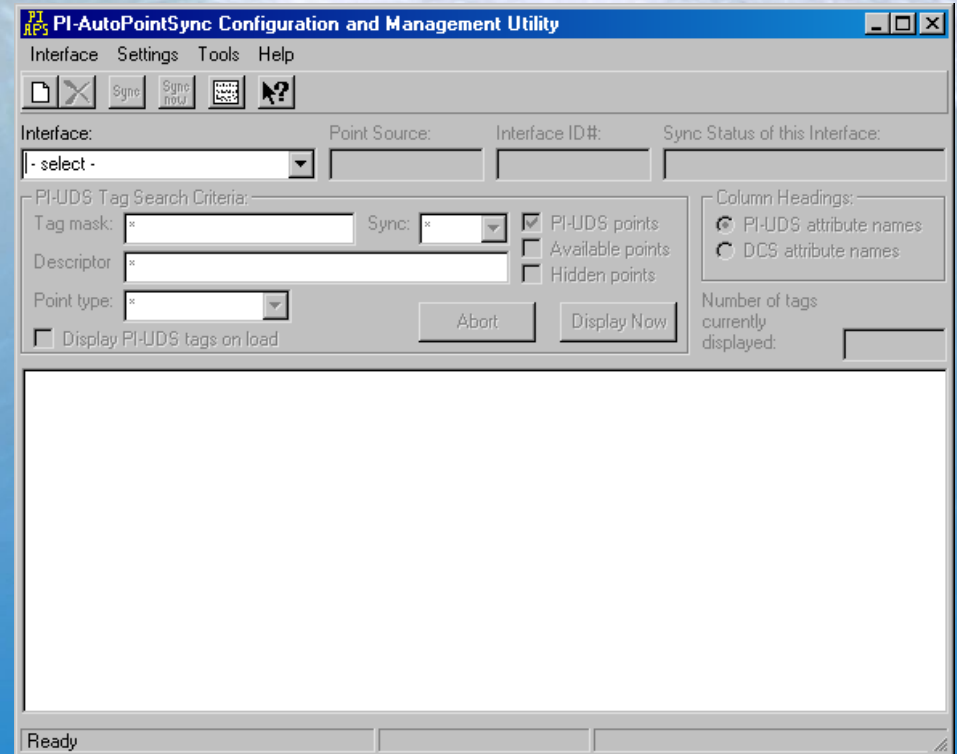
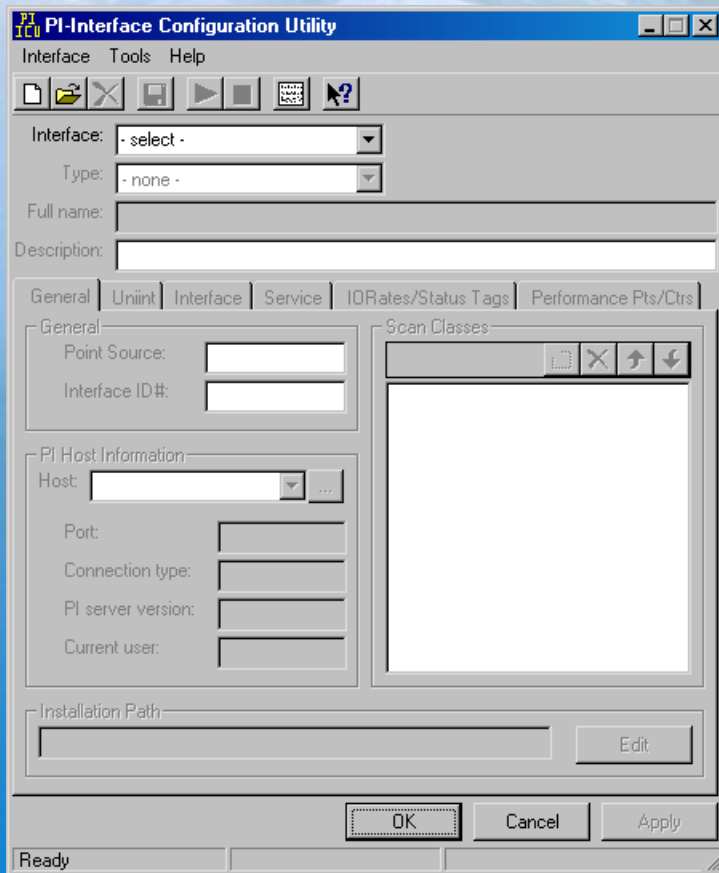
	Name	Description	Status	Startup Type
Services (Local)	ChipService		Started	Automatic
	chiptopi			Manual

```
Command Prompt

C:\PIPC\interfaces\CHIPToPI>chiptopi -install -auto -depend "tcpip chipservice"
Service chiptopi Installed as "chiptopi".
```

Solution:

PI Interface Configuration Utility



PI Auto Point Synchronization

What is PI Interface Configuration Utility?

- Graphically Consolidate all Configuration
- Manage a PI Interface Node
 - Startup configuration
 - Services
 - API Buffering
 - Testing connection to PI UDS
 - IORates, Performance Points & Counters
 - PIPC Log File

(This means less work for you)

ICU

General

- Point Source
- ID Number
- UDS Host
- Scan Classes

PI-Interface Configuration Utility - chiptopi1

Interface: chiptopi1 -> aardwolf
Type: chiptopi
Full name: Fisher-Rosemount CHIP
Description: CHIPtoPI interface running on Morpheus writing to PI UDS on Aardwolf

General | Unint | chiptopi | Service | IORates/Status Tags | Performance Pts/Ctrs

General

Point Source: F
Interface ID#: 1

PI Host Information

Host: aardwolf
Port: 5450
Connection type: PI3
PI server version: PI 3.3.361.86
Current user: piadmin

Scan Classes

00:00:01	1
00:00:05	2
00:00:10	3

Installation Path
C:\PIPC\interfaces\CHIPtoPI\ Edit

OK Cancel Apply

Ready Service Uninstalled chiptopi1 - Not Installed

ICU

Uniint

- Performance & Behavior
- Debug Levels
- Data Handling
- PI-SDK

PI-Interface Configuration Utility - chiptopi1

Interface Tools Help

Interface: chiptopi1 -> aardwolf

Type: chiptopi

Full name: Fisher-Rosemount CHIP

Description: CHIPtoPI interface running on Morpheus writing to PI UDS on Aardwolf

General **Uniint** chiptopi Service IORates/Status Tags Performance Pts/Ctrs

Performance and Behavior

Scan performance summary: 8 hours Use Default

Maximum stop time: 120 seconds Use Default

SDK timeout: 60 seconds Use Default

☐ Startup delay: 30 seconds Use Default

PI-SDK

Determine if interface may use PI-SDK

☒ Use default

☐ Enable

☐ Disable

Debug Levels

☐ Initialization ☐ Maximum

☐ Point additions

☐ Exit handler

☐ Sending data to PI

☐ Main control loop

☐ Point list creation

☐ Point edits

☐ IO Rate points

☐ Services

Level: 0

Data Handling

☐ Queue data (for active interfaces)

☐ Suppress initial outputs

☐ Suppress all outputs

☐ Bypass exception

☐ Write status to tags on shutdown:

OK Cancel Apply

Ready Service Uninstalled chiptopi1 - Not Installed

ICU

Interface-specific

- ICU Control - optional

- PItoPI
- CHIPtoPI
- OPCInt
- HW PHD
- Bailey SemAPI
- Batch File
- Citect
- Moore APACS
- Moore ICI
- PI-Ping
- PI-SNMP
- and more ...

PI-Interface Configuration Utility - chiptopi1

Interface Tools Help

Interface: chiptopi1 -> aardwolf

Type: chiptopi

Full name: Fisher-Rosemount CHIP

Description: CHIPtoPI interface running on Morpheus writing to PI UDS on Aardwolf

General | Uninstall | **chiptopi** | Service | IORates/Status Tags | Performance Pts/Ctrs

Fisher-Rosemount CHIP Interface-Specific Parameters (2.7.5.0)

General

☐ Pause before connecting to CHIP
[] milliseconds

☐ Allow highway outputs

Update DBIs every [24] hours

Debug Levels

☐ Initialization

☐ Point additions, edits, deletes

☐ Inputs

☐ Outputs Level: [0]

☐ Failover

Additional Arguments

[]

Failover

☐ Enable failover

☐ This is the Primary node

Secondary CHIP address:

@ [] - []

Other failover node:

[]

Failover tag:

[]

Digital state: []

Failover number: []

☐ Error threshold: [1000]

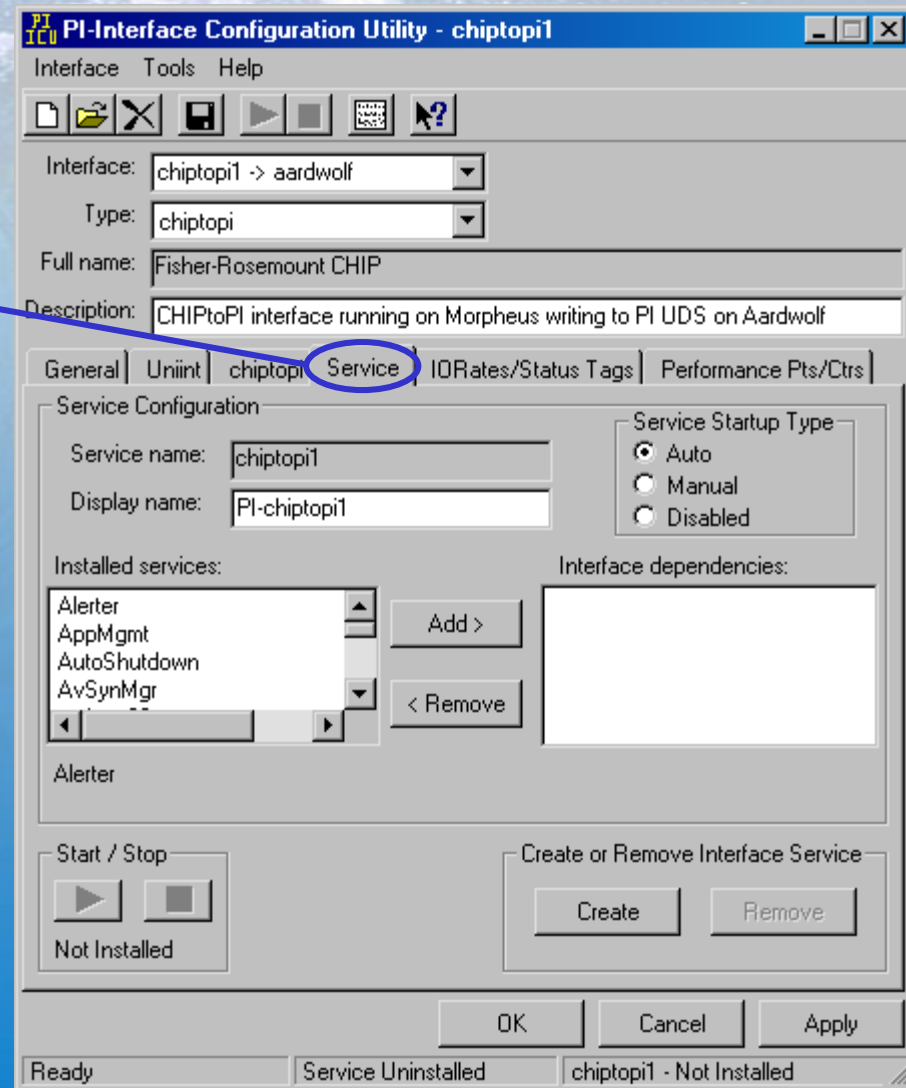
OK Cancel Apply

Ready Service Uninstalled chiptopi1 - Not Installed

ICU

Service

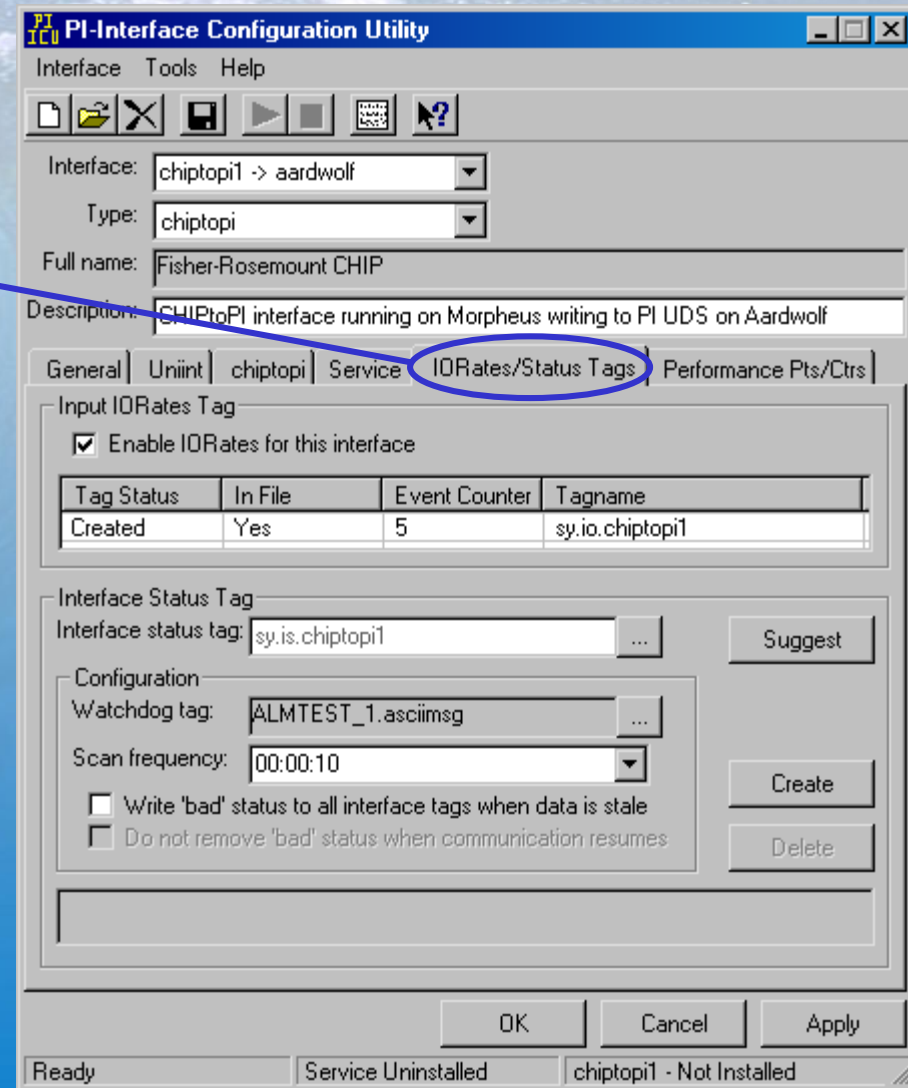
- Display name
- Startup type
- Dependencies
- Create/Remove
- Start/Stop



ICU

IORates/Status Tags

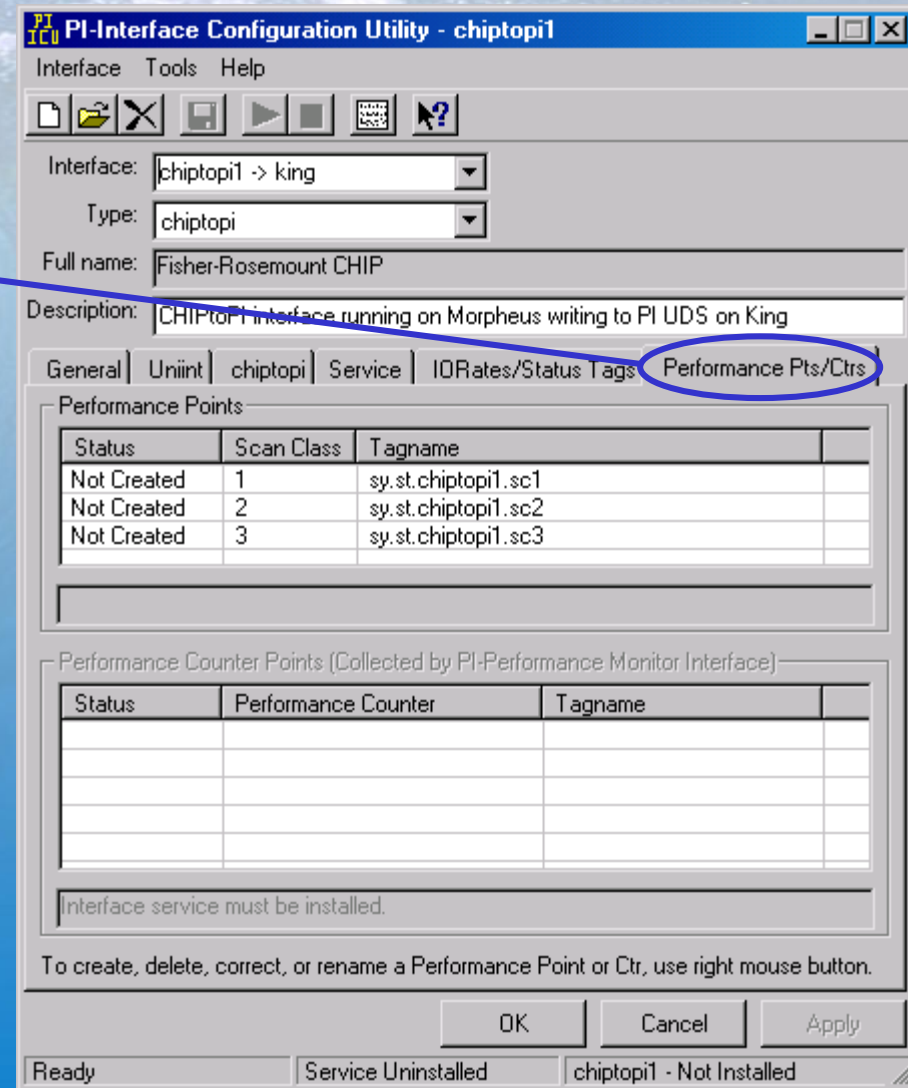
- IORates Tag
- Interface Status Utility Tag



ICU

Performance Pts/Ctrs

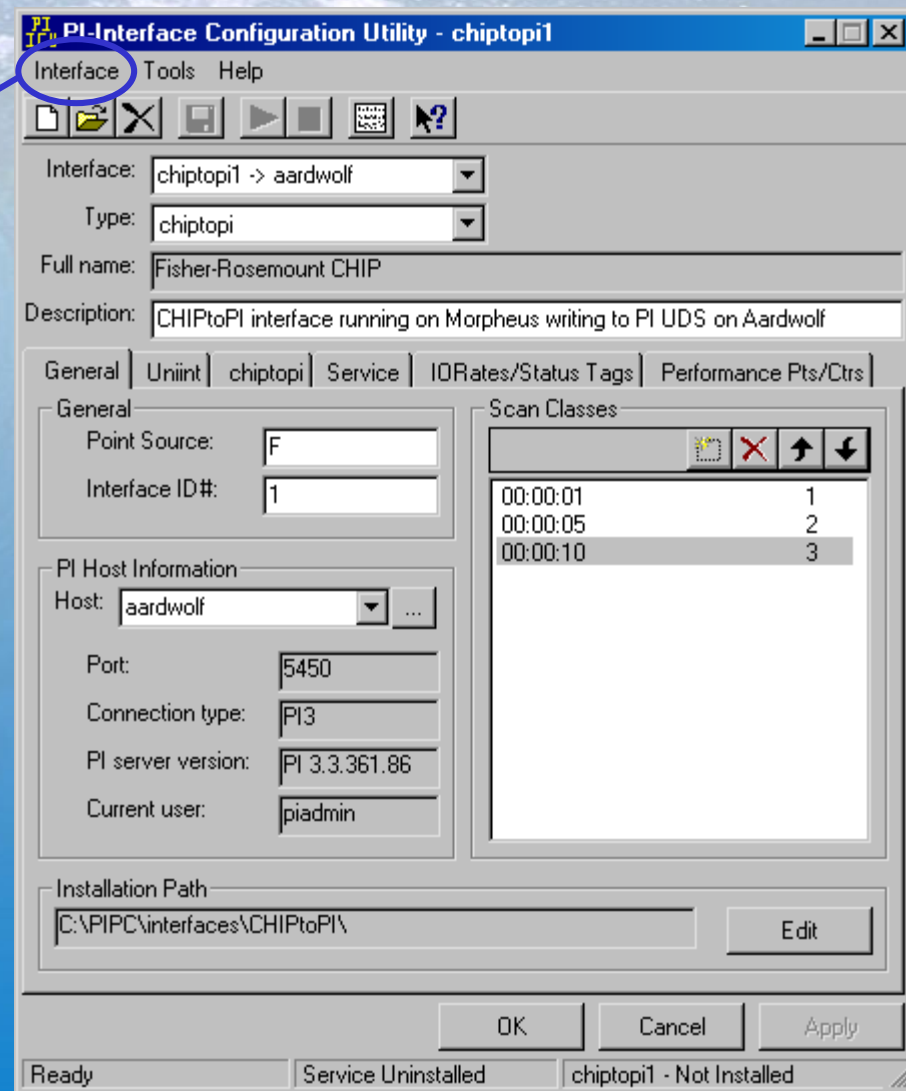
- Performance Points
- Performance Counter Points



ICU Toolbar

Interface

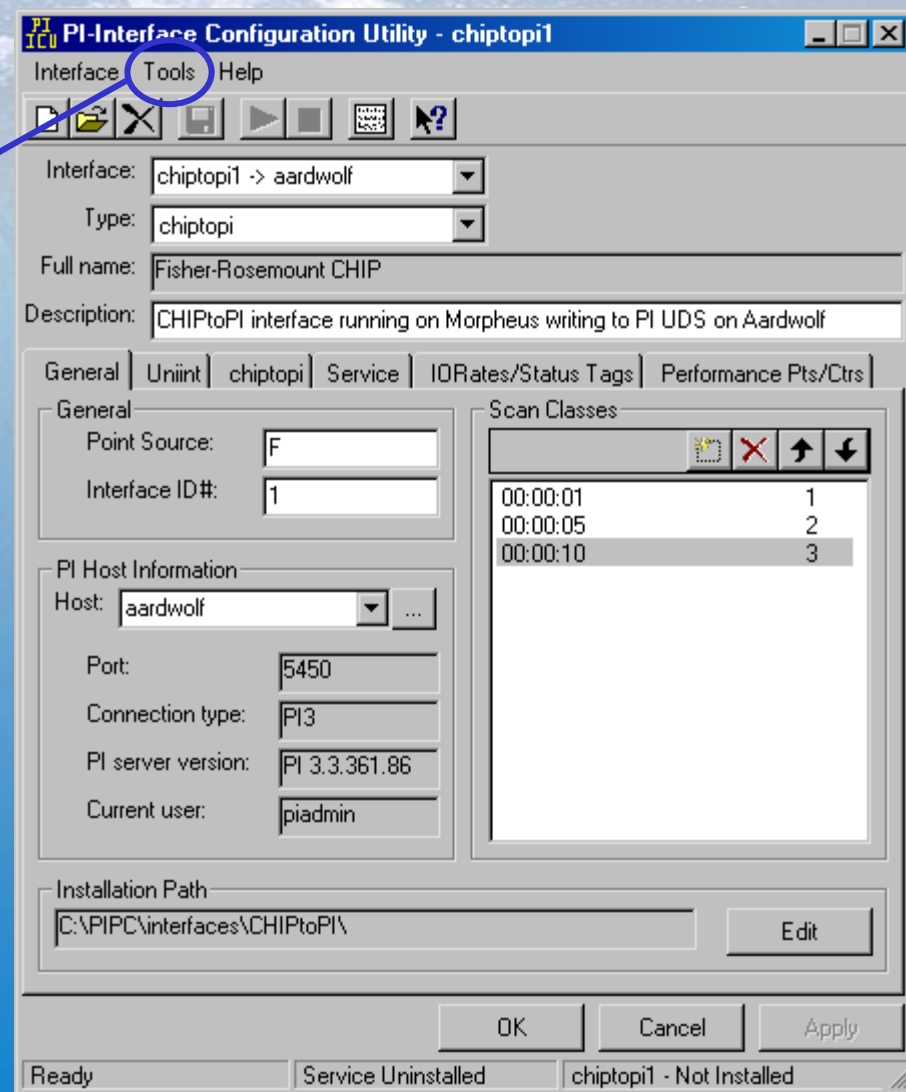
- New
- Import
- Unregister
- Connections
- Start interactive



ICU Toolbar

Tools

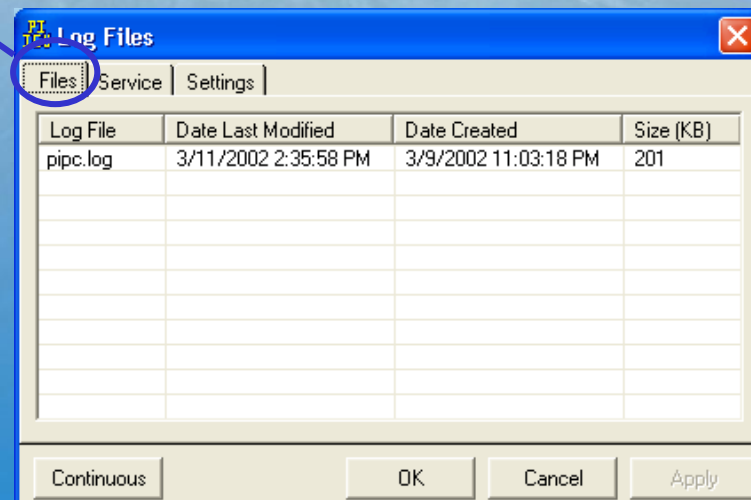
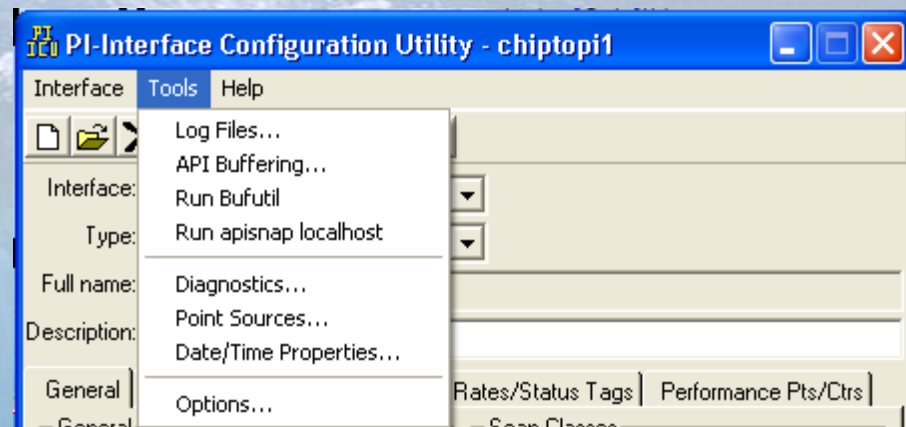
- Log Files
- API Buffering
- Bufutil
- APISnap
- Diagnostics
- Point Sources
- Date/Time Properties
- Options



ICU Toolbar

Tools

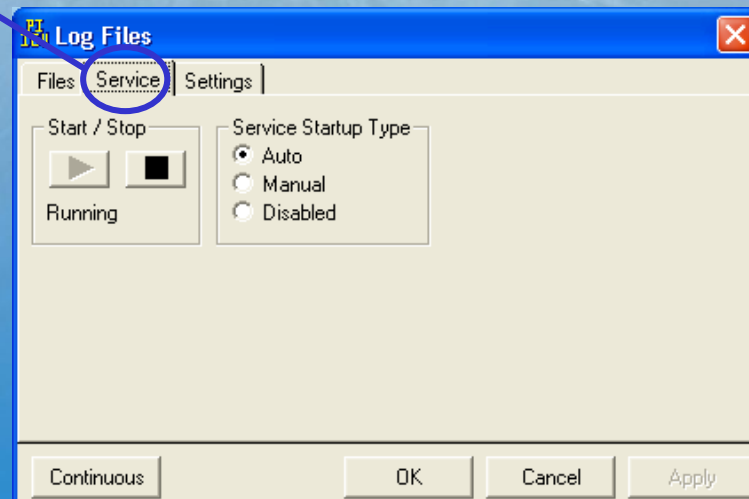
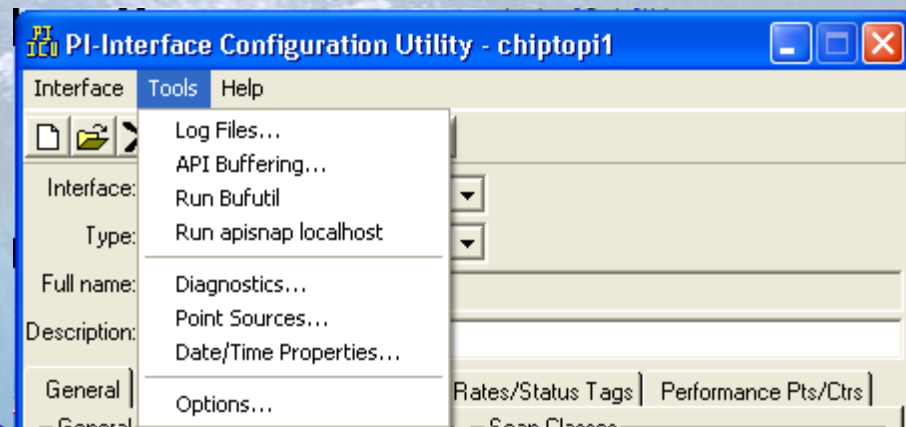
- Log Files
 - PIPC Log Files
 - PILogSrv Service
 - PILogSrv Settings
- API Buffering
- Bufutil
- APISnap
- Diagnostics
- Point Sources
- Date/Time Properties
- Options



ICU Toolbar

Tools

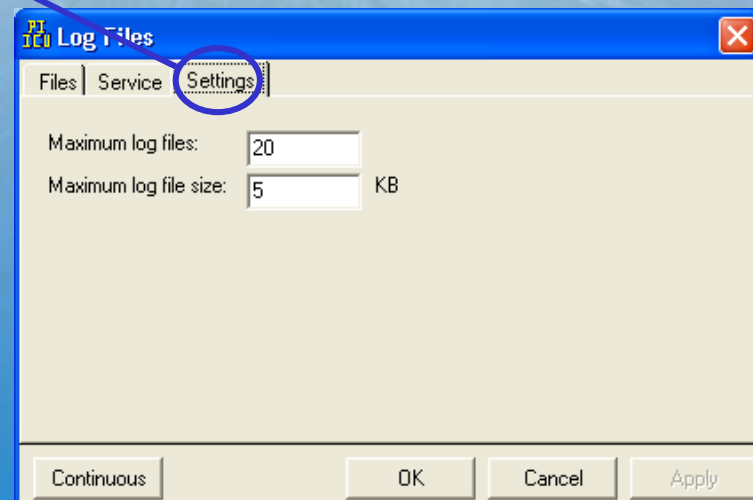
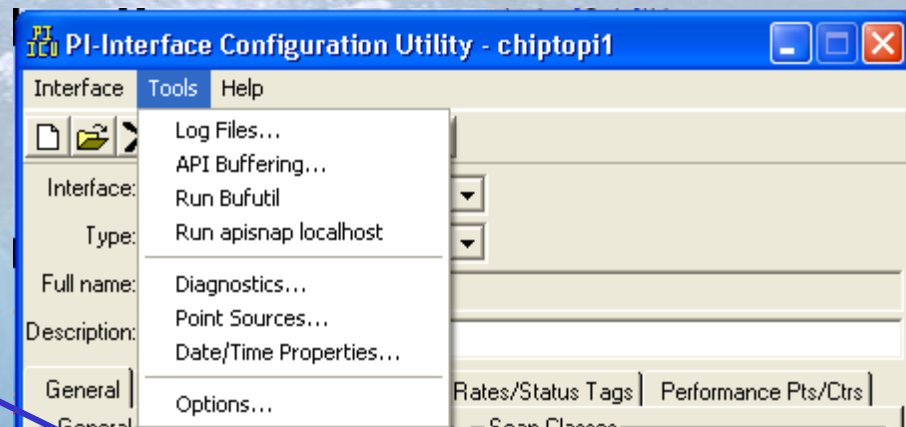
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ICU Toolbar

Tools

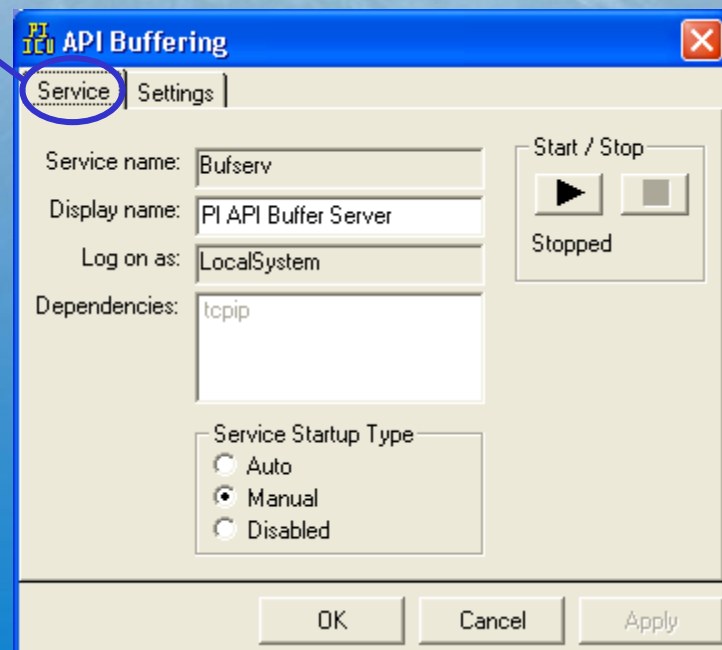
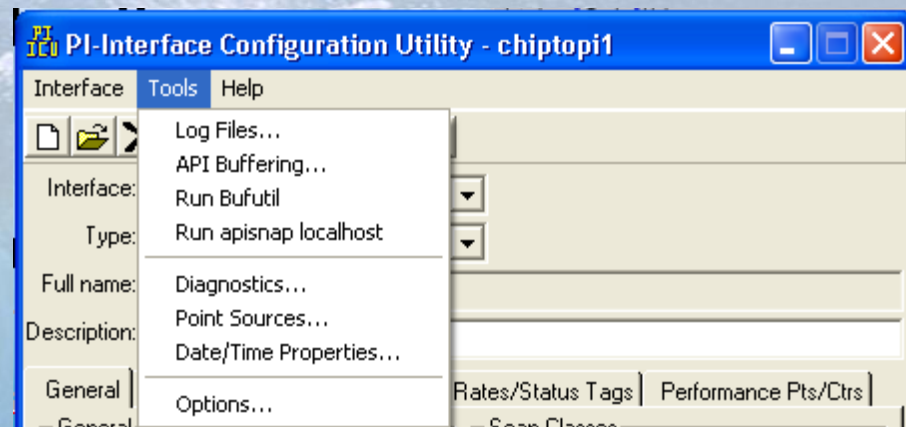
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ICU Toolbar

Tools

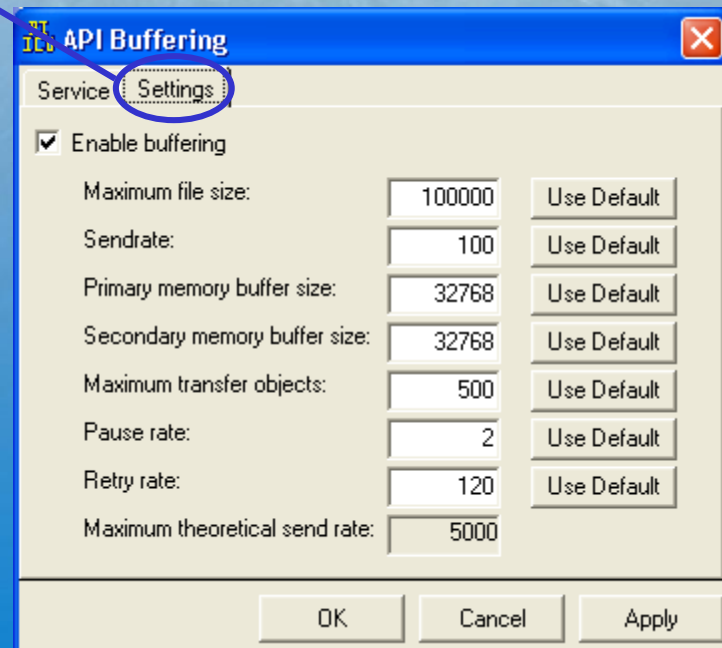
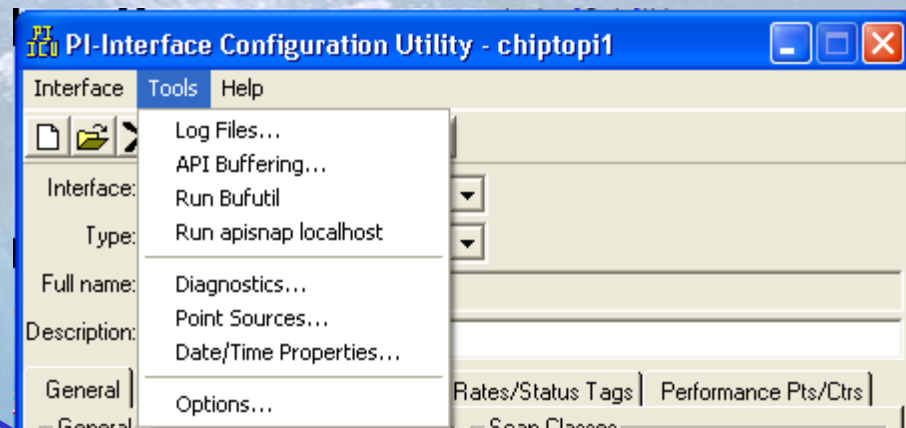
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ICU Toolbar

Tools

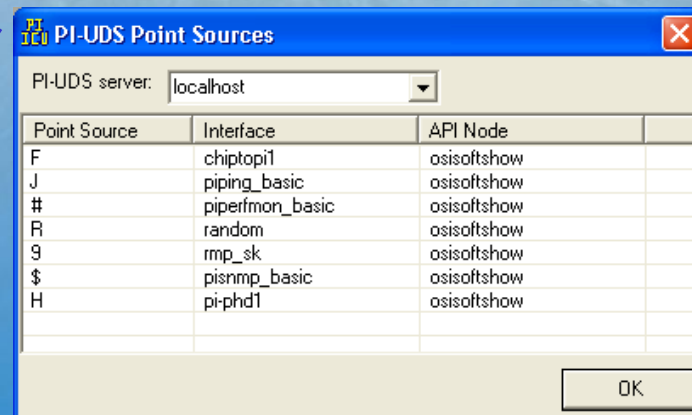
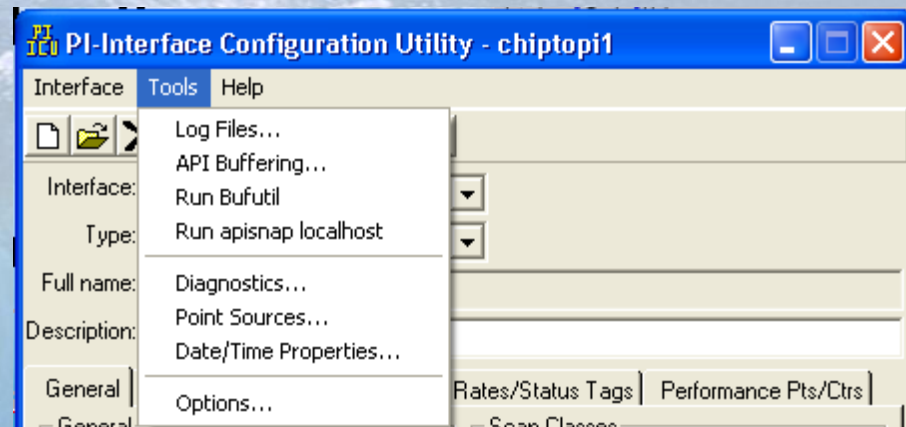
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ICU Toolbar

Tools

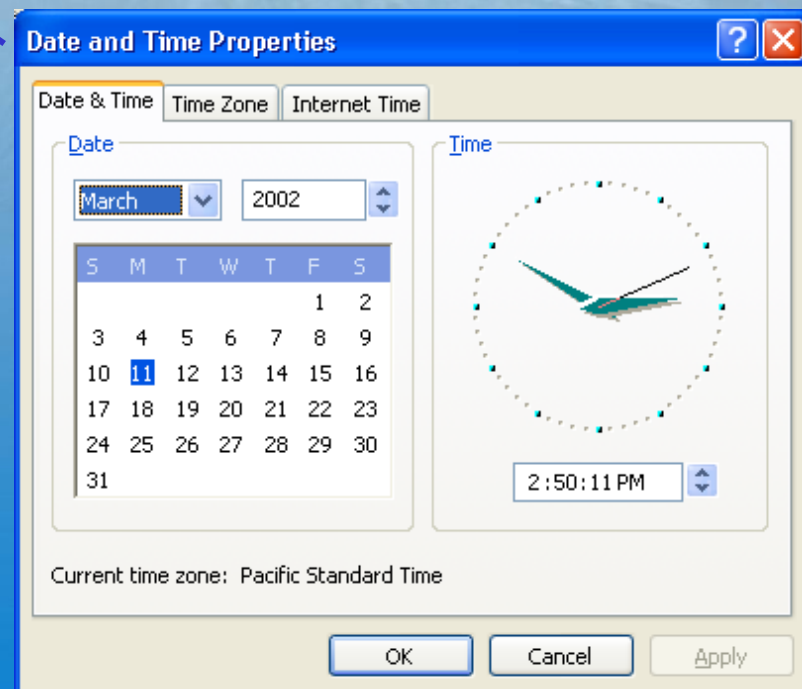
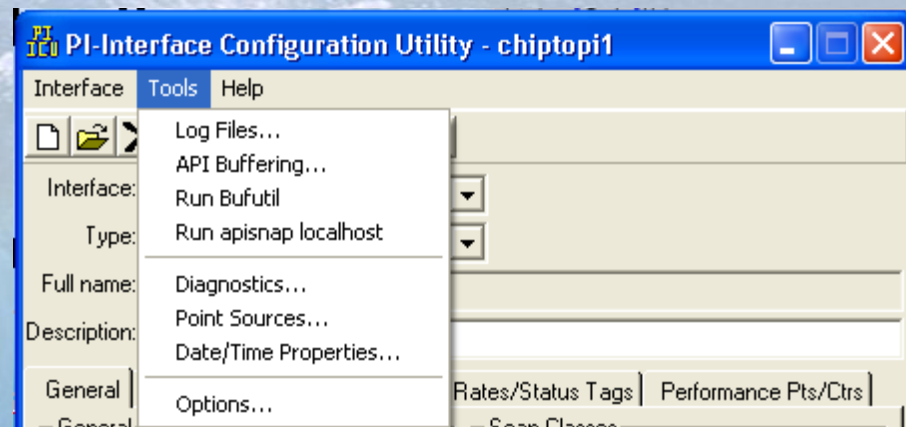
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ICU Toolbar

Tools

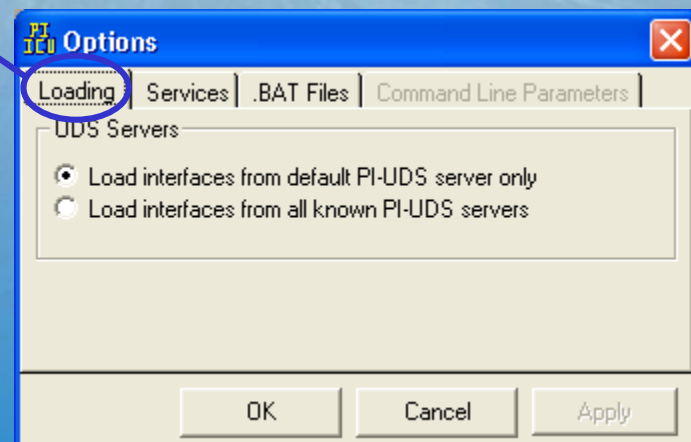
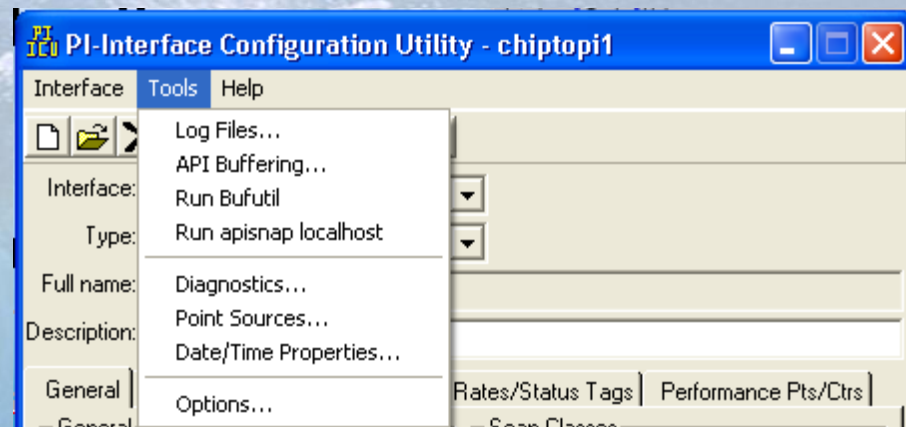
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ICU Toolbar

Tools

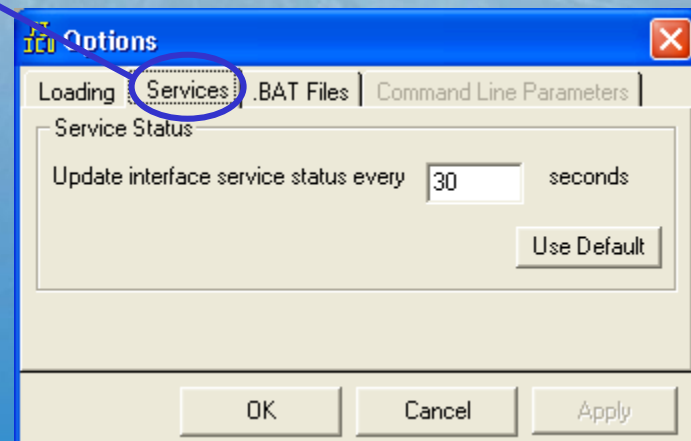
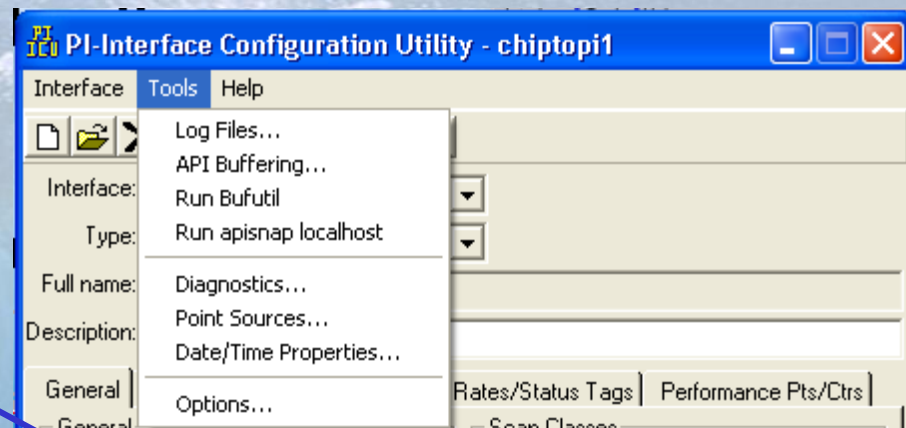
- Log Files
- API Buffering
- Bufutil
- APISnap
- Diagnostics
- Point Sources
- Date/Time Properties
- Options
 - Loading
 - Services
 - BAT Files



ICU Toolbar

Tools

- Log Files
- API Buffering
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- Diagnostics
- Point Sources
- Date/Time Properties
- Options
 - Loading
 - Services
 - BAT Files



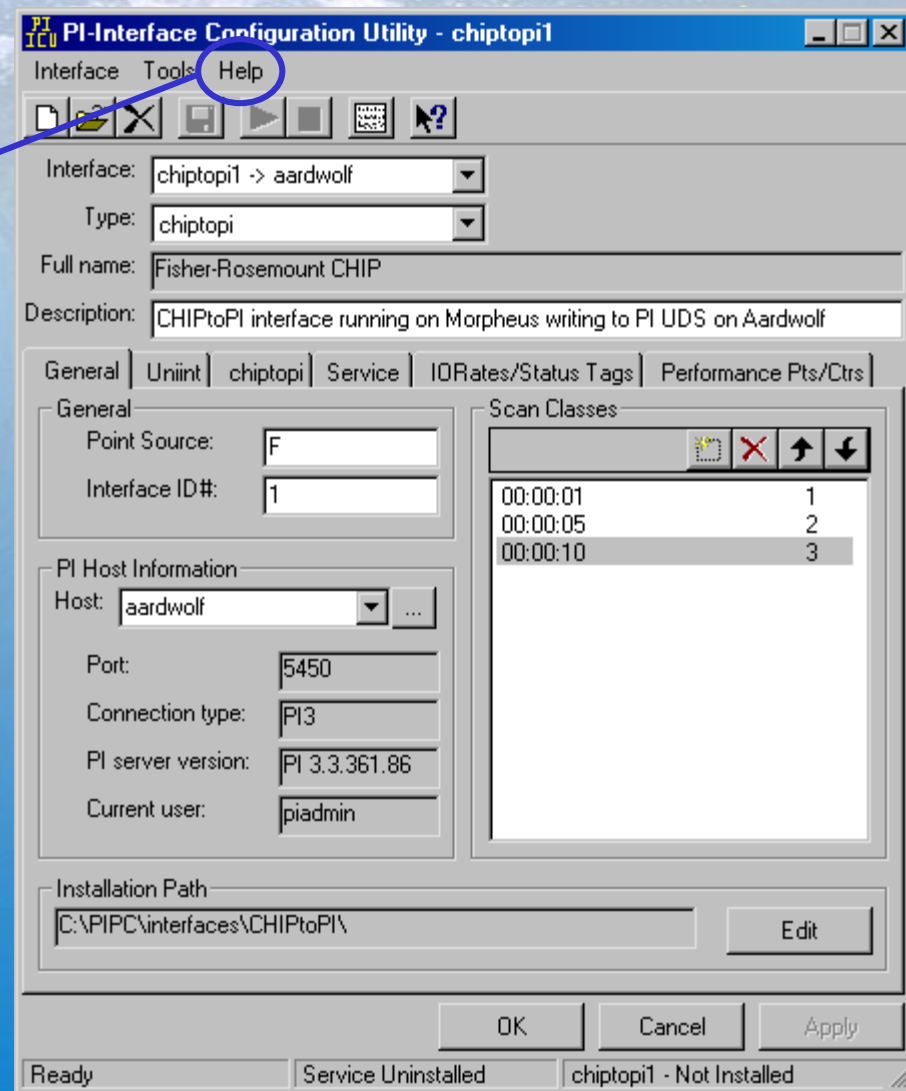


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ICU Toolbar

Help

- Online Help
- Interface Manual
- Interface Details



ICU Requirements

- PI UDS 3.3 or later
- PI-SDK 1.1 or later
- Runs on Windows NT, 2000, XP

Agenda

- Interfaces and UDS COM Connectors ✓
- PI Interface Configuration Utility ✓
- PI Auto Point Sync
- PI APS Connectors
- Questions at the End

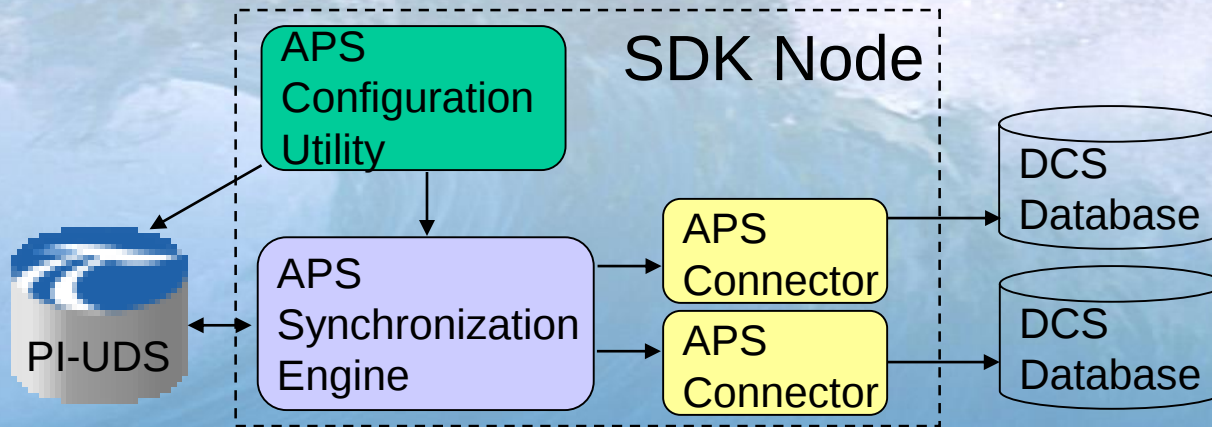
What is PI-AutoPointSync?

Manages PI Point Database

- Synchronize existing points
- Create new PI points
- Remove deleted DCS points from PI UDS

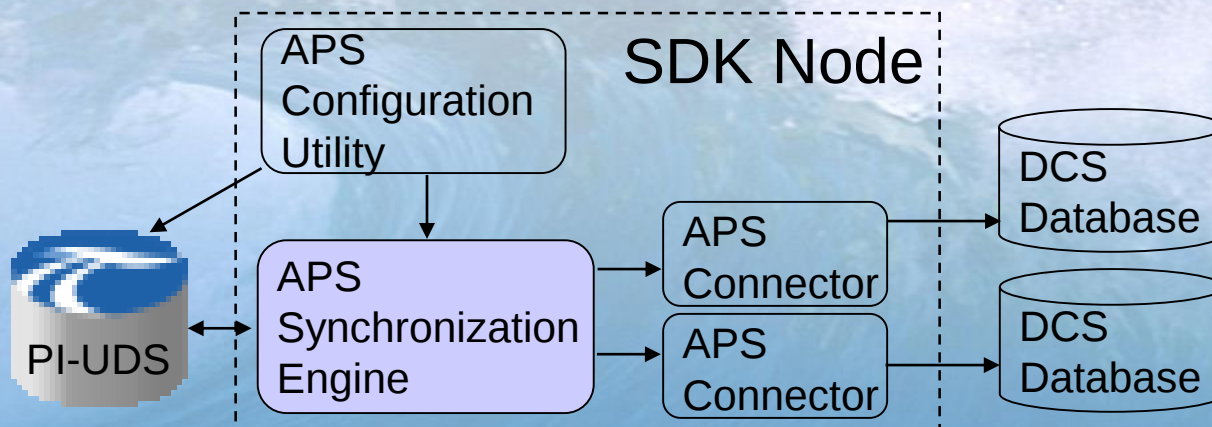
(This means less work for you)

PI-APS Components



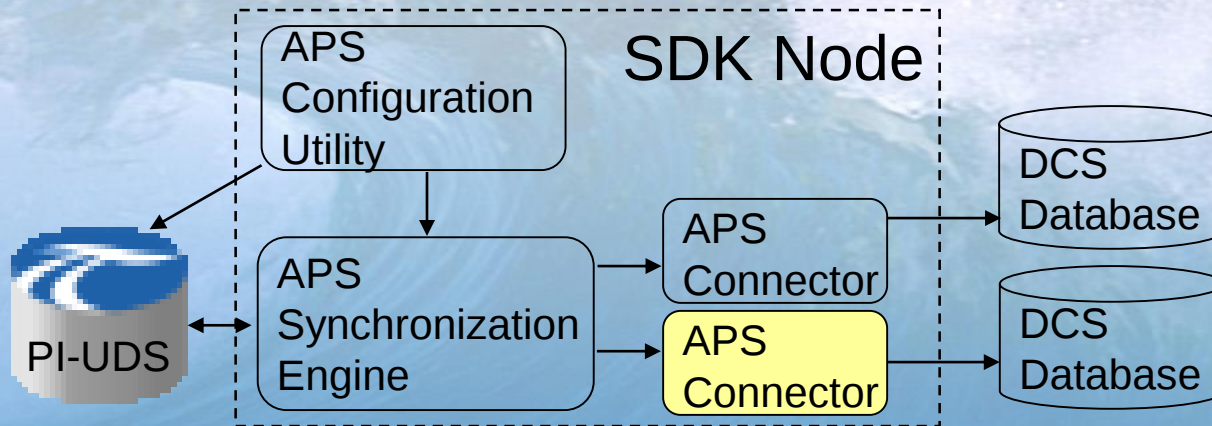
- Synchronization Engine
- APS Connector
- Configuration Utility

APS Synchronization Engine



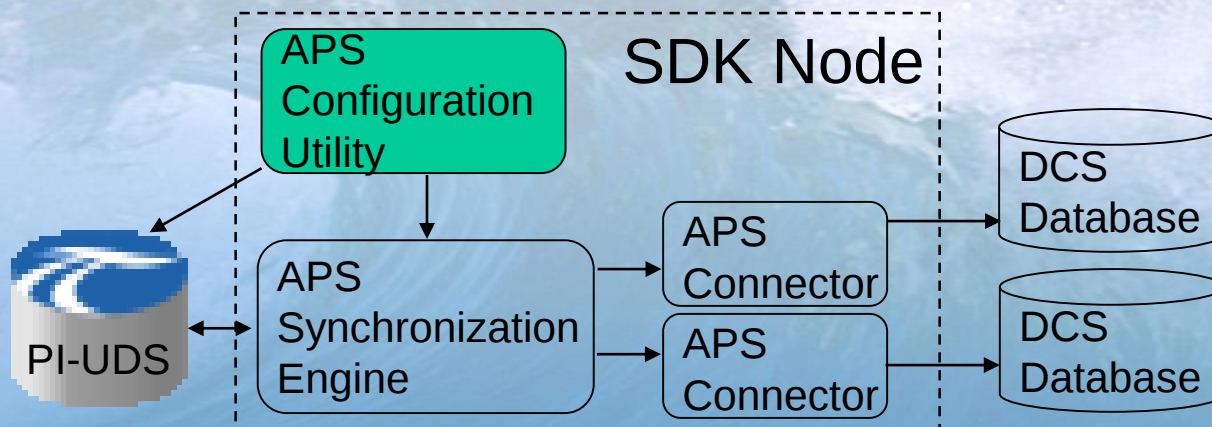
- Multiple APS Connectors per Sync Engine
- Schedules one APS Connector at a time
 - User-set rules for creating, editing, deleting
- Compare of old and new attributes
- Logs all point edits

APS Connector



- One APS Connector per DCS
- Determines which attributes can be synchronized
- Gets updated attributes for 'Existing' points
- Gets 'Available' points

APS Configuration Utility

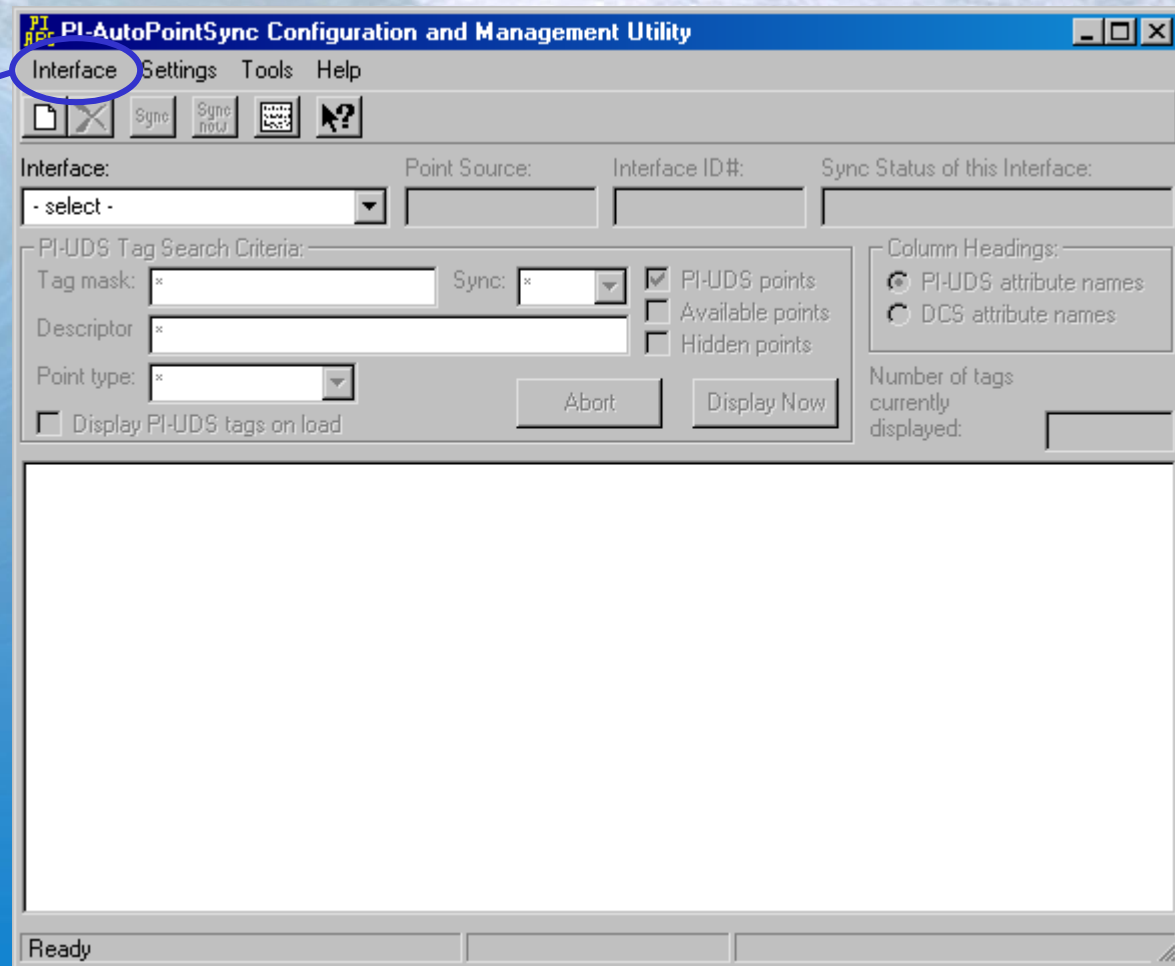


- Sync rules
- Sync settings – per point, per attribute
- Sync schedule
- View all logs
- Optional manual point creation and deletion

APS Configuration

Interface

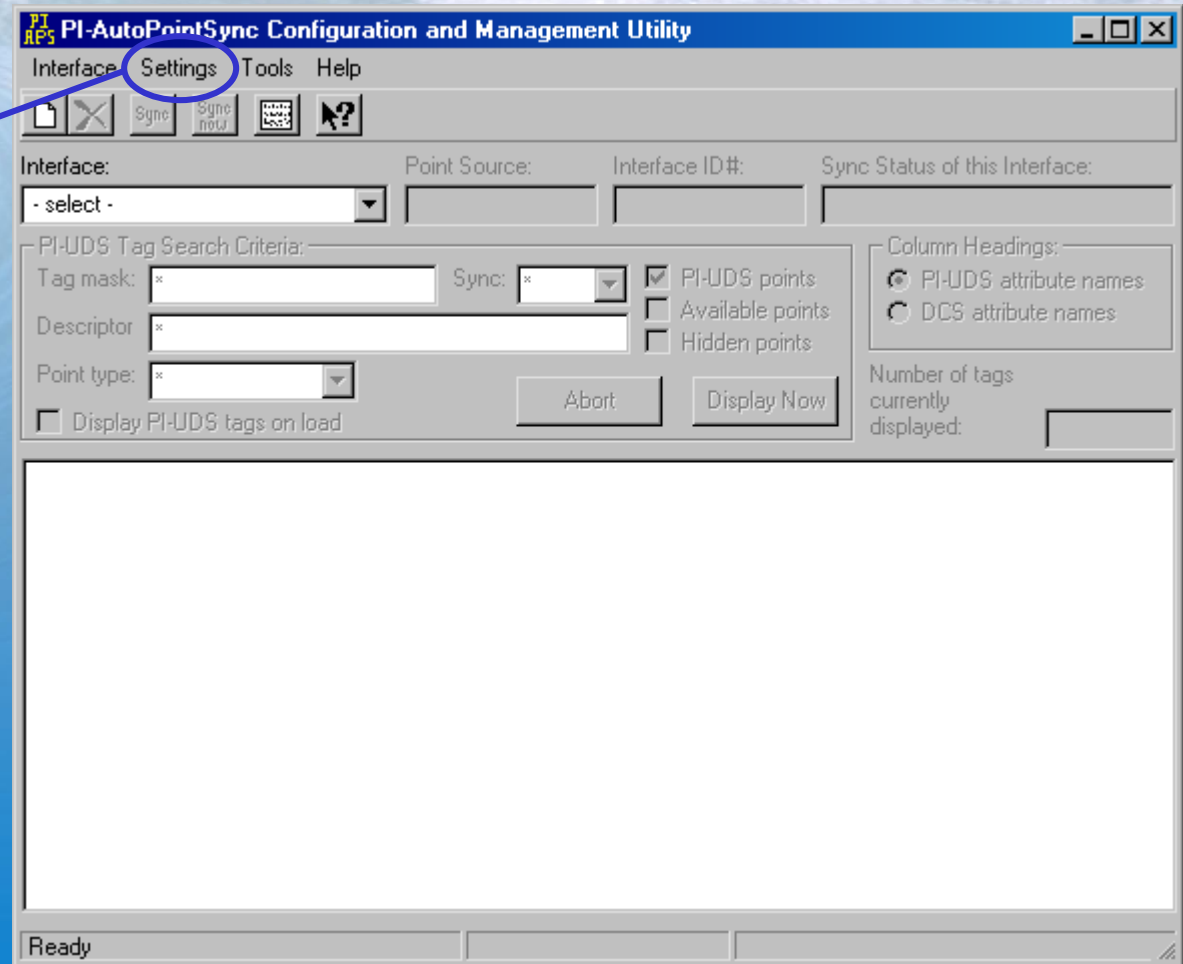
- Register
- Unregister



APS Configuration

Settings

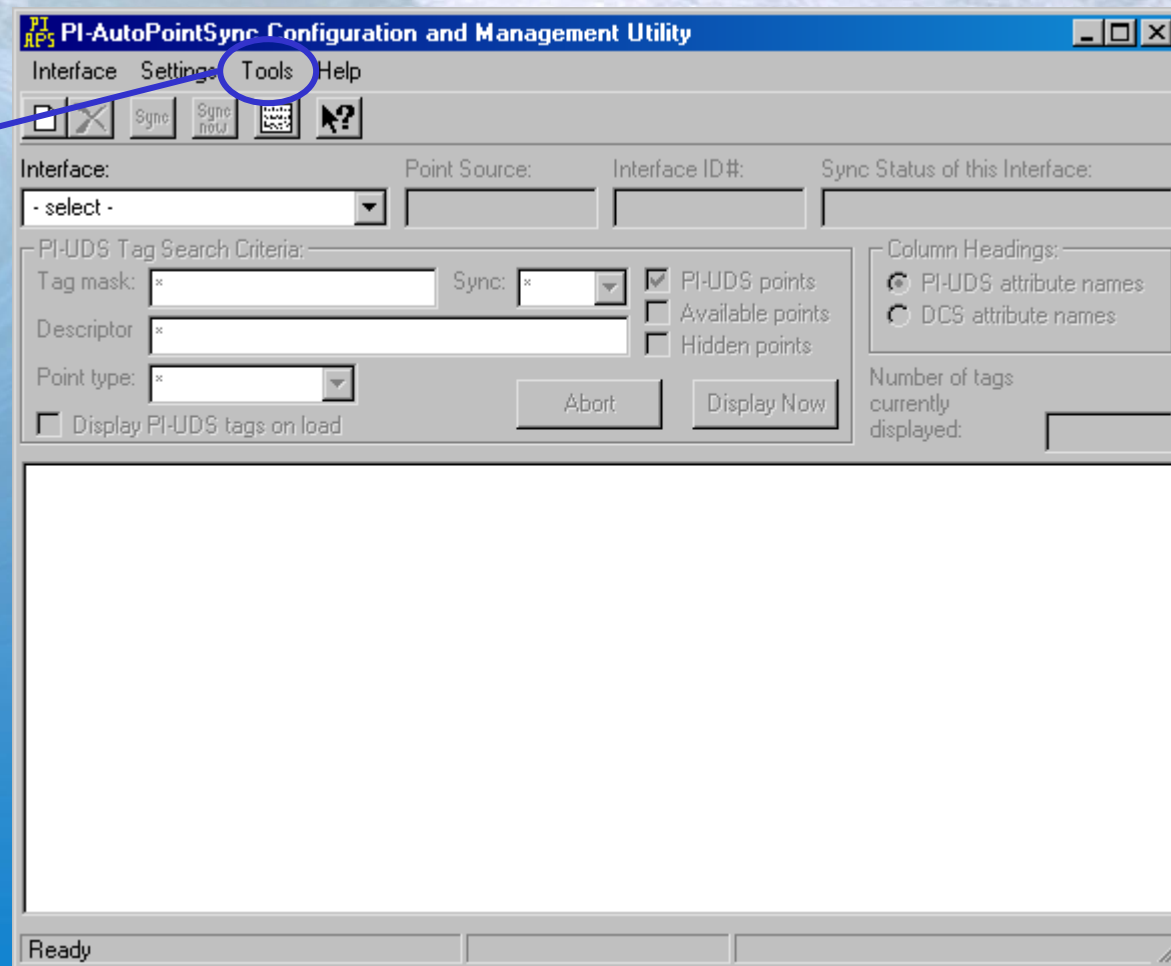
- Rules
- Sync schedule
- User-set defaults
- Debug



APS Configuration

Tools

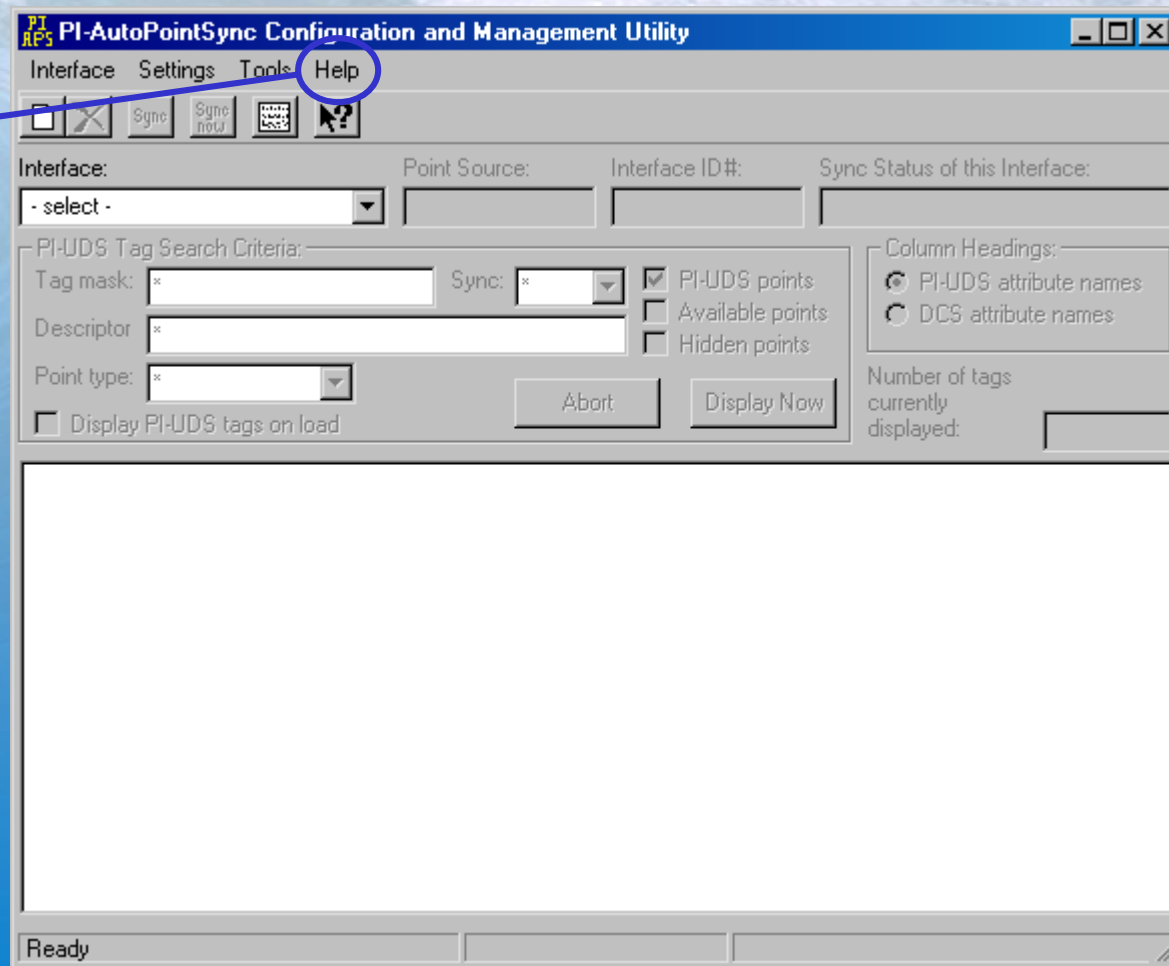
- Column headers
- Log files
- Statistics
- Enable Engine
- Enable Connector
- Point list



APS Configuration

Help

- Online help
- Connector doc



APS Configuration

PI-APS PI-AutoPointSync Configuration and Management Utility

Interface Settings Tools Help

Interface: Point Source: Interface ID#: Sync Status of this Interface:

PI-UDS Tag Search Criteria:

Tag mask: Sync: ☒ PI-UDS points ☐ Available points ☐ Hidden points

Descriptor:

Point type:

☐ Display PI-UDS tags on load

Column Headings: ☐ PI-UDS attribute names ☒ DCS attribute names

Number of tags currently displayed:

Sync	PI Tagname	DBI	LOEC	HIEC	DSCR	EU	F
☒	ALMTEST_0.asciimsg	200	0	100	20 CHARACTER DESCRIP	REA...	1
☐	ALMTEST_0.pv	200	0	100	20 CHARACTER DESCRIP	REAL F	1
☒	ALMTEST_1.asciimsg	201	0	100	20 CHARACTER DESCRIP	REAL F	1
☐	ALMTEST_1.pv	201	0	100	20 CHARACTER DESCRIP	REAL F	1
☒	ALMTEST_2.asciimsg	202	0	100	20 CHARACTER DESCRIP	REA...	1
☒	ALMTEST_2.pv	202	0	100	20 CHARACTER DESCRIP	REA...	1
☒	ALMTEST_3.asciimsg	203	0	100	20 CHARACTER DESCRIP	REA...	1
☒	ALMTEST_3.pv	203	0	100	20 CHARACTER DESCRIP	REA...	1

Ready PI-UDS: localhost Interface Host: osisoftshow

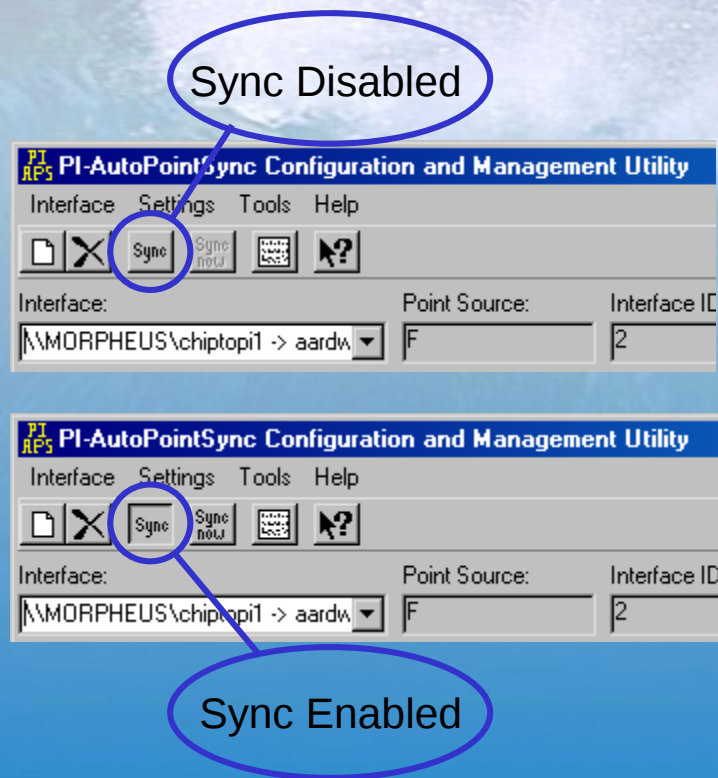
Right Mouse

- Create/Delete
- Sync Settings
- Hide/Unhide

APS Configuration

Tool bar

- Add
- Remove
- Enable/Disable
- Immediate sync
- View pipc.log
- Help



APS Requirements

- PI UDS 3.3 or later
- PI-SDK 1.1 or later
- Runs on Windows NT, 2000, XP
- All PI-APS components run on one node
- PI-ICU

Future for PI-APS

- User-specified rules for
 - point naming
 - exception and compression specs
 - descriptor
 - other attributes...
- Sync Engine, Configuration Utility, and Connector may run on separate machines

Agenda

- Interfaces and UDS COM Connectors ✓
- PI Interface Configuration Utility ✓
- PI Auto Point Sync ✓
- PI APS Connectors
- Questions at the End

Beta APS Connectors

- Fisher-Rosemount CHIPtoPI Interface
- Honeywell PHD Interface
- Honeywell PHD UDS COM Connector
- PItoPI Interface (source host can be PI2 or PI3)

Upcoming APS Connectors

- In development
 - Bailey SemAPI Interface
- Scheduled for developed
 - Intellution FIX Interface
 - OPC Interface
 - Foxboro AW70/AP51 Interface
 - ESCA HabConnect Interface

Release Dates

- PI-APS (Configuration Utility, Synchronization Engine)

End of March, 2002

- APS Connectors currently in beta:

End of March, 2002

- Upcoming APS Connectors:

Julie.Zeilenga@osisoft.com

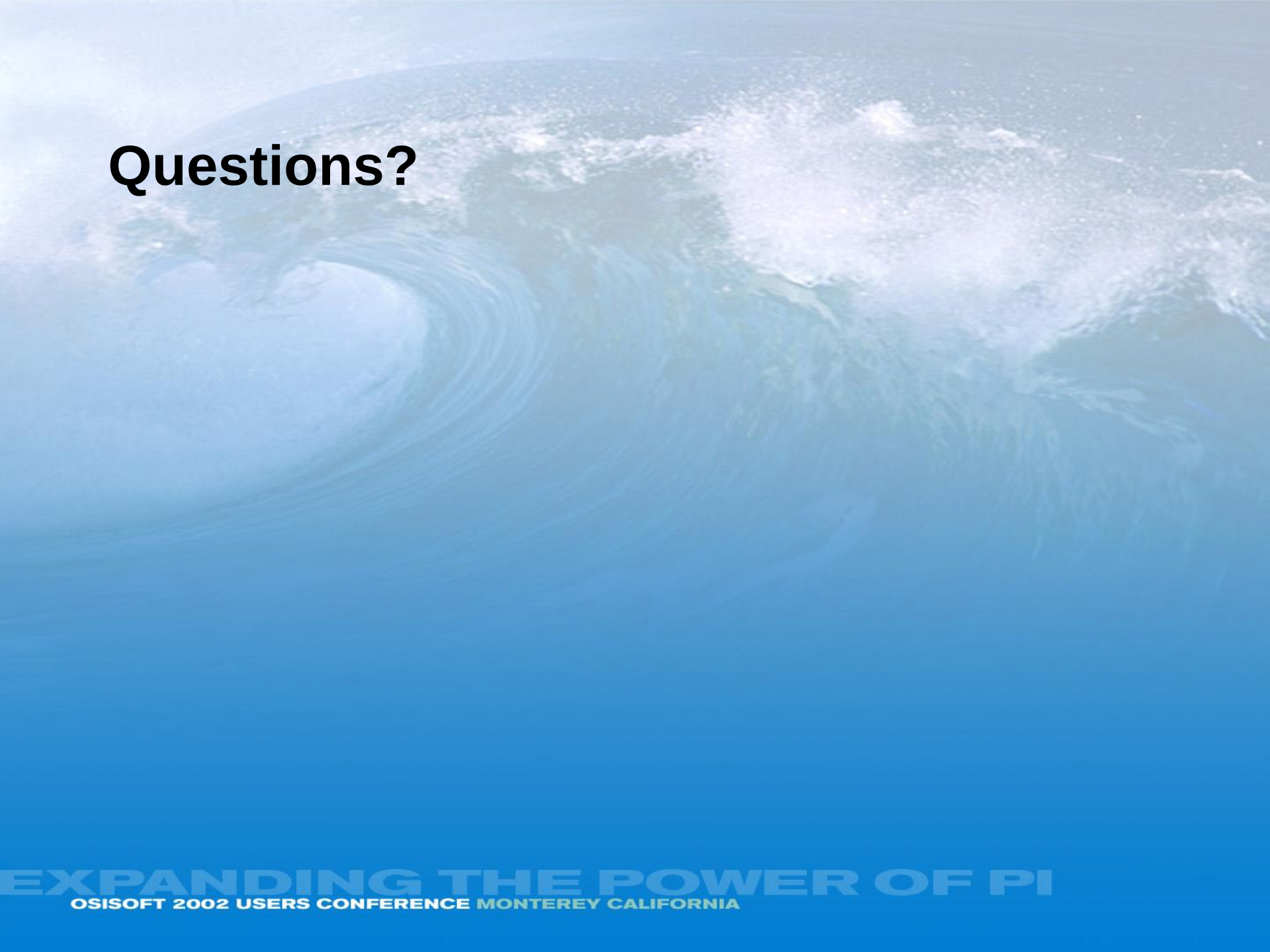
<http://interfaces.osisoft.com/APSConnectors.asp>

Wrap Up

- Automatic PI Point configuration
- Consolidated Interface configuration
- Demo room this afternoon
- Email questions to holly@osisoft.com

Agenda

- Interfaces and UDS COM Connectors ✓
- PI Interface Configuration Utility ✓
- PI Auto Point Sync ✓
- PI APS Connectors ✓
- Questions at the End



Questions?

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**Go have a cup of hot chocolate.
APS will take care of your PI Points for you.**



(This means less work for you)